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REFERENCE

Army Corps  
Engineers

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TECHNICAL REPORT GL-86-1

# CORRELATION OF NONDESTRUCTIVE PAVEMENT EVALUATION TEST RESULTS WITH RESULTS OF CONVENTIONAL QUALITY CONTROL AND IN-SITU STRENGTH TESTS ON AN MX ROAD TEST SECTION

VOLUME II: APPENDIX A

by

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## APPENDIX A: RESULTS OF MX ROAD TEST SECTION

## PART I: DESIGN

Test Philosophy

1. The test philosophy of the MX Road program called for a basic extension of existing criteria as well as a development of site-specific criteria in terms of field soil conditions. To that end, subgrade soils were selected to provide tie points to tests used to develop the conventional criteria and to approximate anticipated field conditions. The test section consisted of five separate items with three separate traffic lanes to provide for a comprehensive spectrum of the soil and pavement types. Figure A1 gives a plan of the proposed test section with traffic lanes and pipe details, and Figure A2 shows a profile for each lane.

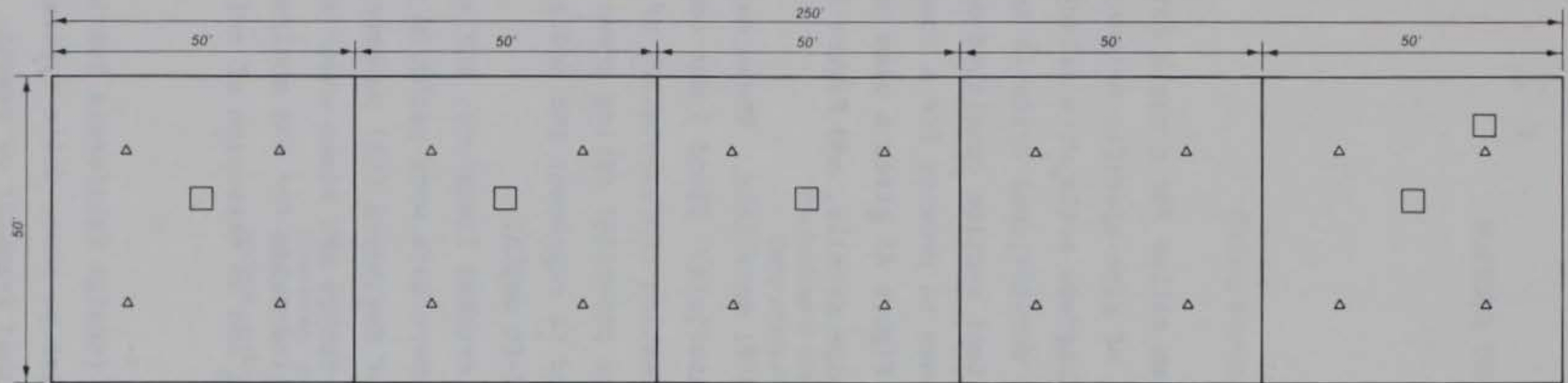
2. Items 2, 3, and 4 contained Blends I and II materials. These materials were specially blended to represent field materials. Blend I was considered to be a median gradation sand-gravel combination representative of that often encountered in the uppermost 2 ft of the potential siting area. Blend II was also a sand-gravel combination blended to represent the median gradation of that material encountered below the 2-ft depth.

3. Items 1, 2, and 5 contained heavy clay, crushed limestone, and silt. These materials have been used in previous tests where data were gathered and analyzed in the development of the current Corps of Engineers (CE) pavement design criteria. Thus, their behavioral characteristics are known under certain wheel loads, and the data to be collected will provide for the analysis of MX transporter performance on similar materials and an extension of criteria in terms of these classical soils.

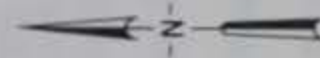
Item 1

4. Item 1 consisted of a low strength soil (design California Bearing Ratio (CBR) = 5) intended to produce results similar to those soils typical of playa areas overlaid by a design thickness of crushed granular or cement-treated Blend I (design cement proportion = 7 percent). Results from this

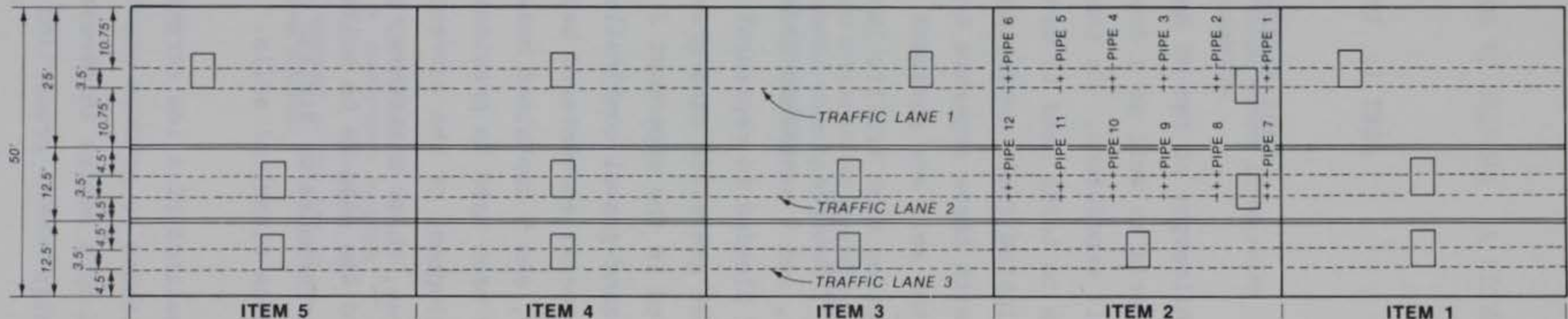




PLAN



A2



PLAN

LEGEND

- △ LOCATION OF NDT, CBR, DENSITY, AND WATER CONTENT MEASUREMENTS-DURING CONSTRUCTION
- PRETRAFFIC TEST PITS
- POSTTRAFFIC TEST PITS

SCALE

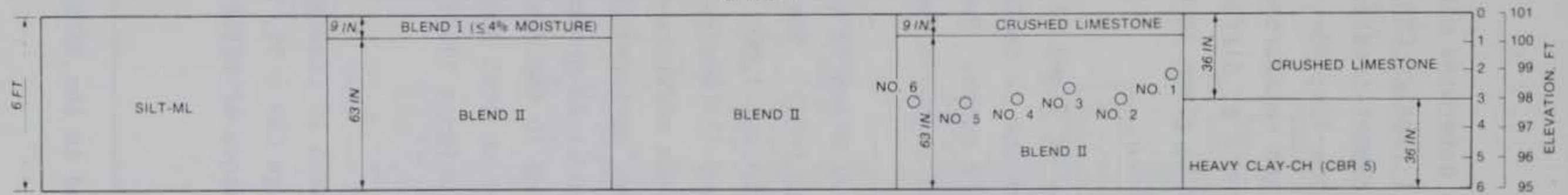


Figure A1. Plan view of test section with traffic lane configuration

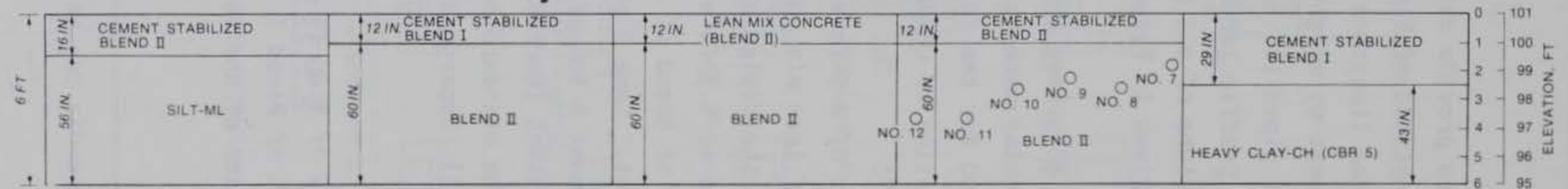


# MX TEST SECTION-PROFILES

LANE 1



LANE 2



LANE 3

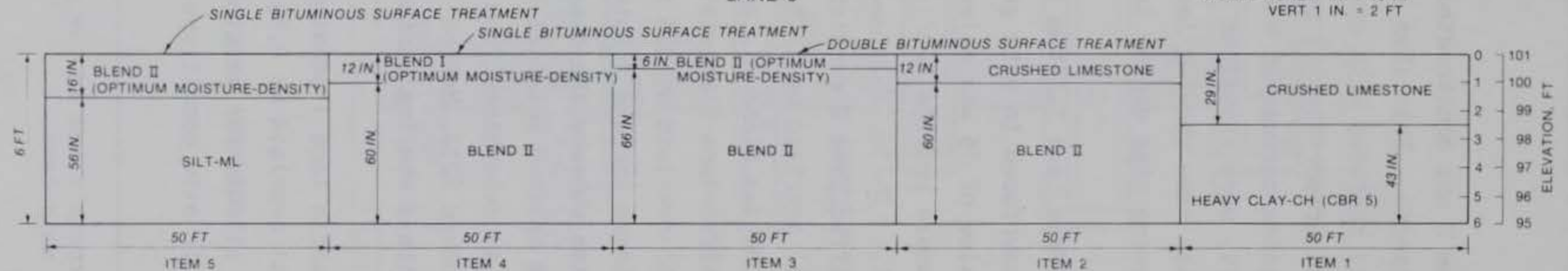


Figure A2. Profiles of traffic lanes 1, 2, and 3



item would confirm thickness requirements for materials above low-strength subgrades.

#### Item 2

5. Item 2 was constructed to provide data to determine minimum pipe cover requirements. This item consisted of Blend II (design CBR = 15,  $\omega \leq 4$  percent) surfaced with crushed limestone and cement-treated Blend II (design cement proportion = 7 percent by weight). The 12-, 18-, and 24-in.-diam instrumented corrugated steel pipes (16 gage) and reinforced concrete pipe (Class IV) were installed in traffic lanes 1 and 2 at different cover depths. A plan view showing locations of all pipes is given in Figure A3 and a profile showing pipe depths is given in Figure A4.

#### Item 3

6. Traffic lane 1 (Item 3) consisted entirely of Blend II which represented the unsurfaced in situ granular material from the 2- to 20-ft level. A design CBR value of 15 was selected for the full 6-ft depth. Evaluation of performance would provide confirmation of unsurfaced strength requirements of this material.

7. Traffic lane 2 consisted of a 5-ft layer of Blend II (design CBR = 15,  $\omega \leq 4$  percent) overlaid by 1 ft of lean mix concrete (LMC). The aggregate used in the LMC was Blend II, and the design strength was 1,000 psi (28 days).

8. Traffic lane 3 consisted of 5.5 ft of Blend II (design CBR = 15,  $\omega \leq 4$  percent) overlaid by 0.5 ft of Blend II (optimum moisture-density) and a double-bituminous surface treatment. Lane 3 provided performance data for the field situation whereby the uppermost 6 in. of Blend II is processed (in place) to the optimum moisture content (corresponding to the maximum CE 55 blow density as determined from the standard compaction test described in Military Standard 621A, Method 100) (Department of Defense 1964),\* compacted, and sealed with a wearing surface.

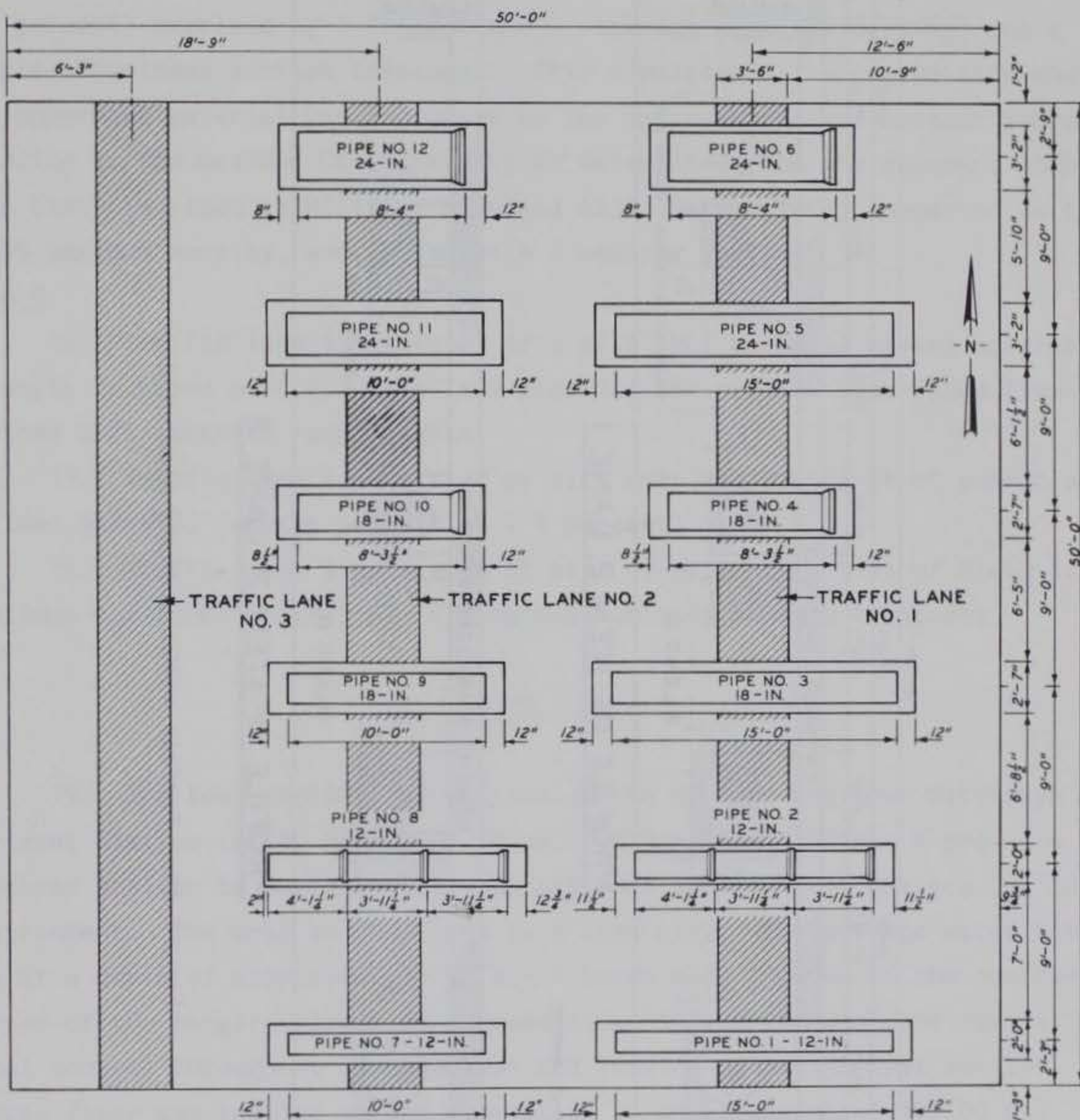
#### Item 4

9. Traffic lane 1 consisted of 5.25 ft of Blend II (design CBR = 15,  $\omega \leq 4$  percent) overlaid by 0.75 ft of Blend I (design CBR = 15,  $\omega \leq 4$  percent). This allowed for examination of the performance of materials arranged similarly to in situ conditions.

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\* All references cited in the appendix can be found in the REFERENCES at the end of the main text.

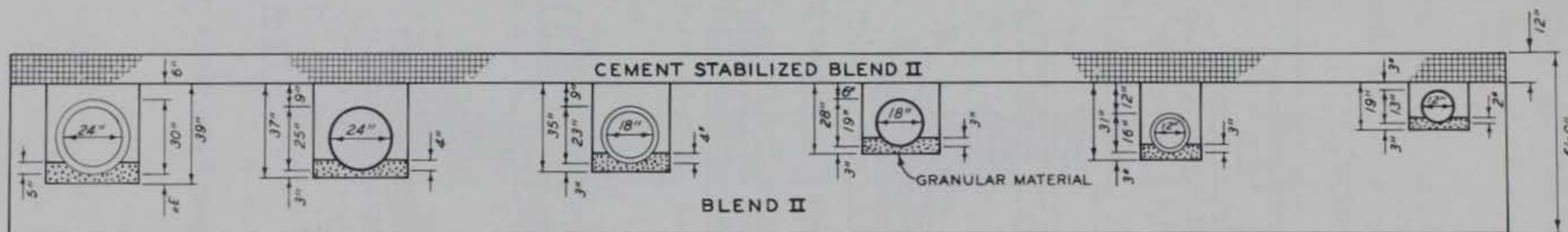




## ITEM 2

Figure A3. Plan views showing all pipe locations





## PROFILE OF ITEM 2, LANE 2

Figure A4. Profile views showing pipe depths

10. Traffic lane 2 consisted of 5 ft of Blend II (design CBR = 15,  $w \leq 4$  percent) overlaid by 1 ft of cement-stabilized Blend I (design cement proportion = 7 percent).

11. Traffic lane 3 consisted of 5 ft of Blend II (design CBR = 15,  $w \leq 4$  percent) overlaid by 1 ft of Blend I (optimum moisture-density) and a single-bituminous surface treatment. This simulated a field condition whereby the uppermost material was processed to the optimum moisture content (corresponding to the maximum CE 55 density as determined from the standard compaction test described in Military Standard 621A, Method 100), compacted to the CE 55 maximum density, and sealed with a wearing surface.

#### Item 5

12. Traffic lane 1 consisted of a silt (ML) material having marginal strength in terms of CBR. This lane provided for minimum unsurfaced fine-grained soil strength requirements.

13. Traffic lane 2 consisted of silt overlaid by 1.3 ft of cement stabilized Blend II (design proportion = 7 percent).

14. Traffic lane 3 consisted of silt overlaid by 1.3 ft of Blend II (optimum moisture-density) and a single-bituminous surface treatment.

#### Test Site

15. The test section was located at the US Army Engineer Waterways Experiment Station (WES), Vicksburg, Miss., in Hangar 4. Hangar 4 provided overhead shelter to partially protect the test section from changes due to the environment. The soil in this area is a lean clay. The average water table was at a depth of approximately 9 ft. A bench mark located in the southwest corner of the hangar (elevation assumed to be 100.00 ft) was used for all vertical control throughout construction and testing of the MX test section. The hangar floor was leveled before excavation to an elevation of 101.00 ft.

#### Pavement Elements

#### Laboratory testing

16. Laboratory testing was performed by the soils laboratory at WES on bulk samples of each soil type to be placed in the test bed. Gradations and Atterberg limits were determined for each of the soils and moisture-density



relationships were developed from the standard compaction test described in Military Standard 621A, Method 100 for the CE 12, CE 26, and CE 55 blow efforts. Other laboratory tests performed on these materials included the quick drained (QD) standard triaxial test, resilient modulus test, and repeated load triaxial test for which the results are tabulated in Tables A1, A2, and A3, respectively.

#### Heavy clay (CH)

17. The bottom 3 ft of Item 1, lane 1 (el 95.0 to 98.0 ft) and the bottom 3.58 ft of Item 1, lanes 2 and 3 (el 95.0 to 98.58 ft) consisted of a heavy clay (CH) material as shown by curve 1 in Figure A5. This material had a liquid limit (LL) of 66 and a plasticity index (PI) of 48. The clay, locally known as buckshot, was obtained from a backswamp deposit along the Mississippi River near Mound, La. Laboratory compaction and CBR data for the as-molded and soaked conditions are shown in Figures A6 and A7, respectively. These data indicated a CBR of about 4 to 5 at molding water contents of 31 to 33 percent for both conditions. Experience has shown that the heavy clay will retain a constant moisture content and strength over a long period of time. Therefore, this material was chosen for the controlled strength subgrade in Item 1.

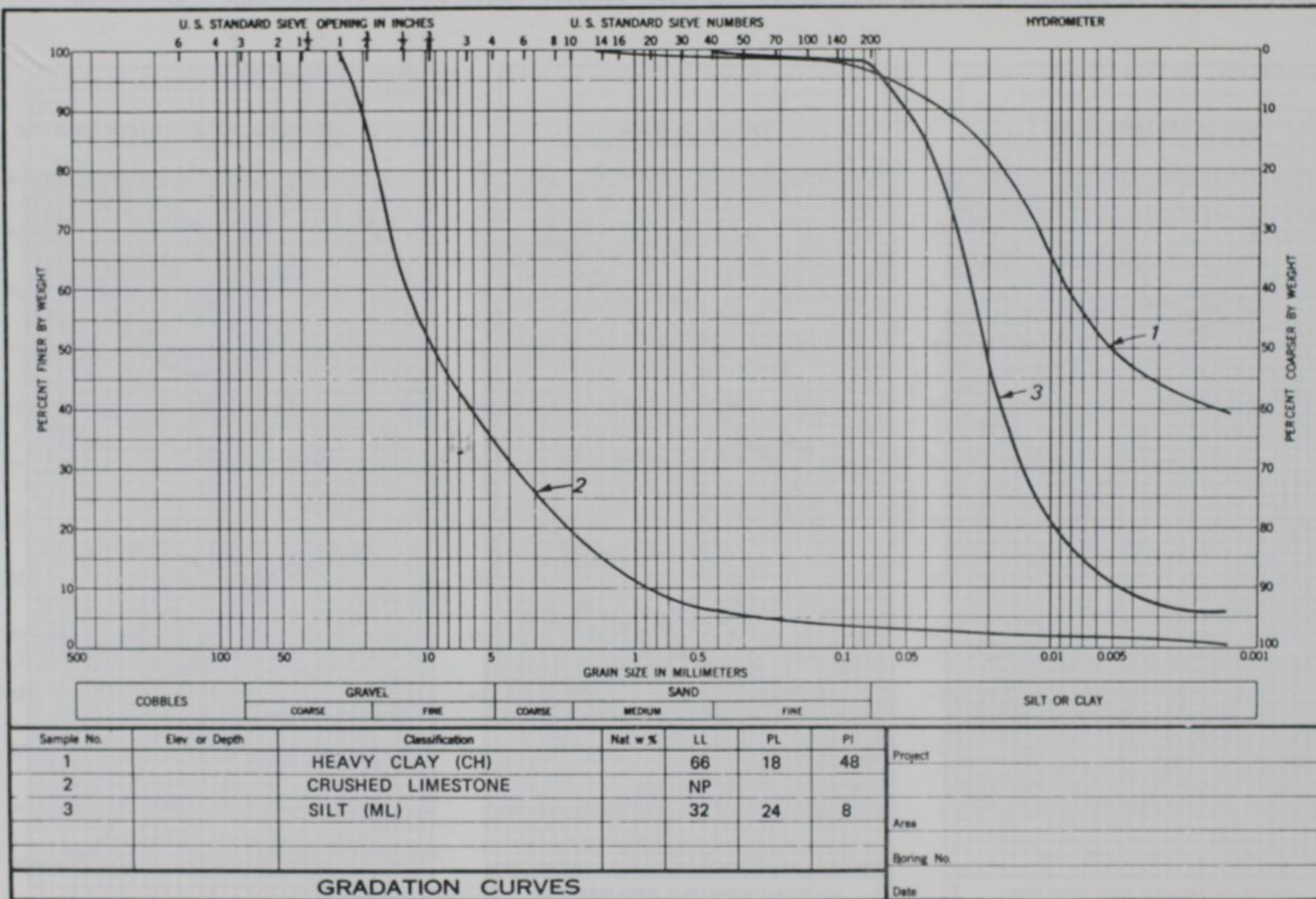
#### Crushed limestone

18. The upper 3 ft of Item 1, lane 1 (el 98.0 to 101.0 ft), the upper 2.42 ft of Item 1, lane 3 (el 98.58 to 101.0 ft), the upper 0.75 ft of Item 2, lane 1 (el 100.25 to 101.0 ft), and the upper 1 ft of Item 2, lane 3 (el 100.0 to 101.0 ft) consisted of a crushed limestone material as shown by curve 2 in Figure A5. The No. 610 crushed limestone was obtained from West Mississippi Material in Jackson, Miss. Laboratory compaction and CBR data for the as-molded and soaked conditions are shown in Figures A8 and A9, respectively. From these data, design compaction water content of 4 to 6 percent was selected to obtain the maximum density and strength possible.

#### Silt

19. The entire 6-ft thickness of Item 5, lane 1 (el 95.0 to 101.0 ft) and the bottom 4.67 ft of Item 5, lanes 2 and 3 (el 95.0 to 99.67 ft) consisted of a silt (ML) or loess material as shown by curve 3 in Figure A5. This material had an LL of 32 and a PI of 8. The silt was obtained from a high hilltop at WES in Vicksburg, Miss. Laboratory compaction and CBR data for the as-molded and soaked conditions are shown in Figures A10 and A11,





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Figure A5. Grading curves for heavy clay, silt, and crushed limestone



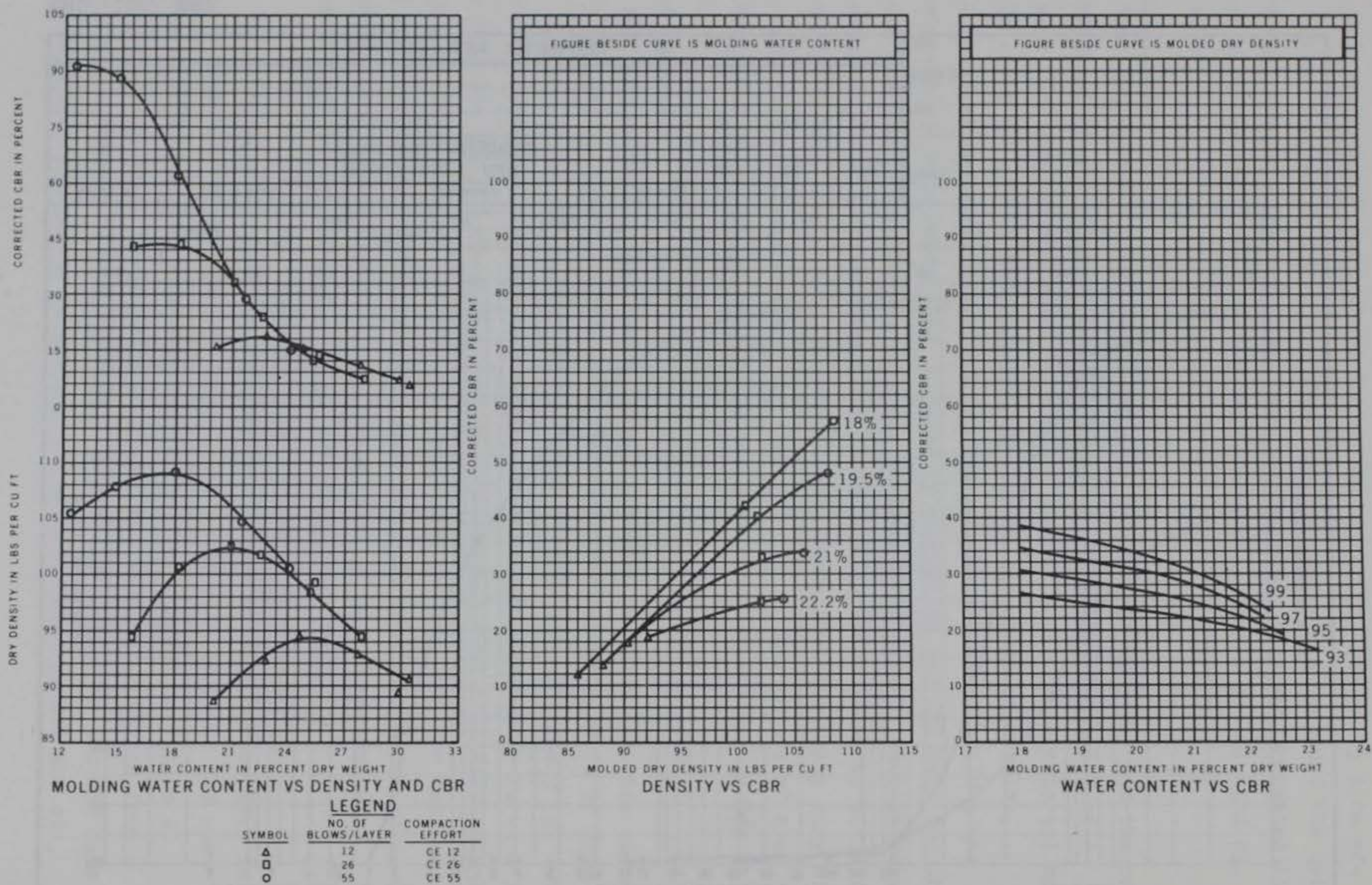


Figure A6. CBR, density, and water content data for heavy clay material (tested as molded)



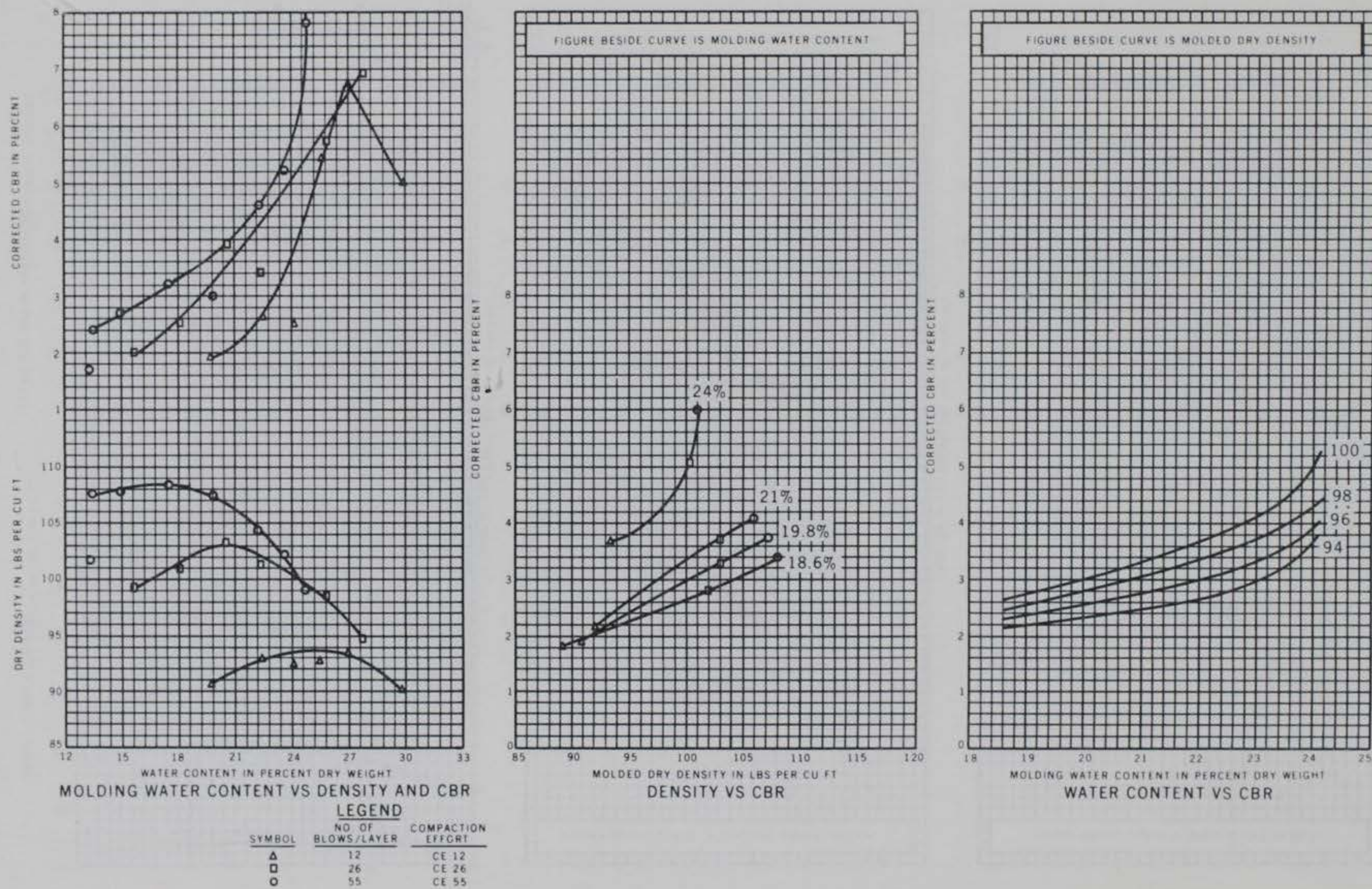


Figure A7. CBR, density, and water content data for heavy clay material (tested after soaking)



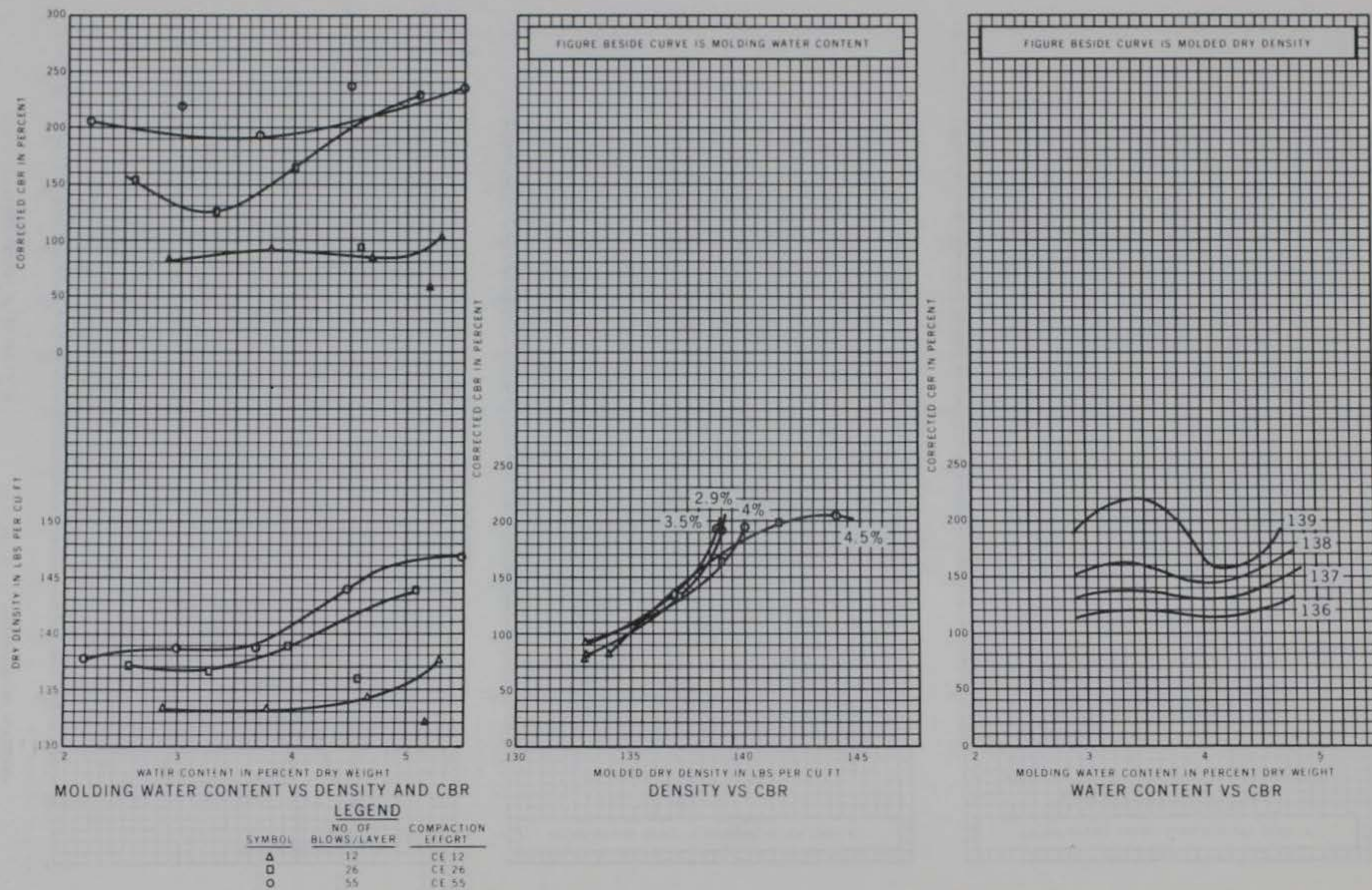


Figure A8. CBR, density, and water content data for crushed limestone (tested as molded)



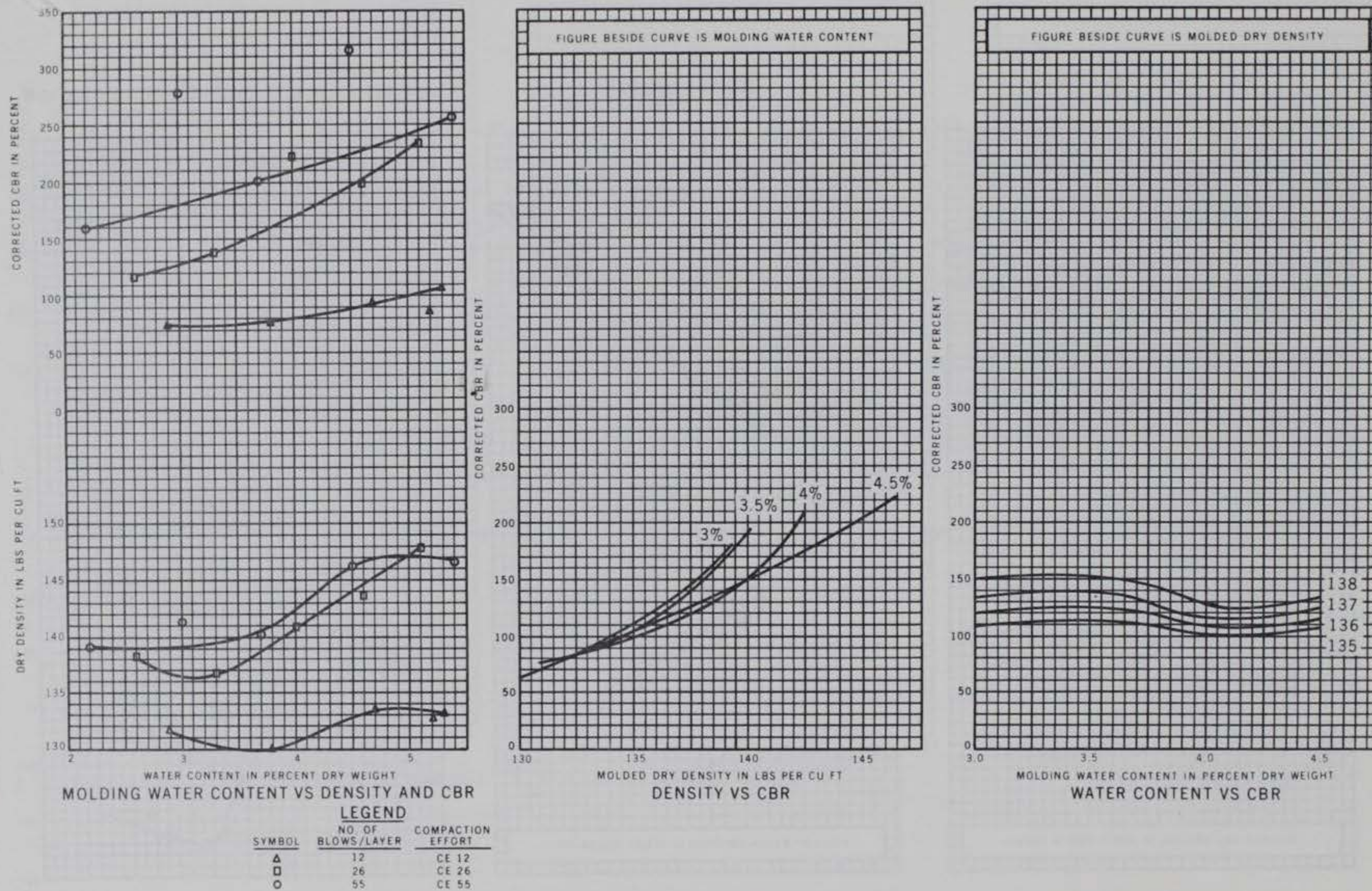


Figure A9. CBR, density, and water content data for crushed limestone (tested after soaking)



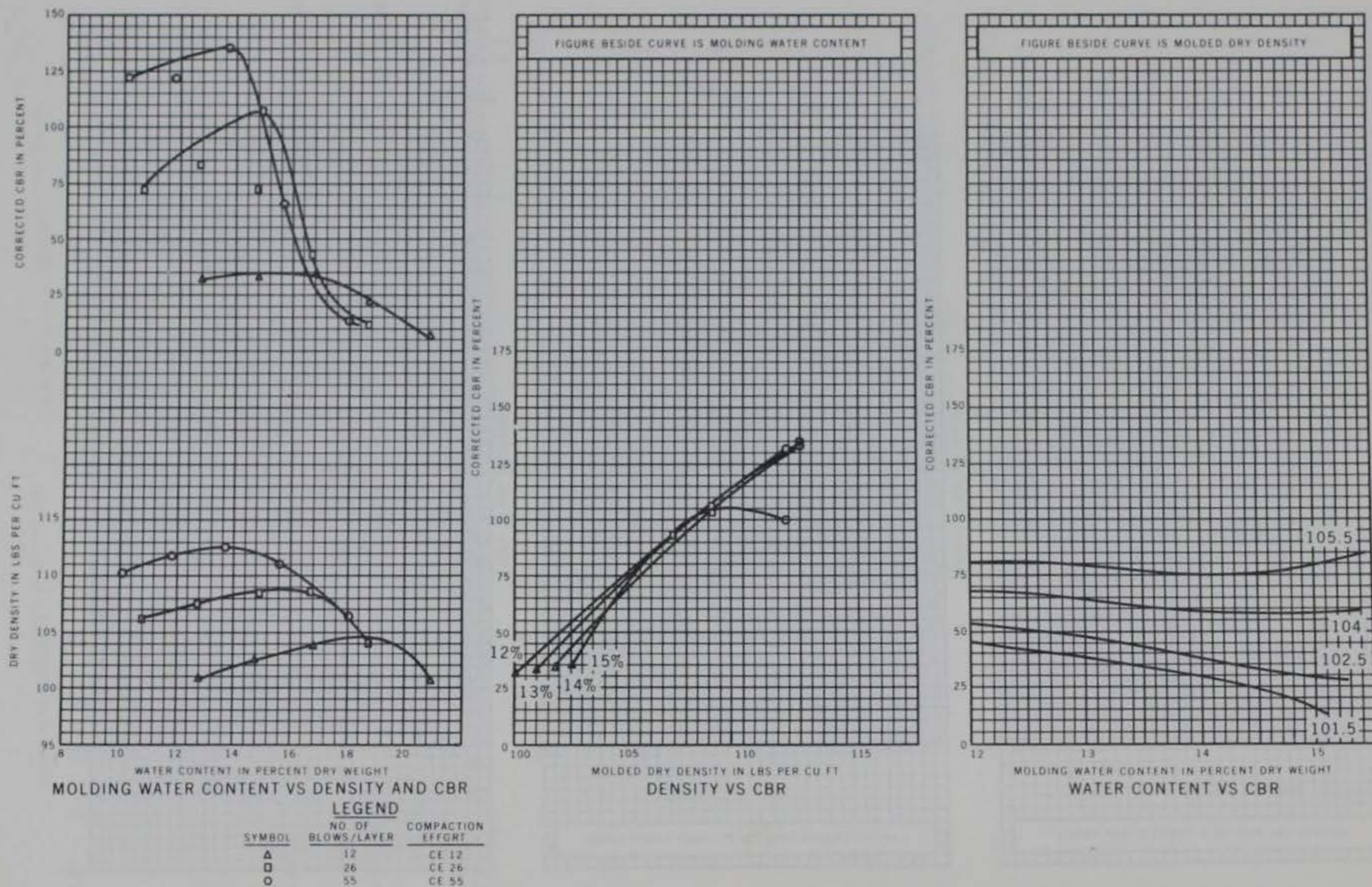


Figure A10. CBR, density, and water content data for silt (tested as molded)







respectively. From these data, a design compaction water content of 17 to 18 percent was selected for compaction control to result in an as-constructed CBR of 15.

#### Blend I

20. The upper 0.75 ft of Item 4, lane 1 (el 100.25 to 101.0 ft) and the upper 1 ft of Item 4, lane 3 (el 100.0 to 101.0 ft) consisted of Blend I material as shown by curve 2 in Figure A12. This material was blended at WES using aggregates that were readily available in the vicinity. The objective was to obtain a gradation similar to that anticipated at depths of 0 to 2 ft in the proposed construction area. A median gradation for this material, shown by curve 1 of Figure A12, was determined at WES based on data obtained from Fugro, Inc./Consulting Engineers and Geologists (now ERTEC). Fugro, Inc., sampled seven areas within the Great Basin Site.

21. The aggregates and proportions used to obtain Blend I were as follows:

12 percent	Concrete sand
27 percent	Crushed gravel
28 percent	Campbell's Swamp sand
33 percent	Silt

Grading curves for these aggregates are shown in Figure A13, curves 2 to 5. Mixing of the aggregates was accomplished by using front-end loaders and a pulvimixer (Photos A1 and A2).

22. Laboratory compaction and CBR data for the as-molded and soaked conditions are shown in Figures A14 and A15, respectively. A design compactive water content of 2 to 3 percent was selected for the upper 0.75 ft of Item 4, lane 1 (el 100.25 to 101.0 ft) to obtain a design CBR of 15. A design compactive water content of 6 to 8 percent (optimum) was selected for the upper 1 ft of Item 4, lane 3 (el 100.0 to 101.0 ft).

#### Blend II

23. The bottom 5.25 ft of Item 2, lane 1 (el 95.0 to 100.25 ft), the bottom 5 ft of Item 2, lanes 2 and 3 (el 95.0 to 100.0 ft), the entire 6-ft depth of Item 3, lanes 1 and 3 (el 95.0 to 101.0 ft), the bottom 5 ft of Item 3, lane 2 (el 95.0 to 100.0 ft), the bottom 5.25 ft of Item 4, lane 1 (el 95.0 to 100.25 ft), the bottom 5 ft of Item 4, lanes 2 and 3 (el 95.0 to 100.0 ft), and the upper 0.33 ft of Item 5, lane 3 (el 99.67 to 101.0 ft) consisted of Blend II material as shown by curve 2 of Figure A16. This material was



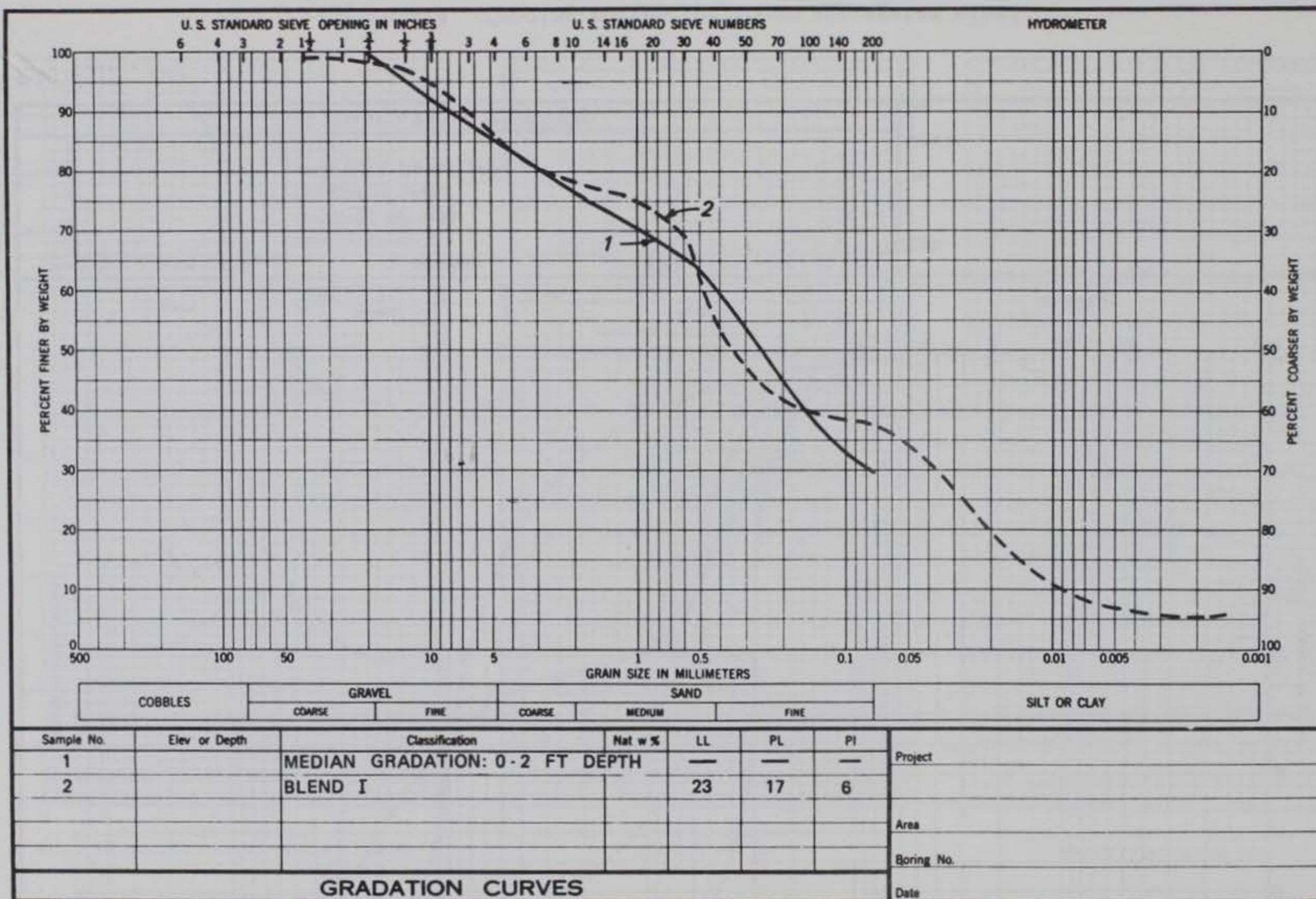
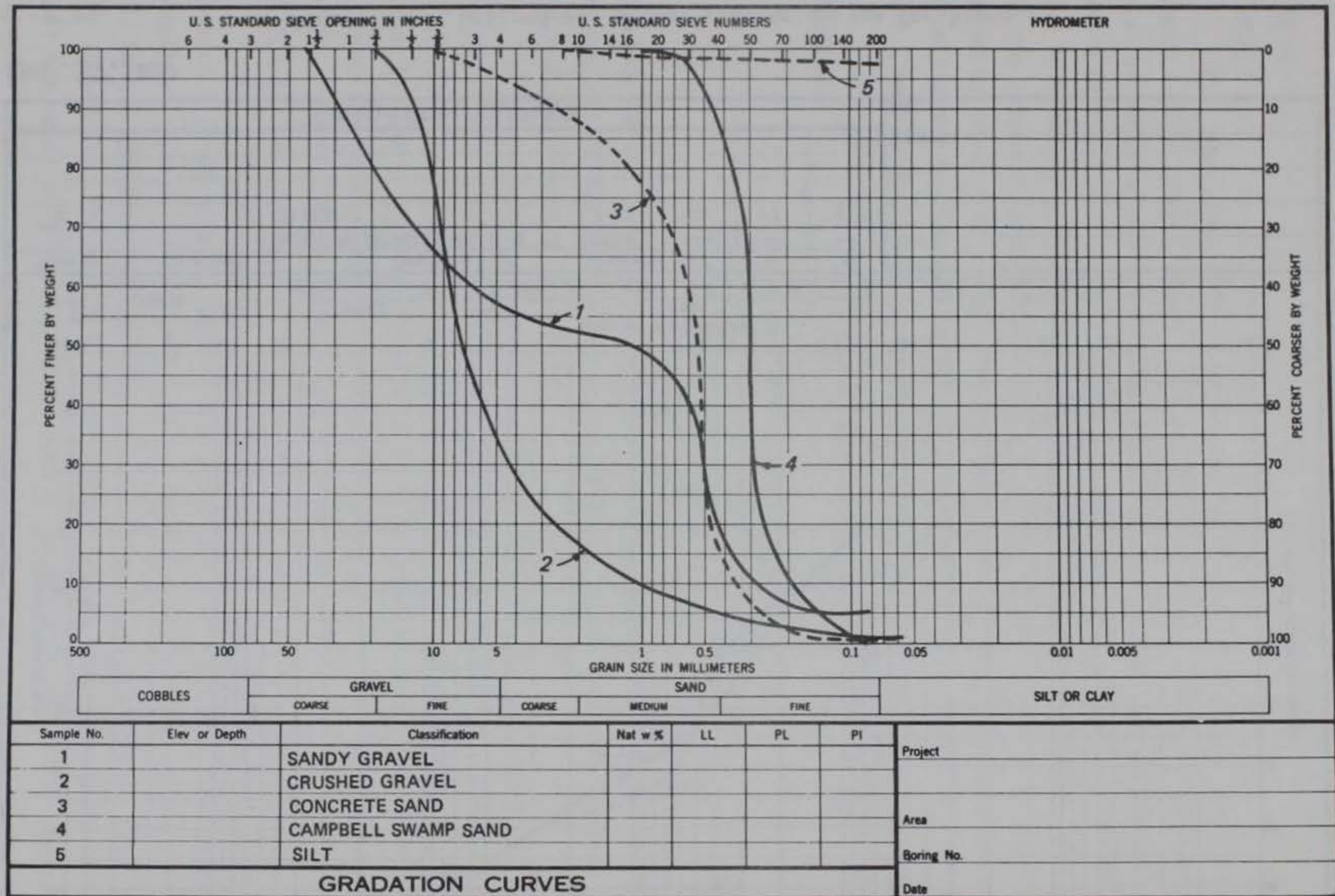

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Figure A12. Desired and actual grading curves for Blend I

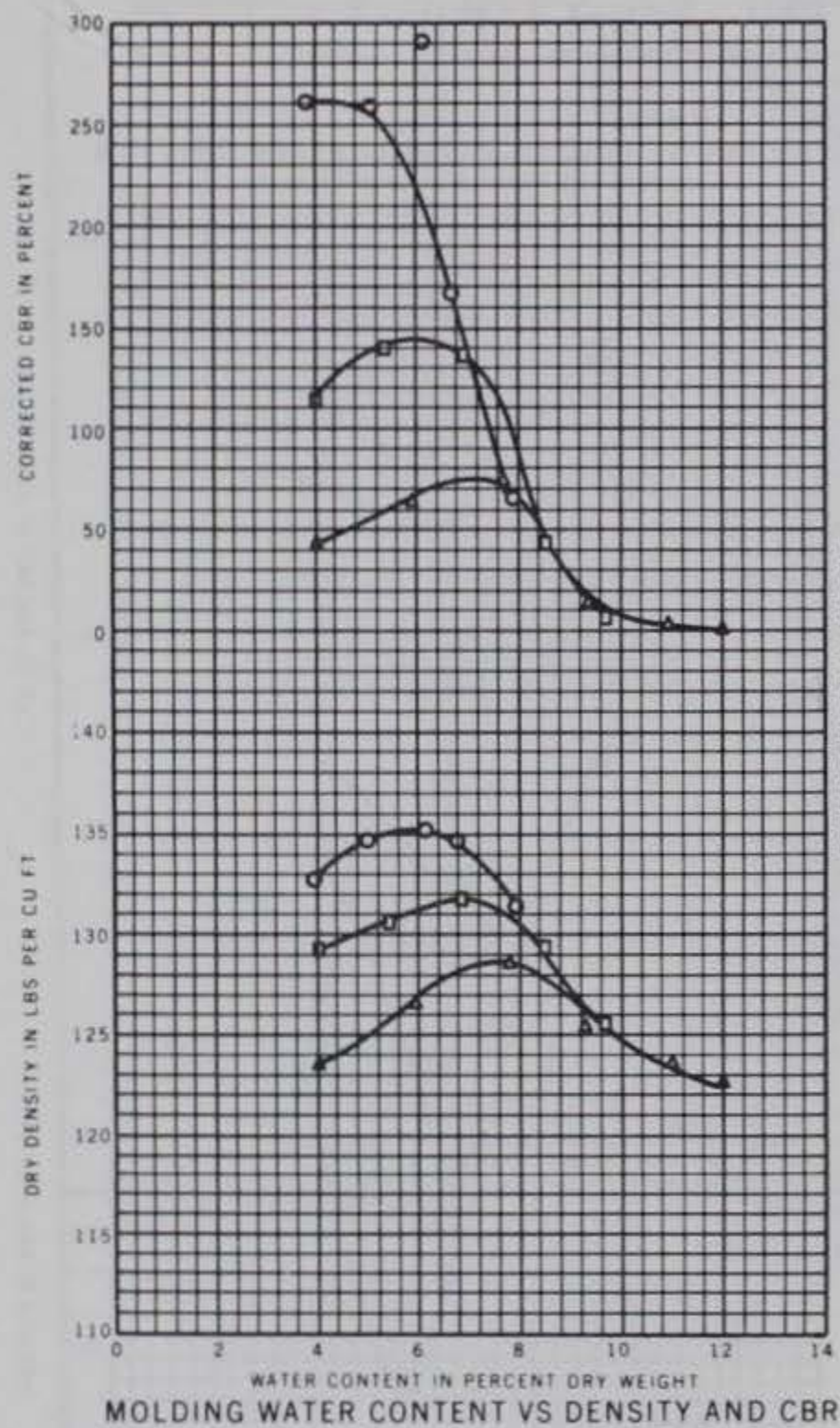




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Figure A13. Grading curves for those aggregates mixed to obtain Blends I and II





LEGEND

SYMBOL	NO. OF BLOWS/LAYER	COMPACTION EFFORT
Δ	12	CE 12
□	26	CE 26
○	55	CE 55

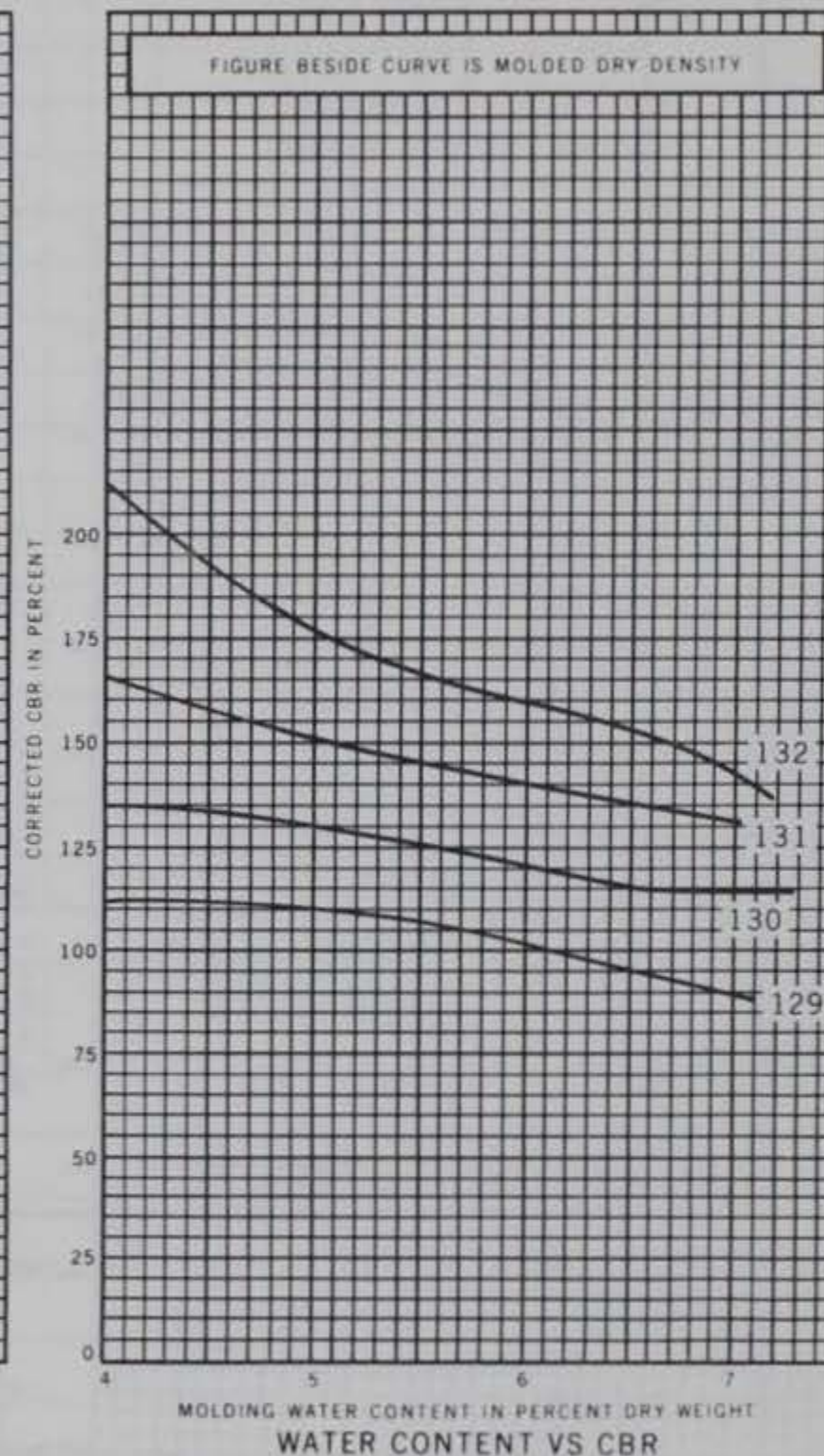
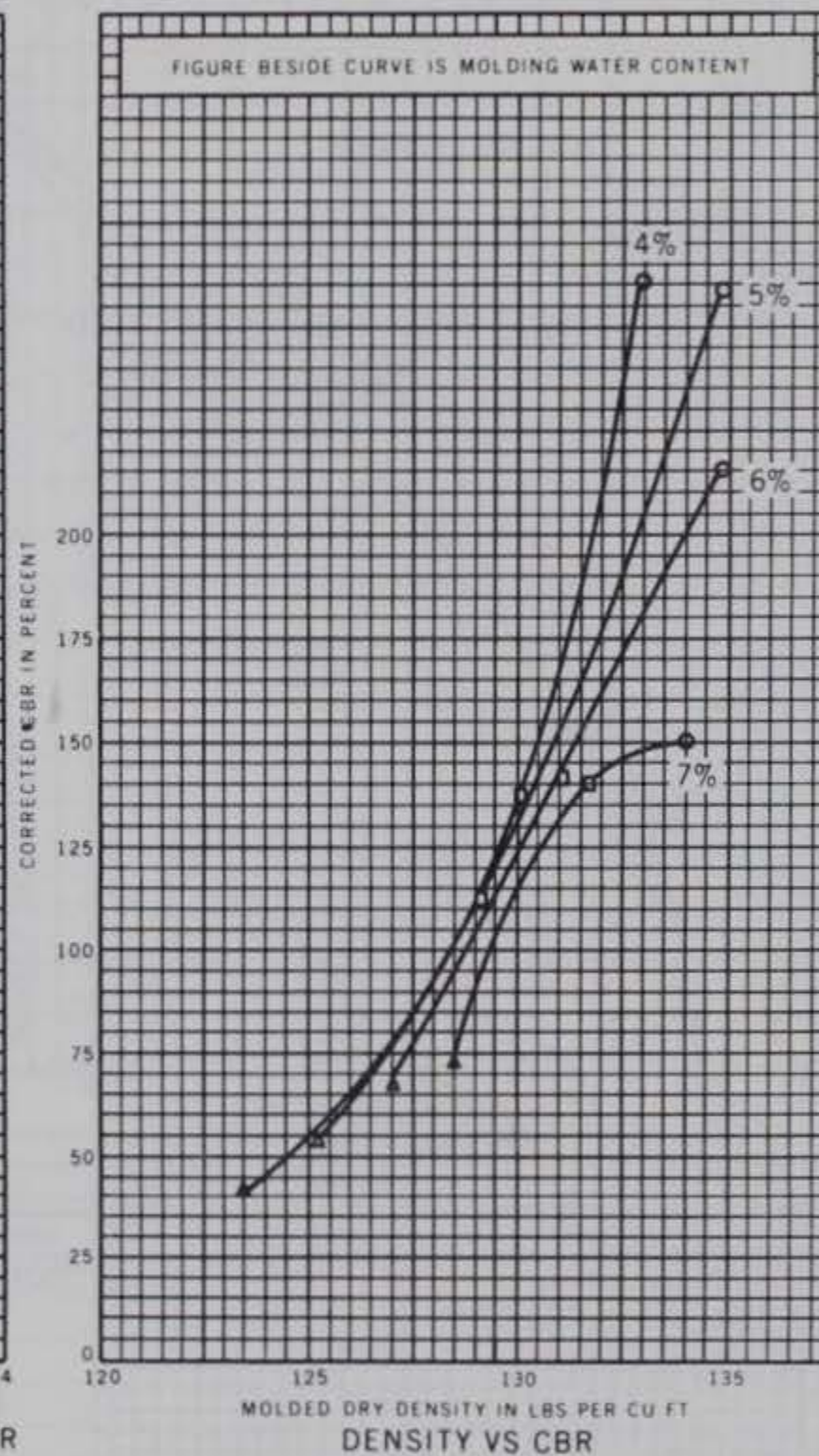


Figure A14. CBR, density, and water content data for Blend I (tested as molded)



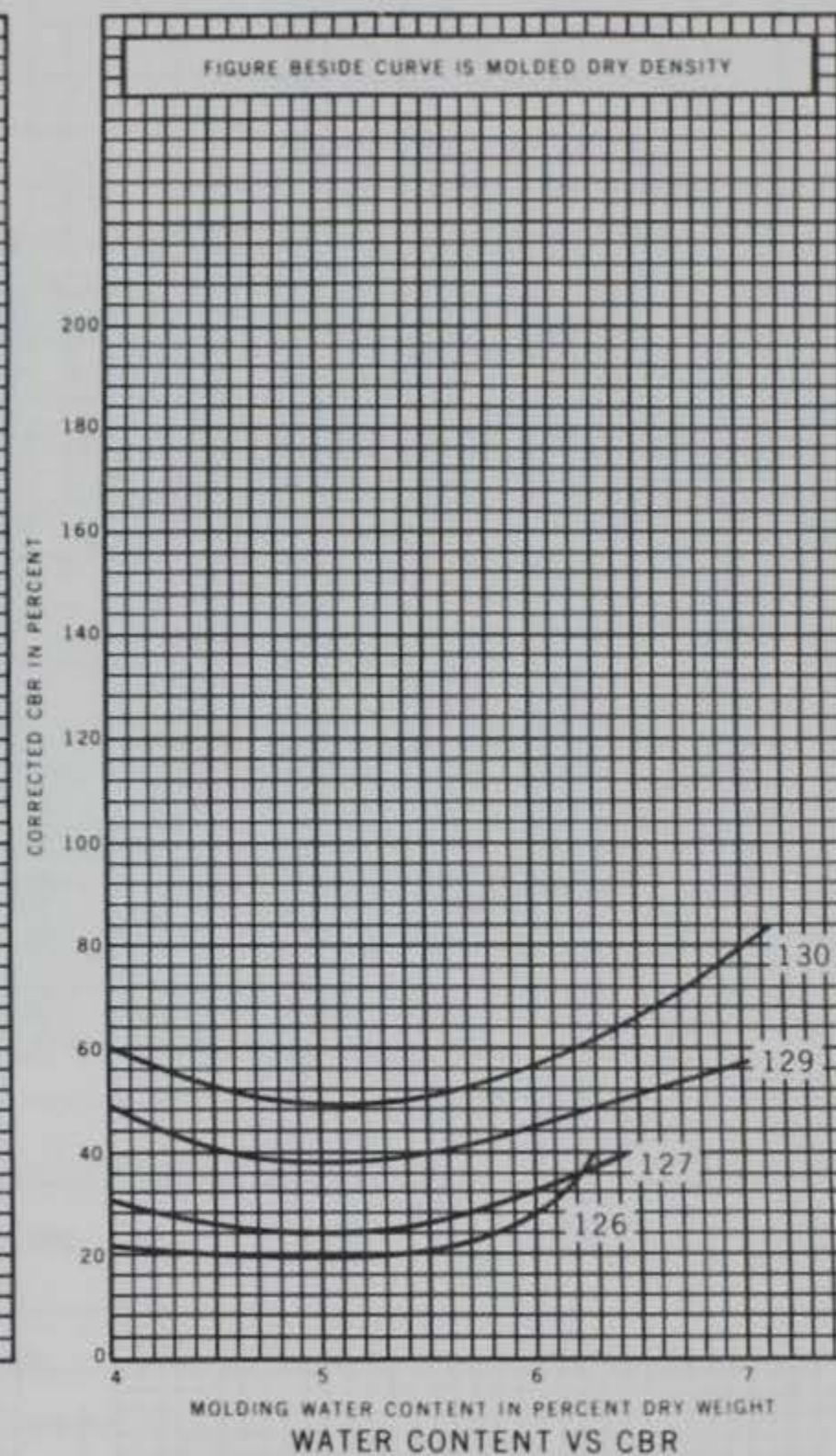
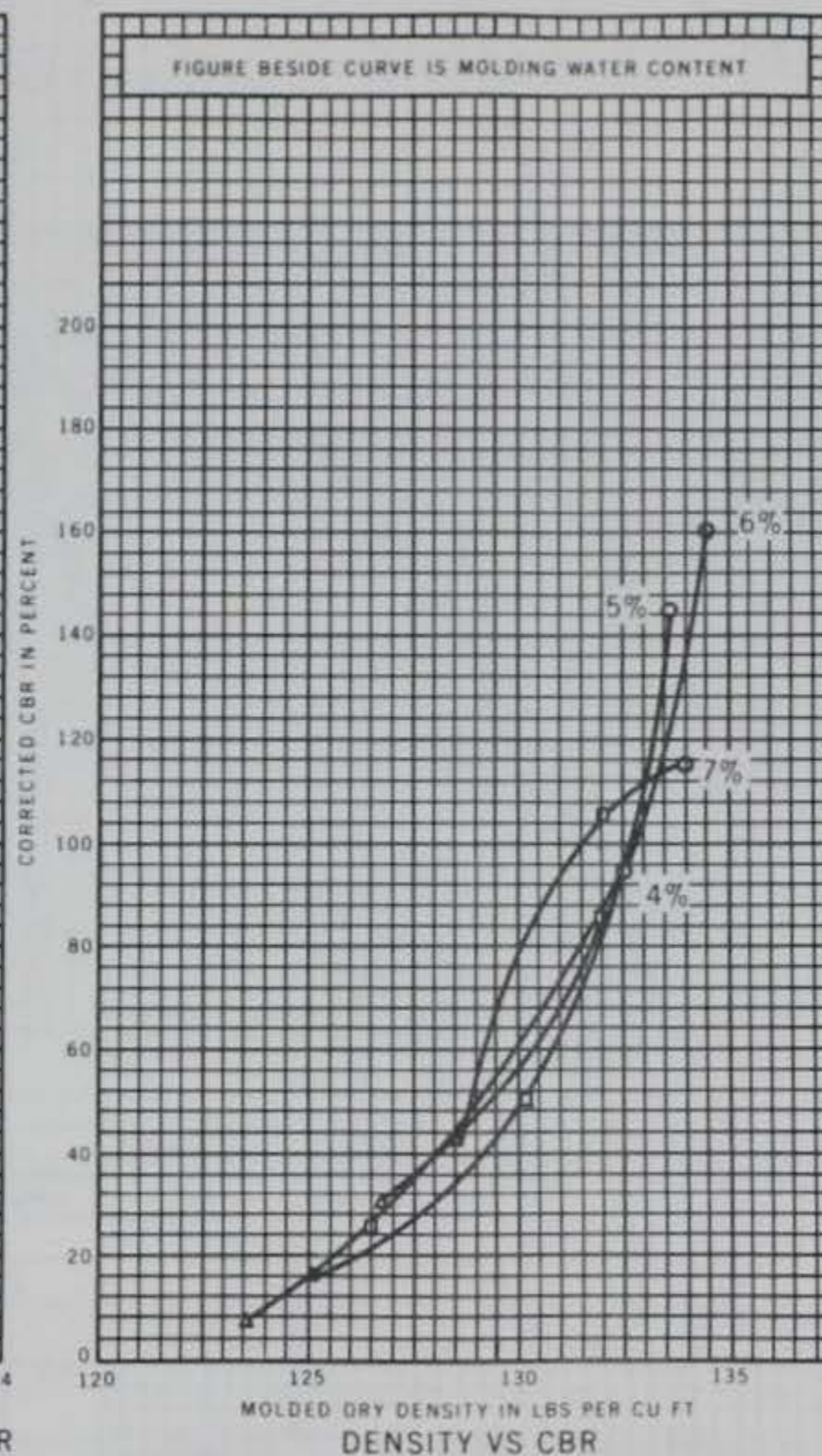
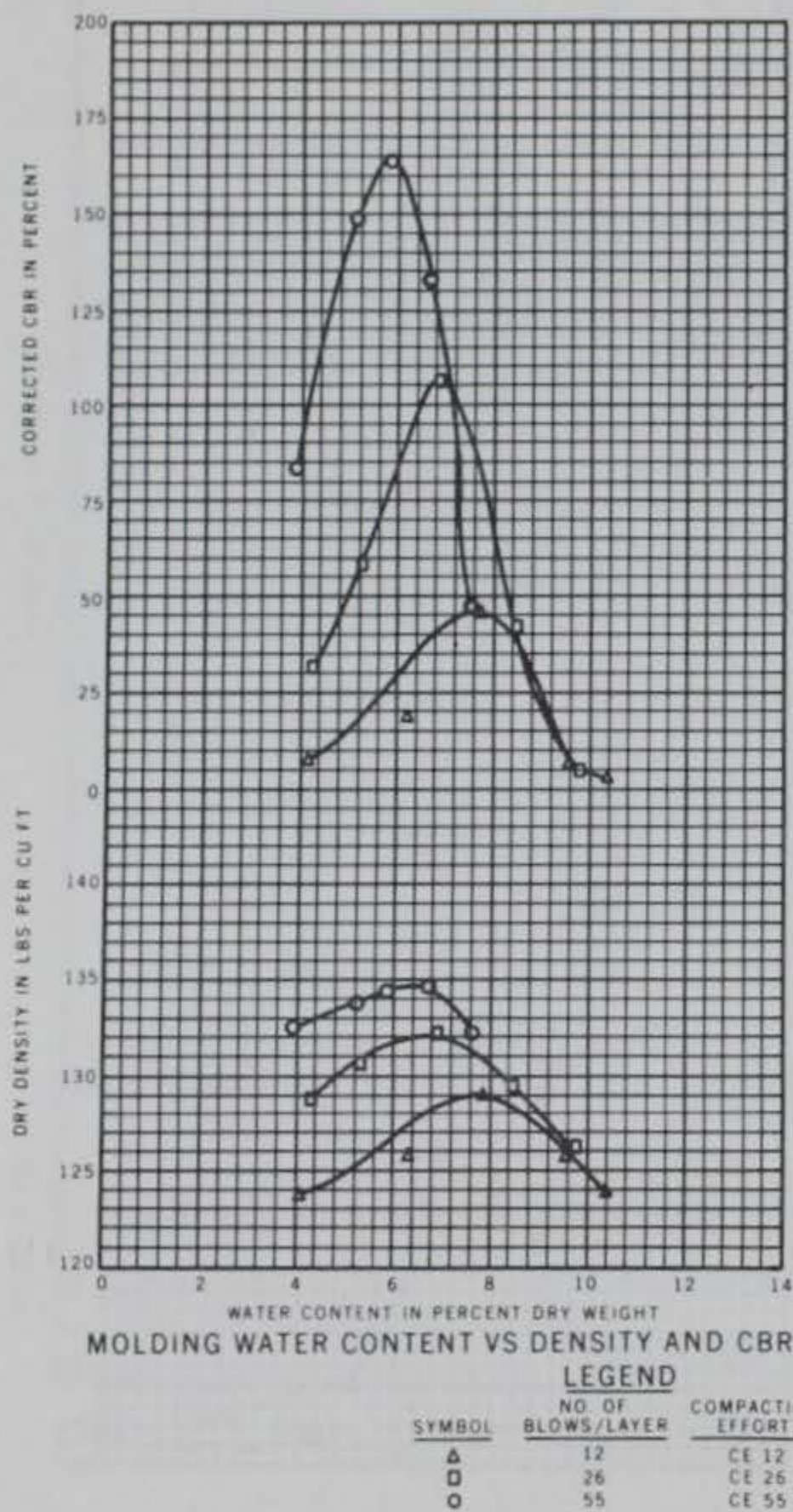
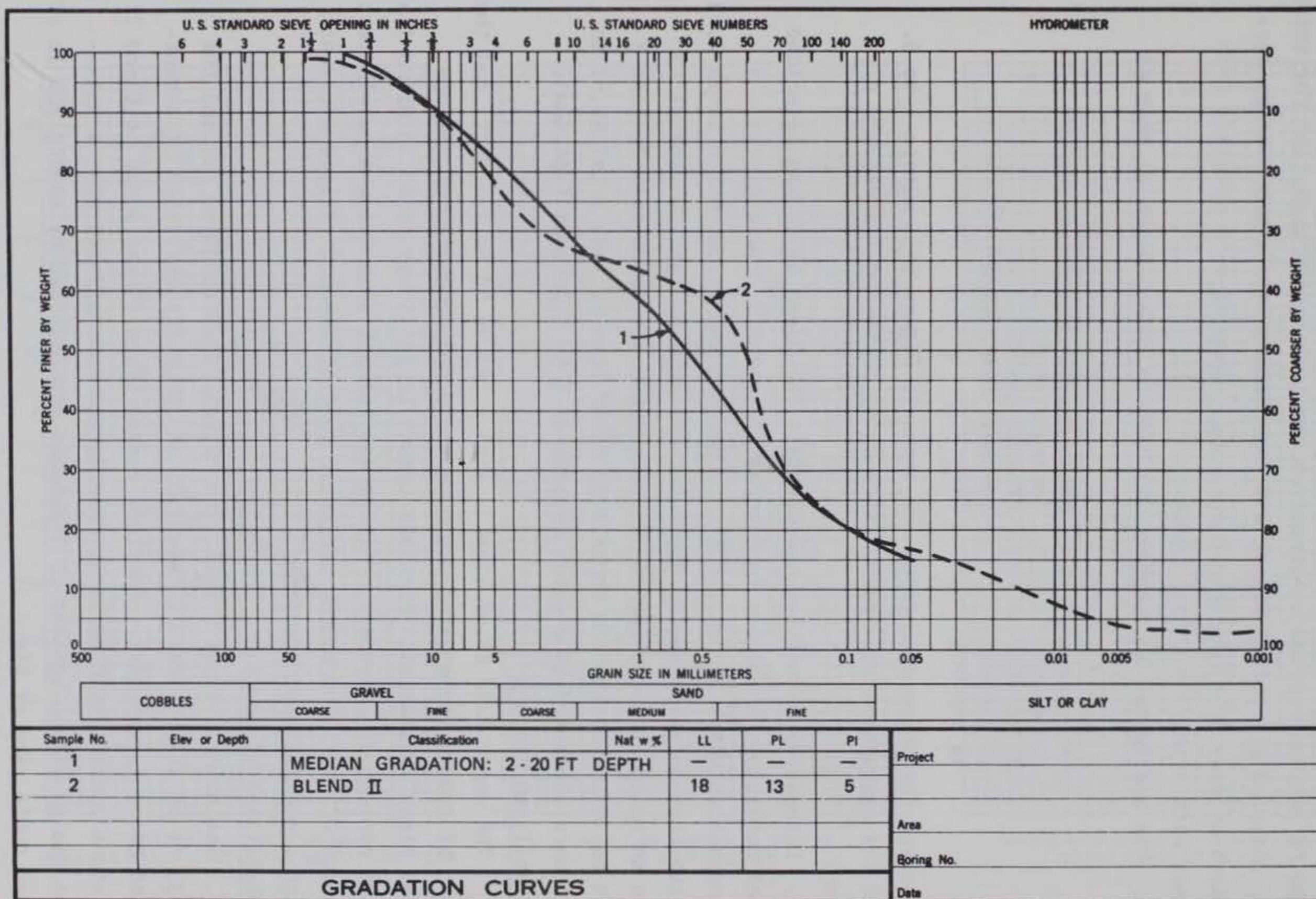


Figure A15. CBR, density, and water content data for Blend I (tested after soaking)





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Figure A16. Desired and actual grading curves for Blend II



blended at WES using aggregates that were readily available in the vicinity. The objective was to obtain a gradation similar to that anticipated at depths of 2 to 20 ft in the proposed construction area. A median gradation for this material, shown by curve 1 of Figure A16, was determined by WES Geology personnel based on data obtained from Fugro, Inc. Samples were obtained from seven areas within the Great Basin Site.

24. The aggregates and proportions used to obtain Blend II were as follows:

24 percent	Sandy gravel
22 percent	Concrete sand
25 percent	Crushed gravel
10 percent	Campbell Swamp sand
19 percent	Silt

Grading curves for these aggregates are shown in Figure A13, curves 1 to 5. Mixing of the aggregates was accomplished using front-end loaders and a pulvimixer.

25. Laboratory compaction and CBR data for Blend II in the as-molded and soaked conditions are shown in Figures A17 and A18, respectively. A design compaction water content of 3 to 4 percent was selected for Items 2, 3, and 4 (with the exception of the upper 0.5-ft layer of Item 3, lane 3) to result in an as-constructed CBR of 15. The upper 0.5 ft of Item 2, lane 3 (el 100.5 to 101.0 ft) and the upper 0.33 ft of Item 5, lane 3 (el 99.67 to 101.0 ft) were compacted at a water content of 5 to 7 percent (optimum).

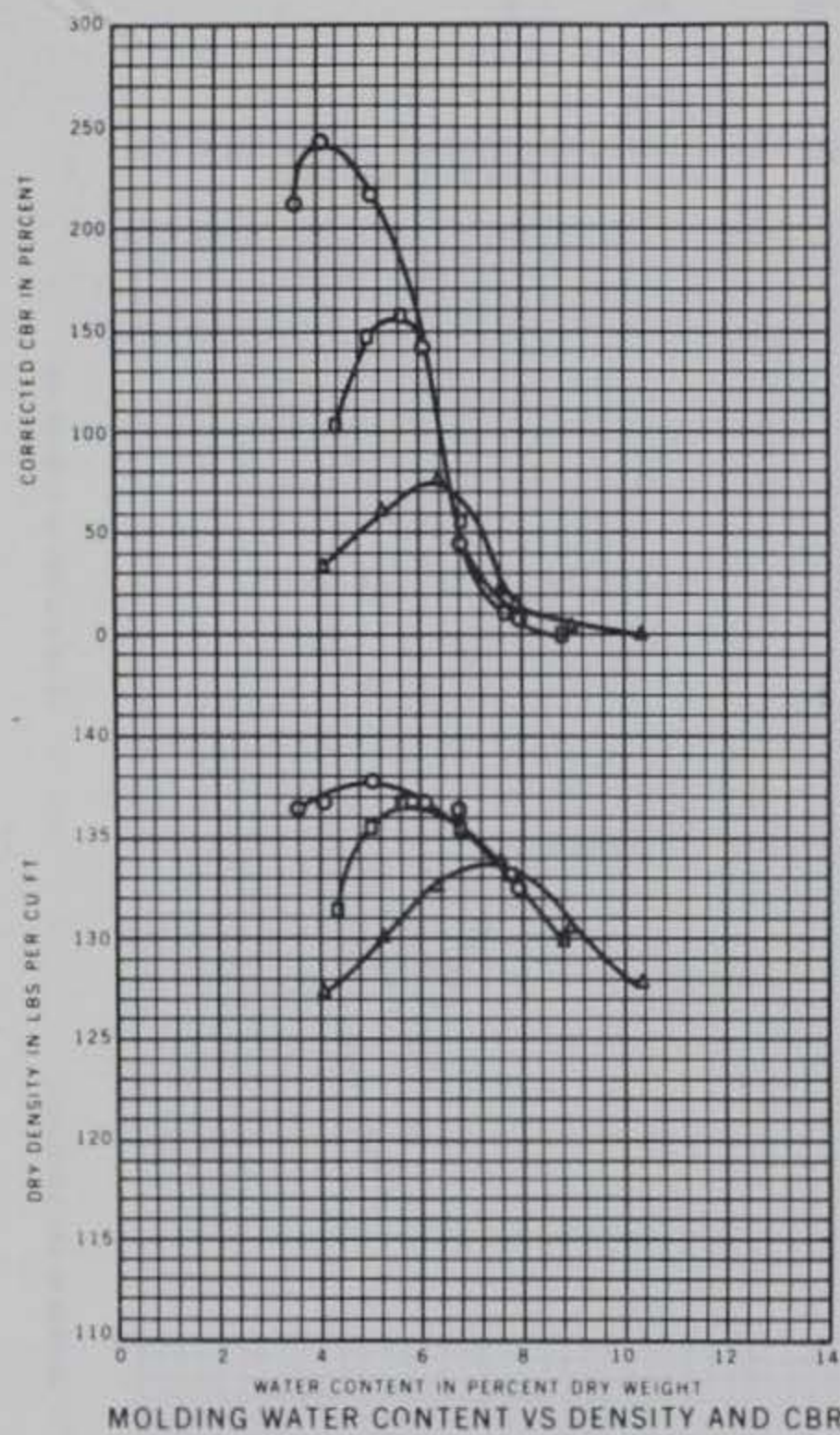
#### Cement stabilized Blend I

26. The upper 2.42 ft of Item 1, lane 2 (el 98.58 to 101.0 ft) and the upper 1 ft of Item 4, lane 2 (el 100.0 to 101.0 ft) consisted of cement-stabilized Blend I material. Portland cement (Type 1) was added to Blend I at a moisture content of 8 percent. Mixing was accomplished using a pulvimixer. The addition of 250 lb of cement per cubic yard of Blend I yielded a cement content of approximately 7 percent.

#### Cement stabilized Blend II

27. The upper 1 ft of Item 2, lane 2 (el 100.0 to 101.0 ft) and the upper 0.33 ft of Item 5, lane 2 (el 99.67 to 101.0 ft) consisted of cement-stabilized Blend II material. Portland cement (Type 1) was added to Blend II at a moisture content of 8 percent. Mixing was accomplished with a pulvimixer. A design cement content of 7 percent was obtained by adding 300 lb of cement per cubic yard of Blend II.





LEGEND

SYMBOL	NO. OF BLOWS/LAYER	COMPACTION EFFORT
Δ	12	CE 12
□	26	CE 26
○	55	CE 55

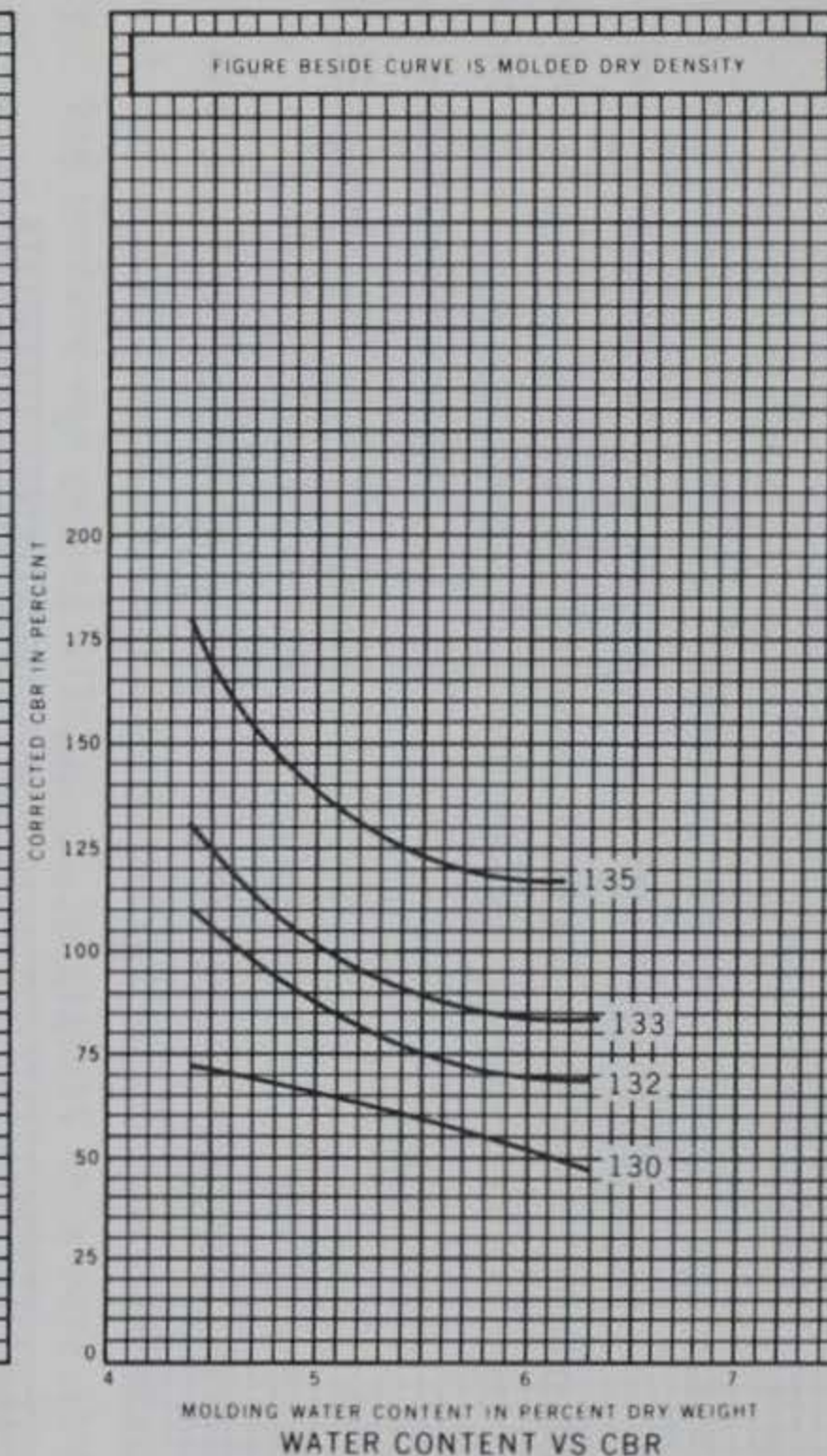
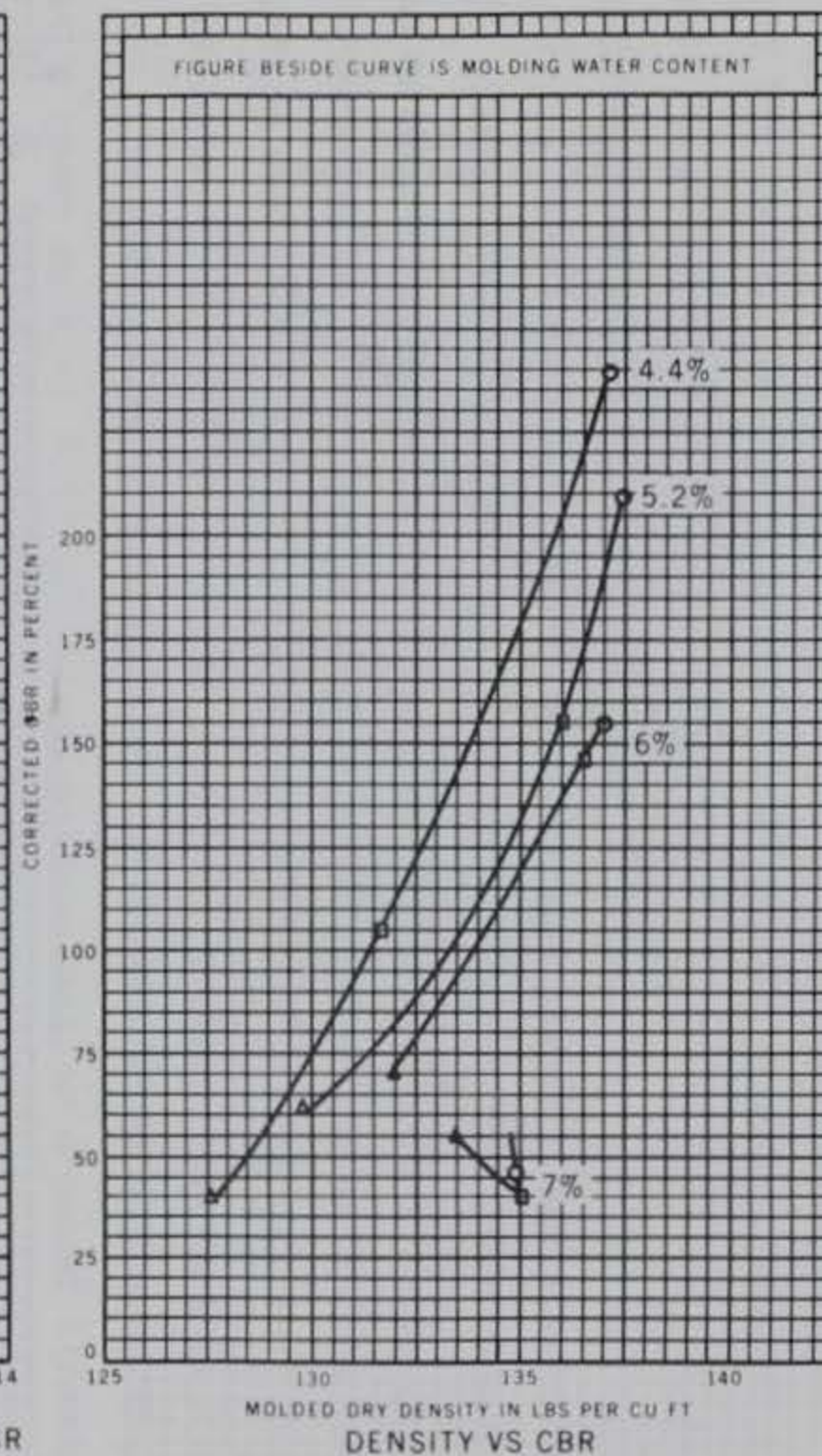


Figure A17. CBR, density, and water content data for Blend II (tested as molded)



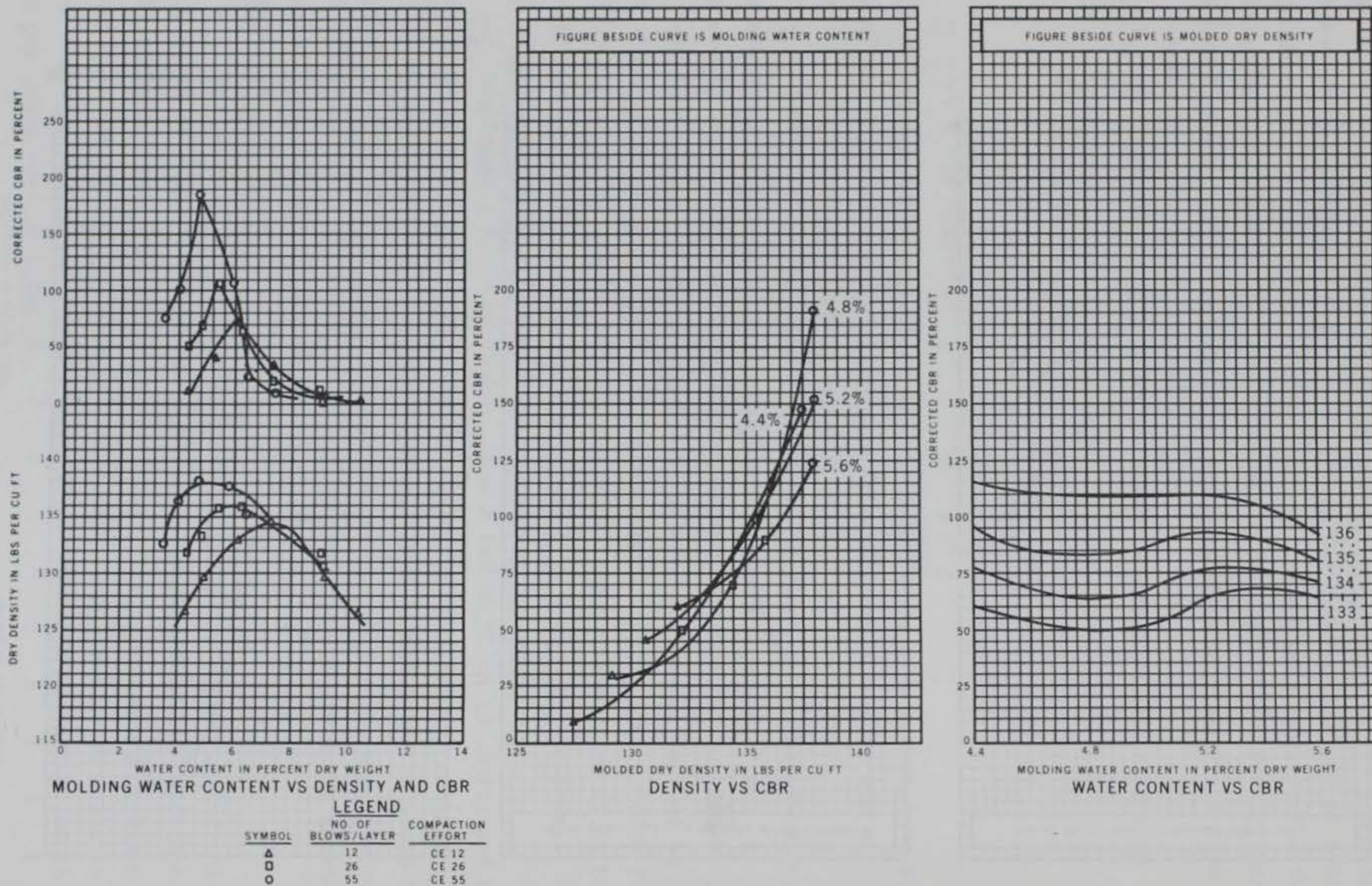


Figure A18. CBR, density, and water content data for Blend II (tested after soaking)



#### Lean mix concrete

28. The upper 1 ft of Item 3, lane 3 (el 100.0 to 101.0 ft) consisted of a lean mix concrete. Blend II material was utilized as aggregate and a design cement content of 300 lb/cu yd was specified. The lean mix concrete was batched at a local plant, delivered to the test site in ready-mix trucks, and placed at slumps of 5 to 7 in. The 28-day compressive strength of the lean mix concrete was 1,000 psi.

#### Single-bituminous surface treatment

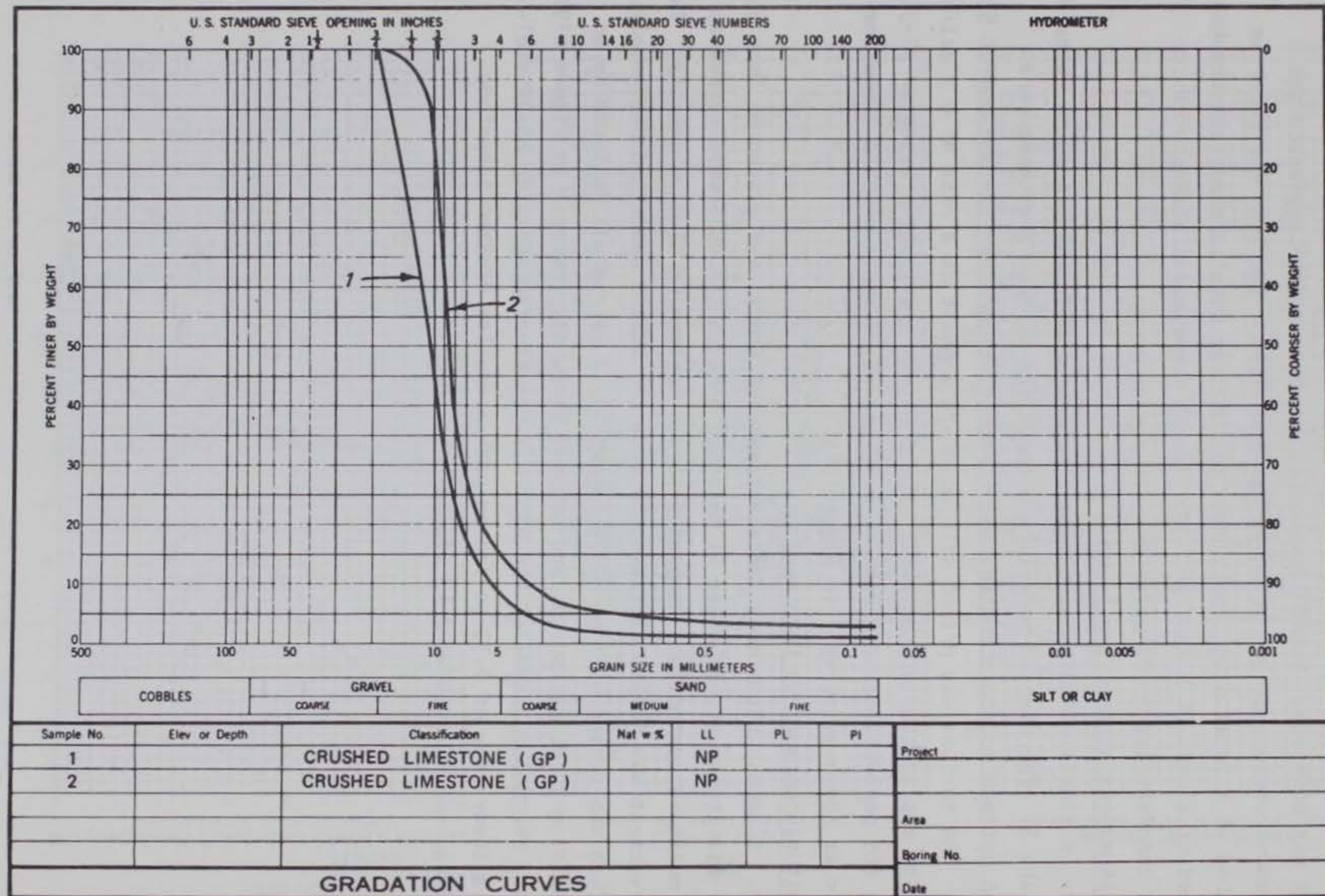
29. A single-bituminous surface treatment (SBST) was placed on Items 4 and 5, lane 3. The blended materials beneath the surface treatment were placed at optimum moisture content and compacted to achieve the maximum CE 55 density. The surface was primed with an MC-70 asphalt at a rate of 0.3 gal/sq yd prior to application of the SBST. The SBST was constructed using an RS-3K emulsion (65 percent AC) at a rate of 0.42 gal/sq yd and a crushed limestone aggregate as shown by curve 1 in Figure A19.

#### Double-bituminous surface treatment

30. A double-bituminous surface treatment (DBST) was placed on Item 3, lane 3. Six inches of the Blend II material beneath the DBST were placed at optimum moisture content and compacted to the maximum CE 55 blow density. The first treatment was constructed exactly like the SBST's described previously. The surface was primed with an MC-70 asphalt (0.3 gal/sq yd) followed by an RS-3K emulsion (0.42 gal/sq yd) and crushed limestone (curve 1 in Figure A19).

31. The second layer of the DBST was constructed applying RS-3K emulsion at a lower rate of 0.33 gal/sq yd with a smaller crushed limestone aggregate as shown by curve 2 in Figure A19.





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Figure A19. Grading curves for aggregates used in surface treatments



## PART II: SOIL INSTRUMENTATION

### Electronic Gages

32. Instrumentation for measuring vertical deflection, vertical stress, and pore pressure was included in Items 1, 3, and 5, lane 1. All gages were located along the center line of traffic lane 1. Gage type, designation, and location data are tabulated in Table A4, and a profile of lane 1 with instrumentation is shown in Figure A20.

#### Deflection gages

33. Vertical deflections were measured at 3- and 6-ft depths with linear variable differential transformer (LVDT) displacement transducers mounted within WES deflection gage housings (Photo A3). The LVDT produced direct current (d-c) output voltages directly proportional to the movement of the sensing unit. The transducer consisted of a main body, which housed the sensing coil and its associated electronics, and a core, which was movable through the center of the sensing coil to transfer the mechanical movement of the core to a change in an electrical signal in the coil. The LVDT transducers were mounted on reference rods that extended to reference flanges located approximately 10 ft below the bottom of the test bed. The reference rods were cased with 2-in. polyvinyl chloride (PVC) pipe attached to the gage housing with flexible hose.

#### WES soil pressure cells

34. WES soil pressure cells were located at 1-, 2-, and 3-ft depths. The cells (shown in Photo A3) were 6 in. in diameter, were fabricated from stainless steel, and used a mercury-filled fluid chamber with diaphragm and a full wheatstone bridge circuit consisting of four SR-4 strain gages hermetically sealed within the cell. Pressure applied to the face plate of the cell was transmitted through the mercury in the fluid chamber to an internal flexible diaphragm, and the resulting deflection of the diaphragm was proportional to the load. The four SR-4 strain gages were mounted on the diaphragm and were actuated by its deflection. The full wheatstone bridge circuit practically eliminated the effects of temperature and of resistance variations in the lead wires. Cells located at 1-ft depths were rated at 100 psi and cells at 2- and 3-ft depths were rated at 50 psi. These cells could however withstand greater pressures without damage.



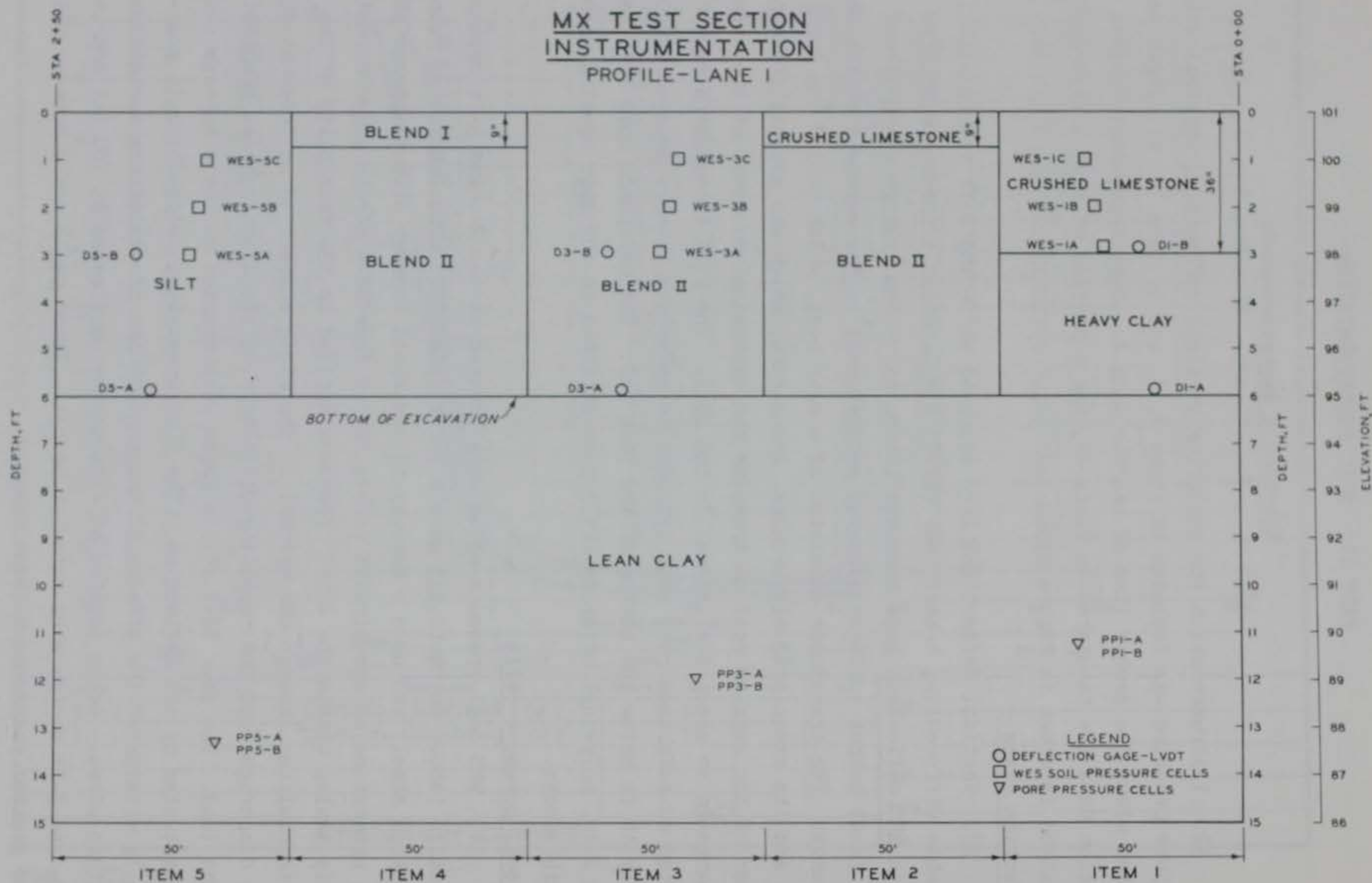


Figure A20. Profile of traffic lane 1 with instrumentation



### Pore pressure cells

35. The Bell and Howell Consolidated Electrodynamics Corporation (CEC) type 4-312 transducer is a small single diaphragm hermetically sealed fluid pressure cell manufactured by the CEC of Pasadena, Calif. In this study, the CEC cell (shown in Photo A3) was mounted in a WES porous-stone soil exclusion housing. Six cells (two per item) were installed in the three items at depths of 11 to 13 ft. The pore pressure cells were rated at 25 and 50 psi.

### Cap and Pins

36. Cap and pin devices for measuring surface deflections were included in Items 3, 4, and 5 of traffic lane 1 and Items 2, 3, 4, and 5 of traffic lane 3. These gages consisted of 1/4-in. steel rods and 2-in.-diam stainless steel caps as shown in Photo A4. The caps rested on top of the pins but were not attached in any way. The cap and pins were driven into the soil so that the cap was flush with the surface. Rod and level readings determined the initial elevation of both the cap and pin. The total, permanent, and elastic deflections that occurred at the surface were determined from changes in elevation due to load application. The length of the pin determined the reference from which the total deflection was measured. As traffic was applied, both the cap and pin moved down. The cap was free to rebound, and the change in elevation from its original position gave the permanent deflection. The pin would not rebound unless deflection occurred in the soil beneath the pin. The change in elevation of the pin gave the total deflection. The difference between the total and permanent deflection was the amount of elastic deformation that took place at the surface. Twelve cap and pin devices were installed in Items 3, 4, and 5 of lane 1. Both 4- and 6-ft pins were used (two of each per item). Seven cap and pin devices were installed in Items 2, 3, 4, and 5 of lane 3. Four-foot pins were used throughout.

### Buried Pipes

37. Reinforced concrete (Class IV) and corrugated steel (16 gage) pipes were included in Item 2, lanes 1 and 2. Figure A3 shows the locations at which 12-, 18-, and 24-in.-diam pipes were installed. The profile in Figure A4 gives the depth of each pipe.



### PART III: CONSTRUCTION

38. The test section was constructed during the period March 1980 through April 1981. All work was accomplished by WES personnel except the batching of the lean mix concrete. A description of the compaction equipment used and details of the construction operations are given in the paragraphs below.

#### Compaction Equipment

39. Several types of compaction equipment were required to obtain the design strengths for the variety of materials placed in the test section. Details for each are discussed below.

##### Self-propelled rubber-tired roller

40. The subgrade, portions of the crushed limestone and cement-stabilized materials, the blended soils that were placed at optimum moisture content, and the bituminous surface treatments were compacted with the self-propelled rubber-tired roller shown in Photo A5. The weight of the roller during construction was 25 tons with a tire pressure of 60 psi. The tire configuration was such that one pass across an item (moving over one tire print at a time) equaled seven coverages.

##### Rubber-tired Bross Roller

41. Some of the crushed limestone and cement-stabilized materials were compacted with the 50-ton rubber-tired roller shown in Photo A6. The 50-ton load was initially carried by four tires at a pressure of 65 psi. One of the original tires blew out on 7 January 1981. It was necessary to replace all four tires with slightly smaller ones at 100 psi. The tire configuration and spacing were such that one pass across an item (moving over one tire print at a time) corresponded to four coverages.

##### Vibratory steel wheeled roller

42. Portions of the crushed limestone and cement-stabilized materials were compacted with the vibratory steel wheeled roller shown in Photo A7. The static weight of the roller is 23,150 lb with the drum weighing 12,495 lb. Maximum dynamic force output is 36,000 lb at 2,400 vpm. This roller was also used to smooth the surface of some items after compaction or fine grading.



### Sheepsfoot roller

43. The silt in Item 5 was compacted with the dual-drum sheepsfoot roller shown in Photo A8.

### Bulldozers

44. D-4 and D-6 bulldozers were utilized for compaction of Blends I and II in items where a design CBR of 15 was specified. In this report, one trip across an item (moving over one track at a time) will be referred to as a pass.

### Excavation

45. The test section located in Hangar No. 4 was surveyed and staked out on 18 March 1980, and excavation was begun the same day. The excavation area was 250 ft long by 50 ft wide by 6 ft deep with necessary ramps at each end. The D-6 bulldozer and a front-end loader were used to remove 6 ft of lean clay from the test section (Photo A9). Excavation was completed at an elevation of 95.0 ft (Photo A10). A subsurface drainage system and sump pump were required to dry the subgrade enough for compaction. The water table in this area was approximately 2 to 3 ft below the bottom of the excavation. After several days of drying, the subgrade was processed to a depth of 8 to 10 in. with a pulvimixer and compacted to a CBR of 21 (surface) with the self-propelled rubber-tired roller and the dual-drum sheepsfoot. CBR, moisture content, and density measurements were made on the subgrade after compaction. Nondestructive tests were performed with the WES 16-kip vibrator and the Road Rater 2008.

### Subsurface Drainage System

46. A french drain (Photo A11) was provided around the perimeter of the test section. A 2-ft-wide trench was excavated to a depth of 4 ft below the bottom of the test section (el 91.0 ft) and backfilled with 12 in. of washed gravel and a layer of sand followed by Blend II. A 4-in. perforated pipe was placed at middepth in the washed gravel to aid in drainage. The french drain was constructed to discharge on the west side of the test section at sta 1+05, and a sump pump was installed to remove the water from the test area. Approximately 1,800 gal of water per day were pumped from the test section during the early days of operation.



Item 1

Lane 1

47. Heavy clay, el 95.0 to 98.0 ft. The heavy clay was preprocessed (Photo A12) to a water content equal to that desired for compaction (CBR = 3-5), hauled in a dump truck to the test area, and spread with a bulldozer. The 3-ft layer of CH was constructed in six lifts. Lifts 1 through 5 were approximately 6 to 7 in. thick. The dates of completion of each lift were (a) first lift, 9 August 1980; (b) second lift, 13 August 1980; (c) third lift, 27 August 1980; (d) fourth lift, 30 August 1980; and (e) fifth lift, 5 September 1980. A 5-in. final lift was constructed to level up the item and fill in some low areas on 6 September 1980, and the CH was fine graded to an elevation of 98.0 ft on 8 September 1980. Compaction of the heavy clay was accomplished by two passes of the self-propelled rubber-tired roller on each lift. The surface of each lift was scarified to ensure a good bond between layers and watered with a fire hose to avoid loss of moisture. CBR, moisture content, and density measurements were made on lifts 1 through 5 to ensure that desired strengths were obtained. Nondestructive tests were performed on lifts 1 through 5 with the WES 16-kip vibrator and the Road Rater 2008.

48. Crushed limestone, el 98.0 to 101.0 ft. The crushed limestone was prewet to near saturation, hauled in a dump truck to the test area, and spread with a bulldozer. The 3-ft depth of limestone was constructed in five lifts that were approximately 6 to 8 in. thick. The surface of each lift was scarified to aid in bonding between layers. The first lift was placed on 8-9 September 1980 and compacted on 10 September 1980 with three passes of the vibratory steel wheeled roller. The second lift was placed and compacted with two passes of the self-propelled rubber-tired roller on 16 September 1980. The third lift, placed on 22-23 September 1980, was compacted by four passes of the Bross Roller (60,000 lb, 65 psi). The fourth lift was placed and compacted by two passes of the Bross Roller (60,000 lb, 65 psi). The final lift was placed on 15 January 1981. Compaction was accomplished by two passes of the self-propelled rubber-tired roller on 15 January 1981 and by eight passes of the Bross Roller (100,000 lb, 100 psi) on 20 January 1981. The crushed limestone was fine graded to an elevation of 101.0 ft on 22 January 1981, and two passes of the steel wheeled roller were applied to smooth the surface. CBR, moisture content, and density measurements were performed on each lift.



Nondestructive tests were performed on each lift with both the WES 16-kip vibrator and the Road Rater 2008. Tests were performed with the Falling Weight Deflectometer on lifts 4 and 5.

Lane 2

49. Heavy clay, el 95.0 to 98.58 ft. The heavy clay was placed in six lifts that were approximately 6 to 8 in. thick. Construction procedures were the same as for lane 1 (el 95.0 to 98.0 ft). The lifts were completed as follows: (a) first lift, 9 August 1980; (b) second lift, 13 August 1980; (c) third lift, 27 August 1980; (d) fourth lift, 30 August 1980; (e) fifth lift, 5 September 1980; and (f) sixth lift, 9 September 1980. Compaction of each lift was accomplished by two passes of the self-propelled rubber-tired roller. Each lift was scarified to aid in bonding between layers. CBR, moisture content, and density measurements were made after each lift. Nondestructive tests were performed on each lift with the WES 16-kip vibrator and the Road Rater 2008.

50. Cement stabilized Blend I, el 98.58 to 101.0 ft. The Blend I material was spread in an open area near the test section and mixed with 7 percent cement (portland, Type I). Mixing was accomplished with a pulvimixer (Photos A13 and A14). The as-mixed moisture content of Blend I was 8 percent. Immediately after mixing, the material was hauled to the test area in dump trucks and spread with a bulldozer. Construction consisted of five lifts that were each approximately 6 in. thick. Lifts 1 and 2 were placed on 18 September 1980, and compaction consisted of four passes of the vibratory steel wheeled roller on each lift. The third lift, placed on 21 October 1980, was compacted by two passes of the Bross Roller (60,000 lb, 65 psi). The fourth lift was placed on 12 November 1980, and compaction consisted of two passes of the Bross Roller (100,000 lb, 100 psi). The final lift was placed on 21 January 1981, and compaction was accomplished by two passes of the self-propelled rubber-tired roller. The cement stabilized Blend I was fine graded to an elevation of 101.0 ft on 21 January 1981, and two passes of the steel wheeled roller were applied to smooth the surface. CBR, moisture content, and density measurements were made, and nondestructive tests were performed with the WES 16-kip vibrator and the Road Rater 2008 after lifts 2 through 5. Tests were performed with the Falling Weight Deflectometer after lifts 4 and 5.



### Lane 3

51. Heavy clay, el 95.0 to 98.58 ft. Construction procedures and dates are the same as lane 2 (el 95.0 to 98.58 ft). CBR, moisture content, and density measurements were made, and nondestructive tests were performed with the WES 16-kip vibrator and the Road Rater 2008 after each lift.

52. Crushed limestone, el 98.58 to 101.0 ft. Construction procedures were the same as lane 1 (el 98.0 to 101.0 ft). The limestone was placed in four lifts that were approximately 7 to 8 in. thick. Lifts 1 and 2 were placed on 15 October 1980 and compacted by two passes of the self-propelled rubber-tired roller. The third lift was placed and compacted by two passes of the Bross Roller (60,000 lb, 65 psi). The fourth lift was completed on 12 January 1981 and compacted with two passes of the Bross Roller (100,000 lb, 100 psi). Six passes of the Bross Roller (small tires) were applied on 20 January 1981. CBR, moisture content, and density measurements were made after each lift. Nondestructive tests were performed on lifts 1 through 4 with the WES 16-kip vibrator and the Road Rater 2008. Tests were performed with the Falling Weight Deflectometer on lifts 3 and 4. The crushed limestone was fine graded to an elevation of 101.0 ft on 22 January 1981.

### Item 2

### Lane 1

53. Blend II, el 95.0 to 100.25 ft. The Blend II material was pre-processed to a water content equal to that desired for placement, hauled in a dump truck to the test area, and spread with a bulldozer (Photo A15). The 5.25-ft depth of Blend II was constructed in eight lifts that were approximately 7 to 8 in. thick. The first lift was placed at a moisture content of 8 to 9 percent on 8 August 1980 and compacted on 9 August 1980 with two passes of the self-propelled rubber-tired roller. A second lift was placed on 12 August 1980 at a moisture content of 8 to 9 percent. Two passes of the self-propelled rubber-tired roller resulted in strengths that exceeded design limitations. This material was removed from the test section, processed to a moisture content  $\leq 4$  percent, and placed in the test section on 21 August 1980. Strengths obtained by rolling with two passes of the self-propelled roller were still too high. The second lift of Blend II was then pulvimixed and rolled with the self-propelled roller only one-half full of water



(weight  $\approx$  35,000 lb). Strengths were still greater than the design value (CBR = 15). The material was again pulvimixed, and compaction was limited to one pass of a D-4 bulldozer on 23 August 1980. All remaining lifts were put in at a moisture content  $\leq$  4 percent. The third lift was placed on 26 August 1980 and rolled with one pass of the self-propelled rubber-tired roller (empty). This attempt to obtain at least a minimal amount of compaction and keep the strength down was unsuccessful. The third lift was pulvimixed and compacted by one pass of a D-6 bulldozer on 27 August 1980. Lifts 4 through 8 were each compacted by one pass of the D-6 bulldozer, and the completion dates for those lifts were (a) fourth lift, 29 August 1980; (b) fifth lift, 5 September 1980; (c) sixth lift, 9 September 1980; (d) seventh lift, 16 September 1980; and (e) eighth lift, 24 September 1980. CBR, moisture content, and density measurements were performed after each lift. Nondestructive tests were performed on all lifts with both the WES 16-kip vibrator and the Road Rater 2008. The Blend II material was fine graded to an elevation of 100.25 ft on 20 October 1980.

54. Crushed limestone, el 100.25 to 101.0 ft. The crushed limestone was prewet to near saturation, hauled in a dump truck to the test area, and spread with a bulldozer. The 0.75-ft layer was constructed in two lifts that were approximately 6 in. thick. The first lift was placed on 10 November 1980. The surface was wet, and two passes of the self-propelled rubber-tired roller were applied on 13 November 1980. The final lift was placed on 15 January 1981, and four passes of the self-propelled rubber-tired roller were applied. The crushed limestone was then rolled to a total of 12 passes with the self-propelled rubber-tired roller on 16 January 1981. CBR, moisture content, and density measurements were performed on both lifts. Nondestructive tests were performed on each lift with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer. The crushed limestone was fine graded to an elevation of 101.0 ft on 22 January 1981.

#### Lane 2

55. Blend II, el 95.0 to 100.0 ft. The 5-ft depth of Blend II was constructed in eight lifts that were approximately 7 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for each lift were the same as for lane 1 (el 95.0 to 100.0 ft). CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on each lift with the WES 16-kip vibrator and the Road Rater 2008. The



Blend II material was fine graded to an elevation of 100.0 ft on 20 October 1980.

56. Cement stabilized Blend II, el 100.0 to 101.0 ft. The 1-ft depth of cement stabilized Blend II was constructed in two 6-in. lifts. Twenty-five cubic yards of Blend II (enough material for a lift in both Items 2 and 5) were spread in an open area near the test section for the first lift on 13 November 1980. The moisture content of this material was 7 to 8 percent. Eighty bags of portland cement (Type 1) were mixed with Blend II to obtain a cement content of approximately 7 percent. The material was mixed thoroughly with a pulvimixer, hauled to the test area in a dump truck, and spread with a bulldozer. Four passes were applied with the self-propelled rubber-tired roller for compaction on 13 November 1980. The second and final lift of cement-stabilized Blend II material was mixed, placed, and compacted with four passes of the self-propelled rubber-tired roller on 21 January 1981. Immediately after compaction, the material was fine graded to an elevation of 101.0 ft. Two passes of the steel wheeled roller were applied to smooth the surface. CBR, moisture content, and density measurements were performed on both lifts. Nondestructive tests were performed with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer.

### Lane 3

57. Blend II, el 95.0 to 100.0 ft. The 5-ft depth of Blend II material was constructed in eight lifts that were approximately 7 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for each lift are the same as lane 1 (el 95.0 to 100.0 ft). CBR, moisture content, and density measurements were performed on each lift. Nondestructive tests were also performed with the WES 16-kip vibrator and the Road Rater 2008. The Blend II material was fine graded to an elevation of 100.0 ft on 20 October 1980.

58. Crushed limestone, el 100.0 to 101.0 ft. The crushed limestone was prewet to near saturation, hauled to the test area in a dump truck, and spread with a bulldozer. A 1-ft layer of this material was constructed in two lifts. The first lift was placed on 10 November 1980 and compacted on 13 November 1980 with four passes of the self-propelled rubber-tired roller. The second lift was placed on 12 January 1981 and compacted with four passes of the Bross Roller (small tires). Another six passes were applied on 20 January 1981. CBR, moisture content, and density measurements were made on both lifts.



Nondestructive tests were performed with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer. The crushed limestone was fine graded to an elevation of 101.0 ft on 22 January 1981.

### Item 3

#### Lane 1

59. The 6-ft layer of Blend II was constructed in 10 lifts that were approximately 7 to 8 in. thick (Blend II, el 95.0 to 101.0 ft). Construction procedures, compactive efforts, and dates of completion for lifts 1 through 8 were the same as for Item 2, lane 1 (el 95.0 to 100.25 ft). The ninth lift was placed on 7 November 1980 and compacted with one pass of a D-6 bulldozer on 10 November 1980. The tenth and final lift was placed and compacted with one pass of a D-6 bulldozer on 7 January 1981. Lifts 9 and 10 were placed at moisture contents of  $\leq 4$  percent. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on lifts 1 through 10 with the WES 16-kip vibrator and the Road Rater 2008. Tests were performed on lifts 9 and 10 with the Falling Weight Deflectometer.

#### Lane 2

60. Blend II, el 95.0 to 100.0 ft. The 5-ft layer of Blend II was constructed in eight lifts that were approximately 6 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for each lift are the same as for Item 2, lane 1 (el 95.0 to 100.25 ft). CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed after each lift with the WES 16-kip vibrator and the Road Rater 2008.

61. Lean mix concrete, el 100.0 to 101.0 ft. Forms were built and placed for the lean mix concrete on 6-7 November 1980 (Photo A16). Blend II at a moisture content of 8 to 10 percent was hauled to a local batch plant for batching on 9 December 1980. The following batch proportions were given to the contractor: per cubic yard, 400 lb cement (Type 1), 2,925 lb Blend II, and 42 gal water. The Blend II (at  $w = 10$  percent) was too wet to go through the batch plant. Therefore, Blend II at a moisture content of 4 to 6 percent was hauled to the batch plant 17 December 1980. The same proportions were given to the contractor and the material was batched. It was then transit-mixed and delivered to the test area (a distance of about 5 miles) in



ready-mix trucks. The concrete was too stiff and would not discharge from the trucks at this low slump. An undetermined amount of water was added on site as necessary to get satisfactory discharge. Three and one-quarter weight trucks were required, and slumps ranged from 4-1/2 to 7 in.

62. After the concrete had been discharged into the forms, it was struck off and screeded with a small gasoline powered screed (Photo A17). It was then consolidated by means of internal vibration. This was followed by transverse floating, and then the concrete was given a final broom finish.

63. Transverse weakened-plane contraction joints were provided on 12.5-ft spacings. The weakened plane was formed by fiberboard inserts installed in the plastic concrete surface during concrete placement.

### Lane 3

64. Blend II, el 95.0 to 101.0 ft. The 6-ft layer of Blend II was constructed in 10 lifts that were approximately 7 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for lifts 1 through 8 were the same as for Item 2, lane 1 (el 95.0 to 100.25 ft). The ninth lift was placed at a moisture content of  $\leq 4$  percent and compacted on 10 November 1980. Compaction was accomplished by one pass of the D-4 bulldozer. The tenth and final lift was placed on 9 January 1981 at the optimum moisture content (approximately 7 percent). It was compacted on 9 January 1981 with four passes of the self-propelled rubber-tired roller. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on lifts 1 through 10 with the WES 16-kip vibrator and the Road Rater 2008. Tests were performed on lifts 9 and 10 with the Falling Weight Deflectometer. The Blend II was fine graded to an elevation of 101.0 ft on 20 January 1981.

65. Double-bituminous surface treatment. Lane 3 surface was primed with an MC-70 asphalt on 6 March 1981 (Photo A18). The MC-70 was applied with a hand held spray bar at a rate of 0.3 gal/sq yd. A light mist of water was applied to Blend II before spraying to break the surface tension. An RS-3K emulsified asphalt was chosen for the surface treatment. Emulsified asphalts require very little heating for pumping in and out of storage containers or for application in the field.

- a. First treatment. The first portion of the double-bituminous surface treatment was constructed on 24 March 1981. The item was misted with water to break the surface tension before application of the RS-3K emulsion. The emulsion was applied at a



rate of 0.42 gal/sq yd with a hand held spray bar, and crushed limestone (1/2 in.) was applied immediately after application of the RS-3K to ensure proper coating (Photo A19). The item was rolled with the self-propelled rubber-tired roller to seat the aggregate particles in the binder.

- b. Second treatment. The second layer of the double surface treatment was constructed on 30 March 1981. The surface was swept clear of loose aggregate with hand brooms. RS-3K emulsion was applied with the hand held spray bar at a rate of 0.33 gal/sq yd. Crushed limestone (1/4 in.) was applied within minutes of application and rolled immediately with the self-propelled rubber-tired roller. The completed DBST is shown in Photo A20, and a close-up is provided in Photo A21.

#### Item 4

##### Lane 1

66. Blend II, el 95.0 to 100.25 ft. The 5.25-ft layer of Blend II was constructed in eight lifts that were approximately 7 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for each lift were the same as for Item 2, lane 1 (el 95.0 to 100.25 ft). CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed after each lift with the WES 16-kip vibrator and the Road Rater 2008. The Blend II was fine graded to an elevation of 100.25 ft on 20 October 1980.

67. Blend I, el 100.25 to 101.0 ft. The 0.75-ft layer of Blend I was constructed in two lifts that were approximately 5 in. thick. This material was placed at a moisture content  $\leq 4$  percent. The first lift was placed on 7 November 1980 and compacted on 10 November 1980 with one pass of a D-6 bulldozer. The second lift was placed and compacted with one pass of a D-6 bulldozer on 7 January 1981. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on both lifts with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer.

##### Lane 2

68. Blend II, el 95.0 to 100.0 ft. The 5-ft layer of Blend II was constructed in eight lifts that were approximately 6 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for each lift were the same as Item 2, lane 1 (el 95.0 to 100.25 ft). CBR, moisture content, and density measurements were made on each lift. Nondestructive



tests were performed after each lift with the WES 16-kip vibrator and the Road Rater 2008. The Blend II was fine graded to an elevation of 100.0 ft on 20 October 1980.

69. Cement stabilized Blend I, el 100.0 to 101.0 ft. The 1-ft layer of cement stabilized Blend I was constructed in two lifts. Blend I material at a moisture content of 8 to 9 percent was spread in an open area near the test section and mixed with portland cement, Type 1 (33 bags per 5-in. lift). After mixing with a pulvimixer, the material was hauled in a dump truck to the test area and spread with a bulldozer. The first lift was placed on 10 November 1980 and compacted with four passes of the self-propelled rubber-tired roller. The second lift was placed on 16 January 1981 and compacted with four passes of the self-propelled rubber-tired roller. The cement stabilized Blend I was fine graded to an elevation of 101.0 ft on 16 January 1981. Two passes of the steel wheeled roller were then applied to smooth the surface. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed after each lift with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer.

#### Lane 3

70. Blend II, el 95.0 to 100.0 ft. The 5-ft depth of Blend II was constructed in eight lifts that were approximately 6 to 8 in. thick. Construction procedures, compactive efforts, and dates of completion for each lift were the same as for Item 2, lane 1 (el 95.0 to 100.25 ft). CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed after each lift with the WES 16-kip vibrator and the Road Rater 2008. The Blend II was fine graded to an elevation of 100.0 ft on 20 October 1980.

71. Blend I, el 100.0 to 101.0 ft. The 1-ft layer of Blend I was constructed in two lifts. The material was placed at a moisture content of 8 to 9 percent. The first lift was placed on 10 November 1980 and compacted with two passes of the self-propelled rubber-tired roller. The second lift was placed on 9 January 1981 and compacted with four passes of the self-propelled rubber-tired roller. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on each lift with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer. The Blend I was fine graded to an elevation of 101.0 ft on 20 January 1981.



72. Single-bituminous surface treatment. Blend I surface was primed on 6 March 1981 with an MC-70 asphalt applied at a rate of 0.3 gal/sq yd. The Blend I material was misted with water to break the surface tension, and application of the MC-70 was accomplished with a hand held spray bar.

73. The surface treatment was constructed on 24 March 1981. The item was again misted with water to break surface tension before applying the RS-3K emulsion. A hand held spray bar was used to apply the emulsion at a rate of 0.42 gal/sq yd. A crushed stone aggregate (1/2 in.) was applied within minutes of application and rolled immediately with the self-propelled rubber-tired roller.

#### Item 5

##### Lane 1

74. The silt was preprocessed to a moisture content of approximately 17 percent (Silt, el 95.0 to 101.0 ft), hauled to the test area in a dump truck, and spread with a bulldozer. The 6-ft layer was constructed in 10 lifts that were approximately 7 to 8 in. thick. The first lift was placed on 8 August 1980. The silt pumped and broke up under the action of the Bross Roller on 9 August 1980. The material was pulvimixed and compacted with one pass of the self-propelled rubber-tired roller. Some pumping was observed under this load also. Lifts 2 through 8 were compacted with six passes of a sheepsfoot roller, and the dates of completion for each lift were (a) second lift, 11 August 1980; (b) third lift, 26 August 1980; (c) fourth lift, 29 August 1980; (d) fifth lift, 5 September 1980; (e) sixth lift, 9 September 1980; (f) seventh lift, 16 September 1980; and (g) eighth lift, 24 September 1980. The ninth lift was placed on 22 October 1980. An effort was made to roll it on 23 October 1980 with the self-propelled rubber-tired roller. The silt broke up and was pulvimixed. Six passes of the sheepsfoot roller were applied for compaction. The tenth lift was placed on 8 January 1981 and compacted with six passes of the sheepsfoot roller. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on lifts 1 through 10 with the WES 16-kip vibrator and the Road Rater 2008. Tests were performed on lifts 9 and 10 with the Falling Weight Deflectometer.



## Lane 2

75. Silt, el 95.0 to 99.67 ft. The 4.67-ft layer of silt was constructed in eight lifts that were approximately 7 to 8 in. thick. Construction procedures, compactive efforts, and completion dates for each lift were the same as for Item 5, lane 1 (lifts 1 through 8). CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed on each lift with the WES 16-kip vibrator and the Road Rater 2008. The silt was fine graded to an elevation of 99.67 ft on 27 September 1980.

76. Cement stabilized Blend II, el 99.67 to 101.0 ft. The 1.3-ft layer of cement stabilized Blend II was constructed in three lifts. Blend II at a moisture content of 7 to 8 percent was spread in an open area near the test section and mixed with portland cement, Type 1 (40 bags per 5-in. lift). After mixing with a pulvimixer, the material was hauled to the test section in a dump truck and spread with a bulldozer. The first lift was placed on 6 October 1980 and compacted with eight passes of the self-propelled rubber-tired roller. The second lift was placed on 13 November 1980 and compacted with eight passes of the Bross Roller. The third lift was placed on 16 January 1981 and compacted with four passes of the self-propelled rubber-tired roller. The cement stabilized Blend II was fine graded to an elevation of 101.0 ft on 16 January 1981. Two passes of the steel wheeled roller were applied to smooth the surface. CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed after each lift with the WES 16-kip vibrator and the Road Rater 2008. Tests were performed on lifts 2 and 3 with the Falling Weight Deflectometer.

## Lane 3

77. Silt, el 95.0 to 99.67 ft. The 4.67-ft layer of silt was constructed in eight lifts. Construction procedures, compactive efforts, and dates of completion for each lift were the same as for Item 5, lane 1 (lifts 1 through 8). CBR, moisture content, and density measurements were made on each lift. Nondestructive tests were performed after each lift with the WES 16-kip vibrator and the Road Rater 2008. The silt was fine graded to an elevation of 99.67 ft on 24 September 1980.

78. Blend II, el 99.67 to 101.0 ft. The 1.3-ft layer of Blend II was constructed in two lifts at a moisture content of 7 to 8 percent. The first lift was placed on 14 October 1980 and compacted with one pass of the



self-propelled rubber-tired roller on 15 October 1980. The second lift was placed on 22 October 1980 and compacted with one pass of the self-propelled rubber-tired roller on 23 October 1980. The upper 3 to 4 in. of Blend II were pulvimixed on 9 January 1981, and material was added in some low spots and recompactd with four passes of the self-propelled rubber-tired roller. The Blend II was fine graded on 20 January 1981 to an elevation of 101.0 ft.

79. Single-bituminous surface treatment. Blend II surface was primed with an MC-70 asphalt on 6 March 1981. The MC-70 was applied at a rate of 0.3 gal/sq yd with a hand held spray bar. The item was misted with water before application to break the surface tension.

80. The surface treatment was constructed on 24 March 1981. RS-3K emulsion was applied at a rate of 0.42 gal/sq yd with a hand held spray bar. A crushed stone aggregate (1/2 in.) was applied within minutes of application and rolled immediately with the self-propelled rubber-tired roller.



## PART IV: INSTALLATION OF INSTRUMENTATION AND PIPES

### Soil Instrumentation

#### Electronic gages

81. Deflection gages, soil pressure cells, and pore pressure cells in Items 1, 3, and 5, lane 1, were installed during the construction operations at the locations indicated in Table A4. A summary of installation procedures is discussed below.

82. LVDT's. The general procedure for deflection gage (LVDT) installation was to overbuild a minimum of 8 in. above the desired elevation and excavate a 2- by 2-ft hole to the gage location. A 4-in.-diam hole was then augered to 10 ft below the bottom of the test section using the trailer-mounted drill rig shown in Photo A22. A 1/2-in. steel rod with a plate attached to the bottom was then inserted into the drill hole and cased with 1-1/2-in. plastic (PVC) pipe as shown in Photo A23. The rod served as a reference rod for the LVDT. Expanding type anchors were used to prevent movement of the reference rod for the 6-ft gages, and the reference rod for the 3-ft gages was set on 4 to 6 in. of crushed stone and cemented in place. The holes were backfilled with Blend II and tamped. The LVDT core was then attached to the top of the reference rod which was drilled and tapped prior to installation. A short piece of flexible hose was attached at the top of the PVC pipe to break the rigidity. The reference rod with core attached is shown in Photo A24. The deflection gage was then positioned over and attached to the reference rod. A thin steel plate (1 by 1 ft square) was used to provide a stable surface for the top of the gage to rest upon. Sand was placed beneath the plate to level the gage. Elevations were obtained for both the top of the reference rod and the top of the gage. An LVDT gage is shown as installed in Photo A25.

83. WES soil pressure cells. Each item was overbuilt a minimum of 6 in. before installation of WES soil pressure cells. The general procedure was to excavate a 2- by 2-ft square hole to the desired elevation. The cells were then seated on a thin layer of sand and leveled. An elevation was obtained for the upper surface of the cell. A pressure cell is shown as installed in Photo A26. Backfilling around and directly over the cells was



accomplished by hand tampers for a minimum depth of 6 in. Normal compaction procedures were then continued.

84. Pore water pressure cells. The procedure for installing of pore pressure cells was to auger a 6-in.-diam hole to the desired elevation. A 4-in. layer of sand was placed in the bottom of the hole, and two pore pressure cells (a 25 psi and a 50 psi) were set on the sand. Sand was then used to backfill around and over the cells to the bottom of the test section. The remainder of the backfill matched the profile for the particular item.

85. All cable leads from the deflection gages, soil pressure cells, and pore pressure cells were carried to a common exit point on the east side of the test section at sta 1+25 and trenched to an instrumentation trailer.

#### Cap and pin

86. Prior to traffic, cap and pins were installed in lanes 1 and 3 at the following stations:

<u>Lane 1</u>			<u>Lane 3</u>	
1+11	1+61	2+11	0+88	1+62
1+12	1+62	2+12	1+12	1+88
1+38	1+88	2+38	1+38	2+12
1+39	1+89	2+39		2+38

Pin lengths of 4 and 6 ft were used. The procedure for installing these deflection measuring devices was as follows: First, the trailer-mounted drill rig was used to push a 3/4-in.-diam hole to a depth of 3 ft for the 4-ft pins or 5 ft for the 6-ft pins. The 1/4-in.-diam pin was placed in the drill hole and hammered down near the surface. The cap was then set on top of the pin and both were hammered down until the cap was flush with the surface. Cap and pin installation is shown in Photo A27.

87. Surface disturbance resulting from pushing the 3/4-in. rod into the crushed limestone items was such that the cap could not be driven flush and was therefore very unstable. Difficulty was also encountered when driving the 1/4-in. pins into the granular material. Only one gage was installed in the crushed limestone. Efforts were discontinued after several unsuccessful attempts to install a second gage.

88. Elevations were obtained for the top of the pin and the cap.



## Pipe Installation

89. Item 2 was constructed to elevations of 100.25 and 100.0 ft in lanes 1 and 2, respectively. Backhoe trenches were excavated as shown in Figures A3 and A4. A 3-in. layer of crushed gravel was placed in the bottom of each trench and compacted with the mechanical whacker shown in Photo A28. The reinforced concrete and corrugated steel pipes were placed in the trenches with the aid of a small crane. Two to five inches of crushed gravel were then hand-tamped around the pipes as shown in Photos A29 and A30. The remainder of the trench was backfilled with Blend II in 6- to 9-in. layers. This material was hand-tamped to the top of the pipes, and the mechanical whacker was used for compacting the backfill above the pipes.



PART V: TESTING AND SAMPLING DURING CONSTRUCTION  
AND JUST PRIOR TO THE APPLICATION OF TRAFFIC

Water Content, Density, and CBR

90. Water content, density, and CBR determinations were made at the bottom of the excavation and on the surface of each lift of material placed in the test section. Water contents and densities were determined as described in the American Society for Testing and Materials (ASTM) Test Methods: D 2922-81 and D 3017-78 (ASTM 1982c, 1982f) with a Troxler nuclear moisture-density gage as shown in Photo A31. Densities of the lean clay, fat clay, silt, and blended soils were determined using direct transmission (Method B, probe at 6-in. depth). Densities of the crushed limestone and cement-stabilized materials were obtained using backscatter (Method A). In-place strength of each layer was evaluated on the basis of the CBR. CBR is a measure of the resistance of soils to the penetration of a standard 3-sq-in. piston; it is determined by comparing the bearing value obtained from a penetration-type shear test with a standard bearing value obtained on crushed rock (average value of tests and a large number of samples). The standard results are taken as 100 percent, and values obtained from other tests are expressed as percentages of standard. The field CBR test was performed in accordance with Military Standard 621A, Method 101 (Department of Defense 1964). Field CBR equipment used is shown in Photo A32. The as-constructed data are presented in Table A5.

91. CBR values shown are an average of at least three measurements. Water contents and densities are averages of at least two values.

Pretraffic Test Pits

92. Just prior to the application of traffic, test pits were excavated to a depth of 6 ft in Items 1, 3, 4, and 5 of lane 1. Water content, density, and CBR determinations were made at the surface and at depths of 6, 12, 24, 36, 48, 60, and 72 in. in each pit. Water contents and densities were determined with a Troxler nuclear gage (as during construction) and also by conventional methods. The water (rubber) balloon method was used to evaluate the in-place density of all granular layers. This method is described in



ASTM D 2167-66 (ASTM 1982d). Densities of the silt, lean clay, and fat clay materials were obtained using the drive cylinder method described in Military Standard 621A, Method 102 (Department of Defense 1964). Water contents were determined by Military Standard 621A, Method 105. Data obtained from the pre-traffic test pits are presented in Table A6.

### Plate Bearing Tests

93. Modulus of soil reaction,  $k$ , values were determined from the plate bearing test prior to traffic on the surface of Items 1, 3, 4, and 5 in lane 1, Items 2 and 4 in lane 2, and Items 2 and 4 in lane 3. The plate bearing test is a bearing capacity test in which a known load is placed on a nest of circular plates (base diameter = 30 in.) and the resulting deflection is measured. The modulus of soil reaction,  $k$ , is defined as the ratio of the applied pressure in pounds per square inch to the average deflection measured at the 10-psi load increment. The procedures used in this test are described in Military Standard 621A, Method 104 (Department of Defense 1964). Results of the plate bearing tests are presented in Table A7. A view of a test setup is shown in Photo A33.

### Concrete Samples

94. Samples of the lean mix concrete in Item 3, lane 2, were taken from the concrete mixtures as they were discharged from the ready-mix trucks. Beams 6 by 6 by 36-in. and cylinders 6 in. in diameter by 12 in. high that were representative of the concrete placed in the item were prepared as described in ASTM C 31-69 (ASTM 1982g). The beams and cylinders were field cured in Hangar 4. Results of 21- and 28-day breaks were as follows:

<u>Cylinders, Compressive Strength,* psi</u>	<u>Beams, Flexural Strength,** psi</u>
	<u>21 Days</u>
960	205
1,060	<u>200</u>
<u>1,080</u>	Average = 202
Average = 1,033	

(Continued)

- \* Compressive strength determined as described in ASTM C 39-80 (ASTM 1982a).  
 \*\* Flexural strengths determined as described in ASTM C 78-75 (ASTM 1982e).



Cylinders, Compressive Strength, psiBeams, Flexural Strength, psi28 Days

1,130

210

1,020

210

1,070

Average = 210

Average = 1,073

Cement Stabilization Samples

95. Samples were taken from cement stabilized Blends I and II just prior to the placement of these materials in the test section. The design cement content for the stabilized soils was 7 percent. Specimens measuring 2.8 in. in diameter and 5.6 in. in length were molded and cured in a humid room following the procedures outlined in ASTM Part 19, D 1632-63 (ASTM 1982h). Compressive strengths were determined as described in ASTM Part 19, D 1633-63 (ASTM 1982b). Results of 7-, 14-, and 21-day breaks were as follows:

<u>Material</u>	<u>w percent</u>	<u>Compressive Strength</u>		
		<u>psi</u>		
		<u>7</u>	<u>14</u>	<u>21</u>
Blend I	7.3	355	355	415
Blend I	9.7	510	595	715
Blend II	5.4	525	665	665
Blend II	7.3	540	595	495

Nondestructive Testing

96. Nondestructive tests (NDT) were performed at the bottom of the excavation and on the surface of each lift of material after it was placed and compacted in the test section. Tests were performed with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer. The Falling Weight Deflectometer was not available during the early stages of construction, and data were obtained on only the final two lifts. Results of NDT during construction are tabulated in Tables A8 and A9. Each machine is described below.



## WES 16-kip vibrator

97. The WES 16-kip vibrator shown in Photo A34 operates electrohydraulically and is housed in a 36-ft semitrailer that contains supporting power supplies and automatic data recording systems. The vibrator mass assembly consists of an electrohydraulic actuator surrounded by a 16,000-lb lead-filled steel box. The actuator uses up to a 2-in. double-amplitude stroke to produce a vibratory load ranging from 0 to 30,000 lb peak to peak with a frequency range of 5 to 100 Hz for each load setting. Electric power is supplied by a 25-kw diesel-driven generator set. The hydraulic power unit is diesel-driven and has a pump that can deliver 38 gal/min at 3,000 psi.

98. Major items of electronic equipment are a set of three load cells which measure the load applied to the pavement; velocity transducers located at the center of the 18-in.-diam steel load plate and at points away from the load plate which are calibrated to measure deflections; a servomechanism which allows variation of frequency and load; an x-y recorder which produces load versus deflection curves; and a printer which provides data in digital form.

99. With this equipment, the vibratory load can be varied at constant frequencies, and load versus deflection can be plotted. These load-deflection data are used to compute the dynamic stiffness modulus (DSM) for a pavement structure. DSM is defined as the inverse slope of the load-deflection curve and has units of kips/inch. Frequency can be varied from approximately 5 to 100 Hz at constant force levels to produce the frequency response of the pavement structure. Also, at any selected load or frequency, a plot of the deflection basin shape can be drawn using data from the velocity transducers. The WES 16-kip vibrator can also be used to measure the velocity of shear waves propagated through various pavement layers. Wavelengths can be measured by manually moving a velocity transducer on the ground, observing the results on an oscilloscope, and manually recording the results. This procedure is repeated for different frequencies of loading, and the wave velocity is obtained by multiplying the frequency times the corresponding wavelengths.

100. Tests performed with the WES 16-kip vibrator at the bottom of the excavation and on each lift during construction included:

- a. Load sweep at 15 Hz to obtain DSM.
- b. Deflection basins at the following loads and frequencies:



<u>Loads, lb</u>	<u>Frequency, Hz</u>
2,500	15
5,000	20
10,000*	25
	30

\* Deflection basins obtained at 10,000 lb on all items where that force was obtained. Where 10,000 lb was not reached, the basin was taken at the highest possible load.

Deflections were measured at the center of the load plate and at distances of 18, 40, and 60 in. from the center of the plate. Test results are tabulated in Table A8.

#### Road Rater 2008

101. The Model 2008 Road Rater shown in Photo A35 is a trailer-mounted, electrohydraulic vibrator. Also, like the WES 16-kip vibrator, the Model 2008 has a variable force and frequency capability. Furthermore, the Model 2008 has a digital control unit with a light-emitting diode display that by activating the proper switch, the force, frequency, or any one of four of the velocity sensors can be monitored during a test. Data for the Model 2008 are recorded on a thermal printer located in the control console. The test label number (0-9999), frequency, force, and four deflections are recorded either on the operator's command or during the automatic mode. Under the automatic mode, the operator activates the mode by pushing one switch. The mass is lowered to the pavement, the vibrator is turned on, vibrations are generated at a preselected force and frequency, data are recorded by the printer, and the vibrator is turned off and raised from the pavement.

102. The Model 2008 has a self-contained power supply. The gasoline engine supports the hydraulic and electrical systems of the device. The mass of the Model 2008 is 4,000 lb. The Model 2008 Road Rater has three load cells to monitor the force. The loads are summed for a total force output. Deflection is monitored by four velocity sensors. The first is located in the center of the 18-in.-diam load plate. The other sensors are spaced at intervals to the rear of the trailer from the first sensor. A DSM was computed from deflection data obtained at force levels of 5,000 and 7,000 lb as follows:

$$DSM_{RR} = \frac{\text{Force}_{7000} - \text{Force}_{5000} \text{ (kips)}}{\text{Plate Defl}_{7000} - \text{Plate Defl}_{5000} \text{ (inches)}}$$



103. Tests were performed at the bottom of the excavation and on each lift during construction at the following loads and corresponding frequencies:

<u>Load, lb</u>	<u>Frequency, Hz</u>
1,000	15
5,000	15
5,000	20
5,000	25
5,000	30
7,000	15

Deflections were measured at the center of the load plate and at distances of 18, 32, and 46 in. from the center of the plate. Test results are tabulated in Table A8.

#### Falling Weight Deflectometer

104. The Falling Weight Deflectometer shown in Photo A36 is a relatively new nondestructive testing device particularly to the United States. Basically, a mass weighing 440.92 lb is dropped on a set of rubber cushions, and the resulting force and deflection are measured by load cells and velocity transducers. The drop height can be varied from 0 to 15.7 in. to produce a force from 0 to 16,000 lb. The device is trailer-mounted having a total weight of 1,500 lb. The load is transmitted to the pavement through an 11.8-in.-diam aluminum plate. The signal conditioning equipment displays the resulting average contact pressure in kilopascals and the maximum peak displacement in micrometres. As many as three displacement sensors may be recorded.

105. Tests were performed on the final two lifts during construction. Drop heights of 1.44, 3.44, 6.50, and 14.94 in. were used. Deflections were measured at the center of the load plate and at distances of 18 and 36 in. from the center. A stiffness value was computed for each test as:

$$\text{FWD stiffness} = \frac{\text{Pressure @ Drop Height} = 14.94 \text{ in. (kPa)}}{\text{Plate Deflection (microns)}}$$

Test results are presented in Table A9.



## Pipe Installment Data

106. Nuclear densities, nuclear moisture contents, and oven-dried moisture contents were obtained during the installation of each pipe in Item 2, lanes 1 and 2. Measurements were made in the bottom of each trench on each layer of crushed gravel and on each lift of Blend II backfilled around and above the pipes. The as-installed data are presented in Table A10.



## PART VI: TESTING AND BEHAVIOR UNDER TRAFFIC

### Test Conditions and Procedures

#### General

107. Traffic tests were performed on three separate lanes of the 50-ft-wide, 250-ft-long test section. Test cart, test lane, and traffic pattern information is discussed below.

#### Test cart

108. Single tandem traffic was applied to the test section with the test vehicle shown in Photos A37 and A38. This vehicle is a modified prime mover built by Marathon LeTourneau in Vicksburg, Miss. Modification for use on the MX test section consisted of removing the powered wheel from the left rear of the prime mover and placing it on the right side in front of the existing powered wheel. B-52 wheels were mounted in place of the removed wheel on the left side. The test wheels were shifted outward to approximately 5 ft beyond the front wheels on the prime mover. The wheels were equipped with smooth tires (shown in Photos A39 and A40) that measured 98 in. high by 40 in. wide with a 41-in. rim. Both of the test wheels were powered during the tests. The center-to-center spacing for the wheels was 9 ft which allowed for 1 ft of clearance between the tires.

109. The vehicle was loaded to result in a net weight of 125,000 lb. The tires were inflated to a pressure of 65 psi for all traffic testing. Data for the individual tires are as follows:

	<u>Front Tire</u>	<u>Rear Tire</u>	<u>Average</u>
Load, lb	68,750.0	57,000.0	62,875.0
Contact area, sq in.	757.7	796.2	776.9
Tire pressure, psi	65.0	65.0	65.0
Average contact pressure, psi	90.7	71.6	81.1

#### Test lanes

110. The layout in Figure A1 shows the location, width, and length of each traffic lane. Traffic was applied to a 40-in.-wide section at the center line of each traffic lane as indicated by the dashed lines in Figure A1.

#### Traffic pattern

111. All traffic was applied in a single line fashion assuming no wander. Each pass of a wheel was equivalent to a coverage, thus each load



cart pass equalled two coverages. Average speed of the vehicle was approximately 3 mph.

#### During Traffic Testing and Data Collection

112. Data collection and testing prior to traffic and at predetermined traffic intervals included surface measurements of water content, density, and CBR, and cross sections, center-line profile, photographs, instrumentation readings, and nondestructive tests. Traffic intervals for data collection were 40, 130, 326, 650, 1,300, and 2,600 passes in lanes 1, 2, and 3. Additional data were collected at 1,100 and 1,950 passes in lane 1. A description of the data obtained is provided below.

##### Water content, density, and CBR

113. Nuclear water contents and densities were determined and CBR's measured on the surface of each item in traffic lanes 1, 2, and 3 before any traffic was applied. Data from two locations within each item are tabulated in Table A11.

##### Cross sections

114. Cross sections were obtained at three locations within each item (midpoint and quarter point). Level readings were taken at 1-ft intervals outside the wheel path and at 0.5-ft intervals within the wheel path.

##### Center-line profile

115. A profile was obtained along the center line of the wheel path at each data collection interval. Level readings were taken at 1-ft intervals throughout the entire length of the test section.

##### Photographs

116. An overall photo of the traffic lane and an individual photo of each item were taken at each data collection interval.

#### Collection of Instrumentation Data

##### Soil instrumentation

117. Static load instrumentation tests were performed on the first pass and at each predetermined traffic interval. The front tire of the load cart was parked directly over each gage in succession and allowed to sit for approximately 4 min before the static load readings were taken. Dynamic load



tests were performed each time that traffic was halted for data collection and at other selected pass levels. The dynamic measurements were made with the load cart moving at its normal speed of approximately 3 mph. During trafficking of lane 1, all measuring instruments (located in Items 1, 3, and 5) were read daily before the start of traffic. Deflection, soil pressure, and pore pressure data are presented in Tables A12 through A14. All gages were tied into a microprocessor system which read peak values from each gage onto a cassette tape. Several oscilloscope recordings were made and typical output from each type of gage is shown in Figure A21.

118. The soil pressure cell at a depth of 3 ft in Item 1 and a pore pressure cell in Item 3 went bad prior to traffic, and no data were obtained from these gages. The unloaded static reading on the soil pressure cell at a depth of 3 ft in Item 3 increased substantially during the testing as expected. The soil pressure cell at a depth of 3 ft in Item 5 also showed a large increase after 1,950 passes.

#### Cap and pin surface deflection measurements

119. Level readings were obtained on the cap and pin devices periodically during the traffic testing. The data obtained are presented in Table A15 along with the computed permanent, total, and elastic deflections that occurred at the surface.

120. No data were obtained from the gage at sta 1+38 after 1,100 passes. The cap was visibly displaced laterally and the top of the pin bent during traffic from 1,100 to 1,300 passes. All other gages were read throughout traffic.

#### Nondestructive Testing

121. Nondestructive tests were performed in each lane at the predetermined pass levels of 0, 40, 130, 326, 650, 1,300, and 2,600 with additional data taken at 1,100 and 1,950 passes in lane 1 only. Measurements were made with the WES 16-kip vibrator, the Road Rater 2008, and the Falling Weight Deflectometer. The nondestructive test data are tabulated in Tables A16 through A18. An outline of test procedures for each device is discussed below.

#### WES 16-kip vibrator

122. Tests were performed with the WES 16-kip vibratory loading device



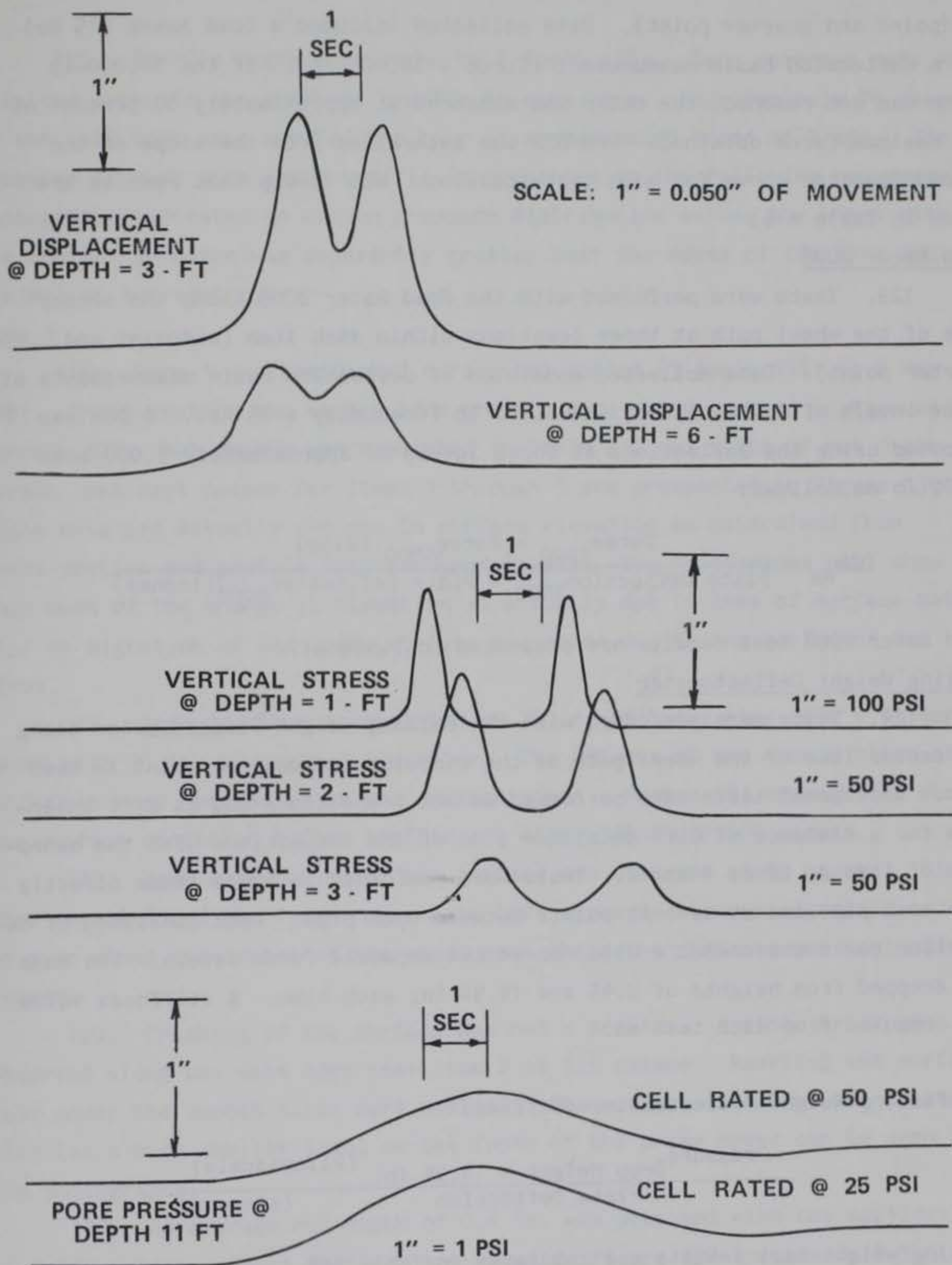


Figure A21. Oscilloscope recordings showing typical output from soil instrumentation



along the center line of the wheel path at three locations within each item (midpoint and quarter point). Data collected included a load sweep (15 Hz) and a deflection basin measurement (force = 10,000 lb). If the 10,000-lb force was not reached, the basin was measured at approximately 80 percent of the maximum force obtained. The DSM was determined from the slope of the load-deflection curve for each test location. WES 16-kip test results are shown in Table A16.

#### Road Rater 2008

123. Tests were performed with the Road Rater 2008 along the center line of the wheel path at three locations within each item (midpoint and quarter point). Data collected consisted of deflection basin measurements at force levels of 1,000, 5,000, and 7,000 lb (frequency = 15 Hz). A DSM was computed using the deflections at force levels of approximately 5,000 and 7,000 lb as follows:

$$DSM_{RR} = \frac{\text{Force}_{7000} - \text{Force}_{5000} \text{ (kips)}}{\text{Plate Deflection}_{7000} - \text{Plate Deflection}_{5000} \text{ (inches)}}$$

Road Rater 2008 test results are presented in Table A17.

#### Falling Weight Deflectometer

124. Tests were performed with the Falling Weight Deflectometer along the center line of the wheel path at the midpoint and quarter point in each item. Additional tests were performed on all transitions and at 2-ft intervals for a distance of 6 ft on either side of the transitions with the exception of Item 2, lanes 1 and 2. Tests were performed in these items directly over each pipe and at several points between each pipe. Data consisted of deflection basin measurements obtained at two separate force levels. The mass was dropped from heights of 3.44 and 14.94 in. each time. A stiffness value was computed from each test as:

Falling Weight Deflectometer stiffness

$$= \frac{\text{Pressure}_{\text{Drop Height} = 14.94 \text{ in.}} \text{ (kilopascals)}}{\text{Plate Deflection} \text{ (microns)}}$$

Falling weight test results are tabulated in Table A18.



## Traffic

125. Traffic tests were begun on 7 April 1981. Zero coverage data were obtained prior to the start of traffic in each lane. Approximately 70 passes of the load cart were applied per hour at an estimated speed of 3 mph. The behavior of each item under traffic is presented in the following paragraphs. Photographs indicated an uneven pressure distribution across the wheel path. The contact pressure was apparently greater near the edges of the tire and minimal at the center.

### Lane 1

126. Lane 1 was trafficked during the period 27 April 1981 to 8 May 1981. Cross-section and center-line profile data are presented in Figures A22 through A35. Rut depths are tabulated in Table A19 and plots of rut depth versus load cart passes for Items 1 through 5 are presented in Figure A36. These ruts are actually changes in surface elevation as determined from cross-section and profile data (rod and level). The photographs will show that much of the change in elevation is actually due to loss of surface material or migration of the loose surface particles due to the action of the tires.

127. Item 1. Item 1 consisted of 36 in. of heavy clay (CBR = 5) surfaced with 36 in. of crushed limestone. The effects of the smooth tires at 62,500 lb were not severe on the crushed stone. Photos A41 through A43 show the surface condition before traffic and after 326 and 2,600 passes.

128. Some degradation of the surface was observed at 40 passes. Fines were expelled and the larger aggregate left exposed. Looser aggregate could be seen along the center of the wheel path where the pressure was obviously lesser.

129. Cracking of the surface was not a problem. A minor crack was observed along the east edge near Item 2 at 326 passes. Raveling and surface loss under the smooth tires were minimal. The surface effect of the cleated tire (at a much smaller load) on the front of the prime mover can be seen in the photographs.

130. An average rut depth of 0.4 in. was obtained with the application of 2,600 passes. Cross sections are shown in Figure A22 for sta 0+12.5, 0+25.0, and 0+37.5 at pass levels of 0, 326, and 2,600. A center-line profile is presented in Figure A23.



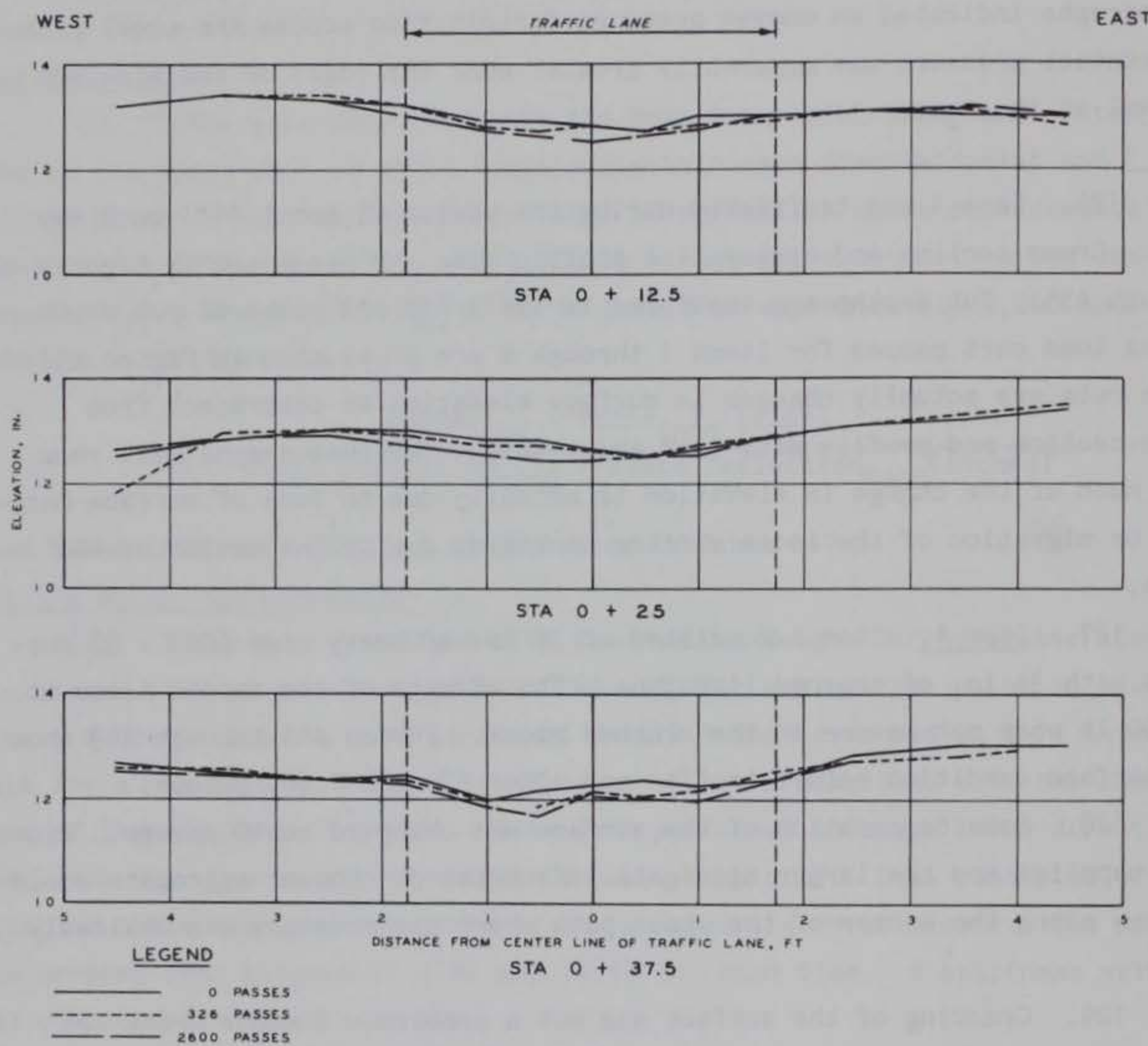


Figure A22. Cross sections, lane 1, Item 1



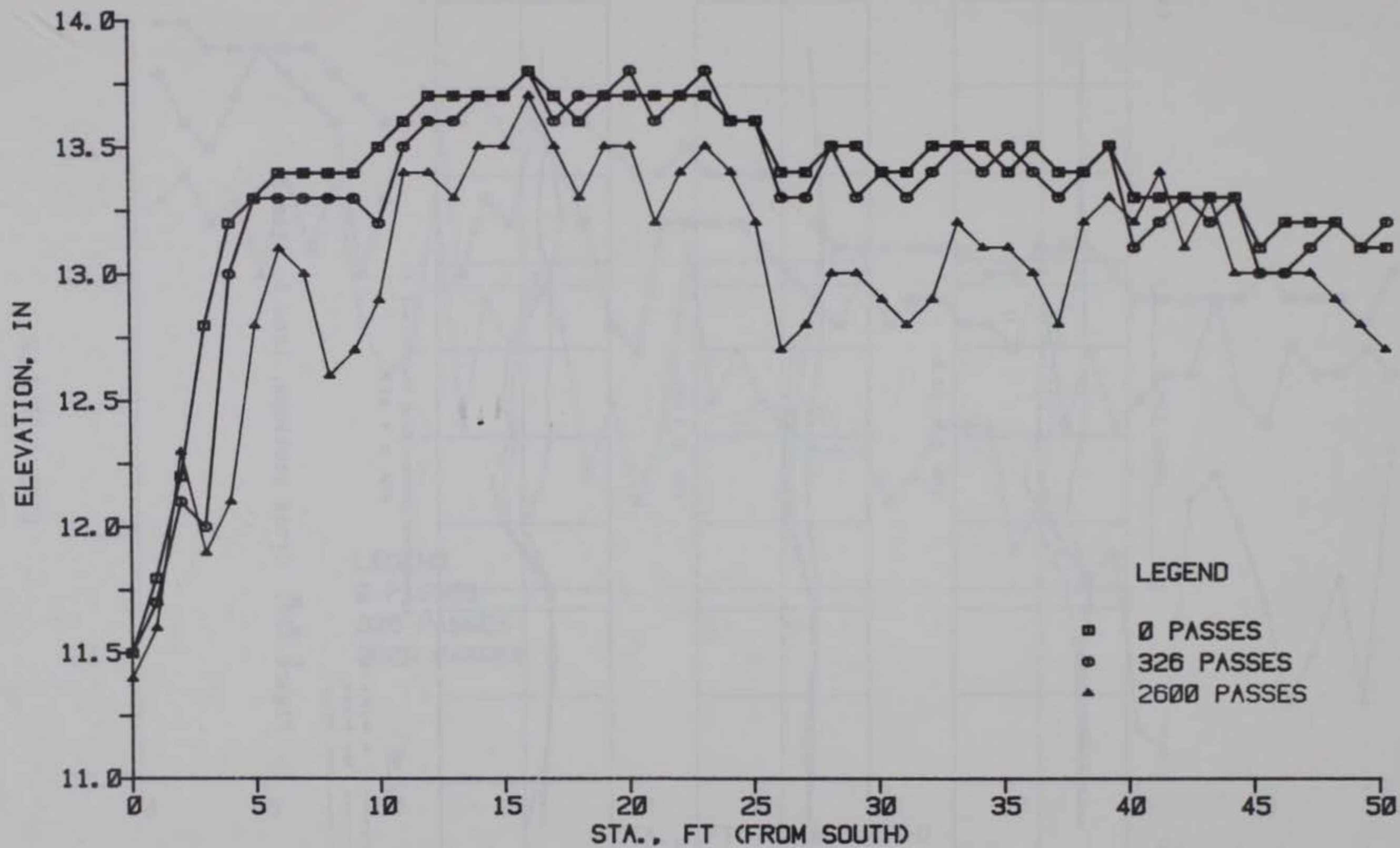


Figure A23. Center-line profile, lane 1, Item 1



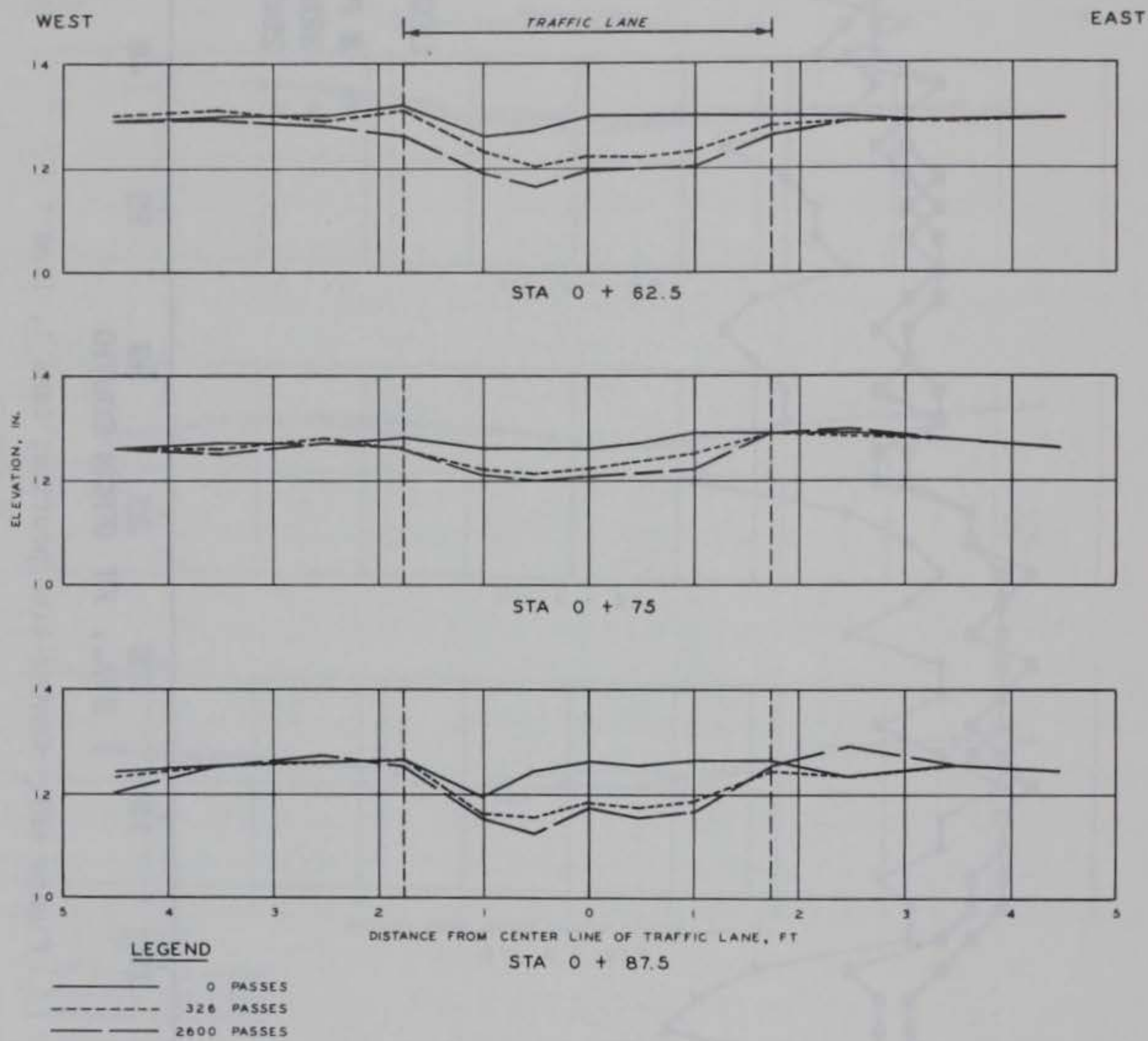


Figure A24. Cross sections, lane 1, Item 2



A63

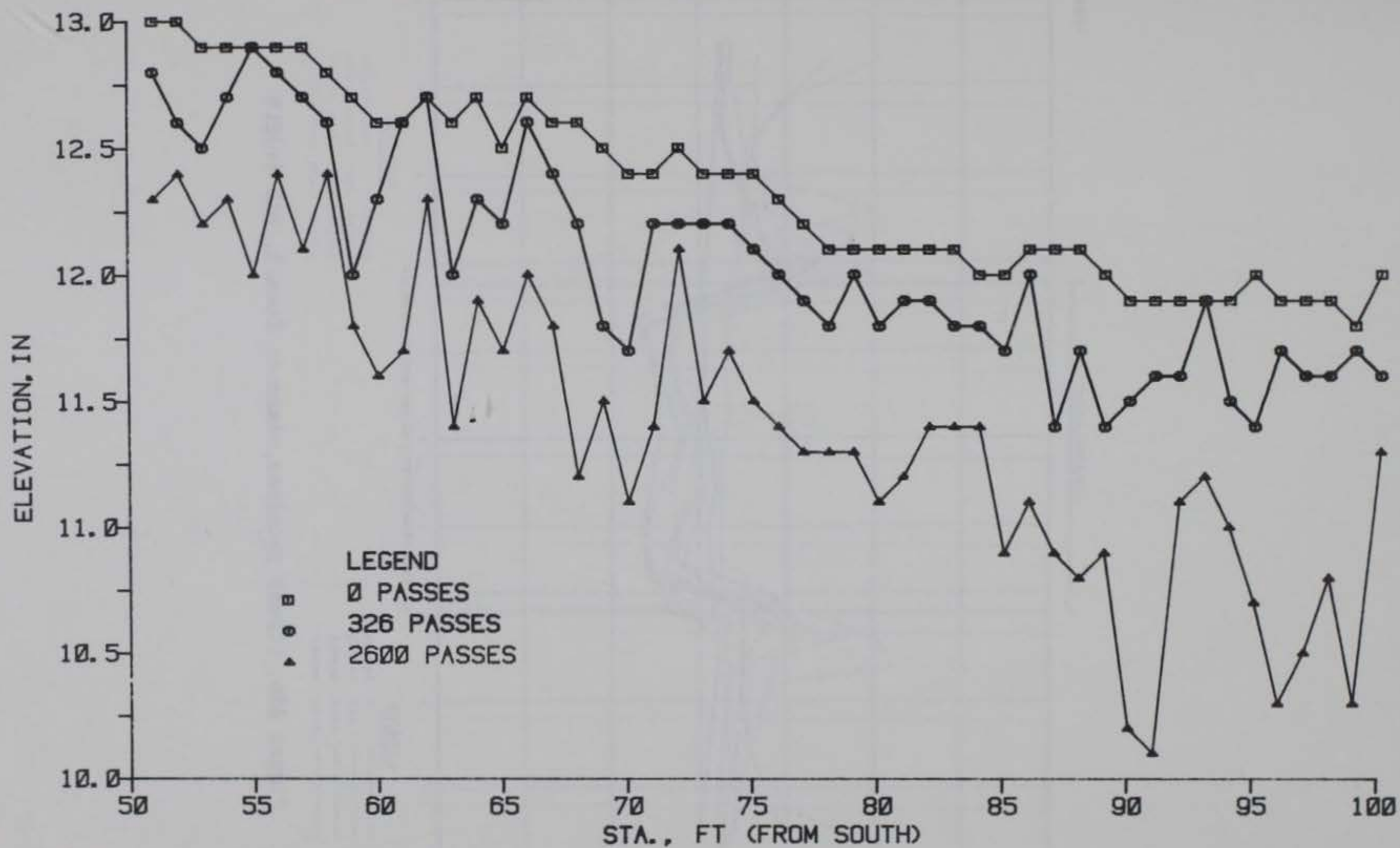


Figure A25. Center-line profile, lane 1, Item 2



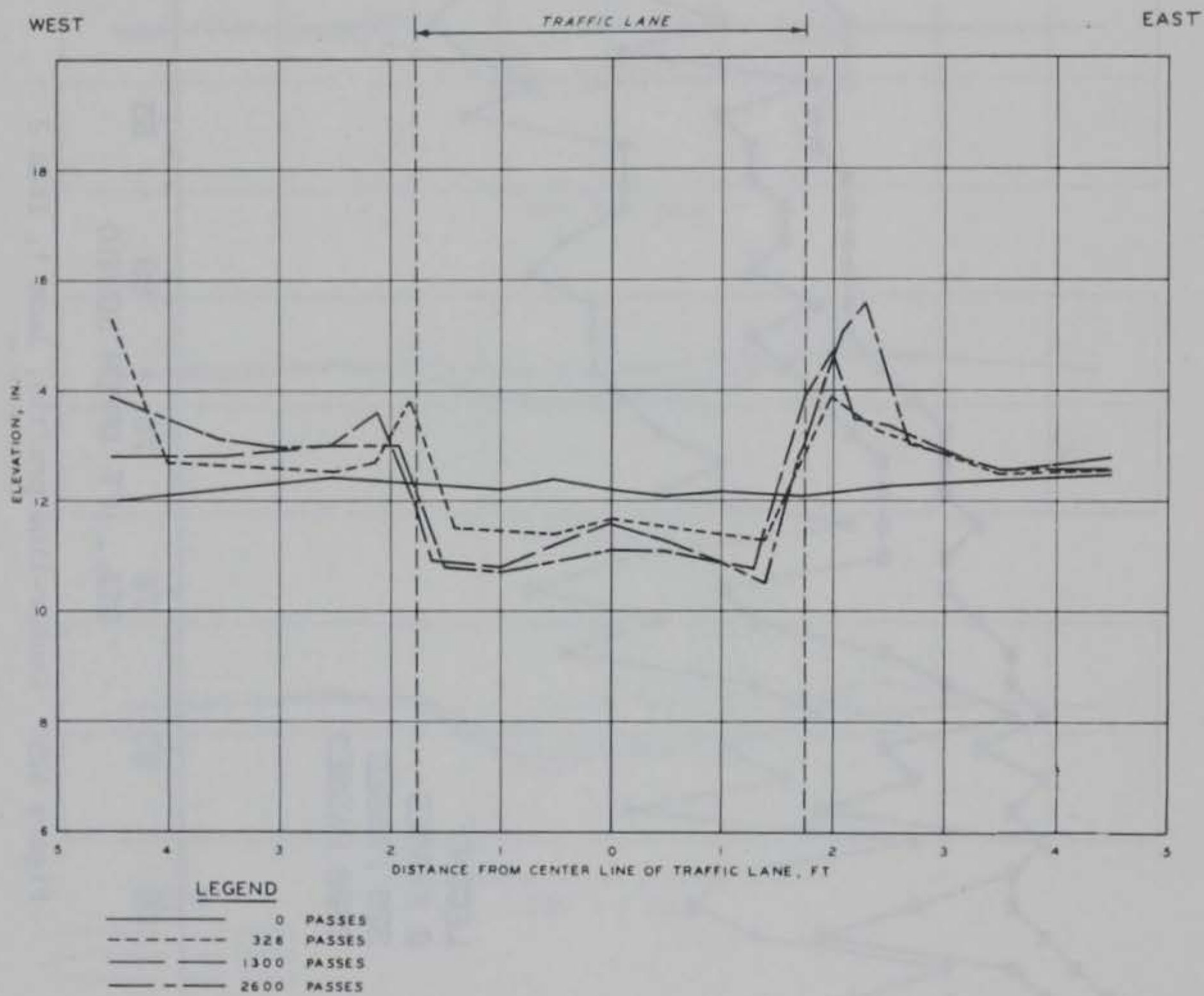


Figure A26. Cross sections, lane 1, Item 3, sta 1+12.5



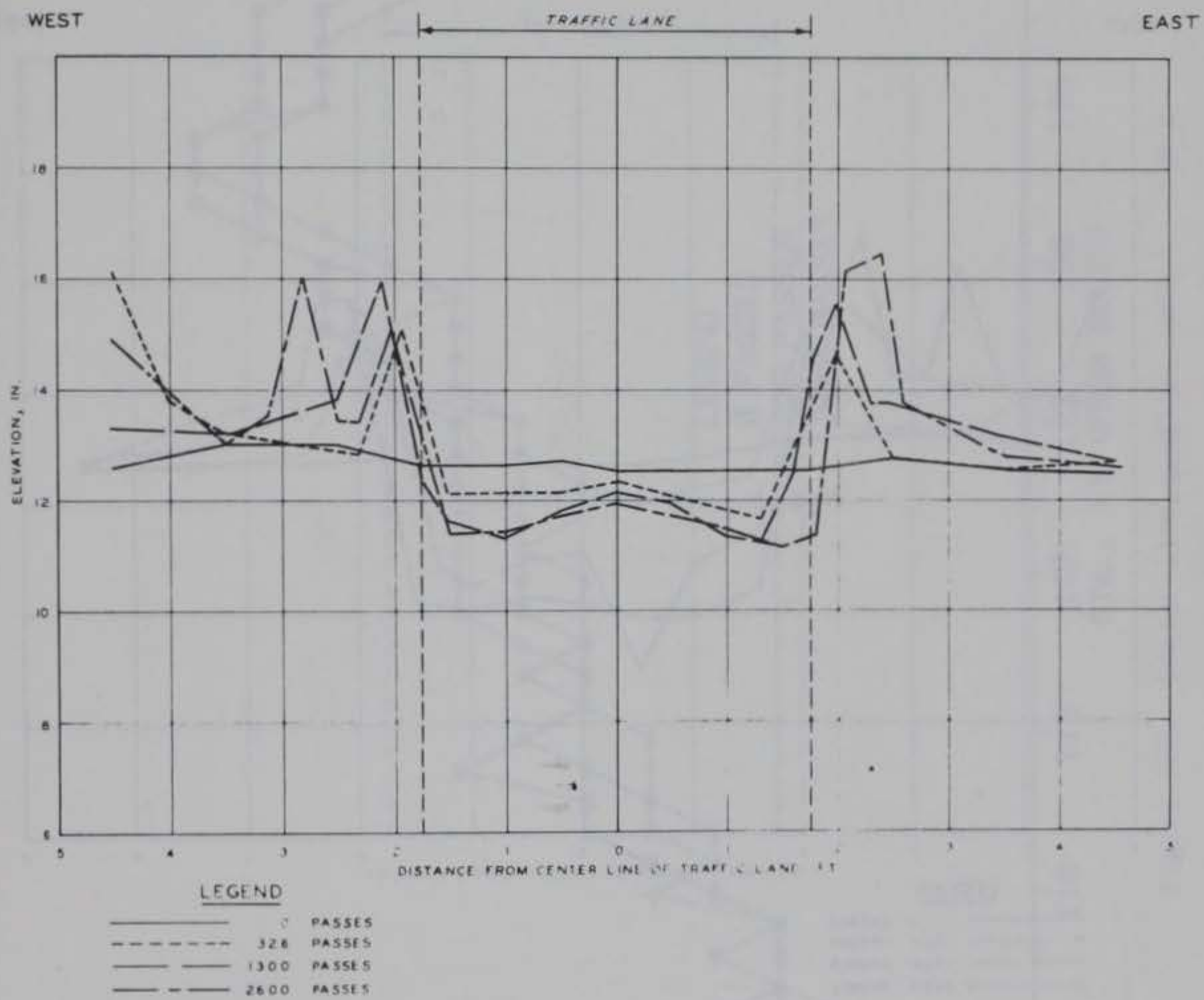


Figure A27. Cross sections, lane 1, Item 3, sta 1+25



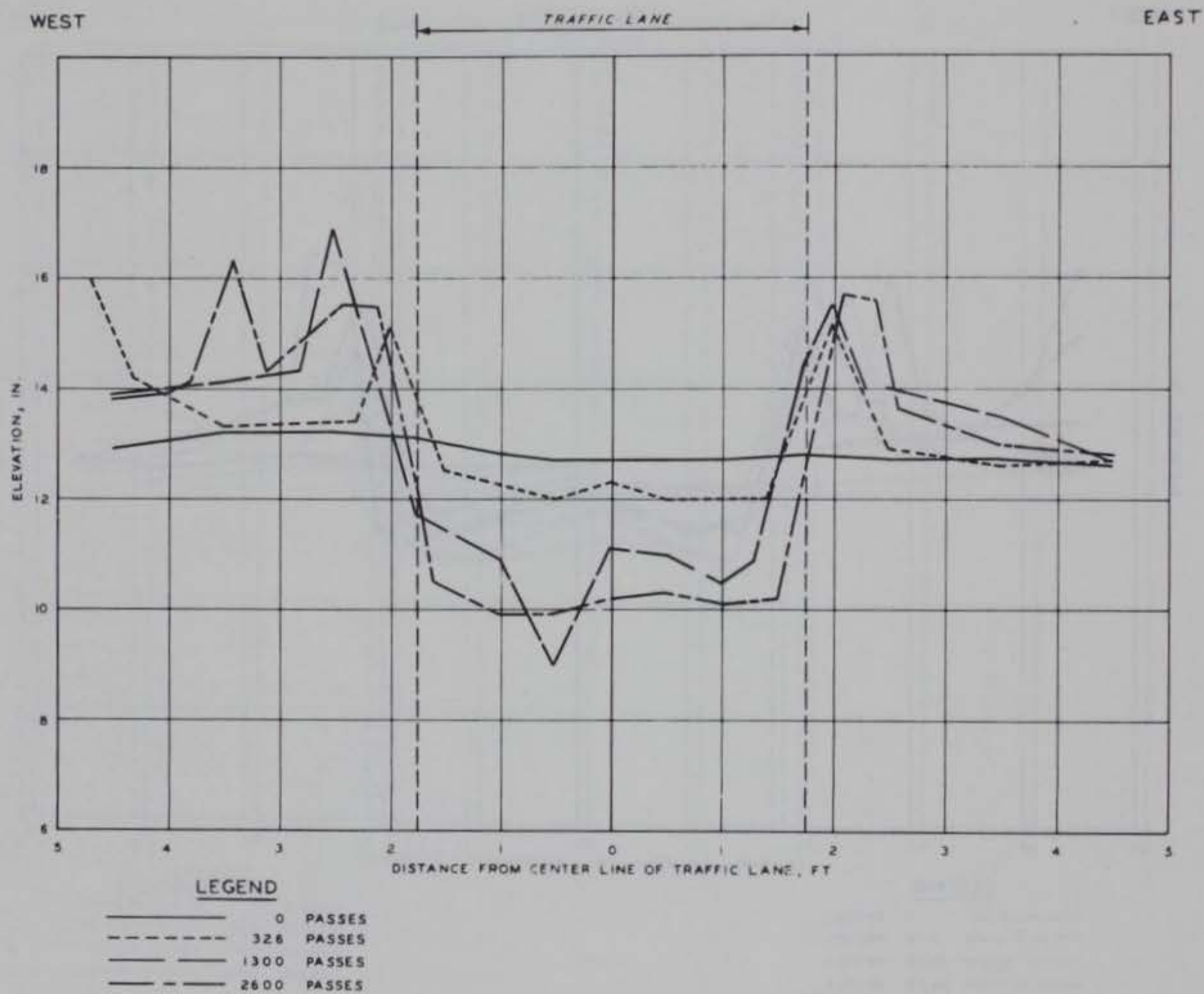


Figure A28. Cross sections, lane 1, Item 3, sta 1+37.5



A67

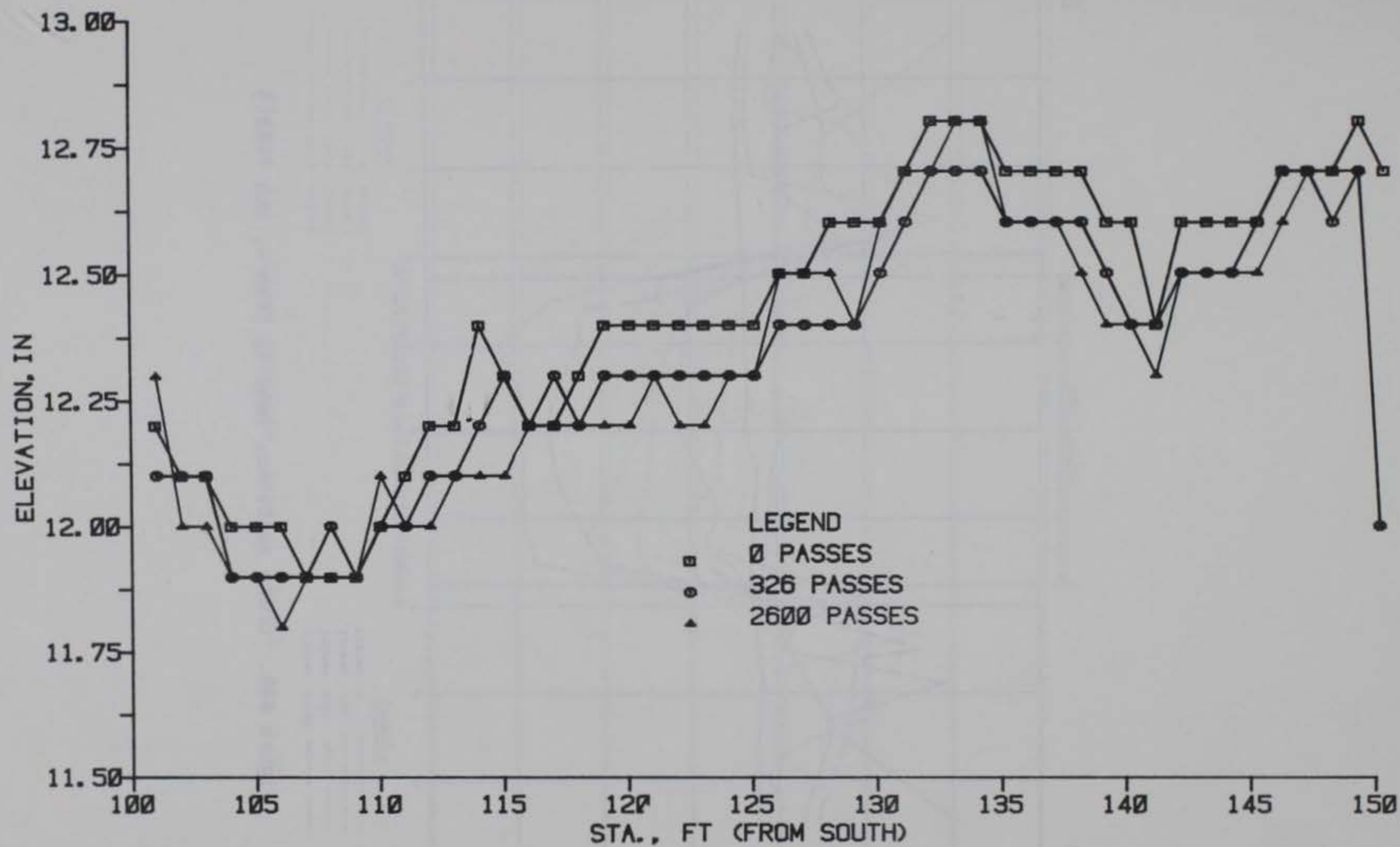


Figure A29. Center-line profile, lane 1, Item 3



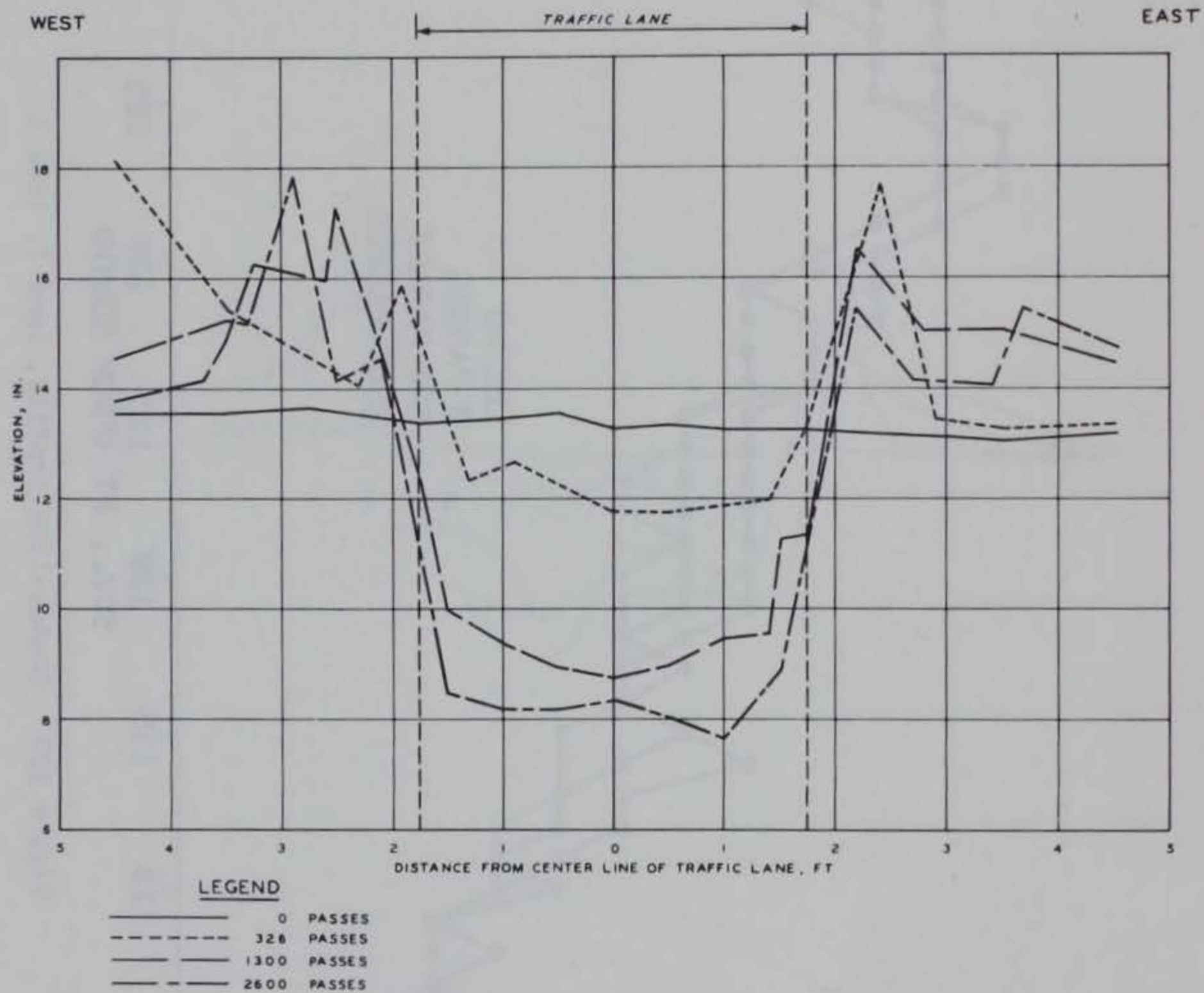


Figure A30. Cross sections, lane 1, Item 4, sta 1+62.5



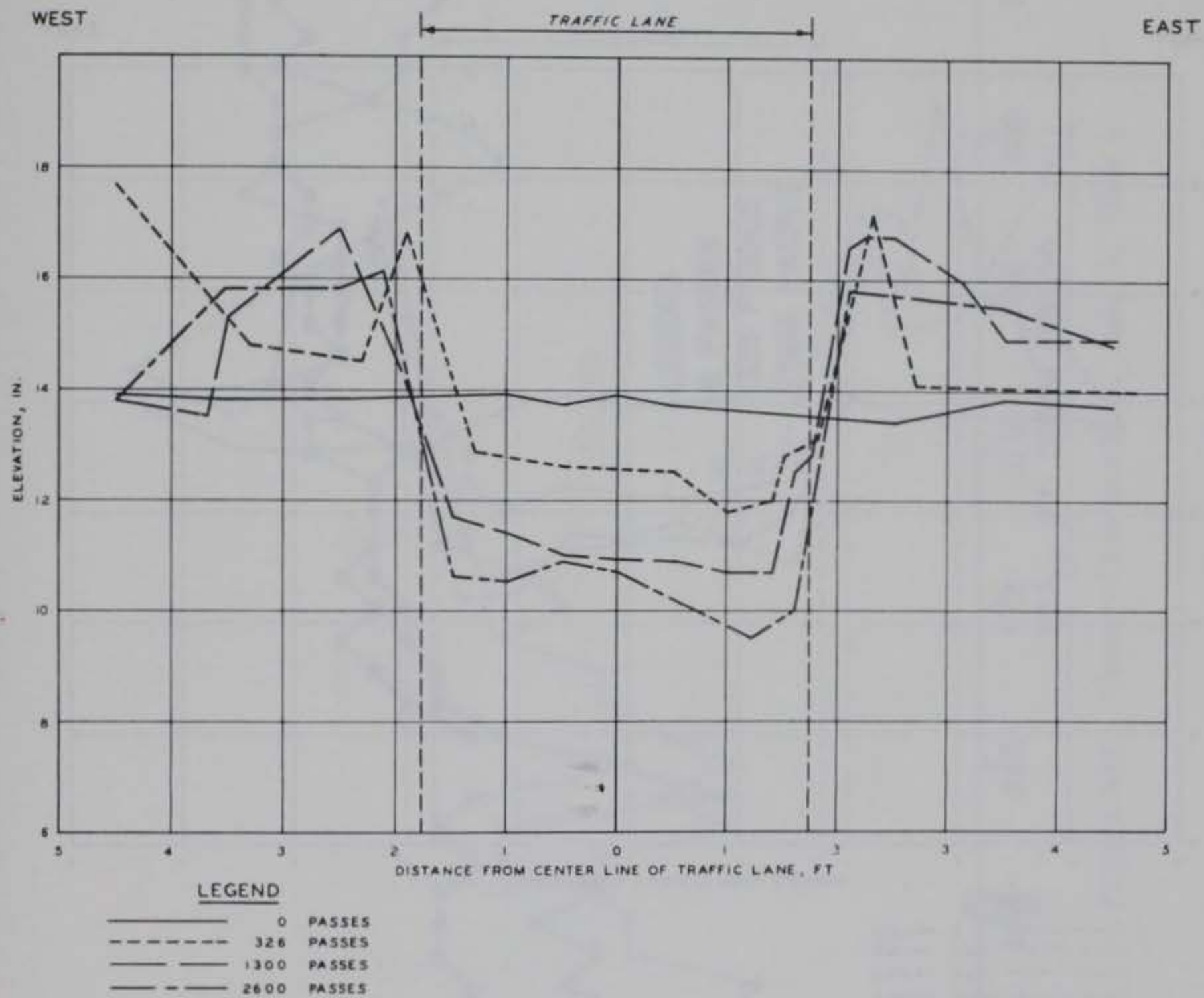


Figure A31. Cross sections, lane 1, Item 4, sta 1+75



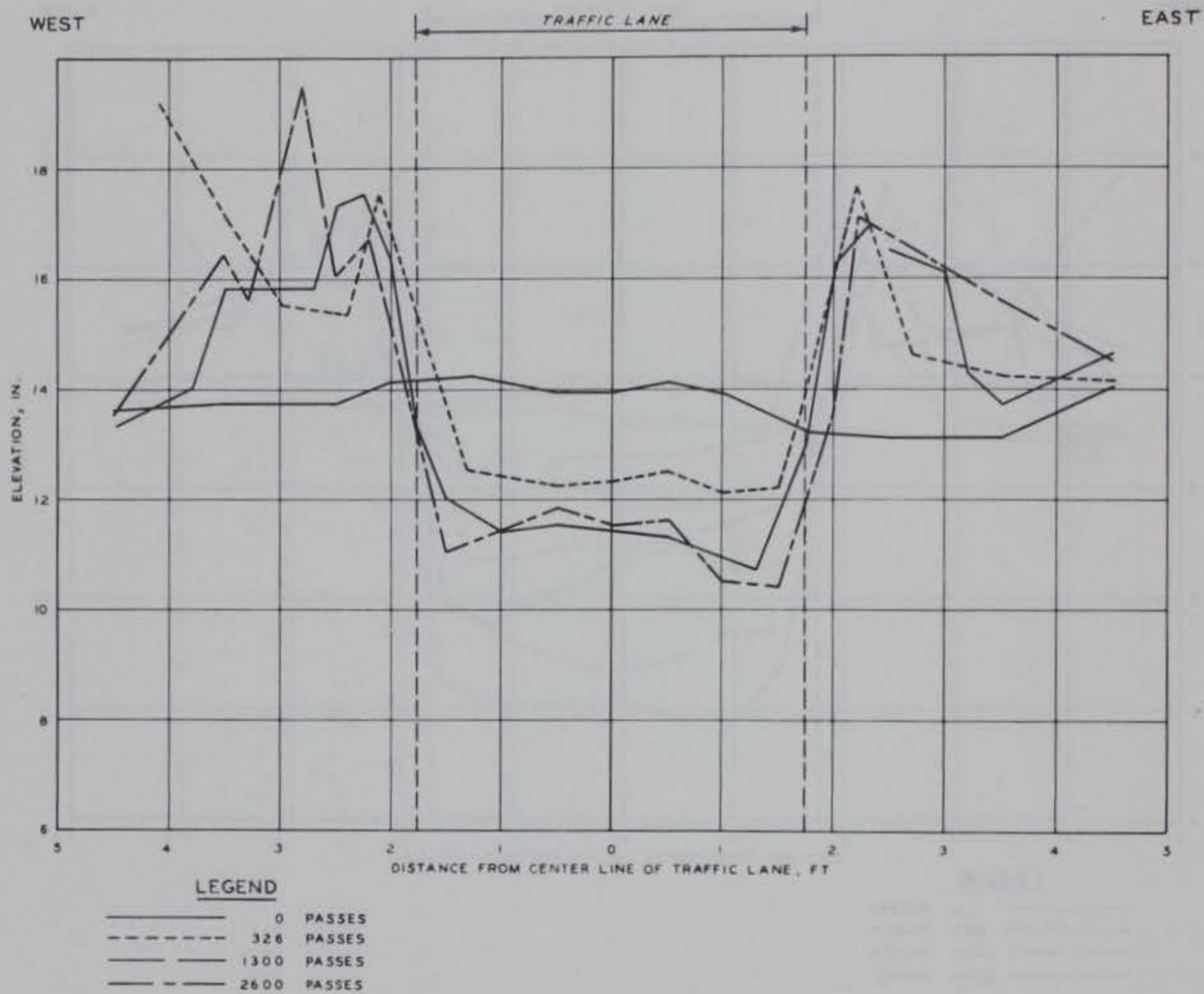


Figure A32. Cross sections, lane 1, Item 4, sta 1+87.5



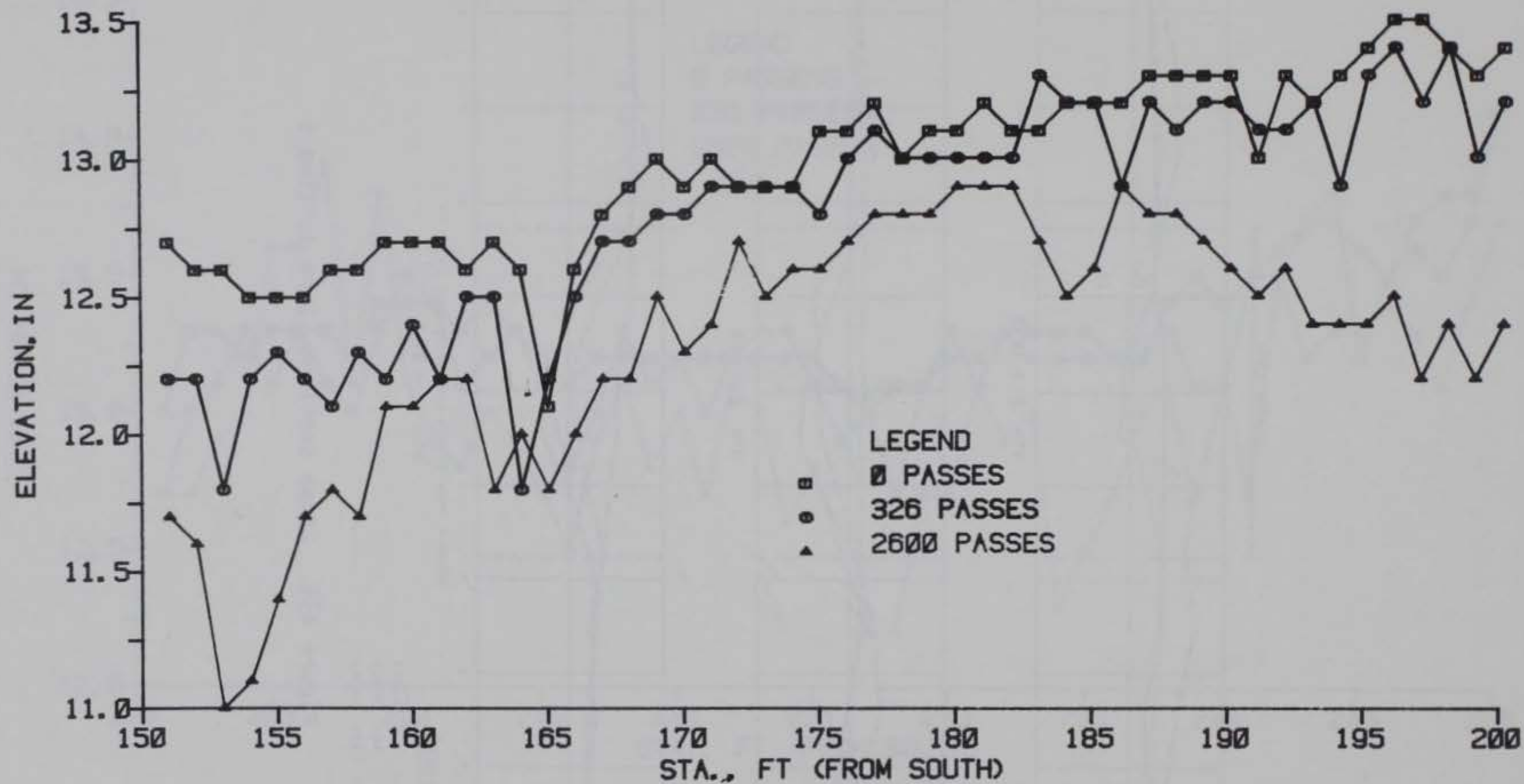


Figure A33. Center-line profile, lane 1, Item 4



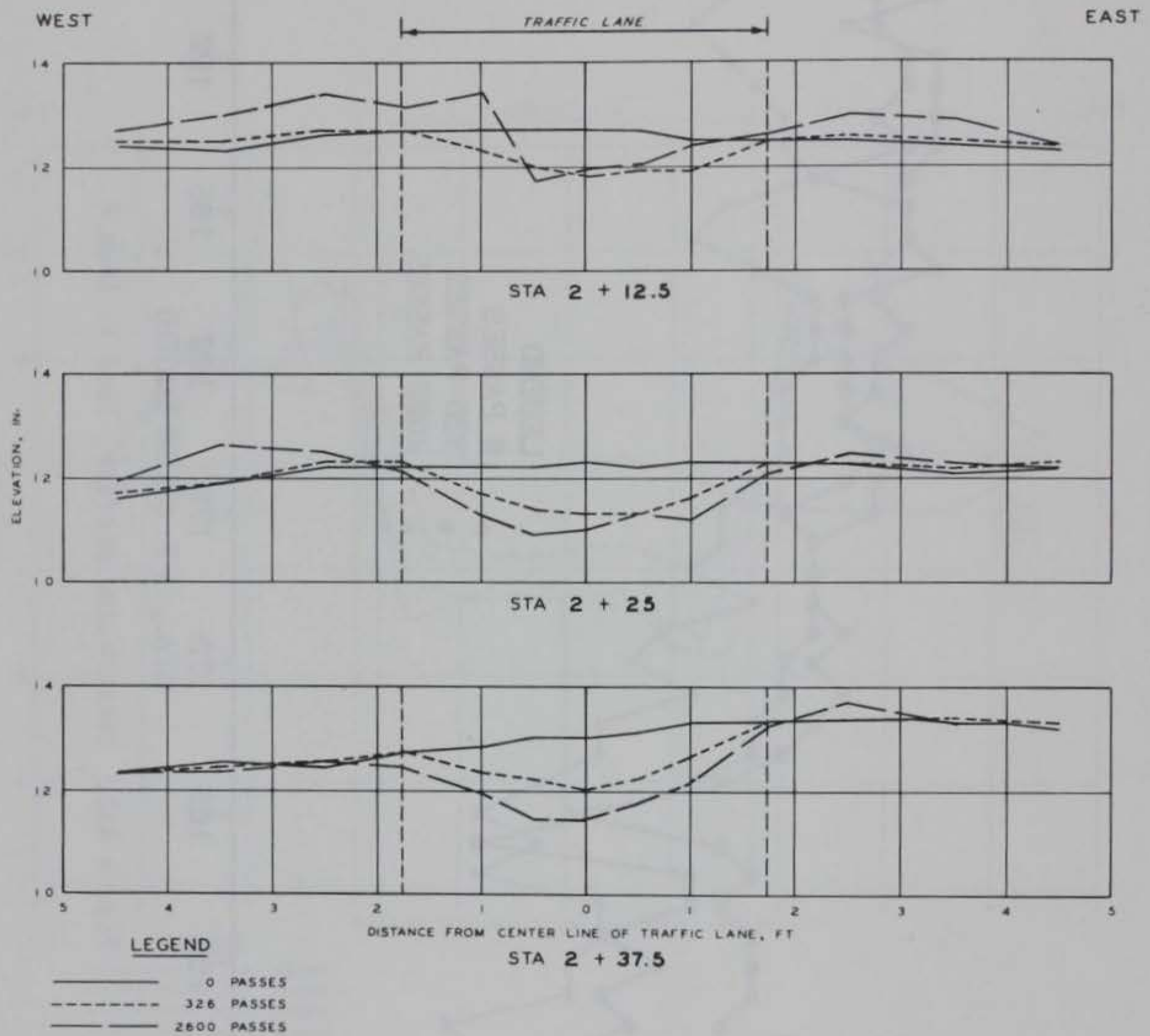


Figure A34. Cross sections, lane 1, Item 5



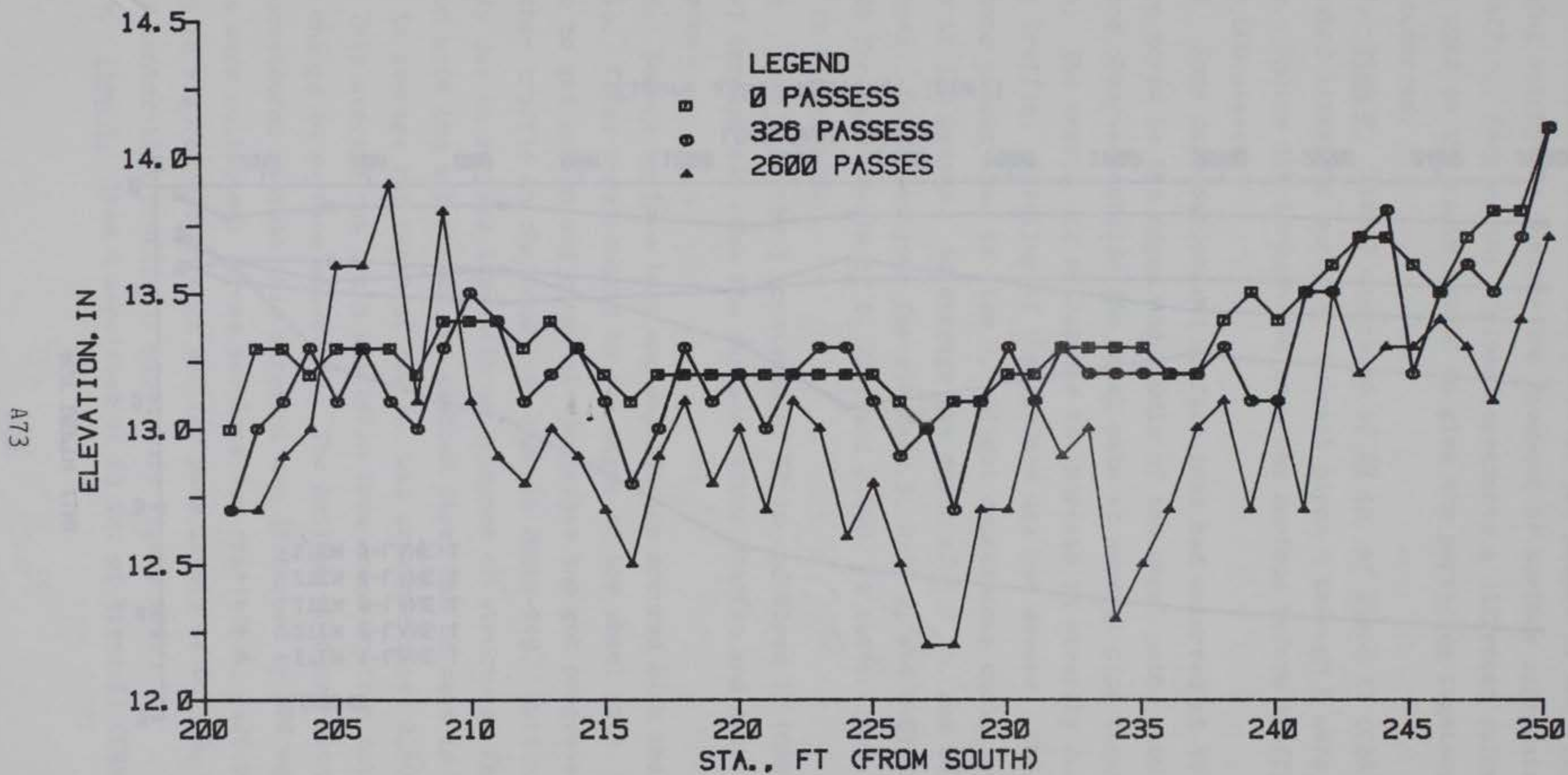


Figure A35. Center-line profile, lane 1, Item 5



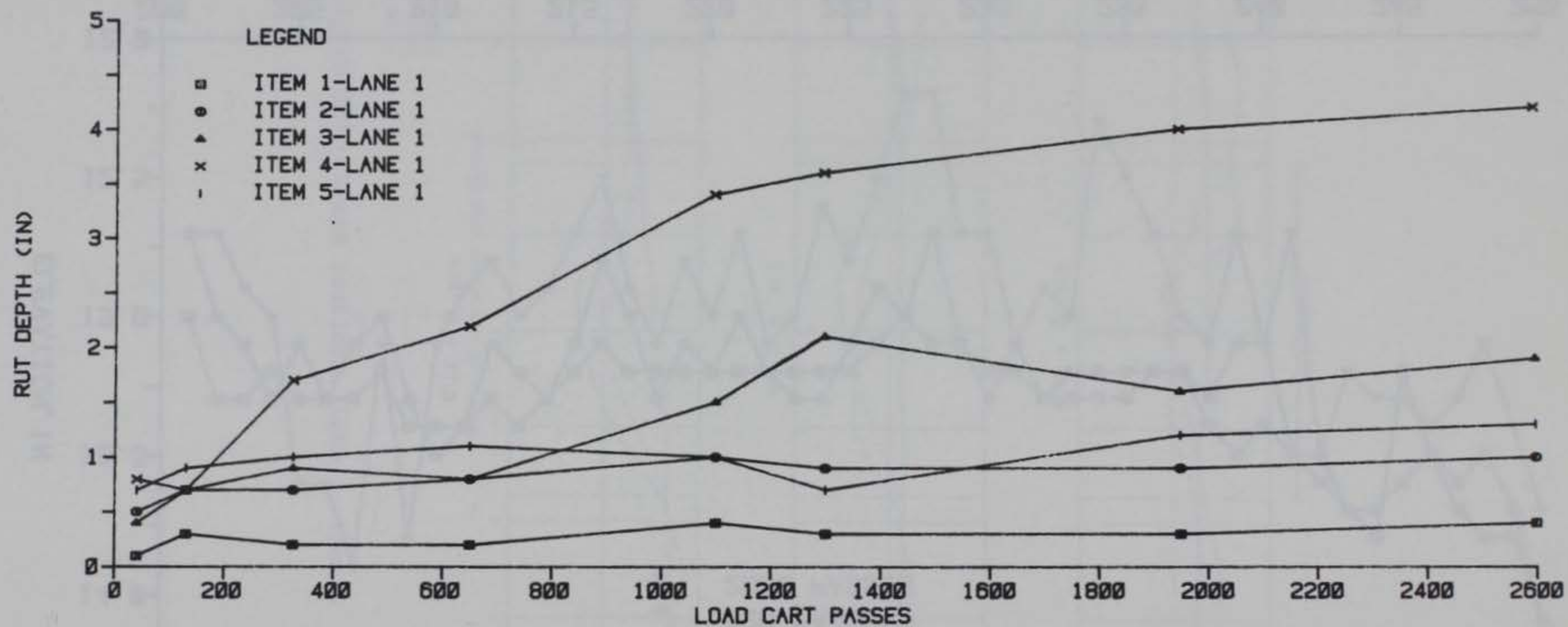


Figure A36. Rutting, lane 1



131. The patch seen in the photo at 326 passes is the result of an unsuccessful attempt to monitor the movement of surface aggregate particles during traffic. Each of the stripes represents a different color aggregate. The paint used on the rocks tended to glue the particles together, and no movement occurred.

132. Item 2. Item 2 consisted of 63 in. of Blend II (CBR = 15) with a 9-in. crushed limestone surface. Culvert pipes 1 through 6 were located in this item. Photos A44 through A46 show the surface before traffic and after 326 and 2,600 passes.

133. Some degradation and surface loss had occurred at 40 passes. Fines were moved to the edges and middle of the wheel path. Low severity cracks were observed outside the wheel path at several pipe locations after 40 passes. The cracks did not appear to increase in severity during the remaining traffic. Raveling of the surface was not severe. The surface was however more uneven than in Item 1. Slight depressions could be seen above the pipes at 130 passes. An average rut depth of 1.0 in. was obtained after 2,600 passes. Cross sections for sta 0+62.5, 0+75.0, and 0+87.5 are shown in Figure A24 for pass levels of 0, 326, and 2,600. A center-line profile is provided in Figure A25.

134. Item 3. Item 3 consisted of 72 in. of Blend II (CBR = 15). Photos A47 through A49 show the surface before traffic and after 326 and 2,600 passes.

135. Severe surface loss and degradation occurred with the application of traffic. Fines were removed to the edges of the wheel path. The surface had begun to get uneven and rough at 130 passes and got progressively worse with further traffic to the condition seen in Photo A49. Rutting appeared to be totally due to surface loss with no evidence of structural failures. A comparison with the effects of the cleated tires can be seen in the photographs. An average rut depth of 1.9 in. was obtained after 2,600 load cart passes. This average rut depth was taken from cross-section data and reflects only the change in surface elevation. The buildup of fines along the edges was not considered because this material was disturbed by NDT equipment each time data were collected. Cross sections for sta 1+12.5, 1+25.0, and 1+37.5 are shown in Figures A26 through A28 for pass levels of 0, 326, 1,300, and 2,600. A center-line profile is plotted in Figure A29.

136. Item 4. Item 4 consisted of 63 in. of Blend II (CBR = 15)



surfaced with 9 in. of Blend I (CBR = 15). Photos A50 through A52 show the surface before traffic and after 326 and 2,600 passes.

137. Surface loss was more severe on Blend I than on Blend II in Item 3. Fines were removed to the edges of the wheel path. The surface began to get rough at approximately 130 passes. As the surface continued to deteriorate, the load cart began to bounce or washboard causing a pothole type effect. Ruts appeared to be nonstructural and the result of surface loss. An average rut depth of 4.2 in. was obtained after 2,600 load cart passes. The average rut depth was taken from cross-section data and does not include the buildup of fines along the edges of the wheel path. The material outside the wheel path was disturbed during data collection by NDT equipment. Cross sections for sta 1+62.5, 1+75.0, and 1+87.5 are plotted in Figures A30 through A32 for pass levels of 0, 326, 1,300, and 2,600. A center-line profile is provided in Figure A33.

138. Item 5. Item 5 consisted of 72 in. of silt. Photos A53 through A55 show the surface before traffic and after 326 and 2,600 passes.

139. Several small low-severity cracks were observed outside the wheel path at 40 passes. The cracks did not increase in severity or present problems with further traffic. A depression was seen at sta 2+20 where the soil pressure cell WES-5B was located. The material above the cell had been dug out to repair the gage, and apparently compaction of the backfill was inadequate. Bleeding of Blend I from Item 4 into the south end of Item 5 can be seen in the photographs. The severe surface loss occurring in Item 4 caused the load cart to bounce at the transition to Item 5. This caused some washboarding, and the surface began to get rough near the south end of the item at 650 passes. An average rut depth of 1.3 in. was obtained after 2,600 load cart passes. Cross sections for sta 2+12.5, 2+25.0, and 2+37.5 are plotted in Figure A34 for pass levels of 0, 326, and 650. A center-line profile is shown in Figure A35.

#### Lane 2

140. Lane 2 was trafficked during the periods 20 to 24 April 1981 and 11 to 13 May 1981. Cross-section and center-line profile data are presented in Figures A37 through A46. Rut depths are tabulated in Table A19, and plots of rut depth versus load cart passes for Items 1 through 5 are shown in Figure A47. All visible cracks in the cement stabilized and concrete items were mapped at each data collection interval. After 2,600 passes, the loose



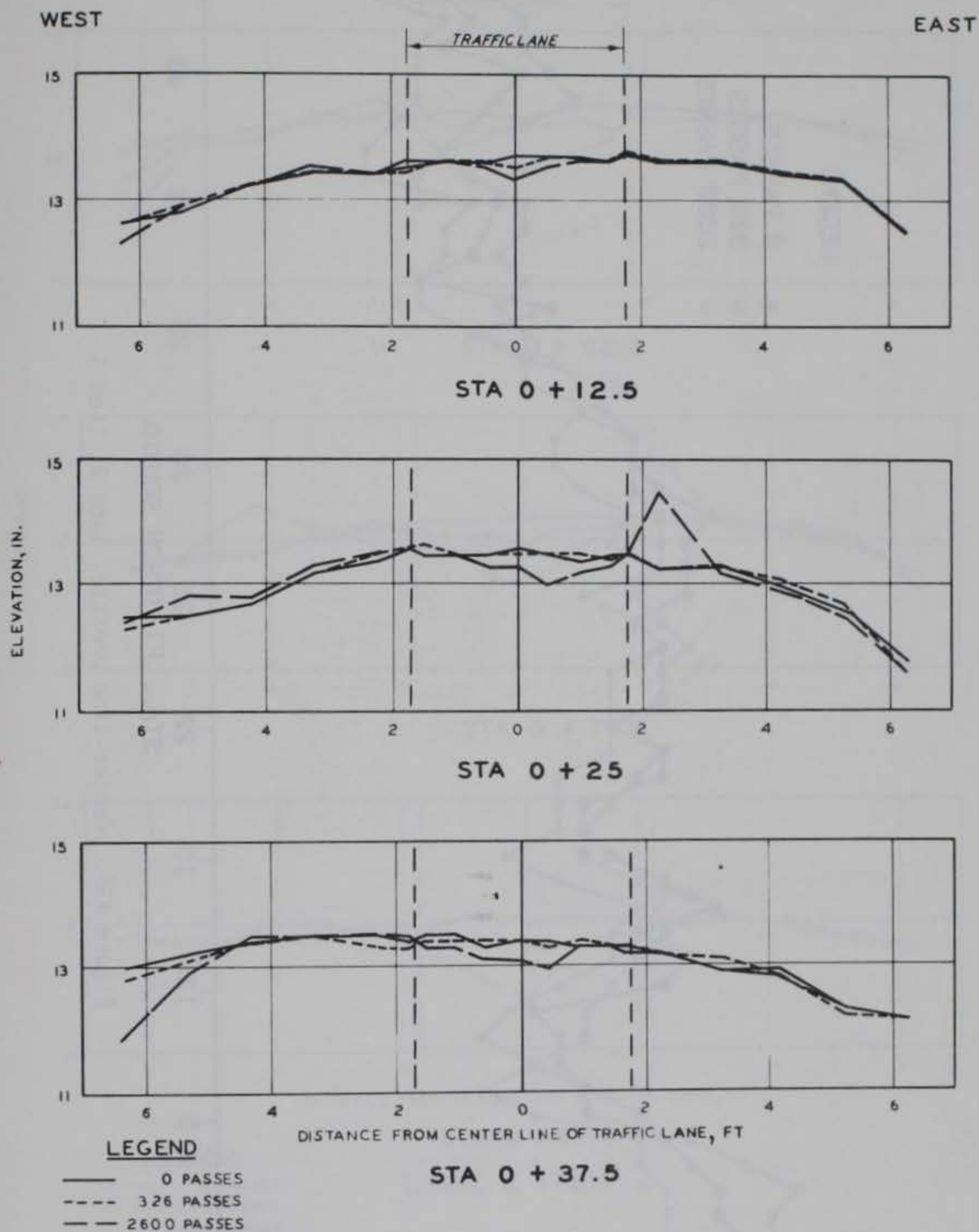


Figure A37. Cross sections, lane 2, Item 1



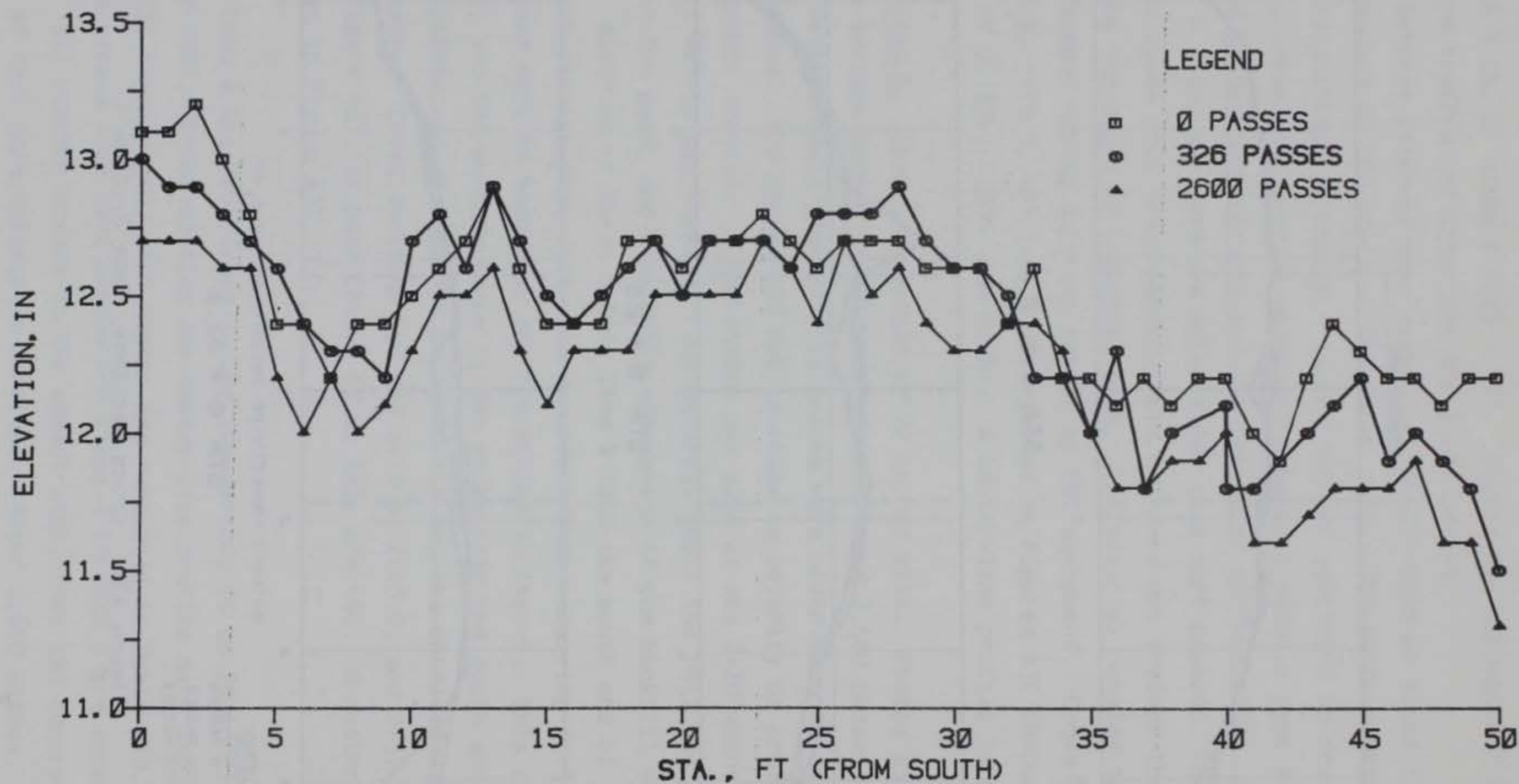


Figure A38. Center-line profile, lane 2, Item 1



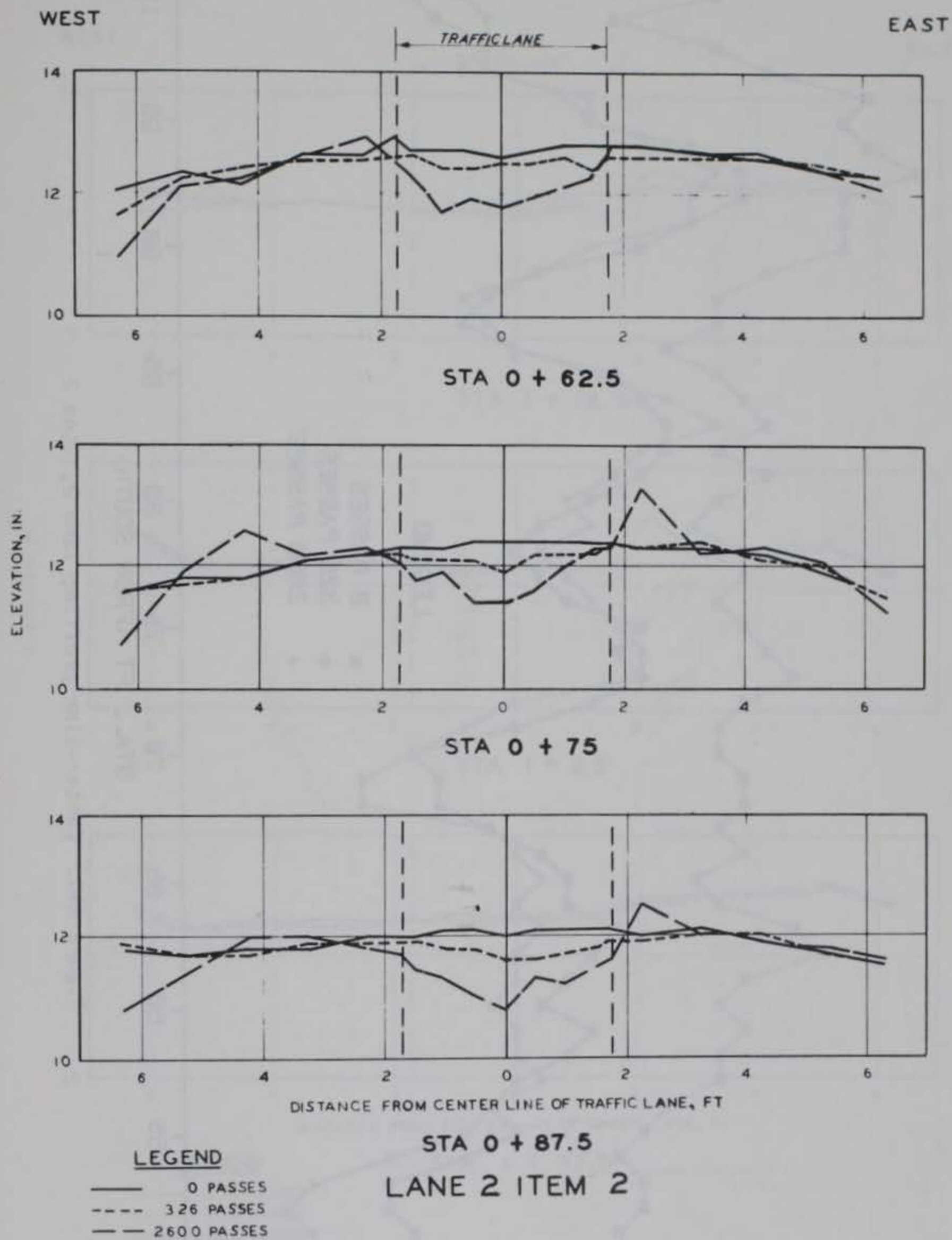


Figure A39. Cross sections, lane 2, Item 2



A80

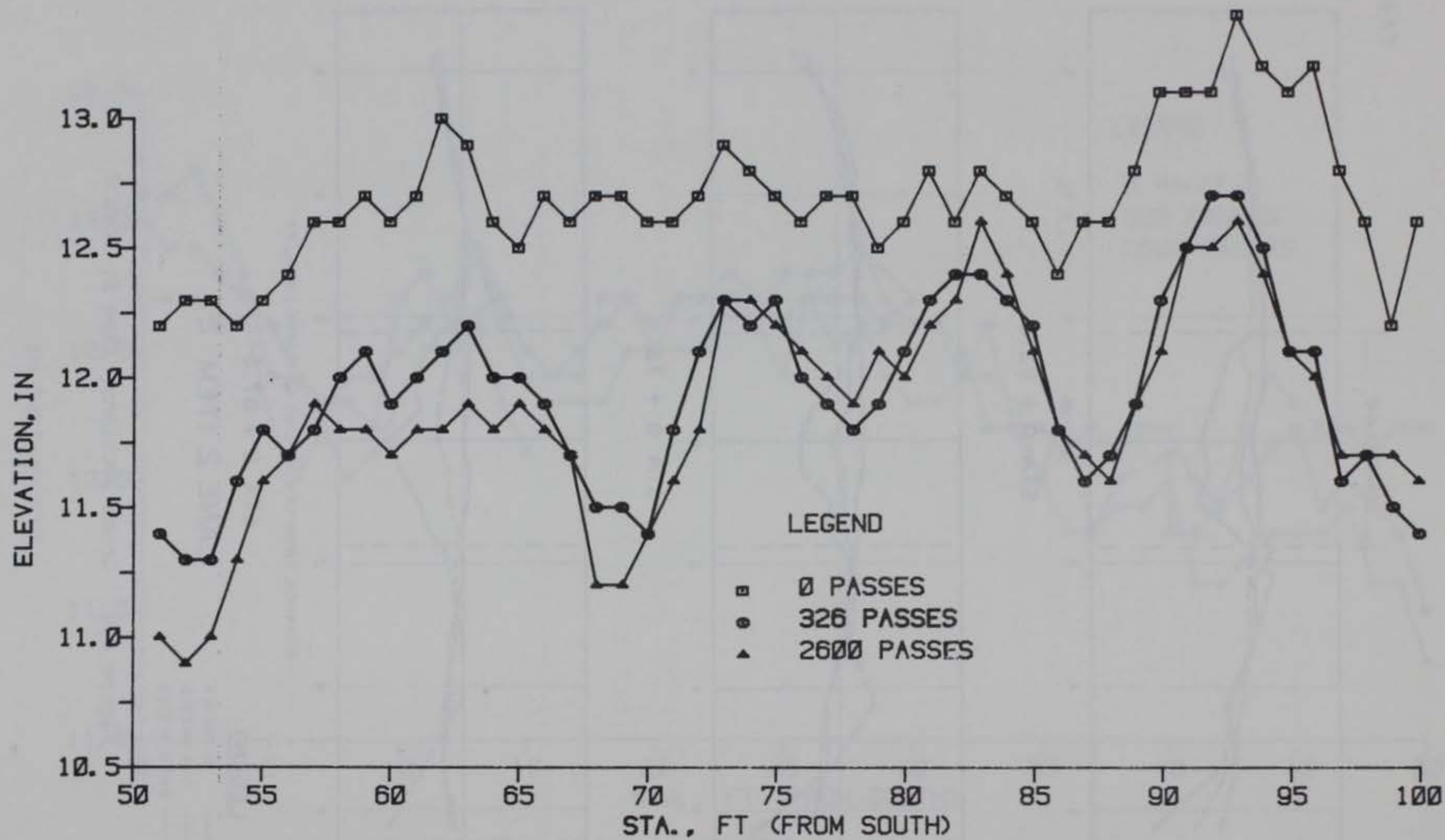


Figure A40. Center-line profile, lane 2, Item 2



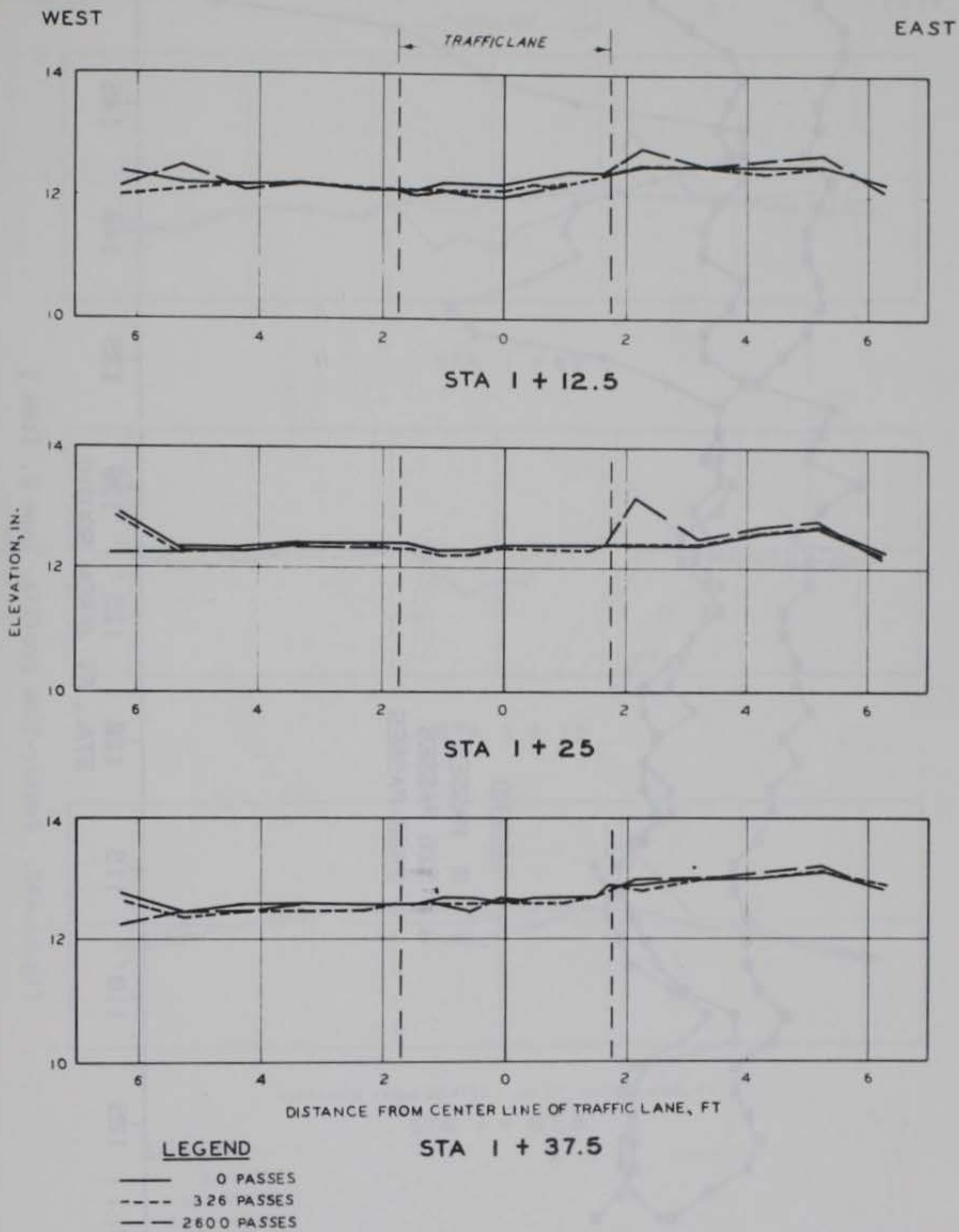


Figure A41. Cross sections, lane 2, Item 3



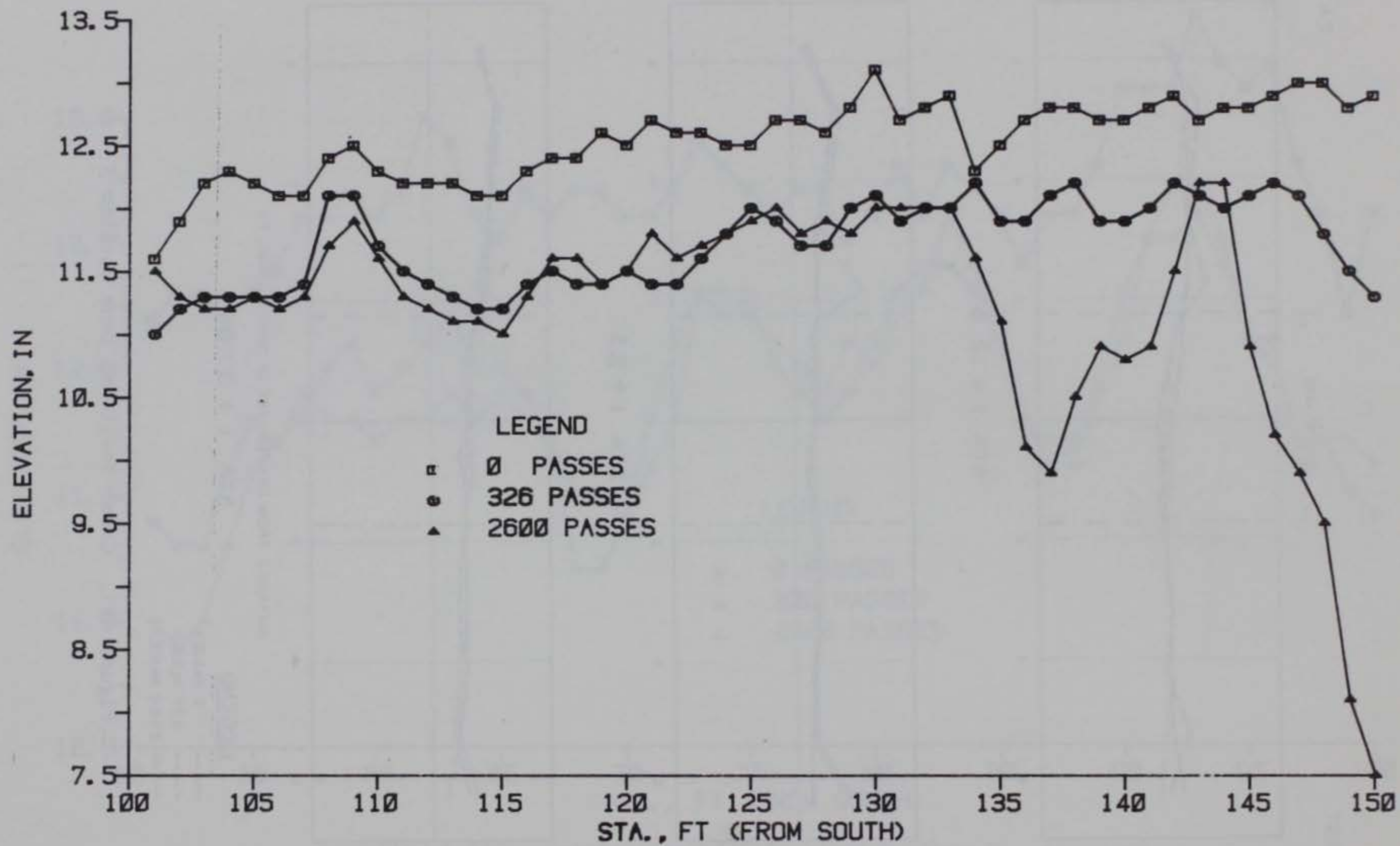


Figure A42. Center-line profile, lane 2, Item 3



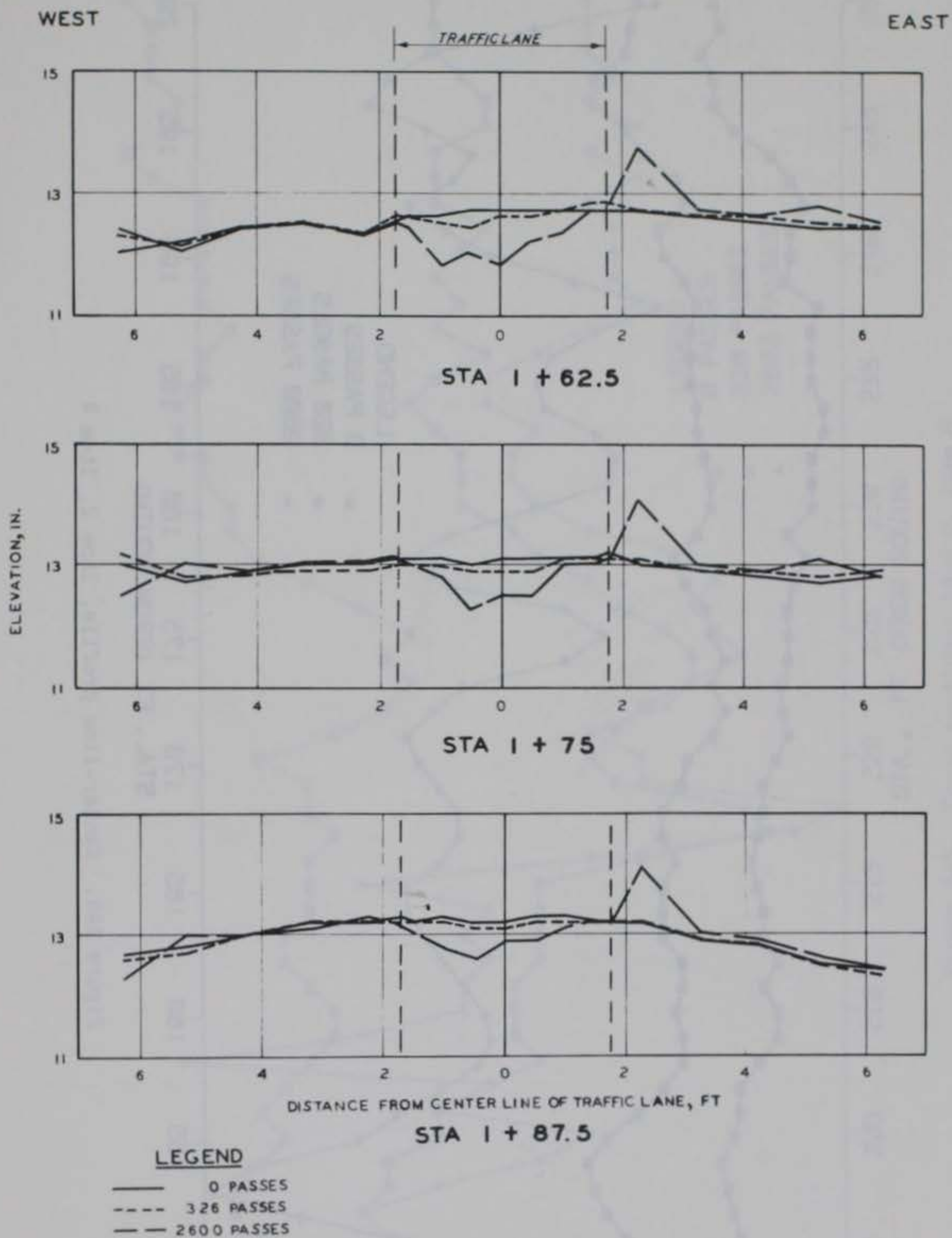


Figure A43. Cross sections, lane 2, Item 4



A84

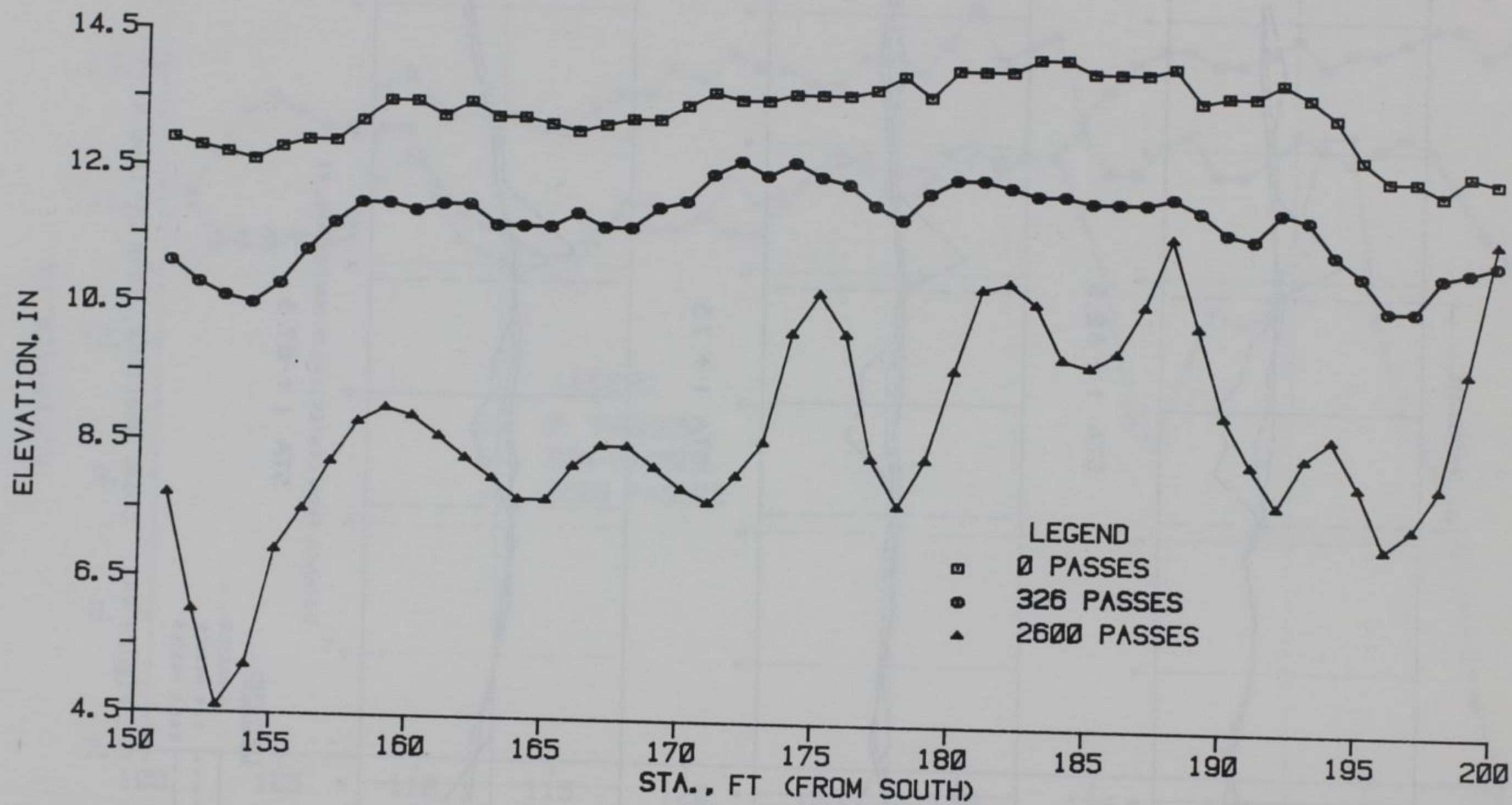


Figure A44. Center-line profile, lane 2, Item 4



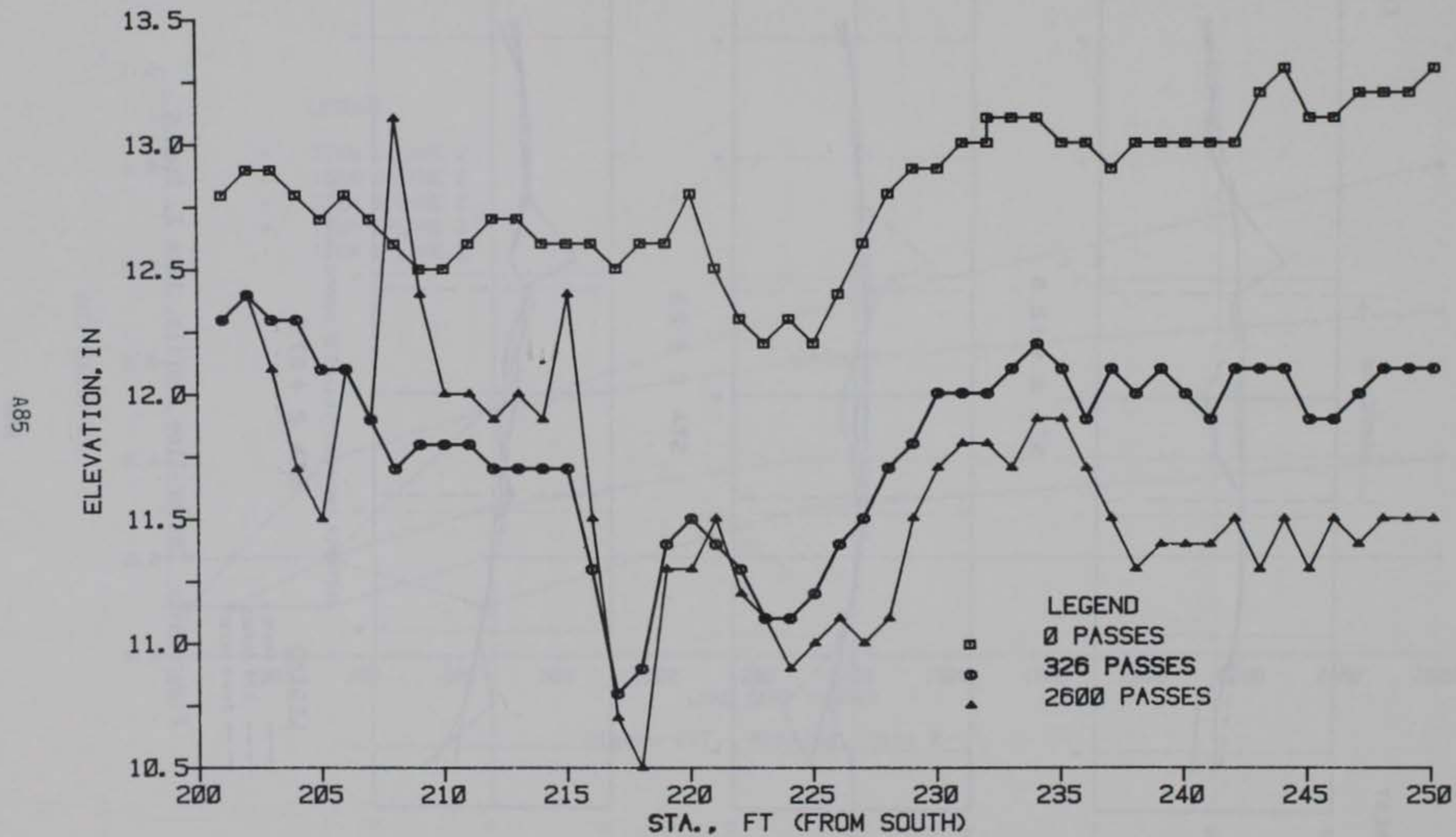


Figure A45. Cross sections, lane 2, Item 5



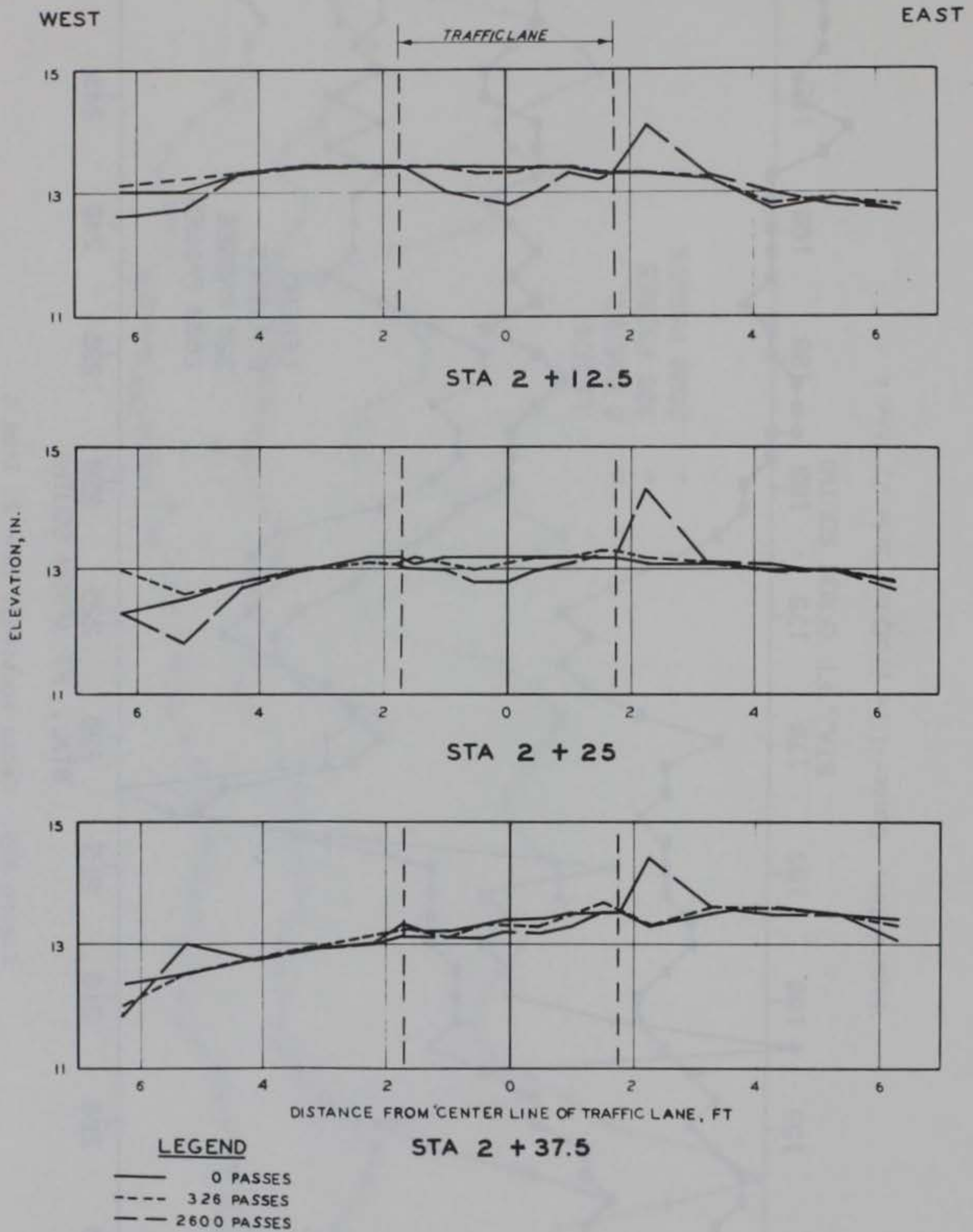


Figure A46. Center-line profile, lane 2, Item 5



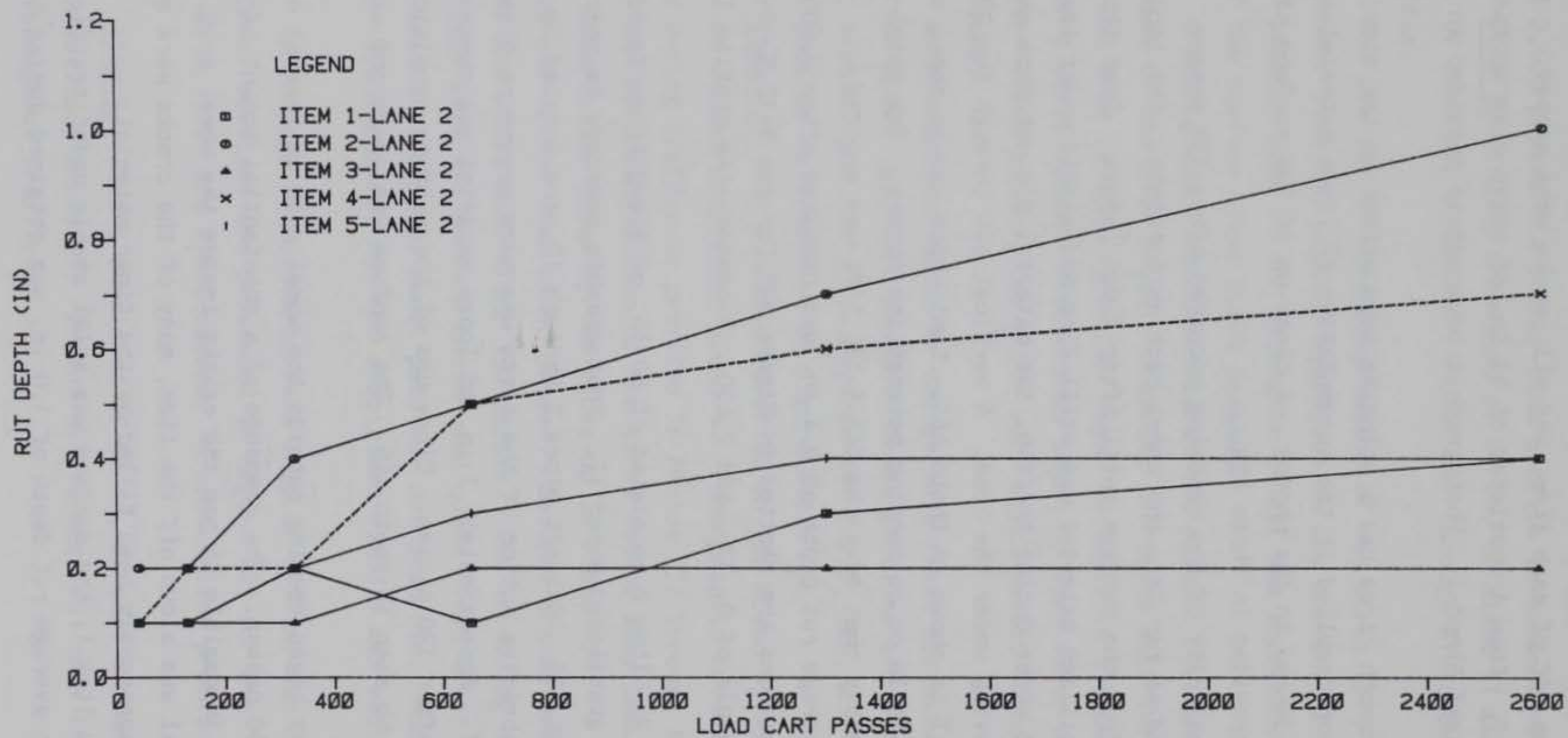


Figure A47. Rutting, lane 2



material was blown off of each item, and all cracks were mapped.

141. Item 1. Item 1 consisted of 43 in. of heavy clay surfaced with 29 in. of cement stabilized Blend I. Photographic coverage is provided in Photos A56 through A61.

142. The smooth tires had a grinding type effect on the stabilized material. Surface wear resulted in the accumulation of loose material in the wheel path as evidenced in the photos. A close-up of the surface after 2,600 passes is provided in Photo A59.

143. The majority of the cracking occurred after 130 passes. All cracks were mapped as far into the wheel path as possible. The loose material was not removed from the surface until after 2,600 passes. Even though badly cracked, the stabilized material was still firm and stable under traffic. As the cracks opened wider during traffic, the material did not show any signs of breaking up or moving under the load. A vertical cut through the 29 in. of stabilized Blend I is shown in Photo A61. Lamination can be seen, and apparently there was little or no bonding between the layers. The paint from crack mapping shows clearly that only the top 6-in. lift was cracked.

144. An average rut depth of 0.4 in. was obtained after 2,600 load cart passes. Cross sections are plotted in Figure A37 for sta 0+12.5, 0+25.0, and 0+37.5 at pass levels of 0, 326, and 2,600. A center-line profile is shown in Figure A38.

145. Item 2. Item 2 consisted of 60 in. of Blend II surfaced with 12 in. of cement stabilized Blend II. Photographic coverage is provided in Photos A62 through A66. Culvert pipes 7 through 12 were located in this item.

146. The abrasive action of the tires was more severe on Blend II than Blend I in Item 1. Approximately 1 in. of loose material was observed along the center line after 130 passes. Close-ups of the surface condition at 2,600 passes can be seen in Photo A65. The surface was rough and washboarding after 650 passes.

147. Cracks began opening outside the wheel path at several of the pipe locations after 40 passes. The presence of a substantial amount of loose material made it impossible to map the cracks inside the wheel path. Even after the material was blown off the item, many of the cracks were still not visible and had apparently been filled by the finer material.

148. As in Item 1, the surface was still stable under traffic after 2,600 passes. An average rut depth of 1.0 in. was obtained during traffic.



Cross sections are plotted for sta 0+62.5, 0+75.0, and 0+87.5 in Figure A39 at 0, 326, and 2,600 passes. A center-line profile is shown in Figure A40.

149. Item 3. Item 3 consisted of 60 in. of Blend II (CBR = 15) surfaced with 12 in. of lean mix concrete. Photos A67 through A71 show the performance during traffic.

150. The wearing or scrubbing action of the tires left fines loose along the center line and exposed aggregate on the surface of the concrete. After 1,300 passes, some of the aggregate itself was loosened. Photo A70 is a close-up of the surface after 2,600 passes.

151. Cracking was first observed at 130 passes. Transverse cracks had formed in each of the four slabs. Cracking increased with further traffic application, and some of the cracks had begun to spall at 650 passes. However, the slabs were still stable. The cracks began to open wider after 1,300 passes. After 2,600 passes, the slabs were still intact although there were numerous cracks.

152. An average rut depth or change in surface elevation of 0.7 in. was obtained after 2,600 load cart passes. Cross sections are plotted for sta 1+12.5, 1+25.0, and 1+37.5 in Figures A41 for 0, 326, and 2,600 passes. A center-line profile is presented in Figure A42.

153. Item 4. Item 4 consisted of 60 in. of Blend II (CBR = 15) surfaced with 12 in. of cement stabilized Blend I. Photographic coverage of the performance during traffic is provided in Photos A72 through A76.

154. The scrubbing action of the tires chewed away the surface of the stabilized material as shown by the close-up in Photo A75. A crack had formed at the south end of the item at 40 passes. Several cracks were observed along the edges of the wheel path after 130 passes. The loosening of material along the center line left the surface uneven and quite rough after 650 passes. Mapping of cracks within the wheel path was not possible. Many cracks were present after 2,600 passes, but the stabilized Blend I was still stable and functional.

155. An average rut depth/surface loss of 0.7 in. was obtained during traffic. Cross sections are presented in Figure A43 for sta 1+62.5, 1+75.0, and 1+87.5 at 0, 326, and 2,600 passes. A center-line profile is plotted in Figure A44.

156. Item 5. Item 5 consisted of 56 in. of silt surfaced with 16 in. of cement stabilized Blend II. Photos A77 through A81 show the performance of this item throughout traffic.



157. A close-up in Photo A80 shows the surface condition after 2,600 passes. The wearing action of the tires could be seen as early as 40 passes and the surface was already uneven and rough at that point. Few cracks were noted during the early stages of traffic. Cracks began to form along the edges of the wheel path at 650 passes. Crack mapping was not possible inside the wheel path. After 2,600 passes the surface was cracked and rough but still structurally functional.

158. An average rut depth/surface loss of 0.4 in. occurred with the application of 2,600 load cart passes. Cross sections are plotted for sta 2+12.5, 2+25.0, and 2+37.5 at pass levels of 0, 326, and 2,600 in Figure A45. A center-line profile is shown in Figure A46.

### Lane 3

159. Lane 3 was trafficked during the period 7 to 17 April 1981. Cross-section and profile data taken at 0, 326, and 2,600 passes are presented in Figures A48 through A57. Rut depths are tabulated in Table A19 and plots of rut depth versus load cart passes are provided in Figure A58.

160. Item 1. Item 1 consisted of 43 in. of heavy clay (CBR = 5) surfaced with 29 in. of crushed limestone. Photographic coverage showing the performance of this item during traffic is provided in Photos A82 through A84.

161. The crushed stone performed very well under traffic. An average rut depth of only 0.3 in. was recorded after 2,600 load cart passes. Raveling under the smooth tires was minimal. The surface began to get a little rougher at 1,300 passes but was still relatively smooth after all traffic had been applied. No cracks were noticeable after 2,600 passes. Cross sections are plotted for sta 0+12.5, 0+25.0, and 0+37.5 at pass levels of 0, 326, and 2,600 in Figure A48. The center-line profile is shown in Figure A49.

162. Item 2. Item 2 consisted of 60 in. of Blend II (CBR = 15) surfaced with 12 in. of crushed limestone. Photos A85 through A87 show the surface before traffic and after 326 and 2,600 passes.

163. The surface appeared to be looser and more uneven during the initial traffic than had Item 1. However, the condition of the surface changed very little as more traffic was applied, and the item performed very well. Some minor raveling and degradation occurred at the surface, but overall the smooth tires presented no serious problems. An average rut depth of 0.6 in. was obtained after 2,600 passes. Cross sections are plotted for sta 0+62.5, 0+75.0, and 0+87.5 at pass levels of 0, 326, and 2,600 in Figure A50. A



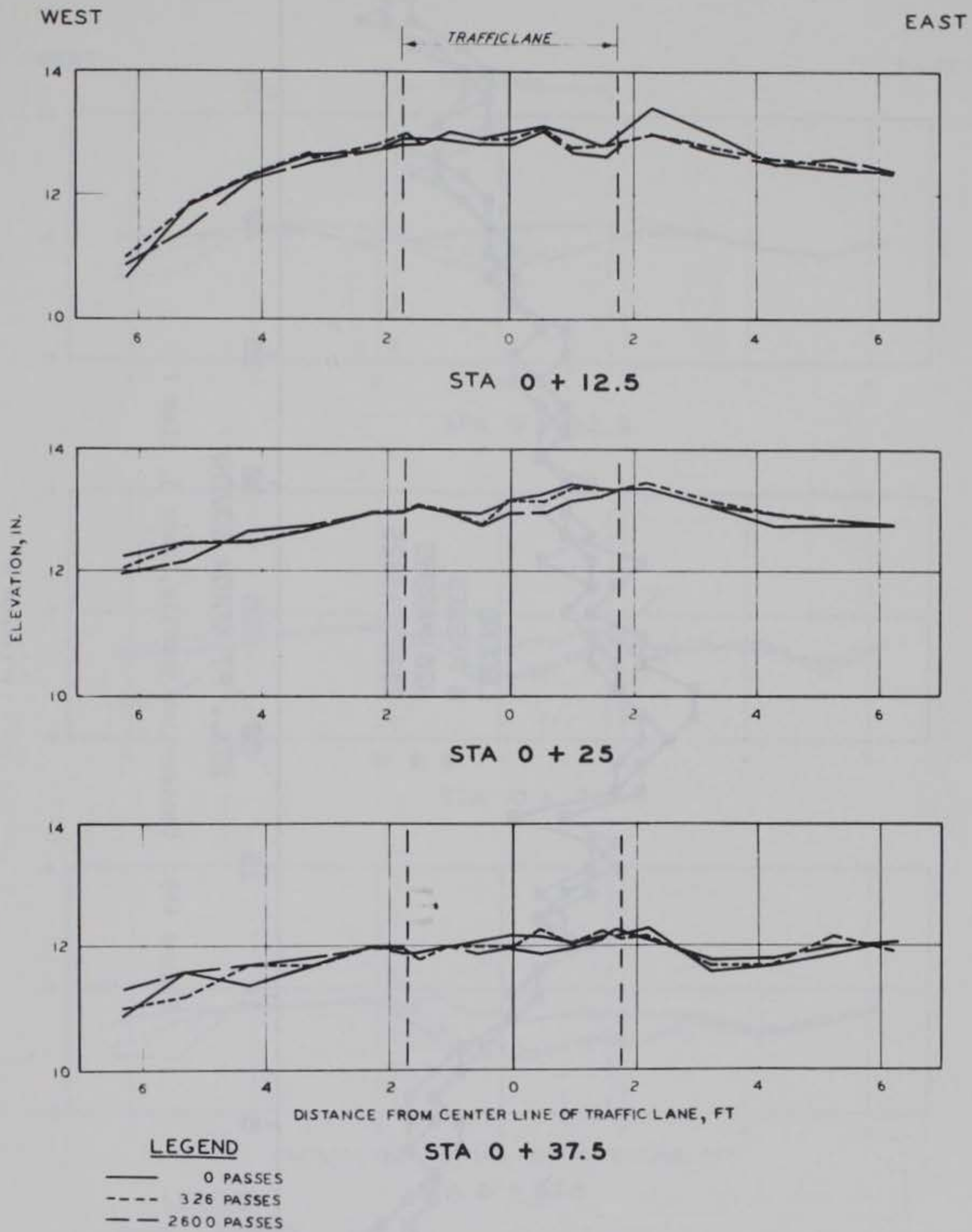


Figure A48. Cross sections, lane 3, Item 1



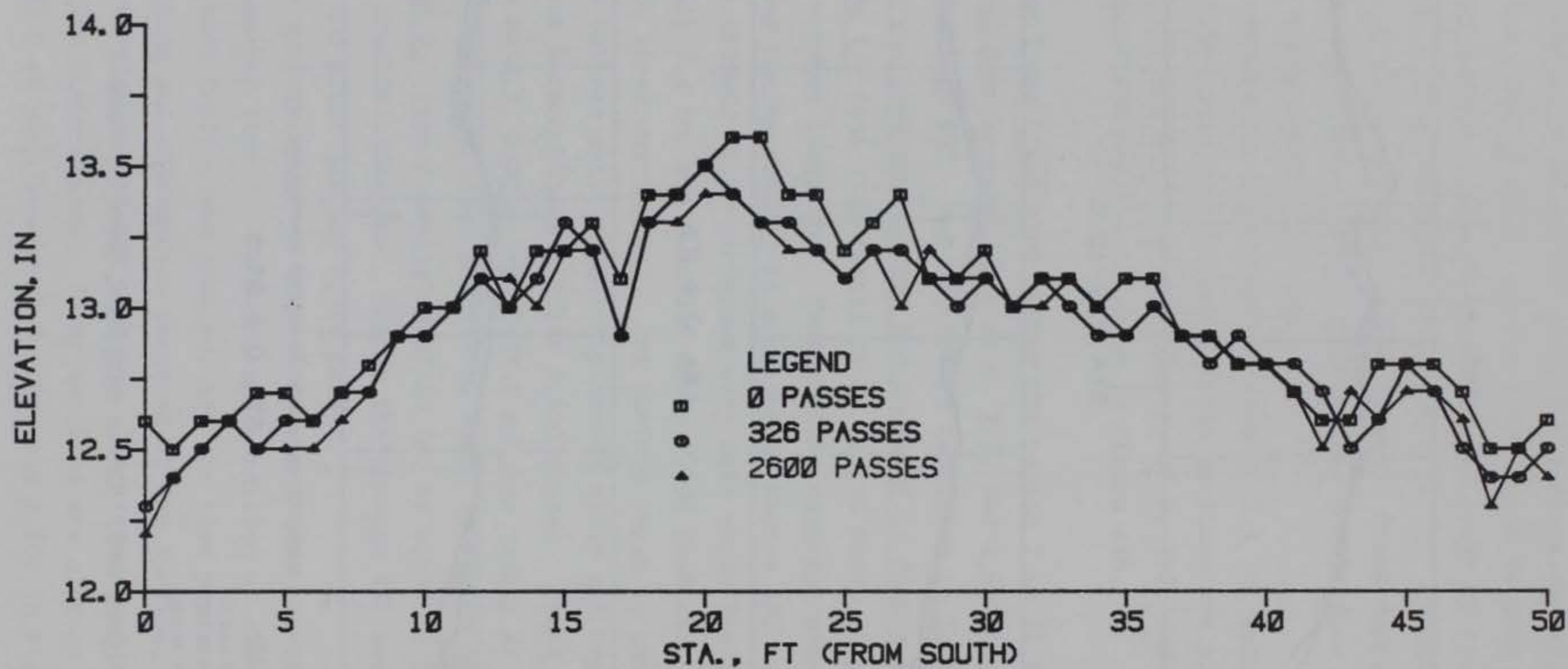


Figure 449. Center-line profile, lane 3, Item 1



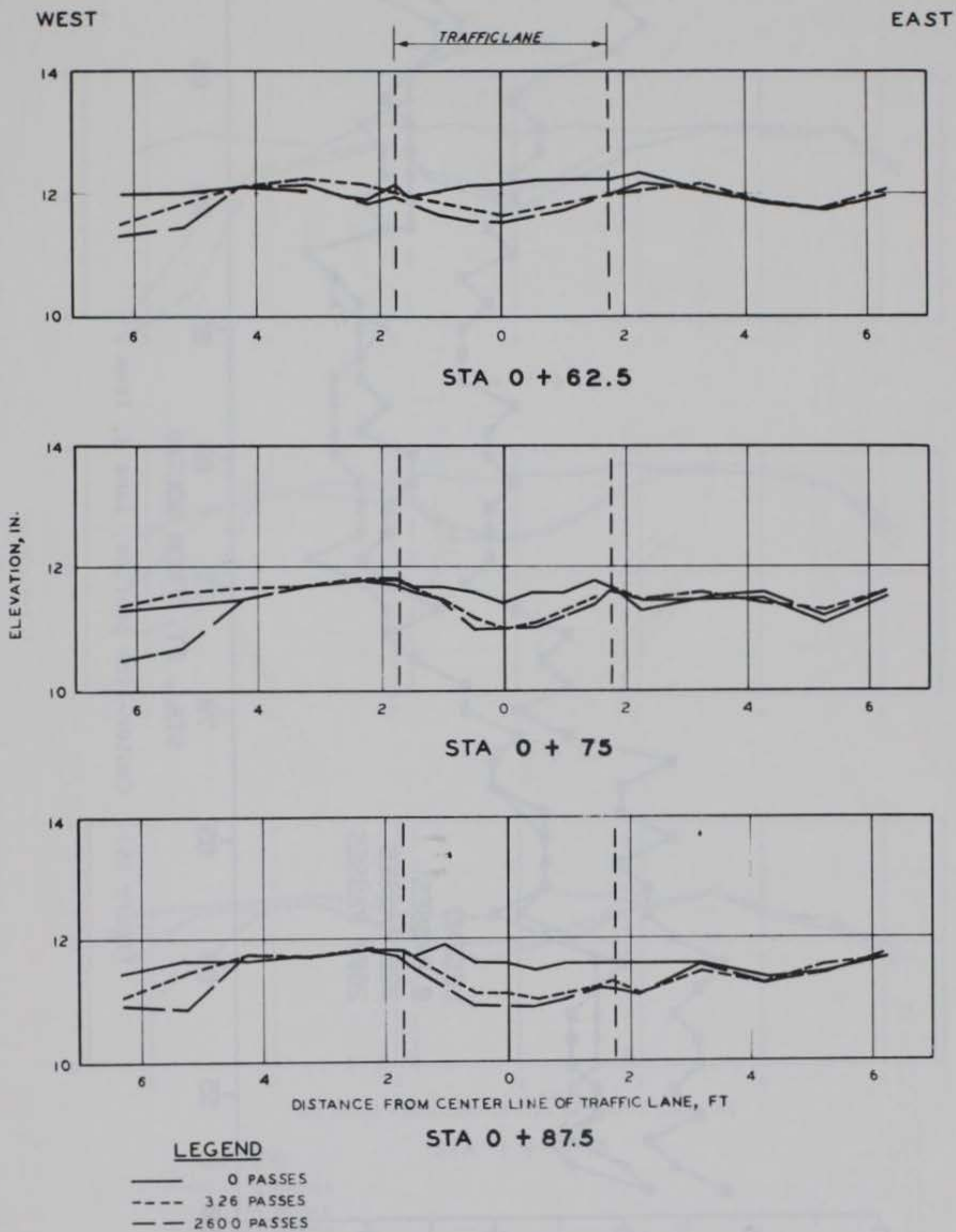


Figure A50. Cross sections, lane 3, Item 2



A94

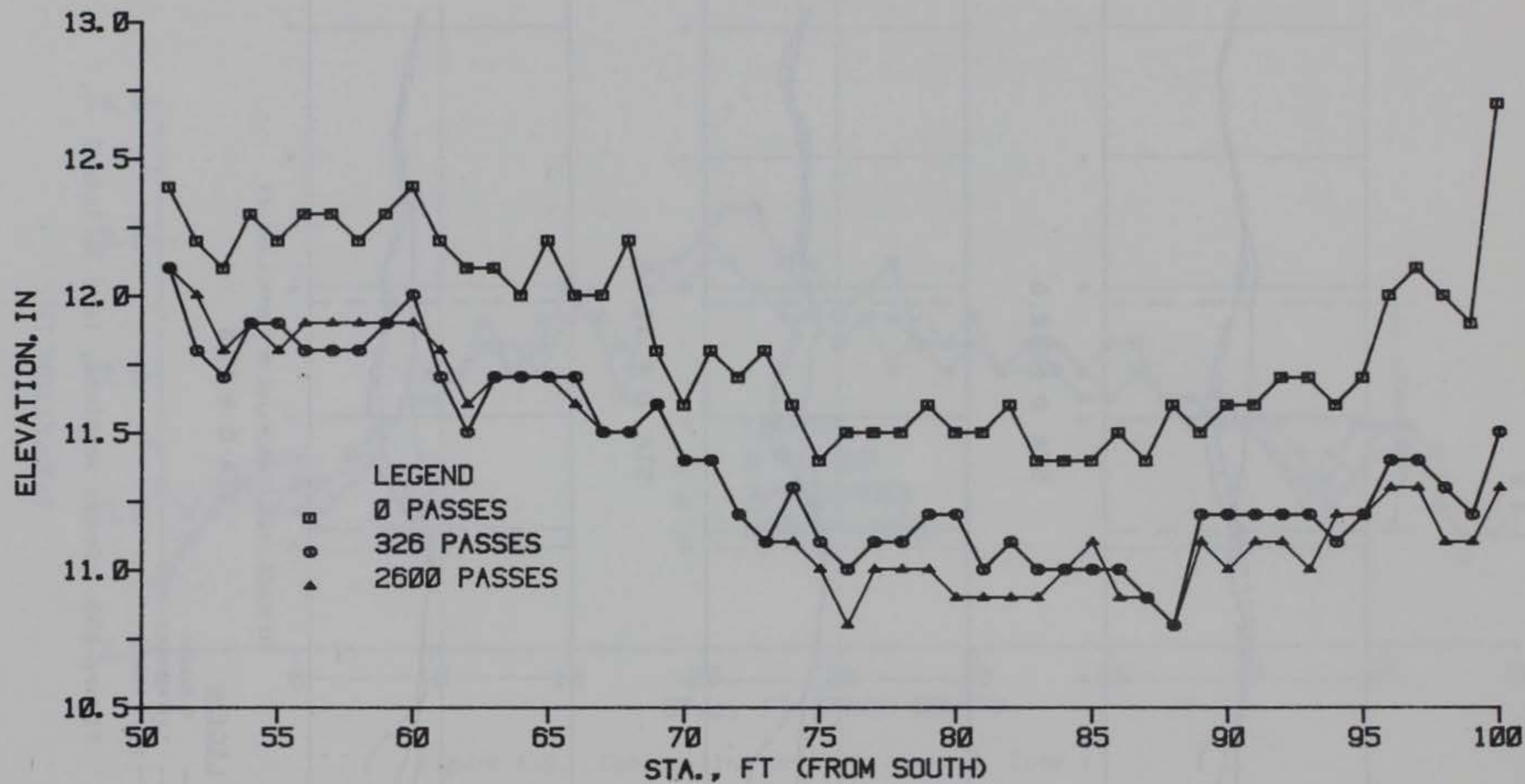


Figure A51. Center-line profile, lane 3, Item 2



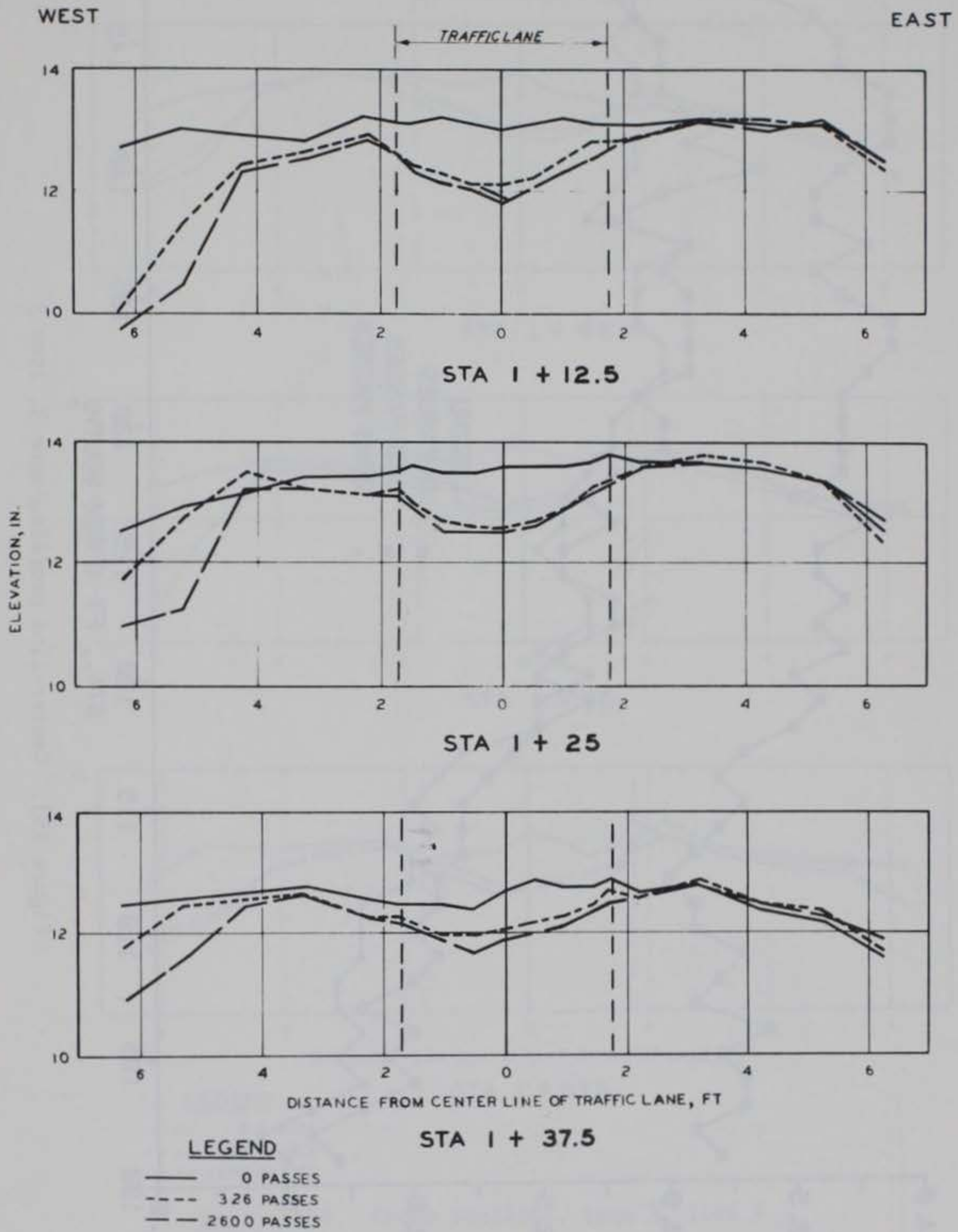


Figure A52. Cross sections, lane 3, Item 3

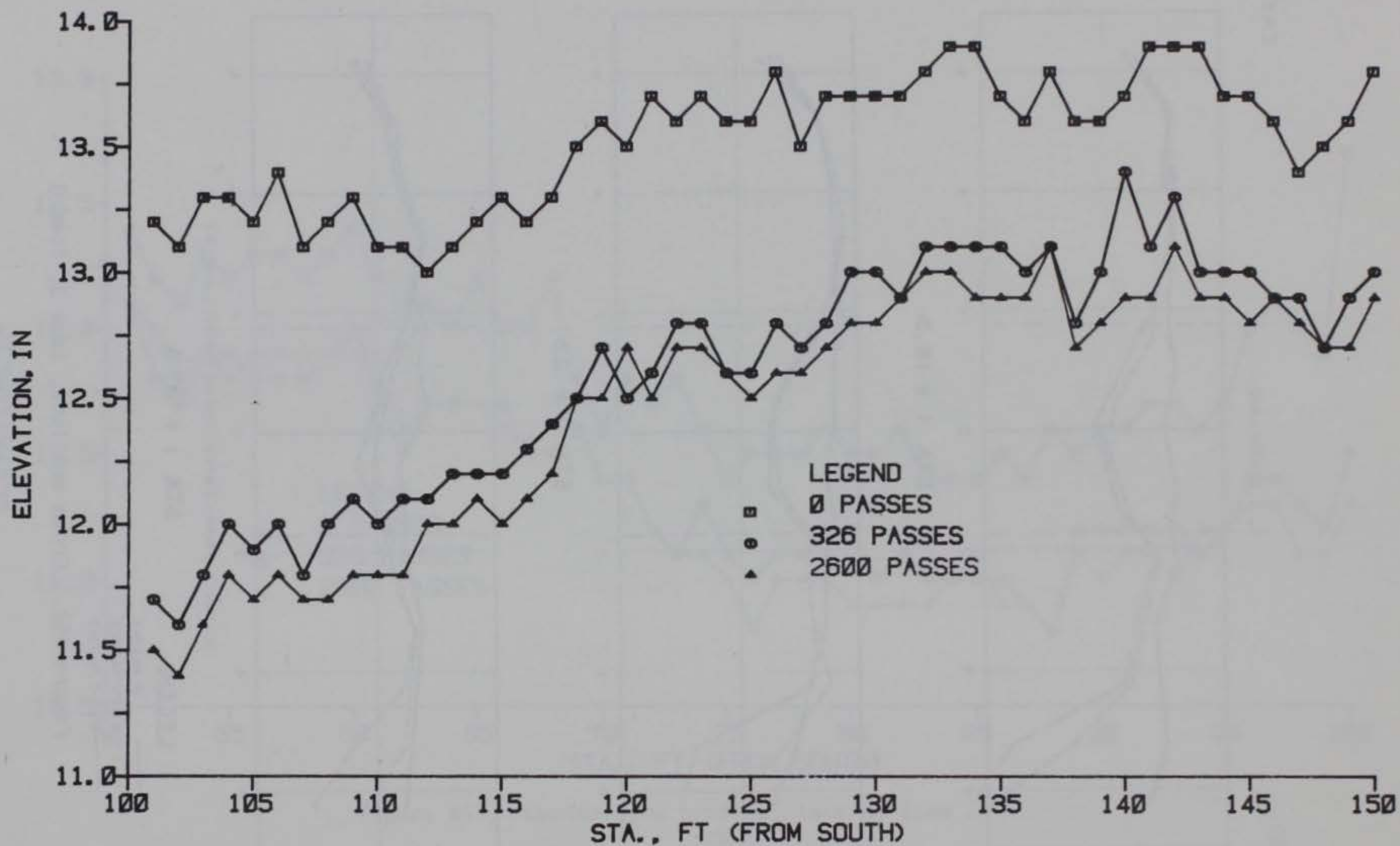


Figure A53. Center-line profile, lane 3, Item 3



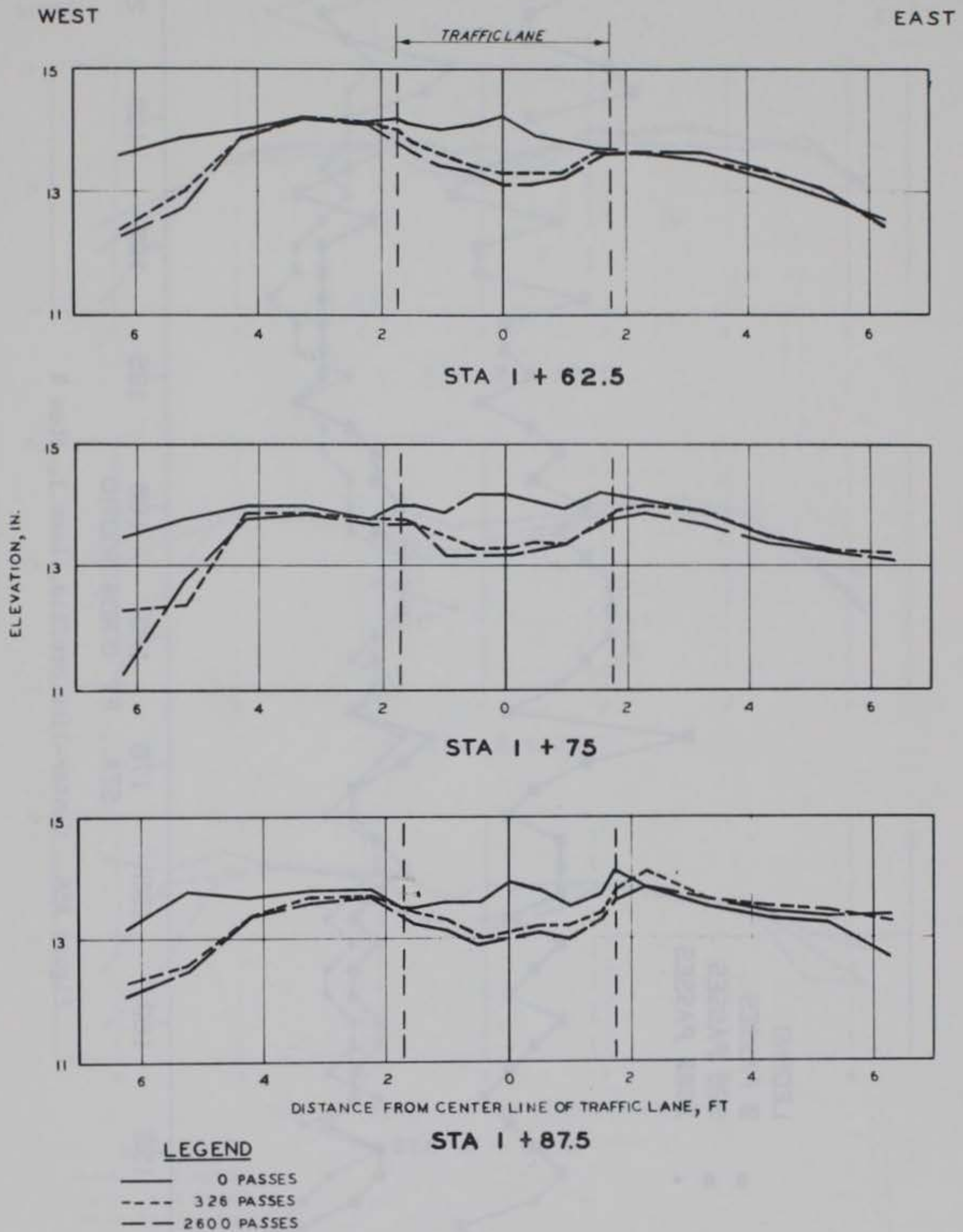


Figure A54. Cross sections, lane 3, Item 4

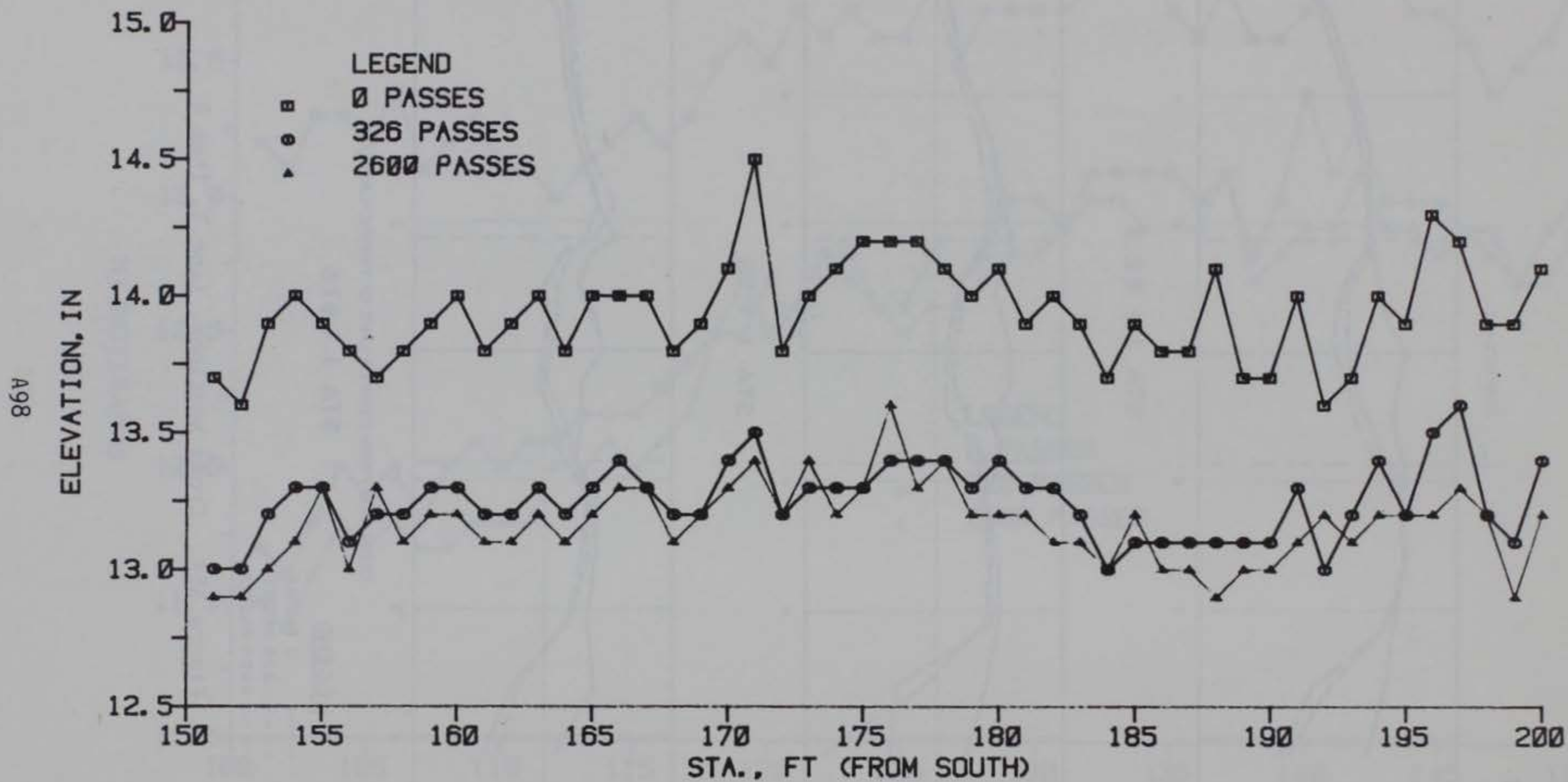
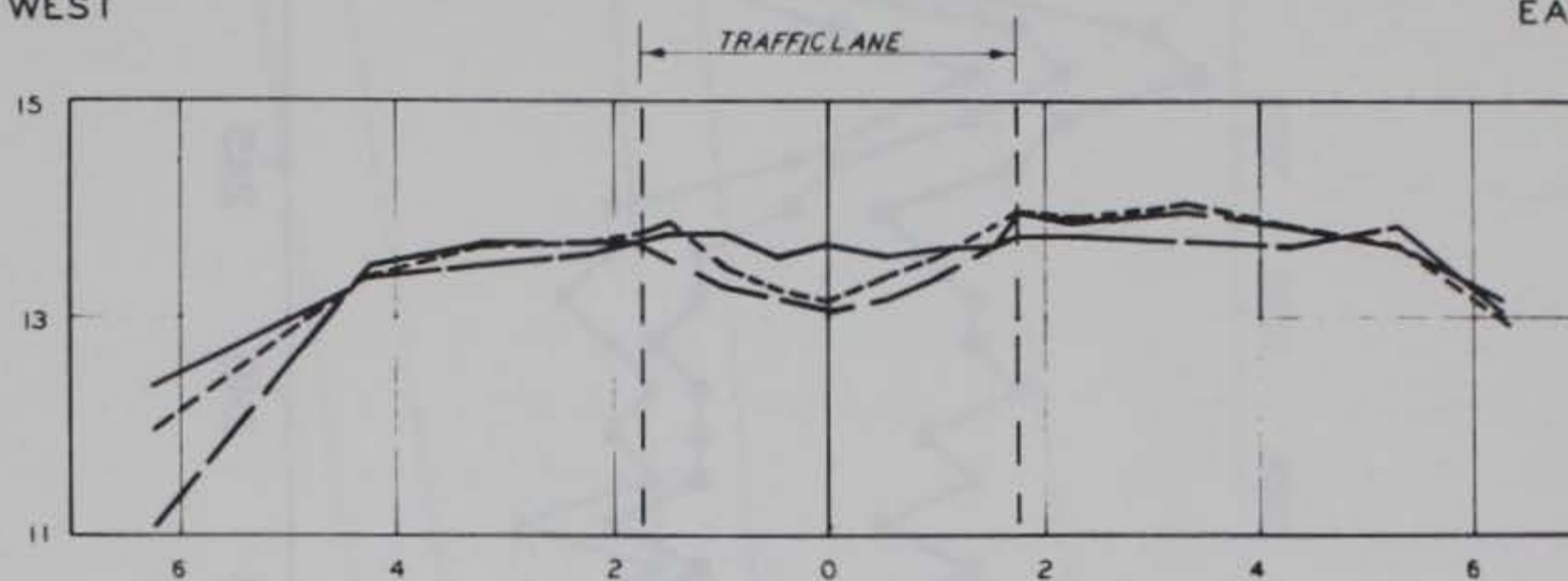


Figure A55. Center-line profile, lane 3, Item 4

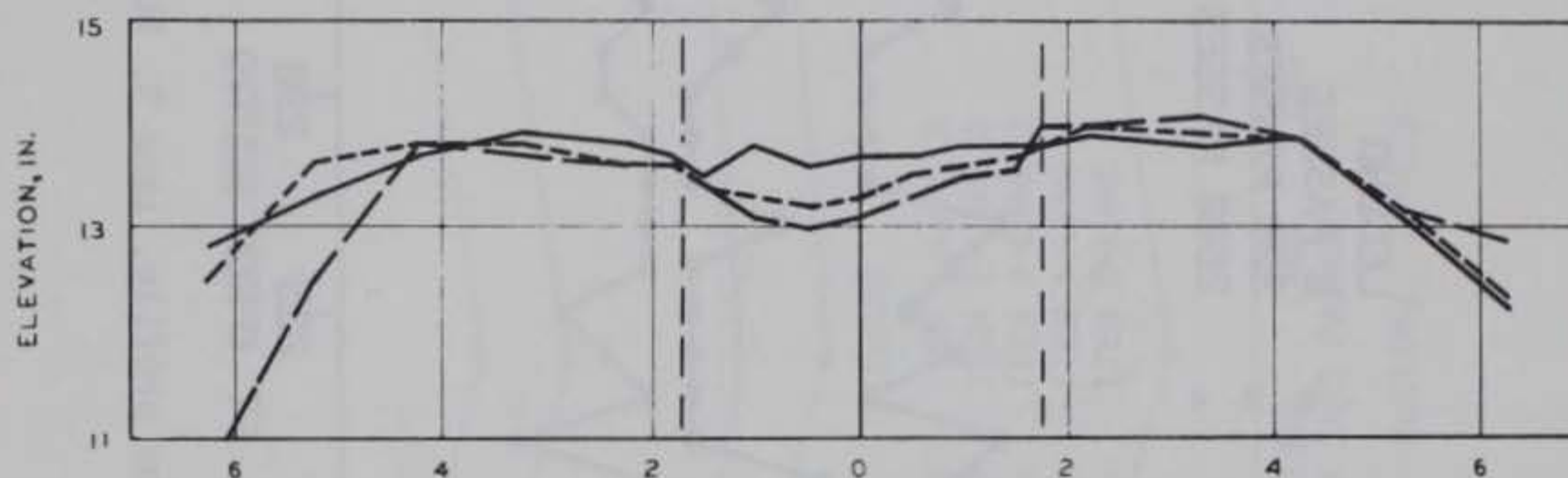


WEST

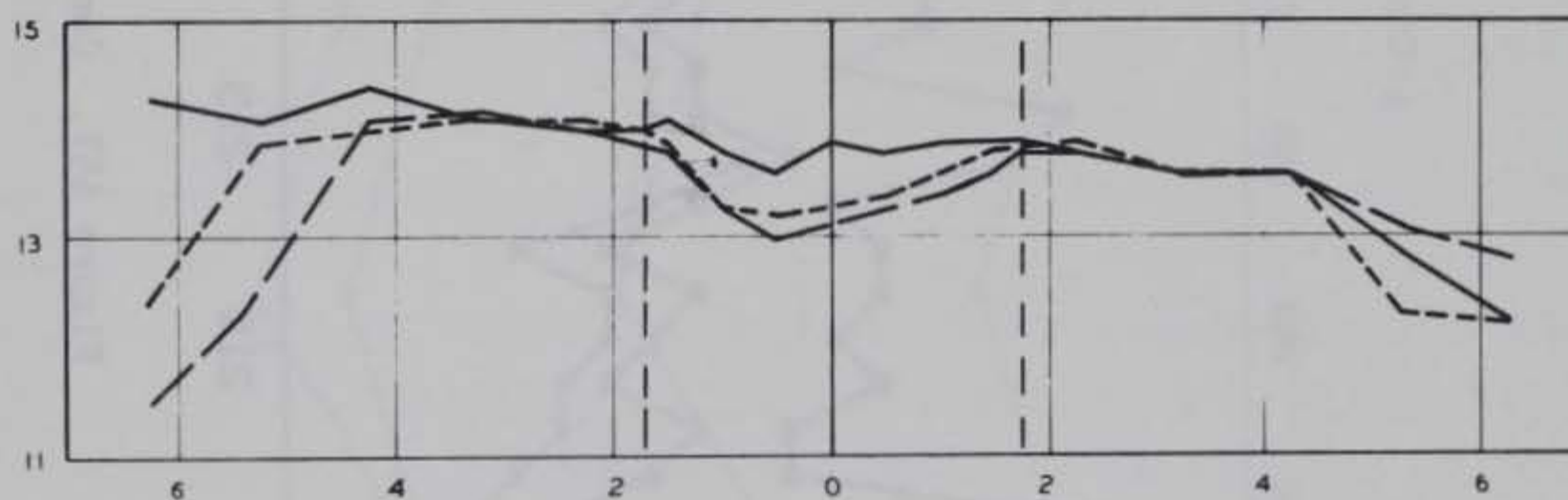
EAST



STA 2 + 12.5



STA 2 + 25



DISTANCE FROM CENTER LINE OF TRAFFIC LANE, FT

**LEGEND**

- 0 PASSES
- - - 326 PASSES
- · - 2600 PASSES

STA 2 + 37.5

Figure A56. Cross sections, lane 3, Item 5

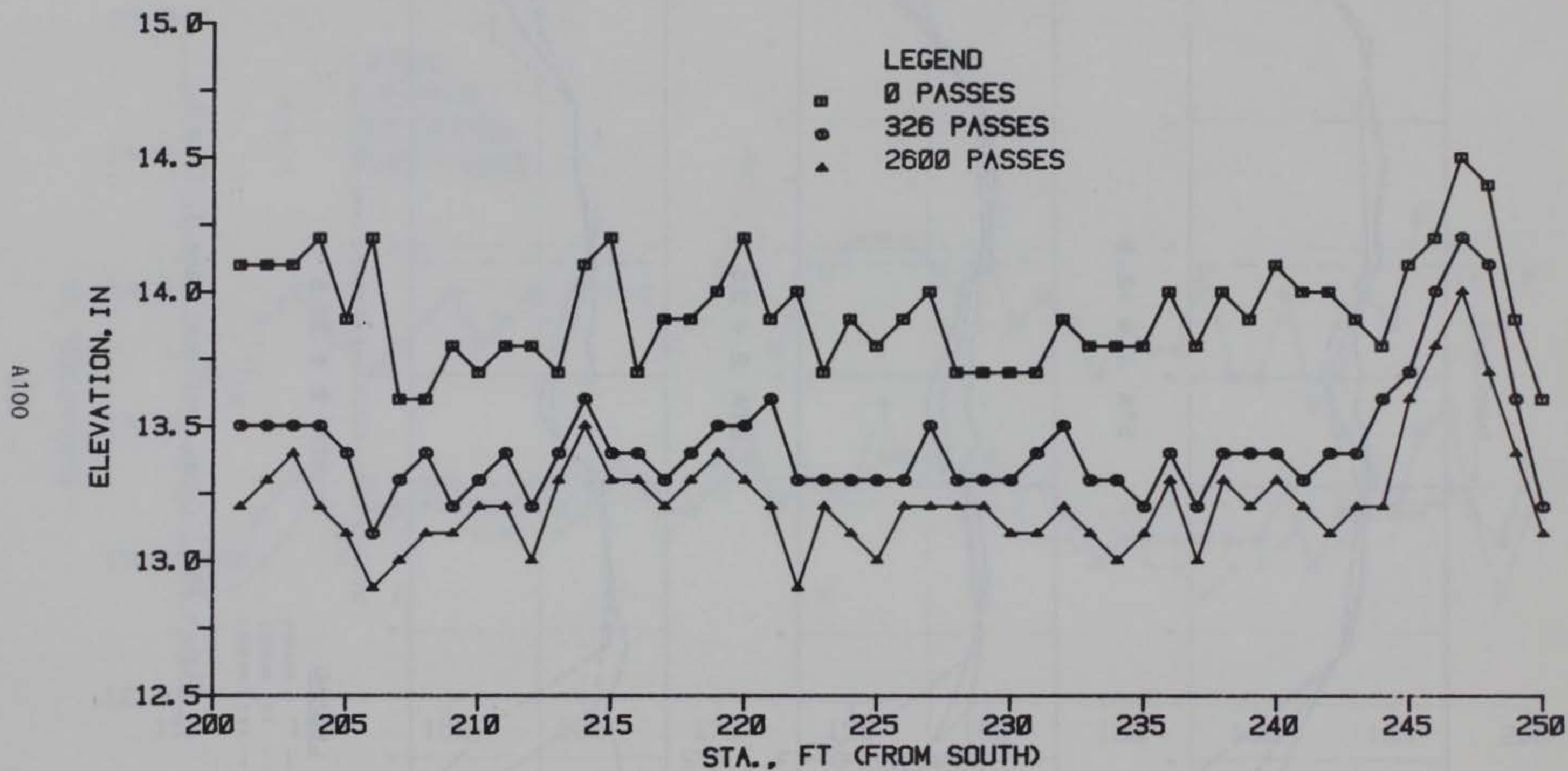


Figure A57. Center-line profile, lane 3, Item 5



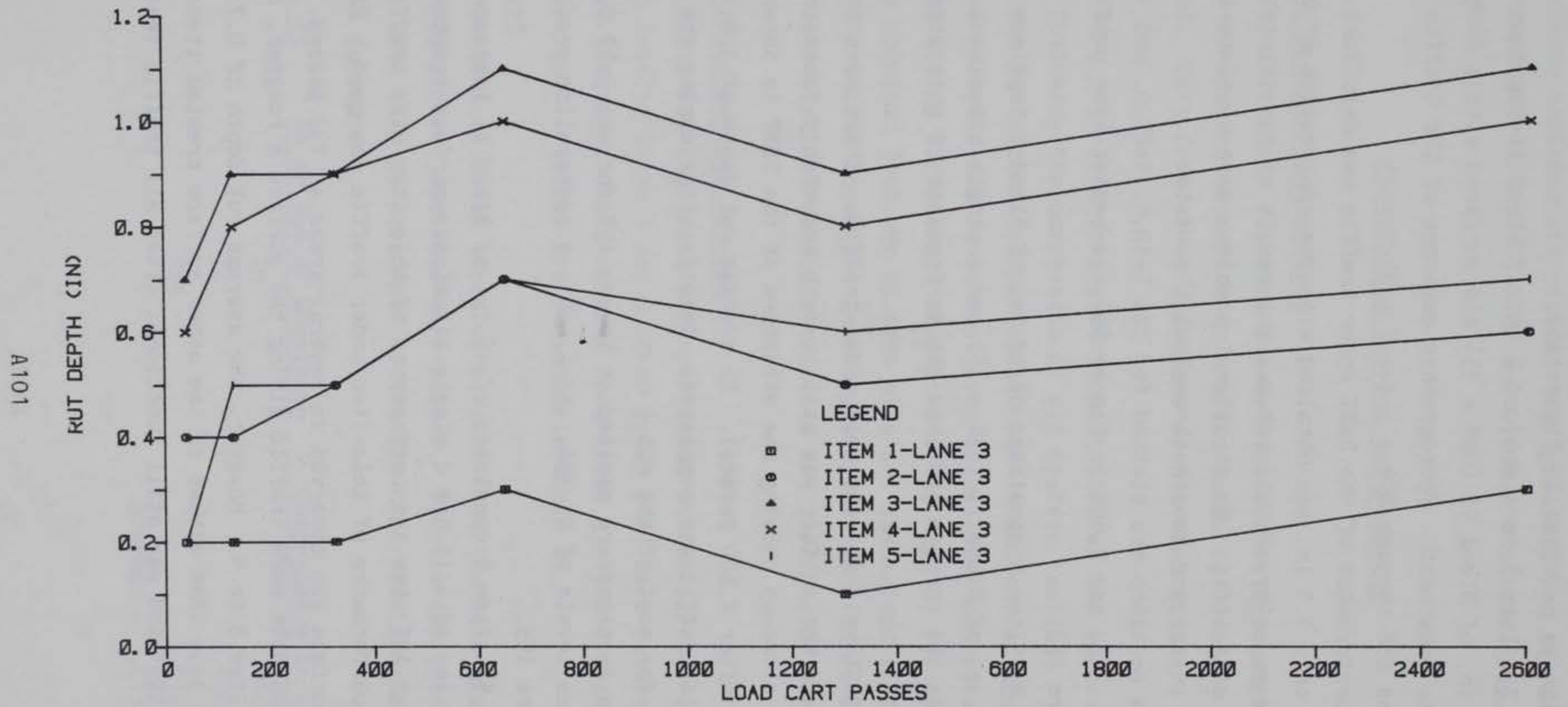


Figure A58. Rutting, lane 3

center-line profile is provided in Figure A51.

164. Item 3. Item 3 consisted of 6 in. of Blend II (optimum moisture-density) over 66 in. of Blend II (CBR = 15) and surfaced with a double-bituminous surface treatment. Photographic coverage of the traffic tests are provided in Photos A88 through A90.

165. The performance of the DBST under traffic was excellent. An average rut depth of only 1.1 in. was obtained with the application of 2,600 load cart passes. The majority of this rut was the result of densification during the early stages of traffic. No structural problems were encountered, and the surface remained intact and smooth throughout the tests.

166. Cross sections are plotted for sta 1+12.5, 1+25.0, and 1+37.5 at pass levels of 0, 326, and 2,600 in Figure A52. A center-line profile is provided in Figure A53.

167. Item 4. Item 4 consisted of 12 in. of Blend I (optimum moisture-density) over 60 in. of Blend II (CBR = 15) and a single-bituminous surface treatment. Photos A91 through A93 show the performance of this item during traffic.

168. The SBST held up very well under traffic. There were no structural problems, and the surface was still smooth and highly functional after 2,600 passes. A close-up showing the structure of the SBST is shown in Photo A94 (taken after 2,600 passes). An average rut depth of 1.0 in. was determined after all traffic was completed. Densification during the initial passes accounted for most of the rut.

169. Cross sections are plotted in Figure A54 for sta 1+62.5, 1+75.0, and 1+87.5 at pass levels of 0, 326, and 2,600. A center-line profile is provided in Figure A55.

170. Item 5. Item 5 consisted of 16 in. of Blend II (optimum moisture-density) over 56 in. of silt and a single-bituminous surface treatment. Photos A95 through A97 show the performance of this item with traffic.

171. The performance of this item under traffic was good. Bleeding of asphalt to the surface was observed in several areas at 130 passes. The condition worsened with more traffic giving the surface a rougher, more uneven appearance than Item 3 or 4. However, the average rut depth of 0.7 in. after 2,600 passes was less than either of the other surface treated items. The SBST remained intact and was still functional after all traffic tests were completed.



172. Cross sections are plotted in Figure A56 for sta 2+12.5, 2+25.0, and 2+37.5 at pass levels of 0, 326, and 2,600. A center-line profile is shown in Figure A57.

### Posttraffic Testing and Sampling

#### CBR, density, and moisture content

173. Nuclear water contents and densities were determined and CBR's measured on the surface of each item in traffic lanes 1, 2, and 3 after traffic was completed. Data from three locations within each item are included in Table A11.

174. Test pits were excavated in each item of all three traffic lanes immediately following the completion of all traffic testing. Test pits were located so that tests could be performed both in and out of the wheel path. Nuclear water contents and densities, oven-dried water contents, and CBR's were obtained at the surface and at depths of 6, 12, 18, 24, 36, 48, 60, and 72 in. Data obtained from the 15 test pits are summarized in Table A20.

175. CBR values shown are an average of at least three determinations, and nuclear densities and moisture contents are averages of at least two values.

#### Posttraffic plate bearing results

176. Plate bearing tests were performed on the surface of Items 1 through 5 in traffic lanes 1 and 3 after 2,600 load cart passes. The bituminous surface treatments were removed from Items 3, 4, and 5 in lane 3 before the tests were run. Results are included in Table A5.

#### Concrete cores

177. Three 6-in.-diam cores were taken from the lean mix concrete in Item 3, lane 2, after 2,600 load cart passes. Tensile splitting tests were performed on each core by personnel of the WES Concrete Laboratory. The results were as follows:

<u>Station, ft</u>	<u>In or Out of Wheelpath</u>	<u>Compressive Strength, psi</u>
1+05	In	1,810
1+19	In	1,420
1+41	Out	<u>1,610</u>
		Average = 1,613

178. Attempts to obtain samples from the cement-stabilized materials were unsuccessful. The larger aggregate was broken loose rather than cut, and the cores would not stay together.



Table A1

## Summary of QD Standard Triaxial Test Results

Test No.	Desired Initial Specimen Conditions		Initial Specimen Conditions*					Void Ratio Prior to Shear	Shear Data**					Final Water Content %	
	Water Content	Dry Unit Weight	Water Content	Dry Unit Weight	Void Ratio	Saturation	$(\sigma_1 - \sigma_3)_f$		$\sigma_1/\sigma_3$	$\epsilon_1$	Time to Failure	$\phi$	C		
	w %	$\gamma_d$ %	$w_i$ %	$\gamma_{di}$ pcf	$e_i$	$S_i$ %	$\sigma_{3c}$ psi		$\sigma_{df}$ psi	%	min	deg	psi		
Blend I															
1	3.0	120.0	3.2	120.7	0.386	22.4	5.0	0.386	39.0	8.80	1.2	2	33.0	7.1	3.2
2	(CE12 Opt. w - 4.7%)	(93% CE12 $\gamma_{dmax}$ )	3.4	119.9	0.395	22.9	10.0	0.393	48.8	5.88	2.2	3			3.3
3			3.3	119.8	0.396	21.6	20.0	0.395	73.7	4.69	2.9	4			3.2
4			3.3	119.5	0.400	22.3	40.0	0.393	121.9	4.04	5.9	7			3.2
Blend II															
1	3.0	120.0	2.8	122.9	0.355	21.3	5.0	0.355	31.1	7.22	2.2	4	36.9	3.7	2.7
2	(CE12 Opt. w - 4.0%)	(89% CE12 $\gamma_{dmax}$ )	2.8	122.7	0.358	21.1	10.0	0.358	46.3	5.63	2.9	5			2.7
3			2.8	123.3	0.352	21.2	20.0	0.349	75.3	4.77	4.4	9			2.7
4			2.8	123.4	0.350	20.6	40.0	0.345	134.9	4.37	5.9	8			2.7
Limestone															
1	3.0	140.0	3.0	139.5	0.216	38.3	5.0	0.216	103.1	21.62	2.5	3	Curved strength envelope		3.0
2			2.9	141.5	0.200	39.6	10.0	0.200	149.8	15.98	3.0	4			2.9
3			2.6	140.0	0.212	33.9	20.0	0.211	231.2	12.56	2.9	7			2.6
4			2.7	140.8	0.206	35.9	40.0	0.203	334.6	9.37	3.6	9			2.7
Clay (CH)†															
1	30.0	90.0	30.2	85.8	0.963	84.7	5.0	0.952	26.4	6.28	15.0	2	3.2	12.3	30.1
2	(CE12 Opt. w + 4.7%)	(96% CE12 $\gamma_{dmax}$ )	30.3	86.9	0.939	86.7	10.0	0.913	27.6	3.76	15.0	2			30.2
3			30.3	87.5	0.926	88.3	20.0	0.885	28.6	2.43	15.0	2			30.2
4			30.2	88.3	0.908	89.8	40.0	0.853	31.0	1.78	15.0	2			29.9
Silt (ML)†															
1	15.5	104.0	15.3	104.0	0.602	67.9	5.0	0.601	44.4	9.88	3.2	3	42.3	7.2	14.9
2	(CE12 Opt. w - 30%)	(100% CE12 $\gamma_{dmax}$ )	15.5	103.6	0.609	67.8	10.0	0.606	57.8	6.78	3.7	4			15.3
3			15.4	102.9	0.620	66.3	20.0	0.613	82.7	5.14	4.0	6			15.3
4			15.2	103.7	0.607	66.9	40.0	0.596	141.7	4.54	6.4	10			15.2

\* All specimens were compacted using impact compaction. Limestone specimens were compacted in six layers, whereas, all other specimens were compacted in nine layers. As compacted, specimen diameters and heights were 5.9 and 13.6 in., respectively.

\*\* Specimens were sheared with drainage valves open using controlled stress after essentially reaching equilibrium under the desired chamber pressure,  $\sigma_3$ .

† Specimens were compacted in six layers using kneading compaction. As compacted, specimen diameters and heights were 2.9 and 6.0 in., respectively.

Table A2  
Summary of Resilient Modulus Test Results

Test No.	Desired Initial Specimen Conditions		Initial Specimen Conditions*					Void Ratio Prior to First Pulse	Pulse		After 100 Pulses **				Final Water Content $w_f$ %
	Water Content $w$ %	Dry Unit Weight $\gamma_d$ pcf	Water Content $w_i$ %	Dry Unit Weight $\gamma_d$ pcf	Void Ratio $e_i$	Saturation $S_i$ %	$\sigma_{3c}$ psi		$(\sigma_1 - \sigma_3)$		$M_r$ psi	Permanent $\epsilon_1$ %	Accumulative	Resilient $\mu$	
									$\sigma_1/\sigma_3$	$\sigma_{dp}$ psi					
Limestone															
1	3.0	140.0	2.5	141.5	0.199	34.0	5.0	0.198	(3.0)†	(9.9)†	(223,864)†	(0.08)†		1.25†	2.5
								0.197	2.0	5.0	169,671	0	0.08	0.94	
								0.197	3.0	9.9	192,351	0	0.08	1.07	
								0.197	4.0	14.8	143,548	0.02	0.10	0.94	
								0.197	4.9	19.7	133,878	0.04	0.14	1.03	
							10.0	0.195	2.0	9.9	269,919	0	0.14	0	
								0.195	3.0	19.8	224,133	0	0.14	0.78	
								0.195	4.0	29.6	211,908	0.01	0.15	0.99	
								0.194	4.9	39.4	191,254	0.05	0.20	0.81	
							20.0	0.192	2.0	19.6	534,332	0	0.20	-- ††	
								0.192	3.0	39.3	486,498	0	0.20	1.03	
								0.192	4.0	59.3	335,762	0.04	0.24	0.86	
								0.191	5.0	79.0	275,195	0.09	0.33	0.92	
							40.0	0.188	2.0	39.4	892,082	0	0.33	-- ††	
								0.188	3.0	79.0	447,267	0.02	0.35	0.78	
								0.187	4.0	118.4	356,980	0.08	0.43	0.75	
								0.186	5.0	158.0	345,063	0.21	0.64	0.85	
Clay (CH)															
1	3.0	90.0	28.7‡	90.5‡	0.862‡	90.9‡	5.0	0.834	(3.0)†	(9.85)†	(6,619)†	(0.61)†	0.61	(0.21)†	28.7
								0.833	2.0	5.04	10,642	0.02	0.63	0.24	
								0.833	2.9	9.70	7,079	0.02	0.65	0.23	
								0.826	3.9	14.43	4,402	0.39	1.04	0.30	
								0.820	4.8	18.93	2,989	1.60	2.69	0.38	
							10.0	0.819	2.0	9.73	7,320	0.03	2.67	0.31	
								0.816	2.9	(19.11)‡‡	(3,087)‡‡	(0.39)‡‡	3.06	(0.39)‡‡	
Silt (ML)															
1	15.5	104.0	15.5‡	102.6‡	0.624‡	66.2‡	5.0	0.618	(3.0)†	(9.9)†	(19,104)†	(0.15)†	0.15	(0.26)†	15.3
								0.617	2.0	5.0	23,227	0	0.15	0.39	
								0.617	3.0	10.0	20,970	0	0.15	0.41	
								0.617	4.0	14.9	19,046	0.05	0.20	0.35	
								0.616	5.0	19.8	19,469	0.11	0.31	0.38	
							10.0	0.614	2.0	10.1	21,786	0	0.31	0.06	
								0.614	3.0	19.9	22,441	0.02	0.33	0.25	
								0.614	4.0	29.6	21,263	0.10	0.43	0.28	
								0.612	4.9	39.4	21,251	0.42	0.85	0.39	
							20.0	0.609	2.0	19.8	32,006	0.01	0.86	0.31	
								0.609	3.0	39.5	30,663	0.03	0.89	0.26	
								0.608	4.0	59.1	29,548	0.21	1.10	0.32	
								0.606	4.9	77.5	28,821	1.68	2.78	0.42	
							40.0	0.601	2.0	39.8	46,887	0.02	2.80	0.28	
								0.600	3.0	79.1	45,951	0.06	2.86	0.30	
								0.598	4.0	119.1	44,936	0.51	3.37	0.36	
								0.594	4.8	(151.0)§	(26,752)§	(3.40)§	6.77	(0.46)§	

(Continued)

- \* Specimen was compacted in six layers using impact compaction. As compacted, specimen diameter and heights were 5.9 and 13.6 in. respectively.
- \*\* Repeated axial loading was initiated after specimen essentially reached equilibrium under the desired chamber pressure and 4.0-psi seating deviator stress. Repeated loads were applied using a haversine wave form with load being on the specimen 0.3 sec and off 2.7 sec. Specimen drainage valves were open during application of chamber pressure and repeated loading.
- † After 1,000 conditioning pulses.
- †† Radial deformation was too small to measure with apparatus used.
- ‡ Specimens were compacted in six layers using kneading compaction. As compacted, specimen diameters and heights were 2.9 and 6.0 in., respectively.
- ‡‡ Test terminated at 8 pulses due to excessive axial deformation.
- § Test terminated at 20 pulses due to excessive axial deformation.



Table A2 (Concluded)

Test No.	Desired Initial Specimen Conditions		Initial Specimen Conditions§§					Void Ratio Prior to First Pulse	Pulse		After 100 Pulses				Final Water Content $w_f$ %
	Water Content $w$ %	Dry Unit Weight $\gamma_d$ pcf	Water Content $w_i$ %	Dry Unit Weight $\gamma_{di}$ pcf	Void Ratio $e_i$	Saturation $S_i$ %	$\sigma_{3c}$ psi		$(\sigma_1 - \sigma_3)_{dp}$		$M_r$ psi	Permanent $\epsilon_1$ %	Accumulative	Resilient $\mu$	
									$\sigma_1/\sigma_3$	psi					
Blend I															
1	3.0	120.0	3.8	121.5	0.377	26.8	5.0	0.375	(3.0)†	(10.0)†	(43,860)†	(0.10)†	0.10	(0.24)†	3.7
								0.374	2.0	5.2	48,720	0	0.10	0.26	
								0.373	3.0	9.9	43,285	0	0.10	0.24	
								0.374	5.0#	19.7	33,505	0.13	0.23	0.26	
							10.0	0.372	2.0	9.9	53,970	0	0.23	0.37	
								0.371	3.0	19.8	45,665	0.01	0.24	0.22	
								0.371	4.0	29.8	39,675	0.12	0.36	0.24	
								0.370	5.0	39.8	38,620	0.36	0.72	0.42	
							20.0	0.367	2.0	19.8	53,155	0.01	0.73	0.19	
								0.367	3.0	39.8	57,952	0.04	0.77	0.24	
								0.367	4.0	59.4	52,152	0.32	1.09	0.27	
								0.363	4.9	78.6	43,764	2.02	3.11	0.24	
							40.0	0.347	2.0	39.6	55,232	0.02	3.13	0.17	
								0.347	3.0	79.1	67,285	0.09	3.22	0.23	
								0.345	4.0	118.2	64,299	0.79	4.01	0.24	
								0.337	(4.0)##	(148.2)##	(20,117)##	(1.01)##	5.02	(0.48)##	
Blend II															
1	3.0	120.0	2.9	122.5	0.360	21.7	5.0	0.358	(3.0)†	(10.2)†	(32,611)†	(0.14)†		(0.13)†	2.8
								0.356	2.0	5.2	31,240	0	0.14	0.25	
								0.356	3.1	10.3	32,695	0	0.14	0.22	
								0.356	4.1	15.4	30,149	0.07	0.21	0.24	
								0.356	5.2	20.5	31,861	0.13	0.34	0.31	
							10.0	0.355	2.1	10.5	43,393	0.01	0.35	0.23	
								0.355	3.0	20.5	42,290	0.02	0.37	0.29	
								0.354	4.0	30.6	40,904	0.11	0.48	0.26	
								0.353	5.0	40.0	42,468	0.53	1.01	0.29	
							20.0	0.350	2.0	20.8	60,483	0	1.01	0.20	
								0.350	3.1	41.6	59,222	0.05	1.06	0.27	
								0.348	4.1	62.5	56,799	0.56	1.62	0.29	
								0.343	5.1	80.9	60,981	2.02	3.64	0.31	
							40.0	0.332	2.0	41.8	97,930	0.01	3.65	0.29	
								0.333	3.1	83.3	88,730	0.10	3.75	0.29	
								0.331	4.0	120.2	88,721	0.74	4.49	0.33	
								0.323	5.0	161.4	98,569	3.95	8.44	0.44	

† After 1,000 conditioning pulses.

§§ Specimens were compacted in nine layers using impact compaction. As compacted, specimen diameters and heights were 5.9 and 13.6 in., respectively.

# Through error, step at  $\sigma_1/\sigma_3 = 4.0$  was not performed.

## Loading stopped at 5 pulses due to excessive deformation.

Table A3  
Summary of Repeated Load Triaxial Test Results

Test No.	Desired Initial Specimen Conditions		Initial Specimen Conditions*					Void Ratio Prior to First Pulse	Pulse			After 100 Pulses**				Final Water Content $w_f$ %
	Water Content $w$ %	Dry Unit Weight $\gamma_d$ pcf	Water Content $w_i$ %	Dry Unit Weight $\gamma_{di}$ pcf	Void Ratio $e_i$	Saturation $S_i$ %	$\sigma_{3c}$ psi		$(\sigma_1 - \sigma_3)$		$\sigma_{dp}/\sigma_{df}$	$H_r$ psi	Permanent $\epsilon_1$ %	Accumulative	Resilient $\mu$	
									$\sigma_1/\sigma_3$	$\sigma_{dp}$ psi						
Limestone																
1	3.0	140.0	2.8	142.6	0.190	40.7	5.0	0.188	5.04	20.2		72,364	0.24	0.24	0.49	2.8
								0.187	9.10	40.5		78,219	0.44	0.68	0.77	
								0.186	13.02	60.1		65,970	1.05	1.73	0.87	
								0.193	16.98	(79.9)†		(50,321)†	(0.94)†	2.67	(1.10)†	
2		2.6	140.6	0.207	33.6	10.0	0.205	3.96	29.6		87,451	0.12	0.12	0.18	2.6	
							0.203	6.90	59.0		92,991	0.43	0.55	0.46		
							0.201	9.78	87.8		81,567	1.21	1.76	0.55		
							0.204	12.60	116.0		54,745	1.28	3.04	0.66		
3		2.5	142.5	0.191	36.0	20.0	0.188	3.29	45.8		124,576	0.17	0.17	0.26	2.5	
							0.186	5.55	90.9		138,378	0.44	0.61	0.45		
							0.183	7.83	136.5		145,479	0.91	1.52	0.60		
							0.185	9.96	179.1		110,853	1.33	2.85	0.61		
4		2.6	141.7	0.198	36.1	40.0	0.189	2.67	66.8		202,050	0.20	0.20	0.37	2.6	
							0.186	4.30	132.1		215,254	0.60	0.80	0.45		
							0.181	5.94	197.6		224,063	1.01	1.81	0.47		
							0.174	7.55	261.8		167,048	1.79	3.60	0.37		
Clay (CH)																
1	30.0	90.0	30.2††	89.5††	0.883††	92.3††	5.0	0.876	2.00	5.0	0.19	8,641	0.19	0.19	0.38	30.0
								0.872	2.98	9.9	0.38	4,891	0.49	0.68	0.34	
								0.867	3.86	14.3	0.54	3,092	1.49	2.17	0.37	
								0.856	4.62	18.1	0.69	2,399	1.12	3.29	0.41	
2		28.5	90.8	0.856	89.8	10.0	0.844	1.52	5.2	0.19	6,862	0.14	0.14	0.27	28.0	
							0.841	2.07	10.7	0.39	8,206	0.24	0.38	0.22		
							0.838	2.53	15.3	0.55	4,676	0.75	1.13	0.31		
							0.830	2.94	19.4	0.70	2,805	2.36	3.49	0.34		
3		29.9	91.1	0.850	94.9	20.0	0.835	1.27	5.4	0.19	12,824	0.01	0.01	0.33	29.8	
							0.834	1.56	11.2	0.39	9,705	0.28	0.29	0.30		
							0.831	1.81	16.1	0.56	5,543	0.80	1.09	0.39		
							0.825	2.03	20.6	0.72	3,130	2.85	3.94	0.37		
4		29.1	91.3	0.845	92.9	40.0	0.801	1.15	6.3	0.20	33,241	0.15	0.15	0.59	28.9	
							0.799	1.31	12.2	0.39	14,325	0.23	0.38	0.39		
							0.797	1.45	18.0	0.58	7,305	0.59	0.97	0.42		
							0.793	1.59	23.6	0.76	4,187	1.80	2.77	0.43		

(Continued)

\* Specimens were compacted in six layers using impact compaction. As compacted, specimen diameters and heights were 5.9 and 13.6 in., respectively.

\*\* Repeated axial loading was initiated after specimen essentially reached equilibrium under the desired chamber pressure and 4.0-psi seating deviator stress. Repeated loads were applied using a haversine wave form with load being on the specimen 0.3 sec and off 2.7 sec. Specimen drainage valves were open during application of chamber pressure and repeated loading.

† Loading stopped at 200 pulses due to excessive axial deformation.

†† Specimens were compacted in six layers using kneading compaction. As compacted, specimen diameters and heights were 2.9 and 6.0 in., respectively.



Table A3 (Continued)

Test No.	Desired Initial Specimen Conditions		Initial Specimen Conditions					Void Ratio Prior to First Pulse	Pulse			After 100 Pulses				Final Water Content $w_f$ %
	Water Content $w$ %	Dry Unit Weight $\gamma_d$ pcf	Water Content $w_i$ %	Dry Unit Weight $\gamma_d$ pcf	Void Ratio $e_i$	Saturation $S_i$ %	$\sigma_3$ psi		$(\sigma_1 - \sigma_3)_{dp}$ psi		$\sigma_{dp}/\sigma_{df}$	$H_c$ psi	Permanent $\epsilon_1$ %	Accumulative	Resilient $\mu$	
									$\sigma_1/\sigma_3$	$\sigma_{dp}$						
Silt (NL)																
1	15.8	104.0	15.5††	104.5††	0.594††	69.9††	5.0	0.592	2.78	8.9	0.20	32,088	0.05	0.05	0.40	15.5
								0.592	4.50	17.5	0.39	24,828	0.19	0.24	0.36	
								0.590	6.22	26.1	0.59	23,543	0.34	0.58	0.45	
								0.576	7.98	34.9	0.79	22,877	0.65	1.23	0.57	
2		15.6	103.5	0.610	68.1	10.0	0.607	2.15	11.5	0.20	25,379	0.13	0.13	0.31	15.6	
							0.606	3.29	22.9	0.40	23,983	0.21	0.34	0.32		
							0.603	4.42	34.2	0.59	24,232	0.39	0.73	0.34		
							0.601	5.50	45.0	0.78	23,328	0.91	1.64	0.40		
3		15.5	103.8	0.606	66.7	20.0	0.596	1.82	16.3	0.20	40,042	0.11	0.11	0.20	15.1	
							0.593	2.64	32.7	0.40	39,877	0.18	0.29	0.31		
							0.591	3.45	49.0	0.59	36,652	0.29	0.58	0.31		
							0.588	4.25	64.9	0.78	38,104	0.64	1.22	0.41		
4		15.5	103.8	0.605	68.5	40.0	0.585	1.70	28.0	0.20	50,117	0.17	0.17	0.20	15.4	
							0.582	2.40	55.9	0.39	45,374	0.27	0.44	0.23		
							0.579	3.09	83.7	0.59	47,090	0.47	0.91	0.30		
							0.574	3.79	111.5	0.79	48,859	0.91	1.82	0.33		
Blend I																
1	3.0	120.0	3.2	120.4	0.389	22.3	5.0	0.388	2.42	7.1	0.18	37,102	0.05	0.05		3.2
								0.387	3.94	14.7	0.38	31,537	0.06	0.11	0.18	
								0.386	5.48	22.4	0.57	30,843	0.12	0.23	0.28	
								0.385	7.00	30.0	0.77	31,144	0.19	0.42	0.37	
2		3.2	120.7	0.386	21.9	10.0	0.384	1.95	9.5	0.19	37,894	0.02	0.02	0.22	3.1	
							0.383	2.91	19.1	0.39	38,689	0.08	0.10	0.22		
							0.383	3.82	28.2	0.58	38,024	0.12	0.22	0.22		
							0.381	4.77	37.7	0.77	37,694	0.23	0.45	0.29		
3		3.3	120.4	0.389	22.9	20.0	0.384	1.69	13.8	0.19	57,834	0.07	0.07	0.12	3.2	
							0.383	2.41	28.3	0.38	55,334	0.12	0.19	0.27		
							0.381	3.14	42.7	0.58	63,172	0.19	0.38	0.29		
							0.380	3.86	57.1	0.77	65,182	0.36	0.74	0.34		
4		3.1	121.2	0.380	21.8	40.0	0.373	1.58	23.3	0.19	76,374	0.10	0.10	0.13	3.0	
							0.371	2.17	46.6	0.38	77,564	0.18	0.28	0.23		
							0.368	2.77	70.8	0.58	76,812	0.34	0.62	0.21		
							0.364	3.34	93.5	0.77	83,577	0.50	1.12	0.27		

(Continued)

†† Specimens were compacted in six layers using kneading compaction. As compacted, specimen diameters and heights were 2.9 and 6.0 in., respectively.

(Sheet 2 of 3)

Table A3 (Concluded)

Test No.	Desired Initial Specimen Conditions		Initial Specimen Conditions					Void Ratio Prior to First Pulse	Pulse			After 100 Pulses				Final Water Content $w_f$ %
	Water Content $w$ %	Dry Unit Weight $\gamma_d$ pcf	Water Content $w_i$ %	Dry Unit Weight $\gamma_{di}$ pcf	Void Ratio $e_i$	Saturation $S_i$ %	$\sigma_{3c}$ psi		$(\sigma_1 - \sigma_3)$		$\sigma_{dp}/\sigma_{df}$	$H_r$ psi	Perma- nent $\epsilon_1$ %	Accu- mulative	Resil- ient $\mu$	
									$\sigma_1/\sigma_3$	$\sigma_{dp}$ psi						
Bleed II																
1	3.0	120.0	2.9	123.5	0.349	22.0	5.0	0.348	2.28	6.4	0.21	34,081	0.07	0.07	0.24	2.9
								0.346	3.50	12.5	0.40	32,765	0.08	0.15	0.22	
								0.345	4.80	19.0	0.61	31,858	0.12	0.27	0.26	
								0.345	6.06	25.3	0.81	39,520	0.23	0.50	0.37	
2			2.9	122.6	0.359	21.4	10.0	0.352	1.97	9.7	0.21	69,824	0	0	0.40	2.8
								0.352	2.92	19.2	0.41	64,859	0.09	0.09	0.37	
								0.351	3.87	28.7	0.62	67,946	0.15	0.24	0.36	
								0.349	4.83	38.3	0.83	61,953	0.32	0.56	0.36	
3			2.9	123.0	0.354	21.0	20.0	0.350	1.78	15.5	0.21	62,955	0.01	0.01	0.18	2.8
								0.348	2.56	31.1	0.41	57,382	0.14	0.15	0.15	
								0.346	3.34	46.8	0.62	58,547	0.30	0.45	0.26	
								0.343	4.83	61.4	0.82	57,948	0.51	0.96	0.25	
4			2.9	122.8	0.357	21.4	40.0	0.349	1.70	28.0	0.21	74,582	0.20	0.20	0.22	2.8
								0.347	2.39	55.7	0.41	73,936	0.43	0.63	0.24	
								0.341	3.05	81.9	0.61	76,689	0.68	1.31	0.11	
								0.336	3.70	108.0	0.80	79,682	0.87	2.18	0.13	



Table A4

Soil Instrumentation--Type and Location

<u>Item</u>	<u>Lane</u>	<u>Station</u>	<u>Type Gage</u>	<u>Designation</u>	<u>Depth ft</u>	<u>Date Installed</u>	<u>Elevation</u>
1	1	0+18	LVDT	D1-A	4.92	3 Sep 80	96.08
		0+21	LVDT	D1-B	3.11	12 Sep 80	97.89
		0+28	WES Soil Pressure (50 psi)	WES-1A	3.03	11 Sep 80	97.97
		0+30	WES Soil Pressure (50 psi)	WES-1B	2.00	7-9 Oct 80	99.00
		0+32	WES Soil Pressure (100 psi)	WES-1C	1.07	2 Dec 80	99.93
		0+32*	WES Soil Pressure (100 psi)	WES-1C	1.08	14 Jan 81	99.92
		0+34	Pore Pressure Cell (25 psi)	PP1-A	11.26	11 Sep 80	89.74
		0+34	Pore Pressure Cell (50 psi)	PP1-B	11.26	11 Sep 80	89.74
3	1	1+16	Pore Pressure Cell (25 psi)	PP3-A	12.01	11-12 Sep 80	88.99
		1+16	Pore Pressure Cell (50 psi)	PP3-B	12.01	11-12 Sep 80	88.99
		1+18	WES Soil Pressure (100 psi)	WES-3C	1.00	2 Dec 80	100.00
		1+20	WES Soil Pressure (50 psi)	WES-3B	2.03	7-9 Oct 80	98.97
		1+22	WES Soil Pressure (50 psi)	WES-3A	2.99	11 Sep 80	98.01
		1+30	LVDT	D3-A	5.41	4 Sep 80	95.59
		1+33	LVDT	D3-B	3.23	12 Sep 80	97.77
5	1	2+16	Pore Pressure Cell (25 psi)	PP5-A	13.3	11-12 Sep 80	87.70
		2+16	Pore Pressure Cell (50 psi)	PP5-B	13.3	11-12 Sep 80	87.70
		2+18**	WES Soil Pressure (100 psi)	WES-5C	1.04	14 Jan 81	99.96
		2+20	WES Soil Pressure (50 psi)	WES-5B	2.03	7-9 Oct 80	98.97
		2+22	WES Soil Pressure (50 psi)	WES-5A	3.01	11 Sep 80	97.99
		2+30	LVDT	D5-A	5.55	3 Sep 80	95.45
		2+33	LVDT	D5-B	2.79	11-12 Sep 80	98.21

\* WES-1C was replaced after cable was cut.

\*\* WES-5C was dug out and recompacted on 26 Feb 81 - was not removed; no change in elevation.

Table A5  
As Constructed CBR, Density, and Water Content

Item	Material	Lift	Approximate Lift Thickness In.	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %
Lane 1						
1	Crushed limestone ↓ Heavy clay ↓	11	9.6	120	138	1.1
		10	4.3	82	138	1.8
		9	6.4	58	137	2.4
		8	6.4	39	138	2.5
		7	8.6	16	144	6.0
		6	5.0*	--	--	--
		5	4.8	4.0	88	32
		4	4.1	2.4	87	33
		3	8.2	3.5	88	33
		2	9.4	4.0	90	31
		1	9.5	4.6	89	31
2	Crushed limestone Crushed limestone Blend II ↓	10	2.0	148	148	0.8
		9	6.4	42	129	2.8
		8	12.5	9	120	4.3
		7	8.0	9	120	3.3
		6	6.5	13	118	4.6
		5	6.5	12	117	4.8
		4	8.6	8	118	3.9
		3	8.5	15	122	3.8
		2	7.2	7	114	4.1
		1	7.1	19	130	7.0
3	Blend II ↓	10	4.8	21	122	2.1
		9	4.4	18	118	3.9
		8	10.1	15	117	4.0
		7	7.6	10	116	3.6
		6	7.3	13	115	4.2
		5	7.2	14	117	3.5
		4	8.6	13	119	4.0
		3	8.6	16	123	3.8
		2	8.9	3.2	119	4.0
		1	8.9	18	130	7.0

(Continued)

\* Lift 6 was added to level the item and fill in some low areas; most of the layer was removed during final grading.



Table A5 (Continued)

Item	Material	Lift	Approximate Lift Thickness In.	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %
<u>Lane 1 (Continued)</u>						
4	Blend I	10	4.0	25	118	2.2
	Blend I	9	4.6	39	119	3.2
	Blend II	8	12.2	13	123	4.0
		7	7.4	13	115	4.5
		6	7.6	15	122	4.9
		5	7.4	10	117	3.1
		4	8.2	9	120	3.5
		3	8.0	17	121	4.1
		2	7.0	9	116	4.3
		1	7.0	12	129	8.0
5	Silt	10	7.6	11	108	16.0
		9	6.2	--	--	--
		8	7.3	11	106	14.4
		7	7.3	21	98	19.0
		6	7.0	17	101	19.0
		5	6.8	19	105	20.0
		4	10.0	18	106	17.0
		3	10.0	5	96	20.1
		2	7.0	17	99	19.0
		1	7.0	16	100	18.0
<u>Lane 2</u>						
1	Blend I (cement stabilized)	11	5.3	150	133	4.9
		10	6.6	131	119	6.6
		9	6.5	80+	109	9.0
		8	5.0	--	--	--
		7	5.0	--	--	--
	Heavy clay	6	6.7	3.8	89	31
		5	6.6	3.0	87	33
		4	7.9	3.3	88	33
		3	7.9	3.1	88	33
		2	9.5	4.9	89	29
2	Blend II (cement stabilized)	10	5.4	150	141	3.7
	Blend II (cement stabilized)	9	5.5	150+	122	5.1
	Blend II	8	7.6	17	120	3.7
		7	8.4	16	119	3.5
		6	8.2	12	123	4.6
		5	8.2	12	120	4.2
		4	9.2	14	120	3.8
		3	9.1	12	120	3.9
		2	7.1	6	119	4.5
		1	7.9	24	128	7.0

(Continued)

Table A5 (Continued)

Item	Material	Lift	Approximate Lift Thickness In.	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %
Lane 2 (Continued)						
3	Lean mix concrete Blend II	9	11.3	--	--	--
		8	6.4	10	120	4.0
		7	10.9	11	121	3.6
		6	6.8	12	119	4.3
		5	6.8	10	118	4.1
		4	8.3	14	124	3.4
		3	8.3	12	123	3.8
		2	8.4	10	122	4.0
		1	8.4	26	131	7.0
4	Blend I (cement stabilized) Blend I (cement stabilized) Blend II	10	6.2	150	138	4.2
		9	5.4	101	110	6.4
		8	7.1	13	121	4.0
		7	8.2	10	119	3.6
		6	7.1	12	122	4.2
		5	7.0	11	116	4.1
		4	9.6	18	124	3.5
		3	9.5	15	118	4.0
		2	6.5	9	118	5.1
5	Blend II (cement stabilized)  Silt	1	6.5	28	129	6.0
		11	4.0	150	138	3.6
		10	5.9	146	135	0.7
		9	5.8	--	--	--
		8	4.0	--	--	--
		7	8.2	14	101	20.0
		6	7.4	21	101	20.0
		5	7.4	16	104	19.0
		4	9.1	19	100	20.0
1	Crushed limestone  Heavy clay	3	9.0	16	102	19.9
		2	7.4	17	97	19.0
		1	7.4	15	101	18.0
		10	8.5	150	142	1.3
		9	20.6**	92	138	2.2
		8	--	--	--	--
		7	--	--	--	--
		6	7.1	3.8	89	31
		5	7.1	3.0	87	33
		4	8.0	3.3	88	33
		3	7.9	3.1	88	33
		2	7.6	4.9	89	29
		1	7.4	4.2	86	32

(Continued)

\*\* Combined thickness of layers 7, 8, and 9.

(Sheet 3 of 4)



Table A5 (Concluded)

Item	Material	Lift	Approximate Lift Thickness In.	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %
Lane 3 (Continued)						
2	Crushed limestone	10	5.6	150	141	1.1
	Crushed limestone	9	6.4	43	136	2.1
	Blend II	8	8.0	17	120	3.7
		7	9.5	16	119	3.5
		6	7.0	12	123	4.6
		5	7.0	12	120	4.2
		4	9.5	14	120	3.8
		3	9.4	12	120	3.9
		2	6.0	6	119	4.5
		1	5.9	24	128	7.0
3	Blend II	10	8.3	100	132	3.8
		9	4.4	15	117	3.4
		8	8.2	10	120	4.0
		7	9.2	11	121	3.6
		6	6.6	12	119	4.3
		5	6.6	10	118	4.1
		4	8.8	14	124	3.4
		3	8.6	12	123	3.8
		2	6.4	10	122	4.0
		1	6.4	26	131	7.0
4	Blend I	10	5.2	80	125	4.2
	Blend I	9	5.9	34	125	5.9
	Blend II	8	9.5	13	121	4.0
		7	8.6	10	119	3.6
		6	6.8	12	122	4.2
		5	6.7	11	116	4.1
		4	9.7	18	124	3.5
		3	9.6	15	118	4.0
		2	4.6	9	118	5.1
		1	4.4	28	129	6.0
5	Blend II	10	4.3	95	130	3.3
	Blend II	9	11.2	63	127	4.0
	Silt	8	6.1	--	--	--
		7	9.6	14	101	20.0
		6	6.4	21	101	20.0
		5	6.4	16	104	19.0
		4	8.5	19	100	20.0
		3	8.4	16	102	19.9
		2	5.4	17	97	19.0
		1	5.3	15	101	18.0

Table A6  
Pre-Traffic Test Pit Data  
CBR, Moisture Content, and Density

Item	Material	Depth in.	Station	CBR	Oven Dry Moisture Content %	Nuclear Moisture Content %	Dry Density (Nuclear) lbs/ft <sup>3</sup>	Dry Density (Water Balloon) lbs/ft <sup>3</sup>	Dry Density (Drive Cylinder) lbs/ft <sup>3</sup>
1	Crushed limestone ↓	Surface	0+12.5	150+	0.7	1.3	149	150	--
		6		115	0.8	2.9	127	145	--
		12		91	1.2	2.9	135	140	--
		18		102	1.1	2.8	135	141	--
	Heavy clay (CH) ↓	24	0+25	115	1.5	3.1	131	--	--
		36		6	30.3	30.4	92	--	91
		48		7	30.6	30.6	92	--	89
		60		5	29.2	29.8	93	--	89
3	Blend II ↓	72		4.3	19.8	22.1	104	--	99
	Lean clay (CL) ↓	Surface	1+25	28	1.3	1.9	121	128	--
		6		19	1.7	2.8	119	128	--
		12		15	1.8	3.2	123	129	--
		24		9	2.7	3.8	120	130	--
4	Blend I Blend I Blend II ↓	36		17	2.7	4.0	119	126	--
		48		10	3.0	4.4	119	125	--
		60		8	3.3	5.2	120	125	--
		78		3.4	20.4	21.3	103	--	99
	Lean clay ↓	Surface	1+75	21	1.9	2.5	115	122	--
		6		29	2.1	2.6	118	125	--
		12		11	1.9	2.5	120	127	--
		24		13	2.2	3.1	118	124	--
5	Silt (ML) ↓	36		15	3.2	4.5	118	121	--
		48		15	3.2	4.5	120	--	--
		60		8	3.3	5.9	118	--	--
		76	1+75	4.2	17.1	18.4	104	--	98
	Lean clay ↓	Surface	2+25	11	14.0	15.2	108	--	104
		6		26	15.9	15.0	104	--	101
		12		28	15.5	16.1	108	--	103
		24		22	16.1	18.3	101	--	100
		36		26	16.8	18.5	105	--	103
		48		30	17.0	17.4	108	--	104
		60		13	15.0	15.4	109	--	102
		72	2+25	20	15.1	19.3	100	--	99
	Lean clay								



Table A7

## Pre-Traffic and Post-Traffic Plate Bearing Test Results

Lane	Item	Structural Composition				0 Passes			2600 Passes		
		Upper Layer		Lower Layer		Station ft	ku' (uncor- rected)		Station ft	ku' (uncor- rected)	
		Material	Thick- ness in.	Material	Thick- ness in.		lbs/in. <sup>3</sup>	k lbs/in. <sup>3</sup>		lbs/in. <sup>3</sup>	k lbs/in. <sup>3</sup>
1	1	Crushed limestone	36	Heavy clay	36	0+25*	667	667	0+40	1111	909
	2	Crushed limestone	9	Blend II	63	0+75*	769	769	0+56	1111	1587
	3	Blend II	72	--	--	1+25*	400	714	1+23	625	1000
	4	Blend I	9	Blend II	63	1+75*	556	625	1+75	400	667
	5	Silt	72	--	--	2+25*	179	179	2+25	556	625
2	2	Crushed limestone	12	Blend II	60	0+75	5000	1852	--	--	--
	4	Blend I (cement stabilized)	12	Blend II	60	1+78.5	3333	1887	--	--	--
3	1	Crushed limestone	29	Heavy clay	43	--	--	--	0+30	1429	1250
	2	Crushed limestone	12	Blend II	60	0+76	2000	1667	0+80	769	1250
	3	Blend II (opt.)	6	Blend II	66	--	--	--	1+27	1429	1667
	4	Blend I (opt.)	12	Blend II	60	1+75	2000	1429	1+78	1000	1333
	5	Blend II	16	Silt	56	--	--	--	2+28	2500	1818

\* Tests run outside traffic lane.

Table A8

Nondestructive Test Results Obtained During Construction with the  
WES 16-kip Vibrator and Road Rater 2008

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM	Frequency	Force	$\Delta_o$	$\Delta_{18}$	$\Delta_{40}$	$\Delta_{60}$	DSM	Frequency	Force	$\Delta_o$	$\Delta_{18}$	$\Delta_{32}$	$\Delta_{46}$
				kips/in.	Hz	lb	mils	mils	mils	mils	kips/in.	Hz	lb	mils	mils	mils	mils
Item 1																	
0+12.5	12.5 R	95.0	Lean clay (subgrade)	200	15	500	1.5	0.7	0.5	0.2	41	15	850	4.7	1.9	1.0	0.3
					15	2,500	9.2	5.2	2.2	1.2		15	4800	33.6	14.7	5.8	2.2
					15	3,500	14.0	7.9	3.0	1.8		15	6910	84.7	22.5	8.3	3.1
					20	2,950	11.6	7.9	3.5	2.5		20	5030	40.7	21.0	9.4	4.0
					25	2,900	12.0	9.2	3.9	2.6		25	5000	49.0	27.9	15.1	7.9
					30	3,000	12.2	9.9	5.4	4.0		30	5000	33.2	18.9	9.2	6.6
0+12.5	12.5 R	Lift 1	Heavy clay	230	15	500	1.2	0.7	0.5	0.1	47	15	970	4.7	2.1	0.9	9.4
					15	2,500	7.0	4.4	2.2	0.9		15	4810	38.7	14.1	5.8	2.7
					15	3,500	10.8	6.6	3.2	1.3		15	6920	83.7	22.7	9.2	--
					20	2,500	8.3	5.6	2.9	1.3		20	4900	44.9	19.6	9.7	--
					25	2,500	7.9	5.6	3.4	2.3		25	4790	42.2	19.1	11.8	8.6
					30	2,500	7.3	5.2	2.7	1.6		30	3480	26.8	14.4	7.5	2.2
0+12.5	12.5 R	Lift 2	Heavy clay	210	15	500	1.3	1.0	0.5	0.1	44	15	1010	4.6	1.5	0.9	0.5
					15	2,500	8.3	4.9	2.0	1.1		15	5110	42.0	10.7	5.7	3.2
					15	3,500	12.4	7.3	3.0	1.0		15	6970	84.2	15.9	8.3	4.5
					20	2,500	7.6	4.8	2.5	1.2		20	4980	44.4	12.6	7.1	4.2
					25	2,500	7.1	4.6	2.7	1.6		25	4880	43.0	13.3	8.5	5.4
					30	2,500	6.2	3.6	1.8	1.2		30	3920	30.0	8.3	5.4	4.1
0+12.5	12.5 R	Lift 3	Heavy clay	200	15	500	1.5	0.9	0.2	0.2	56	15	980	4.9	1.4	0.8	0.5
					15	2,500	8.2	4.7	1.5	1.2		15	5050	51.1	9.3	4.9	3.3
					15	3,500	13.0	7.1	2.3	1.5		15	7060	87.3	12.8	6.9	4.5
					20	2,500	7.7	5.0	2.1	1.2		20	5050	86.4	10.2	5.6	3.8
					25	2,500	7.5	4.6	2.5	1.2		25	4930	83.8	11.7	7.3	5.4
					30	2,500	6.8	3.9	1.6	1.4		30	3670	82.6	7.0	4.1	3.4
0+12.5	12.5 R	Lift 4	Heavy clay	140	15	500	1.5	1.2	0.2	0.2	49	15	820	6.2	1.3	0.9	0.4
					15	2,500	9.2	4.0	1.7	1.0		15	4880	50.0	10.5	4.7	3.0
					15	3,500	14.5	5.9	2.6	1.6		15	6950	91.9	15.0	6.3	4.2
					20	2,500	9.1	4.2	2.2	1.5		20	4890	86.0	11.2	5.3	3.6
					25	2,500	8.7	4.3	2.2	1.2		25	4960	83.0	11.5	5.5	4.1
					30	2,500	8.7	3.6	1.7	1.3		30	3870	82.2	8.6	3.6	2.6

(Continued)

(Sheet 1 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 1 (Continued)																	
0+12.5	12.5 R	Lift 5	Heavy clay	180	15	500	1.7	1.0	0.2	0.0	45	15	1120	6.6	2.1	1.3	0.7
					15	2,500	9.8	5.7	1.7	1.0		15	5010	41.9	9.7	4.6	2.9
					15	3,500	15.2	8.5	2.5	1.5		15	7130	89.0	14.6	6.1	3.4
					20	2,500	9.1	6.2	2.4	1.6		20	5110	45.9	10.0	4.9	3.3
					25	2,500	9.1	5.3	2.2	1.5		25	4990	46.5	10.4	5.1	3.7
					30	2,500	8.6	6.2	2.0	1.2		30	3590	30.9	7.7	2.8	1.8
0+12.5	12.5 R	Lift 6	Crushed limestone	190	15	500	1.4	1.3	0.2	0.2	47	15	1010	5.0	3.1	1.3	0.9
					15	2,500	8.6	6.8	1.9	1.2		15	5090	43.7	17.5	5.7	3.9
					15	3,500	13.8	1.2	3.0	1.7		15	7060	85.7	25.5	8.4	5.5
					20	2,500	8.6	7.2	2.6	1.7		20	4890	46.7	20.0	6.5	4.3
					25	2,500	8.6	7.2	2.8	2.1		25	4330	44.6	23.9	7.4	4.9
					30	2,500	8.6	7.3	2.6	2.0		30	2760	28.1	20.1	5.6	3.9
0+12.5	12.5 R	Lift 7	Crushed limestone	260	15	--	--	--	--	--	122	15	980	3.6	2.0	1.1	0.7
					15	--	--	--	--	--		15	5080	27.1	14.9	6.8	3.8
					15	2,472	6.4	5.2	2.3	1.3		15	7050	43.2	22.4	9.6	5.6
					20	2,513	6.2	5.1	2.4	1.5		20	4940	29.7	17.6	8.4	4.9
					25	2,481	5.8	4.9	2.5	1.6		25	5040	33.7	21.0	10.0	6.1
					30	2,535	5.4	4.6	2.1	1.4		30	3690	22.8	14.7	7.0	4.1
0+12.5	12.5 R	Lift 8	Crushed limestone	350	15	5,040	10.9	7.7	4.3	2.7	282	15	1020	2.1	1.3	0.9	0.6
					20	5,009	10.2	7.2	3.9	2.5		15	4900	14.0	8.4	5.1	3.2
					25	5,053	9.9	7.2	3.7	2.4		15	6990	21.4	12.8	7.6	4.7
					30	5,132	9.4	7.1	3.1	1.8		20	5050	13.5	8.5	5.1	3.2
					15	2,536	4.8	3.5	2.0	1.3		25	5020	14.6	9.1	5.6	3.4
					20	2,521	4.5	3.2	1.8	1.2		30	4950	13.8	8.7	5.4	3.0
					25	2,514	4.2	3.0	1.7	1.1							
					30	2,602	3.9	2.8	1.4	0.9							
0+12.5	12.5 R	Lift 9	Crushed limestone	500	15	2,549	3.2	2.3	1.5	0.9	404	15	1080	1.4	0.8	0.6	0.5
					20	2,425	2.6	1.9	1.3	0.9		15	5060	9.1	5.3	3.5	2.5
					25	2,486	2.5	1.8	1.1	0.7		15	6840	13.5	7.5	4.9	3.3
					30	2,526	2.3	1.7	1.0	0.6		20	5020	7.9	4.9	3.3	2.3
					15	5,069	6.5	4.8	3.0	1.9		25	5050	7.1	4.5	3.0	2.1
					20	5,146	6.0	4.5	2.8	1.9		30	5010	6.6	4.1	2.8	1.9
					25	4,993	5.3	3.9	2.3	1.5							
					30	5,014	4.8	3.3	2.0	1.2							

(Continued)

(Sheet 2 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 1 (Continued)																	
0+12.5	12.5 R	Lift 10	Crushed limestone	920	15	2,419	1.6	1.0	0.7	0.5	824	15	1170	0.7	0.4	0.3	0.2
					20	2,501	1.5	1.0	0.6	0.5		15	4880	4.3	2.4	1.7	1.3
					25	2,746	1.4	0.9	0.6	0.4		15	6940	6.8	3.5	2.5	1.9
					30	2,296	1.1	0.6	0.4	0.3		20	5210	4.1	2.2	1.5	1.2
					15	5,014	3.5	2.3	1.4	1.1		25	4980	3.6	1.8	1.3	0.9
					20	5,034	3.2	2.1	1.4	1.0		30	5050	3.5	1.8	1.2	0.9
					25	5,026	2.9	1.8	1.1	0.8							
					30	5,078	2.6	1.5	0.8	0.6							
					15	9,820	7.8	5.0	3.0	2.3							
					20	10,345	7.6	4.9	3.0	2.2							
					25	10,184	6.7	4.8	2.2	1.6							
					30	10,430	6.5	3.9	2.0	1.4							
0+12.5	12.5 L	95.0	Lean clay	220	15	500	1.4	0.7	0.4	0.2	111	15	1020	4.5	1.8	0.9	0.4
					15	2,500	8.8	4.7	1.8	1.0		15	4860	28.0	10.7	4.5	1.9
					15	3,500	13.2	6.9	2.7	1.5		15	6940	46.8	17.3	6.7	2.9
					20	3,000	11.9	7.3	2.9	1.7		20	4980	31.3	14.2	6.1	2.8
					25	3,100	13.9	9.2	4.9	3.7		25	4960	37.1	20.3	8.8	4.1
					30	2,950	12.2	8.2	4.5	3.1		30	3660	28.0	17.1	9.1	5.3
0+12.5	12.5 L	Lift 1	Heavy clay	215	15	500	1.2	0.7	0.5	0.1	42	15	1040	5.4	2.1	1.0	0.5
					15	2,500	7.8	4.8	2.2	1.0		15	4900	38.6	12.6	5.1	2.5
					15	3,500	12.2	7.5	3.2	1.3		15	6790	83.3	23.7	8.0	3.7
					20	2,500	8.7	5.9	2.7	1.3		20	4790	42.1	16.7	7.2	3.5
					25	2,500	8.8	6.5	3.5	1.8		25	4790	46.9	22.5	12.0	7.1
					30	2,500	8.8	6.7	4.0	2.7		30	3620	32.6	16.4	8.4	5.0
0+12.5	12.5 L	Lift 2	Heavy clay	200	15	500	1.5	0.9	0.2	--	52	15	950	5.3	2.8	0.9	0.0
					15	2,500	8.9	5.6	1.9	1.1		15	5030	49.8	12.0	6.1	2.3
					15	3,500	13.7	8.6	3.0	1.4		15	6980	87.3	18.1	8.5	3.0
					20	2,500	8.9	5.9	2.5	1.3		20	5020	86.5	15.2	7.8	1.9
					25	2,500	8.9	6.4	3.2	1.7		25	4980	55.8	20.4	11.8	2.3
					30	2,500	7.3	5.2	2.9	2.0		30	3600	33.8	11.5	7.0	4.2

(Continued)

(Sheet 3 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>40</sub>	Δ <sub>60</sub>	DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>32</sub>	Δ <sub>46</sub>
				kips/in.	Hz	lb	mils	mils	mils	mils	kips/in.	Hz	lb	mils	mils	mils	mils
Item 1 (Continued)																	
0+12.5	12.5 L	Lift 3	Heavy clay	200	15	500	1.7	0.7	0.2	0.2	59	15	910	5.3	1.6	1.0	0.6
					15	2,500	9.5	4.2	1.7	1.1		15	4960	51.7	10.1	5.3	3.3
					15	3,500	14.7	6.2	2.5	1.6		15	7030	87.5	14.3	7.6	4.7
					20	2,500	9.2	4.4	2.0	1.3		20	4880	86.7	11.4	6.3	4.0
					25	2,500	8.8	4.8	2.5	1.5		25	4960	82.8	13.6	8.1	5.1
					30	2,500	7.6	4.1	2.2	1.7		30	3650	35.3	8.7	5.9	4.3
0+12.5	12.5 L	Lift 4	Heavy clay	180	15	500	1.7	1.0	0.2	0.1	71	15	980	6.6	3.4	1.0	0.6
					15	2,500	10.5	5.2	2.1	1.2		15	5060		12.0	5.7	3.5
					15	3,500	16.5	8.7	3.2	1.8		15	7040	91.7	18.8	8.0	5.0
					20	2,500	10.0	5.7	2.5	1.4		20	4920	84.9	12.5	6.2	3.9
					25	2,500	9.5	5.7	3.0	2.0		25	5000	58.2	14.2	8.3	5.9
					30	2,500	8.5	4.7	2.7	1.7		30	3720	39.6	9.1	5.0	4.1
0+12.5	12.5 L	Lift 5	Heavy clay	160	15	500	1.7	1.0	0.2	0.2	85	15	970	6.3	1.7	0.9	0.6
					15	2,500	10.7	5.2	1.9	1.2		15	5140	60.8	13.7	5.6	3.3
					15	3,500	16.6	8.0	3.0	1.8		15	7010	82.7	18.9	7.3	4.4
					20	2,500	10.2	5.2	2.4	1.5		20	4960	85.5	13.8	5.9	3.8
					25	2,500	10.0	5.7	2.6	1.5		25	5030	82.7	16.4	7.4	4.7
					30	2,500	9.2	5.7	2.6	1.5		30	3790	81.3	12.0	6.0	4.7
0+12.5	12.5 L	Lift 6	Heavy clay	70	15	500	1.9	1.4	0.2	0.2	53	15	1010	6.4	2.1	1.1	0.6
					15	2,500	11.0	7.0	2.0	1.2		15	5000	52.8	12.9	6.0	3.5
					15	3,500	17.0	10.4	3.0	1.9		15	7100	92.3	18.6	8.3	4.8
					20	2,500	11.0	7.5	3.0	2.1		20	5070	85.0	15.0	7.2	4.2
					25	2,500	11.0	7.7	2.7	2.1		25	4720	84.1	16.2	7.9	5.0
					30	2,500	9.7	7.3	2.5	1.7		30	3240	31.8	10.6	4.9	3.5
0+12.5	C Lane 2	Lift 7	Cement stabilized Blend I	200	15	2,524	8.1	5.9	2.0	1.3	48	15	970	4.6	2.3	1.0	0.6
					20	2,495	8.2	6.2	2.6	1.8		15	5010	44.2	15.5	6.0	3.6
					25	2,536	8.0	6.2	2.4	1.6		15	7130	88.0	23.9	8.8	5.3
					30	2,522	7.7	6.0	2.7	1.9		20	5010	49.1	17.8	7.7	5.1
												25	4950	52.1	19.2	7.7	4.8
												30	3470	39.6	16.3	7.2	4.8

(Continued)

(Sheet 4 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 1 (Continued)																	
0+12.5	Lane 2	Lift 8	Cement stabilized Blend I	340	15	2,503	5.4	4.0	1.4	1.0	277	15	1060	2.3	1.5	1.0	0.6
					20	2,511	5.2	3.9	1.6	1.2		15	4920	14.5	9.4	5.6	3.4
					25	2,559	5.1	3.8	1.4	1.1		15	6970	21.9	14.4	8.4	5.0
					30	2,552	4.3	3.2	1.2	0.9		20	5000	14.2	9.8	6.0	3.9
					15	4,963	11.7	8.5	3.0	2.0		25	5040	13.9	9.5	5.6	3.5
					20	5,018	11.5	8.6	3.3	2.4		30	4820	12.8	8.1	5.0	3.3
					25	4,987	11.1	8.2	2.8	2.2							
					30	4,922	10.1	7.8	2.7	1.9							
12.5	Lane 2	Lift 9	Cement stabilized Blend I	500	15	2,477	3.4	2.5	1.5	1.0	529	15	1030	1.3	1.0	0.8	0.5
					20	2,525	3.1	2.3	1.3	0.9		15	4930	7.7	5.9	4.0	2.6
					25	2,503	2.7	2.0	1.2	0.8		15	6940	11.5	9.1	5.6	3.6
					30	2,532	2.4	1.8	0.9	0.6		20	4970	7.2	5.5	4.0	2.6
					15	4,992	7.2	5.2	3.1	2.1		25	5000	6.2	4.7	3.5	2.4
					20	4,959	6.6	4.8	2.8	1.9		30	4940	5.4	3.9	3.0	1.9
					25	5,031	5.8	4.2	2.4	1.6							
					30	4,987	5.1	3.8	2.0	1.2							
					15	9,985	16.2	11.4	6.5	4.6							
					20	9,979	15.3	10.9	6.1	4.2							
					25	10,003	13.8	10.1	5.1	3.4							
					30	9,852	12.5	9.8	4.6	2.7							
0+12.5	Lane 2	Lift 10	Cement stabilized Blend I	1180	15	2,497	1.3	0.9	0.7	0.6	707	15	1010	0.5	0.3	0.3	0.2
					20	2,488	1.1	0.8	0.6	0.5		15	4890	3.4	2.1	1.7	1.4
					25	2,465	1.0	0.7	0.5	0.4		15	7010	6.4	3.2	2.6	2.0
					30	2,535	0.9	0.6	0.4	0.3		20	5010	3.0	1.9	1.5	1.2
					15	5,004	2.7	2.0	1.5	1.2		25	5140	2.8	1.7	1.3	1.0
					20	4,997	2.4	1.7	1.3	1.0		30	4970	2.5	1.4	1.1	0.9
					25	4,954	2.0	1.5	1.1	0.7							
					30	5,034	1.8	1.3	0.9	0.6							
					15	9,970	5.9	4.5	3.2	2.4							
					20	10,048	5.3	3.9	2.8	2.0							
					25	10,072	4.8	3.4	2.4	1.6							
					30	9,798	4.3	3.0	2.1	1.4							

(Continued)

(Sheet 5 of 59)



Table A8 (Continued)

Station ft	℄ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
				Item 1 (Continued)													
0+12.5	℄ Lane 3	Lift 9	Crushed limestone	370	15	2,438	3.2	2.3	1.2	0.8	433	15	1060	2.0	1.0	0.7	0.5
					20	2,556	3.1	2.3	1.3	0.9		15	5010	11.0	5.3	3.5	2.2
					25	2,520	2.8	2.1	1.1	0.8		15	6960	15.5	7.4	4.9	3.0
					30	2,553	2.4	1.7	0.8	0.6		20	4940	9.5	5.1	3.5	2.3
					15	4,980	6.9	5.0	2.5	1.7		25	4930	8.7	4.5	3.0	2.0
					20	5,000	6.6	4.9	2.6	1.9		30	5180	8.2	4.2	2.7	1.8
					25	5,003	5.8	4.2	2.2	1.7							
					30	5,068	5.1	3.6	1.9	1.2							
0+12.5	℄ Lane 3	Lift 10	Crushed limestone	1010	15	2,497	1.6	1.2	0.8	0.6	985	15	1170	0.8	0.4	0.3	0.3
					20	2,503	1.5	1.1	0.7	0.6		15	4920	4.1	2.5	1.9	1.5
					25	2,487	1.3	0.9	0.6	0.5		15	6890	6.1	3.4	2.7	2.1
					30	2,529	1.1	0.7	0.5	0.4		20	4980	3.6	2.2	1.7	1.3
					15	4,982	3.4	2.5	1.6	1.2		25	5010	3.2	2.0	1.6	1.2
					20	4,999	3.0	2.3	1.5	1.1		30	5010	2.8	1.6	1.3	1.0
					25	5,025	2.8	2.1	1.4	1.1							
					30	4,915	2.3	1.7	1.1	0.9							
					15	9,990	7.3	5.4	3.5	2.6							
					20	10,026	6.7	5.0	3.2	2.4							
					25	10,020	6.1	4.6	2.9	2.2							
					30	10,010	5.0	3.6	2.3	1.8							
0+37.5	12.5 R	95.0	Lean clay (subgrade)	240	15	500	1.3	0.6	0.5	0.2	133	15	970	3.6	1.6	0.7	0.4
					15	2,500	7.5	4.2	2.2	1.3		15	4880	26.8	10.6	4.2	2.5
					15	3,500	11.5	6.2	3.2	1.9		15	7000	42.8	15.6	6.3	3.7
					20	3,000	9.3	5.7	3.2	2.4		20	5010	30.8	11.4	5.5	3.3
					25	3,000	9.2	5.2	2.7	1.7		25	5020	30.5	13.1	6.7	4.2
					30	3,000	8.0	5.2	2.7	2.0		30	3360	19.6	7.4	3.9	2.4
0+37.5	12.5 R	Lift 1	Heavy clay	225	15	500	1.2	0.6	0.4	0.1	41	15	1030	4.1	1.5	0.8	0.5
					15	2,500	7.2	3.3	1.9	1.0		15	4970	36.3	8.6	4.6	2.6
					15	3,500	11.0	5.0	2.7	1.4		15	6860	82.7	13.2	6.7	3.7
					20	2,500	7.4	3.8	2.2	1.1		20	4890	36.2	9.7	5.3	3.0
					25	2,500	6.9	3.8	2.5	1.7		25	4920	37.5	11.2	6.7	4.4
					30	2,500	6.2	3.3	2.2	1.2		30	4270	30.0	9.3	5.0	3.2

(Continued)

(Sheet 6 of 59)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 1 (Continued)																	
0+37.5	12.5 R	Lift 2	Heavy clay	210	15	500	1.2	0.8	0.5	0.2	48	15	1000	5.4	1.7	0.8	0.5
					15	2,500	8.0	4.3	1.7	1.0		15	4960	49.8	10.2	5.0	2.9
					15	3,500	1.3	6.5	2.6	1.5		15	6970	91.6	15.3	7.1	3.9
					20	2,500	7.7	4.2	2.0	1.0		20	4870	46.4	10.3	4.8	2.8
					25	2,500	7.5	4.3	2.5	1.5		25	4940	53.5	13.1	6.6	4.2
					30	2,500	6.7	4.0	2.0	1.2		30	4110	35.0	9.7	4.8	3.2
0+37.5	12.5 R	Lift 3	Heavy clay	190	15	500	1.6	1.1	0.5	0.2	47	15	910	5.3	1.4	0.8	0.4
					15	2,500	8.8	5.2	1.6	1.2		15	5000	43.9	10.7	4.6	2.4
					15	3,500	13.5	5.1	2.4	1.6		15	7140	89.1	16.5	6.7	3.2
					20	2,500	8.8	5.2	1.9	1.4		20	5040	44.4	11.5	5.1	2.6
					25	2,500	8.4	5.2	2.2	1.7		25	4600	40.3	11.9	6.2	3.5
					30	2,500	8.4	5.2	2.2	1.4		30	3220	25.3	7.9	4.0	2.5
0+37.5	12.5 R	Lift 4	Heavy clay	130	15	500	1.7	1.0	0.2	0.2	49	15	790	5.4	1.4	0.8	0.4
					15	2,500	9.7	5.2	1.8	1.1		15	5050	52.1	12.7	4.8	2.8
					15	3,500	15.7	8.0	2.7	1.6		15	6940	90.8	17.7	6.7	3.9
					20	2,500	9.0	5.2	2.0	1.2		20	4890	84.9	13.1	5.1	2.9
					25	2,500	9.2	6.0	2.5	1.8		25	4940	54.3	15.1	6.4	4.2
					30	2,500	9.7	5.5	2.0	1.2		30	3770	40.2	12.6	5.0	3.0
0+37.5	12.5 R	Lift 5	Heavy clay	170	15	500	1.8	1.0	0.3	0.1	48	48	1060	6.7	1.7	0.9	0.6
					15	2,500	9.8	5.2	1.8	1.1		15	5160	50.9	12.2	5.3	2.9
					15	3,500	15.0	7.6	2.7	1.6		15	7110	91.9	17.7	7.2	4.0
					20	2,500	9.9	5.3	2.2	1.2		20	5060	50.3	12.6	5.4	3.1
					25	2,500	9.1	5.1	2.2	1.5		25	4870	50.9	13.6	6.3	4.1
					30	2,500	8.6	5.6	2.2	1.2		30	3210	29.3	9.3	4.0	2.4
0+37.5	12.5 R	Lift 6	Crushed limestone	210	15	500	1.3	1.1	0.2	0.2	68	15	1050	4.6	2.2	1.0	0.7
					15	2,500	7.3	5.8	1.8	1.2		15	4920	39.0	11.7	4.5	3.0
					15	3,500	11.2	8.7	2.7	1.6		15	7270	73.7	18.8	6.1	4.4
					20	2,500	7.5	6.0	2.2	1.2		20	5020	44.1	13.9	5.1	3.5
					25	2,500	7.7	6.5	2.7	1.8		25	4740	48.4	16.8	6.7	4.6
					30	2,500	7.7	7.2	2.7	1.7		30	3110	30.3	12.8	5.6	3.6

(Continued)

(Sheet 7 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
				Item 1 (Continued)													
0+37.5	12.5 R	Lift 7	Crushed limestone	260	15	2,519	6.2	4.6	1.9	1.2	146	15	960	3.6	1.4	1.0	0.6
					20	2,515	5.8	4.5	2.0	1.3		15	4960	24.1	12.0	5.4	3.3
					25	2,428	5.5	4.4	2.1	1.6		15	7000	38.1	18.3	7.9	4.8
					30	2,435	4.9	4.0	1.9	1.2		20	4920	24.9	13.2	6.3	3.9
												25	5000	29.1	17.0	8.3	5.5
												30	4790	28.1	16.5	8.0	5.2
0+37.5	12.5 R	Lift 8	Crushed limestone	330	15	2,492	5.0	3.3	1.6	1.1	228	15	960	2.1	1.4	0.8	0.5
					20	2,533	4.8	3.3	1.7	1.1		15	4940	17.2	9.2	4.5	2.8
					25	2,533	4.7	3.3	1.6	1.1		15	6950	26.0	13.5	6.8	4.2
					30	2,490	4.1	3.0	1.4	1.0		20	4970	17.1	10.1	5.1	3.1
					15	4,981	11.1	7.4	3.7	2.4		25	5030	19.2	11.3	5.9	3.6
					20	5,059	11.1	7.6	3.7	2.4		30	4410	16.2	9.8	4.8	2.9
					25	5,098	11.0	7.9	3.3	2.5							
					30	4,951	10.0	7.8	2.9	2.0							
0+37.5	12.5 R	Lift 9	Crushed limestone	580	15	2,509	2.6	1.9	1.3	0.9	544	15	1150	1.2	0.7	0.5	0.4
					20	2,491	2.4	1.8	1.2	0.9		15	5050	7.2	4.4	3.2	2.3
					25	2,510	2.3	1.7	1.1	0.8		15	7010	10.8	6.2	4.4	3.2
					30	2,512	2.1	1.6	1.1	0.7		20	5110	6.9	4.1	2.9	2.1
					15	5,033	5.7	4.1	2.7	1.9		25	5020	6.2	3.7	2.7	1.9
					20	5,136	5.3	4.0	2.6	1.9		30	5040	5.9	3.6	2.6	1.8
					25	5,114	4.9	3.6	2.3	1.6							
					30	5,102	4.5	3.3	2.2	1.5							
					15	10,015	12.5	9.2	5.9	4.2							
					20	10,146	11.3	8.2	5.4	3.9							
					25	10,109	10.8	8.3	4.9	3.4							
					30	9,993	10.2	8.5	5.1	3.5							
0+37.5	12.5 R	Lift 10	Crushed limestone	680	15	2,509	2.2	1.4	0.8	0.6	664	15	970	0.6	0.3	0.2	0.2
					20	2,583	2.1	1.3	0.8	0.5		15	4960	4.4	2.4	1.7	1.2
					25	2,547	1.8	1.1	0.6	0.4		15	7020	7.5	3.6	2.5	1.8
					30	2,522	1.7	1.1	0.6	0.4		20	5080	4.0	2.2	1.5	1.1
					15	5,010	4.6	2.9	1.7	1.1		25	5220	3.8	2.0	1.3	0.9
					20	5,063	4.3	2.8	1.6	1.1		30	5120	3.6	1.9	1.2	0.8

(Continued)

(Sheet 8 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 1 (Continued)																	
0+37.5 (Cont'd)	12.5 R	Lift 10	Crushed limestone	680	25	5,011	4.0	2.5	1.3	0.9							
					30	4,916	3.7	2.3	1.2	0.7							
					15	9,960	10.0	6.2	3.4	2.3							
					20	9,907	9.5	5.9	3.2	2.2							
					25	10,120	9.3	5.9	2.9	1.9							
					30	10,165	9.9	5.3	2.4	1.3							
0+37.5	12.5 L	95.0	Lean clay (subgrade)	215	15	500	1.2	0.7	0.3	0.2	101	15	1010	4.5	1.8	0.9	0.4
					15	2,500	8.1	4.4	2.1	1.3	15	4990	28.4	11.2	5.0	2.6	
					15	3,500	12.7	6.8	3.0	1.8	15	6920	47.5	18.4	7.2	3.7	
					20	3,250	11.2	6.9	3.4	2.3	20	4980	32.1	14.8	7.1	3.8	
					25	3,000	12.2	8.7	5.4	4.0	25	4900	35.3	19.4	10.4	6.2	
					30	2,950	10.0	7.2	3.5	2.8	30	3920	24.7	12.9	7.2	5.4	
0+37.5	12.5 L	Lift 1	Heavy clay	230	15	500	1.2	0.7	0.5	0.2	44	15	990	5.1	1.7	0.9	0.5
					15	2,500	7.5	4.7	2.4	1.2	15	4870	39.5	9.6	5.0	2.7	
					15	3,500	11.8	7.4	3.6	1.7	15	6890	85.1	16.8	8.1	4.2	
					20	2,500	8.1	4.5	2.6	1.5	20	4930	45.6	13.2	7.2	4.0	
					25	2,500	7.8	5.3	3.4	2.2	25	4930	44.4	14.3	8.9	6.1	
					30	2,500	7.1	5.1	2.8	2.2	30	3820	30.4	10.4	5.6	3.5	
0+37.5	12.5 L	Lift 2	Heavy clay	200	15	500	1.5	0.8	0.2	0.5	48	48	1060	5.0	1.8	0.8	1.4
					15	2,500	8.6	5.2	2.2	1.2	15	7070	43.0	13.2	3.9	2.7	
					15	3,500	13.2	8.0	3.4	1.8	15	5060	85.3	30.8	7.2	9.8	
					20	2,500	8.2	5.7	2.9	1.5	20	5040	46.2	21.6	6.7	3.7	
					25	2,500	7.7	5.5	3.2	2.0	25	4990	46.3	22.2	8.4	5.0	
					30	2,500	6.7	4.8	2.2	1.5	30	3870	31.4	14.9	5.5	3.7	
0+37.5	12.5 L	Lift 3	Heavy clay	190	15	500	1.5	1.0	0.2	0.2	44	15	890	6.1	1.6	0.9	0.6
					15	2,500	9.5	5.1	1.7	1.7	15	5130	50.0	9.3	4.7	3.3	
					15	3,500	14.0	7.7	2.7	1.9	15	6980	92.3	12.7	6.2	4.6	
					20	2,500	9.0	5.0	2.1	1.5	20	5020	86.6	9.6	4.8	3.6	
					25	2,500	8.5	4.7	2.3	1.7	25	5020	82.6	10.5	6.2	4.5	
					30	2,500	8.0	4.2	1.9	1.5	30	4000	81.8	7.2	4.2	3.4	

(Continued)

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Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 1 (Continued)																	
0+37.5	12.5 L	Lift 4	Heavy clay	190	15	500	1.5	0.5	0.1	0.2	79	15	960	6.4	4.4	0.8	0.5
					15	2,500	9.2	5.1	1.8	1.2		15	5000	66.1	11.6	5.0	2.9
					15	3,500	14.6	7.6	2.7	1.7		15	6800	88.9	18.2	6.6	3.9
					20	2,500	8.9	5.0	2.1	1.2		20	4910	84.8	10.0	5.2	3.2
					25	2500	8.7	5.2	2.3	1.7		25	4980	82.8	10.0	5.7	4.2
					30	2,500	8.2	5.2	1.7	1.2		30	3820	82.0	7.6	3.8	2.5
0+37.5	12.5 L	Lift 5	Heavy clay	170	15	500	1.7	1.0	0.2	0.2	53	15	940	6.2	1.8	1.0	0.6
					15	2,500	10.2	5.7	1.8	1.2		15	4900	47.6	10.8	5.3	3.5
					15	3,500	15.7	8.5	2.8	1.9		15	6970	86.3	15.2	7.5	5.0
					20	2,500	10.0	5.7	2.2	1.5		20	5040	47.0	11.3	5.8	3.8
					25	2,500	9.5	5.8	2.4	1.6		25	4820	45.9	--	6.5	3.9
					30	2,500	8.7	5.3	2.0	1.6		30	3430	28.4	8.3	4.2	2.7
0+37.5	12.5 L	Lift 6	Heavy clay	160	15	500	1.7	1.2	0.2	0.2	129	15	1030	7.3	2.2	1.0	0.7
					15	2,500	10.2	5.7	1.9	1.2		15	4950	72.5	15.5	5.8	3.7
					15	3,500	16.0	8.5	2.8	1.7		15	7090	89.1	24.2	7.8	4.8
					20	2,500	10.0	5.7	2.7	1.7		20	5050	85.6	17.4	6.2	3.8
					25	2,500	10.0	6.0	2.5	1.5		25	4710	82.9	18.6	7.5	5.3
					30	2,500	10.0	6.0	2.5	1.5		30	3260	81.4	13.8	5.0	3.3
0+37.5	C Lane 2	Lift 7	Cement stabilized Blend I	220	15	2,529	7.6	5.8	2.0	1.2	77	15	940	4.2	1.8	0.9	0.5
					20	2,509	7.4	5.7	2.2	1.5		15	4930	35.3	13.9	5.8	3.4
					25	2,501	7.3	5.9	2.2	1.4		15	6950	61.5	22.0	8.6	5.0
					30	2,517	7.5	6.2	2.5	1.5		20	5020	38.4	16.0	6.7	4.2
												25	5010	42.6	17.0	7.5	4.3
0+37.5	C Lane 2	Lift 8	Cement stabilized Blend I	380	15	2,517	4.9	3.9	1.4	0.9	236	15	980	2.4	1.4	1.0	0.6
					20	2,561	4.6	3.5	1.5	1.2		15	5030	15.7	9.4	5.8	3.5
					25	2,542	4.7	3.7	1.2	0.8		15	6990	24.0	13.4	8.4	5.1
					30	2,529	4.0	3.1	1.0	0.9		20	5010	14.8	9.2	5.8	3.8
					15	4,987	10.6	8.3	2.9	2.0		25	5040	15.1	9.2	5.6	3.3
					20	4,941	9.7	7.2	2.9	2.3		30	4970	14.5	8.2	5.0	2.9
					25	5,041	10.1	7.9	2.5	1.6							
					30	4,983	8.9	7.0	2.0	1.7							

(Continued)

(Sheet 10 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 1 (Continued)																	
0+37.5	Lane 2	Lift 9	Cement stabilized Blend I	530	15	2,484	2.9	2.3	1.4	0.9	565	15	1010	1.2	0.9	0.6	0.5
					20	2,490	2.5	2.1	1.3	0.8		15	5150	8.5	5.8	3.5	2.6
					25	2,516	2.3	2.0	1.2	0.8		15	7240	12.2	8.0	4.7	3.6
					30	2,496	2.1	1.8	1.0	0.5		20	5220	7.6	6.4	3.7	2.8
					15	5,083	6.1	4.8	3.0	1.9		25	4940	6.3	5.0	2.8	2.2
					20	5,030	5.5	4.6	2.8	1.8		30	4900	6.1	4.5	2.5	1.9
					25	4,885	4.8	4.0	2.4	1.4							
					30	5,006	4.3	3.7	2.1	1.1							
					15	9,895	12.8	10.4	6.3	4.0							
					20	9,987	11.7	9.6	5.8	3.6							
					25	9,952	10.9	9.6	4.9	3.0							
					30	10,050	10.7	9.1	8.7	2.3							
0+37.5	Lane 2	Lift 10	Cement stabilized Blend I	1200	15	2,485	1.3	0.9	0.7	0.5	700	15	1020	0.5	0.3	0.3	0.2
					20	2,431	1.2	0.8	0.6	0.5		15	5020	4.2	2.2	1.8	1.4
					25	2,503	1.1	0.7	0.5	0.4		15	7120	7.2	3.3	2.6	2.0
					30	2,510	0.9	0.6	0.4	0.3		20	5120	3.6	1.9	1.5	1.2
					15	4,985	2.7	1.9	1.4	1.1		25	4950	3.1	1.6	1.2	0.9
					20	5,118	2.5	1.8	1.3	0.9		30	4080	2.9	1.5	1.1	0.8
					25	4,969	2.3	1.5	1.1	0.0							
					30	5,068	2.0	1.3	0.9	0.7							
					15	9,934	5.9	4.2	2.9	2.2							
					20	9,968	5.4	3.8	2.6	1.9							
					25	9,787	4.9	3.4	2.3	1.7							
					30	10,269	4.5	3.0	1.9	1.4							
0+37.5	Lane 3	Lift 9	Crushed limestone	430	15	2,583	3.9	2.6	1.6	1.0	381	15	1020	1.5	1.0	0.7	0.4
					20	2,587	3.5	2.5	1.0	1.0		15	4950	10.4	5.7	3.6	2.4
					25	2,563	3.0	2.1	1.5	0.8		15	6970	15.7	8.8	5.2	3.5
					30	2,522	2.8	1.8	1.9	0.7		20	5140	10.3	6.1	3.7	2.6
					15	4,975	8.0	5.4	8.9	2.0		25	4900	8.8	4.8	2.9	2.1
					20	4,970	7.2	4.9	6.1	2.0		30	5000	9.1	4.8	2.7	1.8
					25	5,096	6.5	4.4	4.8	1.7							
					30	4,982	6.2	4.1	1.8	1.4							

(Continued)

(Sheet 11 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 1 (Continued)																	
0+37.5	C Lane 3	Lift 10	Crushed limestone	1120	15	2,494	1.3	0.9	0.7	0.6	786	15	1040	0.5	0.5	0.3	0.2
					20	2,476	1.2	0.8	0.6	0.5		15	4980	4.2	2.3	1.8	1.4
					25	2,460	1.0	0.7	0.5	0.4		15	7180	7.0	3.5	2.6	2.1
					30	2,488	0.9	0.5	0.4	0.3		20	4930	3.5	2.1	1.6	1.3
					15	4,999	2.8	2.0	1.4	1.1		25	4970	3.1	1.8	1.3	1.0
					20	4,980	2.5	1.7	1.2	0.9		30	4960	2.7	1.4	1.0	0.8
					25	4,980	2.2	1.5	1.0	0.8							
					30	4,964	2.0	1.2	0.8	0.6							
					15	10,106	6.4	4.5	3.1	2.4							
					20	10,092	5.7	3.9	2.6	2.0							
					25	10,028	5.1	3.4	2.2	1.6							
					30	10,070	4.6	2.9	1.7	1.3							
Item 2																	
0+62.5	12.5 R	95.0	Lean clay subgrade	235	15	500	1.2	0.7	0.5	0.2	143	15	850	4.0	1.1	0.8	0.4
					15	2,500	7.2	3.7	1.8	1.2		15	4900	27.0	7.9	3.6	2.2
					15	3,000	11.1	5.2	2.6	1.7		15	6860	40.7	11.3	5.0	3.0
					20	3,050	9.5	5.0	2.5	1.8		20	4880	28.3	8.3	3.9	2.4
					25	3,000	9.1	4.9	2.3	1.4		25	4970	32.3	8.6	4.1	2.5
					30	3,000	8.8	4.7	2.0	1.7		30	4440	30.4	8.2	3.9	2.6
0+62.5	12.5 R	Lift 1	Blend II	330	15	500	1.0	0.5	0.4	0.2	121	15	1100	4.1	1.8	0.9	0.5
					15	2,500	5.0	3.4	1.9	0.9		15	4870	21.5	8.3	4.1	2.3
					15	3,500	8.2	5.4	2.2	1.3		15	6950	38.7	13.0	6.2	3.4
					20	2,500	5.6	4.1	1.6	0.9		20	4920	21.6	9.2	4.5	2.4
					25	2,500	5.6	4.1	1.8	1.2		25	4960	24.7	10.9	5.6	3.1
					30	2,500	5.5	3.8	1.5	0.8		30	4380	22.0	9.4	4.6	2.8
0+62.5	12.5 R	Lift 2	Blend II	370	15	500	0.7	0.5	0.2	0.2	230	15	1030	3.3	1.1	0.7	0.4
					15	2,500	4.9	3.2	1.6	1.0		15	5040	20.6	7.1	4.3	2.5
					15	3,500	7.2	5.1	2.5	1.4		15	6940	28.9	10.4	6.1	3.4
					20	2,500	4.4	3.2	1.6	1.0		20	4960	17.6	7.0	4.3	2.7
					25	2,500	4.4	3.2	1.6	1.0		25	4540	15.9	6.3	3.4	1.8
					30	2,500	3.7	2.9	1.4	1.0		30	2790	8.9	3.9	2.2	1.1

(Continued)

(Sheet 12 of 59)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 2 (Continued)																	
0+62.5	12.5 R	Lift 3	Blend II	420	15	500	0.8	0.5	0.2	0.1	278	15	1030	2.0	0.8	0.6	0.4
					15	2,500	4.1	2.7	1.2	0.8		15	4820	12.9	4.3	3.2	2.2
					15	3,500	6.0	3.7	1.8	1.2		15	6740	19.8	6.3	4.5	3.0
					20	2,500	3.6	2.2	1.1	0.7		20	4920	12.7	4.5	3.1	2.1
					25	2,500	3.4	2.2	1.1	0.7		25	5070	13.5	5.1	3.4	2.1
					30	2,500	3.1	1.9	1.1	0.7		30	3660	8.5	3.5	2.5	1.8
0+62.5	12.5 R	Lift 4	Blend II	470	15	500	0.8	0.5	0.2	0.2	400	15	800	1.5	0.6	0.4	0.3
					15	2,500	4.0	2.5	1.2	0.9		15	5010	9.9	4.3	3.0	2.1
					15	3,500	5.7	3.3	1.8	1.2		15	6890	14.6	6.4	4.2	3.0
					20	2,500	2.7	1.8	1.1	0.7		20	5070	9.3	4.4	2.9	2.0
					25	2,500	3.1	1.8	1.1	0.7		25	5020	8.9	4.2	3.0	2.1
					30	2,500	2.8	1.6	1.0	0.7		30	4930	8.6	3.6	2.4	1.7
0+62.5	12.5 R	Lift 5	Blend II	540	15	500	0.7	0.4	0.2	0.1	366	15	1070	1.7	0.7	0.4	0.3
					15	2,500	3.4	2.0	1.1	0.7		15	4930	11.1	3.5	2.0	1.5
					15	3,500	5.0	2.7	1.5	0.1		15	7090	17.0	5.2	3.0	2.2
					20	2,500	2.7	1.5	1.0	0.7		20	4960	10.5	3.6	1.9	1.4
					25	2,500	2.7	1.5	1.0	0.7		25	4970	11.6	4.0	2.2	1.7
					30	2,500	2.7	1.3	0.9	0.7		30	3560	7.1	2.5	1.4	1.2
0+62.5	12.5 R	Lift 6	Blend II	590	15	500	0.5	0.3	0.2	0.2	422	15	960	1.6	0.6	0.4	0.3
					15	2,500	3.1	1.8	0.9	0.7		15	4850	9.9	3.3	1.9	1.6
					15	3,500	4.4	2.6	1.2	1.0		15	6790	14.5	4.8	3.0	2.3
					20	2,500	2.5	1.5	0.8	0.5		20	4980	8.4	3.0	1.8	1.4
					25	2,500	2.2	1.6	0.7	0.5		25	5110	8.7	3.2	1.8	1.4
					30	2,500	2.2	1.6	0.7	0.5		30	5010	8.5	3.2	1.8	1.4
0+62.5	12.5 R	Lift 7	Blend II	610	15	--	--	--	--	--	433	15	910	1.2	0.5	0.3	0.2
					15	2,521	2.6	1.5	0.7	0.6		15	4910	9.3	3.3	2.3	1.4
					15	--	--	--	--	--		15	6990	14.1	5.1	3.3	2.1
					20	2,490	2.2	1.3	0.6	0.5		20	4970	8.5	3.0	1.9	1.2
					25	2,541	2.1	1.2	0.5	0.4		25	5070	8.8	3.1	1.9	1.1
					30	2,533	2.1	1.2	0.5	0.4		30	5040	8.0	2.7	1.4	1.0

(Continued)

(Sheet 13 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 2 (Continued)																	
0+62.5	12.5 R	Lift 8	Blend II	630	15	2,540	2.5	1.3	0.7	0.5	297	15	950	2.3	0.5	0.3	0.2
					20	2,435	2.1	1.0	0.5	0.4		15	4950	11.8	3.1	1.7	1.3
					25	2,516	2.0	0.9	0.4	0.3		15	6910	18.4	4.6	2.5	1.9
					30	2,527	2.0	0.9	0.4	0.3		20	5060	11.9	3.1	1.5	1.1
					15	5,067	5.2	2.7	1.4	1.1		25	5050	11.8	2.9	1.3	1.0
					20	5,115	4.9	2.3	1.2	0.9		30	4620	10.0	2.4	1.1	0.8
					25	5,053	4.7	2.2	1.0	0.6							
					30	5,032	4.6	2.1	1.0	0.6							
0+62.5	12.5 R	Lift 9	Crushed limestone	630	15	2,470	2.2	1.2	2.0	1.7	404	15	1130	1.3	0.5	0.3	0.2
					20	2,488	2.0	1.0	2.0	1.3		15	5050	7.4	2.8	1.6	1.1
					25	2,490	2.0	1.0	1.7	1.8		15	6910	12.0	4.1	2.2	1.5
					30	2,465	2.0	1.0	2.1	0.8		20	4960	6.5	2.6	1.4	0.9
					15	5,004	5.0	2.7	2.8	1.7		25	5170	6.7	2.4	1.2	0.8
					20	5,007	4.6	2.2	5.3	3.1		30	4970	6.4	2.2	1.0	0.6
					25	5,118	4.4	2.0	3.3	2.3							
					30	5,026	4.4	2.0	4.4	1.2							
					15	10,183	11.6	6.0	3.0	2.7							
					20	10,060	10.6	5.1	2.0	1.8							
					25	9,966	10.0	4.8	3.0	2.4							
					30	10,129	10.4	5.1	1.3	2.4							
0+62.5	12.5 R	Lift 10	Crushed limestone	820	15	2,526	1.7	1.0	0.6	0.4	597	15	960	0.6	0.3	0.2	0.2
					20	2,494	1.7	1.0	0.6	0.4		15	5010	5.5	2.6	1.5	1.2
					25	2,551	1.6	0.9	0.5	0.4		15	7220	9.2	3.9	2.2	1.7
					30	2,503	1.5	0.9	0.5	0.3		20	5050	5.0	2.4	1.3	1.0
					15	5,016	3.8	2.3	1.2	0.9		25	5040	4.6	2.2	1.1	0.9
					20	4,968	3.6	2.1	1.1	0.8		30	4970	4.3	2.0	1.0	0.7
					25	4,930	3.3	2.0	1.0	0.7							
					30	5,128	3.3	2.0	1.0	0.7							
					15	9,939	8.3	5.0	2.6	1.8							
					20	9,868	8.0	4.8	2.6	1.8							
					25	10,094	8.0	4.7	2.2	1.6							
					30	9,515	7.8	4.6	2.2	1.6							

(Continued)

(Sheet 14 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 2 (Continued)																	
0+62.5	12.5 L	95.0	Lean clay subgrade	240	15	500	1.1	0.7	0.4	0.2	106	15	930	5.1	1.8	1.0	0.5
					15	2,500	7.8	4.0	2.0	1.3		15	4930	26.6	9.5	4.3	2.4
					15	3,500	12.0	5.9	2.8	1.9		15	6910	45.2	14.9	6.2	3.4
					20	3,050	10.3	5.7	2.7	1.9		20	4950	25.9	10.3	5.0	2.8
					25	3,050	10.5	6.4	3.3	2.3		25	4940	27.3	11.3	5.5	3.1
					30	2,050	8.8	6.0	3.0	2.3		30	4290	23.1	9.8	5.4	3.4
0+62.5	12.5 L	Lift 1	Blend II	325	15	500	1.0	0.7	0.6	0.2	145	15	1120	3.5	1.7	1.0	0.6
					15	2,500	5.6	3.9	2.1	1.0		15	4930	20.7	8.3	4.6	2.7
					15	3,500	8.5	5.7	3.0	1.5		15	6970	34.7	13.0	7.4	4.0
					20	2,500	5.8	3.8	2.0	1.0		20	5080	22.7	9.8	5.5	3.2
					25	2,500	5.6	4.0	2.1	1.1		25	4960	23.7	10.9	6.6	3.9
					30	2,500	4.7	3.2	1.7	1.2		30	3670	15.5	6.6	3.8	2.6
0+62.5	12.5 L	Lift 2	Blend II	380	15	500	0.8	0.7	0.2	0.2	294	15	980	2.3	1.1	0.7	0.4
					15	2,500	4.8	3.3	1.7	1.0		15	4870	17.0	7.6	4.8	2.8
					15	3,500	7.1	5.0	2.5	1.4		15	6900	23.9	10.9	6.9	4.0
					20	2,500	4.8	3.3	1.8	1.0		20	4920	15.6	7.6	4.8	2.9
					25	2,500	4.5	3.3	1.8	1.0		25	4980	16.7	8.1	4.9	3.1
					30	2,500	3.8	2.7	1.3	1.0		30	3770	10.9	5.4	3.3	2.4
0+62.5	12.5 L	Lift 3	Blend II	400	15	500	0.8	0.6	0.3	0.2	347	15	1010	1.9	0.8	0.6	0.4
					15	2,500	4.7	2.8	1.4	1.0		15	4900	12.7	6.5	3.7	2.3
					15	3,500	7.2	4.1	2.1	1.5		15	6880	18.4	9.4	5.5	3.3
					20	2,500	4.3	2.5	1.3	1.5		20	5110	11.9	6.2	3.5	2.1
					25	2,500	4.0	2.4	1.2	1.5		25	5080	11.1	6.1	3.8	2.3
					30	2,500	3.5	2.0	1.2	1.5		30	5190	10.3	5.1	3.2	2.2
0+62.5	12.5 L	Lift 4	Blend II	510	15	500	0.7	1.0	2.5	0.2	380	15	900	1.5	0.7	0.4	0.3
					15	2,500	3.7	2.1	1.4	0.9		15	4950	10.6	4.6	3.0	2.4
					15	3,500	5.2	3.0	2.0	1.3		15	6890	15.7	6.4	4.3	3.3
					20	2,500	2.9	1.5	1.0	0.7		20	4840	8.9	3.9	2.6	1.9
					25	2,500	2.8	1.6	1.0	0.7		25	4920	8.4	3.7	2.3	1.7
					30	2,500	2.4	1.3	0.8	0.7		30	4940	7.6	4.0	2.0	1.7

(Continued)

(Sheet 15 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 2 (Continued)																	
0+62.5	12.5 L	Lift 5	Blend II	550	15	500	0.7	0.3	0.2	0.1	429	15	1010	1.3	0.5	0.4	0.4
					15	2,500	3.5	1.8	1.1	0.9		15	4860	10.6	3.5	2.4	1.9
					15	3,500	5.0	2.7	1.7	1.2		15	7090	15.8	5.5	3.6	2.9
					20	2,500	2.8	1.5	1.0	0.6		20	4980	9.2	3.5	2.3	1.7
					25	2,500	2.5	1.4	1.0	0.6		25	5040	9.7	3.8	2.5	1.9
					30	2,500	2.3	1.2	0.9	0.6		30	4670	7.8	2.9	1.9	1.6
0+62.5	12.5 L	Lift 6	Blend II	610	15	500	0.6	0.4	0.3	0.1	468	15	890	1.2	0.5	0.3	0.2
					15	2,500	3.1	1.3	1.0	0.8		15	4960	10.9	3.9	2.5	2.0
					15	3,500	4.5	1.5	1.5	1.0		15	7020	15.3	5.1	3.2	2.5
					20	2,500	2.5	1.5	0.9	0.7		20	5040	9.6	3.4	2.1	1.7
					25	2,500	2.3	1.2	0.8	0.7		25	4970	9.2	3.3	2.1	1.6
					30	2,500	2.1	1.2	0.8	0.5		30	4370	7.3	2.5	1.4	1.2
0+62.5	12.5 L	Lift 7	Blend II	620	15	--	--	--	--	--	450	15	980	1.2	0.4	0.2	0.2
					15	2,547	2.6	1.8	0.9	0.7		15	4940	8.4	3.4	1.9	1.5
					15	--	--	--	--	--		15	7010	13.0	5.2	2.8	2.1
					20	2,494	2.1	1.3	0.7	0.5		20	4880	7.8	3.1	1.6	1.2
					25	2,548	2.1	1.3	0.6	0.4		25	5050	8.2	3.0	1.4	1.1
					30	2,501	2.0	1.2	0.5	0.4		30	4940	8.3	2.9	1.3	1.0
0+62.5	12.5 L	Lift 8	Blend II	640	15	2,446	2.3	1.3	0.6	0.4	530	15	1050	1.4	0.6	0.3	0.2
					20	2,570	2.1	1.1	0.5	0.4		15	4900	7.2	2.9	1.6	1.2
					25	2,526	2.0	1.0	0.4	0.2		15	7020	11.0	4.3	2.3	1.8
					30	2,492	2.0	1.0	0.3	0.2		20	5010	7.2	2.8	1.5	1.1
					15	5,103	5.0	2.8	1.2	1.0		25	4960	6.7	2.5	1.3	1.0
					20	5,021	4.7	2.6	0.9	0.7		30	5070	7.0	2.4	1.1	0.8
					25	5,025	4.6	2.4	0.8	0.5							
					30	5,062	4.4	2.3	0.8	0.6							
					15	10,165	11.6	6.2	2.5	1.9							
					20	9,960	10.6	5.6	1.9	1.4							
					25	10,014	10.5	5.7	1.9	1.2							
					30	10,188	12.2	6.8	1.6	1.1							

(Continued)

(Sheet 16 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 2 (Continued)																	
0+62.5	Lane 2	Lift 9	Cement stabilized Blend II	670	15	2,557	2.2	1.0	0.6	0.3	605	15	1080	0.9	0.4	0.3	0.2
					20	2,490	2.0	1.0	0.4	0.3		15	4910	6.7	3.5	1.8	1.3
					25	2,494	2.0	0.9	0.4	0.2		15	7150	10.4	5.1	2.7	2.5
					30	2,470	1.9	0.9	0.3	0.2		20	5090	6.6	3.2	1.5	1.2
					15	4,912	4.7	2.2	1.1	0.9		25	4900	7.0	3.0	1.4	1.0
					20	4,951	4.4	2.1	1.0	0.7		30	4740	6.6	2.7	1.2	1.2
					25	4,888	4.2	2.0	0.9	0.7							
					30	4,937	4.1	1.9	0.8	0.6							
					15	9,953	10.7	5.1	2.4	1.8							
					20	9,941	10.0	4.8	2.1	1.4							
					25	10,019	9.9	4.6	2.0	1.3							
					30	9,968	9.7	4.4	1.8	1.1							
					0+62.5	Lane 2	101.0	Cement stabilized Blend II	930	15		2,564	1.5	1.0	0.5	0.4	518
20	2,507	1.4	0.9	0.5						0.3	15	5010	4.8	4.3	1.6	1.0	
25	2,494	1.3	0.8	0.4						0.3	15	7030	8.7	7.1	2.4	1.5	
30	2,543	1.3	0.8	0.4						0.2	20	5080	4.7	4.1	1.5	0.9	
15	5,047	3.4	2.1	1.1						0.8	25	5050	4.5	4.4	1.4	0.8	
20	5,059	3.1	2.0	1.0						0.7	30	5170	4.3	3.7	1.3	0.8	
25	5,015	3.0	2.0	0.9						0.6							
30	5,043	3.0	1.9	0.8						0.5							
15	9,929	7.5	4.9	2.4						1.6							
20	10,052	7.2	4.6	2.2						1.5							
25	9,793	7.0	4.5	2.0						1.3							
30	9,765	6.8	4.4	1.9						1.1							
0+62.5	Lane 3	Lift 9	Crushed limestone	630						15	2,475	2.1	11.1	0.7	0.6	297	
					20	2,527	2.0	1.0	0.7	0.4	15	5050	12.7	3.4	1.9		1.3
					25	2,525	1.9	1.0	0.6	0.4	15	7040	19.4	5.1	2.7		1.9
					30	2,509	1.7	0.8	0.4	0.3	20	4990	10.7	3.1	1.7		1.2
					15	4,998	4.8	2.7	1.6	1.1	25	4910					
					20	4,962	4.4	2.2	1.3	1.0	30	4730					
					25	5,073	4.1	2.0	1.1	1.0							
					30	4,952	3.9	1.8	0.9	0.7							
					15	9,940	11.0	5.7	3.2	2.4							
					20	10,070	10.3	5.2	2.9	2.1							
					25	10,040	9.6	4.5	2.3	1.9							
					30	10,108	9.2	4.2	2.0	1.4							

(Continued)



Table AB (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 2 (Continued)																	
0+62.5	C Lane 3	101.0	Crushed limestone	860	15	2,453	1.6	1.0	0.6	0.5	597	15	960	0.6	0.3	0.2	0.2
					20	2,384	1.4	0.8	0.5	0.3		15	5010	5.5	2.6	1.5	1.2
					25	2,495	1.3	0.7	0.4	0.3		15	7220	9.2	3.9	2.2	1.7
					30	2,553	1.3	0.7	0.3	0.2		20	5050	5.0	2.4	1.3	1.0
					15	4,877	3.4	2.0	1.2	0.9		25	5040	4.6	2.2	1.1	0.9
					20	5,113	3.3	2.0	1.0	0.8		30	4970	4.3	2.0	1.0	0.7
					25	4,754	3.0	1.8	0.9	0.7							
					30	4,795	2.9	1.6	0.8	0.5							
					15	9,896	8.0	4.8	2.6	1.9							
					20	10,043	7.5	4.4	2.2	1.6							
					25	9,532	7.3	4.3	2.0	1.4							
					30	10,288	7.3	4.1	1.8	1.2							
0+87.5	12.5 R	95.0	Lean clay subgrade	235	15	500	1.3	0.6	0.4	0.2	130	15	920	3.1	1.3	0.6	0.4
					15	2,500	7.6	3.8	1.8	1.1		15	5170	26.6	9.9	3.8	2.2
					15	3,500	11.5	5.7	2.4	1.7		15	6980	40.5	13.9	5.3	3.1
					20	2,950	10.1	6.0	2.6	1.8		20	4810	26.7	10.4	4.2	2.4
					25	3,000	9.8	5.8	1.5	1.8		25	4910	29.0	10.5	4.6	3.0
					30	3,000	9.6	5.2	2.1	1.4		30	4260	26.7	10.4	4.3	3.0
0+87.5	12.5 R	Lift 1	Blend II	310	15	500	0.9	0.4	0.6	0.2	125	15	1030	3.4	1.5	0.8	0.4
					15	2,500	5.3	2.6	2.1	0.9		15	4800	21.3	8.8	4.3	2.6
					15	3,500	8.2	4.6	2.8	1.4		15	6890	38.0	13.9	6.4	3.7
					20	2,500	5.6	3.4	1.6	1.0		20	5000	22.9	10.0	5.0	2.9
					25	2,500	5.5	3.7	2.0	1.2		25	4910	24.5	11.0	5.6	3.5
					30	2,500	4.9	3.3	1.7	1.1		30	4400	22.1	10.1	4.8	3.3
0+87.5	12.5 R	Lift 2	Blend II	380	15	500	0.9	0.6	0.5	0.2	231	15	1010	2.4	1.2	0.8	0.4
					15	2,500	4.7	3.1	1.7	0.9		15	4900	17.4	8.8	4.9	3.0
					15	3,500	7.0	4.8	2.5	1.3		15	6860	25.9	12.5	7.1	4.2
					20	2,500	4.5	2.9	1.7	1.0		20	4980	16.9	8.6	4.9	2.9
					25	2,500	4.5	3.1	1.8	1.0		25	5030	18.0	9.0	4.9	2.3
					30	2,500	3.8	2.5	1.5	1.0		30	4590	16.2	8.9	5.2	2.9

(Continued)

(Sheet 18 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
				Item 2 (Continued)													
0+87.5	12.5 R	Lift 3	Blend II	390	15	500	0.7	0.6	2.5	0.1	284	15	970	2.5	0.8	0.5	0.4
					15	2,500	4.2	2.6	1.4	1.0		15	5010	14.6	6.4	3.8	2.6
					15	3,500	6.1	3.8	2.0	1.4		15	6890	21.2	8.7	5.2	3.4
					20	2,500	3.8	3.3	1.3	0.8		20	5220	13.6	6.6	4.1	2.6
					25	2,500	3.5	3.3	1.3	0.8		25	5300	13.4	6.7	4.0	2.2
					30	2,500	3.2	3.3	1.3	0.8		30	4410	10.3	5.2	3.3	2.0
0+87.5	12.5 R	Lift 4	Blend II	490	15	500	0.7	0.3	0.3	0.1	408	15	810	1.4	0.6	0.4	0.3
					15	2,500	3.6	2.2	1.3	0.9		15	4910	10.1	4.5	2.8	2.0
					15	3,500	5.2	3.1	3.1	1.3		15	6990	15.2	6.5	3.9	2.9
					20	2,500	2.9	1.6	1.1	0.8		20	4810	9.0	4.0	2.4	1.7
					25	2,500	2.8	1.6	1.2	0.8		25	5000	8.5	4.1	2.7	2.0
					30	2,500	2.3	1.3	0.8	0.8		30	5100	7.8	3.5	2.0	1.6
0+87.5	12.5 R	Lift 5	Blend II	530	15	500	0.6	0.3	0.2	0.1	300	15	970	1.3	0.6	0.4	0.3
					15	2,500	3.1	1.5	0.9	0.8		15	5020	9.1	3.5	2.2	1.7
					15	3,500	4.7	2.2	1.4	1.0		15	6850	15.2	5.4	3.4	2.4
					20	2,500	2.5	1.3	0.8	0.6		20	4950	9.4	3.4	2.2	1.5
					25	2,500	2.5	1.3	0.8	0.6		25	5060	8.5	3.4	2.1	1.5
					30	2,500	2.3	1.2	0.8	0.6		30	4850	7.7	3.2	2.0	1.5
0+87.5	12.5 R	Lift 6	Blend II	560	15	500	0.5	0.3	0.2	0.1	396	15	950	1.3	0.4	0.3	0.3
					15	2,500	2.9	1.6	0.9	0.7		15	5010	9.8	2.3	2.0	1.7
					15	3,500	4.3	2.3	1.3	1.0		15	6990	14.8	8.9	3.1	2.5
					20	2,500	2.5	1.4	0.8	0.7		20	5000	8.6	2.8	1.8	1.3
					25	2,500	2.3	1.3	0.8	0.7		25	5010	8.2	2.8	1.7	1.1
					30	2,500	2.3	1.3	0.8	0.4		30	4830	7.7	4.3	1.7	1.2
0+87.5	12.5 R	Lift 7	Blend II	620	15	--	--	--	--	--	365	15	990	1.6	0.5	0.3	0.2
					15	2,215	2.5	1.5	0.8	0.6		15	5140	11.9	3.2	2.1	1.6
					15	--	--	--	--	--		15	6930	16.8	4.5	2.9	2.2
					20	2,503	2.1	1.3	0.7	0.5		20	5050	10.5	1.7	1.8	1.4
					25	2,570	2.0	1.2	0.5	0.4		25	5000	10.2	2.6	1.5	1.1
					30	2,516	2.0	1.2	0.5	0.4		30	4430	8.6	2.1	1.3	0.9

(Continued)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 2 (Continued)																	
0+87.5	12.5 R	Lift 8	Blend II	660	15	2,428	2.3	1.4	0.7	0.6	426	15	950	1.7	0.6	0.3	0.2
					20	2,557	2.1	1.2	0.6	0.5		15	5010	8.6	3.2	1.7	1.1
					25	2,528	2.0	1.1	0.5	0.3		15	7010	13.3	4.9	2.4	1.8
					30	2,490	2.0	1.1	0.4	0.3		20	5010	8.0	2.9	1.4	1.1
					15	4,933	5.0	3.0	1.4	1.1		25	5040	8.1	2.8	1.2	0.9
					20	4,977	4.6	2.6	1.1	1.0		30	4950	9.2	2.7	1.2	0.9
					25	5,057	4.6	2.8	1.0	0.8							
					30	5,050	4.3	2.1	1.0	0.8							
					15	10,078	11.7	6.8	3.1	2.6							
					20	10,147	10.7	5.8	2.6	2.0							
					25	9,955	10.6	5.2	2.4	2.0							
					30	10,381	12.2	7.4	2.2	1.8							
0+87.5	12.5 R	Lift 9	Crushed limestone	520	15	2,468	2.5	1.3	0.7	0.6	409	15	1140	1.5	0.6	0.3	0.3
					20	2,510	2.4	1.2	0.7	0.6		15	4900	9.0	3.5	1.9	1.3
					25	2,543	2.3	1.1	0.6	0.4		15	7110	14.4	5.5	2.8	2.0
					30	2,523	2.3	1.1	0.6	0.4		20	4980	9.1	3.4	1.8	1.2
					15	4,955	5.8	3.0	1.6	1.1		25	4970	9.4	3.5	1.8	1.2
					20	5,005	5.6	2.8	1.3	1.0		30	4980	9.8	3.4	1.9	1.3
					25	5,023	5.4	2.7	1.2	1.0							
					30	4,892	5.4	2.8	1.2	1.0							
					15	10,022	14.1	6.8	3.3	2.4							
					20	10,037	13.2	6.2	3.0	2.3							
					25	9,395	12.6	6.0	2.8	2.0							
					30	10,051	25.0	7.2	3.0	2.4							
0+87.5	12.5 R	101.0	Crushed limestone	610	15	2,525	2.1	1.4	0.7	0.3	480	15	970	1.2	0.4	0.2	0.2
					20	2,498	2.0	1.3	0.6	0.3		15	4920	7.3	2.3	1.3	0.9
					25	2,538	2.0	1.2	0.4	0.2		15	7270	12.2	3.6	1.9	1.3
					30	2,516	2.0	1.2	0.3	0.1		20	5080	7.3	2.3	1.3	0.9
					15	4,984	4.8	3.1	1.2	0.8		25	5090	6.8	2.2	1.2	0.9
					20	5,076	4.7	3.0	1.1	0.8		30	5040	6.6	2.0	1.0	0.7
					25	5,000	4.7	3.0	1.0	0.6							
					30	4,888	4.4	3.0	0.9	0.3							
					15	10,003	10.9	7.0	2.6	1.4							
					20	10,027	10.8	6.9	2.3	1.4							
					25	9,846	11.3	7.7	2.0	1.0							
					30	--	--	--	--	--							

(Continued)

(Sheet 20 of 59)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 2 (Continued)																	
0+87.5	12.5 L	95.0	Lean clay subgrade	260	15	500	1.0	0.7	0.4	0.2	145	15	880	4.2	1.4	0.7	--
					15	2,500	7.0	2.7	1.7	1.3		15	4980	28.6	8.2	4.0	--
					15	3,000	10.4	5.5	2.4	1.7		15	7000	42.5	12.5	5.9	--
					20	3,050	9.0	5.3	2.2	1.8		20	4980	29.4	9.5	4.8	--
					25	3,000	8.7	5.2	2.2	1.7		25	4880	30.3	9.6	4.8	--
					30	3,050	8.0	4.6	1.8	1.5		30	4210	26.1	8.1	4.3	--
0+87.5	12.5 L	Lift 1	Blend II	285	15	500	0.9	0.6	0.4	0.3	143	15	1030	3.9	1.8	0.9	0.5
					15	2,500	6.0	3.6	1.9	1.9		15	4850	22.7	8.6	4.2	2.5
					15	3,500	8.6	5.4	2.7	1.9		15	7100	38.4	14.0	6.7	3.9
					20	2,500	6.3	3.9	1.8	2.0		20	5080	23.9	9.7	4.9	2.9
					25	2,500	5.5	4.0	2.1	2.1		25	4940	25.0	10.5	5.5	3.2
					30	2,500	5.3	3.7	1.9	1.3		30	4170	20.3	7.9	3.9	2.7
0+87.5	12.5 L	Lift 2	Blend II	340	15	500	1.0	0.6	0.2	0.2	215	15	1010	2.4	2.2	4.4	6.9
					15	2,500	5.3	3.1	1.5	0.9		15	5030	18.7	8.5	4.9	65.8
					15	3,500	7.8	4.7	2.3	1.4		15	6940	27.6	11.8	6.6	80.8
					20	2,500	5.1	3.2	1.7	1.0		20	4920	18.0	8.1	4.6	4.2
					25	2,500	4.9	3.0	1.7	1.0		25	4970	19.4	8.8	4.9	2.8
					30	2,500	4.2	2.7	1.3	1.0		30	3810	13.9	6.1	3.6	2.4
0+87.5	12.5 L	Lift 3	Blend II	430	15	500	7.5	2.5	0.2	0.2	304	15	1030	1.9	0.8	0.5	0.4
					15	2,500	4.2	2.7	1.3	1.0		15	5110	13.0	5.8	3.6	2.4
					15	3,500	6.0	4.0	2.0	1.3		15	6840	18.7	8.4	5.3	3.4
					20	2,500	3.5	2.3	1.2	7.5		20	5020	11.6	5.3	3.3	2.0
					25	2,500	3.2	2.2	1.0	0.7		25	5110	11.4	4.7	3.2	2.1
					30	2,500	2.7	2.0	1.1	0.7		30	4900	10.1	4.1	2.7	1.9
0+87.5	12.5 L	Lift 4	Blend II	480	15	500	0.7	0.5	0.5	0.2	385	15	910	1.5	0.7	0.5	0.3
					15	2,500	3.6	1.4	1.4	1.4		15	4950	10.7	4.9	2.9	2.1
					15	3,500	5.3	3.3	3.5	2.0		15	6720	15.3	7.1	4.2	3.0
					20	2,500	3.0	1.9	1.9	1.0		20	4950	9.4	4.3	2.4	1.8
					25	2,500	2.8	1.7	1.7	1.1		25	4900	8.5	3.7	2.3	1.6
					30	2,500	2.5	1.5	1.5	0.8		30	4970	7.7	3.2	2.0	1.5

(Continued)

(Sheet 21 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 2 (Continued)																	
0+87.5	12.5 L	Lift 5	Blend II	560	15	500	0.5	0.3	0.2	0.1	406	15	990	1.4	1.0	0.4	0.3
					15	2,500	3.1	1.7	1.1	0.7		15	4880	9.8	3.5	2.2	1.6
					15	3,500	4.5	2.7	1.5	1.0		15	6910	14.8	5.1	3.1	2.3
					20	2,500	2.5	1.5	0.9	0.7		20	4870	9.0	3.4	2.1	1.5
					25	2,500	2.4	1.5	0.7	0.7		25	5010	8.9	3.8	2.3	1.7
					30	2,500	2.1	1.2	0.7	0.5		30	5120	8.9	3.3	1.8	1.3
0+87.5	12.5 L	Lift 6	Blend II	630	15	500	0.5	0.2	0.2	0.1	342	15	990	1.6	0.4	0.2	0.2
					15	2,500	2.9	1.6	0.8	0.7		15	4990	8.6	2.7	1.8	1.4
					15	3,500	4.2	2.3	1.2	0.9		15	6870	14.1	4.4	2.8	2.0
					20	2,500	2.5	1.5	0.7	0.6		20	4980	8.1	3.0	1.8	1.3
					25	2,500	2.3	1.4	0.7	0.6		25	4960	8.6	3.2	1.8	1.3
					30	2,500	2.2	1.2	0.6	0.4		30	4930	8.0	2.8	1.4	1.0
0+87.5	12.5 L	Lift 7	Blend II	660	15	--	--	--	--	--	465	15	940	1.1	0.4	0.2	0.1
					15	2,466	2.3	1.3	0.8	0.7		15	5020	8.7	3.3	2.0	1.5
					15	--	--	--	--	--		15	7020	13.0	4.9	2.9	2.2
					20	2,527	2.1	1.1	0.7	0.4		20	4950	7.9	3.0	1.7	1.2
					25	2,538	2.0	1.0	0.4	0.3		25	5110	7.8	2.8	1.5	1.1
					30	2,498	1.9	1.0	0.4	0.3		20	5040	8.0	2.7	1.4	1.0
0+87.5	12.5 L	Lift 8	Blend II	670	15	2,456	2.0	1.1	0.7	0.4	502	15	1030	1.3	0.5	0.3	0.2
					20	2,651	2.0	1.0	0.6	0.3		15	4970	8.2	2.9	1.7	1.3
					25	2,562	1.9	1.0	0.4	0.3		15	6980	12.2	4.4	2.4	1.8
					30	2,533	1.8	0.9	0.3	0.2		20	5020	7.5	2.6	1.4	1.0
					15	4,973	4.7	2.6	1.2	1.0		25	4980	7.0	2.4	1.2	0.8
					20	5,033	4.3	2.2	1.0	0.8		30	5110	7.4	2.3	1.1	0.8
					25	5,035	4.2	2.1	1.0	0.7							
					30	4,978	4.0	2.0	0.8	0.7							
					15	10,095	10.9	5.7	2.7	2.0							
					20	10,034	10.0	5.1	2.2	1.7							
					25	10,154	10.0	5.0	2.1	1.6							
					30	10,112	9.9	4.9	1.8	1.3							

(Continued)

(Sheet 22 of 59)

Table A8 (Continued)

Station ft	€ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 2 (Continued)																	
0+87.5	€ Lane 2	Lift 9	Cement stabilized Blend II	530	15	2,524	2.8	1.3	0.8	0.4	573	15	1090	1.3	0.6	0.3	0.2
					20	2,499	2.6	1.3	0.7	0.4		15	5140	8.6	3.4	1.7	1.1
					25	2,481	2.6	1.3	0.7	0.4		15	7090	12.0	4.8	2.4	1.6
					30	2,464	2.4	1.2	0.7	0.4		20	5240	7.3	3.3	1.6	1.0
					15	5,084	6.2	3.2	1.6	1.0		25	5160	7.0	3.3	1.6	0.5
					20	4,964	5.8	3.0	1.4	1.0		30	4890	6.8	3.1	1.4	0.8
					25	4,948	5.8	3.1	1.4	1.0							
					30	5,039	5.9	3.1	0.8	1.0							
0+87.5	€ Lane 2	101.0	Cement stabilized Blend II	920	15	2,473	1.4	1.0	0.6	0.3	570	15	1010	0.6	0.3	0.2	0.2
					20	2,444	1.4	1.0	0.6	0.3		15	4940	5.2	2.6	1.7	1.1
					25	2,523	1.3	1.0	0.4	0.2		15	6820	8.5	3.7	2.5	1.5
					30	2,502	1.3	0.9	0.4	0.1		20	5030	5.0	2.5	1.6	0.9
					15	5,002	3.3	2.4	1.2	0.8		25	5020	4.7	2.3	1.5	0.8
					20	5,016	3.1	2.3	1.1	0.7		30	5170	4.5	2.3	1.4	0.7
					25	4,998	3.0	2.1	1.0	0.6							
					30	4,969	3.0	2.1	1.0	0.4							
					15	9,969	7.4	5.4	2.6	1.4							
					20	9,960	7.2	5.2	2.3	1.2							
					25	9,761	7.0	5.0	2.4	1.0							
					30	10,014	7.0	5.0	1.7	0.9							
0+87.5	€ Lane 3	Lift 9	Crushed limestone	630	15	2,447	2.2	1.3	0.8	0.6	518	15	1110	1.4	0.6	0.4	0.3
					20	2,431	2.0	1.1	0.7	0.4		15	5000	8.2	3.0	1.9	1.4
					25	2,501	1.9	1.0	0.6	0.4		15	6970	12.0	4.4	2.7	2.1
					30	2,479	1.8	1.0	0.4	0.3		20	5260	7.8	3.0	1.8	1.4
					15	4,995	5.0	2.9	1.6	1.1		25	5070	7.2	2.7	1.5	1.2
					20	5,000	4.7	2.7	1.3	1.0		30	4980	6.8	2.3	1.3	0.9
					25	5,056	4.2	2.3	1.1	0.9							
					30	4,972	4.0	2.1	1.0	0.7							
					15	9,991	11.6	6.4	3.0	2.3							
					20	10,064	10.8	6.0	3.0	2.0							
					25	9,987	9.8	5.2	2.4	1.8							
					30	9,929	9.6	5.0	2.0	1.3							

(Continued)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 2 (Continued)																	
0+81.5	Lane 3	101.0	Crushed limestone	880	15	2,495	1.6	1.0	0.6	0.4	642	15	980	0.7	0.3	0.2	0.2
					20	2,461	1.3	0.8	0.4	0.3		15	4920	5.6	2.4	1.4	1.0
					25	2,424	1.2	0.8	0.4	0.2		15	6910	8.7	3.6	2.1	1.5
					30	2,457	1.2	0.7	0.3	0.2		20	4990	5.1	2.2	1.2	0.8
					15	4,935	3.2	2.0	1.1	0.9		25	4960	4.8	2.3	1.1	0.8
					20	5,079	3.0	1.9	1.0	0.8		30	4910	4.8	2.3	1.0	0.7
					25	5,018	3.0	1.7	0.9	0.7							
					30	5,025	2.9	1.6	0.8	0.6							
					15	9,976	7.7	4.6	2.6	1.9							
					20	10,037	7.1	4.1	2.1	1.6							
					25	9,938	6.9	3.9	2.0	1.3							
					30	9,948	6.8	3.8	1.8	1.1							
Item 3																	
1+12.5	12.5 R	95.0	Lean clay subgrade	210	15	500	1.2	0.7	0.5	0.2	97	15	850	4.7	1.8	0.9	0.4
					15	2,500	8.4	4.8	2.0	1.2		15	4980	33.7	13.0	4.5	2.5
					15	3,500	13.1	7.2	2.9	1.8		15	6820	52.1	19.1	6.2	3.5
					20	2,950	11.3	6.5	2.7	1.9		20	5010	41.1	15.6	5.6	3.2
					25	3,000	11.6	6.8	3.4	2.7		25	5050	44.0	18.9	7.2	4.1
					30	2,950	11.5	7.2	3.2	2.3		30	3810	34.2	15.8	5.8	3.9
1+12.5	12.5 R	Lift 1	Blend II	300	15	500	0.9	0.7	0.6	0.2	119	15	930	3.6	1.8	0.9	0.5
					15	2,500	6.2	4.2	2.3	1.1		15	4960	23.9	11.3	4.6	--
					15	3,500	9.3	6.2	3.2	1.6		15	6930	40.4	17.7	8.4	4.3
					20	2,500	6.4	4.5	0.2	0.1		20	5020	25.1	12.6	6.7	3.7
					25	2,500	6.1	4.7	2.7	1.6		25	5000	26.3	14.2	7.3	5.1
					30	2,500	5.5	3.9	2.0	1.4		30	4240	22.6	12.8	6.2	3.8
1+12.5	12.5 R	Lift 2	Blend II	370	15	500	0.9	0.6	0.5	0.1	225	15	1050	2.5	1.0	0.7	0.5
					15	2,500	4.8	3.2	1.7	0.9		15	4950	17.1	7.8	5.1	3.1
					15	3,500	7.3	4.8	2.7	1.4		15	6910	25.8	11.2	7.5	4.3
					20	2,500	4.7	3.2	1.7	1.0		20	4830	16.4	8.0	5.4	3.6
					25	2,500	4.2	3.2	1.7	1.0		25	4920	16.5	7.3	4.8	2.5
					30	2,500	3.5	2.5	1.5	1.0		30	3300	9.8	4.6	3.4	2.0

(Continued)

(Sheet 24 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>40</sub>	Δ <sub>60</sub>	DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>32</sub>	Δ <sub>46</sub>
				kips/in.	Hz	lb	mils	mils	mils	mils	kips/in.	Hz	lb	mils	mils	mils	mils
Item 3 (Continued)																	
1+12.5	12.5 R	Lift 3	Blend II	420	15	500	0.7	0.5	0.2	0.1	323	15	950	1.8	0.8	0.6	0.5
					15	2,500	4.4	2.7	0.1	0.9		15	4940	12.9	5.5	4.0	2.6
					15	3,500	6.5	4.1	2.0	1.3		15	7010	19.3	8.0	5.8	3.6
					20	2,500	3.9	2.5	1.2	0.8		20	5060	12.3	6.0	4.3	2.9
					25	2,500	3.5	2.4	1.1	0.7		25	5010	11.1	5.6	3.6	2.0
					30	2,500	3.0	1.8	0.9	0.7		30	4250	8.2	4.1	3.0	1.7
1+12.5	12.5 R	Lift 4	Blend II	600	15	500	0.6	0.4	0.2	0.1	380	15	970	1.7	0.8	0.5	0.4
					15	2,500	3.5	2.1	1.3	0.7		15	4940	10.1	4.7	3.0	3.1
					15	3,500	5.1	3.0	1.8	1.2		15	6840	15.1	6.8	4.3	4.6
					20	2,500	2.9	1.7	1.0	0.6		20	4880	9.0	4.3	2.8	2.1
					25	2,500	2.6	1.3	1.2	0.6		25	4980	8.3	--	2.5	2.0
					30	2,500	2.2	1.2	0.7	0.6		30	4960	8.0	3.6	2.2	1.7
1+12.5	12.5 R	Lift 5	Blend II	530	15	500	0.6	0.3	0.2	0.1	297	15	1010	1.5	0.7	0.4	0.3
					15	2,500	3.2	1.6	1.0	0.7		15	5000	11.0	4.2	2.4	1.6
					15	3,500	4.7	2.3	1.4	1.0		15	7050	17.9	5.9	3.4	2.3
					20	2,500	2.6	1.4	0.9	0.6		20	5050	9.0	3.6	2.2	1.3
					25	2,500	2.2	1.2	0.7	0.5		25	5050	8.8	3.3	1.8	1.2
					30	2,500	2.1	1.0	0.7	0.5		30	4760	7.8	2.8	1.8	1.3
1+12.5	12.5 R	Lift 6	Blend II	590	15	500	0.5	0.2	0.1	0.1	389	15	920	1.2	0.5	0.2	0.2
					15	2,500	3.1	1.4	0.7	0.5		15	4900	10.1	3.6	2.0	1.2
					15	3,500	4.6	2.0	1.1	7.5		15	6960	15.4	5.2	3.0	1.8
					20	2,500	2.6	1.2	0.7	0.5		20	5050	10.0	3.4	1.8	1.1
					25	2,500	2.2	1.0	0.5	0.4		25	4940	9.0	3.0	1.5	0.9
					30	2,500	2.2	1.0	0.5	0.4		30	4090	6.7	2.4	1.3	0.8
1+12.5	12.5 R	Lift 7	Blend II	630	15	--	--	--	--	--	391	15	990	1.4	0.4	0.2	0.2
					15	2,576	2.4	1.4	0.8	0.6		15	5090	10.5	3.5	2.0	1.5
					15	--	--	--	--	--		15	6890	15.1	4.8	2.7	2.1
					20	2,512	2.1	1.1	0.6	0.4		20	4980	9.4	3.0	1.6	1.2
					25	2,550	2.0	1.1	0.4	0.3		25	5100	9.5	3.0	1.4	1.0
					30	2,517	1.9	1.0	0.4	0.3		30	4680	8.2	2.5	1.2	0.9

(Continued)

(Sheet 25 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+12.5	12.5 R	Lift 8	Blend II	650	15	2,529	2.2	1.3	0.7	0.6	588	15	920	1.2	0.4	0.3	0.2
					20	2,506	2.0	1.0	0.6	0.4		15	4870	8.5	3.2	1.7	1.2
					25	2,520	2.0	1.0	0.4	0.3		15	6870	11.6	4.4	2.4	1.7
					30	2,466	1.9	1.0	0.3	0.2		20	5020	7.6	2.9	1.5	1.0
					15	5,054	4.8	2.8	1.2	1.0		25	5090	7.5	2.7	1.3	0.8
					20	5,008	4.4	2.3	1.0	0.9		30	5020	7.6	2.7	1.3	0.7
					25	5,021	4.3	2.3	1.0	0.7							
					30	5,049	4.2	2.4	0.9	0.6							
					15	10,075	11.0	6.0	2.7	2.0							
					20	10,162	10.2	5.4	2.1	1.7							
					25	9,952	10.1	5.4	2.0	1.4							
					30	10,327	14.2	6.1	2.0	1.2							
1+12.5	12.5 R	Lift 9	Blend II	680	15	2,470	2.0	1.2	0.6	0.4	373	15	1070	1.4	0.5	0.3	0.2
					20	2,595	2.0	1.0	0.6	0.4		15	4910	8.2	2.6	1.5	1.1
					25	2,566	1.9	1.0	0.4	0.3		15	7000	13.8	4.3	2.3	1.7
					30	2,514	1.8	1.0	0.4	0.3		20	4970	7.5	2.5	1.3	1.0
					15	4,839	4.6	2.7	1.1	1.0		25	5030	7.4	2.4	1.2	0.8
					20	4,886	4.2	2.2	1.0	0.9		30	5110	7.4	2.3	1.1	0.8
					25	5,035	4.1	2.1	0.9	0.7							
					30	4,973	4.0	2.1	0.9	0.7							
					15	9,906	10.8	5.7	2.4	2.0							
					20	9,940	10.0	5.1	2.1	1.8							
					25	10,291	10.0	5.1	1.9	1.3							
					30	9,971	9.3	5.0	2.0	1.3							
1+12.5	12.5 R	101.0	Blend II	670	15	2,528	2.1	1.0	0.6	0.4	415	15	1030	0.7	0.2	0.2	0.1
					20	2,489	2.0	1.0	0.4	0.3		15	4920	4.4	1.5	1.2	0.9
					25	2,546	1.9	0.9	0.4	0.4		15	7160	9.8	2.2	1.8	1.4
					30	2,526	1.9	0.8	0.3	0.2		20	5010	4.3	1.3	1.0	0.8
					15	4,957	4.7	2.3	1.1	0.9		25	5050	4.5	1.1	0.9	0.6
					20	5,075	4.4	2.1	1.0	0.9		30	5020	4.8	1.0	0.8	0.6
					25	5,066	4.2	1.9	0.9	0.7							
					30	5,155	4.2	1.9	0.8	0.6							
					15	9,892	10.7	5.1	2.2	1.9							
					20	10,000	10.1	4.3	2.0	1.7							
					25	9,998	10.0	4.0	1.6	1.3							
					30	10,311	11.2	4.6	1.9	1.3							

(Continued)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
				Item 3 (Continued)													
1+12.5	12.5 L	95.0	Lean clay subgrade	270	15	500	1.2	0.6	0.6	0.3	140	15	910	3.6	1.7	1.5	0.7
					15	2,500	6.8	4.2	2.7	1.9		15	4890	19.8	9.8	6.3	3.8
					15	3,500	10.2	6.2	3.8	2.7		15	6790	33.4	16.3	10.7	5.9
					20	3,050	9.0	6.1	4.0	2.9		20	4990	21.8	11.6	8.0	4.8
					25	3,100	8.2	5.7	3.9	3.5		25	4970	21.6	12.6	9.5	6.8
					30	3,100	6.5	4.2	2.5	2.3		30	4620	15.3	8.2	5.9	4.7
1+12.5	12.5 L	Lift 1	Blend II	350	15	500	0.7	0.5	0.5	0.3	153	15	1040	3.4	1.5	1.2	0.8
					15	2,500	5.0	3.1	2.2	1.2		15	4810	17.8	8.2	5.7	3.7
					15	3,500	7.8	4.7	3.2	1.8		15	6850	31.1	13.8	9.2	5.7
					20	2,500	5.4	3.6	2.4	1.4		20	5020	18.0	9.4	6.8	4.4
					25	2,500	4.8	3.4	2.2	1.7		25	4900	15.2	8.0	6.0	4.4
					30	2,500	3.2	3.4	1.4	1.0		30	4810	13.7	6.4	4.1	2.4
1+12.5	12.5 L	Lift 2	Blend II	400	15	500	0.8	0.7	0.5	0.2	306	15	920	2.1	1.3	0.9	0.6
					15	2,500	4.7	2.9	1.9	1.2		15	4900	13.4	7.0	5.1	3.6
					15	3,500	6.8	4.5	2.8	1.7		15	6860	19.8	9.5	7.2	5.0
					20	2,500	4.3	2.9	2.0	1.2		20	5060	12.5	6.5	4.8	3.2
					25	2,500	4.0	2.7	1.7	1.0		25	4990	11.4	5.7	4.2	2.9
					30	2,500	3.0	1.7	1.2	0.9		30	4480	8.4	3.7	2.6	1.9
1+12.5	12.5 L	Lift 3	Blend II	460	15	500	0.7	0.5	0.2	0.2	428	15	1010	1.3	0.5	0.4	0.3
					15	2,500	4.0	2.2	1.2	1.0		15	4920	11.6	5.0	3.6	2.7
					15	3,500	5.7	2.8	1.9	1.4		15	6930	16.3	7.6	5.5	4.0
					20	2,500	3.0	2.0	1.2	0.7		20	5030	10.0	4.4	3.2	2.3
					25	2,500	2.7	1.7	1.0	0.7		25	5170	8.8	3.7	2.8	2.0
					30	2,500	2.2	1.2	0.7	0.5		30	5140	7.7	2.8	2.1	1.4
1+12.5	12.5 L	Lift 4	Blend II	520	15	500	0.6	0.3	0.2	0.1	396	15	960	1.4	0.7	0.4	0.3
					15	2,500	3.4	2.0	1.3	0.9		15	4860	9.3	4.4	2.9	2.4
					15	3,500	5.0	2.8	2.0	1.2		15	6840	14.3	6.4	4.2	3.5
					20	2,500	2.7	1.3	1.0	0.7		20	4880	7.9	3.6	2.3	1.9
					25	2,500	2.4	1.5	1.2	0.7		25	4970	7.1	3.0	1.9	1.7
					30	2,500	2.0	1.0	0.7	0.4		30	5020	6.3	2.5	1.6	1.5

(Continued)

(Sheet 27 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+12.5	12.5 L	Lift 5	Blend II	580	15	500	0.5	0.3	0.2	0.1	400	15	1090	1.5	0.7	0.4	0.3
					15	2,500	2.9	1.7	1.1	0.7		15	4970	8.0	3.1	2.0	1.6
					15	3,500	4.3	2.5	1.6	1.1		15	7010	13.1	5.4	3.3	2.7
					20	2,500	2.5	1.5	1.0	0.6		20	4760	8.2	3.2	2.2	1.7
					25	2,500	2.2	1.5	0.9	0.6		25	5010	7.1	2.8	1.8	1.6
					30	2,500	2.0	1.0	0.7	0.4		30	5050	7.4	2.5	1.2	0.8
1+12.5	12.5 L	Lift 6	Blend II	640	15	500	0.5	0.2	0.2	0.1	411	15	990	1.5	0.6	0.9	0.2
					15	2,500	2.8	1.2	0.8	0.6		15	5050	7.3	2.6	1.7	1.4
					15	3,500	4.2	1.9	1.2	0.9		15	6860	11.7	4.2	2.6	2.2
					20	2,500	2.4	1.2	0.8	0.5		20	4810	7.5	2.5	1.6	1.3
					25	2,500	2.1	1.0	0.7	0.5		25	5120	7.7	2.6	1.6	1.3
					30	2,500	2.0	0.7	0.5	0.3		30	4950	7.4	2.1	1.1	0.9
1+12.5	12.5 L	Lift 7	Blend II	680	15	--	--	--	--	--	527	15	900	1.1	0.4	0.2	0.2
					15	2,519	2.3	1.4	0.8	0.6		15	4860	8.2	2.7	1.9	1.5
					15	--	--	--	--	--		15	6970	12.2	4.2	2.7	2.1
					20	2,499	2.0	1.1	0.6	0.3		20	5030	7.6	2.6	1.5	1.1
					25	2,515	1.9	1.0	0.4	0.3		25	5120	7.6	2.5	1.3	1.0
					30	2,487	1.9	1.0	0.3	0.2		30	4950	7.6	2.3	1.0	0.8
1+12.5	12.5 L	Lift 8	Blend II	700	15	2,541	2.2	1.1	0.7	0.6	609	15	980	1.1	0.5	0.3	0.2
					20	2,604	2.0	1.0	0.4	0.3		15	4850	7.3	2.9	1.6	1.2
					25	2,605	2.0	1.0	0.3	0.2		15	6920	10.7	4.3	2.3	1.7
					30	2,505	1.8	0.9	0.3	0.2		20	4990	6.5	2.6	1.2	0.9
					15	5,037	4.7	2.6	1.2	1.0		25	4980	6.4	2.5	1.1	0.8
					20	4,975	4.2	2.1	1.0	0.8		30	4990	6.4	2.3	0.9	0.6
					25	4,959	4.1	2.0	0.9	0.6							
					30	5,021	4.0	1.9	0.7	0.4							
					15	9,797	10.3	5.3	2.4	2.0							
					20	10,020	9.8	4.8	2.0	1.6							
					25	10,048	9.6	4.4	1.8	1.2							
					30	9,977	9.3	4.8	1.6	1.0							

(Continued)

(Sheet 28 of 59)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+18.75	C Lane 2*	101.0	Lean mix concrete	1940	15	2,554	1.0	0.8	0.4	0.3	415	15	1030	0.7	0.2	0.2	0.1
					20	2,497	1.0	0.6	0.4	0.2		15	4920	4.4	1.5	1.2	0.9
					25	2,524	0.9	0.6	0.3	0.2		15	7160	9.8	2.2	1.8	1.4
					30	2,480	0.8	0.4	0.3	0.2		20	5010	4.3	1.3	1.0	0.8
					15	5,004	2.1	1.4	1.0	0.8		25	5050	4.5	1.1	0.9	0.6
					20	5,097	2.0	1.3	0.9	0.7		30	5020	4.8	1.0	0.8	0.6
					25	5,042	1.8	1.2	0.8	0.6							
					30	4,988	1.8	1.1	0.7	0.4							
					15	9,996	4.4	3.1	2.1	1.6							
					20	10,016	4.1	2.9	1.9	1.3							
					25	10,041	3.9	2.7	1.7	1.1							
					30	9,763	3.6	2.3	1.3	1.0							
1+12.5	C Lane 3	Lift 9	Blend II	565	15	2,505	2.6	1.6	0.1	0.6	341	15	1140	1.6	0.5	0.3	0.3
					20	2,475	2.1	0.4	0.1	0.6		15	5100	9.9	3.2	1.9	1.7
					25	2,534	2.0	1.6	0.4	0.3		15	6910	15.2	4.6	2.8	2.3
					30	2,523	2.0	1.9	0.1	0.3		20	5020	9.2	2.9	1.7	1.5
					15	5,052	5.6	1.4	1.4	1.2		25	5000	8.7	2.6	1.4	1.2
					20	5,070	5.0	3.0	1.2	1.0		30	4910	8.5	2.5	1.1	0.9
					25	5,000	4.7	0.4	0.1	0.8							
					30	5,020	4.6	0.1	1.1	0.1							
					15	10,086	13.3	8.8	3.3	2.8							
					20	10,016	11.8	10.1	2.8	2.3							
					25	10,045	11.1	9.1	2.2	1.9							
					30	9,950	10.9	6.9	0.1	1.4							

(Continued)

\* Center of slab.

(Sheet 29 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+12.5	C Lane 3	101.0	Blend II (DBST)	680	15	2,502	2.1	1.1	0.7	0.4	433	15	980	1.0	0.3	0.2	0.2
					20	2,491	2.0	1.0	0.6	0.3		15	5100	7.1	3.0	1.7	1.2
					25	2,515	1.9	1.0	0.4	0.3		15	7090	11.7	4.4	2.4	1.7
					30	2,507	1.8	1.0	0.3	0.2		20	5040	6.2	2.6	1.4	0.9
					15	4,951	4.6	2.6	1.2	1.0		25	5110	6.3	2.7	1.3	0.9
					20	4,960	4.2	2.2	1.0	0.8		30	5020	5.9	2.4	1.1	0.7
					25	4,964	4.0	2.1	0.9	0.7							
					30	5,012	4.0	2.0	0.9	0.6							
					15	9,969	10.4	5.6	2.6	1.9							
					20	9,973	9.9	5.1	2.2	1.7							
					25	10,194	9.8	5.0	1.9	1.2							
					30	10,517	10.1	5.2	2.0	1.3							
1+37.5	12.5 R	95.0	Lean clay subgrade	225	15	500	1.3	0.7	0.5	0.1	121	15	810	4.1	1.1	0.7	0.3
					15	2,500	7.9	4.0	1.7	1.1		15	4900	27.2	9.3	3.4	2.1
					15	3,500	11.8	5.7	2.5	1.6		15	6920	43.9	13.0	4.8	2.9
					20	3,050	10.7	5.5	2.3	1.5		20	4870	29.5	10.7	4.1	2.3
					25	3,050	11.4	7.2	3.0	2.0		25	5060	31.0	12.1	4.9	5.2
					30	3,100	11.6	7.7	3.1	2.2		30	4210	27.7	11.0	4.5	8.1
1+37.5	12.5 R	Lift 1	Blend II	340	15	500	1.0	0.6	0.4	0.4	170	15	1090	3.7	1.7	0.8	0.4
					15	2,500	6.0	3.7	2.1	1.0		15	4850	22.6	10.1	4.6	2.4
					15	3,500	8.7	5.7	2.8	1.4		15	6920	34.8	14.9	6.5	3.5
					20	2,500	6.3	4.2	2.1	1.0		20	5110	24.3	12.0	5.5	2.8
					25	2,500	6.7	4.7	2.5	1.2		25	4970	27.5	14.6	7.2	4.0
					30	2,500	5.8	4.3	2.2	1.2		30	4360	24.1	13.6	6.5	3.7
1+37.5	12.5 R	Lift 2	Blend II	390	15	500	0.8	0.6	0.2	0.2	260	15	980	2.5	1.4	0.9	0.5
					15	2,500	4.7	3.2	1.7	1.0		15	4900	17.3	8.9	5.1	3.1
					15	3,500	7.2	5.0	2.6	1.5		15	6850	24.8	12.5	7.3	4.4
					20	2,500	4.7	3.2	1.7	1.0		20	5020	17.3	9.4	5.5	3.3
					25	2,500	4.5	3.2	1.8	1.0		25	5010	18.2	10.0	5.7	3.2
					30	2,500	3.9	3.0	1.7	1.0		30	3660	12.1	7.2	4.4	2.7

(Continued)

(Sheet 30 of 59)

Table A8 (Continued)

Station ft	$\xi$ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+37.5	12.5 R	Lift 3	Blend II	430	15	500	0.8	0.4	0.2	0.2	300	15	1120	2.1	0.8	0.6	0.7
					15	2,500	4.2	2.5	1.3	1.0		15	5140	14.0	6.0	3.7	2.6
					15	3,500	6.3	3.7	2.0	1.5		15	6940	20.1	8.3	5.2	3.6
					20	2,500	3.8	2.2	1.2	0.9		20	5380	13.8	6.4	4.0	2.6
					25	2,500	3.5	2.2	1.2	0.9		25	5330	13.2	6.2	3.7	2.4
					30	2,500	3.1	2.0	1.2	0.9		30	4160	9.6	4.6	3.0	2.0
1+37.5	12.5 R	Lift 4	Blend II	500	15	500	0.7	0.4	0.2	0.2	330	15	960	1.7	0.6	0.4	--
					15	2,500	3.7	2.2	1.4	0.9		15	4860	12.1	4.4	2.8	2.1
					15	3,500	5.2	2.7	2.0	1.3		15	6910	18.3	6.4	4.1	3.1
					20	2,500	3.1	2.0	1.2	0.7		20	4950	11.2	4.4	2.8	2.0
					25	2,500	3.0	2.0	1.2	0.7		25	4910	10.9	4.3	2.9	2.1
					30	2,500	2.5	1.6	1.0	0.7		30	4370	8.6	3.3	2.1	1.5
1+37.5	12.5 R	Lift 5	Blend II	540	15	500	0.5	0.3	0.2	0.2	353	15	960	1.6	0.7	0.5	0.4
					15	2,500	3.3	1.8	1.1	0.8		15	5060	11.4	4.0	2.4	1.8
					15	3,500	4.8	2.6	1.6	1.2		15	6860	16.5	5.7	3.8	2.6
					20	2,500	2.7	1.6	1.0	0.7		20	4950	10.4	3.7	2.2	1.7
					25	2,500	2.5	1.5	0.9	0.7		25	5050	10.0	3.7	2.3	1.6
					30	2,500	2.2	1.2	0.9	0.6		30	5080	9.5	3.5	2.3	1.7
1+37.5	12.5 R	Lift 6	Blend II	580	15	500	0.5	0.3	0.1	0.1	356	15	910	1.4	0.6	0.3	0.2
					15	2,500	3.2	1.7	0.9	0.7		15	5060	8.9	3.3	2.5	1.5
					15	3,500	4.6	2.5	1.2	1.0		15	6910	14.1	5.2	3.5	2.2
					20	2,500	2.5	1.4	0.7	0.6		20	4940	8.4	3.3	2.1	1.4
					25	2,500	2.2	1.2	0.7	0.5		25	5040	8.1	3.1	1.8	1.3
					30	2,500	2.2	1.2	0.6	0.4		30	5200	8.4	3.2	1.7	1.2
1+37.5	12.5 R	Lift 7	Blend II	590	15	--	--	--	--	--	488	15	990	1.3	0.4	0.3	0.2
					15	2,443	2.4	1.3	0.8	0.7		15	4940	9.3	3.0	2.1	1.5
					15	--	--	--	--	--		15	6990	13.5	4.4	2.9	2.0
					20	2,465	2.1	1.1	0.7	0.4		20	5100	8.9	2.8	1.8	1.3
					25	2,539	2.0	1.0	0.7	0.4		25	5050	8.1	2.5	1.6	1.1
					30	2,485	2.0	1.0	0.6	0.3		30	5070	8.1	2.3	1.4	1.0

(Continued)

(Sheet 31 of 59)



Table A8 (Continued)

Station ft	$\xi$ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+37.5	12.5 R	Lift 8	Blend II	670	15	2,551	2.3	1.3	0.8	0.6	391	15	980	1.2	0.5	0.3	0.2
					20	2,528	2.1	1.1	0.7	0.4		15	4940	8.6	3.1	1.8	1.3
					25	2,629	2.0	1.0	0.6	0.3		15	6660	13.0	4.6	2.5	1.9
					30	2,544	2.0	1.0	0.4	0.2		20	4990	8.3	3.0	1.6	1.2
					15	4,974	4.9	2.7	1.4	1.0		25	4990	8.0	2.7	1.4	1.1
					20	4,984	4.7	2.4	1.2	1.0		30	5000	8.3	2.8	1.3	1.0
					25	5,056	4.4	2.1	1.0	0.8							
					30	5,042	4.3	2.0	1.0	0.7							
					15	9,998	11.1	5.9	3.0	2.1							
					20	10,056	10.6	5.6	2.8	1.9							
					25	10,000	10.1	4.9	2.3	1.6							
					30	9,995	10.3	5.3	2.1	1.3							
1+37.5	12.5 R	Lift 9	Blend II	660	15	2,479	2.1	1.1	0.7	0.4	517	15	990	1.2	0.5	0.3	0.1
					20	2,477	2.0	1.0	0.6	0.4		15	5020	8.1	2.7	1.6	1.1
					25	2,481	1.9	1.0	0.4	0.3		15	6830	11.6	3.7	2.2	1.6
					30	2,545	1.9	0.8	0.3	0.3		20	5170	7.1	2.6	1.5	1.1
					15	5,083	4.9	3.0	1.3	1.0		25	5130	6.8	2.3	1.3	0.9
					20	4,970	4.4	2.8	1.1	0.9		30	5120	6.8	2.3	1.1	0.7
					25	5,066	4.3	3.2	1.0	0.8							
					30	5,386	4.4	4.2	0.9	0.8							
					15	10,029	11.1	8.2	2.8	2.1							
					20	10,150	10.6	6.7	2.3	1.9							
					25	10,466	10.3	0.1	2.3	1.8							
					30	9,970	9.8	1.9	2.0	1.4							
1+37.5	12.5 R	101.0	Blend II	750	15	2,525	2.0	1.0	0.6	0.4	346	15	1060	1.1	0.3	0.2	0.1
					20	2,508	2.0	1.0	0.6	0.3		15	4850	7.2	2.5	1.3	0.9
					25	2,567	1.9	0.9	0.4	0.3		15	6790	12.8	3.7	1.8	1.3
					30	2,512	1.8	0.9	0.3	0.2		20	4980	6.9	2.5	1.2	0.9
					15	5,030	4.6	2.2	1.1	0.9		25	5110	6.8	2.5	1.1	0.9
					20	5,069	4.3	2.0	1.0	0.8		30	4920	6.5	2.2	0.9	0.7
					25	5,090	4.2	2.0	1.0	0.8							
					30	4,934	4.0	1.9	0.8	0.6							
					15	10,037	10.3	4.9	2.3	1.9							
					20	10,223	10.0	4.6	2.1	1.7							
					25	10,117	9.9	4.3	1.8	1.3							
					30	10,462	10.0	4.2	2.0	1.0							

(Continued)

(Sheet 32 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>40</sub>	Δ <sub>60</sub>	DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>32</sub>	Δ <sub>46</sub>
				kips/in.	Hz	lb	mils	mils	mils	mils	kips/in.	Hz	lb	mils	mils	mils	mils
Item 3 (Continued)																	
1+37.5	12.5 L	95.0	Lean clay	240	15	500	1.4	0.6	0.4	0.2	59	15	1010	5.0	1.9	0.7	0.4
					15	2,500	7.8	3.7	1.7	1.2		15	4850	26.6	9.4	3.6	2.0
					15	3,500	11.6	5.5	2.4	1.7		15	6970	62.4	15.9	5.6	3.0
					20	3,000	10.0	5.8	2.2	1.7		20	4940	29.0	11.4	4.5	2.5
					25	3,050	10.4	6.7	2.5	1.7		25	4960	31.3	12.8	4.5	2.4
					30	3,100	10.7	6.8	2.8	1.9		30	4040	26.2	11.8	4.7	2.5
1+37.5	12.5 L	Lift 1	Blend II	310	15	500	1.0	0.7	0.4	0.2	134	15	1080	4.2	1.7	0.9	0.5
					15	2,500	5.8	3.4	1.8	0.9		15	4940	22.4	8.4	4.0	2.2
					15	3,500	8.4	4.6	2.5	1.3		15	7160	38.9	14.3	6.7	3.6
					20	2,500	6.2	3.4	1.8	1.2		20	4970	24.6	10.2	5.0	2.8
					25	2,500	6.7	3.7	1.8	1.2		25	4980	28.1	12.3	6.2	3.3
					30	2,500	5.6	3.8	2.1	1.3		30	4210	23.4	11.1	5.6	3.3
1+37.5	12.5 L	Lift 2	Blend II	340	15	500	0.8	0.6	0.2	0.1	213	15	930	2.8	1.4	0.8	0.4
					15	2,500	5.1	3.5	1.6	0.8		15	5020	22.0	10.1	5.5	3.0
					15	3,500	7.7	5.3	2.5	1.3		15	6940	31.0	13.6	7.2	4.0
					20	2,500	5.2	3.4	1.9	1.0		20	5080	21.2	10.9	5.7	3.2
					25	2,500	5.0	3.4	1.9	1.0		25	4930	21.8	10.9	5.6	3.3
					30	2,500	4.5	3.4	2.0	1.2		30	3160	12.5	6.9	3.7	2.4
1+37.5	12.5 L	Lift 3	Blend II	390	15	500	0.8	0.5	0.2	0.1	277	15	1000	1.9	0.8	0.6	0.4
					15	2,500	4.7	3.0	1.2	0.8		15	5070	14.6	6.2	4.1	2.5
					15	3,500	6.8	4.3	2.1	1.3		15	6930	21.3	9.3	6.0	3.5
					20	2,500	4.2	2.8	1.5	1.0		20	5000	15.7	6.3	4.1	2.3
					25	2,500	4.0	2.7	1.2	0.8		25	5070	16.3	6.6	4.5	2.7
					30	2,500	3.7	2.7	1.3	0.8		30	4240	13.1	5.0	3.6	2.2
1+37.5	12.5 L	Lift 4	Blend II	430	15	500	0.7	0.4	0.2	0.1	353	15	970	2.2	0.7	0.5	0.4
					15	2,500	3.8	2.4	1.3	0.8		15	4820	11.5	4.5	3.5	2.4
					15	3,500	5.8	3.5	2.0	1.2		15	7010	17.7	6.7	5.3	3.5
					20	2,500	3.2	2.0	1.2	0.7		20	4970	10.9	4.3	3.1	2.2
					25	2,500	3.1	2.6	1.2	0.7		25	5070	11.3	4.1	2.9	2.0
					30	2,500	2.7	1.7	1.0	0.7		30	4460	9.6	3.4	2.5	1.7

(Continued)

(Sheet 33 of 59)



Table A8 (Continued)

Station ft	$\xi$ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 3 (Continued)																	
1+37.5	12.5 L	Lift 5	Blend II	530	15	500	0.6	0.3	0.2	0.1	354	15	1060	1.5	0.7	0.4	0.3
					15	2,500	3.4	1.8	1.0	0.7		15	4880	10.5	3.8	2.3	1.8
					15	3,500	5.0	2.7	1.6	1.1		15	6970	16.4	5.9	3.5	2.6
					20	2,500	2.7	1.7	1.0	0.7		20	5100	9.7	3.8	2.3	1.7
					25	2,500	2.7	1.7	1.0	0.7		25	5000	9.0	3.8	2.3	1.7
					30	2,500	2.4	1.4	0.8	0.6		30	5000	8.8	3.5	2.1	1.6
1+37.5	12.5 L	Lift 6	Blend II	610	15	500	1.1	0.2	0.1	--	356	15	1010	1.4	0.6	0.3	0.2
					15	2,500	3.3	1.5	0.7	0.6		15	5140	8.3	2.8	2.1	1.4
					15	3,500	4.6	2.1	1.1	0.8		15	6920	13.1	4.3	3.2	2.1
					20	2,500	2.2	1.3	0.7	0.5		20	4890	8.1	2.6	2.1	1.4
					25	2,500	2.2	1.2	0.7	0.5		25	5060	8.3	2.6	1.9	1.2
					30	2,500	2.0	1.0	0.5	0.5		30	5020	8.1	2.5	1.8	1.2
1+37.5	12.5 L	Lift 7	Blend II	620	15	--	--	--	--	--	438	15	1140	1.5	0.5	0.3	0.2
					15	2,565	2.6	0.2	0.8	0.7		15	4840	9.5	3.0	1.7	1.3
					15	--	--	--	--	--		15	7030	14.5	4.5	2.5	1.9
					20	2,514	2.1	1.1	0.7	0.6		20	4980	9.9	3.0	1.6	1.2
					25	2,526	2.0	1.0	0.6	0.4		25	4990	9.5	2.7	1.4	1.0
					30	2,527	2.0	1.0	0.4	0.3		30	--	--	--	--	--
1+37.5	$\xi$ Lane 2	Lift 8	Blend II	620	15	2,394	2.2	1.2	0.7	0.4	369	15	930	1.4	0.5	0.3	0.2
					20	2,574	2.1	1.1	0.7	0.4		15	4980	9.4	2.8	1.6	1.2
					25	2,609	2.0	1.0	0.4	0.3		15	6860	14.5	4.2	2.3	1.8
					30	2,501	1.9	1.0	0.3	0.2		20	5030	8.7	2.7	1.5	1.1
					15	4,977	5.0	3.0	1.2	1.0		25	5130	8.5	2.5	1.3	1.0
					20	5,096	4.7	2.6	1.2	1.0		30	4940	8.1	2.3	1.1	0.8
					25	5,058	4.4	2.3	1.0	0.7							
					30	4,949	4.1	2.1	0.8	0.4							
					15	10,045	11.3	6.3	2.7	2.0							
					20	10,153	10.7	5.8	2.6	2.0							
					25	9,648	9.8	5.2	2.0	1.4							
					30	10,011	11.8	6.0	2.0	1.1							

(Continued)

(Sheet 34 of 59)

Table A8 (Continued)

Station ft	€ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 3 (Continued)																	
1+31.25*	€ Lane 2	101.0	Lean mix concrete	2160	15	2,468	1.0	0.7	0.4	0.3	688	15	1020	0.4	0.2	0.2	0.1
					20	2,462	0.9	0.6	0.3	0.2		15	4950	3.3	1.3	1.3	1.0
					25	2,491	0.8	0.6	0.4	0.2		15	7220	6.6	2.7	1.9	1.5
					30	2,518	0.8	0.4	0.2	0.1		20	5070	3.0	1.0	1.1	0.9
					15	4,980	2.0	1.4	1.0	0.8		25	5070	2.3	1.1	1.0	0.7
					20	5,005	1.8	1.2	0.9	0.7		30	4990	2.2	1.1	0.8	0.6
					25	5,019	1.7	1.1	0.8	0.6							
					30	4,963	1.4	1.0	0.7	0.4							
					15	9,935	4.0	3.0	2.0	1.6							
					20	10,024	3.7	2.8	1.9	1.2							
					25	10,136	3.4	2.6	1.7	1.1							
					30	10,139	3.2	2.3	1.4	1.0							
					1+37.5	€ Lane 3	Lift 9	Blend II	570	15		2,548	2.7	1.3	0.8	0.1	425
20	2,456	2.3	1.2	0.7						0.1	15	5030	14.2	3.9	2.2	1.6	
25	2,553	2.1	1.1	0.7						0.1	15	6900	18.6	5.4	3.0	2.2	
30	2,498	2.0	1.0	0.6						0.1	20	5150	12.7	3.7	2.0	1.5	
15	5,098	5.8	3.0	1.7						0.1	25	5000	11.4	3.1	1.6	1.2	
20	5,053	5.3	2.8	1.6						0.1	30	4690	10.4	2.8	1.4	1.0	
25	5,044	5.0	2.4	1.2						1.6							
30	5,038	4.8	2.2	1.1						1.3							
15	9,899	13.3	6.8	3.4						0.1							
20	10,000	12.2	6.1	3.2						3.1							
25	9,991	11.7	5.8	2.9						2.1							
30	10,016	11.3	5.7	2.4						4.3							
1+37.5	€ Lane 3	101.0	Blend II (DBST)	750						15	2,469	1.9	1.0	0.6	0.4	498	
					20	2,517	1.8	1.0	0.6	0.4	15	4870	6.7	2.9	1.6		1.1
					25	2,508	1.7	0.9	0.4	0.3	15	6860	10.7	4.2	2.4		1.6
					30	2,521	1.6	0.9	0.4	0.2	20	5190	6.5	2.8	1.5		1.0
					15	4,933	4.0	2.3	1.2	1.0	25	5230	6.3	2.8	1.4		0.9
					20	4,977	3.9	2.1	1.0	0.9	30	5080	6.0	2.5	1.3		0.8

(Continued)

\* Center of slab.



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 4 (Continued)																	
1+37.5 (Cont'd)	Lane 3	101.0	Blend II (DBST)	750	25	4,918	3.6	2.0	1.0	0.7							
					30	5,078	3.7	2.0	0.9	0.7							
					15	9,942	9.5	5.2	2.7	1.9							
					20	10,285	9.1	5.0	2.3	1.7							
					25	10,053	8.7	4.7	2.0	1.4							
					30	10,060	8.6	4.7	2.0	1.3							
Item 4																	
1+62.5	12.5 R	95.0	Lean clay subgrade	240	15	500	1.3	0.6	0.3	0.2	125	15	910	3.6	1.1	0.7	0.3
					15	2,500	7.5	3.7	1.6	1.0	15	4930	23.6	6.6	2.7	1.7	
					15	3,500	11.2	5.5	2.2	1.3	15	6920	39.5	10.1	4.0	2.5	
					20	3,000	9.5	5.2	2.0	1.3	20	4950	23.9	7.5	3.2	1.9	
					25	3,000	10.2	5.7	2.6	1.8	25	4960	26.0	8.0	3.7	2.4	
					30	3,000	10.0	5.9	2.8	2.1							
1+62.5	12.5 R	Lift 1	Blend II	340	15	500	1.1	0.6	0.6	0.4	163	15	--	--	--	--	--
					15	2,500	5.7	3.2	1.7	1.4	15	4880	19.9	8.4	3.7	1.9	
					15	3,500	8.3	4.7	2.5	1.3	15	6950	32.6	13.3	5.7	2.8	
					20	2,500	6.0	3.7	1.8	0.9	20	5040	20.6	9.9	4.6	2.3	
					25	2,500	6.5	4.2	2.5	1.0	25	4870	22.7	12.1	6.1	3.3	
					30	2,500	5.7	4.1	2.4	1.5	30	4270	20.1	11.8	5.9	3.6	
1+62.5	12.5 R	Lift 2	Blend II	360	15	500	0.9	0.3	0.0	0.0	232	15	970	2.4	1.2	0.8	0.4
					15	2,500	4.8	3.0	2.2	1.0	15	4920	17.5	8.1	4.5	2.5	
					15	3,500	7.3	4.6	3.7	1.3	15	6890	26.0	11.4	6.7	3.6	
					20	2,500	4.8	3.7	1.7	0.9	20	5020	18.0	9.0	5.2	2.9	
					25	2,500	4.8	4.0	2.2	1.2	25	5010	19.6	10.4	6.5	3.7	
					30	2,500	4.2	3.1	2.0	1.3	30	4210	15.6	8.9	6.1	3.8	
1+62.5	12.5 R	Lift 3	Blend II	400	15	500	0.9	0.2	0.2	0.1	289	15	1050	2.1	0.9	0.7	0.5
					15	2,500	4.5	1.5	0.7	0.5	15	4910	13.7	5.3	3.8	2.3	
					15	3,500	6.5	4.0	2.0	0.9	15	6670	19.8	7.6	5.4	3.2	
					20	2,500	4.0	2.7	1.5	1.0	20	4850	13.0	5.8	4.1	2.6	
					25	2,500	4.0	2.5	1.5	1.0	25	4970	12.4	6.0	4.3	2.6	
					30	2,500	3.7	2.5	1.5	1.0	30	4280	9.7	5.0	3.7	2.3	

(Continued)

(Sheet 36 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 4 (Continued)																	
1+62.5	12.5 R	Lift 4	Blend II	490	15	500	0.7	0.3	0.2	0.1	338	15	1050	1.9	1.1	0.6	0.4
					15	2,500	3.7	2.0	1.3	0.9		15	4990	11.5	3.9	2.7	1.9
					15	3,500	5.2	2.8	1.9	1.2		15	6880	17.1	5.6	3.9	2.6
					20	2,500	3.2	1.7	1.3	0.7		20	4910	10.7	4.3	2.9	2.0
					25	2,500	3.0	1.7	1.3	0.7		25	4920	10.3	4.2	3.1	2.1
					30	2,500	2.6	1.5	1.2	0.7		30	4910	9.5	4.3	2.8	2.0
1+62.5	12.5 R	Lift 5	Blend II	520	15	500	0.7	0.3	0.2	0.1	353	15	1000	1.6	0.6	0.4	0.3
					15	2,500	3.5	1.7	1.0	0.7		15	4880	11.1	4.1	2.7	1.9
					15	3,500	5.1	2.4	1.4	1.1		15	7140	17.5	5.9	3.7	2.6
					20	2,500	2.8	1.5	1.0	0.7		20	5050	10.6	4.0	2.7	2.0
					25	2,500	2.7	1.5	1.0	0.7		25	4980	10.2	3.7	2.6	1.9
					30	2,500	2.5	1.2	1.0	0.7		30	4240	8.3	3.0	2.0	1.5
1+62.5	12.5 R	Lift 6	Blend II	580	15	500	0.5	0.2	0.1	0.1	578	15	920	1.2	0.4	0.2	0.2
					15	2,500	3.0	1.6	0.8	0.7		15	4960	10.0	2.6	1.9	1.6
					15	3,500	4.4	2.5	1.2	1.0		15	7100	13.7	4.2	3.1	2.3
					20	2,500	2.7	1.5	0.7	0.7		20	5060	8.4	2.9	2.2	1.5
					25	2,500	2.2	1.2	0.6	0.7		25	5170	8.7	3.0	2.1	1.6
					30	2,500	2.2	1.2	0.6	0.7		30	4960	7.5	2.7	1.7	1.3
1+62.5	12.5 R	Lift 7	Blend II	620	15	--	--	--	--	--	412	15	970	1.6	0.4	0.3	0.2
					15	2,527	2.6	1.7	0.8	0.6		15	4870	11.7	3.7	1.9	1.5
					15	--	--	--	--	--		15	7010	16.9	5.2	2.8	2.1
					20	2,462	2.2	1.3	0.8	0.4		20	4980	10.1	3.6	1.9	1.4
					25	2,561	2.1	1.2	0.7	0.4		25	4950	9.3	3.2	1.7	1.3
					30	2,557	2.0	1.1	0.6	0.3		30	4210	7.3	2.5	1.1	0.9
1+62.5	12.5 R	Lift 8	Blend II	640	15	2,508	2.2	1.2	0.7	0.6	473	15	950	1.2	0.5	0.3	0.2
					20	2,559	2.1	1.1	0.7	0.6		15	4850	8.4	3.1	1.6	1.2
					25	2,596	2.0	1.0	0.6	0.4		15	6930	12.8	4.6	2.2	1.8
					30	2,500	1.9	1.0	0.4	0.3		20	4850	8.4	3.1	1.6	1.2
					15	4,928	4.8	2.6	1.3	1.0		25	5030	7.6	2.8	1.3	1.0
					20	5,023	4.7	2.4	1.2	1.0		30	5110	8.0	2.7	1.1	0.9

(Continued)

(Sheet 37 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 4 (Continued)																	
1+62.5 (Cont'd)	12.5 R	Lift 8	Blend II	640	25	5,030	4.4	2.2	1.0	1.0							
					30	4,918	4.1	2.0	1.0	0.8							
					15	10,057	11.2	5.8	2.9	2.3							
					20	10,060	10.7	5.6	2.8	2.1							
					25	10,017	10.0	5.0	2.7	2.0							
					30	10,134	10.4	5.7	2.2	1.9							
1+62.5	12.5 R	Lift 9	Blend I	660	15	2,535	2.1	1.0	0.7	0.4	446	15	1000	1.3	0.5	0.3	0.2
					20	2,448	2.0	1.0	0.6	0.4		15	5180	7.9	2.7	1.5	1.1
					25	2,538	1.9	0.9	0.6	0.4		15	6830	11.6	3.8	2.1	1.5
					30	2,537	1.8	0.8	0.3	0.3		20	5170	7.4	2.4	1.3	1.0
					15	4,958	4.7	2.2	1.2	1.0		25	5160	7.0	2.2	1.2	0.9
					20	5,006	4.4	2.0	1.1	1.0		30	5160	7.0	2.2	1.1	0.7
					25	4,960	4.1	2.0	1.0	0.9							
					30	5,051	4.0	1.8	0.9	0.8							
					15	10,079	11.2	5.0	2.7	2.0							
					20	10,041	10.6	4.7	2.3	2.0							
					25	9,973	10.0	4.4	2.1	1.9							
					30	9,916	9.8	4.1	1.9	1.7							
1+62.5	12.5 R	101.0	Blend I	650	15	2,538	2.4	1.0	0.7	0.4	276	15	940	3.8	0.4	0.3	0.2
					20	2,533	2.1	1.0	0.6	0.4		15	5130	19.1	2.5	1.4	1.1
					25	2,515	2.0	0.9	0.4	0.3		15	7200	26.6	3.4	2.0	1.4
					30	2,490	2.0	0.8	0.3	0.2		20	5120	14.2	2.3	1.3	1.0
					15	5,429	5.6	2.3	1.3	1.0		25	4960	13.4	2.1	1.2	0.8
					20	4,765	4.4	1.9	1.1	0.9		30	3590	7.5	1.3	0.7	0.5
					25	5,157	4.6	1.8	1.0	0.7							
					30	5,354	4.7	1.8	0.9	0.7							
					15	8,102	9.0	3.7	2.0	1.4							
					20	9,767	10.2	4.1	2.2	1.7							
					25	10,561	11.1	4.2	1.9	1.3							
					30	10,144	14.2	4.0	1.4	1.0							

(Continued)

(Sheet 38 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 4 (Continued)																	
1+62.5	12.5 L	95.0	Lean clay subgrade	300	15	500	1.2	0.5	0.3	0.2	156	15	1030	4.2	1.4	0.7	0.3
					15	2,500	6.4	3.0	1.4	1.0		15	4830	22.1	7.9	3.2	1.8
					15	3,500	9.3	4.2	2.0	1.3		15	7070	36.5	11.2	4.4	2.5
					20	3,000	8.0	3.9	1.7	1.2		20	4930	21.3	7.9	3.3	1.9
					25	3,000	8.3	4.2	1.8	1.2		25	4980	22.3	8.2	3.3	1.8
					30	3,200	8.7	5.0	2.2	1.5		30	4710	22.2	8.5	3.6	2.2
1+62.5	12.5 L	Lift 1	Blend II	380	15	500	0.8	0.9	0.3	0.2	211	15	920	2.6	1.1	0.5	0.3
					15	2,500	5.4	2.7	1.4	0.8		15	4820	17.0	5.9	2.9	1.7
					15	3,500	7.8	4.0	1.9	1.2		15	6720	25.9	9.0	4.2	2.5
					20	2,500	5.4	2.8	1.3	0.8		20	4990	16.5	6.5	3.1	1.9
					25	2,500	5.6	3.2	1.7	0.9		25	5040	17.8	7.3	3.7	2.1
					30	2,500	5.2	3.0	1.7	1.2		30	4670	16.4	6.9	3.6	2.2
1+62.5	12.5 L	Lift 2	Blend II	390	15	500	0.7	0.7	0.4	0.1	288	15	990	2.3	1.6	0.9	0.3
					15	2,500	4.7	3.1	1.6	0.6		15	4840	16.5	6.9	2.7	2.1
					15	3,500	6.7	4.2	2.2	0.9		15	6910	23.7	9.8	3.8	3.0
					20	2,500	4.7	3.2	1.7	0.7		20	5000	15.9	7.2	3.2	2.5
					25	2,500	4.5	3.2	1.7	0.7		25	4920	16.1	7.4	3.3	2.5
					30	2,500	4.2	3.2	2.0	0.9		30	3760	11.7	5.9	2.9	2.4
1+62.5	12.5 L	Lift 3	Blend II	420	15	500	0.7	0.5	0.2	0.1	320	15	950	1.7	0.8	0.5	0.4
					15	2,500	4.3	2.2	1.2	0.9		15	4990	11.1	5.2	3.0	2.0
					15	3,500	6.2	3.2	1.7	1.2		15	6910	17.1	7.8	4.5	2.9
					20	2,500	3.8	2.0	1.2	0.8		20	5110	11.1	5.4	3.1	2.1
					25	2,500	3.7	2.0	1.2	0.8		25	5070	11.3	5.8	3.5	2.4
					30	2,500	3.5	2.0	1.2	0.8		30	5010	11.0	5.5	3.4	2.4
1+62.5	12.5 L	Lift 4	Blend II	480	15	500	0.6	0.3	0.2	0.2	363	15	850	1.4	0.9	0.3	0.3
					15	2,500	3.7	1.9	1.2	0.7		15	5040	11.0	4.1	2.6	2.0
					15	3,500	5.5	2.7	1.5	1.1		15	7070	16.6	6.3	3.8	2.8
					20	2,500	3.2	1.7	1.2	0.7		20	4890	9.9	4.9	2.6	1.9
					25	2,500	3.0	1.7	1.2	0.7		25	4880	9.5	5.7	2.5	1.8
					30	2,500	2.8	1.5	1.2	0.7		30	5000	9.6	7.0	2.8	2.1

(Continued)

(Sheet 39 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
				Item 4 (Continued)													
1+62.5	12.5 L	Lift 5	Blend II	570	15	500	0.5	0.4	0.2	0.1	348	15	1030	1.6	0.7	0.4	0.3
					15	2,500	3.0	1.9	1.0	0.7		15	5120	9.4	3.6	2.3	1.7
					15	3,500	4.5	2.7	1.4	1.0		15	7070	15.0	5.4	3.5	2.4
					20	2,500	2.7	1.7	1.0	0.7		20	5010	8.5	3.7	2.5	1.7
					25	2,500	2.5	1.7	1.0	0.7		25	5030	8.6	3.8	2.5	1.8
					30	2,500	2.2	1.4	0.7	0.5		30	5050	8.4	3.4	2.1	1.5
1+62.5	12.5 L	Lift 6	Blend II	640	15	500	1.6	0.2	0.1	--	505	15	930	1.4	0.4	0.2	0.2
					15	2,500	3.5	1.5	0.7	0.5		15	4640	9.4	2.7	1.8	1.2
					15	3,500	4.5	2.0	1.1	0.7		15	6860	13.8	4.4	2.6	1.7
					20	2,500	2.4	1.3	0.7	0.4		20	5050	8.6	3.1	1.9	1.3
					25	2,500	2.2	1.2	0.6	0.4		25	5030	8.5	3.2	1.7	1.1
					30	2,500	2.0	1.0	0.5	0.4		30	4980	8.5	3.1	1.8	1.1
1+62.5	12.5 L	Lift 7	Blend II	630	15	--	--	--	--	--	495	15	1020	1.2	0.5	0.4	0.2
					15	2,516	2.4	1.3	0.8	0.6		15	4880	8.5	3.0	1.8	1.4
					15	--	--	--	--	--		15	6910	12.6	4.4	2.6	1.9
					20	2,514	2.1	1.1	0.7	0.4		20	5110	7.9	2.9	1.7	1.3
					25	2,478	2.0	1.0	0.6	0.4		25	5030	7.6	2.8	1.5	1.1
					30	2,535	2.0	1.0	0.6	0.3		30	4840	7.9	2.6	1.4	1.1
1+62.5	12.5 L	Lift 8	Blend II	620	15	2,542	2.3	1.2	0.7	0.4	564	15	990	1.2	0.4	0.3	0.2
					20	2,506	2.1	1.0	0.6	0.4		15	4760	8.2	3.0	1.7	1.2
					25	2,474	2.0	1.0	0.4	0.3		15	6960	12.1	4.5	2.4	1.8
					30	2,513	2.0	1.0	0.3	0.3		20	5030	7.9	3.0	1.6	1.2
					15	5,135	5.1	2.8	1.3	1.0		25	5080	7.6	2.8	1.4	1.0
					20	4,944	4.7	2.3	1.2	1.0		30	4970	7.6	2.7	1.3	0.9
					25	4,992	4.4	2.0	1.0	0.7							
					30	5,034	4.4	2.1	0.8	0.7							
					15	10,147	11.8	5.4	2.7	2.0							
					20	10,023	10.9	5.1	2.6	2.0							
					25	10,064	10.4	5.0	2.1	1.8							
					30	10,440	12.6	5.7	1.9	1.2							

(Continued)

(Sheet 40 of 59)

Table A8 (Continued)

Station ft	€ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 4 (Continued)																	
1+62.5	€ Lane 2	Lift 9	Cement stabilized Blend I	620	15	2,516	2.0	1.0	0.6	0.4	584	15	1010	1.2	0.5	0.3	0.2
					20	2,441	1.9	0.8	0.4	0.3		15	5100	7.1	3.2	1.4	1.0
					25	2,468	1.8	0.8	0.3	0.2		15	6970	10.3	4.6	2.0	1.4
					30	2,446	1.7	0.7	0.3	0.2		20	4960	6.3	2.8	1.3	0.9
					15	5,048	4.6	2.0	1.1	0.9		25	4890	5.9	2.6	1.1	0.8
					20	4,968	4.2	1.8	1.0	0.8		30	4830	5.8	2.4	1.0	0.7
					25	5,030	4.0	1.7	0.9	0.7							
					30	4,993	4.0	1.6	0.6	0.6							
					15	10,054	10.6	4.2	2.2	1.8							
					20	10,074	10.0	4.0	3.4	1.6							
					25	9,824	9.3	3.7	0.1	1.3							
					30	9,972	9.6	3.7	0.1	1.4							
1+62.5	€ Lane 2	101.0	Cement stabilized Blend I	1060	15	2,496	1.6	1.0	0.6	0.3	781	15	980	0.6	0.3	0.2	0.2
					20	2,451	1.4	0.9	0.4	0.3		15	4870	3.9	2.1	1.3	0.9
					25	2,507	1.3	0.8	0.4	0.2		15	6900	6.5	3.0	1.9	1.3
					30	2,490	1.3	0.8	0.3	0.2		20	4990	3.9	1.9	1.2	0.8
					15	5,003	3.2	2.0	1.0	0.8		25	5070	3.8	1.8	1.1	0.7
					20	4,983	3.0	1.9	1.0	0.7		30	4970	3.5	1.6	1.0	0.6
					25	5,024	3.0	1.8	0.9	0.7							
					30	5,000	2.9	1.7	0.8	0.6							
					15	9,959	7.0	4.2	2.2	1.6							
					20	10,156	7.0	4.1	2.1	1.4							
					25	10,033	6.7	4.0	2.0	1.3							
					30	9,934	6.4	3.8	1.8	1.2							
1+62.5	€ Lane 3	Lift 9	Blend I	600	15	2,466	2.3	1.2	0.1	0.4	447	15	1170	1.7	0.6	0.3	0.2
					20	2,452	2.1	1.1	0.1	0.4		15	4960	9.4	3.3	1.8	1.3
					25	2,500	2.1	1.0	0.1	0.3		15	6970	13.9	4.8	2.6	1.8
					30	2,467	2.0	1.0	0.1	0.3		20	5180	9.5	3.2	1.7	1.2
					15	5,000	5.3	2.8	0.3	1.0		25	4920	8.7	3.0	1.6	1.2
					20	4,955	5.1	2.7	0.3	1.0		30	4910	9.1	2.8	1.4	1.1
					25	4,978	4.9	2.4	0.3	0.9							
					30	5,061	4.8	2.2	1.0	0.8							
					15	9,846	12.3	6.1	3.0	2.1							
					20	10,043	12.0	6.0	2.9	2.0							
					25	9,958	11.2	5.7	2.4	1.8							
					30	10,000	11.0	5.7	4.3	1.8							

(Continued)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 4 (Continued)																	
1+62.5	Lane 3	101.0	Blend I (SST)	690	15	2,453	2.0	1.1	0.6	0.4	453	15	1120	1.0	0.4	0.2	0.2
					20	2,498	1.9	1.0	0.6	0.3		15	5060	7.2	3.1	1.7	1.1
					25	2,515	1.8	1.0	0.4	0.3		15	7100	11.7	4.6	2.3	1.6
					30	2,515	1.8	0.9	0.4	0.3		20	5210	6.8	2.9	1.5	1.0
					15	5,097	4.4	2.4	1.2	0.9		25	5180	6.7	3.1	1.5	1.0
					20	4,921	4.0	2.2	1.0	0.8		30	5030	6.4	2.7	1.3	0.9
					25	5,016	4.0	2.0	1.0	0.7							
					30	5,021	4.0	2.0	1.0	0.7							
					15	9,930	10.0	5.3	2.6	1.9							
					20	10,177	9.9	5.1	2.3	1.7							
					25	10,031	9.4	4.9	2.1	1.4							
					30	9,728	9.2	5.0	2.3	1.3							
1+87.5	12.5 R	95.0	Lean clay subgrade	200	15	500	1.3	0.7	0.3	0.2	98	15	960	4.2	1.9	0.8	0.4
					15	2,500	8.3	4.7	1.8	1.0		15	4790	25.5	10.3	3.7	1.8
					15	3,500	12.8	6.9	2.7	1.5		15	6870	46.8	16.8	5.4	2.6
					20	2,900	11.1	6.8	2.7	1.5		20	4910	28.7	12.7	5.0	2.4
					25	3,000	12.5	8.3	3.5	2.2		25	4900	32.2	15.1	6.6	3.5
					30	3,050	12.0	9.1	3.7	2.6		30	3650	24.1	11.8	5.7	3.3
1+87.5	12.5 R	Lift 1	Blend II	320	15	500	1.0	0.6	0.5	0.2	118	15	1010	3.5	1.6	0.8	0.4
					15	2,500	5.7	3.6	2.1	0.6		15	4930	22.1	9.7	4.6	2.3
					15	3,500	8.4	5.1	2.9	1.1		15	7020	39.8	15.3	6.6	3.3
					20	2,500	6.2	4.0	2.2	0.9		20	4950	24.2	11.6	5.9	2.9
					25	2,500	6.2	4.5	3.2	1.1		25	4950	28.3	15.0	8.0	4.4
					30	2,500	5.2	4.5	2.8	1.3		30	4000	21.2	11.5	6.3	3.9
1+87.5	12.5 R	Lift 2	Blend II	340	15	500	0.9	0.6	0.2	0.2	217	15	960	2.5	1.4	0.9	0.5
					15	2,500	5.2	3.2	1.6	0.8		15	4870	18.7	8.0	4.4	2.4
					15	3,500	7.7	5.0	2.5	1.2		15	7040	28.8	11.9	6.8	3.5
					20	2,500	5.2	3.5	1.8	1.0		20	5020	19.1	9.2	5.4	2.9
					25	2,500	5.1	3.5	2.0	1.2		25	5090	22.4	11.2	6.9	4.0
					30	2,500	4.4	3.5	1.8	1.3		30	3770	14.9	7.7	5.2	3.5

(Continued)

(Sheet 42 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
				Item 4 (Continued)													
1+87.5	12.5 R	Lift 3	Blend II	400	15	500	1.0	0.5	0.2	0.2	250	15	1260	2.1	1.5	0.9	0.9
					15	2,500	5.3	2.7	1.3	1.0		15	4950	13.4	5.3	4.0	2.9
					15	3,500	7.7	4.2	1.9	1.5		15	6750	20.6	6.7	5.3	3.6
					20	2,500	4.6	2.7	1.9	1.0		20	5150	13.5	4.8	3.8	2.5
					25	2,500	4.3	2.7	1.9	1.1		25	5050	13.3	5.5	4.3	2.9
					30	2,500	3.9	2.2	1.9	1.2		30	3190	7.1	3.2	2.7	2.0
1+87.5	12.5 R	Lift 4	Blend II	480	15	500	0.7	0.3	0.2	0.2	416	15	950	1.5	1.1	0.5	0.4
					15	2,500	3.7	2.1	1.4	0.8		15	4860	10.0	6.6	2.9	2.1
					15	3,500	5.3	2.9	2.0	1.2		15	6980	15.1	10.0	4.3	3.1
					20	2,500	3.2	1.7	1.5	0.8		20	4940	9.6	9.8	3.2	2.6
					25	2,500	3.1	2.1	1.5	0.8		25	4980	9.2	8.4	3.3	2.7
					30	2,500	2.6	1.7	1.2	0.8		30	5100	8.6	9.9	3.2	2.4
1+87.5	12.5 R	Lift 5	Blend II	520	15	500	0.6	0.4	0.2	0.1	407	15	940	1.8	0.6	0.4	0.3
					15	2,500	3.3	2.1	1.1	0.8		15	4950	10.6	3.9	2.5	1.7
					15	3,500	4.9	2.9	1.6	1.2		15	7230	16.2	6.0	3.8	2.5
					20	2,500	2.9	2.0	1.2	0.7		20	4970	9.8	4.0	2.5	1.7
					25	2,500	2.7	1.7	1.1	0.7		25	5030	9.3	4.0	2.6	1.8
					30	2,500	2.3	1.5	1.1	0.7		30	4940	9.1	3.8	2.6	1.9
1+87.5	12.5 R	Lift 6	Blend II	590	15	500	0.5	0.3	0.1	--	360	15	970	1.5	0.6	0.3	13.4
					15	2,500	2.9	0.7	0.7	0.6		15	5210	9.2	2.9	1.9	31.2
					15	3,500	4.3	2.4	1.2	0.9		15	6940	14.0	4.3	3.0	34.0
					20	2,500	2.5	1.5	0.8	0.6		20	5000	9.1	3.4	2.1	28.0
					25	2,500	2.2	1.3	0.7	0.6		25	5170	9.1	3.9	2.2	9.6
					30	2,500	2.1	1.2	0.6	0.4		30	4980	8.2	3.0	1.8	11.8
1+87.5	12.5 R	Lift 7	Blend II	640	15	--	--	--	--	--	427	15	950	1.2	0.3	0.3	0.2
					15	2,521	2.4	1.6	0.9	0.7		15	4940	10.2	3.1	2.0	1.3
					15	--	--	--	--	--		15	6820	14.6	4.6	2.9	2.0
					20	2,565	2.2	1.3	0.8	0.7		20	5020	9.5	3.1	2.0	1.3
					25	2,486	2.0	1.1	0.7	0.6		25	5030	9.1	2.7	1.7	1.2
					30	2,508	1.9	1.0	0.6	0.3		30	4320	7.4	2.1	1.2	0.8

(Continued)

(Sheet 43 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 4 (Continued)																	
1+87.5	12.5 R	Lift 8	Blend II	660	15	2,447	2.3	1.3	0.8	0.6	498	15	910	1.1	0.5	0.3	0.2
					20	2,526	2.1	1.2	0.7	0.6		15	4800	8.2	3.2	1.8	1.3
					25	2,573	2.0	1.1	0.6	0.4		15	6840	12.3	4.5	2.5	1.9
					30	2,583	2.0	1.0	0.4	0.3		20	5050	8.1	3.2	1.7	1.3
					15	5,021	5.0	2.8	1.4	1.1		25	5030	7.7	2.9	1.5	1.1
					20	5,238	5.0	2.8	1.4	1.1		30	5030	7.9	2.6	1.3	1.0
					25	4,986	4.4	2.3	1.1	1.0							
					30	5,052	4.1	2.4	1.0	0.9							
					15	10,121	11.6	6.2	3.0	2.3							
					20	10,116	10.9	6.1	3.0	2.2							
					25	10,099	10.2	6.0	2.4	2.0							
					30	10,048	10.8	4.7	2.6	2.0							
1+87.5	12.5 R	Lift 9	Blend I	630	15	2,530	2.1	1.0	0.6	0.4	468	15	1010	1.3	0.4	0.3	0.2
					20	2,510	2.0	1.0	0.6	0.4		15	4900	8.4	2.3	1.4	1.1
					25	2,540	1.9	1.0	0.4	0.4		15	6820	12.5	3.5	2.0	1.5
					30	2,476	1.8	0.9	0.3	0.3		20	5100	7.4	2.3	1.4	1.1
					15	4,937	4.8	2.2	1.1	1.0		25	5090	6.9	2.0	1.2	0.9
					20	4,993	4.6	2.2	1.1	1.0		30	5070	6.9	1.8	1.0	0.7
					25	5,034	4.2	2.0	1.0	0.9							
					30	5,064	4.0	2.0	0.9	0.7							
					15	9,787	10.9	5.0	2.4	2.0							
					20	9,951	10.3	5.0	2.4	2.0							
					25	9,980	9.9	4.9	2.2	2.0							
					30	9,906	9.4	4.9	1.9	1.4							
1+87.5	12.5 R	101.0	Blend I	690	15	2,509	2.0	1.0	0.6	0.4	480	15	970	1.2	0.4	0.2	0.2
					20	2,492	1.9	1.0	0.6	0.3		15	4920	7.3	2.3	1.3	0.9
					25	2,544	1.8	0.9	0.4	0.3		15	7270	12.2	3.6	1.9	1.3
					30	2,505	1.7	0.8	0.3	0.2		20	5080	7.3	2.3	1.3	0.9
					15	5,000	4.3	2.1	1.1	0.9		25	5090	6.8	2.2	1.2	0.9
					20	5,088	4.2	2.0	1.0	0.8		30	5040	6.6	2.0	1.0	0.7
					25	5,077	4.0	1.9	1.0	0.7							
					30	5,004	3.9	1.7	0.8	0.6							
					15	10,079	10.2	4.7	2.2	1.8							
					20	9,901	9.8	4.3	2.1	1.6							
					25	9,609	9.6	4.4	2.0	1.6							
					30	10,007	10.1	4.9	1.9	1.3							

(Continued)

(Sheet 44 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)							RR 2008 (Peak-Peak Response)						
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
				Item 4 (Continued)													
1+87.5	12.5 L	95.0	Lean clay subgrade	250	15	500	1.2	0.7	0.3	0.2	37	15	1100	4.9	1.7	0.8	0.4
					15	2,500	7.2	3.9	1.5	1.0		15	4890	28.7	8.3	3.4	1.9
					15	3,500	10.8	5.7	2.2	1.5		15	6910	82.7	13.8	5.2	2.9
					20	3,000	9.3	5.7	2.0	1.3		20	4930	29.4	10.3	4.2	2.2
					25	3,000	9.6	5.8	2.3	1.7		25	4930	31.3	11.3	4.6	2.5
					30	3,100	10.0	6.9	2.4	1.8		30	3910	24.6	9.1	4.1	2.5
1+87.5	12.5 L	Lift 1	Blend II	300	15	500	1.1	0.6	0.9	0.4	164	15	1050	3.9	1.8	0.9	0.5
					15	2,500	6.3	3.6	1.7	1.0		15	4710	22.6	8.3	3.8	2.1
					15	3,500	9.2	5.3	2.4	1.2		15	6880	35.8	13.1	5.6	3.0
					20	2,500	6.5	3.7	1.8	0.9		20	5120	24.9	10.3	4.7	2.5
					25	2,500	6.1	4.2	2.1	1.2		25	5090	27.9	12.2	5.8	3.3
					30	2,500	5.8	4.1	1.9	1.2		30	4250	22.6	10.2	5.1	3.3
1+87.5	12.5 L	Lift 2	Blend II	370	15	500	0.9	0.7	0.2	0.1	209	15	990	3.2	1.6	0.9	0.5
					15	2,500	4.7	3.2	1.4	0.8		15	4890	21.0	7.8	4.2	2.4
					15	3,500	7.2	5.0	2.1	1.2		15	6980	31.0	11.5	6.1	3.3
					20	2,500	5.2	3.7	1.7	0.9		20	5020	21.1	8.5	4.7	2.7
					25	2,500	6.0	4.0	2.0	1.1		25	4970	21.9	9.2	5.5	3.4
					30	2,500	5.0	3.7	1.9	1.2		30	3640	14.8	6.2	4.0	2.8
1+87.5	12.5 L	Lift 3	Blend II	400	15	500	0.8	0.5	0.2	0.2	302	15	990	2.3	0.9	0.5	0.4
					15	2,500	4.6	2.0	1.2	0.5		15	4930	14.4	5.9	3.4	2.2
					15	3,500	6.6	5.2	1.8	1.2		15	6990	21.2	8.5	4.8	3.1
					20	2,500	4.0	3.2	1.2	0.9		20	4970	14.1	6.3	3.7	2.4
					25	2,500	4.0	3.3	1.2	1.0		25	5020	13.7	6.5	4.3	3.1
					30	2,500	3.5	2.7	1.2	1.0		30	3950	9.8	4.5	2.8	2.0
1+87.5	12.5 L	Lift 4	Blend II	480	15	500	0.7	0.4	0.2	0.1	355	15	870	1.5	0.8	0.4	0.3
					15	2,500	3.7	2.2	1.2	0.7		15	4910	10.2	7.2	2.8	2.1
					15	3,500	5.5	3.0	1.8	1.1		15	6900	15.8	10.5	4.1	3.1
					20	2,500	3.2	1.9	1.2	0.7		20	5000	10.1	7.0	2.7	2.0
					25	2,500	3.0	1.9	1.2	0.7		25	4890	9.2	9.0	2.7	2.1
					30	2,500	2.7	1.5	1.2	0.7		30	4960	8.5	11.8	2.7	2.2

(Continued)

(Sheet 45 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 4 (Continued)																	
1+87.5	12.5 L	Lift 5	Blend II	630	15	500	0.6	0.3	0.2	0.1	257	15	1030	1.5	0.6	0.4	0.4
					15	2,500	3.3	1.7	1.1	0.8		15	5020	10.0	3.7	2.5	1.8
					15	3,500	4.8	2.6	1.5	1.2		15	6900	17.3	5.4	3.5	2.5
					20	2,500	3.0	1.7	1.1	0.7		20	5060	10.3	4.0	2.6	1.9
					25	2,500	2.7	1.6	1.1	0.7		25	4920	9.4	3.7	2.5	1.8
					30	2,500	2.3	1.2	0.7	0.7		30	4420	7.4	2.6	1.7	1.3
1+87.5	12.5 L	Lift 6	Blend II	580	15	500	0.5	0.3	0.1	0.1	346	15	1020	1.9	0.6	0.4	0.3
					15	2,500	3.1	1.7	0.7	0.5		15	5070	10.1	3.4	2.2	1.4
					15	3,500	4.6	2.4	1.2	0.8		15	6940	15.5	4.9	3.2	2.0
					20	2,500	2.7	1.5	0.7	0.5		20	5050	8.7	3.4	2.2	1.5
					25	2,500	2.5	1.4	0.7	0.5		25	5010	8.3	3.4	2.1	1.4
					30	2,500	2.2	1.2	0.6	0.5		30	5000	8.3	3.1	1.8	1.3
1+87.5	12.5 L	Lift 7	Blend II	610	15	--	--	--	--	--	523	15	1120	1.3	0.4	0.3	0.2
					15	2,518	2.4	1.4	0.8	0.7		15	4840	9.5	3.1	1.9	1.4
					15	--	--	--	--	--		15	6820	14.6	4.6	2.9	2.0
					20	2,493	2.1	1.2	0.7	0.6		20	5020	9.5	3.1	2.0	1.3
					25	2,565	2.0	1.2	0.6	0.4		25	5030	9.1	2.7	1.7	1.2
					30	2,498	1.9	1.1	0.6	0.4		30	4320	7.4	2.1	1.2	0.8
1+87.5	12.5 L	Lift 8	Blend II	590	15	2,452	2.4	1.2	0.7	0.6	518	15	880	1.4	0.4	0.3	0.2
					20	2,556	2.2	1.1	0.7	0.4		15	4860	8.4	2.7	1.6	1.3
					25	2,481	2.0	1.0	0.6	0.3		15	6880	12.3	4.3	2.4	1.8
					30	2,519	2.0	1.0	0.4	0.2		20	5090	8.0	2.8	1.6	1.2
					15	5,103	5.3	2.9	1.3	1.0		25	5060	7.8	2.7	1.4	1.0
					20	5,005	5.0	2.7	1.3	1.0		30	5010	7.9	2.5	1.3	1.0
					25	4,966	4.7	2.3	1.0	0.9							
					30	5,068	4.6	2.2	1.0	0.7							
					15	10,317	12.7	6.3	2.9	2.1							
					20	9,978	11.3	5.8	2.8	2.1							
					25	9,965	10.9	5.6	2.0	1.7							
					30	10,229	22.6	6.3	2.3	1.6							

(Continued)

(Sheet 46 of 59)

Table A8 (Continued)

Station ft	℄ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 4 (Continued)																	
1+87.5	℄ Lane 2	Lift 9	Blend I (Cement stabilized)	720	15	2,446	1.8	1.0	--	0.3	524	15	1040	1.3	0.4	0.3	0.2
					20	2,481	1.8	1.0	--	0.3		15	5140	7.9	2.5	1.4	1.0
					25	2,471	1.6	0.8	--	0.3		15	6870	11.2	3.4	2.0	1.3
					30	2,500	1.6	0.8	--	0.2		20	5000	7.3	2.4	1.3	0.9
					15	4,982	4.0	2.1	--	0.8		25	4910	6.4	2.0	1.1	0.8
					20	4,998	3.9	2.0	1.0	0.8		30	4900	6.2	1.8	1.0	0.6
					25	4,947	3.6	1.9	1.0	0.7							
					30	5,135	3.6	1.8	0.8	0.6							
					15	9,952	9.3	4.9	2.3	1.8							
					20	9,990	9.0	4.8	2.3	1.7							
					25	10,071	8.3	4.2	2.0	1.3							
					30	9,917	8.0	4.0	1.8	1.1							
1+87.5	℄ Lane 2	101.0	Blend I (Cement stabilized)	1280	15	2,493	1.2	0.9	0.6	0.3	612	15	1090	0.6	0.3	0.2	0.1
					20	2,447	1.0	0.8	0.4	0.3		15	5030	4.2	2.0	1.3	0.9
					25	2,477	1.0	0.7	0.3	0.2		15	7111	7.6	3.0	2.0	1.3
					30	2,590	1.0	0.7	0.3	0.2		20	5150	3.9	1.9	1.2	0.8
					15	4,962	2.6	1.9	1.0	0.8		25	5080	3.8	1.7	1.1	0.8
					20	4,978	2.3	1.7	1.0	0.7		30	5030	3.6	1.5	1.0	0.6
					25	4,977	2.2	1.6	0.9	0.6							
					30	5,005	2.1	1.4	0.8	0.4							
					15	9,966	5.8	4.0	2.2	1.6							
					20	10,061	5.4	3.9	2.0	1.4							
					25	10,028	5.1	3.6	1.9	1.2							
					30	10,177	5.0	3.3	1.7	1.0							
1+87.5	℄ Lane 3	Lift 9	Blend I	610	15	2,514	2.4	1.2	0.8	0.6	326	15	1030	1.6	0.5	0.3	0.2
					20	2,492	2.2	1.1	0.7	0.4		15	5160	10.6	3.3	1.8	1.2
					25	2,511	2.1	1.0	0.6	0.4		15	6920	16.0	5.2	2.6	1.8
					30	2,532	2.0	1.0	0.6	0.3		20	5180	10.6	3.8	1.9	1.4
					15	5,080	5.4	2.7	1.4	1.1		25	5070	9.8	3.4	1.7	1.2
					20	4,964	5.0	2.3	1.3	1.0		30	4830	9.0	3.1	1.5	1.0
					25	4,987	4.8	2.1	1.2	1.0							
					30	5,044	4.7	2.0	1.0	0.9							
					15	9,959	12.4	5.7	3.0	2.2							
					20	9,953	11.6	5.2	3.0	2.1							
					25	9,998	11.0	5.0	2.6	2.0							
					30	10,003	10.8	4.8	7.0	1.9							

(Continued)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)												
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils					
Item 4 (Continued)																						
1+87.5	Lane 3	101.0	Blend I (SST)	700	15	2,440	2.0	1.0	0.7	0.4	468	15	1030	1.2	0.4	0.3	0.2					
					20	2,470	1.9	1.0	0.6	0.4		15	4870	7.2	2.8	1.6	1.1					
					25	2,474	1.8	1.0	0.4	0.3		15	6930	11.6	4.0	2.3	1.6					
					30	2,477	1.8	0.9	0.4	0.3		20	5160	7.4	2.9	1.7	1.2					
					15	5,019	4.4	2.4	1.2	1.0		25	5090	6.9	2.6	1.5	1.1					
					20	5,007	4.2	2.2	1.2	0.9		30	5070	6.6	2.3	1.3	0.9					
					25	5,099	4.1	2.1	1.0	0.8												
					30	4,952	4.0	2.0	1.0	0.7												
					15	9,958	10.2	5.3	2.7	1.9												
					20	10,032	9.8	5.1	2.6	1.9												
					25	10,261	10.0	5.0	2.3	1.6												
					30	10,016	10.1	5.2	2.3	1.7												
					Item 5																	
2+12.5	12.5 R	95.0	Lean clay subgrade	250	15	500	1.0	0.5	0.2	0.2	110	15	990	3.4	1.2	0.6	0.3					
					15	2,500	6.3	3.2	1.6	1.1		15	4910	21.0	6.7	3.3	2.0					
					15	3,500	9.7	4.8	2.3	1.6		15	6890	37.9	10.7	5.0	2.8					
					20	3,000	8.0	4.4	2.4	1.8		20	4890	19.8	7.0	3.7	2.2					
					25	3,000	7.7	4.4	2.0	1.5		25	4970	21.8	8.0	4.5	3.0					
					30	3,000	7.0	4.8	2.0	1.7		30	4340	17.8	6.5	3.7	2.7					
2+12.5	12.5 R	Lift 1	ML								107	15	980	.37	1.5	0.8	0.5					
												15	4960	26.1	9.5	5.0	2.8					
												15	6780	43.0	14.8	7.5	4.3					
												20	5100	28.5	10.6	5.6	3.3					
												25	4890	29.1	10.8	6.3	4.1					
												30	3400	17.0	5.8	3.2	2.4					
2+12.5	12.5 R	Lift 2	ML	310	15	500	1.0	0.7	0.2	0.2	190	15	1130	2.7	1.1	0.7	0.4					
					15	2,500	5.5	3.2	1.3	0.8		15	5060	17.6	6.4	3.6	2.3					
					15	3,500	8.2	4.7	2.0	1.2		15	6920	27.4	9.5	5.3	3.3					
					20	2,500	5.3	3.2	1.5	1.0		20	4980	17.3	6.6	3.8	2.5					
					25	2,500	5.2	3.2	1.5	1.0		25	5070	17.6	6.1	3.6	2.3					
					30	2,500	4.7	2.7	1.2	1.0		30	4300	14.6	4.7	2.9	2.1					

(Continued)

(Sheet 48 of 59)

Table A8 (Continued)

Station ft	E Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
				Item 5 (Continued)													
2+12.5	12.5 R	Lift 3	ML	360	15	500	1.2	0.7	0.2	0.1	182	15	1260	3.4	1.2	0.7	0.6
					15	2,500	5.5	3.2	1.4	0.9		15	5220	20.5	5.9	3.6	2.7
					15	3,500	8.0	4.7	2.1	1.3		15	6970	30.1	8.4	5.2	3.8
					20	2,500	4.7	2.7	1.2	0.7		20	5360	21.5	6.1	3.9	2.9
					25	2,500	4.5	2.5	1.1	0.7		25	5050	19.5	5.4	3.3	2.3
					30	2,500	4.2	2.5	1.0	0.7		30	3580	12.5	3.5	2.1	1.5
2+12.5	12.5 R	Lift 4	ML	390	15	500	0.8	0.3	0.2	0.1	238	15	790	2.8	0.7	0.6	0.3
					15	2,500	4.5	1.7	1.2	0.7		15	4840	17.2	5.0	3.0	1.9
					15	3,500	6.5	3.0	1.7	0.9		15	6910	25.9	7.2	4.4	2.7
					20	2,500	4.2	1.7	1.2	0.5		20	4930	16.2	4.9	2.9	1.9
					25	2,500	4.0	1.7	1.0	0.5		25	4960	15.7	4.4	2.6	1.6
					30	2,500	3.7	1.5	0.8	0.5		30	4940	16.2	4.0	2.3	1.6
2+12.5	12.5 R	Lift 5	ML	440	15	500	0.8	0.4	0.2	0.1	275	15	1070	2.9	1.0	0.6	0.4
					15	2,500	4.4	2.1	1.1	0.6		15	4990	18.0	5.6	2.9	2.0
					15	3,500	6.5	2.9	1.5	1.0		15	7190	26.0	8.0	4.2	2.9
					20	2,500	3.9	1.7	1.0	0.7		20	5080	18.1	5.5	2.8	1.9
					25	2,500	3.7	1.6	0.7	0.7		25	4950	19.5	5.2	2.5	1.7
					30	2,500	3.6	1.5	0.7	0.7		30	3630	14.0	3.5	1.7	1.2
2+12.5	12.5 R	Lift 6	ML	440	15	500	0.8	0.4	0.2	0.1	203	15	950	2.3	0.6	0.3	0.3
					15	2,500	4.3	2.2	1.0	0.5		15	5030	15.3	17.3	2.1	1.4
					15	3,500	6.3	3.0	1.5	0.9		15	6960	24.8	18.0	3.4	2.3
					20	2,500	3.7	1.8	1.0	0.5		20	4910	14.5	7.3	2.1	1.5
					25	2,500	3.7	1.7	0.8	0.5		25	4920	15.0	6.2	2.0	1.4
					30	2,500	3.7	1.7	0.8	0.5		30	4840	14.7	8.1	2.1	1.4
2+12.5	12.5 R	Lift 7	ML	440	15	--	--	--	--	--	268	15	1020	2.4	0.6	0.4	0.2
					15	2,494	4.0	2.4	1.0	0.7		15	4860	16.2	4.6	2.2	1.4
					15	--	--	--	--	--		15	6920	23.9	6.7	3.1	2.1
					20	2,536	3.9	2.1	1.0	0.6		20	5140	15.8	4.6	2.1	1.5
					25	2,568	3.8	2.1	0.9	0.6		25	5040	16.4	4.7	2.0	1.3
					30	2,563	3.9	2.0	0.9	0.4		30	4930	17.0	4.7	1.9	1.2

(Continued)

(Sheet 49 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 5 (Continued)																	
2+12.5	12.5 R	Lift 8	ML	430	15	2,591	4.1	2.1	0.9	0.7	273	15	1010	2.6	0.8	0.3	0.2
					20	2,514	3.8	2.0	0.7	0.6		15	4910	16.3	4.9	2.0	1.4
					25	2,501	3.7	1.8	0.6	0.4		15	7070	24.2	7.2	3.0	2.0
					30	2,503	3.8	1.8	0.6	0.4		20	5100	15.9	4.9	1.9	1.3
					15	5,037	8.8	4.3	1.6	1.2		25	5100	16.5	4.9	1.9	1.3
					20	5,029	8.4	4.0	1.3	1.1		30	4930	17.1	5.1	1.9	1.2
					25	5,045	8.6	4.0	1.2	1.0							
					30	5,044	8.7	4.3	1.1	1.0							
2+12.5	12.5 R	Lift 9	ML	390	15	2,482	4.6	1.8	0.9	0.6	137	15	1050	4.7	0.7	0.4	0.3
					20	2,499	4.3	1.7	0.8	0.6		15	5220	19.7	3.7	2.1	1.4
					25	2,441	4.2	1.7	0.7	0.4		15	7000	32.7	5.2	2.8	1.8
					30	2,479	4.3	2.0	0.9	0.3		20	4960	18.8	3.5	1.8	1.2
					15	5,059	10.0	3.7	1.7	1.1		25	4880	22.4	3.3	1.6	1.0
					20	4,969	9.9	4.0	1.8	1.1		30	3560	17.3	2.5	1.1	0.6
					25	4,860	9.4	3.8	1.3	1.0							
					30	4,948	10.0	4.9	1.8	0.8							
2+12.5	12.5 R	101.0	ML	450	15	2,398	4.0	1.5	0.7	0.4	202	15	970	3.1	1.1	0.4	0.4
					20	2,581	4.0	1.6	0.7	0.4		15	4820	16.1	4.6	1.7	1.3
					25	2,552	4.0	1.5	0.6	0.4		15	6840	16.1	6.3	2.3	1.9
					30	2,548	4.0	1.4	0.6	0.3		20	5200	16.0	4.7	1.7	0.7
					15	5,043	8.7	3.1	1.3	1.0		25	5020	16.1	4.8	1.7	1.0
					20	4,934	8.6	3.1	1.2	1.0		30	4930	15.9	4.8	1.7	1.1
					25	5,087	8.9	3.2	1.2	0.9							
					30	5,185	9.0	3.3	1.2	0.9							
					15	10,038	20.0	7.0	2.7	2.0							
					20	9,967	25.1	7.9	2.9	2.0							
					25	--	--	--	--	--							
					30	--	--	--	--	--							
2+12.5	12.5 L	95.0	Lean clay subgrade	250	15	500	1.1	0.6	0.4	0.2	147	15	1000	3.2	1.4	0.7	0.4
					15	2,500	6.7	3.5	1.8	1.1		15	5060	20.6	8.2	3.9	2.3
					15	3,500	10.2	5.2	2.6	1.6		15	6980	33.6	12.7	5.9	3.3
					20	3,000	8.6	4.9	2.5	1.7		20	5060	20.2	9.3	4.7	2.7
					25	3,050	8.3	5.0	3.0	2.4		25	4940	20.6	10.3	5.7	3.6
					30	3,000	7.3	4.2	2.1	1.6		30	4260	16.1	7.7	4.5	3.3

(Continued)

(Sheet 50 of 59)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM	Frequency	Force	$\Delta_o$	$\Delta_{18}$	$\Delta_{40}$	$\Delta_{60}$	DSM	Frequency	Force	$\Delta_o$	$\Delta_{18}$	$\Delta_{32}$	$\Delta_{46}$
				kips/in.	Hz	lb	mils	mils	mils	mils	kips/in.	Hz	lb	mils	mils	mils	mils
Item 5 (Continued)																	
2+12.5	12.5 L	Lift 1	ML	260	15	500	1.2	0.6	0.5	0.2	43	15	1050	5.6	3.3	2.0	1.0
					15	2,500	7.2	4.0	2.7	1.2		15	5120	42.9	25.4	14.3	6.9
					15	3,500	11.1	6.4	4.2	2.0		15	7010	82.0	44.9	25.5	11.8
					20	2,500	7.4	4.9	3.2	1.7		20	5200	41.3	30.4	20.3	11.5
					25	2,500	5.6	4.3	2.7	2.2		25	5080	29.9	19.8	13.0	8.9
					30	2,500	5.2	3.9	1.8	1.2		30	4200	20.0	13.8	8.4	5.1
2+12.5	12.5 L	Lift 2	ML	280	15	500	1.2	0.6	0.2	0.2	161	15	1070	3.2	1.5	0.9	0.6
					15	2,500	6.5	3.2	1.7	0.9		15	4900	22.1	10.2	6.3	3.8
					15	3,500	9.3	4.7	2.7	1.3		15	6850	34.2	15.7	9.5	5.7
					20	2,500	6.5	2.9	2.1	1.0		20	5090	23.4	11.5	7.5	4.7
					25	2,500	5.9	2.9	2.2	1.2		25	4970	21.2	10.2	7.0	4.7
					30	2,500	4.9	2.7	1.7	1.2		30	4460	17.3	7.4	4.7	3.3
2+12.5	12.5 R	Lift 3	ML	340	15	500	0.9	0.6	0.2	0.2	257	15	1010	2.4	0.8	0.5	0.3
					15	2,500	5.2	3.1	1.4	1.0		15	4900	18.4	6.6	3.8	2.5
					15	3,500	7.7	4.6	2.1	1.6		15	7010	26.6	9.6	5.6	3.5
					20	2,500	5.1	3.0	1.5	1.0		20	4970	17.9	7.0	4.3	2.8
					25	2,500	4.7	2.7	1.5	1.0		25	4970	17.1	6.4	4.2	3.2
					30	2,500	3.8	2.1	1.0	1.2		30	3660	11.2	3.8	2.2	1.5
2+12.5	12.5 L	Lift 4	ML	330	15	500	1.1	0.7	0.2	0.1	227	15	900	2.7	0.8	0.5	0.4
					15	2,500	5.2	2.6	1.5	0.8		15	4930	18.2	7.1	3.6	2.6
					15	3,500	7.8	4.7	2.3	1.3		15	6860	26.7	10.3	5.3	3.8
					20	2,500	4.7	2.7	1.5	0.8		20	4990	17.5	7.0	3.6	2.6
					25	2,500	4.2	2.5	1.4	0.8		25	4810	16.2	6.2	3.4	2.5
					30	2,500	3.7	2.0	1.0	0.8		30	4710	14.4	5.3	2.8	2.2
2+12.5	12.5 L	Lift 5	ML	430	15	500	0.8	0.1	0.1	0.1	284	15	1000	2.2	0.7	0.6	0.3
					15	2,500	4.5	2.6	1.1	0.7		15	5010	17.6	4.8	2.2	1.9
					15	3,500	6.4	3.7	1.6	1.1		15	6970	24.5	6.3	2.9	2.7
					20	2,500	4.0	2.4	1.2	0.7		20	5040	16.5	5.1	2.6	2.1
					25	2,500	3.7	2.0	1.2	0.7		25	5020	16.4	4.6	2.4	2.1
					30	2,500	3.5	1.8	0.7	0.7		30	3870	12.0	2.9	1.2	1.1

(Continued)

(Sheet 51 of 59)



Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 5 (Continued)																	
2+12.5	12.5 L	Lift 6	ML	430	15	500	1.1	0.5	0.1	0.1	--	15	900	2.6	0.7	0.4	0.3
					15	2,500	5.1	2.6	0.9	0.7		15	5000	17.3	4.7	2.2	1.8
					15	3,500	7.2	3.7	1.3	1.0		15	--	--	--	--	--
					20	2,500	3.7	2.2	1.0	0.5		20	5060	16.7	4.9	2.2	1.8
					25	2,500	3.6	2.2	1.0	0.5		25	5050	17.1	4.7	2.1	1.7
					30	2,500	3.4	2.2	0.7	0.5		30	3960	12.2	3.1	1.2	1.0
2+12.5	12.5 L	Lift 7	ML	410	15	--	--	--	--	--	242	15	970	2.4	0.6	0.4	0.2
					15	2,562	4.1	2.4	1.0	1.0		15	4890	16.8	4.6	2.3	1.5
					15	--	--	--	--	--		15	6950	25.3	7.1	3.4	2.3
					20	2,521	3.9	2.1	1.0	1.6		20	4940	16.4	4.7	2.2	1.5
					25	2,482	3.7	2.0	1.0	1.1		25	5010	17.6	4.6	2.0	1.4
					30	2,515	3.6	2.0	0.9	0.1		30	4960	18.7	4.6	1.9	1.3
2+12.5	12.5 L	Lift 8	MC	420	15	2,591	4.1	2.4	0.8	0.6	243	15	1040	2.3	0.9	0.4	0.3
					20	2,513	4.0	2.1	0.8	0.6		15	4800	16.4	5.0	2.5	1.5
					25	2,515	3.9	2.1	0.6	0.4		15	6790	24.6	7.1	3.6	2.2
					30	2,530	3.9	2.2	0.6	0.3		20	4980	15.5	4.5	2.1	1.3
					15	5,099	9.1	5.0	1.7	1.1		25	4950	16.7	4.6	2.0	1.1
					20	5,030	8.9	4.9	1.6	1.1		30	4960	18.5	4.8	1.9	1.1
					25	4,957	8.8	5.0	1.1	0.9							
					30	5,151	9.0	5.0	1.2	0.8							
2+12.5	Lane 2	Lift 9	Blend II (Cement stabilized)	680	15	2,554	2.0	1.3	0.7	0.4	614	15	1080	0.9	0.5	0.3	0.2
					20	2,434	1.9	1.2	0.6	0.4		15	5170	6.3	3.6	1.8	1.3
					25	2,517	1.8	1.1	0.6	0.3		15	6890	9.1	5.1	2.5	3.2
					30	2,615	1.9	1.1	0.4	0.2		20	5190	5.5	3.3	1.8	1.0
					15	4,968	4.1	2.8	1.2	0.9		25	5000	5.0	3.0	1.5	0.9
					20	4,943	4.1	2.7	1.2	0.9		30	4990	4.9	2.9	1.3	0.7
					25	5,072	4.0	2.6	1.1	0.8							
					30	4,962	3.9	2.4	1.0	0.6							
					15	10,030	10.1	6.4	2.9	1.8							
					20	9,929	9.8	6.2	2.8	1.8							
					25	9,919	9.2	5.9	2.3	1.6							
					30	10,000	9.4	6.0	2.1	1.2							

(Continued)

(Sheet 52 of 59)

Table A8 (Continued)

Station ft	Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
						Item 5 (Continued)											
2+12.5	€ Lane 2	101.0	Blend II (Cement stabilized)	1060	15	2,506	1.4	1.0	0.6	0.3	761	15	990	0.4	0.3	0.2	0.1
					20	2,535	1.4	1.0	0.6	0.3		15	4880	3.8	1.9	1.4	0.9
					25	2,532	1.2	0.9	0.4	0.3		15	7010	6.6	3.1	2.1	1.4
					30	2,562	1.2	0.9	0.4	0.2		20	5090	3.6	1.9	1.3	0.9
					15	4,944	3.0	2.0	1.1	0.8		25	5000	3.4	1.8	1.2	0.8
					20	5,008	3.0	2.1	1.1	0.8		30	4970	3.1	1.6	1.0	0.6
					25	4,983	2.7	1.9	1.0	0.7							
					30	5,079	2.7	1.9	1.0	0.6							
					15	9,869	6.6	4.6	2.4	1.6							
					20	10,104	6.8	4.9	2.6	1.7							
					25	10,209	6.4	4.6	2.2	1.4							
					30	9,799	6.1	4.3	2.0	1.1							
2+12.5	€ Lane 3	Lift 9	Blend II	550	15	2,519	3.1	1.8	0.9	0.7	411	15	1010	1.6	0.6	0.3	0.2
					20	2,571	3.0	1.7	0.9	0.7		15	5130	9.3	4.4	2.4	1.5
					25	2,517	2.8	1.4	0.8	0.6		15	6940	13.7	6.3	3.3	2.1
					30	2,559	2.8	1.3	0.6	0.4		20	5240	9.3	4.4	2.4	1.6
					15	4,980	6.7	3.6	1.9	1.2		25	5050	8.9	4.1	2.1	1.5
					20	4,963	6.2	3.4	1.8	1.2		30	4900	8.7	3.8	1.9	1.2
					25	5,073	6.0	3.2	1.4	1.0							
					30	4,903	5.8	3.0	0.7	0.9							
					15	9,962	15.3	8.2	4.0	2.7							
					20	10,001	14.4	7.9	3.9	2.8							
					25	9,837	13.4	7.3	4.1	2.2							
					30	10,057	20.4	8.0	--	2.0							
2+12.5	€ Lane 3	101.0	Blend II (SST)	680	15	2,528	2.1	1.2	0.7	0.6	459	15	960	1.0	0.4	0.3	0.2
					20	2,494	2.0	1.1	0.7	0.4		15	4920	6.2	2.9	1.7	1.2
					25	2,563	1.9	1.0	0.4	0.3		15	6940	10.6	4.4	2.6	1.8
					30	2,500	1.8	1.0	0.4	0.3		20	5050	5.9	2.9	1.7	1.2
					15	4,950	4.4	2.7	1.3	1.0		25	5110	5.8	2.8	1.5	1.1
					20	5,030	4.3	2.6	1.3	1.0		30	5050	5.7	2.6	1.4	0.9
					25	5,023	4.0	2.3	1.0	0.8							
					30	5,040	4.0	2.2	0.3	0.7							
					15	9,974	10.2	6.0	2.9	2.0							
					20	9,932	9.8	5.8	2.8	2.0							
					25	10,126	9.7	5.6	2.2	1.7							
					30	9,865	9.8	5.4	2.3	1.7							

(Continued)

(Sheet 53 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)													
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils						
Item 5 (Continued)																							
2+37.5	12.5 R	95.0	Lean clay subgrade	240	15	500	1.2	0.7	0.3	0.2	110	15	970	3.7	1.3	0.6	0.3						
					15	2,500	7.0	3.9	1.7	1.1		15	4980	25.0	8.0	3.4	1.9						
					15	3,500	10.7	5.1	2.4	1.5		15	7000	43.3	13.2	5.2	2.9						
					20	3,000	8.7	4.7	2.4	1.8		20	4850	25.2	9.3	4.5	2.6						
					25	3,000	7.9	4.5	2.2	1.8		25	4960	26.9	9.9	5.4	3.9						
					30	3,000	7.6	4.2	1.9	1.6		30	4120	22.0	7.7	4.1	2.9						
2+37.5	12.5 R	Lift 1	ML								33	15	1010	3.9	1.7	0.8	0.4						
												15	5040	29.9	11.9	5.6	2.6	15	6780	82.0	19.2	8.2	3.7
												15	6780	82.0	19.2	8.2	3.7	20	5030	35.1	16.1	8.5	4.8
												20	5030	35.1	16.1	8.5	4.8	25	4900	34.2	15.9	7.1	5.1
												25	4900	34.2	15.9	7.1	5.1	30	3750	23.1	11.9	6.4	4.4
												30	3750	23.1	11.9	6.4	4.4						
2+37.5	12.5 R	Lift 2	ML	330	15	500	1.1	0.6	0.2	0.1	183	15	980	3.3	0.9	0.5	0.3						
					15	2,500	5.7	3.1	1.5	0.8		15	5120	24.1	7.2	3.9	2.4						
					15	3,500	8.5	4.7	2.2	1.2		15	6860	33.6	10.2	5.5	3.2						
					20	2,500	5.7	3.3	1.7	1.0		20	5140	22.1	8.4	4.8	3.0						
					25	2,500	5.0	2.9	1.7	1.2		25	4750	19.8	7.0	4.5	3.2						
					30	2,500	5.0	2.9	1.3	0.7		30	2840	10.3	3.7	2.0	1.3						
2+37.5	12.5 R	Lift 3	ML	390	15	500	1.0	0.6	0.2	0.1	260	15	1020	2.7	0.9	0.7	0.6						
					15	2,500	5.0	2.7	1.2	0.8		15	4890	18.3	5.4	3.2	2.2						
					15	3,500	7.2	3.8	1.7	1.2		15	6710	25.3	7.0	4.1	2.8						
					20	2,500	4.7	2.7	1.4	1.0		20	5040	17.1	5.7	3.2	2.0						
					25	2,500	4.2	2.3	1.4	1.1		25	4710	16.8	5.4	3.4	2.4						
					30	2,500	4.0	2.0	0.9	0.7		30	3120	9.8	3.0	1.9	1.7						
2+37.5	12.5 R	Lift 4	ML	400	15	500	0.9	0.5	0.2	0.1	224	15	680	2.9	0.8	0.5	0.3						
					15	2,500	4.7	2.4	0.9	0.7		15	4970	15.8	5.2	3.2	2.0						
					15	3,500	6.9	3.3	1.5	1.1		15	6850	24.2	7.5	4.7	2.8						
					20	2,500	4.3	2.3	1.2	0.7		20	4920	15.4	5.2	3.3	2.0						
					25	2,500	3.9	2.1	1.2	0.9		25	4930	16.0	5.3	3.5	2.5						
					30	2,500	3.9	1.8	0.7	0.5		30	5010	15.9	4.8	2.7	1.8						

(Continued)

(Sheet 54 of 59)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>0</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 5 (Continued)																	
2+37.5	12.5 R	Lift 5	ML	430	15	500	0.8	0.5	0.2	0.1	228	15	1030	2.8	0.7	0.5	0.4
					15	2,500	4.5	2.2	1.1	0.7		15	4990	16.8	4.3	2.5	1.8
					15	3,500	6.6	3.1	1.5	1.1		15	6840	24.9	6.1	3.5	2.4
					20	2,500	4.0	2.1	1.0	0.8		20	5060	16.2	4.3	2.5	1.7
					25	2,500	4.0	2.1	1.1	0.8		25	5080	16.7	4.3	2.4	1.8
					30	2,500	3.7	1.9	0.8	0.8		30	4900	16.4	3.9	1.9	1.3
2+37.5	12.5 R	Lift 6	ML	440	15	500	0.8	0.5	0.2	0.1	288	15	1010	2.5	0.8	0.4	0.3
					15	2,500	4.4	2.5	0.8	0.7		15	4770	16.2	3.6	2.2	1.6
					15	3,500	6.4	3.3	1.2	0.9		15	6900	23.6	5.3	3.2	2.3
					20	2,500	4.0	2.2	0.8	0.6		20	5070	15.8	3.9	2.2	1.5
					25	2,500	4.0	2.2	0.7	0.5		25	5060	16.7	4.2	2.2	1.3
					30	2,500	3.8	2.2	0.7	0.5		30	5050	17.3	4.2	2.1	1.3
2+37.5	12.5 R	Lift 7	ML	430	15	--	--	--	--	--	228	15	1050	2.4	0.6	0.4	0.3
					15	2,467	4.0	2.4	0.9	0.7		15	5130	15.9	4.3	2.3	1.6
					15	--	--	--	--	--		15	6960	23.7	6.2	3.3	2.1
					20	2,567	4.0	2.3	0.8	0.6		20	5060	16.3	4.1	2.1	1.4
					25	2,507	4.0	2.4	0.8	0.4		25	4980	16.5	4.3	2.0	1.2
					30	2,544	3.9	2.3	0.7	0.6		30	4590	15.3	4.0	1.8	1.2
2+37.5	12.5 R	Lift 8	ML	400	15	2,530	4.2	2.0	0.9	0.7	218	15	920	2.5	0.7	0.4	0.3
					20	2,546	4.1	2.0	0.9	0.6		15	4970	17.1	4.9	2.3	1.6
					25	2,493	4.0	2.0	0.7	0.4		15	7020	26.5	7.0	3.2	2.2
					30	2,490	4.1	2.1	0.8	0.4		20	4990	16.8	4.6	2.1	1.5
					15	4,995	9.1	4.3	1.8	1.2		25	5050	17.8	4.7	1.9	1.2
					20	5,084	9.2	4.6	1.7	1.1		30	4810	18.2	5.0	2.0	1.6
					25	5,037	9.4	4.8	1.4	1.0							
					30	5,150	9.8	5.2	1.4	1.0							
2+37.5	12.5 R	Lift 9	ML	390	15	2,497	4.2	1.6	0.8	0.6	224	15	1340	2.7	0.8	0.4	0.2
					20	2,498	4.0	1.3	0.7	0.4		15	5120	15.0	4.2	1.9	1.3
					25	2,457	4.0	1.3	0.6	0.3		15	7020	23.5	6.2	2.6	1.7
					30	2,499	4.2	1.6	0.8	0.4		20	4920	13.7	3.9	1.5	1.0
					15	4,932	9.1	3.1	1.6	1.1		25	4950	15.0	4.3	1.5	0.9
					20	5,062	9.2	3.0	1.3	1.0		30	5060	16.1	4.6	1.7	1.0
					25	4,818	9.1	3.2	1.3	0.8							
					30	4,826	9.7	3.6	1.6	0.9							

(Continued)

(Sheet 55 of 59)



Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 5 (Continued)																	
2+37.5	12.5 R	101.0	ML	460	15	2,472	3.7	1.4	0.7	0.4	203	15	1010	2.6	0.7	0.3	0.2
					20	2,500	3.6	1.4	0.7	0.4		15	4890	15.0	3.7	1.6	1.0
					25	2,495	3.6	1.4	0.6	0.4		15	7000	25.4	5.5	2.3	1.5
					30	2,465	3.4	1.3	0.4	0.3		20	5200	15.0	4.0	1.7	1.2
					15	5,018	8.0	3.0	1.2	0.9		25	5070	15.1	3.8	1.5	1.0
					20	5,035	8.0	3.0	1.2	1.0		30	4950	16.2	3.9	1.5	1.0
					25	5,072	8.3	3.2	1.2	0.9							
					30	5,106	8.3	3.2	1.0	0.8							
					15	10,001	19.0	7.0	2.7	1.9							
					20	10,023	20.0	7.3	--	1.9							
					25	10,015	--	8.6	2.9	2.0							
					30	10,220	--	8.0	2.3	1.7							
2+37.5	12.5 L	95.0	Lean clay subgrade	220	15	500	1.2	0.7	0.4	0.2	96	15	930	4.1	1.5	0.8	1.3
					15	2,500	7.7	4.2	2.1	1.2		15	4890	26.4	9.6	4.2	2.9
					15	3,500	12.1	6.6	3.0	1.7		15	7060	49.1	16.4	6.9	3.5
					20	3,100	10.8	7.1	3.7	2.8		20	5050	31.8	13.3	6.5	3.4
					25	3,100	10.0	6.1	3.0	2.2		25	4940	31.9	14.5	7.7	4.9
					30	--	--	--	--	--		30	4050	25.5	12.0	6.2	3.5
2+37.5	12.5 L	Lift 1	ML	140	15	500	1.6	2.2	2.5	0.9	66	15	1010	5.7	5.6	5.5	4.1
					15	2,500	15.3	4.2	10.2	6.0		15	4980	41.1	24.0	18.4	15.9
					15	3,500	--	--	--	--		15	6970	71.1	42.0	21.6	19.9
					20	2,500	9.0	8.7	5.0	2.7		20	5140	40.2	26.6	14.2	6.4
					25	2,500	6.0	6.0	4.1	1.9		25	5030	27.8	19.6	13.2	5.5
					30	2,500	4.0	3.7	3.9	1.5		30	3790	16.0	11.0	7.0	3.6
2+37.5	12.5 L	Lift 2	ML	160	15	500	1.5	0.8	0.9	0.3	63	15	1020	5.8	3.4	2.3	1.1
					15	2,500	10.0	6.7	6.7	1.6		15	5070	48.4	27.8	17.8	8.2
					15	3,500	16.0	11.2	11.0	2.5		15	6970	78.6	43.9	26.6	11.7
					20	2,500	10.2	5.5	5.5	3.0		20	5090	35.1	22.7	16.5	9.9
					25	2,500	7.4	6.1	3.4	2.0		25	5060	26.7	17.2	12.0	6.1
					30	2,500	6.2	4.9	2.7	1.3		30	4330	17.5	10.6	8.1	4.8

(Continued)

(Sheet 56 of 59)

Table A8 (Continued)

Station ft	C Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>40</sub>	Δ <sub>60</sub>	DSM	Frequency	Force	Δ <sub>o</sub>	Δ <sub>18</sub>	Δ <sub>32</sub>	Δ <sub>46</sub>
				kips/in.	Hz	lb	mils	mils	mils	mils	kips/in.	Hz	lb	mils	mils	mils	mils
Item 5 (Continued)																	
2+37.5	12.5 L	Lift 3	ML	250	15	500	1.2	0.8	0.3	0.2	175	15	1040	3.3	1.5	0.9	0.6
					15	2,500	6.5	4.2	2.0	1.2		15	4990	21.6	10.0	6.3	3.9
					15	3,500	9.8	6.5	3.2	2.1		15	7020	33.2	14.9	9.1	5.7
					20	2,500	7.0	5.5	3.2	2.2		20	5010	20.8	10.8	7.6	5.4
					25	2,500	5.1	3.8	2.0	1.4		25	5050	18.3	8.2	5.1	3.2
					30	2,500	4.5	4.2	1.6	1.0		30	4690	15.1	6.6	4.1	2.6
2+37.5	12.5 L	Lift 4	ML	320	15	500	1.2	0.7	0.3	0.2	189	15	870	3.5	1.2	0.9	0.5
					15	2,500	5.7	4.0	1.8	1.1		15	5000	22.2	9.0	5.8	3.4
					15	3,500	8.7	5.9	2.9	1.6		15	6930	32.4	14.2	8.8	4.8
					20	2,500	5.7	4.3	2.7	1.6		20	4850	21.2	10.1	7.2	4.7
					25	2,500	4.2	3.0	1.7	1.2		25	4830	17.7	7.1	6.2	3.5
					30	2,500	4.2	3.0	1.5	0.7		30	4040	14.5	5.8	3.6	2.0
2+37.5	12.5 L	Lift 5	ML	400	15	500	0.8	0.4	0.1	0.1	203	15	980	3.0	1.0	0.6	0.4
					15	2,500	4.6	2.4	1.0	0.7		15	5120	18.1	5.5	3.0	2.2
					15	3,500	6.7	3.5	1.3	1.0		15	6870	26.7	7.9	4.2	2.9
					20	2,500	4.0	2.4	1.0	0.7		20	5030	17.0	5.4	3.2	2.2
					25	2,500	3.7	2.0	0.7	0.6		25	5000	16.0	4.4	2.3	1.6
					30	2,500	3.5	1.9	0.6	0.5		30	4990	17.2	4.8	2.8	1.9
2+37.5	12.5 L	Lift 6	ML	430	15	500	0.8	0.4	0.1	--	218	15	1020	2.4	0.7	0.4	0.3
					15	2,500	4.6	2.1	0.9	0.5		15	5060	16.1	4.6	2.5	1.7
					15	3,500	6.5	3.0	1.2	0.8		15	6910	24.6	6.4	3.4	2.4
					20	2,500	4.2	2.2	1.1	0.7		20	4920	15.8	4.8	2.8	2.0
					25	2,500	3.7	1.7	0.7	0.5		25	5120	16.5	4.0	1.9	1.5
					30	2,500	3.7	1.7	0.7	0.4		30	4870	16.4	4.4	2.1	1.4
2+37.5	12.5 L	Lift 7	ML	450	15	--	--	--	--	--	--	15	1130	3.0	0.8	0.5	0.4
					15	2,466	3.9	2.0	0.9	0.7		15	5090	17.6	4.7	2.5	1.8
					15	--	--	--	--	--		15	7060	--	6.0	3.3	2.5
					20	2,542	3.8	2.0	0.9	0.7		20	4950	19.4	4.2	2.2	1.5
					25	2,516	3.6	1.9	0.7	0.4		25	5020	21.1	4.2	2.0	1.6
					30	2,529	3.4	1.8	0.7	0.6		30	3880	16.3	2.7	1.2	1.0

(Continued)

(Sheet 57 of 59)



Table A8 (Continued)

Station ft	$\zeta$ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	DSM kips/in.	Frequency Hz	Force lb	$\Delta_o$ mils	$\Delta_{18}$ mils	$\Delta_{32}$ mils	$\Delta_{46}$ mils
Item 5 (Continued)																	
2+37.5	12.5 L	Lift 8	ML	450	15	2,453	3.9	2.2	0.8	0.6	276	15	910	2.7	0.9	0.4	0.3
					20	2,559	3.9	2.2	0.8	0.6		15	4970	17.9	4.6	2.1	1.4
					25	2,552	3.7	2.1	0.7	0.4		15	7010	25.3	6.6	3.0	2.0
					30	2,575	3.7	2.0	0.6	0.4		20	4980	18.3	4.9	2.1	1.4
					15	5,009	8.7	5.0	1.7	1.2		25	5080	18.3	4.5	1.8	1.3
					20	5,111	8.4	4.9	1.4	1.1		30	4440	16.4	3.9	1.4	0.9
					25	5,073	8.3	4.8	1.3	1.0							
					30	4,956	8.2	4.9	1.1	0.9							
2+37.5	$\zeta$ Lane 2	Lift 9	Blend II (Cement stabilized)	670	15	2,514	2.0	1.1	0.7	0.4	339	15	1090	2.0	0.5	0.3	0.2
					20	2,496	2.0	1.1	0.7	0.4		15	4880	11.9	3.2	1.8	1.2
					25	2,518	1.8	1.0	0.4	0.3		15	6950	18.0	4.7	2.6	1.6
					30	2,451	1.8	1.0	0.4	0.2		20	5030	11.3	3.2	1.8	1.1
					15	4,940	4.2	2.4	1.2	0.9		25	4990	11.0	2.9	1.5	0.8
					20	5,158	4.3	2.6	1.3	1.0		30	5010	10.3	2.7	1.5	0.8
					25	4,995	4.0	2.2	1.0	0.7							
					30	5,023	4.0	2.2	1.0	0.7							
					15	9,676	9.8	5.6	2.7	1.8							
					20	10,097	10.1	5.8	2.8	1.9							
					25	9,966	9.4	5.2	2.1	1.3							
					30	10,023	9.7	5.4	2.6	1.3							
2+37.5	$\zeta$ Lane 2	101.0	Blend II (Cement stabilized)	1080	15	2,419	1.6	1.0	0.7	0.4	817	15	1070	0.5	0.3	0.2	0.1
					20	2,437	1.4	0.9	0.6	0.3		15	5080	4.1	2.1	1.4	1.0
					25	2,498	1.3	0.9	0.4	0.3		15	7040	6.5	3.0	2.0	1.3
					30	2,515	1.3	0.8	0.4	0.2		20	5050	3.7	1.8	1.2	0.9
					15	4,988	3.2	2.0	1.2	0.9		25	5090	3.5	1.7	1.0	0.7
					20	5,022	3.0	2.0	1.1	0.8		30	4950	3.3	1.6	1.0	0.6
					25	4,986	3.0	1.8	1.0	0.2							
					30	5,030	2.9	1.8	1.0	0.7							
					15	9,930	7.0	4.2	2.6	1.8							
					20	10,018	6.7	4.2	2.4	1.6							
					25	10,120	6.4	4.0	2.1	1.3							
					30	10,286	6.6	3.9	2.0	1.2							

(Continued)

(Sheet 58 of 59)

Table A8 (Concluded)

Station ft	℄ Offset ft	Lift or Elevation ft	Material	WES 16 kip (Peak Response)						RR 2008 (Peak-Peak Response)							
				DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>40</sub> mils	Δ <sub>60</sub> mils	DSM kips/in.	Frequency Hz	Force lb	Δ <sub>o</sub> mils	Δ <sub>18</sub> mils	Δ <sub>32</sub> mils	Δ <sub>46</sub> mils
Item 5 (Continued)																	
2+37.5	℄ Lane 3	Lift 9	Blend II	560	15	2,529	2.9	1.5	0.6	0.6	493	15	1030	1.3	0.5	0.3	0.2
					20	2,258	2.7	1.3	0.8	0.6		15	5010	8.5	3.5	2.0	1.5
					25	2,542	2.6	1.2	1.2	0.4		15	7080	12.7	5.2	3.0	2.5
					30	2,545	2.6	1.2	0.6	0.3		20	5130	8.3	3.5	2.1	2.0
					15	4,957	6.0	3.0	1.7	1.1		25	5070	8.1	3.3	1.9	1.2
					20	4,914	5.6	2.9	1.6	1.0		30	5030	8.3	3.3	1.8	1.0
					25	4,955	5.4	2.7	1.2	0.9							
					30	5,112	5.7	2.8	1.3	0.9							
					15	10,171	14.3	7.1	3.7	2.3							
					20	10,017	13.2	6.8	3.4	2.3							
					25	10,021	13.3	6.8	5.0	2.0							
					30	10,023	17.3	7.1	7.1	1.8							
2+37.5	℄ Lane 3	101.0	Blend II (SST)	660	15	2,512	2.3	1.2	0.7	0.4	515	15	950	1.1	0.5	0.3	0.3
					20	2,484	2.0	1.1	0.6	0.4		15	4870	7.3	2.8	1.7	1.2
					25	2,514	2.0	1.0	0.6	0.3		15	6880	11.2	4.0	2.5	1.7
					30	2,498	2.0	1.0	0.4	0.3		20	5180	6.9	2.7	1.7	1.2
					15	4,979	4.8	2.7	1.2	1.0		25	5160	6.6	2.5	1.5	1.0
					20	5,027	4.6	2.6	1.2	0.9		30	4970	6.5	2.4	1.3	0.9
					25	5,056	4.4	2.3	1.0	0.8							
					30	5,010	4.4	2.3	1.0	0.7							
					15	9,965	11.0	6.0	2.8	2.0							
					20	10,192	10.7	5.8	2.6	1.9							
					25	10,126	10.8	5.7	2.3	1.6							
					30	10,067	11.3	6.1	2.4	1.6							



Table A9  
Nondestructive Test Results During Construction  
Falling Weight Deflectometer

Lane	Station	Lift or Ele- vation ft	Material	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa micron
				Item 1					
1	0+12.5	Lift 9	Crushed limestone	1.44	348	280	115	60	1.24
				3.44	477	390	160	80	1.22
				6.50	615	520	220	115	1.18
				14.94	943	845	370	190	1.12
1	0+12.5	101	Crushed limestone	1.44	263	153	44	28	1.72
				3.44	394	248	66	43	1.59
				6.50	549	305	94	60	1.80
				14.94	904	492	165	--	2.31
1	0+37.5	Lift 9	Crushed limestone	1.44	334	230	90	50	1.24
				3.44	475	330	140	70	1.44
				6.50	626	420	195	100	1.49
				F D H	--	725	325	170	--
1	0+37.5	101	Crushed limestone	1.44	259	187	55	28	1.39
				3.44	394	315	97	47	1.25
				6.50	547	385	133	68	1.42
				14.94	901	629	221	113	1.43
2	0+12.5	Lift 9	Blend I (cement stabilized)	1.44	317	270	120	55	1.17
				3.44	446	360	180	90	1.24
				6.50	610	465	240	120	1.31
				14.94	958	715	400	200	1.34
2	0+12.5	101	Blend I (cement stabilized)	1.44	275	70	46	30	3.48
				3.44	408	112	68	42	3.64
				6.50	567	156	95	42	3.63
				14.94	925	250	157	104	3.70
2	0+37.5	Lift 9	Blend I (cement stabilized)	1.44	316	230	105	45	1.37
				3.44	443	320	160	70	1.38
				6.50	609	410	210	100	1.49
				14.94	948	600	335	160	1.58
2	0+37.5	101	Blend I (cement stabilized)	1.44	271	65	46	31	4.17
				3.44	408	94	68	46	4.34
				6.50	564	135	95	63	4.18
				14.94	929	218	155	105	4.26
3	0+12.5	Lift 9	Crushed limestone	1.44	317	165	75	45	1.92
				3.44	487	245	125	70	1.99
				6.50	633	330	170	100	1.92
				14.94	953	575	290	155	1.66
3	0+12.5	101	Crushed limestone	1.44	271	260	52	31	1.04
				3.44	405	365	79	48	1.11
				6.50	567	444	107	65	1.28
				14.94	927	645	171	103	1.44

(Continued)

(Sheet 1 of 6)

Table A9 (Continued)

Lane	Station	Lift or Ele- vation ft	Material	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa micron
Item 1 (Concluded)									
3	0+37.5	Lift 9	Crushed limestone	1.44	311	290	100	40	1.07
				3.44	433	400	150	75	1.08
				6.50	608	535	200	100	1.14
				14.94	963	830	340	165	1.16
3	0+12.5	101	Crushed limestone	1.44	277	69	31	22	4.01
				3.44	415	137	47	36	3.03
				6.50	573	154	64	53	3.72
				14.94	933	278	107	81	3.36
Item 2									
1	0+62.5	Lift 9	Crushed limestone	1.44	--	--	--	--	--
				3.44	--	--	--	--	--
				6.50	--	--	--	--	--
				14.94	--	--	--	--	--
1	0+62.5	101	Crushed limestone	1.44	264	142	50	29	1.86
				3.44	391	194	69	40	2.02
				6.50	549	299	106	55	1.84
				14.94	902	509	179	91	1.77
1	0+87.5	Lift 9	Crushed limestone	1.44	316	495	70	30	0.64
				3.44	442	680	110	50	0.65
				6.50	609	870	145	70	0.70
				14.94	960	1440	240	120	0.67
1	0+87.5	101	Crushed limestone	1.44	259	327	106	33	0.79
				3.44	392	411	166	56	0.95
				6.50	609	870	145	70	0.70
				14.94	895	1050	389	123	0.85
2	0+62.5	Lift 9	Blend II (cement stabilized)	1.44	301	175	85	20	1.72
				3.44	450	270	130	40	1.67
				6.50	607	365	180	55	1.66
				14.94	964	565	290	90	1.71
2	0+62.5	101	Blend II (cement stabilized)	1.44	267	97	56	29	2.75
				3.44	400	159	90	40	2.52
				6.50	558	215	122	58	2.60
				14.94	914	349	198	94	2.62
2	0+87.5	Lift 9	Blend II (cement stabilized)	1.44	270	785	170	25	0.34
				3.44	427	1170	265	40	0.36
				6.50	598	1480	355	60	0.40
				14.94	952	2120	550	95	0.45
2	0+87.5	101	Blend II (cement stabilized)	1.44	263	142	70	35	1.85
				3.44	392	189	99	52	2.07
				14.94	902	437	247	126	2.06
3	0+62.5	Lift 9	Crushed limestone	1.44	299	400	100	20	0.75
				3.44	421	540	75	40	0.78
				6.50	590	680	90	50	0.87
				14.94	950	985	200	80	0.96

(Continued)

(Sheet 2 of 6)



Table A9 (Continued)

Lane	Station	Lift or Ele- vation ft	Material	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa micron
Item 2 (Concluded)									
3	0+62.5	101	Crushed limestone	1.44	280	147	49	27	1.90
				3.44	409	252	81	42	1.62
				6.50	565	299	102	54	1.89
				14.94	927	501	174	88	1.85
3	0+87.5	Lift 9	Crushed limestone	1.44	301	475	80	20	0.63
				3.44	417	655	120	40	0.64
				6.50	586	810	160	55	0.72
				14.94	959	1265	250	100	0.76
3	0+87.5	101	Crushed limestone	1.44	267	142	54	29	1.88
				3.44	410	258	88	42	1.59
				6.50	567	312	113	54	1.82
				14.94	925	552	188	90	1.68
Item 3									
1	1+12.5	Lift 9	Blend II	1.44	307	580	80	30	0.53
				3.44	425	805	100	40	0.53
				6.50	584	965	60	60	0.61
				14.94	939	1860	80	80	0.50
1	0+12.5	101	Blend II	1.44	272	414	66	26	0.66
				3.44	401	595	104	36	0.68
				6.50	567	804	138	49	0.71
				14.94	922	1260	115	76	0.73
1	0+37.5	Lift 9	Blend II	1.44	299	460	70	30	0.65
				3.44	423	655	110	40	0.65
				6.50	594	840	150	60	0.71
				14.94	961	1295	215	90	0.74
1	1+37.5	101	Blend II	1.44	282	347	62	27	0.81
				3.44	411	536	91	37	0.77
				6.50	564	685	120	51	0.82
				14.94	926	1005	185	79	0.92
2	1+12.5	Lift 9	Lean mix concrete Blend II	1.44	--	--	--	--	--
				3.44	--	--	--	--	--
				6.50	--	--	--	--	--
				14.94	--	--	--	--	--
2	1+12.5	101	Lean mix concrete Blend II	1.44	278	40	32	23	6.95
				3.44	401	58	50	33	6.91
				6.50	554	81	64	47	6.84
				14.94	920	132	105	76	6.97
2	1+37.5	Lift 9	Lean mix concrete Blend II	1.44	--	--	--	--	--
				3.44	--	--	--	--	--
				6.50	--	--	--	--	--
				14.94	--	--	--	--	--

(Continued)

(Sheet 3 of 6)

Table A9 (Continued)

Lane	Station	Lift or Elevation ft	Material	Drop Height in.	Pressure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa micron
Item 3 (Concluded)									
2	1+37.5	101	Lean mix concrete Blend II	1.44	264	39	33	23	6.77
				3.44	403	59	49	35	6.83
				6.50	556	82	65	47	6.78
				14.94	914	134	107	78	6.82
3	1+12.5	Lift 9	Blend II (DBST)	1.44	283	550	75	20	0.51
				3.44	418	775	65	45	0.54
				6.50	585	1005	115	65	0.58
				14.94	940	1495	130	105	0.63
3	1+12.5	101	Blend II (DBST)	1.44	278	194	61	30	1.43
				3.44	410	311	97	45	1.32
				6.50	559	396	126	60	1.41
				14.94	917	688	215	99	1.33
3	1+37.5	Lift 9	Blend II (DBST)	1.44	277	515	80	30	0.54
				3.44	420	780	120	45	0.54
				6.50	585	1005	165	60	0.58
				14.94	907	1635	205	110	0.55
3	1+37.5	101	Blend II (DBST)	1.44	266	206	60	31	1.29
				3.44	403	322	97	48	1.25
				6.50	559	407	130	62	1.37
				14.95	914	671	218	101	1.36
Item 4									
1	1+62.5	Lift 9	Blend I	1.44	303	455	70	20	0.67
				3.44	426	635	100	40	0.67
				6.50	596	815	130	50	0.73
				14.94	963	1310	202	90	0.74
1	1+62.5	101	Blend I	1.44	257	360	56	25	0.71
				3.44	359	507	80	36	0.71
				6.50	473	683	110	53	0.69
				14.94	735	1107	174	83	0.66
1	1+87.5	Lift 9	Blend I	1.44	306	1310	215	90	0.23
				3.44	306	750	80	40	0.41
				6.50	594	975	110	50	0.61
				14.94	951	1500	170	90	0.63
1	1+87.5	101	Blend I	1.44	268	352	52	23	0.76
				3.44	402	482	68	36	0.83
				6.50	559	689	102	48	0.81
				14.94	920	1093	161	76	0.84
2	1+62.5	Lift 9	Blend I (cement stabilized)	1.44	305	395	70	20	0.77
				3.44	423	500	100	30	0.85
				6.50	615	655	140	45	0.94
				14.94	985	995	230	80	0.99
2	1+62.5	101	Blend I (cement stabilized)	1.44	266	105	56	28	2.53
				3.44	397	149	79	40	2.66
				6.50	553	202	112	55	2.74
(Continued)									

(Continued)

(Sheet 4 of 6)



Table A9 (Continued)

Lane	Station	Lift or Ele- vation ft	Material	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa micron
Item 4 (Concluded)									
2	1+87.5	Lift 9	Blend I (cement stabilized)	1.44	316	165	60	20	1.92
				3.44	436	240	90	30	1.82
				6.50	602	304	120	50	1.77
				14.94	966	480	210	80	2.01
2	1+87.5	101	Blend I (cement stabilized)	1.44	267	116	49	21	2.30
				3.44	392	157	72	33	2.50
				6.50	545	214	99	46	2.55
3	1+62.5	Lift 9	Blend I (ST)	1.44	267	116	49	21	2.30
				3.44	419	695	120	40	0.60
				6.50	597	900	160	60	0.66
				14.94	959	1380	260	90	0.69
3	1+62.5	101	Blend I (ST)	1.44	266	264	65	33	1.01
				3.44	401	419	103	49	0.96
				6.50	555	535	136	65	1.04
3	1+87.5	Lift 9	Blend I (ST)	1.44	288	470	90	30	0.61
				3.44	415	625	120	40	0.66
				6.50	585	855	170	60	0.68
				14.94	953	1340	280	100	0.71
3	1+87.5	101	Blend I (ST)	1.44	266	212	39	17	1.25
				3.44	401	375	105	39	1.07
				6.50	557	476	132	61	1.17
				14.94	913	795	220	101	1.15
Item 5									
1	2+12.5	Lift 9	ML	1.44	225	825	110	60	0.27
				3.44	326	690	160	50	0.47
				6.50	455	1635	210	110	0.28
				14.94	745	2365	350	170	0.32
1	2+12.5	101	ML	1.44	277	1010	92	37	0.27
				3.44	397	1337	121	52	0.30
				6.50	543	1673	165	68	0.32
				14.94	892	2370	261	102	0.38
1	2+37.5	Lift 9	ML	1.44	308	700	110	40	0.44
				3.44	434	1140	175	60	0.38
				6.50	612	1390	240	80	0.44
				14.94	962	2660	405	150	0.36
1	2+37.5	101	ML	1.44	268	835	77	34	0.32
				3.44	394	1077	119	51	0.37
				6.50	555	1447	167	72	0.38
				14.94	896	2197	277	110	0.41
2	2+12.5	Lift 9	Blend II (cement stabilized)	1.44	311	175	75	30	1.78
				3.44	466	265	130	50	1.76
				6.50	623	370	180	70	1.68
				14.94	980	590	295	125	1.66

(Continued)

(Sheet 5 of 6)

Table A9 (Concluded)

Lane	Station	Lift or Elev- ation ft	Material	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa micron
Item 5 (Concluded)									
2	2+12.5	101	Blend II	1.44	269	84	47	26	3.20
			(cement	3.44	390	130	74	38	3.00
			stabilized	6.50	551	185	110	55	2.98
				14.94	908	310	189	97	2.92
2	2+37.5	Lift 9	Blend II	1.44	325	170	80	30	1.91
			(cement	3.44	459	240	120	50	1.91
			stabilized)	6.50	625	330	170	70	1.89
				14.94	968	535	270	120	1.81
2	2+37.5	101	Blend II	1.44	265	88	47	27	3.01
			(cement	3.44	392	141	70	35	2.78
			stabilized)	6.50	548	178	98	54	3.08
				14.94	907	290	167	95	3.13
3	2+12.5	Lift 9	Blend II	1.44	292	355	90	30	0.82
			(ST)	3.44	424	540	140	50	0.79
				6.50	585	725	200	70	0.81
				14.94	952	1160	340	130	0.82
3	2+12.5	101	Blend II	1.44	266	182	59	33	1.46
			(ST)	3.44	404	306	94	47	1.32
				6.50	557	409	126	65	1.36
				14.94	916	700	215	110	1.31
3	2+37.5	Lift 9	Blend II	1.44	281	315	85	30	0.89
			(ST)	3.44	415	455	130	50	0.91
				6.50	588	645	190	80	0.91
				14.94	979	1110	335	145	0.88
3	2+37.5	101	Blend II	1.44	269	168	60	35	1.60
			(ST)	3.44	405	260	95	49	1.56
				6.50	557	333	127	67	1.67
				14.94	914	523	218	113	1.75



Table A10.

## As Installed Pipe Data--Moisture and Density Measurements

Pipe Trench No.	Bottom of Trench		Top of Bedding		Blend II to Top of Pipe		Top of Blend II		First Lift of Crushed Stone		Final Lift of Crushed Stone	
	Density pcf	W/C %	Density pcf	W/C %	Density pcf	W/C %	Density pcf	W/C %	Density pcf	W/C %	Density pcf	W/C %
Lane 1												
1	113.4	7.4	105.3	5.5	114.1	2.9	116.8	2.7	129.3	2.8	147.0	0.8
2	113.7	3.7	115.2	3.8	111.0	3.2	115.4	3.0				
3	--	--	106.3	5.0	112.0	2.8	113.1	2.8				
4	111.6	4.2	106.1	4.2	109.2	3.4	115.4	3.1				
5	110.7	3.9	106.5	4.5	111.8	2.5	113.2	2.6				
6	122.2	5.8	104.4	5.0	109.6	3.6	114.5	3.2				
									First Lift of Blend II (ce- ment stabilized)		Final Lift of Blend II (ce- ment stabilized)	
									Density	W/C	Density	W/C
									pcf	%	pcf	%
Lane 2												
7	117.3	4.3	108.3	3.7	113.8	2.4	113.0	2.4	122.3	5.1	141.5	3.7
8	115.1	4.4	105.8	4.3	109.1	4.6	111.0	2.7				
9	114.3	3.4	111.4	4.0	116.0	1.8	114.5	2.6				
10	115.6	4.3	103.4	3.5	111.8	3.4	114.2	2.6				
11	114.4	4.2	104.5	3.7	111.5	2.2	112.8	2.7				
12	115.6	3.7	110.2	4.0	114.1	2.8	110.0	2.6				

Table All  
Pre-Traffic and Post-Traffic Surface Measurements of  
CBR, Moisture Content, and Density

Lane	Item	Station	Composition				0 Passes			2600 Passes			
			Upper Layer		Lower Layer		CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %
			Material	Thick- ness in.	Material	Thick- ness in.							
1	1	0+12.5	Crushed limestone	36	Heavy clay	36	98	135	1.0	158	146	1.1	0.2
		0+25		36		36	--	--	--	158	146	1.2	0.3
		0+37.5		36		36	105	144	1.1	127	139	1.0	0.2
	2	0+62.5	Crushed limestone	9	Blend II	63	144	147	0.8	146	142	1.3	0.4
		0+75		9		63	--	--	--	167	144	1.0	0.2
		0+87.5		9		63	152	147	0.8	136	142	1.0	0.2
	3	1+12.5	Blend II	72	--	--	24	121	2.2	53	124	2.0	1.6
		1+25		72	--	--	--	--	--	50	128	1.7	0.9
		1+37.5		72	--	--	18	124	2.0	23	127	1.8	1.0
	4	1+62.5	Blend I	9	Blend II	63	31	121	2.1	27	122	2.2	1.3
		1+75		9		63	--	--	--	16	118	2.4	1.1
		1+87.5		9		63	19	116	2.2	26	121	2.3	1.4
	5	2+12.5	Silt	72	--	--	13	108	16.7	67	112	11.9	10.5
		2+25		72	--	--	--	--	--	73	105	12.0	10.6
		2+37.5		72	--	--	9	108	15.2	72	110	10.7	9.1
2	1	0+12.5	Blend I (cement stabilized)	29	Heavy clay	43	150	131	4.7	150+	114	5.4	
		0+25		29		43	--	--	--	150+	116	4.7	
		0+37.5		29		43	147	135	5.1		115	4.9	
	2	0+62.5	Blend II (cement stabilized)	12	Blend II	60	150	142	3.4		118	3.7	
		0+75		12		60	--	--	--	150+	118	4.0	
		0+87.5		12		60	150	141	3.9		116	4.4	
2	3	--	Lean concrete	72	--	--	--	--	--	--	--	--	
		--		72	--	--	--	--	--	--	--	--	
		--		72	--	--	--	--	--	--	--	--	

(Continued)



Table A11 (Concluded)

Lane	Item	Station	Composition				0 Passes			2600 Passes			
			Upper Layer		Lower Layer		CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %
			Material	Thick- ness in.	Material	Thick- ness in.							
2	4	1+62.5	Blend I (cement stabilized)	12	Blend II	60	147	135	4.3		115	4.7	
		1+75		12		60	--	--	--	150+	116	4.7	
		1+87.5		12		60	150	141	4.1		117	4.4	
	5	2+12.5	Blend II (cement stabilized)	16	Silt	56	143	140	3.4		121	3.8	
		2+25		16		56	--	--	--	150+	119	4.3	
		2+37.5		16		56	150	137	3.6		120	4.5	
3	1	0+12.5	Crushed limestone	29	Heavy clay	43	150	142	1.2	150+	141	1.2	0.3
		0+25		29		43	--	--	--	150+	139	1.2	0.3
		0+37.5		29		43	150	141	1.4	150+	144	1.0	0.4
	2	0+62.5	Crushed limestone	12	Blend II	60	150	137	1.1	150+	142	1.0	0.2
		0+75		12		60	--	--	--	150+	146	1.2	0.5
		0+87.5		12		60	150	145	1.1	150+	143	1.0	0.5
	3	1+12.5	Blend II	72	--	--	94	131	4.1	135	122	3.2	2.4
		1+25		72	--	--	--	--	--	134	124	3.6	5.9
		1+37.5		72	--	--	107	133	3.5	150+	123	3.5	2.5
	4	1+62.5	Blend I	12	Blend II	60	97	127	4.4	82	121	4.1	3.0
		1+75		12		60	--	--	--	123	119	3.5	3.1
		1+87.5		12		60	64	124	3.9	62	118	4.0	3.2
	5	2+12.5	Blend II	16	Silt	56	99	132	3.4	100	125	3.9	2.7
		2+25		16		56	--	--	--	105	124	4.2	3.3
		2+37.5		16		56	91	129	3.1	109	122	3.8	2.9

Table A12

## Vertical Soil Deflections as Measured by LVDT Gages

Structural Composition				Gage Design- nation	Depth of Gage ft	Number of Passes	Perma- nent Set in.	Static Deflec- tion in.	Dynamic Deflec- tion in.	Gage Design- nation	Depth of Gage ft	Number of passes	Perma- nent Set in.	Static Deflec- tion in.	Dynamic Deflec- tion in.
Upper Layer		Lower Layer													
Material	Thickness in.	Material	Thickness in.												
Item 1, Lane 1															
Crushed limestone	36	Heavy clay	36	D1-B	3	1	0.013	0.060	--	D1-A	6	1	0.004	0.023	--
						2	0.013	--	0.053			2	0.004	--	0.023
						3	0.012	--	0.053			3	0.003	--	0.023
						10	0.014	--	0.059			10	0.004	--	0.024
						22	0.014	--	0.062			22	0.004	--	0.026
						40	0.015	--	--			40	0.005	--	0.026
						41	0.013	0.078	--			41	0.003	0.026	--
						90	0.017	--	0.070			90	0.004	--	0.028
						131	0.014	0.079	--			131	0.004	0.029	--
						133	0.021	--	0.068			133	0.004	--	0.027
						226	0.021	--	0.074			226	0.005	--	0.028
						326	0.021	--	0.073			326	0.005	--	0.028
						327	0.018	0.079	--			327	0.004	0.027	--
						488	0.024	--	0.072			488	0.005	--	0.028
						651	0.020	0.085	--			651	0.004	0.004	--
						652	0.025	--	0.074			652	0.005	--	0.029
						976	0.025	--	0.078			976	0.007	--	0.029
						1100	0.023	--	0.076			1100	0.007	--	0.030
						1300	0.024	--	0.080			1300	0.006	--	0.031
						1301	0.023	0.064	--			1301	0.005	0.032	--
						1951	0.022	0.064	--			1951	0.007	0.032	--
						1952	0.027	--	0.081			1952	0.008	--	0.031
						2275	0.027	--	0.080			2275	0.009	--	0.031
						2599	0.026	0.089	--			2599	0.009	0.033	--
						2600	0.027	--	0.081			2600	0.010	--	0.033
Item 3, Lane 1															
Blend II	72	--	--	D3-B	3	1	0.010	0.043	--	D3-A	6	1	0.003	0.020	--
						2	0.010	--	0.042			2	0.002	--	0.020
						3	0.012	--	0.037			3	0.002	--	0.021
						10	0.020	--	0.039			10	0.003	--	0.022
						22	0.027	--	0.039			22	0.003	--	0.022
						40	0.032	--	0.039			40	0.004	--	0.021
						41	0.031	0.041	--			41	0.002	0.023	--
						90	0.042	--	0.039			90	0.003	--	0.022
						131	0.045	0.043	--			131	0.002	0.023	--
						133	0.049	--	0.037			133	0.004	--	0.023
						226	0.056	--	0.042			226	0.006	--	0.023

(Continued)



Table A12 (Concluded)

Structural Composition				Gage Design- nation	Depth of Gage ft	Number of Passes	Perma- nent Set in.	Static Deflec- tion in.	Dynamic Deflec- tion in.	Gage Design- nation	Depth of Gage ft	Number of passes	Perma- nent Set in.	Static Deflec- tion in.	Dynamic Deflec- tion in.
Upper Layer		Lower Layer													
Material	Thickness in.	Material	Thickness in.												
Item 3, Lane 1 (Continued)															
Blend (Continued) tinued)	73 (Con- tinued)	-- (Con- tinued)	-- (Con- tinued)	D3-B (Con- tinued)	3 (Con- tin- ued)	326	0.060	--	0.038			326	0.007	--	0.023
						327	0.058	0.042	--			327	0.005	0.022	--
						488	0.065	--	0.040			488	0.007	--	0.023
						651	0.066	0.044	--			651	0.006	0.022	--
						652	0.068	--	0.043			652	0.006	--	0.022
						976	0.073	--	0.043			976	0.009	--	0.024
						1100	0.075	--	0.042			1100	0.009	--	0.023
						1300	0.076	--	0.042			1300	0.007	--	0.024
						1301	0.076	0.044	--			1301	0.008	0.021	--
						1951	0.083	0.045	--			1951	0.009	0.024	--
						1952	0.085	--	0.042			1952	0.010	--	0.024
						2275	0.086	--	0.044			2275	0.009	--	0.025
						2599	0.088	0.045	--			2599	0.009	0.025	--
						2600	0.089	--	0.043			2600	0.010	--	0.025
Item 5, Lane 1															
Silt	72	--	--	D5-B	3	1	0.014	0.043	--	D5-A	6	1	0.010	0.032	--
						2	0.015	--	0.041			2	0.011	--	0.027
						3	0.017	--	0.038			3	0.010	--	0.028
						10	0.029	--	0.042			10	0.013	--	0.028
						22	0.040	--	0.045			22	0.015	--	0.028
						40	0.049	--	0.046			40	0.016	--	0.028
						41	0.047	0.047	--			41	0.015	0.031	--
						90	0.068	--	0.051			90	0.020	--	0.028
						131	0.076	0.054	--			131	0.021	0.032	--
						133	0.081	--	0.049			133	0.026	--	0.028
						226	0.091	--	0.053			226	0.029	--	0.030
						326	0.096	--	0.056			326	0.031	--	0.030
						327	0.090	0.058	--			327	0.029	0.031	--
						488	0.102	--	0.055			488	0.034	--	0.029
						651	0.112	0.059	--			651	0.035	0.033	--
						652	0.114	--	0.055			652	0.037	--	0.031
						976	0.126	--	0.058			976	0.042	--	0.031
						1100	0.127	--	0.060			1100	0.043	--	0.031
						1300	0.134	--	0.062			1300	0.045	--	0.031
						1301	0.133	0.061	--			1301	0.045	0.031	--
						1951	0.151	0.066	--			1951	0.053	0.032	--
						1952	0.154	--	0.060			1952	0.055	--	0.031
						2275	0.157	--	0.063			2275	0.055	--	0.032
						2599	0.165	0.066	--			2599	0.059	0.033	--
						2600	0.167	--	0.062			2600	0.061	--	0.032

Table A13

## Vertical Stress Measurements from WES Soil Pressure Cells

Structural Composition				Gage Design- nation	Depth of Gage ft	Number of Passes	$\sigma$ Unloaded psi	$\Delta\sigma$ Static Load psi	$\sigma$ Static Load psi	$\Delta\sigma$ Dynamic Load psi	$\sigma$ Dynamic Load psi
Upper Layer		Lower Layer									
Material	Thickness in.	Material	Thickness in.								
Item 1, Lane 1											
Crushed limestone	36	Heavy clay	36	W1-B	2	1	10.20	32.73	42.93	--	--
						2	14.20	--	--	30.49	44.69
						3	14.21	--	--	31.94	45.45
						10	14.10	--	--	32.27	46.37
						22	13.76	--	--	34.32	48.08
						40	13.74	--	--	35.07	48.81
						41	12.61	32.61	45.22	--	--
						90	13.28	--	--	36.64	49.92
						131	12.11	33.47	45.58	--	--
						133	13.01	--	--	36.62	49.63
						226	12.17	--	--	35.96	48.13
						326	11.66	--	--	34.59	46.25
						327	11.00	32.42	34.42	--	--
						488	10.99	--	--	34.51	45.50
						651	10.14	33.73	43.87	--	--
						652	10.46	--	--	34.60	45.06
						976	9.71	--	--	34.86	44.57
						1100	9.91	--	--	33.75	43.66
						1300	10.18	--	--	33.82	44.00
						1301	9.61	31.01	40.62	--	--
						1951	9.70	31.72	41.42	--	--
						1952	9.98	--	--	34.76	44.74
						2275	10.24	--	--	33.87	44.11
						2599	10.21	30.90	41.11	--	--
						2600	10.19	--	--	35.85	46.04
Crushed limestone	36	Heavy clay	36	W1-C	1	1	39.38	69.53	108.91	--	--
						2	41.11	--	--	77.25	118.36
						3	40.96	--	--	80.71	121.65
						10	40.54	--	--	85.97	126.51
						22	38.10	--	--	94.00	132.10
						40	33.40	--	--	95.25	128.65
						41	31.34	97.98	128.98	--	--
						90	19.40	--	--	99.54	118.94
						131	14.14	92.90	107.04	--	--
						133	12.82	--	--	94.60	107.42
						226	11.21	--	--	98.27	109.48
						326	10.54	--	--	102.47	113.01
						327	9.69	89.62	99.31	--	--
						488	9.13	--	--	109.72	118.85
						651	8.60	97.57	106.17	--	--
						652	8.87	--	--	111.16	120.03
						976	8.36	--	--	114.19	122.55
						1100	7.99	--	--	112.96	120.95
						1300	7.04	--	--	113.24	120.28
						1301	7.30	112.63	119.93	--	--
						1951	6.62	106.60	113.22	--	--
						1952	6.75	--	--	113.90	120.65
						2275	6.58	--	--	117.28	123.86
						2599	6.35	105.72	112.07	--	--
						2600	6.15	--	--	113.71	119.86
Item 3, Lane 1											
Blend II	72	--	--	W3-A	3	1	33.10	29.40	62.50	--	--
						2	35.27	--	--	28.84	64.11
						3	35.25	--	--	26.05	61.30
						10	34.92	--	--	26.48	61.40
						22	34.92	--	--	25.42	60.34
						40	34.97	--	--	24.42	59.39
						41	39.69	27.29	66.98	--	--
						90	41.16	--	--	25.04	66.20
						131	42.43	25.38	67.81	--	--
						133	43.94	--	--	23.00	66.94
						226	44.24	--	--	25.08	69.32
						326	45.13	--	--	24.51	69.64
						327	45.34	25.69	--	--	--
						488	46.69	--	--	25.18	71.03
						650	49.13	25.64	--	--	--

(Continued)

(Sheet 1 of 3)



Table A13 (Continued)

Structural Composition				Gage Design- ation	Depth of Gage ft	Number of Passes	$\sigma$ Unloaded psi	$\Delta\sigma$ Static Load psi	$\sigma$ Static Load psi	$\Delta\sigma$ Dynamic Load psi	$\sigma$ Dynamic Load psi
Upper Layer		Lower Layer									
Material	Thickness in.	Material	Thickness in.								
Item 3, Lane 1 (Continued)											
Blend II (Continued)	72 (Con- tinued)	-- (Con- tinued)	-- (Con- tin- ued)	W3-A (Con- tin- ued)	3 (Con- tin- ued)	651	49.66	--	--	24.69	74.77
						976	51.87	--	--	25.62	77.49
						1100	54.15	--	--	25.62	79.77
						1300	57.84	--	--	26.37	84.21
						1301	57.94	26.08	84.02	--	--
						1951	61.61	26.68	88.29	--	--
						1952	62.11	--	--	26.30	88.41
						2275	62.21	--	--	25.66	87.87
						2599	63.15	26.16	89.31	--	--
						2600	63.35	--	--	26.35	89.70
Blend II	72	--	--	W3-B	2	1	9.32	35.01	44.33	--	--
						2	9.80	--	--	45.16	54.96
						3	9.97	--	--	40.60	50.57
						10	10.14	--	--	45.25	55.39
						22	10.47	--	--	44.97	55.44
						40	10.71	--	--	43.15	53.86
						41	10.47	44.57	55.04	--	--
						90	11.14	--	--	43.57	54.71
						131	10.64	44.31	54.95	--	--
						133	11.33	--	--	41.23	52.56
						226	11.41	--	--	44.05	55.46
						326	11.53	--	--	43.24	54.77
						327	11.19	44.73	--	--	--
						488	11.64	--	--	44.58	56.22
						650	11.77	46.04	57.81	--	--
						651	12.02	--	--	45.15	57.17
						976	11.98	--	--	45.52	57.50
						1100	11.93	--	--	46.62	58.55
						1300	12.35	--	--	47.37	59.72
						1301	12.18	44.85	57.03	--	--
						1951	12.69	46.74	59.43	--	--
						1952	12.93	--	--	46.81	59.74
						2275	12.76	--	--	47.63	60.39
						2599	12.65	32.03	44.68	--	--
						2600	12.43	--	--	46.23	58.66
Blend II	72	--	--	W3-C	1	1	8.00	98.06	106.06	--	--
						2	11.49	--	--	106.87	118.36
						3	11.57	--	--	113.56	125.13
						10	14.43	--	--	113.12	127.55
						22	16.87	--	--	109.05	125.92
						40	22.99	--	--	127.52	150.51
						41	22.15	109.46	131.61	--	--
						90	9.72	--	--	135.88	145.60
						131	7.41	111.22	118.63	--	--
						133	8.22	--	--	138.12	146.34
						226	8.52	--	--	140.45	148.97
						326	8.39	--	--	143.37	151.76
						327	7.11	123.59	130.70	--	--
						488	7.68	--	--	132.29	139.97
						650	7.89	124.32	132.21	--	--
						651	8.17	--	--	134.52	142.69
						976	8.28	--	--	141.84	150.12
						1100	8.44	--	--	146.07	154.51
						1300	8.51	--	--	143.39	151.90
						1301	8.83	124.35	133.18	--	--
						1951	7.90	145.68	153.58	--	--
						1952	8.15	--	--	137.58	145.73
						2275	6.21	--	--	134.65	140.86
						2599	5.28	133.45	138.73	--	--
						2600	5.38	--	--	140.11	145.49
Item 5, Lane 1											
Silt				W5-A	3	1	7.53	24.47	32.00	--	--
						2	9.76	--	--	24.44	34.20
						3	9.66	--	--	22.26	31.92
						10	9.34	--	--	23.15	32.49
						22	9.03	--	--	22.94	31.97
						40	8.82	--	--	22.33	31.15

(Continued)

(Sheet 2 of 3)

Table A13 (Concluded)

Structural Composition				Gage Design- ation	Depth of Gage ft	Number of Passes	$\sigma$ Unloaded psi	$\Delta\sigma$ Static Load psi	$\sigma$ Static Load psi	$\Delta\sigma$ Dynamic Load psi	$\sigma$ Dynamic Load psi
Upper Layer		Lower Layer									
Material	Thickness in.	Material	Thickness in.								
Item 5, Lane 1 (Continued)											
Silt (Continued)				W5-A (Con-	3 (Con-	41	8.78	24.5	33.4	--	--
						90	9.11	--	--	22.54	31.65
						131	8.35	23.90	32.25	--	--
						133	9.11	--	--	20.10	29.21
						226	9.30	--	--	22.66	31.96
						326	9.36	--	--	22.12	31.48
						327	9.16	22.82	31.98	--	--
						488	10.00	--	--	21.80	31.80
						650	10.58	23.64	34.22	--	--
						651	11.17	--	--	21.07	32.24
						976	11.86	--	--	22.49	34.35
						1100	14.30	--	--	21.81	36.11
						1300	22.01	--	--	23.04	45.05
						1301	25.39	24.50	49.89	--	--
						1951	70.80	30.00	100.80	--	--
						1952	73.86	--	--	23.71	97.57
						2275	119.36	--	--	25.00	144.36
						2599	127.45	--	--	--	--
						2600	98.96	--	--	18.45	117.41
Silt	72	--	--	W5-B	2	1	8.31	47.52	58.45	--	--
						2	11.53	--	--	56.45	71.62
						3	11.73	--	--	55.45	70.89
						10	13.10	--	--	58.31	75.55
						22	13.75	--	--	58.03	76.12
						40	14.06	--	--	59.75	78.25
						41	14.61	59.29	78.52	--	--
						90	15.61	--	--	60.50	81.04
						131	14.74	60.59	79.98	--	--
						133	15.62	--	--	56.36	76.91
						226	15.88	--	--	62.10	83.00
						326	15.53	--	--	61.67	82.11
						327	15.39	57.31	77.56	--	--
						488	15.80	--	--	57.87	78.66
						650	15.43	59.70	80.00	--	--
						651	16.08	--	--	57.19	78.35
						976	15.37	--	--	58.85	79.08
						1100	15.06	--	--	59.98	79.80
						1300	15.15	--	--	59.23	79.17
						1301	14.83	60.58	80.09	--	--
						1951	14.30	59.68	78.50	--	--
						1952	14.98	--	--	57.64	77.35
						2275	14.52	--	--	59.74	78.85
						2599	14.92	60.13	79.76	--	--
						2600	15.20	--	--	59.27	79.27
Silt	72	--	--	W5-C	1	1	0.32	66.89	67.21	--	--
						2	0.24	--	--	71.54	71.78
						3	0.49	--	--	81.42	81.91
						10	1.32	--	--	76.78	78.10
						22	1.58	--	--	77.98	79.56
						40	1.88	--	--	77.53	79.41
						41	0.44	74.78	75.22	--	--
						90	0.43	--	--	78.51	78.94
						131	-0.03	75.76	75.79	--	--
						133	0.98	--	--	85.43	86.41
						226	0.84	--	--	81.17	81.97
						326	0.52	--	--	79.56	80.08
						327	-0.62	81.60	82.24	--	--
						488	-0.49	--	--	85.45	85.94
						650	0.67	81.95	82.62	--	--
						651	1.12	--	--	84.87	85.99
						976	1.14	--	--	82.65	83.79
						1100	1.46	--	--	82.21	83.67
						1300	1.52	--	--	73.59	75.11
						1301	1.05	75.24	76.29	--	--
						1951	1.79	75.11	76.90	--	--
						1952	2.04	--	--	78.55	80.59
						22.75	1.91	--	--	72.24	74.15
						2599	2.32	35.31	37.63	--	--
						2600	2.18	--	--	61.64	63.82



Table A14  
Pore Pressure Measurements Obtained with CEC Type 4-312 Transducers

Structural Composition				Depth of Gage ft	Number of Passes	PP1-A					PP1-B				
Upper Layer		Lower Layer				U <sub>w</sub> Unloaded psi	Δ <sub>uw</sub> Static Load psi	U <sub>w</sub> Static Load psi	Δ <sub>uw</sub> Dynamic Load psi	U <sub>w</sub> Dynamic Load psi	U <sub>w</sub> Unloaded psi	Δ <sub>uw</sub> Static Load psi	U <sub>w</sub> Static Load psi	Δ <sub>uw</sub> Dynamic Load psi	U <sub>w</sub> Dynamic Load psi
Material	Thick- ness in.	Material	Thick- ness in.												
Item 1, Lane 1															
Crushed limestone	36	Heavy clay	36	11.26	1	0.875	0.031	0.906	--	--	0.917	0.061	0.978	--	--
				2	0.865	--	--	0.508	1.373	0.864	--	--	0.670	1.534	
				3	0.866	--	--	0.544	1.410	0.859	--	--	0.670	1.529	
				10	0.862	--	--	0.525	1.387	0.827	--	--	0.600	1.427	
				22	0.867	--	--	0.562	1.429	0.822	--	--	0.670	1.492	
				40	0.856	--	--	0.544	1.400	0.797	--	--	0.635	1.432	
				41	0.855	0.044	0.899	--	--	0.897	0.071	0.968	--	--	
				90	0.837	--	--	0.523	1.360	0.888	--	--	0.642	1.530	
				131	0.828	0.068	0.896	--	--	0.837	0.048	0.885	--	--	
				133	0.758	--	--	0.578	1.336	0.742	--	--	0.711	1.453	
				226	0.837	--	--	0.524	1.361	0.808	--	--	0.604	1.412	
				326	0.833	--	--	0.523	1.356	0.816	--	--	0.640	1.456	
				327	0.829	0.058	0.887	--	--	0.905	0.085	0.990	--	--	
				488	0.816	--	--	0.541	1.357	0.909	--	--	0.673	1.582	
				650	0.831	0.056	0.887	--	--	0.908	0.062	0.970	--	--	
				651	0.828	--	--	0.676	1.504	0.917	--	--	0.675	1.593	
				976	0.846	--	--	0.545	1.391	0.827	--	--	0.640	1.467	
				1100	0.791	--	--	0.581	1.372	0.797	--	--	0.640	1.437	
				1300	0.798	--	--	0.507	1.305	0.812	--	--	0.641	1.453	
				1301	0.802	0.057	0.859	--	--	0.829	0.017	0.846	--	--	
				1951	0.814	0.083	0.897	--	--	0.795	0.084	0.979	--	--	
				1952	0.817	--	--	0.515	1.332	0.794	--	--	0.576	1.370	
				2275	0.832	--	--	0.444	1.276	0.749	--	--	0.515	1.264	
				2599	0.806	0.066	0.872	--	--	0.733	0.079	0.812	--	--	
				2600	0.797	--	--	0.507	1.304	0.727	--	--	0.581	1.308	
Item 3, Lane 1															
Blend II	72	--	--	12.01	1	B					0.496	0.092	0.588	--	--
					2	A D					0.402	--	--	0.276	0.678
					3						0.391	--	--	0.311	0.702
					10						0.388	--	--	0.345	0.733
					22						0.372	--	--	0.346	0.718
					40						0.368	--	--	0.346	0.714
					41						0.439	0.193	0.632	--	--
					90						0.434	--	--	0.379	0.813
					131						0.395	0.097	0.492	--	--
					133						0.409	--	--	0.347	0.756
					226						0.322	--	--	0.347	0.669
					326						0.365	--	--	0.347	0.712

(Continued)

Table A14 (Concluded)

Structural Composition				Depth of Gage ft	Number of Passes	PP1-A					PP1-B				
Upper Layer		Lower Layer				U <sub>w</sub> Unloaded psi	Δ <sub>uw</sub> Static Load psi	U <sub>w</sub> Static Load psi	Δ <sub>uw</sub> Dynamic Load psi	U <sub>w</sub> Dynamic Load psi	U <sub>w</sub> Unloaded psi	Δ <sub>uw</sub> Static Load psi	U <sub>w</sub> Static Load psi	Δ <sub>uw</sub> Dynamic Load psi	U <sub>w</sub> Dynamic Load psi
Material	Thick- ness in.	Material	Thick- ness in.												
Item 3, Lane 1 (Continued)															
					327						0.438	0.110	0.548	--	--
					488						0.413	--	--	0.312	0.725
					650						0.444	0.100	0.544	--	--
					651						0.439	--	--	0.346	0.785
					976						0.407	--	--	0.346	0.753
					1100						0.412	--	--	0.380	0.792
					1300						0.387	--	--	0.314	0.701
					1301						0.345	0.140	0.485	--	--
					1951						0.381	0.123	0.504	--	--
					1952						0.371	--	--	0.321	0.692
					2275						0.405	--	--	0.356	
					2599						0.368	0.126	0.761	--	--
					2600						0.357	--	--	0.312	0.669
Item 5, Lane 1															
Silt	72	--	--	13.3	1	1.665	0.100	1.765	--	--	1.601	0.054	--	--	--
					2	1.647	--	--	0.052	1.699	1.560	--	--	0.109	
					3	1.633	--	--	0.863	2.496	1.560	--	--	0.073	
					10	1.635	--	--	0.069	1.704	1.553	--	--	0.109	
					22	1.637	--	--	0.069	1.706	1.549	--	--	0.109	
					40	1.630	--	--	0.083	1.713	1.531	--	--	0.109	
					41	1.659	0.093	1.752	--	--	1.551	0.077	--	--	--
					90	1.695	--	--	0.121	1.816	1.547	--	--	0.110	
					131	1.607	0.061	1.668	--	--	1.579	0.015	--	--	--
					133	1.592	--	--	0.069	1.661	1.494	--	--	0.109	
					226	1.595	--	--	0.068	1.663	1.487	--	--	0.145	
					326	1.597	--	--	0.086	1.683	1.515	--	--	0.109	
					327	1.629	0.055	--	--	--	1.578	0.063	--	--	--
					488	1.613	--	--	0.069	1.684	1.574	--	--	0.109	
					650	1.602	0.065	1.667	--	--	1.545	0.091	--	--	--
					651	1.599	--	--	0.069	1.668	1.549	--	--	0.109	
					976	1.605	--	--	0.105	1.710	1.542	--	--	0.110	
					1100	1.592	--	--	0.103	1.695	1.520	--	--	0.109	
					1300	1.556	--	--	0.103	1.659	1.486	--	--	0.145	
					1301	1.512	0.063	1.575	--	--	1.448	0.079	--	--	--
					1951	1.492	0.075	1.567	--	--	1.471	0.089	--	--	--
					1952	1.481	--	--	0.078	1.559	1.470	--	--	0.083	
					2275	1.489	--	--	0.080	1.569	1.427	--	--	0.093	
					2599	1.514	0.074	1.588	--	--	1.417	0.066	--	--	--
					2600	1.500	--	--	0.078	1.578	1.402	--	--	0.088	



Table A15  
Surface Deflection Data as Determined from "CAP and PIN" Gage Readings

Item	Lane	Sta- tion ft	Composition				Length of Pin ft	Number of Passes	Cap Ele- vation in.	Deflection from 0 Passes			
			Upper Layer		Lower Layer					Pin Ele- vation in.	Permanent Deflection in.	Total Deflec- tion in.	Elastic Deflec- tion in.
			Material	Thick- ness in.	Material	Thick- ness in.							
3	1	1+11	Blend II	72	--	--	6	0	12.27	12.02	--	--	--
								1	12.20	11.96	0.07	0.06	-0.01
								7	12.05	11.79	0.22	0.23	0.01
								40	11.92	11.63	0.35	0.39	0.04
								130	11.67	11.35	0.60	0.67	0.07
								326	11.50	11.20	0.77	0.82	0.05
								650	11.50	11.20	0.77	0.82	0.05
								1100	11.28	10.95	0.99	1.07	0.08
								1300	11.37	11.03	0.90	0.99	0.09
								1950*	11.47	11.12	0.80	0.90	0.10
								2600	11.22	10.95	1.05	1.07	0.02
3	1	1+12	Blend II	72	--	--	4	0	12.22	11.97	--	--	--
								1	12.06	11.75	0.16	0.22	0.06
								7	11.99	11.50	0.23	0.47	0.24
								40	11.70	11.30	0.52	0.67	0.15
								130	11.58	11.28	0.64	0.69	0.05
								326	11.40	11.13	0.82	0.84	0.02
								650	11.40	11.10	0.82	0.87	0.05
								1100	11.20	10.82	1.02	1.15	0.13
								1300	11.25	10.90	0.97	1.07	0.10
								1950*	11.35	10.90	0.87	1.07	0.20
								2600	11.10	10.63	1.12	1.34	0.22
3	1	1+38	Blend II	72	--	--	4	0	12.80	12.59	--	--	--
								1	12.62	12.45	0.18	0.14	-0.04
								7	12.39	12.08	0.41	0.51	0.10
								40	12.03	11.74	0.77	0.85	0.08
								130	12.09	11.78	0.71	0.81	0.10
								326	11.80	11.41	1.00	1.18	0.18
								650	11.72	11.28	1.08	1.31	0.23
								1100	11.40	10.68	1.40	1.91	0.51
								1300	--	--	--	--	--
								1950	--	--	--	--	--
								2600	--	--	--	--	--
3	1	1+39	Blend II	72	--	--	6	0	12.70	12.48	--	--	--
								1	12.70	12.49	0.00	-0.01	-0.01
								7	12.59	12.31	0.11	0.17	0.06
								40	12.30	12.03	0.40	0.45	0.05
								130	12.18	11.92	0.52	0.56	0.04
								326	12.08	11.80	0.62	0.68	0.06
								650	12.03	11.76	0.67	0.72	0.05
								1100	11.78	11.40	0.92	1.08	0.16
								1300	11.62	11.38	1.08	1.10	-0.02
								1950	11.49	11.23	1.21	1.25	0.04
								2600	11.20	10.91	1.50	1.57	0.07
4	1	1+61	Blend I	9	Blend II	63 *	6	0	13.45	13.20	--	--	--
								1	13.35	13.11	0.10	0.09	-0.01
								7	13.12	12.88	0.33	0.32	-0.01
								40	12.80	12.50	0.65	0.70	0.05
								130	12.79	12.50	0.66	0.70	0.04
								326	12.20	11.85	1.25	1.35	0.10
								650	10.98	10.52	2.47	2.68	0.21
								1100	8.60	8.08	4.85	5.12	0.27
								1300	8.89	8.18	4.56	5.02	0.46
								1950	8.56	7.70	4.89	5.50	0.61
								2600	8.30	7.42	5.15	5.78	0.63
4	1	1+62	Blend I	9	Blend II	63	4	0	13.52	13.28	--	--	--
								1	13.27	13.00	0.25	0.28	0.03
								7	13.05	12.75	0.47	0.53	0.06
								40	12.70	12.40	0.82	0.88	0.06
								130	12.79	12.48	0.73	0.80	0.07
								326	12.09	11.77	1.43	1.51	0.08
								650	11.02	10.68	2.50	2.60	0.10
								1100	8.62	8.10	4.90	5.18	0.28
								1300	8.70	8.23	4.82	5.05	0.23
								1950	8.30	7.83	5.22	5.45	0.23
								2600	8.05	7.52	5.47	5.76	0.29

(Continued)

\* Rod 0.10 inch off zero after completion of readings.

Table A15 (Continued)

Item	Lane	Sta- tion ft	Composition		Length of Pin ft	Number of Passes	Cap Ele- vation in.	Deflection from 0 Passes			
			Upper Layer	Lower Layer				Pin Ele- vation in.	Permanent Deflection in.	Total Deflec- tion in.	Elastic Deflec- tion in.
			Material	Thick- ness in.	Material	Thick- ness in.					
4	1	1+88	Blend I	9	Blend II	63	4	0	14.10	13.88	--
								1	13.89	13.60	0.21
								7	13.58	13.29	0.52
								40	12.73	12.40	1.37
								130	12.80	12.49	1.30
								326	12.30	11.86	1.80
								650	11.83	11.37	2.27
								1100	11.38	10.90	2.72
								1300	11.42	10.89	2.68
								1950	11.53	10.89	2.57
								2600	11.50	10.58	2.60
											3.30
4	1	1+89	Blend I	9	Blend II	63	6	0	13.65	13.40	--
								1	13.61	13.41	0.04
								7	13.38	13.10	0.27
								40	12.40	12.10	1.25
								130	12.40	12.10	1.25
								326	12.03	11.70	1.62
								650	11.63	11.30	2.02
								1100	11.04	10.68	2.61
								1300	11.03	10.60	2.62
								1950	11.20	10.68	2.45
								2600	10.65	9.97	3.00
											3.43
5	1	2+11	Silt	72	--	--	6	0	12.70	12.31	--
								1	12.78	12.46	-0.08
								7	12.40	12.12	0.30
								40	11.90	11.58	0.80
								130	11.96	11.60	0.74
								326	11.80	11.50	0.90
								650	11.79	11.48	0.91
								1100	11.70	11.30	1.00
								1300	11.70	11.38	1.00
								1950	11.84	11.50	0.86
								2600	11.68	11.30	1.02
											1.01
5	1	2+12	Silt	72	--	--	4	0	12.67	12.38	--
								1	12.47	12.10	0.20
								7	12.25	11.81	0.42
								40	11.80	11.43	0.87
								130	11.86	11.50	0.81
								326	11.78	11.42	0.89
								650	11.76	11.39	0.91
								1100	11.50	11.14	1.17
								1300	11.54	11.22	1.13
								1950	11.68	11.34	0.99
								2600	11.28	11.10	1.39
											1.28
5	1	2+38	Silt	72	--	--	4	0	12.96	12.70	--
								1	12.81	12.47	0.15
								7	12.60	12.21	0.36
								40	12.20	11.95	0.76
								130	12.35	12.00	0.61
								326	12.20	11.81	0.76
								650	12.12	11.77	0.84
								1100	11.80	11.45	1.16
								1300	11.88	11.50	1.08
								1950	11.94	11.61	1.02
								2600	11.72	11.35	1.24
											1.35
5	1	2+39	Silt	72	--	--	6	0	13.01	12.80	--
								1	12.90	12.60	0.11
								7	12.69	12.32	0.32
								40	12.22	12.00	0.79
								130	12.48	12.10	0.53
								326	12.28	11.93	0.73
								650	12.20	11.84	0.81
								1100	11.90	11.60	1.11
								1300	11.98	11.61	1.03
								1950	12.00	11.64	1.01
								2600	11.55	11.20	1.46
											1.60
2	3	0+88	Crushed limestone	12	Blend II	60	4	0	11.45	11.20	--
								7	11.19	10.90	0.26
								32	10.98	10.71	0.47
								123	10.87	10.58	0.58
								318	10.82	10.52	0.63
											0.68

(Continued)

(Sheet 2 of 3)



Table A15 (Concluded)

Item	Lane	Sta- tion ft	Composition				Length of Pin ft	Number of Passes	Cap Ele- vation in.	Deflection from 0 Passes			
			Upper Layer		Lower Layer					Pin Ele- vation in.	Permanent Deflection in.	Total Deflec- tion in.	Elastic Deflec- tion in.
			Material	Thick- ness in.	Material	Thick- ness in.							
2	3	0+88	Crushed	12	Blend II	60	4	326	10.78	10.45	0.67	0.75	0.08
								643	10.75	10.48	0.70	0.72	0.02
								650	10.75	10.44	0.70	0.76	0.06
								1300	10.71	10.41	0.74	0.79	0.05
								1307	10.70	10.44	0.75	0.76	0.01
								2600	10.70	10.40	0.75	0.80	0.05
3*	3	1+12	Blend II (Optimum)	6	Blend II	66	4	0	13.12	12.89	--	--	--
								7	12.72	12.44	0.40	0.45	0.05
								32	12.23	11.93	0.89	0.96	0.07
								123	12.10	11.78	1.02	1.11	0.09
								318	12.00	11.73	1.12	1.16	0.04
								326	12.00	11.73	1.12	1.16	0.04
								643	11.90	11.60	1.22	1.29	0.07
								650	11.83	11.60	1.29	1.29	0.00
								1300	11.82	11.64	1.30	1.25	-0.05
								1307	11.82	11.53	1.30	1.36	0.06
								2600	11.77	11.49	1.35	1.40	0.05
3*	3	1+38	Blend II (Optimum)	6	Blend II	66	4	0	13.70	13.45	--	--	--
								7	13.22	12.91	0.48	0.54	0.06
								32	12.83	12.52	0.87	0.93	0.06
								123	12.72	12.27	0.98	1.18	0.20
								318	12.68	12.38	1.02	1.07	0.05
								326	12.68	12.32	1.02	1.13	0.11
								643	12.60	12.30	1.10	1.15	0.05
								650	12.60	12.30	1.10	1.15	0.05
								1300	12.55	12.26	1.15	1.19	0.04
								1307	12.54	12.24	1.16	1.21	0.05
								2600	12.52	12.25	1.18	1.20	0.02
4**	3	1+62	Blend I (Optimum)	12	Blend II	60	4	0	14.00	13.74	--	--	--
								7	13.62	13.33	0.38	0.41	0.03
								32	13.31	13.05	0.69	0.69	0.00
								123	13.22	12.89	0.78	0.85	0.07
								318	13.20	12.90	0.80	0.84	0.04
								326	13.16	12.90	0.84	0.84	0.00
								643	13.05	12.80	0.95	0.94	-0.01
								650	13.10	12.80	0.90	0.94	0.04
								1300	13.02	12.75	0.98	0.99	0.01
								1307	12.96	12.67	1.04	1.07	0.03
								2600	13.04	12.75	0.96	0.99	0.03
4**	3	1+88	Blend I (Optimum)	12	Blend II	60	4	0	13.80	13.54	--	--	--
								7	13.38	13.08	0.42	0.46	0.04
								32	13.09	12.77	0.71	0.77	0.06
								123	12.96	12.62	0.84	0.92	0.08
								318	12.95	12.61	0.85	0.93	0.08
								326	12.90	12.61	0.90	0.93	0.03
								643	12.80	12.52	1.00	1.02	0.02
								650	12.70	12.50	1.10	1.04	-0.06
								1300	12.80	12.60	1.00	0.94	-0.06
								1307	12.78	12.45	1.02	1.09	0.07
								2600	12.81	12.50	0.99	1.04	0.05
5**	3	2+12	Blend II (Optimum)	16	Silt	56	4	0	13.75	13.48	--	--	--
								7	13.57	13.28	0.18	0.20	0.02
								32	13.27	12.93	0.48	0.55	0.07
								123	13.10	12.78	0.65	0.70	0.05
								318	13.08	12.78	0.67	0.70	0.03
								326	13.08	12.80	0.67	0.68	0.01
								643	13.00	12.70	0.75	0.78	0.03
								650	13.00	12.70	0.75	0.78	0.03
								1300	13.02	12.71	0.73	0.77	0.04
								1307	12.82	12.38	0.93	1.10	0.17
								2600	12.90	12.61	0.85	0.87	0.02
5**	3	2+38	Blend II (Optimum)	16	Silt	56	4	0	14.10	13.86	--	--	--
								7	13.81	13.50	0.29	0.36	0.07
								32	13.48	13.16	0.62	0.70	0.08
								123	13.27	12.96	0.83	0.90	0.07
								318	13.24	12.92	0.86	0.94	0.08
								326	13.21	12.92	0.89	0.94	0.05
								643	13.10	12.80	1.00	1.06	0.06
								650	13.10	12.80	1.00	1.06	0.06
								1300	13.18	12.90	0.92	0.96	0.04
								1307	12.81	12.42	1.29	1.44	0.15
								2600	13.08	12.77	1.02	1.09	0.07

\* Double bituminous surface treatment.

\*\* Single bituminous surface treatment.

Table A16  
Nondestructive Vibratory Test Results--During Traffic  
WES 16-Kip Vibrator

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+12.5	Crushed limestone	36	Heavy clay	36	0	920	9,820	7.8	5.0	3.0	2.3
							40	840	9,966	9.5	6.8	3.9	2.8
							130	650	10,088	11.2	8.0	4.6	3.2
							326	690	10,263	11.2	8.0	4.6	3.2
							650	670	10,143	10.9	7.6	4.6	3.1
							1100	580	10,121	12.6	8.9	5.1	3.4
							1300	590	10,212	12.3	8.7	4.8	3.3
							1950	580	10,246	12.1	8.4	4.5	3.2
							2600	590	10,136	12.5	9.0	4.7	3.3
1	1	0+25	Crushed limestone	36	Heavy clay	36	0	--	--	--	--	--	--
							40	800	9,898	9.7	7.5	4.2	3.0
							130	710	10,245	10.9	7.8	4.5	3.2
							326	720	10,342	11.0	8.1	4.6	3.3
							650	730	10,292	10.6	8.3	4.7	3.2
							1100	550	10,016	12.7	9.5	4.6	3.6
							1300	600	10,174	11.9	9.3	5.0	3.5
							1950	620	10,131	12.1	8.8	0.1	3.4
							2600	630	10,052	11.8	8.7	4.8	3.4

(Continued)

(Sheet 1 of 19)



Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+37.5	Crushed limestone	36	Heavy clay	36	0	680	9,960	10.0	6.2	3.4	2.3
							40	780	10,101	10.0	7.1	3.9	2.8
							130	680	10,139	10.9	7.4	4.1	2.9
							326	660	10,232	11.0	7.4	3.9	2.8
							650	660	10,265	11.1	8.0	4.5	3.1
							1100	560	10,138	12.4	9.1	4.9	3.2
							1300	580	10,300	12.2	9.2	4.4	3.0
							1950	610	10,230	11.6	7.9	4.6	3.1
							2600	570	10,058	12.6	9.0	4.7	3.3
1	2	0+62.5	Crushed limestone	9	Blend II	63	0	820	9,939	8.3	4.9	2.6	1.8
							40	750	10,224	9.8	5.2	2.5	1.9
							130	770	10,654	10.5	5.8	2.6	2.0
							326	750	10,317	9.9	5.0	2.6	1.9
							650	730	10,420	10.1	5.5	2.7	2.0
							1100	720	10,069	10.0	6.1	3.2	2.3
							1300	750	10,633	10.1	5.8	2.7	2.1
							1950	710	10,974	11.1	6.3	3.3	2.5
							2600	700	10,656	10.8	6.2	3.3	2.5
1	2	0+75	Crushed limestone	9	Blend II	63	0	--	--	--	--	--	--
							40	780	9,895	9.7	6.3	3.1	2.0

(Continued)

(Sheet 2 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+75 (Cont'd)					130	740	10,520	10.5	6.4	3.7	2.6
							326	750	10,001	9.9	5.9	3.6	2.4
							650	700	10,092	10.2	6.0	3.7	2.1
							1100	680	10,394	10.8	6.9	4.5	2.7
							1300	710	10,197	10.4	7.3	4.3	2.5
							1950	680	10,272	11.0	6.9	4.4	3.1
							2600	620	10,516	12.1	8.2	4.3	2.0
1	2	0+87.5	Crushed limestone	9	Blend II	63	0	630	10,003	10.9	7.0	2.5	1.5
							40	570	10,092	13.5	7.0	3.2	2.3
							130	580	10,229	12.7	7.8	4.0	2.8
							326	540	9,994	13.5	8.1	3.1	2.2
							650	550	10,135	13.0	8.0	4.0	2.8
							1100	510	10,021	14.7	7.9	3.3	2.9
							1300	510	10,098	14.6	8.6	3.6	2.7
							1950	560	10,101	13.0	7.7	4.3	3.1
							2600	510	10,032	15.2	7.9	4.0	3.0
1	3	1+12.5	Blend II	72	--	--	0	670	9,892	10.6	5.1	2.3	1.8
							40	700	10,282	11.3	5.7	2.9	2.2
							130	720	10,078	10.4	5.2	3.0	2.1
							360	680	10,003	11.1	5.4	2.9	2.2

(Continued)

(Sheet 3 of 19)



Table A16 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	3	1+12.5 (Cont'd)									
1	3	1+25	Blend II	72	--	--					
1	3	1+37.5	Blend II	72	--	--					

(Continued)

(Sheet 4 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	3	1+37.5 (Cont'd)					1300	690	10,591	11.3	5.8	3.2	2.3
							1950	700	10,198	10.6	6.1	3.2	2.4
							2600	660	10,375	11.7	6.1	3.2	2.5
1	4	1+62.5	Blend I	9	Blend II	63	0	650	8,102	9.0	3.7	2.0	1.5
							40	670	10,337	11.5	5.3	2.8	2.1
							130	720	9,806	10.1	5.3	2.9	2.1
							326	670	10,158	10.7	5.5	2.9	2.1
							650	660	10,232	10.4	5.7	3.0	2.2
							1100	--	--	--	--	--	--
							1300	--	--	--	--	--	--
							1950	--	--	--	--	--	--
							2600	680	10,322	10.7	5.1	2.7	2.1
1	4	1+75	Blend I	9	Blend II	63	0	--	--	--	--	--	--
							40	670	10,190	10.9	5.3	2.8	2.0
							130	660	10,143	11.0	5.6	3.0	2.1
							326	640	10,394	11.7	5.7	2.9	2.2
							650	640	10,269	11.2	5.3	3.1	2.2
							1100	--	--	--	--	--	--
							1300	--	--	--	--	--	--
							1950	620	--	--	--	--	--

(Continued)

(Sheet 5 of 19)



Table A16 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	
			Top Layer	Bottom Layer								
			Material	Thickness in.								Material
1	4	1+75 (Cont'd)			2600	620	10,626	12.3	5.5	2.6	2.1	
1	4	1+87.5			0	690	10,079	10.3	4.7	2.3	1.7	
					40	690	9,841	10.5	4.7	2.6	1.9	
					130	670	10,237	11.2	5.2	3.0	2.2	
					326	680	10,213	10.8	5.3	2.9	2.2	
					650	670	10,416	11.1	5.9	3.2	2.3	
					1100	--	--	--	--	--	--	
					1300	--	--	--	--	--	--	
					1950	--	--	--	--	--	--	
					2600	680	10,112	10.7	5.7	2.8	2.2	
1	5	2+12.5	Silt	72	--	--	0	450	10,038	20.1	7.1	1.9
					40	470	6,033	10.7	5.0	1.8	1.2	
					130	480	6,149	10.0	3.9	1.9	1.3	
					326	460	6,113	10.3	4.4	1.9	1.3	
					650	470	6,077	9.9	4.5	1.9	1.3	
					1100	420	5,965	10.6	4.6	2.0	1.3	
					1300	440	6,116	10.5	4.0	1.8	1.3	
					1950	410	6,094	10.3	4.0	1.9	1.3	
					2600	440	6,227	10.0	4.5	1.7	1.2	

(Continued)

(Sheet 6 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils		
			Top Layer	Bottom Layer									
			Material	Thickness in.								Material	Thickness in.
1	5	2+25	Silt	72	--	--	0	--	--	--	--	--	
							40	480	5,942	10.2	4.6	1.8	1.3
							130	470	6,020	9.9	4.8	1.9	1.3
							326	425	6,118	10.4	4.9	2.0	1.4
							650	440	6,444	10.9	4.6	2.1	1.5
							1100	420	6,013	10.7	4.2	2.0	1.3
							1300	450	6,276	9.7	4.7	2.0	1.4
							1950	430	6,124	10.12	4.4	1.8	1.3
							2600	440	5,963	9.9	4.6	2.0	1.4
1	5	2+37.5	Silt	72	--	--	0	460	10,001	18.9	7.0	2.7	1.8
							40	490	6,074	10.5	3.3	1.8	1.2
							130	460	5,961	10.3	4.4	1.8	1.2
							326	460	6,008	9.8	3.9	1.8	1.3
							650	430	6,071	10.1	4.2	2.0	1.3
							1100	450	6,251	10.0	4.8	2.1	1.4
							1300	460	6,340	10.3	4.4	1.9	1.3
							1950	470	6,175	9.3	4.7	1.9	1.1
							2600	460	5,960	9.4	4.6	1.8	1.3

(Continued)

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Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+12.5	Cement Stabi- lized Blend I	29	Heavy clay	43	0	1180	9,970	5.9	4.5	3.2	2.4
							40	680	10,422	7.4	5.6	4.2	3.3
							130	740	10,104	8.5	6.5	4.6	3.4
							326	640	10,127	9.4	7.6	5.0	3.7
							650	670	10,147	10.1	8.1	5.4	3.6
							1300	550	10,076	11.2	9.1	5.7	4.1
							2600	530	10,081	11.9	10.0	7.0	4.2
2	1	0+25	Cement Stabi- lized Blend I	29	Heavy clay	43	0	--	--	--	--	--	--
							40	820	10,268	9.2	8.3	4.2	3.1
							130	690	10,228	9.6	8.2	4.9	3.2
							326	640	10,324	10.2	8.3	5.1	3.3
							650	700	10,188	9.8	8.1	5.1	3.4
							1300	610	10,105	10.9	8.7	4.9	3.7
							2600	640	10,247	10.3	8.3	4.6	3.5
2	1	0+37.5	Cement Stabi- lized Blend I	29	Heavy clay	43	0	1200	9,934	5.9	4.2	2.9	2.2
							40	940	10,212	7.2	5.9	4.2	3.0
							130	770	10,242	8.6	6.5	4.4	3.1
							326	760	10,406	9.3	7.0	4.7	3.3
							650	810	10,007	8.0	6.3	4.5	3.2
							1300	690	10,383	10.1	7.3	4.6	3.4

(Continued)

(Sheet 8 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+37.5 (Cont'd)					2600	680	10,169	11.3	7.5	4.2	3.1
2	2	0+62.5	Cement Stabi- lized Blend I	29	Heavy clay	43	0	930	9,929	7.5	4.9	2.4	1.6
							40	740	10,256	10.1	6.1	2.8	2.0
							130	640	10,157	10.9	6.0	3.0	2.1
							326	640	10,326	11.6	7.8	2.6	1.8
							650	600	10,023	12.0	7.6	2.3	1.7
							1300	590	10,355	12.6	6.8	3.1	2.2
							2600	570	10,072	13.7	8.3	2.2	1.6
2	2	0+75	Cement Stabi- lized Blend I	29	Heavy clay	43	0	--	--	--	--	--	--
							40	900	10,170	8.2	6.3	3.4	2.0
							130	820	10,359	9.2	6.7	3.7	2.5
							326	610	10,224	9.3	6.8	4.0	2.5
							650	770	10,033	9.7	7.3	3.9	2.4
							1300	610	10,107	11.9	10.0	4.8	1.9
							2600	500	10,124	15.3	11.8	5.5	1.5
2	2	0+87.5	Cement Stabi- lized Blend I	29	Heavy clay	43	0	920	9,969	7.4	5.4	2.5	1.5
							40	700	10,349	10.0	6.3	3.3	2.3
							130	590	10,011	12.2	7.4	3.8	2.7
							326	540	10,213	13.5	8.2	4.1	2.8

(Continued)

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Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+87.5 (Cont'd)					650	650	10,250	12.8	7.7	3.7	2.9
							1300	530	10,028	14.0	9.4	4.3	3.3
							2600	700	10,214	10.8	8.3	4.6	2.3
2	3	1+06.25	Lean mix concrete Blend II	12	Blend II	60	0	--	--	--	--	--	--
							40	1880	10,231	4.7	3.6	2.6	2.1
							130	1320	10,075	6.3	4.1	2.9	2.1
							326	1250	10,128	6.4	5.1	3.4	2.2
							650	1280	10,160	6.6	5.0	3.5	2.1
							1300	1070	9,996	7.0	5.1	3.3	2.2
							2600	1160	10,395	6.7	5.0	2.9	2.2
2	3	1+12.5	Lean mix concrete Blend II	12	Blend II	60	0	--	--	--	--	--	--
							40	--	--	--	--	--	--
							130	--	--	--	--	--	--
							326	820	10,395	9.9	6.6	3.9	2.5
							650	--	--	--	--	--	--
							1300	--	--	--	--	--	--
							2600	--	--	--	--	--	--
2	3	1+18.5	Lean mix concrete Blend II	12	Blend II	60	0	1940	9,996	4.5	3.1	2.1	1.6
							40	1600	10,403	5.6	4.0	2.6	1.8

(Continued)

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Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+18.75 (Cont'd)					130	1350	10,086	6.2	4.3	2.9	2.2
							326	1220	10,427	6.6	5.2	3.3	2.3
							650	1370	10,167	6.1	4.6	3.0	2.1
							1300	1080	10,324	7.2	5.2	3.2	2.2
							2600	1120	10,109	6.5	5.0	3.0	1.9
2	3	1+31.25	Lean mix concrete Blend II	12	Blend II	60	0	2160	9,935	4.0	3.0	2.1	1.5
							40	1760	10,192	4.9	3.7	2.5	1.9
							130	1530	10,225	5.7	4.0	2.8	2.2
							326	1220	10,347	6.5	5.3	3.6	2.8
							650	1450	10,147	6.1	4.5	3.1	2.1
							1300	1080	10,264	6.5	5.1	3.2	2.1
							2600	1130	10,111	6.6	5.1	3.2	2.0
2	3	1+43.75	Lean mix concrete Blend II	12	Blend II	60	0	--	--	--	--	--	--
							40	1680	10,224	5.2	4.3	3.3	2.8
							130	1290	10,065	6.3	4.7	3.0	2.2
							326	1170	10,227	6.6	5.2	3.2	2.2
							650	1280	10,090	6.6	4.8	2.9	1.9
							1300	860	10,389	7.8	5.5	3.2	2.2
							2600	1000	10,161	7.3	5.4	2.9	2.0

(Continued)

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Table A16 (Continued)

			Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
		Top Layer		Bottom Layer									
Lane	Item	Station ft	Material	Thickness in.	Material	Thickness in.							
2	4	1+62.5	Cement stabi- lized Blend I	12	Blend II	60	0	1060	9,959	7.0	4.2	2.2	1.5
							40	1010	10,219	7.5	5.1	2.5	1.7
							130	1010	10,139	7.6	5.1	2.4	1.8
							326	890	10,283	8.3	5.2	2.5	1.8
							650	980	10,110	8.0	5.4	2.5	1.8
							1300	800	10,509	9.3	5.9	2.9	2.1
							2600	820	10,345	9.0	5.8	2.6	1.9
2	4	1+75	Cement stabi- lized Blend I	12	Blend II	60	0	--	--	--	--	--	--
							40	970	10,548	7.9	5.4	2.7	1.9
							130	850	10,237	8.6	4.8	2.7	1.8
							326	890	10,236	8.4	5.5	2.8	1.9
							650	1060	9,888	7.4	5.2	2.5	1.7
							1300	850	10,250	8.7	6.1	2.8	2.0
							2600	780	10,000	9.2	6.1	2.8	1.9
2	4	1+87.5	Cement stabi- lized Blend I	12	Blend II	60	0	1280	9,966	5.7	4.0	2.2	1.6
							40	1150	10,263	6.8	4.4	2.5	1.7
							130	1100	10,237	7.1	5.0	2.6	1.8
							326	930	10,405	7.8	5.3	2.7	1.9
							650	1080	10,030	7.4	4.9	2.5	1.7
							1300	910	10,163	8.2	5.3	2.7	2.0

(Continued)

(Sheet 12 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	4	1+87.5 (Cont'd)					2600	880	10,358	8.6	5.9	2.7	2.0
2	5	2+12.5	Cement stabi- lized Blend II	16	ML	56	0	1060	9,869	6.6	4.5	2.4	1.6
							40	900	10,265	7.9	5.8	2.8	1.7
							130	730	10,215	9.4	6.8	3.2	1.9
							326	640	10,334	10.9	7.4	3.3	2.0
							650	710	10,109	10.0	7.0	2.8	1.8
							1300	600	10,241	11.1	8.8	3.3	2.1
							2600	540	9,878	11.8	8.1	3.7	1.9
2	5	2+25	Cement stabi- lized Blend II	16	ML	56	0	--	--	--	--	--	--
							40	960	10,183	7.3	5.0	2.7	1.8
							130	810	9,922	8.0	5.5	2.9	1.7
							326	680	10,471	9.4	6.5	3.3	1.9
							650	750	10,141	9.0	6.2	3.1	1.8
							1300	640	10,241	9.8	7.1	3.2	2.0
							2600	580	10,389	11.6	8.2	3.6	2.2
2	5	2+37.5	Cement stabi- lized Blend II	16	ML	56	0	1080	9,930	7.0	4.3	2.6	1.7
							40	980	10,355	7.3	5.4	2.9	1.7
							130	800	10,196	8.4	6.1	2.9	1.9
							326	700	10,423	9.5	6.5	3.2	2.0

(Continued)

(Sheet 13 of 19)



Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	5	2+37.5 (Cont'd)					650	770	10,106	8.7	6.6	2.9	1.8
							1300	610	10,667	11.0	7.8	3.2	2.1
							2600	580	10,010	10.2	7.6	3.5	2.1
3	1	0+12.5	Crushed limestone	29	Heavy clay	43	0	1010	9,990	7.3	5.4	3.5	2.6
							40	760	10,081	10.6	7.2	4.5	3.3
							130	640	10,205	12.2	8.5	5.3	3.8
							326	710	10,097	11.6	2.0	4.8	3.5
							650	680	10,107	11.6	8.3	5.1	3.7
							1300	580	10,030	12.8	9.3	5.7	4.0
							2600	570	10,154	13.4	9.7	5.9	4.1
3	1	0+25	Crushed limestone	29	Heavy clay	43	0	--	--	--	--	--	--
							40	930	10,149	9.4	6.8	4.3	3.3
							130	740	10,180	10.6	8.1	5.1	4.0
							326	830	10,151	10.4	7.7	5.0	3.7
							650	730	10,423	11.5	8.4	5.5	4.0
							1300	630	10,140	12.2	9.3	5.6	4.2
							2600	600	10,325	13.0	10.1	6.2	4.4
3	1	0+37.5	Crushed limestone	29	Heavy clay	43	0	1120	10,106	6.4	4.5	3.1	2.4
							40	950	10,174	9.4	6.5	4.3	3.4

(Continued)

(Sheet 14 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	1	0+37.5 (Cont'd)					130	760	10,198	10.4	7.7	4.8	3.6
							326	840	10,304	10.3	7.5	4.9	3.6
							650	740	9,923	10.9	8.0	5.0	3.7
							1300	670	10,082	11.7	8.8	5.3	3.9
							2600	630	10,265	12.3	9.2	5.7	4.3
3	2	0+62.5	Crushed limestone	12	Blend II	60	0	860	9,896	8.0	4.8	2.6	1.9
							40	900	10,166	9.7	5.7	3.2	2.4
							130	830	10,155	9.3	5.4	3.3	2.5
							326	840	10,127	9.3	5.1	3.1	2.5
							650	790	10,114	9.4	6.2	3.4	2.6
							1300	810	10,209	9.5	6.4	3.6	2.8
							2600	770	10,267	10.1	6.5	3.7	2.8
3	2	0+75	Crushed limestone	12	Blend II	60	0	--	--	--	--	--	--
							40	800	10,533	10.1	5.3	3.0	2.4
							130	790	10,387	10.1	6.0	3.1	2.5
							326	850	10,446	9.6	5.8	3.1	2.4
							650	800	9,929	9.4	6.0	3.1	2.4
							1300	700	10,119	10.5	6.2	3.5	2.7
							2600	770	10,041	9.6	6.1	3.3	2.6

(Continued)

(Sheet 15 of 19)



Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	2	0+87.5	Crushed limestone	12	Blend II	60	0	880	9,976	7.6	4.5	2.5	1.8
							40	800	10,328	9.7	6.1	3.2	2.5
							130	780	10,195	9.5	6.1	3.3	2.5
							326	870	10,284	9.3	6.2	3.4	2.6
							650	800	10,066	9.6	5.8	3.5	2.7
							1300	720	10,142	10.3	6.5	3.7	3.1
							2600	750	10,176	9.9	6.5	3.7	2.9
3	3	1+12.5	Blend II* (Optimum)	6	Blend II	66	0	680	9,969	10.4	5.6	2.6	1.9
							40	720	10,279	10.5	5.7	3.3	2.6
							130	760	10,179	10.1	6.0	3.5	2.6
							326	800	10,151	9.6	5.3	3.3	2.6
							650	750	9,933	10.2	6.0	3.5	2.7
							1300	720	10,070	10.4	6.0	3.7	2.9
							2600	740	10,059	10.2	6.0	3.6	2.8
3	3	1+25	Blend II* (Optimum)	6	Blend II	66	0	--	--	--	--	--	--
							40	730	10,270	10.4	6.0	3.2	2.4
							130	750	10,099	9.8	6.2	3.3	2.5
							326	760	10,244	10.1	5.7	3.3	2.5
							650	770	10,838	10.9	6.5	3.7	2.7

(Continued)

\* Double bituminous surface treatment.

(Sheet 16 of 19)

Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	3	1+25 (Cont'd)					1300	720	9,906	9.7	6.1	3.5	2.6
							2600	740	10,140	10.0	6.4	3.6	2.7
3	3	1+37.5	Blend II* (Optimum)	6	Blend II	66	0	750	9,942	9.4	5.3	2.6	1.9
							40	680	10,273	11.1	5.5	3.2	2.4
							130	700	10,463	10.9	6.2	3.6	2.7
							326	730	10,181	10.5	5.9	3.4	2.5
							650	700	10,752	11.3	6.8	3.8	2.8
							1300	680	10,110	10.7	6.4	3.7	2.8
							2600	710	10,241	10.2	6.4	3.7	2.8
3	4	1+62.5	Blend I** (Optimum)	12	Blend II	60	0	690	9,930	10.0	5.3	2.5	1.8
							40	670	10,204	11.2	5.6	3.1	2.2
							130	680	10,646	11.5	6.9	3.5	2.5
							326	670	10,623	11.7	6.1	3.4	2.3
							650	660	10,518	11.5	6.4	3.4	2.4
							1300	640	10,231	11.2	6.2	3.5	2.5
							2600	640	10,386	11.7	6.3	3.4	2.5
3	4	1+75	Blend I** (Optimum)	12	Blend II	60	0	--	--	--	--	--	--

(Continued)

(Continued)

\* Double bituminous surface treatment.

\*\* Single bituminous surface treatment.



Table A16 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	4	1+75 (Cont'd)					40	690	10,400	11.1	7.0	3.4	2.3
							130	660	10,196	11.5	6.5	3.4	2.4
							326	660	10,572	11.2	6.6	3.2	2.4
							650	660	10,424	11.4	6.1	3.4	2.5
							1300	640	10,298	11.9	6.7	3.7	2.6
							2600	770	10,241	10.9	6.4	3.6	2.6
3	4	1+87.5	Blend I* (Optimum)	12	Blend II	60	0	700	9,958	10.2	5.3	2.7	1.9
							40	640	10,140	11.4	6.2	3.2	2.4
							130	640	10,313	11.5	6.5	3.5	2.4
							326	670	10,482	11.3	6.3	3.3	2.4
							650	650	10,184	11.3	6.1	3.3	2.5
							1300	640	10,210	11.5	6.3	3.6	2.6
3	5	2+12.5	Blend II* (Optimum)	16	ML	56	0	680	9,974	10.3	6.0	2.9	2.1
							40	640	10,232	12.2	7.1	3.7	2.6
							130	590	10,231	13.1	8.0	3.9	2.7
							326	570	9,992	12.5	7.1	3.7	2.6
							650	570	10,126	13.1	7.6	4.0	2.8
							1300	520	10,134	13.4	8.0	4.2	2.9

(Continued)

(Continued)

\* Single bituminous surface treatment.

(Sheet 18 of 19)

Table A16 (Concluded)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	5	2+12.5 (Cont'd)					2600	530	10,207	13.4	7.6	4.1	2.8
3	5	2+25	Blend II* (Optimum)	16	ML	56	0	--	--	--	--	--	--
							40	600	10,132	12.2	6.7	3.6	2.5
							130	600	9,830	12.0	7.7	3.7	2.6
							326	590	10,067	12.7	7.6	3.8	2.7
							650	560	10,209	14.1	8.5	4.0	2.7
							1300	530	9,837	14.5	8.4	4.1	2.8
							2600	530	10,189	13.7	8.5	3.9	2.7
3	5	2+37.5	Blend II* (Optimum)	16	ML	56	0	660	9,965	10.9	5.9	2.7	1.9
							40	600	10,103	13.0	7.2	3.4	2.4
							130	610	10,526	13.1	8.1	4.0	2.7
							326	580	10,085	12.5	7.1	3.8	2.6
							650	550	10,407	13.7	8.7	4.1	2.7
							1300	510	10,231	13.5	8.5	4.1	2.7
							2600	550	10,096	12.7	7.6	3.9	2.6

\* Single bituminous surface treatment.



**Table A17**  
**Nondestructive Vibratory Test Results--During Traffic**  
**Road Rater 2008**

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
1	1	0+12.5	Crushed limestone	36							
1	1	0+25	Crushed limestone	36							

(Continued)

(Sheet 1 of 29)

Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils									
			Top Layer		Bottom Layer																	
			Material	Thickness in.	Material	Thickness in.																
1	1	0+25 (Cont'd)					1950	513	1090	1.3	0.6	0.4	0.4									
									5080	8.2	4.1	2.6	2.0									
									7080	12.1	6.1	3.6	2.7									
									2600	497	1140	1.2	0.7	0.4	0.3							
											5100	6.8	3.7	2.2	1.8							
											6840	10.3	5.6	3.1	2.5							
									1	1	0+37.5	Crushed limestone	36	Heavy clay	36	0	664	970	0.6	0.6	0.3	0.3
																		4960	4.4	2.4	1.7	1.2
																		7020	7.5	3.6	2.5	1.8
1100	662	1190	1.2	0.5	0.4	0.3																
		5020	6.3	3.0	2.0	1.6																
		6940	9.2	4.3	2.9	2.2																
1300	589	980	1.2	0.6	0.3	0.2																
		4820	6.4	3.7	2.0	1.5																
		6880	9.9	5.4	2.9	2.1																
1950	634	1040	1.1	0.6	0.4	0.3																
		4930	7.7	4.1	2.2	1.7																
		6960	10.9	5.9	3.1	2.4																
2600	503	1270	1.4	0.7	0.5	0.3																
		5080	7.4	3.5	2.2	1.6																
		6890	11.0	5.3	3.2	2.2																
1	2	0+62.5	Crushed limestone	9	Blend II	63	0	508	1030	0.8	0.3	0.2	0.2									
									4930	4.9	2.2	1.4	1.0									
									6910	8.8	3.4	2.0	1.4									

(Continued)

(Sheet 2 of 29)



Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils		
			Top Layer		Bottom Layer										
			Material	Thickness in.	Material	Thickness in.									
1	2	0+62.5 (Cont'd)					1100	566	1000	1.1	0.4	0.3	0.2		
									5070	6.0	2.6	1.2	1.0		
									6880	9.2	3.9	1.7	1.3		
									1300	577	944	0.8	0.3	0.2	0.1
											4890	6.5	2.4	1.1	1.0
											6910	10.0	3.5	1.7	1.4
									1950	451	1050	1.3	0.5	0.3	0.3
											5100	7.1	2.9	1.3	1.1
											7040	11.4	4.3	1.9	1.6
									2600	410	1080	1.3	0.4	0.2	0.2
											4890	9.0	2.9	1.5	1.2
											6900	13.9	4.4	2.2	1.6
1	2	0+75	Crushed limestone	9	Blend II	63	0	--	--	--	--	--	--		
								--	--	--	--	--	--		
								--	--	--	--	--	--		
								1100	565	1060	1.4	0.4	0.3	0.3	
										5160	7.0	2.6	1.8	1.4	
										6910	10.1	3.8	2.6	2.0	
								1300	455	1020	1.2	0.4	0.2	0.2	
										5090	6.8	2.7	1.7	1.3	
										6820	10.6	4.2	2.6	1.9	
								1950	487	990	1.7	0.5	0.3	0.3	
										5120	8.3	2.9	1.9	1.5	
										7020	12.2	4.5	2.8	2.2	

(Continued)

(Sheet 3 of 29)

Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+75 (Cont'd)					2600	334	1040	1.6	0.4	0.3	0.2
									4950	9.4	2.8	1.9	1.4
									6920	15.3	4.3	3.0	2.2
1	2	0+87.5	Crushed limestone	9	Blend II	63	0	317	1010	0.9	0.5	0.3	0.2
									5030	8.1	3.8	1.8	1.2
									6840	13.8	5.7	2.7	1.7
							1100	377	1060	1.8	0.6	0.3	0.4
									4990	11.0	3.7	2.0	1.6
									6950	16.2	5.2	2.9	2.2
							1300	185	1000	2.9	0.6	0.4	0.3
									4860	18.3	4.4	2.2	1.5
									6930	29.5	6.8	3.2	2.2
							1950	234	1000	1.7	0.6	0.4	0.3
									5010	11.9	4.9	2.5	1.6
									6950	20.2	7.9	3.9	2.4
							2600	210	1030	1.6	0.6	0.3	0.2
									4950	13.8	6.2	2.2	1.3
									6920	23.2	10.2	3.5	2.0
1	3	1+12.5	Blend II	72	--	--	0	398	980	1.2	0.3	0.2	0.2
									4900	7.6	2.4	1.4	1.0
									7050	13.0	3.6	2.0	1.5
							1100	286	1040	2.7	0.5	0.4	0.3
									4990	12.4	2.8	1.4	1.1
									6960	19.3	4.1	1.9	1.6

(Continued)

(Sheet 4 of 29)



Table A17 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	3	1+12.5 (Cont'd)					1300	--	--	--	--
								--	--	--	--
								--	--	--	--
							1950	376	1070	1.8	0.5
								5040	9.0	2.7	1.6
								6960	14.1	4.1	2.3
							2600	360	1010	1.4	0.4
								5020	8.6	2.4	1.5
								6890	13.8	3.8	2.2
1	3	1+25	Blend II	72	--	--	0	--	--	--	--
								--	--	--	--
								--	--	--	--
							1100	355	1040	3.0	0.6
								5050	11.8	2.6	1.4
								7000	17.3	3.8	1.9
							1300	--	--	--	--
								--	--	--	--
								--	--	--	--
							1950	394	1030	2.1	0.6
								5040	9.0	2.7	1.6
								6970	13.9	4.3	1.3
							2600	420	1070	1.3	0.4
								5030	7.9	3.0	1.6
								6960	12.5	4.3	2.3

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils		
			Top Layer	Bottom Layer									
			Material	Thickness in.								Material	Thickness in.
1	3	1+37.5	Blend II	72	--	--	0	346	1060	1.1	0.3	0.2	0.1
									4850	7.2	2.5	1.3	0.9
									6790	12.8	3.7	1.8	1.3
							1100	330	1040	2.3	0.4	0.2	0.2
									4950	22.3	2.0	1.3	1.1
									6730	27.7	2.6	1.7	1.4
							1300	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1950	--	1040	2.8	0.5	0.3	0.3
									--	--	--	--	--
									--	--	--	--	--
							2600	110	980	2.5	0.3	0.2	0.2
									5040	18.4	1.9	1.3	1.2
									7090	37.0	2.7	1.9	1.6
1	4	1+62.5	Blend I	9	Blend II	63	0	276	940	3.8	0.4	0.3	0.2
									5130	19.1	2.5	1.4	1.1
									7200	26.6	3.4	2.0	1.4
							1100	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1300	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	4	1+62.5 (Cont'd)					1950	--	--	--	--	--	--
									--	--	--	--	--
							2600	482	980	4.6	0.5	0.3	0.2
									4990	6.5	2.4	1.4	1.1
									6920	10.5	3.7	2.0	1.6
1	4	1+75	Blend I	9	Blend II	63	0	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1100	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1300	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1950	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							2600	565	980	1.3	0.4	0.2	0.2
									4970	7.4	2.4	1.3	1.1
									6890	10.8	3.6	2.0	1.5
1	4	1+87.5	Blend I	9	Blend II	63	0	480	970	1.2	0.4	0.2	0.2
									4920	7.3	2.3	1.3	0.9
									7270	12.2	3.6	1.9	1.3

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	4	1+87.5 (Cont'd)					1100	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1300	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							1950	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							2600	576	930	1.2	0.4	0.2	0.2
									4850	6.6	2.3	1.3	1.1
									6810	10.0	3.4	2.0	1.6
1	5	2+12.5	Silt	72	--	--	0	202	970	3.1	1.1	0.4	0.4
									4820	16.1	4.6	1.7	1.3
									6840	26.1	6.3	2.3	1.9
							1100	285	1130	2.8	0.6	0.5	0.4
									5090	13.5	3.6	1.7	1.3
									6970	20.1	5.6	2.4	1.7
							1300	296	1030	1.8	0.4	0.2	0.2
									4850	11.8	3.6	1.6	1.2
									6860	18.6	5.5	2.4	1.8
							1950	170	1020	3.3	0.6	0.3	2.8
									5050	19.3	3.6	1.7	1.9
									6890	30.1	5.5	2.5	1.3

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	5	2+12.5 (Cont'd)					2600	234	1040 4990 7100	2.4 14.3 23.3	0.5 3.1 5.5	0.3 1.8 2.5	0.2 1.3 1.8
1	5	2+25	Silt	72	--	--	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
							1100	224	1020 5080 7030	3.6 17.6 26.3	0.6 3.6 5.0	0.3 1.8 2.5	0.2 1.3 1.8
							1300	239	1050 4950 7050	2.4 12.7 21.5	0.6 3.2 4.9	0.3 1.6 2.4	0.2 1.1 1.7
							1950	158	1030 5070 7120	3.5 20.2 33.2	0.7 4.0 6.3	0.4 1.9 2.8	0.3 1.4 2.1
							2600	217	1000 5020 6970	2.7 15.6 24.6	0.4 3.2 4.8	0.3 1.7 2.4	0.2 1.3 1.8
1	5	2+37.5	Silt	72	--	--	0	203	1010 4890 7000	2.6 15.0 25.4	0.7 3.7 5.5	0.3 1.6 2.3	0.2 1.0 1.5
							1100	285	1010 5000 6850	2.1 11.9 18.4	0.8 3.6 5.3	0.4 1.7 2.4	0.3 1.3 1.7

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	5	2+37.5 (Cont'd)					1300	--	--	--	--
								--	--	--	--
								--	--	--	--
							1950	239	980	2.1	0.5
								4920	15.2	3.7	1.7
								6900	23.5	5.6	2.5
							2600	234	1010	2.2	0.5
								4940	13.7	3.5	1.7
								7070	22.8	5.3	2.5
							0	707	1010	0.5	0.3
								4890	3.4	2.1	1.7
								7010	6.4	3.2	2.6
2	1	0+12.5	Cement Stabi- lized Blend I	29	Heavy Clay	43	40	737	980	0.9	0.4
									4820	5.8	2.4
									6810	8.5	3.5
							650	682	1030	1.0	0.6
									5070	5.5	3.2
									6980	8.3	4.7
							1300	656	1020	1.0	0.6
									5200	6.0	3.9
									6970	8.7	5.5
							2600	486	1090	1.2	0.7
									5030	6.6	4.2
									6830	10.3	5.7

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+25	Cement stabi- lized Blend I	29	Heavy clay	43	0	--	--	--	--	--	--
							40	704	1010	1.0	0.4	0.3	0.2
									4999	5.6	3.0	2.2	1.7
									6970	8.4	4.5	3.3	2.4
							650	792	1070	1.0	0.6	0.5	0.4
									5180	5.5	3.2	2.4	2.0
									7080	7.9	4.7	3.5	2.8
							1300	995	1020	1.2	0.7	0.5	0.4
									4940	5.3	3.7	2.9	2.3
									7130	7.5	5.4	4.1	3.2
							2600	727	1060	1.1	0.6	0.5	0.4
									4980	6.0	3.7	2.7	2.3
									6870	8.6	5.3	3.9	3.3
2	1	0+37.5	Cement stabi- lized Blend I	29	Heavy clay	43	0	700	1020	0.5	0.3	0.3	0.2
									5020	4.2	2.2	1.8	1.4
									7120	7.2	3.3	2.6	2.0
							40	878	1000	0.8	0.3	0.3	0.2
									4970	5.2	2.4	2.0	1.6
									6990	7.5	3.5	2.8	2.3
							650	1075	1030	0.8	0.5	0.4	0.3
									4940	4.2	2.6	2.0	1.7
									7090	6.2	3.8	2.9	2.5

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+37.5 (Cont'd)					1300	915	1060	1.1	0.5	0.5	0.5
									5120	5.2	3.0	2.4	1.9
									6950	7.2	4.3	3.5	2.7
							2600	722	1050	0.9	0.5	0.4	0.3
									4930	4.9	3.0	2.0	1.8
									6880	7.6	4.3	3.1	2.6
2	2	0+62.5	Cement stabi- lized Blend II	12	Blend II	60	0	518	1050	0.6	0.3	0.2	0.2
									5010	4.8	4.3	1.6	1.0
									7030	8.7	7.1	2.4	1.5
							40	317	1040	1.1	0.7	0.4	0.3
									4990	9.7	4.9	2.2	1.2
									6830	15.5	7.6	3.3	1.8
							650	408	990	1.3	0.7	0.3	0.2
									5000	9.6	5.7	2.2	0.9
									7000	14.5	8.8	3.3	1.3
							1300	375	1070	1.4	0.6	0.3	0.2
									5070	9.0	4.6	1.4	1.0
									6980	14.1	7.5	2.1	1.4
							2600	356	1000	1.5	0.9	0.3	0.2
									4950	10.7	6.8	2.8	1.1
									6910	16.2	11.7	4.5	1.5
2	2	0+75	Cement stabi- lized Blend II	12	Blend II	60	0	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+75 (Cont'd)					40	314	1160 5130 6890	2.0 11.4 17.0	0.6 3.6 5.0	0.3 2.1 2.9	0.2 1.3 1.8
							650	706	1050 4960 7150	1.0 5.8 8.9	0.4 3.0 4.4	0.3 1.8 2.7	0.2 1.3 1.8
							1300	619	1010 5020 7000	1.1 5.5 8.7	0.4 3.6 5.8	0.3 2.2 3.5	0.2 1.4 2.2
							2600	756	1080 4870 6910	1.1 6.0 8.7	0.6 3.6 5.1	0.3 1.7 2.6	0.2 1.4 2.0
2	2	0+87.5	Cement stabi- lized Blend II	12	Blend II	60	0	570	1010 4940 6820	0.6 5.2 8.5	0.3 2.6 3.7	0.2 1.7 2.5	0.2 1.1 1.5
							40	404	950 4960 6940	1.2 8.2 13.1	0.5 3.6 5.8	0.3 2.0 3.0	0.2 1.3 2.0
							650	265	1010 4970 6960	1.6 11.6 --	0.5 4.5 --	0.3 1.9 --	0.2 1.4 --
							1300	354	1040 4980 6960	1.8 10.4 16.0	0.6 4.5 7.5	0.3 1.9 2.9	0.3 1.6 2.4

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+87.5 (Cont'd)					2600	215	1030 4840 6900	2.2 19.3 28.9	1.2 9.5 9.3	0.3 1.9 3.3	0.2 1.5 2.4
2	3	1+06.25	Lean mix concrete Blend II	12	Blend II	60	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
							40	863	1050 4980 7050	1.0 4.9 7.3	0.3 2.0 2.9	0.2 1.5 2.2	0.2 1.2 1.8
							650	1294	960 4820 7150	0.7 4.2 6.0	0.4 3.0 4.5	0.3 2.1 3.2	0.2 1.5 2.3
							1300	1075	1050 5160 6880	1.3 6.0 7.6	0.4 2.4 3.8	0.3 1.9 2.9	0.2 1.4 2.0
							2600	925	1040 4830 7050	0.7 4.2 6.6	0.4 2.5 4.3	0.3 1.7 2.8	0.2 1.3 1.9
2	3	1+12.5	Lean mix concrete Blend II	12	Blend II	60	0	415	1030 4920 7160	0.7 4.4 9.8	0.2 1.5 2.2	0.2 1.2 1.8	0.1 0.9 1.4
2	3	1+18.75	Lean mix concrete Blend II	12	Blend II	60	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+18.75 (Cont'd)					40	1176	1050	0.6	0.4	0.3	0.3
									5100	3.9	1.9	1.6	1.4
									7100	5.6	2.8	2.2	2.0
							650	883	950	0.9	0.4	0.3	0.2
									4990	4.9	2.9	1.9	1.4
									7020	7.2	4.5	2.8	2.1
							1300	995	1000	0.6	0.3	0.2	0.2
									5180	3.9	2.4	1.7	1.3
									7070	5.8	3.7	2.5	1.9
							2600	967	1050	0.7	0.4	0.2	0.1
									4920	4.0	2.3	1.4	1.1
									6950	6.1	3.5	2.1	1.6
2	3	1+31.25	Lean mix concrete Blend II	12	Blend II	60	0	--	--	--	--	--	--
									--	--	--	--	--
									--	--	--	--	--
							40	1041	1020	0.7	0.4	0.4	0.3
									5220	3.4	2.2	1.7	1.5
									6990	5.1	3.0	2.4	2.1
							650	1042	1030	--	0.4	0.3	0.2
									4950	4.3	2.7	1.9	1.3
									6930	6.2	4.0	2.8	1.9
							1300	948	1040	0.9	0.4	0.3	0.2
									5000	4.9	3.1	2.2	1.4
									6990	7.0	4.6	3.3	2.0

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+31.25 (Cont'd)					2600	724	1060 5030 6840	0.9 4.6 7.1	0.5 3.0 4.7	0.3 2.2 3.3	0.2 1.7 2.5
2	3	1+37.5	Lean mix concrete Blend II	12	Blend II	60	0	688	1020 4950 7220	0.4 3.3 6.6	0.2 1.3 2.7	0.2 1.3 1.9	0.1 1.0 1.5
2	3	1+43.75	Lean mix concrete Blend II	12	Blend II	60	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
							40	804	1010 5010 6940	0.5 3.9 6.3	0.3 2.0 2.9	0.3 1.5 2.2	0.2 1.3 1.8
							650	976	990 4960 7010	0.6 4.1 6.2	0.3 2.5 3.9	0.2 1.6 2.5	0.1 1.2 1.7
							1300	995	970 5050 6940	0.7 4.1 6.0	0.4 2.5 5.3	0.2 1.5 2.4	0.2 1.1 1.7
							2600	685	950 5060 6840	0.7 4.3 6.9	0.3 2.3 3.4	0.2 1.5 2.1	0.2 1.1 1.6
2	4	1+62.5	Cement stabi- lized Blend I	12	Blend II	60	0	781	980 4870 6900	0.6 3.9 6.5	0.3 2.1 3.0	0.2 1.3 1.9	0.2 0.9 1.3

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils		
			Top Layer		Bottom Layer										
			Material	Thickness in.	Material	Thickness in.									
2	4	1+62.5 (Cont'd)					40	583	950	0.9	0.4	0.3	0.2		
									5150	5.6	2.2	1.4	1.0		
									6900	8.6	3.2	1.9	1.4		
									650	746	1020	1.0	0.3	0.2	0.2
											4910	5.3	2.2	1.1	1.0
											7000	8.1	3.5	1.6	1.4
									1300	767	1010	1.1	0.4	0.3	0.3
											5070	5.8	2.6	1.4	1.2
											7140	8.5	4.1	2.1	1.6
									2600	235	980	0.9	0.9	0.2	--
											5010	5.3	2.5	1.3	--
											6910	7.9	3.9	1.9	--
2	4	1+75	Cement stabi- lized Blend I	12	Blend II	60	0	--	--	--	--	--	--		
									--	--	--	--	--		
									--	--	--	--	--		
									40	597	920	0.9	0.3	0.3	0.2
											5090	6.6	2.5	1.6	1.1
											6940	9.7	4.1	2.4	1.5
									650	759	1010	1.0	0.4	0.3	0.2
											4940	6.1	2.4	1.4	1.0
											6990	8.8	3.7	2.0	1.4
									1300	744	1010	1.1	0.4	0.3	0.2
											4960	5.6	2.3	1.4	1.1
											6970	8.3	3.6	2.1	1.6

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	4	1+75 (Cont'd)					2600	538	1070	1.2	0.3	0.2	0.2
									4980	6.7	2.3	1.3	0.9
									6810	10.1	6.0	1.7	1.3
2	4	1+87.5	Cement stabi- lized Blend I	12	Blend II	60	0	612	1090	0.6	0.3	0.2	0.1
									5030	4.2	2.0	1.3	0.9
									7110	7.6	3.0	2.0	1.3
							40	890	920	0.9	0.3	0.2	0.2
									5120	6.9	2.5	1.5	1.1
									6900	9.9	3.6	2.1	1.5
							650	863	1000	0.8	0.3	0.2	0.1
									4910	4.8	2.1	1.3	1.0
									6980	7.2	3.2	1.8	1.4
							1300	860	1020	1.0	0.3	0.3	0.2
									4920	5.5	2.1	1.4	1.1
									7070	8.0	3.3	2.1	1.6
							2600	855	1080	0.9	0.3	0.2	0.1
									5030	4.9	2.2	1.3	1.0
									6910	7.1	3.6	1.8	1.4
2	5	2+12.5	Cement stabi- lized Blend II	16	ML	56	0	761	990	0.4	0.3	0.2	0.1
									4880	3.8	1.9	1.4	0.9
									7010	6.6	3.1	2.1	1.4

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
2	5	2+12.5 (Cont'd)					40	879	1050	0.9	0.4	0.3	0.3							
									4940	4.5	2.3	1.4	1.1							
									7050	7.0	3.5	2.1	1.5							
								650	838	970	0.9	0.4	0.2	0.2						
										4950	5.0	2.6	1.5	1.1						
										6960	7.4	4.0	2.2	1.5						
								1300	615	1040	1.2	0.4	0.3	0.3						
										4990	6.3	2.8	1.6	1.2						
										7080	9.7	4.5	2.4	1.7						
							2600	423	1020	1.1	0.5	0.3	0.2							
									5030	6.4	2.9	1.6	1.1							
									6890	10.8	4.1	2.2	1.6							
							2	5	2+25	Cement stabi- lized Blend II	16	ML	56	0	--	--	--	--	--	--
																--	--	--	--	--
																--	--	--	--	--
40	792	1140	0.9	0.4	0.3	0.3														
		4990	4.5	2.3	1.4	1.1														
		6970	7.0	3.5	2.1	1.5														
650	1340	990	0.9	0.3	0.2	0.1														
		5100	6.1	2.3	1.5	1.1														
		7100	7.6	3.4	2.2	1.6														
1300	848	1050	1.1	0.4	0.3	0.3														
		5060	5.9	2.5	1.6	1.1														
		7010	8.2	3.9	2.4	1.7														

(Continued)

(Sheet 19 of 29)

Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	5	2+25 (Cont'd)					2600	660	1040	1.0	0.6	0.3	0.2
									4920	5.7	3.1	1.7	1.2
									6900	8.7	4.5	2.5	1.7
2	5	2+37.5	Cement stabi- lized Blend II	16	ML	56	0	817	1070	0.5	0.3	0.2	0.1
									5080	4.1	2.1	1.4	1.0
									7040	6.5	3.0	2.0	1.3
							40	758	920	0.6	0.3	0.2	0.2
									4990	4.8	2.7	1.7	1.1
									6960	7.4	4.1	2.3	1.6
							650	856	1040	1.1	0.4	0.3	0.2
									4940	5.0	2.6	1.5	1.1
									7080	7.5	4.1	2.3	1.5
							1300	792	1100	1.2	0.5	0.3	0.3
									4990	6.0	2.9	1.6	1.5
									7050	8.6	4.7	2.4	1.7
							2600	539	1040	1.0	0.5	0.3	0.2
									4950	5.9	3.0	1.6	1.1
									6890	9.5	4.5	2.4	1.7
3	1	0+12.5	Crushed limestone	29	Heavy clay	43	0	985	1170	0.8	0.4	0.3	0.3
									4920	4.1	2.5	1.9	1.5
									6890	6.1	3.4	2.7	2.1
							40	332	990	0.8	0.4	0.3	0.2
									4910	6.6	3.0	2.2	1.6
									7100	13.2	4.7	3.4	2.5

(Continued)

(Sheet 20 of 29)



Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils	
			Top Layer		Bottom Layer									
			Material	Thickness in.	Material	Thickness in.								
3	1	0+12.5 (Cont'd)					130	451	1030	1.1	0.5	0.3	0.2	
										5000	8.0	3.5	2.6	1.8
										6760	11.9	5.2	3.7	2.6
							326	519	940	1.0	0.5	0.4	0.3	
									4920	6.9	3.6	2.5	1.8	
									6840	10.6	5.3	3.8	2.6	
							2600	612	1030	0.9	0.5	0.4	0.3	
									5000	6.2	3.3	2.3	1.8	
									7020	9.5	4.8	3.3	2.6	
3	1	0+25	Crushed limestone	29	Heavy clay	43	0	--	--	--	--	--	--	
									--	--	--	--	--	
									--	--	--	--	--	
							40	483	860	0.7	0.3	0.2	0.2	
									5200	6.5	3.2	2.0	1.6	
									6940	10.1	4.5	3.2	2.4	
							130	631	950	0.8	0.4	0.3	0.2	
									4860	6.3	3.5	2.4	1.8	
									6880	9.5	5.2	3.5	2.6	
							326	572	960	1.0	0.6	0.5	0.4	
									4920	6.3	3.3	2.3	1.8	
									6980	9.9	5.0	3.5	2.7	
2600	600	950	1.1	0.6	0.4	0.3								
		4820	6.5	3.3	2.3	1.9								
		6920	10.0	4.7	3.3	2.7								

(Continued)

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Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	1	0+37.5	Crushed limestone	29	Heavy clay	43	0	786	1040	0.5	0.3	0.3	0.2
									4980	4.2	2.3	1.8	1.4
									7180	7.0	3.5	2.6	2.1
							40	420	950	0.8	0.3	0.2	0.2
									5120	6.2	3.0	2.2	1.6
									6840	10.3	4.5	3.4	2.4
							326	600	1000	0.9	0.5	0.4	0.3
									4940	6.1	3.4	2.4	1.7
									6800	9.2	5.1	3.5	2.6
							2600	616	1040	0.9	0.5	0.4	0.3
									4930	5.7	3.3	2.4	2.0
									6840	8.8	4.7	3.4	2.7
3	2	0+62.5	Crushed Limestone	12	Blend II	60	0	597	960	0.6	0.3	0.2	0.2
									5010	5.5	2.6	1.5	1.2
									7220	9.2	3.9	2.2	1.7
							40	402	980	0.9	0.3	0.2	0.1
									4920	7.9	2.3	1.4	1.2
									6890	12.8	3.3	2.2	1.7
							130	384	1090	1.4	0.4	0.3	0.2
									4890	7.2	2.4	1.7	1.3
									6770	12.1	3.5	2.5	1.8
							326	563	1000	1.2	0.5	0.3	0.2
									4930	7.0	2.7	1.8	1.3
									6900	10.5	4.1	2.7	2.0

(Continued)

(Sheet 22 of 29)



Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	2	0+62.5 (Cont'd)					2600	490	1050 4870 6780	0.9 5.7 9.6	0.4 2.4 3.3	0.3 1.6 2.3	0.2 1.2 1.7
3	2	0+75	Crushed limestone	12	Blend II	60	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
							40	368	870 5010 6990	1.0 7.9 13.3	0.3 2.3 3.5	0.2 1.5 2.2	0.1 1.1 1.6
							130	467	1030 5000 6960	1.0 6.9 11.1	0.4 3.0 4.7	0.3 1.7 2.5	0.2 1.3 1.8
							326	533	1050 4950 6870	1.2 7.0 10.6	0.5 2.5 3.8	0.3 1.7 2.4	0.2 1.3 1.8
							2600	553	950 4940 6820	0.9 5.7 9.1	0.4 2.3 3.5	0.2 1.4 2.1	0.2 1.2 1.7
3	2	0+87.5	Crushed Limestone	12	Blend II	60	0	642	980 4920 6910	0.7 5.6 8.7	0.3 2.4 3.6	0.2 1.4 2.1	0.2 1.0 1.5
							40	400	1010 5070 6990	0.9 6.7 11.5	0.4 2.3 3.8	0.3 1.3 2.1	0.2 1.2 1.8

(Continued)

(Sheet 23 of 29)

Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils									
			Top Layer		Bottom Layer																	
			Material	Thickness in.	Material	Thickness in.																
3	2	0+87.5 (Cont'd)					130	454	810	0.8	0.3	0.2	0.2									
									5080	7.0	2.9	1.8	1.3									
									6940	11.1	4.2	2.5	1.9									
									326	556	970	1.0	0.5	0.3	0.2							
											4900	7.0	2.7	1.8	1.3							
											6900	10.6	4.1	2.6	1.9							
									455	455	1070	1.0	0.4	0.3	0.2							
											4940	6.4	2.3	1.5	1.2							
											6940	10.8	3.5	2.2	1.8							
									3	3	1+12.5	Blend II* (Optimum)	6	Blend II	66	0	433	980	1.0	0.3	0.2	0.2
																		5100	7.1	3.0	1.7	1.2
																		7090	11.7	4.4	2.4	1.7
40	321	920	0.8	0.3	0.2	0.1																
		5010	7.2	2.9	1.8	1.3																
		6840	12.9	4.4	2.6	1.9																
130	478	1000	0.9	0.4	0.3	0.2																
		4860	7.5	2.6	1.8	1.4																
		6820	11.6	3.9	2.7	2.0																
326	459	1060	1.3	0.6	0.5	0.3																
		5050	7.5	3.0	2.1	1.5																
		6840	11.4	4.7	3.1	2.2																
2600	530	1080	1.2	0.4	0.3	0.3																
		4950	6.6	3.3	1.7	1.3																
		6910	10.3	5.2	2.6	2.0																

(Continued)

\* Double bituminous surface treatment.

(Sheet 24 of 29)



Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	3	1+25	Blend II* (Optimum)	6	Blend II	66	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
							40	475	1050 5010 6910	1.4 10.7 14.7	0.3 2.6 3.8	0.2 1.6 2.3	0.1 1.2 1.7
							130	331	1010 4910 7060	1.1 7.6 14.1	0.4 2.8 4.6	0.2 1.7 2.6	0.2 1.3 1.9
							326	495	1090 4930 6860	1.5 7.7 11.6	0.6 2.8 4.3	0.4 1.8 2.8	0.3 1.4 2.0
							2600	669	940 4970 6910	0.8 6.0 8.9	0.3 2.7 5.6	0.2 1.7 2.3	0.2 1.3 1.8
3	3	1+37.5	Blend II* (Optimum)	6	Blend II	66	0	497	960 4870 6860	1.0 6.7 10.7	0.4 2.9 4.2	0.2 1.6 2.4	0.2 1.1 1.6
							40	371	860 4970 7010	1.0 10.1 15.6	0.3 2.7 4.1	0.2 1.7 2.5	0.1 1.2 1.8
							130	526	1030 4870 6920	2.4 10.6 14.5	0.4 2.8 4.2	0.3 1.8 2.6	0.2 1.3 1.8

(Continued)

\* Double bituminous surface treatment.

(Sheet 25 of 29)

Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils									
			Top Layer		Bottom Layer																	
			Material	Thickness in.	Material	Thickness in.																
3	3	1+37.5 (Cont'd)					326	389	1050	1.6	0.5	0.4	0.3									
									5020	8.6	2.6	1.9	1.4									
									6850	13.3	4.4	3.9	2.7									
									2600	741	970	0.8	0.3	0.2	0.2							
											4930	5.3	2.4	1.6	1.2							
											6930	8.0	3.6	2.3	1.8							
									3	4	1+62.5	Blend I* (Optimum)	12	Blend II	60	0	453	1120	1.0	0.4	0.2	0.2
																		5060	7.2	3.1	1.7	1.1
																		7100	11.7	4.6	2.3	1.6
40	398	870	0.9	0.3	0.2	0.1																
		5270	7.8	2.7	1.5	1.1																
		6860	11.8	4.2	2.4	1.7																
130	576	870	1.1	0.4	0.3	0.2																
		4900	8.4	3.2	2.0	1.3																
		7030	12.1	4.8	2.7	1.8																
326	543	1070	1.2	0.6	0.4	0.3																
		5000	7.8	3.0	1.8	1.2																
		7010	11.5	4.3	2.5	1.8																
2600	609	950	0.9	0.3	0.2	0.2																
		4950	6.3	2.4	1.4	1.2																
		6960	9.6	3.5	2.1	1.7																
3	4	1+75	Blend I* (Optimum)	12	Blend II	60	0	--								--	--	--	--	--		
																--	--	--	--	--		
																--	--	--	--	--		

(Continued)

\* Single bituminous surface treatment.

(Sheet 26 of 29)



Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils				
			Top Layer		Bottom Layer												
			Material	Thickness in.	Material	Thickness in.											
3	4	1+75 (Cont'd)					40	375	980	1.2	0.3	0.2	0.1				
									4970	9.0	2.7	1.7	1.2				
									6960	14.3	4.3	2.5	1.7				
							130	461	1000	1.1	0.3	0.2	0.1				
									4810	8.8	2.7	1.8	1.2				
									6930	13.4	4.0	2.5	1.8				
							326	375	1080	1.6	0.5	0.4	0.3				
									4960	10.0	2.7	1.8	1.3				
									6870	15.1	4.1	2.6	1.8				
							2600	659	970	1.1	0.5	0.2	0.2				
									4940	6.6	3.4	1.5	1.2				
									7050	9.8	5.4	2.3	1.8				
3	4	1+87.5 (Optimum)	Blend I* (Optimum)	12	Blend II	60	0	468	1030	1.2	0.4	0.3	0.2				
									4870	7.2	2.8	1.6	1.1				
									6930	11.6	4.0	2.3	1.6				
											40	538	910	1.0	0.3	0.2	0.1
													4540	8.5	2.2	1.6	1.2
													6960	13.0	4.1	2.4	1.7
											130	314	1020	1.1	0.4	0.3	0.2
													4980	9.1	3.0	1.8	1.2
													6960	15.4	4.7	2.7	1.8
											326	525	990	1.4	0.6	0.4	0.3
													4950	8.6	3.1	1.8	1.3
													6840	12.2	4.6	2.6	1.8

(Continued)

\* Single bituminous surface treatment.

(Sheet 27 of 29)

Table A17 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	4	1+87.5 (Cont'd)					2600	591	990 5040 6930	1.0 6.9 10.1	0.4 2.6 3.7	0.2 1.5 2.2	0.2 1.2 1.7
3	5	2+12.5	Blend II* (Optimum)	16	ML	56	0	459	960 4920 6940	1.0 6.2 10.6	0.4 2.9 4.4	0.3 1.7 2.6	0.2 1.2 1.8
							40	738	970 4840 6760	1.1 6.8 9.4	0.4 2.8 4.5	0.2 1.8 2.8	0.2 1.2 1.8
							130	402	1030 4950 6880	1.0 8.2 13.0	0.3 3.2 4.7	0.3 2.0 2.9	0.2 1.4 2.0
							326	419	1010 5000 6800	1.3 8.8 13.1	0.6 3.5 5.4	0.4 2.2 3.1	0.3 1.5 2.2
							2600	606	1050 5030 7030	1.2 6.6 9.9	0.4 2.9 4.5	0.3 1.7 2.5	0.2 1.3 1.8
3	5	2+25	Blend II* (Optimum)	16	ML	56	0	--	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
							40	381	1040 5170 6960	1.1 8.7 13.4	0.4 2.9 4.4	0.2 1.7 2.7	0.2 1.3 1.8

(Continued)

\* Single bituminous surface treatment.

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Table A17 (Concluded)

Lane	Item	Station ft	Composition				Number of Passes	DSM kips/in.	Force lb	$\Delta_0$ mils	$\Delta_{18}$ mils	$\Delta_{40}$ mils	$\Delta_{60}$ mils
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	5	2+25 (Cont'd)					130	323	1060	1.2	0.5	0.3	0.2
									4870	8.4	3.5	2.0	1.4
									6870	14.6	5.4	3.0	2.0
							326	505	980	1.6	0.7	0.4	0.3
									5030	9.7	3.5	2.1	1.4
									7050	13.7	5.1	3.0	2.0
							2600	606	1050	1.2	0.4	0.3	0.2
									5030	6.6	2.9	1.7	1.3
									7030	9.9	4.5	2.5	1.8
3	5	2+37.5	Blend I* (Optimum)	16	ML	56	0	515	950	1.1	0.5	0.3	0.3
									4870	7.3	2.8	1.7	1.2
									6880	11.2	4.0	2.5	1.7
							40	394	990	1.2	0.4	0.3	0.2
									4940	8.4	3.2	1.9	1.4
									7070	13.8	4.7	2.8	1.9
							130	363	1050	3.2	0.6	0.4	0.3
									4960	11.7	3.5	2.0	1.3
									6920	17.1	5.0	2.8	1.9
							326	542	1070	1.4	0.6	0.4	0.3
									4930	8.5	3.7	2.3	1.6
									6880	12.1	5.4	3.2	2.2

(Continued)

\* Single bituminous surface treatment.

(Sheet 29 of 29)

Table A18

## Nondestructive Test Data--During Traffic, Falling Weight Deflectometer

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+00	Crushed Lime- stone	36	Heavy Clay	36	0	3.44	424	167	69	44	2.54
							14.94	935	383	163	96	2.44	
							40	3.44	432	290	104	60	1.49
							14.94	955	629	250	131	1.52	
							130	3.44	424	335	122	56	1.27
							14.94	945	642	242	132	1.47	
							326	3.44	456	351	98	56	1.30
							14.94	989	654	243	131	1.51	
							650	3.44	438	399	116	57	1.10
							14.94	960	734	278	132	1.31	
							1100	3.44	470	336	112	57	1.40
							14.94	975	643	262	128	1.52	
							1300	3.44	445	346	114	59	1.29
							14.94	965	682	281	137	1.41	
							1950	3.44	431	453	133	69	0.95
							14.94	967	779	324	152	1.24	
2600	3.44	417	442	94	51	0.94							
14.94	905	707	229	110	1.28								
1	1	0+02	Crushed Lime- stone	36	Heavy Clay	36	0	3.44	423	187	68	46	2.26
							14.94	944	414	162	104	2.28	
							40	3.44	424	371	106	61	1.14
							14.94	950	705	252	136	1.35	
							130	3.44	426	383	110	60	1.11
							14.94	947	731	254	137	1.29	

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	1	0+02 (Cont'd)									
					326	3.44 14.94	447 972	411 780	109 280	64 144	1.09 1.25
					650	3.44 14.94	440 959	442 832	114 260	66 143	1.00 1.15
					1100	3.44 14.94	447 975	414 793	105 264	64 141	1.08 1.23
					1300	3.44 14.95	429 985	395 761	107 276	67 147	1.09 1.29
					1950	3.44 14.94	436 964	393 764	118 299	70 156	1.11 1.26
					2600	3.44 14.94	403 910	334 670	77 205	54 124	1.21 1.36
1	1	0+04	Crushed Lime- stone	36	Heavy Clay	36					
					0	3.44 14.94	421 945	158 348	61 141	43 97	2.66 2.72
					40	3.44 14.94	417 944	339 644	96 230	59 134	1.23 1.47
					130	3.44 14.94	427 944	328 671	103 248	60 138	1.30 1.41
					326	3.44 14.94	438 977	365 811	106 268	67 151	1.20 1.20
					650	3.44 14.94	361 814	375 858	112 285	63 147	.96 .95
					1100	3.44 14.94	443 974	398 798	109 271	66 146	1.11 1.22
					1300	3.44 14.94	427 972	354 729	114 289	65 150	1.21 1.33

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+04 (Cont'd)					1950 3.44 14.94	432 953	381 805	126 322	74 164	1.13 1.18	
						2600 3.44 14.94	415 909	356 749	356 749	97 241	59 130	1.17 1.21	
1	1	0+06	Crushed Lime- stone	36	Heavy Clay	36	0 3.44 14.94	425 950	118 277	57 135	42 95	3.60 3.42	
						40 3.44 14.94	417 944	339 644	339 644	96 230	59 134	1.23 1.47	
						130 3.44 14.94	425 935	337 643	337 643	100 249	55 135	1.26 1.45	
						326 3.44 14.94	423 959	386 739	386 739	100 259	47 140	1.10 1.30	
						360 3.44 14.94	408 800	435 801	435 801	111 267	65 146	0.94 0.99	
						1100 3.44 14.94	445 955	475 898	475 898	116 270	69 146	0.94 1.06	
						1300 3.44 14.94	422 967	368 734	368 734	116 286	68 154	1.15 1.32	
						1950 3.44 14.94	437 957	493 858	493 858	126 312	72 162	0.87 1.12	
						2600 3.44 14.94	401 900	322 673	322 673	99 243	58 127	1.25 1.34	
1	1	0+12.5	Crushed Lime- stone	36	Heavy Clay	36	0 3.44 14.94	431 935	132 383	51 164	39 96	3.27 2.44	
						40 3.44 14.94	427 944	383 680	383 680	99 225	59 129	1.11 1.39	

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	1	0+12.5 (Cont'd)									
1	1	0+25	Crushed Lime- stone	36	Heavy Clay	36					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+25 (Cont'd)					1300	3.44	428	366	105	60	1.17
								14.94	957	699	285	148	1.37
							1950	3.44	436	422	126	69	1.03
								14.94	955	828	315	153	1.15
							2600	3.44	412	405	85	56	1.02
								14.94	902	675	209	128	1.34
1	1	0+37.5	Crushed Lime- stone	36	Heavy Clay	36	0	3.44	425	148	63	38	2.87
								14.94	943	330	145	88	2.86
							40	3.44	419	267	93	56	1.57
								14.94	944	615	214	127	1.53
							130	3.44	425	276	87	58	1.54
								14.94	934	539	205	88	1.73
							326	3.44	442	308	110	64	1.44
								14.94	962	686	261	142	1.40
							650	3.44	437	367	106	65	1.19
								14.94	946	719	258	140	1.32
							1100	3.44	446	466	84	62	0.96
								14.94	958	835	223	137	1.15
							1300	3.44	433	377	115	67	1.15
								14.94	959	744	268	144	1.29
							1950	3.44	431	476	122	66	0.91
								14.94	950	870	298	150	1.09
							2600	3.44	415	309	82	55	1.34
								14.94	903	594	202	118	1.52
1	1	0+44	Crushed Lime- stone	36	Heavy Clay	36	0	3.44	429	195	58	40	2.20
								14.94	932	397	135	85	2.35

(Continued)

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+44 (Cont'd)					40	3.44 14.94	421 937	305 625	100 220	52 115	1.38 1.50
							130	3.44 14.94	422 936	298 626	89 212	51 120	1.42 1.50
							326	3.44 14.94	439 960	394 690	105 235	62 126	1.11 1.39
							650	3.44 14.94	432 944	322 706	96 233	58 123	1.34 1.34
							1100	3.44 14.94	446 957	394 728	96 236	57 123	1.13 1.31
							1300	3.44 14.94	428 955	358 654	105 245	57 123	1.20 1.46
							1950	3.44 14.94	435 948	396 723	106 253	60 128	1.10 1.31
							2200	3.44 14.94	416 904	360 627	79 189	46 103	1.16 1.44
1	1	0+46	Crushed Lime- stone	36	Heavy Clay	36	0	3.44 14.94	419 935	149 337	60 148	43 91	2.81 2.77
							40	3.44 14.94	419 942	268 542	91 242	58 126	1.56 1.74
							130	3.44 14.94	422 931	307 620	96 219	56 125	1.38 1.50
							326	3.44 14.94	432 959	346 706	102 234	60 127	1.25 1.36
							650	3.44 14.94	434 949	335 667	91 228	60 125	1.30 1.42

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
1	1	0+46 (Cont'd)					1100	3.44	437	407	95	57	1.07							
							14.94	962	777	225	124	1.24								
							1300	3.44	426	337	102	59	1.26							
							14.94	953	639	243	128	1.49								
							1950	3.44	433	318	105	62	1.36							
							14.94	950	590	258	134	1.61								
							2200	3.44	394	293	81	51	1.34							
							14.94	900	594	210	107	1.51								
							1	1	0+48	Crushed Lime- stone	36	Heavy Clay	36	0	3.44	425	271	109	58	1.57
														14.94	942	542	242	126	1.74	
40	3.44	425	271	109	58	1.57														
14.94	942	542	242	126	1.74															
130	3.44	423	278	109	55	1.52														
14.94	933	538	253	123	1.75															
326	3.44	441	297	92	54	1.48														
14.94	960	677	278	135	1.42															
650	3.44	429	292	107	64	1.47														
14.94	945	669	260	136	1.41															
1100	3.44	445	396	110	62	1.12														
14.94	958	664	258	137	1.44															
1300	3.44	427	339	107	66	1.26														
14.94	962	635	251	142	1.51															
1950	3.44	435	331	117	61	1.31														
14.94	954	584	274	143	1.61															
2200	3.44	398	328	88	46	1.21														
14.94	902	595	218	108	1.52															

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	1	0+50	Crushed Lime- stone	36	Heavy Clay	36	0	3.44	419	267	100	42	2.02
								14.94	940	476	227	92	1.98
							40	3.44	415	517	79	34	0.80
								14.94	939	905	224	70	1.04
							130	3.44	417	484	79	38	0.86
								14.94	919	804	202	78	1.14
							326	3.44	432	507	27	29	0.85
								14.94	951	971	55	67	0.98
							650	3.44	419	292	107	64	1.43
								14.94	924	845	85	84	1.09
							1100	3.44	442	448	84	36	1.01
								14.94	957	723	229	75	1.32
							1300	3.44	427	368	98	40	1.16
								14.94	952	729	233	88	1.31
							1950	3.44	430	428	77	54	1.00
								14.94	951	732	198	106	1.30
2200	3.44	392	367	63	16	1.07							
	14.94	898	710	206	38	1.26							
1	2	0+50	Crushed Lime- stone	9	Blend II	63	0	3.44	419	207	100	42	2.02
								14.94	940	476	227	92	1.97
							40	3.44	415	517	79	34	0.80
								14.94	939	905	224	71	1.04
							130	3.44	417	484	79	38	0.86
								14.94	919	804	202	78	1.14

(Continued)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+50 (Cont'd)					326	3.44	433	508	27	29	0.85
								14.94	951	971	55	67	0.98
							650	3.44	419	292	107	64	1.43
								14.94	924	845	85	84	1.09
							1100	3.44	442	448	84	36	1.01
								14.94	957	723	229	75	1.32
							1300	3.44	445	346	114	59	1.29
								14.94	965	682	281	137	1.41
							1950	3.44	431	453	133	69	0.95
								14.94	967	779	324	152	1.24
							2600	3.44	417	442	94	51	0.94
								14.94	905	707	229	110	1.28
1	2	0+52.25	Crushed Lime- stone	9	Blend II	63	0	3.44	386	454	87	37	0.85
								14.94	898	1040	256	93	0.86
							40	3.44	423	551	97	45	0.77
								14.94	938	1110	215	101	0.85
							130	3.44	417	593	117	75	0.70
								14.94	926	1115	265	111	0.83
							326	3.44	435	589	94	51	0.74
								14.94	954	1140	217	110	0.84
							650	3.44	431	600	133	51	0.72
								14.94	938	1110	235	100	0.85
							1100	3.44	441	750	124	54	0.59
								14.94	941	1240	234	107	0.76

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+52.25 (Cont'd)					1300	3.44 14.94	422 950	627 1105	129 265	55 120	0.67 0.86
							1950	3.44 14.94	435 938	736 1205	139 262	59 122	0.59 0.78
							2600	3.44 14.94	390 887	660 1165	97 239	45 105	0.59 0.76
1	2	0+53.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	392 906	319 861	73 227	36 97	1.23 1.05
							40	3.44 14.94	414 938	489 1020	97 257	48 112	0.85 0.92
							130	3.44 14.94	416 928	346 782	103 237	49 110	1.20 1.19
							326	3.44 14.94	436 950	514 1120	95 232	52 113	0.85 0.85
							650	3.44 14.94	421 927	520 1060	99 230	53 109	0.81 0.87
							1100	3.44 14.94	449 959	505 880	109 241	52 108	0.89 1.09
							1300	3.44 14.94	425 950	488 1105	120 265	54 120	0.87 0.86
							1950	3.44 14.94	431 940	458 862	124 283	58 126	0.94 1.09
							2600	3.44 14.94	411 899	455 845	97 223	46 105	0.90 1.06

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
1	2	0+55.00	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	388 895	361 739	88 193	34 89	1.07 1.21							
							40	3.44 14.94	416 939	356 764	87 207	46 100	1.17 1.23							
							130	3.44 14.94	413 922	344 670	89 202	45 105	1.20 1.38							
							326	3.44 14.94	438 949	362 758	85 198	47 102	1.21 1.25							
							650	3.44 14.94	427 932	360 635	88 200	48 106	1.19 1.47							
							1100	3.44 14.94	443 954	470 725	89 197	46 98	0.94 1.32							
							1300	3.44 14.94	423 956	366 696	89 210	46 107	1.16 1.37							
							1950	3.44 14.94	432 953	314 594	94 215	52 112	1.38 1.60							
							2600	3.44 14.94	406 913	265 550	70 172	40 95	1.53 1.66							
							1	2	0+56.75	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	388 895	313 631	91 198	39 86	1.24 1.42
														40	3.44 14.94	410 922	288 717	69 203	36 106	1.42 1.29
														130	3.44 14.94	412 928	282 656	96 233	32 104	1.46 1.41

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+56.75 (Cont'd)					326	3.44 14.94	423 927	280 653	76 194	46 108	1.51 1.42
							650	3.44 14.94	425 936	305 695	88 216	49 109	1.39 1.35
							1100	3.44 14.94	443 952	380 765	89 205	44 97	1.17 1.24
							1300	3.44 14.94	424 951	308 595	82 206	47 110	1.38 1.60
							1950	3.44 14.94	425 944	394 653	94 235	52 117	1.08 1.45
							2600	3.44 14.94	409 903	295 605	76 184	44 96	1.39 1.49
1	2	0+58.50	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	386 894	314 644	75 178	33 82	1.23 1.39
							40	3.44 14.94	416 936	395 727	97 231	37 78	1.05 1.29
							130	3.44 14.94	408 921	298 744	85 215	27 55	1.37 1.24
							326	3.44 14.94	435 941	333 756	77 189	28 59	1.31 1.24
							650	3.44 14.94	428 930	440 855	98 226	30 59	0.97 1.09
							1100	3.44 14.94	439 947	470 780	64 158	30 64	0.93 1.21
							1300	3.44 14.94	419 954	493 731	79 198	34 73	0.85 1.31

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+58.50 (Cont'd)					1950	3.44 14.94	426 945	369 686	85 209	33 76	1.15 1.38
							2600	3.44 14.94	398 898	380 730	47 140	19 41	1.05 1.23
1	2	0+60.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	393 910	190 466	76 194	38 88	2.07 1.95
							40	3.44 14.94	415 932	369 784	94 249	36 90	1.12 1.19
							130	3.44 14.94	415 923	326 784	69 186	32 84	1.27 1.18
							326	3.44 14.94	434 943	362 779	51 153	26 68	1.20 1.21
							650	3.44 14.94	416 921	345 805	60 171	32 78	1.21 1.14
							1100	3.44 14.94	437 947	360 735	80 199	38 87	1.21 1.29
							1300	3.44 14.94	417 951	305 660	64 189	37 92	1.37 1.44
							1950	3.44 14.94	425 948	398 776	74 201	46 95	1.07 1.22
							2600	3.44 14.94	401 900	370 710	49 137	26 61	1.08 1.27
1	2	0+61.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	390 901	249 560	82 195	40 88	1.57 1.61

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns				
			Top Layer		Bottom Layer												
			Material	Thickness in.	Material	Thickness in.											
1	2	0+61.25 (Cont'd)					40	3.44 14.94	413 923	404.5 850	88 234	37 95	1.02 1.09				
							130	3.44 14.94	412 928	336 690	75 185	39 99	1.23 1.34				
							326	3.44 14.94	437 945	308 746	79 195	41 95	1.42 1.27				
							650	3.44 14.94	426 930	370 760	93 223	45 102	1.15 1.22				
							1100	3.44 14.94	442 953	380 660	82 207	44 103	1.16 1.44				
							1300	3.44 14.94	420 946	388 731	81 193	44 105	1.08 1.29				
							1950	3.44 14.94	407 936	459 830	83 214	46 111	0.91 1.13				
							2600	3.44 14.94	396 905	310 640	65 164	80 115	1.28 1.41				
			1	2	0+62.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	418 931	230 537	78 186	42 90	1.82 1.73	
40	3.44 14.94	416 928								405 824	86 218	43 100	1.03 1.13				
130	3.44 14.94	407 925								425 728	96 206	45 103	0.96 1.27				
326	3.44 14.94	431 930								494 916	76 190	45 100	0.87 1.02				
650	3.44 14.94	423 926								315 840	90 209	45 104	1.34 1.10				

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns	
			Top Layer		Bottom Layer									
			Material	Thickness in.	Material	Thickness in.								
1	2	0+62.25 (Cont'd)					1100	3.44 14.94	438 954	340 660	90 207	49 103	1.29 1.45	
							1300	3.44 14.94	422 957	380 674	86 216	44 106	1.11 1.42	
							1950	3.44 14.94	453 976	507 814	85 220	49 115	0.89 1.20	
							2600	3.44 14.94	404 904	410 680	50 127	41 91	0.99 1.33	
1	2	0+63.93	Crushed Lime- stone	9	Blend II	63	0	3.44	419	256	85	41	1.64	
								14.94	931	571	199	98	1.63	
							40	3.44	400	311	82	48	1.29	
								14.94	930	704	214	105	1.32	
							130	3.44	416	408	97	48	1.02	
								14.94	923	739	227	110	1.25	
							326	3.44	425	435	81	53	0.98	
								14.94	941	693	204	112	1.36	
							650	3.44	418	305	85	49	1.37	
								14.94	925	755	209	108	1.23	
							1100	3.44	443	335	92	49	1.32	
								14.94	954	685	207	107	1.39	
							1300	3.44	421	285	88	47	1.48	
								14.94	955	558	215	113	1.71	
							1950	3.44	440	298	98	50	1.48	
								14.94	961	713	228	118	1.35	
							2600	3.44	--	--	--	--	--	
								14.94	--	--	--	--	--	

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns				
			Top Layer		Bottom Layer												
			Material	Thickness in.	Material	Thickness in.											
1	2	0+65.60	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	420 940	207 476	100 227	42 92	2.03 2.10				
		40					3.44 14.94	416 946	302 694	91 222	55 121	1.38 1.36					
		130					3.44 14.94	413 921	340 724	77 221	39 114	1.21 1.27					
		326					3.44 14.94	430 946	252 595	84 205	53 113	1.71 1.59					
		650					3.44 14.94	419 928	250 700	82 197	55 116	1.68 1.33					
		1100					3.44 14.94	435 944	520 750	90 208	55 118	0.84 1.26					
		1300					3.44 14.94	417 950	304 587	89 215	56 128	1.37 1.62					
		1950					3.44 14.94	438 961	301 605	90 224	57 134	1.46 1.59					
		2600					3.44 14.94	410 905	380 580	81 183	52 116	1.08 1.56					
1	2	0+67.28					Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	411 907	367 825	104 241	45 103	1.12 1.10
		40									3.44 14.94	409 922	390 803	59 179	39 82	1.05 1.15	
		130									3.44 14.94	411 910	348 690	66 145	31 79	1.18 1.32	
		326									3.44 14.94	414 929	307 688	26 129	37 89	1.35 1.35	

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	2	0+67.28 (Cont'd)									
1	2	0+68.96	Crushed Lime- stone	9	Blend II	63					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+68.96 (Cont'd)					2600	3.44 14.94	389 783	765 1470	410 858	73 131	0.51 0.53
1	2	0+70.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	381 887	343 841	100 251	44 104	1.11 1.05
							40	3.44 14.94	407 922	571 1125	-- 365	58 132	0.71 0.82
							130	3.44 14.94	409 919	508 1210	132 290	55 131	0.81 0.76
							326	3.44 14.94	426 930	614 1260	147 342	66 140	0.69 0.74
							650	3.44 14.94	422 918	690 1310	211 434	72 148	0.61 0.70
							1100	3.44 14.94	435 928	850 1530	187 410	72 140	0.51 0.61
							1300	3.44 14.94	426 959	793 1500	267 474	79 159	0.54 0.64
							1950	3.44 14.94	90 287	923 1635	309 548	90 177	0.10 0.18
							2600	3.44 14.94	384 867	985 1800	150 377	59 140	0.39 0.48
1	2	0+71.50	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	392 899	301 724	90 223	43 104	1.30 1.24
							40	3.44 14.94	415 924	465 980	119 289	56 131	0.89 0.94
							130	3.44 14.94	411 914	417 918	137 281	57 121	0.99 0.99

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+71.50 (Cont'd)					326	3.44	428	429	108	48	1.00
								14.94	936	878	257	123	1.07
							650	3.44	419	540	133	61	0.78
								14.94	917	1155	314	128	0.79
							1100	3.44	437	585	130	57	0.75
								14.94	937	1090	288	120	0.86
							1300	3.44	432	515	135	61	0.84
								14.94	967	995	312	130	0.97
							1950	3.44	325	509	147	64	0.64
								14.94	793	1035	332	140	0.77
							2600	3.44	402	440	98	51	0.91
								14.94	897	885	234	117	1.01
1	2	0+73.10	Crushed Lime- stone	9	Blend II	63	0	3.44	392	330	86	43	1.19
								14.94	896	693	190	98	1.29
							40	3.44	419	352	77	47	1.19
								14.94	934	770	218	118	1.21
							130	3.44	414	431	82	49	0.96
								14.94	917	772	203	112	1.19
							326	3.44	431	366	83	54	1.18
								14.94	935	758	200	114	1.23
							650	3.44	422	410	92	54	1.03
								14.94	923	785	216	120	1.18
							1100	3.44	440	315	86	51	1.40
								14.94	950	655	197	111	1.45
							1300	3.44	440	320	86	53	1.38
								14.94	980	655	205	116	1.50

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+73.10 (Cont'd)					1950	3.44 14.94	439 956	365 710	94 228	55 126	1.20 1.35
							2600	3.44 14.94	394 896	400 790	58 147	45 103	0.99 1.13
1	2	0+74.75	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	388 898	309 631	85 191	40 91	1.26 1.42
							40	3.44 14.94	418 928	323 670	99 219	41 112	1.29 1.39
							130	3.44 14.94	414 922	389 747	84 185	50 115	1.06 1.23
							326	3.44 14.94	427 936	390 745	80 193	48 107	1.09 1.26
							650	3.44 14.94	420 922	355 745	89 214	53 111	1.18 1.24
							1100	3.44 14.94	437 943	440 755	99 222	46 96	0.99 1.25
							1300	3.44 14.94	440 967	350 675	92 208	52 118	1.26 1.43
							1950	3.44 14.94	398 936	347 700	90 218	52 120	1.15 1.34
							2600	3.44 14.94	406 896	375 695	64 164	49 107	1.08 1.29
1	2	0+76.35	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	391 899	293 572	88 192	38 85	1.33 1.57

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns	
			Top Layer		Bottom Layer									
			Material	Thickness in.	Material	Thickness in.								
1	2	0+76.35 (Cont'd)					40	3.44	415	337	99	42	1.23	
								14.94	933	677	245	96	1.38	
							130	3.44	413	363	88	38	1.14	
								14.94	919	717	216	84	1.28	
							326	3.44	428	307	69	36	1.39	
								14.94	938	695	163	74	1.35	
							650	3.44	424	320	74	37	1.33	
								14.94	927	745	185	88	1.24	
							1100	3.44	432	385	59	26	1.12	
								14.94	933	755	168	59	1.24	
							1300	3.44	433	315	78	37	1.37	
								14.94	971	610	179	84	1.59	
							1950	3.44	435	352	90	43	1.24	
								14.94	949	846	213	89	1.12	
							2600	3.44	402	415	55	26	0.97	
								14.94	894	790	141	48	1.13	
1	2	0+77.96	Crushed Lime- stone	9	Blend II	63	0	3.44	389	295	80	35	1.32	
								14.94	897	636	192	85	1.41	
							40	3.44	416	423	72	35	0.98	
								14.94	921	887	210	76	1.04	
							130	3.44	415	391	81	351	1.06	
								14.94	918	740	215	82	1.24	
							326	3.44	426	333	61	47	1.28	
								14.94	932	733	170	74	1.27	
							650	3.44	422	315	69	34	1.34	
								14.94	919	820	178	68	1.12	

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+77.96 (Cont'd)					1100	3.44 14.94	421 932	555 940	63 173	38 83	0.76 0.99
							1300	3.44 14.94	434 966	345 620	75 191	34 73	1.26 1.56
							1950	3.44 14.94	177 491	422 791	80 216	40 90	0.42 0.62
							2600	3.44 14.94	402 891	435 850	71 193	35 79	0.92 1.05
1	2	0+79.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	394 909	261 563	85 193	35 83	1.51 1.61
							40	3.44 14.94	412 927	495 860	94 237	38 90	0.83 1.08
							130	3.44 14.94	414 913	438 770	78 186	43 94	0.95 1.19
							326	3.44 14.94	428 923	529 842	70 166	45 95	0.81 1.10
							650	3.44 14.94	418 917	320 805	66 177	44 94	1.31 1.14
							1100	3.44 14.94	422 942	465 715	71 165	44 97	0.91 1.32
							1300	3.44 14.94	425 969	360 760	72 180	45 104	1.18 1.28
							1950	3.44 14.94	417 931	455 808	80 212	48 115	0.92 1.15
							2600	3.44 14.94	397 897	405 795	67 183	37 89	0.98 1.13

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+80.54	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	430 942	233 529	92 187	45 93	1.85 1.78
						40	3.44 14.94	410 926	458 828	89 187	44 98	0.90 1.12	
						130	3.44 14.94	410 920	389 724	87 210	48 110	1.12 1.27	
						326	3.44 14.94	425 936	257 715	86 203	53 112	1.65 1.31	
						650	3.44 14.94	416 921	455 795	84 209	53 116	0.91 1.16	
						1100	3.44 14.94	416 942	410 810	95 211	51 107	1.01 1.16	
						1300	3.44 14.94	432 962	370 730	93 214	49 113	1.17 1.32	
						1950	3.44 14.94	326 686	440 828	105 253	55 123	0.74 0.83	
						2600	3.44 14.94	396 898	410 765	84 203	47 109	0.97 1.17	
1	2	0+82.07	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	428 949	254 552	91 199	47 110	1.69 1.72
						40	3.44 14.94	465 999	320 638	94 224	54 122	1.45 1.57	
						130	3.44 14.94	410 918	306 733	95 238	53 122	1.34 1.25	
						326	3.44 14.94	426 936	266 713	89 213	55 119	1.60 1.31	

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+82.07 (Cont'd)					650	3.44 14.94	419 928	360 730	94 225	54 121	1.16 1.27
							1100	3.44 14.94	421 945	340 785	91 211	53 114	1.24 1.20
							1300	3.44 14.94	429 963	285 550	95 217	60 129	1.51 1.75
							1950	3.44 14.94	409 925	433 778	97 235	59 134	0.94 1.19
							2600	3.44 14.94	397 900	355 670	78 190	52 114	1.12 1.34
1	2	0+83.60	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	424 941	230 497	99 208	51 112	1.84 1.89
							40	3.44 14.94	458 995	422 682	104 245	63 131	1.09 1.46
							130	3.44 14.94	403 914	290 705	93 219	55 126	1.39 1.30
							326	3.44 14.94	426 937	240 591	93 215	63 132	1.78 1.59
							650	3.44 14.94	418 921	370 710	96 244	60 131	1.13 1.30
							1100	3.44 14.94	419 947	315 605	101 222	61 131	1.33 1.57
							1300	3.44 14.94	425 963	355 680	98 231	63 140	1.20 1.42
							1950	3.44 14.94	404 907	432 697	99 244	64 151	0.94 1.30

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+83.60 (Cont'd)					2600	3.44 14.94	391 901	325 605	76 181	53 121	1.20 1.49
1	2	0+85.13	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	408 920	332 682	98 246	51 127	1.23 1.35
							40	3.44 14.94	445 983	505 969	79 222	62 145	0.88 1.01
							130	3.44 14.94	410 916	439 842	71 189	58 135	0.93 1.09
							326	3.44 14.94	419 931	324 695	94 240	74 169	1.29 1.34
							650	3.44 14.94	410 916	250 715	921 232	70 165	1.64 1.28
							1100	3.44 14.94	412 939	345 745	80 197	61 140	1.19 1.26
							1300	3.44 14.94	417 957	325 645	98 237	77 173	1.28 1.48
							1950	3.44 14.94	385 903	419 803	125 302	85 200	0.92 1.12
							2600	3.44 14.94	391 898	350 707	90 204	68 150	1.12 1.27
1	2	0+86.66	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	419 932	443 940	153 358	68 142	0.95 0.99
							40	3.44 14.94	439 969	707 1475	262 567	71 142	0.62 0.66
							130	3.44 14.94	405 908	350 876	157 386	89 192	1.16 1.03

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+86.66 (Cont'd)					326	3.44 14.94	417 926	455 975	222 514	103 187	0.92 0.95
							650	3.44 14.94	911 904	605 1205	234 548	111 231	0.68 0.75
							1100	3.44 14.94	260 554	595 1130	286 608	115 200	0.44 0.49
							1300	3.44 14.94	420 950	435 905	230 521	121 242	0.97 1.05
							1950	3.44 14.94	397 894	537 1075	284 627	141 303	0.74 0.83
							2600	3.44 14.94	390 890	480 1000	125 229	101 216	0.81 0.89
1	2	0+88.25	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	389 891	470 1067	127 322	51 116	0.83 0.84
							40	3.44 14.94	444 971	660 1205	125 285	67 139	0.67 0.81
							130	3.44 14.94	409 908	686 1385	246 523	67 146	0.60 0.66
							326	3.44 14.94	418 914	683 1280	222 474	74 154	0.61 0.71
							650	3.44 14.94	401 883	780 1645	294 576	73 153	0.51 0.54
							1100	3.44 14.94	418 921	760 1440	243 504	72 155	0.55 0.64
							1300	3.44 14.94	416 926	815 1577	402 375	77 162	0.51 0.59

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+88.25 (Cont'd)					1950	3.44 14.94	382 868	889 1675	364 704	84 170	0.43 0.52
							2600	3.44 14.94	387 875	745 1445	148 380	65 142	0.52 0.61
1	2	0+89.83	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	391 895	330 815	93 226	49 113	1.18 1.10
							40	3.44 14.94	447 971	624 1125	122 286	67 140	0.72 0.86
							130	3.44 14.94	406 906	551 1055	105 286	61 140	0.74 0.86
							326	3.44 14.94	418 922	425 990	116 284	61 132	0.98 0.93
							650	3.44 14.94	402 907	555 1185	123 306	66 142	0.72 0.77
							1100	3.44 14.94	319 669	555 1150	123 297	63 143	0.57 0.56
							1300	3.44 14.94	418 936	650 1260	117 300	61 143	0.64 0.74
							1950	3.44 14.94	395 896	492 864	105 257	65 148	0.80 1.04
							2600	3.44 14.94	432 887	690 1230	101 257	61 137	0.63 0.72
1	2	0+91.29	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	395 914	341 704	95 238	52 113	1.16 1.30
							40	3.44 14.94	450 978	524 929	116 246	65 133	0.86 1.05

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+91.29 (Cont'd)					130	3.44 14.94	409 924	352 758	93 235	57 132	1.16 1.22
							326	3.44 14.94	419 930	299 744	96 226	60 128	1.40 1.25
							650	3.44 14.94	413 914	485 890	101 230	58 126	0.85 1.03
							1100	3.44 14.94	419 935	447 885	100 224	59 127	0.94 1.06
							1300	3.44 14.94	405 929	387 720	87 205	78 134	1.05 1.29
							1950	3.44 14.94	389 912	271 702	99 252	64 146	1.44 1.30
							2600	3.44 14.94	405 896	390 775	81 195	53 117	1.04 1.16
1	2	0+92.75	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	396 891	287 685	93 209	45 93	1.38 1.30
							40	3.44 14.94	429 973	401 818	83 229	55 110	1.07 1.19
							130	3.44 14.94	413 919	350 748	97 228	51 107	1.18 1.23
							326	3.44 14.94	339 749	307 628	95 231	54 116	1.10 1.19
							650	3.44 14.94	412 909	410 805	97 219	55 121	1.00 1.13
							1100	3.44 14.94	422 945	395 800	98 219	51 105	1.07 1.18

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+92.75 (Cont'd)					1300	3.44	427	290	99	56	1.47
								14.94	955	560	232	119	1.71
							1950	3.44	413	382	102	59	1.08
								14.94	909	739	256	127	1.23
							2600	3.44	404	393	86	47	1.03
								14.94	901	710	202	99	1.27
1	2	0+94.21	Crushed Lime- stone	9	Blend II	63	0	3.44	429	307	102	41	1.40
								14.94	961	683	226	90	1.41
							40	3.44	441	436	--	51	1.01
								14.94	973	851	--	108	1.14
							130	3.44	410	441	53	46	0.93
								14.94	912	834	124	95	1.09
							326	3.44	420	344	--	52	1.22
								14.94	925	651	129	115	1.42
							650	3.44	411	460	82	53	0.89
								14.94	910	860	183	120	1.06
							1100	3.44	410	600	94	60	0.68
								14.94	945	800	219	105	1.18
							1300	3.44	420	367	73	58	1.14
								14.94	945	725	162	129	1.18
							1950	3.44	409	422	101	63	0.97
								14.94	908	801	234	137	1.13
							2600	3.44	394	405	88	52	0.97
								14.94	896	790	211	122	1.13

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+95.67	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	418 945	369 809	91 228	62 122	1.13 1.17
						40	3.44 14.94	433 965	475 1035	142 352	75 167		0.91 0.93
						130	3.44 14.94	409 909	480 946	115 298	65 161		0.85 0.96
						326	3.44 14.94	416 907	494 925	125 300	70 168		0.84 0.98
						650	3.44 14.94	414 906	495 965	128 318	74 171		0.84 0.94
						1100	3.44 14.94	420 918	675 1075	182 431	74 160		0.62 0.85
						1300	3.44 14.94	424 943	405 785	150 373	81 194		1.05 1.20
						1950	3.44 14.94	408 898	450 942	169 434	80 193		0.91 0.95
						2600	3.44 14.94	392 887	425 850	128 328	59 149		0.92 1.04
1	2	0+97.25	Crushed Lime- stone	9	Blend II	63	0	3.44	415	382	78	39	1.09
						40	3.44 14.94	402 834	533 995	64 178	49 105		0.75 0.84
						130	3.44 14.94	404 897	553 1060	140 351	59 134		0.73 0.85
						326*	3.44 14.94	116 175	363 847	134 315	58 127		0.32 0.21

(Continued)

\* FWD tilted due to uneven transition.

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	0+97.25 (Cont'd)					650	3.44 14.94	408 896	520 1140	128 299	55 132	0.78 0.79
							1100	3.44 14.94	420 926	440 955	135 301	56 129	0.95 0.97
							1300	3.44 14.94	416 925	435 930	189 423	68 145	0.98 0.99
							1950	3.44 14.94	403 904	524 1060	178 419	70 149	0.77 0.85
							2600	3.44 14.94	394 887	475 985	117 285	52 116	0.83 0.90
1	2	1+00	Crushed Lime- stone	9	Blend II	63	0	3.44 14.94	368 748	755 1615	-- 241	41 83	0.49 0.46
							40	3.44 14.94	441 959	524 1000	112 248	54 115	0.84 0.96
							130	3.44 14.94	404 906	496 1045	88 212	50 112	0.81 0.87
							326	3.44 14.94	420 861	594 1125	99 226	51 114	0.71 0.77
							650	3.44 14.94	408 907	565 1015	85 202	48 106	0.72 0.89
							1100	3.44 14.94	417 917	825 1120	102 208	49 101	0.51 0.82
							1300	3.44 14.94	206 413	310 645	83 194	51 106	0.66 0.64
							1950	3.44 14.94	389 899	499 955	99 247	55 125	0.78 0.94

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	2	1+00 (Cont'd)					2600	3.44 14.94	391 882	745 1187	76 164	44 98	0.52 0.74
1	3	1+00	Blend II	72	--	--	0	3.44 14.94	368 748	755 1615	-- 241	41 83	0.49 0.46
							40	3.44 14.94	441 959	524 1000	112 248	54 115	0.84 0.96
							130	3.44 14.94	404 906	496 1045	88 212	50 112	0.81 0.87
							326	3.44 14.94	420 861	594 1125	99 226	51 114	0.71 0.77
							650	3.44 14.94	408 907	565 1015	85 202	48 106	0.72 0.89
							1100	3.44 14.94	417 917	825 1120	102 208	49 101	0.51 0.82
							1300	3.44 14.94	206 413	310 645	83 194	51 106	0.66 0.64
							1950	3.44 14.94	389 899	499 955	99 247	55 125	0.78 0.94
							2600	3.44 14.94	391 882	745 1187	76 164	44 98	0.52 0.74
1	3	1+02	Blend II	72	--	--	0	3.44 14.94	402 900	651 1200	68 162	32 76	0.62 0.75
							40	3.44 14.94	445 963	628 1150	84 196	48 106	0.71 0.84
							130	3.44 14.94	403 899	555 1080	79 172	44 96	0.73 0.83

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	3	1+02 (Cont'd)									
1	3	1+04	Blend II	72	--	--					

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	3	1+04 (Cont'd)					1950	3.44 14.94	404 897	439 808	86 205	42 98	0.92 1.11
							2600	3.44 14.94	398 889	500 870	66 164	37 81	0.80 1.02
1	3	1+06	Blend II	72	--	--	0	3.44 14.94	413 926	435 1070	92 212	38 80	0.95 0.87
							40	3.44 14.94	445 959	616 1110	84 191	45 93	0.72 0.86
							130	3.44 14.94	409 908	466 1015	79 164	42 96	0.88 0.89
							326	3.44 14.94	415 925	530 950	84 187	43 92	0.78 0.97
							650	3.44 14.94	411 912	380 805	73 117	43 96	1.08 1.13
							1100	3.44 14.94	435 948	463 740	74 169	39 91	0.94 1.28
							1300	3.44 14.94	147 335	417 815	63 130	39 90	0.35 0.41
							1950	3.44 14.94	407 913	498 855	123 167	44 104	0.82 1.07
							2600	3.44 14.94	372 797	550 905	67 94	37 81	0.68 0.88
							1	3	1+12.5	Blend II	72	--	--
40	3.44 14.94	441 959	719 1270	74 165	45 96	0.61 0.76							

(Continued)

(Sheet 34 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	3	1+12.5 (Cont'd)									
1	3	1+25	Blend II	72	--	--					

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	3	1+25 (Cont'd)									
1	3	1+37.5	Blend II	72	--	--					

(Continued)

(Sheet 36 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	3	1+44	Blend II	72	--	--	0	3.44	414	553	73	40	0.75
							14.94	915	1070	141	78	0.86	
							40	3.44	433	577	65	43	0.75
							14.94	952	1030	135	91	0.92	
							130	3.44	402	589	68	44	0.68
							14.94	910	985	151	95	0.92	
							326	3.44	421	535	69	42	0.79
							14.94	917	1080	164	92	0.85	
							650	3.44	404	485	75	42	0.83
							14.94	902	840	178	95	1.07	
							1100	3.44	430	657	59	--	0.65
							14.94	941	985	137	--	0.96	
							1300	3.44	161	550	54	--	0.29
							14.94	326	927	136	--	0.35	
							1950	3.44	86	295	51	--	0.29
							14.94	327	844	144	--	0.39	
2600	3.44	398	550	61	--	0.72							
14.94	895	875	135	--	1.02								
1	3	1+46	Blend II	72	--	--	0	3.44	414	538	59	37	0.77
							14.94	909	1105	118	77	0.82	
							40	3.44	436	507	66	44	0.86
							14.94	956	868	140	93	1.10	
							130	3.44	406	442	64	43	0.92
							14.94	907	870	134	89	1.04	
							326	3.44	424	515	63	42	0.82
							14.94	912	1000	147	91	0.91	

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	3	1+46 (Cont'd)									
1	3	1+48	Blend II	72							

(Continued)

(Sheet 38 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	3	1+48 (Cont'd)					2600	3.44 14.94	391 883	607 985	-- --	-- --	0.64 0.90
1	3	1+50	Blend II	72	--	--	0	3.44 14.94	412 903	511 1080	66 194	37 78	0.81 0.84
							40	3.44 14.94	428 956	438 912	75 148	44 91	0.98 1.05
							130	3.44 14.94	406 906	427 884	80 170	42 91	0.95 1.02
							326	3.44 14.94	420 913	460 870	79 178	41 91	0.91 1.05
							650	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							1100	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							1300	3.44 14.94	403 907	600 965	79 179	-- --	0.67 0.94
							1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	393 884	345 645	68 153	-- --	1.14 1.37
1	4	1+50	Blend I	9	Blend II	63	0	3.44 14.94	412 903	511 1080	66 194	37 78	0.81 0.84
							40	3.44 14.94	428 956	438 912	75 148	44 91	0.98 1.05
							130	3.44 14.94	406 906	427 884	80 170	42 91	0.95 1.02

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns			
			Top Layer		Bottom Layer											
			Material	Thickness in.	Material	Thickness in.										
1	4	1+50 (Cont'd)					326	3.44 14.94	420 913	460 870	79 178	41 91	0.91 1.05			
							650	3.44 14.94	-- --	-- --	-- --	-- --	-- --			
							1100	3.44 14.94	-- --	-- --	-- --	-- --	-- --			
							1300	3.44 14.94	403 907	600 965	79 179	-- --	0.67 0.94			
							1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --			
							2600	3.44 14.94	393 884	345 645	68 153	-- --	1.14 1.37			
			1	4	1+52	Blend I	9	Blend II	63	0	3.44 14.94	410 907	411 1105	79 151	37 76	1.00 0.82
										40	3.44 14.94	441 956	453 980	88 197	44 91	0.97 0.98
										130	3.44 14.94	400 903	411 840	69 168	43 92	0.97 1.08
										326	3.44 14.94	-- --	-- --	-- --	-- --	-- --
										650	3.44 14.94	-- --	-- --	-- --	-- --	-- --
										1100	3.44 14.94	-- --	-- --	-- --	-- --	-- --
1300	3.44 14.94	242 541								370 735	74 171	40 87	0.65 0.74			

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	4	1+52 (Cont'd)					1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	398 894	395 690	-- --	-- --	1.01 1.30
1	4	1+54	Blend I	9	Blend II	63	0	3.44 14.94	412 910	471 1030	61 154	36 78	0.87 0.88
							40	3.44 14.94	436 954	529 1060	80 204	43 93	0.82 0.90
							130	3.44 14.94	400 902	354 886	75 176	45 93	1.13 1.02
							326	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							650	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							1100	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							1300	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	-- --	-- --	-- --	-- --	-- --
1	4	1+56	Blend I	9	Blend II	63	0	3.44 14.94	406 905	426 905	59 --	36 77	0.95 1.00
							40	3.44 14.94	431 952	526 1095	80 177	43 87	0.82 0.87

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	4	1+56 (Cont'd)									
					130	3.44 14.94	399 901	514 1045	78 165	45 91	0.78 0.86
					326	3.44 14.94	-- --	-- --	-- --	-- --	-- --
					650	3.44 14.94	-- --	-- --	-- --	-- --	-- --
					1100	3.44 14.94	-- --	-- --	-- --	-- --	-- --
					1300	3.44 14.94	-- --	-- --	-- --	-- --	-- --
					1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --
					2600	3.44 14.94	394 890	343 730	72 164	39 87	1.15 1.22
1	4	1+62.5	Blend I	9	Blend II	73					
					0	3.44 14.94	409 909	660 1135	71 159	36 78	0.62 0.80
					40	3.44 14.94	430 949	501 1015	99 206	45 90	0.86 0.93
					130	3.44 14.94	411 912	395 813	86 201	41 88	1.04 1.12
					326	3.44 14.94	421 924	400 925	75 170	42 87	1.05 1.00
					650	3.44 14.94	410 921	390 765	81 191	45 93	1.05 1.20
					1100	3.44 14.94	173 440	465 960	75 166	43 90	0.37 0.46

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns				
			Top Layer		Bottom Layer												
			Material	Thickness in.	Material	Thickness in.											
1	4	1+62.5 (Cont'd)					1300	3.44 14.94	410 899	560 980	73 166	41 91	0.73 0.92				
							1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --				
							2600	3.44 14.94	395 889	460 935	68 157	37 87	0.86 0.95				
1	4	1+75	Blend I	9	Blend II	63	0	3.44 14.94	419 918	414 930	76 162	38 82	1.01 0.99				
								40	3.44 14.94	430 951	385 983	83 186	45 97	1.12 0.97			
							130		3.44 14.94	404 907	473 928	84 196	45 98	0.85 0.98			
								326	3.44 14.94	418 922	395 675	82 181	41 91	1.06 1.37			
							650		3.44 14.94	414 920	460 1013	80 186	41 93	0.90 0.91			
								1100	3.44 14.94	436 921	460 795	74 162	45 89	0.95 1.16			
							1300		3.44 14.94	186 461	465 875	76 180	44 94	0.40 0.53			
								1950	3.44 14.94	-- --	-- --	-- --	-- --	-- --			
							2600		3.44 14.94	400 894	410 800	71 167	-- --	0.98 1.12			
1	4	1+87.5	Blend I	9	Blend II	63	0		3.44 14.94	417 914	539 1145	67 139	35 74	0.77 0.80			

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	4	1+87.5 (Cont'd)					40	3.44	320	536	77	41	0.60
								14.94	757	1105	171	86	0.69
							130	3.44	396	466	72	42	0.85
								14.94	909	1060	180	92	0.86
							326	3.44	421	465	73	40	0.91
								14.94	923	890	159	83	1.04
							650	3.44	415	430	87	42	0.97
								14.94	923	915	200	93	1.01
							1100	3.44	387	425	71	37	0.91
								14.94	740	745	170	80	0.99
							1300	3.44	193	495	71	--	0.39
								14.94	429	925	169	--	0.46
							1950	3.44	--	--	--	--	--
								14.94	--	--	--	--	--
							2600	3.44	397	490	72	--	0.81
								14.94	892	840	179	--	1.06
1	4	1+94	Blend I	9	Blend II	63	0	3.44	409	456	72	41	0.90
								14.94	912	1125	152	77	0.81
							40	3.44	432	495	78	42	0.87
								14.94	944	1045	181	121	0.90
							130	3.44	406	612	76	40	0.66
								14.94	907	1175	194	93	0.77
							326	3.44	415	620	77	43	0.67
								14.94	911	1295	182	--	0.70
							650	3.44	411	467	84	44	0.88
								14.94	910	927	185	95	0.98

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	4	1+94 (Cont'd)									
1	4	1+96	Blend I	9		63					

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	4	1+98	Blend I	9	Blend II	63	0	3.44	401	554	86	41	0.72
								14.94	903	1320	177	87	0.68
							40	3.44	421	613	64	48	0.69
								14.94	933	1265	119	106	0.74
							130	3.44	404	506	172	47	0.80
								14.94	802	1065	176	107	0.75
							326	3.44	416	590	187	49	0.70
								14.94	914	1160	222	108	0.79
							650	3.44	403	695	88	47	0.58
								14.94	897	1300	148	102	0.69
							1100	3.44	--	--	--	--	--
								14.94	--	--	--	--	--
							1300	3.44	--	--	--	--	--
								14.94	--	--	--	--	--
							1950	3.44	--	--	--	--	--
								14.94	--	--	--	--	--
							2600	3.44	--	--	--	--	--
								14.94	--	--	--	--	--
1	4	2+00	Blend I	9	Blend II	63	0	3.44	397	534	71	44	0.74
								14.94	904	1573	181	95	0.57
							40	3.44	423	724	108	48	0.58
								14.94	930	1387	254	110	0.67
							130	3.44	402	438	99	50	0.92
								14.94	842	1060	263	114	0.79
							326	3.44	363	475	111	49	0.76
								14.94	766	1165	268	113	0.66

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	4	2+00 (Cont'd)									
1	5	2+00	Silt	72	--	--					

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
1	5	2+00 (Cont'd)			2600	3.44 14.94	401 892	460 940	92 216	47 99	0.87 0.95
1	5	2+02	Silt	72	--	--					
					0	3.44 14.94	406 925	493 1380	64 205	46 95	0.82 0.67
					40	3.44 14.94	429 944	508 1155	114 268	51 112	0.84 0.82
					130	3.44 14.94	404 910	526 1260	104 272	47 112	0.77 0.72
					326	3.44 14.94	417 921	555 1180	112 273	50 112	0.75 0.78
					650	3.44 14.94	409 912	470 1100	114 280	48 112	0.87 0.83
					1100	3.44 14.94	427 916	530 1075	110 261	48 107	0.81 0.85
					1300	3.44 14.94	120 315	565 1205	101 258	47 113	0.21 0.26
					1950	3.44 14.94	373 892	516 1250	126 325	51 118	0.72 0.71
					2600	3.44 14.94	399 795	420 987	87 221	42 93	0.95 0.81
1	5	2+04	Silt	72	--	--					
					0	3.44 14.94	421 925	670 1595	97 212	41 94	0.63 0.58
					40	3.44 14.94	417 939	588 1570	116 284	50 114	0.71 0.60
					130	3.44 14.94	411 909	598 1375	114 288	46 118	0.69 0.66

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns			
			Top Layer		Bottom Layer											
			Material	Thickness in.	Material	Thickness in.										
1	5	2+04 (Cont'd)					326	3.44 14.94	411 912	635 1445	112 296	48 114	0.65 0.63			
							650	3.44 14.94	409 906	635 1447	103 278	47 115	0.64 0.63			
							1100	3.44 14.94	432 926	505 1145	112 281	50 113	0.86 0.81			
							1300	3.44 14.94	63 113	505 1165	99 260	47 115	0.12 0.10			
							1950	3.44 14.94	329 508	556 1395	147 348	55 128	0.59 0.36			
							2600	3.44 14.94	-- --	-- --	-- --	-- --	-- --			
			1	5	2+06	Silt	72	--	--	0	3.44 14.94	420 920	715 1740	93 206	44 95	0.59 0.53
										40	3.44 14.94	424 939	707 1570	120 284	50 114	0.60 0.60
										130	3.44 14.94	408 902	705 1530	111 289	49 118	0.58 0.59
										326	3.44 14.94	411 917	500 1255	113 295	51 117	0.82 0.73
										650	3.44 14.94	406 910	693 1360	99 283	78 118	0.59 0.67
										1100	3.44 14.94	434 920	510 1130	126 308	52 115	0.85 0.81
1300	3.44 14.94	114 283								690 1655	104 307	45 112	0.17 0.17			

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	5	2+06 (Cont'd)									
1	5	2+12.5	Silt	72							
1	5	2+25	Silt	72							

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer Material	Thickness in.							
1	5	2+25 (Cont'd)			130	3.44	391	681	97	47	0.57
						14.94	885	1635	286	126	0.54
					326	3.44	408	660	127	59	0.62
						14.94	913	1560	313	132	0.59
					650	3.44	404	640	109	50	0.63
						14.94	914	1513	299	127	0.60
					1100	3.44	428	730	121	54	0.59
						14.94	913	1490	292	123	0.61
					1300	3.44	409	710	116	56	0.58
						14.94	921	1685	310	137	0.55
					1950	3.44	367	705	128	59	0.52
						14.94	897	1690	356	143	0.53
					2600	3.44	392	535	91	45	0.73
						14.94	875	1357	245	107	0.64
1	5	2+37.5	Silt	72	0	3.44	422	750	112	46	0.56
						14.94	913	1720	238	94	0.53
					40	3.44	418	747	118	49	0.56
						14.94	937	1690	297	119	0.55
					130	3.44	406	567	104	48	0.72
						14.94	907	1425	291	120	0.64
					326	3.44	408	695	123	50	0.59
						14.94	914	1480	300	119	0.62
					650	3.44	399	683	111	45	0.58
						14.94	900	1407	298	116	0.64
					1100	3.44	432	640	109	57	0.68
						14.94	920	1335	274	121	0.69

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
1	5	2+37.5 (Cont'd)					1300	3.44 14.94	408 930	555 1305	119 323	51 124	0.74 0.71
							1950	3.44 14.94	428 945	645 1350	119 323	54 132	0.66 0.70
							2600	3.44 14.94	403 890	465 1220	89 226	42 99	0.87 0.73
1	5	2+44	Silt	72	--	--	0	3.44 14.94	405 912	710 1783	95 211	39 91	0.57 0.51
							40	3.44 14.94	412 929	763 1635	120 288	51 119	0.54 0.57
							130	3.44 14.94	407 906	653 1505	117 287	49 117	0.62 0.60
							326	3.44 14.94	402 914	595 1485	109 283	49 117	0.68 0.62
							650	3.44 14.94	400 913	545 1300	116 295	49 116	0.73 0.70
							1100	3.44 14.94	425 917	565 1240	104 261	48 111	0.75 0.74
							1300	3.44 14.94	402 922	595 1400	98 279	48 121	0.68 0.66
							1950	3.44 14.94	412 928	625 1405	111 299	52 125	0.66 0.66
							2600	3.44 14.94	403 900	470 1105	87 222	43 98	0.86 0.81
1	5	2+46	Silt	72	--	--	0	3.44 14.94	408 908	760 1940	98 220	38 92	0.54 0.47

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	5	2+46 (Cont'd)									
1	5	2+48	Silt	72							

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
1	5	2+48 (Cont'd)									
					1100	3.44	435	545	111	48	0.80
						14.94	932	1155	277	115	0.81
					1300	3.44	407	750	110	50	0.54
						14.94	914	1535	297	125	0.60
					1950	3.44	373	770	120	54	0.48
						14.94	917	1570	317	127	0.58
					2600	3.44	394	445	83	44	0.89
						14.94	891	1100	218	99	0.81
1	5	2+50	Silt	72	--	--					
					0	3.44	402	855	103	42	0.47
						14.94	905	2060	246	90	0.44
					40	3.44	409	686	105	45	0.60
						14.94	927	1570	268	107	0.59
					130	3.44	398	628	103	47	0.63
						14.94	901	1445	267	111	0.62
					326	3.44	405	610	111	47	0.66
						14.94	912	1420	282	108	0.64
					650	3.44	418	605	107	48	0.69
						14.94	909	1290	282	113	0.76
					1100	3.44	426	555	111	48	0.77
						14.94	926	1235	272	109	0.75
					1300	3.44	407	540	103	44	0.75
						14.94	922	1310	286	116	0.70
					1950	3.44	377	610	113	52	0.62
						14.94	902	1415	318	127	0.64
					2600	3.44	393	545	85	44	0.72
						14.94	888	1185	226	101	0.75

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
2	1	0+00	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44 14.94	-- 911	-- 510	-- 174	-- 103	-- 1.79							
							40	3.44 14.94	420 934	287 613	99 250	76 150	1.46 1.52							
							130	3.44 14.94	412 818	410 892	102 253	65 138	1.00 0.92							
							326	3.44 14.94	432 943	276 645	113 275	71 141	1.57 1.46							
							650	3.44 14.94	459 997	364 763	126 306	72 154	1.26 1.31							
							1300	-- --	-- --	-- --	-- --	-- --	-- --							
							2600	3.44 14.94	438 943	419 797	105 258	64 135	1.05 1.18							
							2	1	0+02	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44 14.94	-- 916	-- 180	-- 126	-- 100	-- 5.09
														40	3.44 14.94	426 946	229 500	40 155	60 144	1.86 1.89
														130	3.44 14.94	428 939	293 558	71 200	65 144	1.46 1.68
														326	3.44 14.94	429 954	352 645	82 275	69 141	1.22 1.48
														650	3.44 14.94	467 999	262 647	-- --	78 168	1.78 1.54

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
2	1	0+02 (Cont'd)					1300	--	--	--	--
								--	--	--	--
							2600	3.44	436	430	1.01
								14.94	936	683	1.37
2	1	0+04	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44	--	--	--
								14.94	907	511	1.77
							40	3.44	426	299	1.42
								14.94	934	566	1.65
							130	3.44	425	366	1.16
								14.94	935	700	1.34
							326	3.44	433	314	1.38
								14.94	946	585	1.62
							650	3.44	469	337	1.39
								14.94	997	617	1.62
							1300	--	--	--	--
								--	--	--	--
							2600	3.44	406	272	1.49
								14.94	814	604	1.35
2	1	0+06	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44	--	--	--
								14.94	916	263	3.48
							40	3.44	421	235	1.79
								14.94	932	476	1.96
							130	3.44	427	170	2.51
								14.94	950	393	2.42
							326	3.44	429	249	1.72
								14.94	939	522	1.80

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+06 (Cont'd)					650	3.44	462	285	141	75	1.62
								14.94	999	590	328	161	1.69
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	431	207	126	71	2.08
								14.94	924	521	296	151	1.77
2	1	0+12.5	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44	408	112	68	42	3.64
								14.94	925	250	157	104	3.70
							40	3.44	422	142	82	51	2.97
								14.94	941	325	210	129	2.90
							130	3.44	431	147	89	56	2.93
								14.94	943	336	227	134	2.81
							326	3.44	423	161	93	59	2.63
								14.94	938	376	243	138	2.49
							650	3.44	461	235	123	72	1.96
								14.94	987	524	306	151	1.88
							1300	3.44	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	431	230	120	65	1.87
								14.94	923	512	288	139	1.80
2	1	0+25	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44	--	--	--	--	--
								14.94	923	303	166	89	3.05
							40	3.44	424	184	104	56	2.30
								14.94	952	402	261	137	2.37

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+25 (Cont'd)					130	3.44 14.94	428 940	219 476	115 262	62 140	1.95 1.97
							326	3.44 14.94	430 949	210 478	113 272	64 147	2.05 1.99
							650	3.44 14.94	459 999	226 476	122 293	71 155	2.03 2.10
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	431 899	162 429	104 241	65 140	2.66 2.10
2	1	0+37.5	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44 14.94	408 929	94 218	68 155	46 105	4.34 4.26
							40	3.44 14.94	420 941	143 332	84 213	52 130	2.94 2.83
							130	3.44 14.94	409 931	136 325	83 214	52 129	3.01 2.86
							326	3.44 14.94	418 942	250 523	116 287	56 142	1.67 1.80
							650	3.44 14.94	462 997	184 382	97 233	59 136	2.51 2.61
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	430 917	171 424	107 260	63 137	2.51 2.16
2	1	0+44	Cement Stab. Blend I	29	Heavy Clay	43	0	3.44 14.94	-- 925	-- 258	-- 186	-- 129	-- 3.59

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
2	1	0+44 (Cont'd)									
2	1	0+46	Cement Stab. Blend I	29	Heavy Clay	43					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	1	0+48	Cement Stab. Blend I	29	Heavy Clay	43	0	-- --	-- 920	-- 478	-- 214	-- 97	-- 1.92
							40	3.44 14.94	420 931	255 534	121 289	54 140	1.65 1.74
							130	3.44 14.94	394 907	261 560	120 295	55 139	1.51 1.62
							326	3.44 14.94	415 939	277 562	124 310	55 139	1.50 1.67
							650	3.44 14.94	444 992	265 588	143 329	72 152	1.68 1.69
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	412 917	309 682	132 324	60 143	1.33 1.34
2	1	0+50	Cement Stab. Blend I	29	Heavy Clay	43	0	-- --	-- 906	-- 448	-- 219	-- 98	-- 2.02
							40	3.44 14.94	411 935	330 769	177 440	60 138	1.25 1.22
							130	3.44 14.94	423 925	462 854	221 448	42 139	0.92 1.08
							326	3.44 14.94	407 917	631 1135	238 512	63 165	0.65 0.81
							650	3.44 14.94	436 967	349 666	219 459	66 159	1.25 1.45
							1300	-- --	-- --	-- --	-- --	-- --	-- --

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
2	1	0+50 (Cont'd)			2600	3.44	413	461	194	55	0.90
						14.94	910	871	407	140	1.04
2	2	0+50		TRANSITION	0	--	--	--	--	--	--
						--	906	448	219	98	2.02
					40	3.44	411	330	177	60	1.25
						14.94	935	769	440	138	1.22
					130	3.44	423	462	221	42	0.92
						14.94	925	854	448	139	1.08
					326	3.44	407	631	238	63	0.65
						14.94	917	1135	512	165	0.81
					650	3.44	436	349	219	66	1.25
						14.94	967	666	459	159	1.45
					1300	--	--	--	--	--	--
						--	--	--	--	--	--
2	2	0+52.25	Cement Stab. Blend II	Blend II	0	3.44	409	297	123	50	1.38
						14.94	919	607	250	99	1.51
					40	3.44	414	741	340	103	0.56
						14.94	940	1415	642	202	0.66
					130	3.44	427	1045	536	150	0.41
						14.94	930	1650	885	262	0.56
					326	3.44	403	1080	512	98	0.37
						14.94	917	1815	858	185	0.51
					650	3.44	432	1210	541	122	0.36
						14.94	952	1965	922	197	0.48

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+52.25 (Cont'd)					1300	--	--	--	--	--	--
							2600	3.44 14.94	387 889	2040 2377	770 1210	86 167	0.19 0.37
2	2	0+53.25	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	411 925	220 448	106 218	45 102	1.87 2.06
							40	3.44 14.94	413 946	710 1230	311 576	81 181	0.58 0.77
							130	3.44 14.94	417 928	890 1510	346 603	78 152	0.47 0.61
							326	3.44 14.94	420 936	760 1270	226 438	63 131	0.55 0.74
							650	3.44 14.94	447 958	897 1475	220 420	50 113	0.50 0.65
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	405 910	960 1593	142 315	50 112	0.42 0.57
2	2	0+55	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	406 921	153 328	86 194	46 104	2.65 2.81
							40	3.44 14.94	413 946	710 1230	311 576	81 181	0.58 0.77
							130	3.44 14.94	415 939	351 703	112 249	53 113	1.18 1.34
							326	3.44 14.94	422 939	348 640	101 227	48 107	1.21 1.47

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns				
			Top Layer	Bottom Layer											
			Material	Thickness in.								Material	Thickness in.		
2	2	0+55 (Cont'd)			650	3.44 14.94	433 970	303 607	99 235	52 110	1.43 1.60				
					1300	-- --	-- --	-- --	-- --	-- --	-- --				
					2600	3.44 14.94	401 915	315 873	82 205	47 99	1.27 1.05				
2	2	0+56.75	Cement Stab. . Blend II	12	Blend II	60	0	3.44 14.94	408 566	164 186	79 104	41 58	2.49 3.04		
							40	3.44 14.94	416 939	228 628	112 270	59 141	1.82 1.50		
							130	3.44 14.94	415 939	351 703	112 249	53 113	1.18 1.34		
							326	3.44 14.94	417 937	247 508	99 245	62 131	1.69 1.84		
							650	3.44 14.94	441 989	265 540	112 251	49 123	1.66 1.83		
							1300	-- --	-- --	-- --	-- --	-- --	-- --		
							2600	3.44 14.94	398 902	257 495	74 195	59 117	1.55 1.82		
2	2	0+58.50	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	410 926	160 293	86 183	50 98	2.56 3.16		
							40	3.44 14.94	417 927	247 536	163 382	89 206	1.69 1.73		
							130	3.44 14.94	404 912	293 622	177 396	80 182	1.38 1.47		

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+58.50 (Cont'd)					326	3.44 14.94	421 943	290 614	213 465	79 186	1.45 1.54
							650	3.44 14.94	436 967	349 666	219 459	66 159	1.25 1.45
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	354 669	384 736	291 532	58 130	0.92 0.91
							0	3.44 14.94	399 913	184 370	94 204	44 98	2.17 2.47
								40	3.44 14.94	414 929	464 929	276 570	100 207
							130	3.44 14.94	418 915	661 1115	275 449	88 160	0.63 0.82
							326	3.44 14.94	413 930	649 1150	349 613	77 155	0.64 0.81
							650	3.44 14.94	439 954	859 1315	484 818	79 139	0.51 0.72
							1300	-- --	-- --	-- --	-- --	-- --	-- --
2	2	0+60.25	Cement Stab. Blend II	12	Blend II	60	2600	3.44 14.94	400 903	995 2055	511 886	107 263	0.40 0.44
							0	3.44 14.94	402 913	177 392	93 205	43 93	2.27 2.33
								40	3.44 14.94	419 940	562 986	296 544	95 187
							0	3.44 14.94	402 913	177 392	93 205	43 93	2.27 2.33
								40	3.44 14.94	419 940	562 986	296 544	95 187
							0	3.44 14.94	402 913	177 392	93 205	43 93	2.27 2.33
								40	3.44 14.94	419 940	562 986	296 544	95 187
							0	3.44 14.94	402 913	177 392	93 205	43 93	2.27 2.33
								40	3.44 14.94	419 940	562 986	296 544	95 187
							0	3.44 14.94	402 913	177 392	93 205	43 93	2.27 2.33

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
2	2	0+61.25 (Cont'd)					130	3.44 14.94	412 920	631 1090	264 419	58 117	0.65 0.84							
							326	3.44 14.94	412 933	725 1150	262 468	45 102	0.57 0.81							
							650	3.44 14.94	433 967	825 1345	268 462	46 107	0.52 0.72							
							1300	-- --	-- --	-- --	-- --	-- --	-- --							
							2600	3.44 14.94	407 901	1325 1940	333 541	36 71	0.31 0.46							
			2	2	0+62.25	Cement Stab. Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --	-- --				
											40	3.44 14.94	408 929	515 932	209 394	61 140	0.79 1.00			
											130	3.44 14.94	415 909	643 1025	213 381	47 109	0.65 0.89			
											326	3.44 14.94	422 937	593 960	170 325	49 110	0.71 0.98			
											650	3.44 14.94	428 973	444 840	128 277	52 114	0.96 1.16			
1300	-- --	-- --									-- --	-- --	-- --	-- --						
2600	3.44 14.94	399 902									772 1320	129 267	49 102	0.52 0.68						
2	2	0+63.93									Cement Stab. Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
2	2	0+63.93 (Cont'd)									
2	2	0+65.60	Cement Stab. Blend II	12	Blend II	60					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+67.28	Cement Stab. Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --	-- --
							40	3.44 14.94	410 932	368 664	226 459	91 215	1.11 1.40
							130	3.44 14.94	429 934	459 868	299 607	131 292	0.93 1.08
							326	3.44 14.94	417 941	403 813	265 572	120 287	1.03 1.16
							650	3.44 14.94	419 951	341 760	263 568	112 236	1.23 1.25
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	253 652	361 705	265 514	80 203	0.70 0.92
2	2	0+68.96	Cement Stab. Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --	-- --
							40	3.44 14.94	409 925	537 1005	317 681	145 332	0.76 0.92
							130	3.44 14.94	419 922	770 1380	486 960	233 484	0.54 0.67
							326	3.44 14.94	416 919	819 1395	541 1040	253 491	0.51 0.66
							650	3.44 14.94	429 939	896 1485	654 1205	275 490	0.48 0.63
							1300	-- --	-- --	-- --	-- --	-- --	-- --

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+68.96 (Cont'd)					2600	3.44 14.94	274 740	1270 2440	859 1680	336 598	0.22 0.30
2	2	0+70.25	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	409 922	211 438	123 266	53 116	1.94 2.11
							40	3.44 14.94	409 917	725 1460	402 791	114 226	0.56 0.63
							130	3.44 14.94	419 913	1055 1825	501 852	88 173	0.40 0.50
							326	3.44 14.94	404 909	1120 1990	628 1075	109 199	0.36 0.46
							650	3.44 14.94	412 920	1345 2205	632 1080	60 123	0.31 0.42
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	377 844	1680 2780	719 1200	72 132	0.22 0.30
2	2	0+71.50	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	404 920	186 400	108 224	48 107	2.17 2.30
							40	3.44 14.94	410 921	667 1230	299 544	74 157	0.61 0.75
							130	3.44 14.94	417 926	822 1435	249 510	53 120	0.51 0.65
							326	3.44 14.94	410 911	931 1490	225 460	61 148	0.44 0.61
							650	3.44 14.94	425 953	635 1155	149 339	58 132	0.67 0.83

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+71.50 (Cont'd)					1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	391	1010	171	58	0.39
								14.94	876	1700	396	124	0.52
2	2	0+73.10	Cement Stab. Blend II	12	Blend II	60	0	3.44	407	140	84	47	2.91
								14.94	918	290	183	105	3.17
							40	3.44	405	384	133	56	1.05
								14.94	917	720	288	135	1.27
							130	3.44	421	280	101	57	1.50
								14.94	935	560	247	129	1.67
							326	3.44	422	440	115	60	0.96
								14.94	924	854	269	139	1.08
							650	3.44	426	317	84	65	1.34
								14.94	951	642	225	130	1.48
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	402	303	90	56	1.33
								14.94	898	612	193	120	1.47
2	2	0+74.75	Cement Stab. Blend II	12	Blend II	60	0	3.44	398	156	88	45	2.55
								14.94	919	285	184	102	3.22
							40	3.44	409	247	275	149	1.66
								14.94	919	519	275	149	1.77
							130	3.44	430	228	147	78	1.89
								14.94	944	487	321	173	1.94
							326	3.44	432	286	112	66	1.51
								14.94	950	600	293	167	1.58

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns	
			Top Layer		Bottom Layer									
			Material	Thickness in.	Material	Thickness in.								
2	2	0+74.75 (Cont'd)					650	3.44 14.94	424 952	248 533	111 295	72 162	1.71 1.79	
							1300	-- --	-- --	-- --	-- --	-- --	-- --	
							2600	3.44 14.94	404 905	219 507	102 248	69 163	1.84 1.79	
2	2	0+76.35	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	394 924	135 292	85 191	41 98	2.92 3.16	
							40	3.44 14.94	402 919	236 505	146 364	70 185	1.70 1.82	
							130	3.44 14.94	414 928	332 682	234 497	75 186	1.25 1.36	
							326	3.44 14.94	423 944	350 774	287 590	83 197	1.21 1.22	
							650	3.44 14.94	419 934	388 801	310 612	63 131	1.08 1.17	
							1300	-- --	-- --	-- --	-- --	-- --	-- --	
							2600	3.44 14.94	397 893	449 916	420 737	92 200	0.88 0.97	
							2	2	0+77.96	Cement Stab. Blend II	12	Blend II	60	0
40	3.44 14.94	404 912	451 859	246 496	96 207	0.90 1.06								
130	3.44 14.94	407 926	622 1060	311 592	112 227	0.65 0.87								

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer Material	Thickness in.							
2	2	0+77.96 (Cont'd)									
2	2	0+79.25	Cement Stab. Blend II	12	Blend II	60					
2	2	0+80.54	Cement Stab. Blend II	12	Blend II	60					

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+80.54 (Cont'd)					130	3.44 14.94	406 915	522 960	205 409	61 139	0.78 0.95
							326	3.44 14.94	417 922	583 1050	206 424	64 143	0.72 0.88
							650	3.44 14.94	417 945	343 704	119 288	41 121	1.22 1.34
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	392 892	730 1345	149 314	52 117	0.54 0.66
2	2	0+82.07	Cement Stab. Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --	-- --
							40	3.44 14.94	409 928	188 428	108 258	52 129	2.18 2.17
							130	3.44 14.94	411 929	267 573	129 280	57 123	1.54 1.62
							326	3.44 14.94	421 941	279 588	99 255	58 128	1.51 1.60
							650	3.44 14.94	422 953	228 572	101 248	51 109	1.85 1.67
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	379 786	290 627	105 292	55 119	1.31 1.25
2	2	0+83.60	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	416 943	117 264	83 193	48 114	3.56 3.57

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
2	2	0+83.60 (Cont'd)									
2	2	0+85.13	Cement Stab. Blend II	12	Blend II	60					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+86.66	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	409 938	124 288	88 211	52 122	3.03 3.26
							40	3.44 14.94	407 923	245 608	188 465	94 233	1.66 1.52
							130	3.44 14.94	412 921	440 905	299 676	122 300	0.94 1.02
							326	3.44 14.94	241 678	549 1150	360 840	149 364	0.44 0.59
							650	3.44 14.94	417 933	783 1450	517 1060	220 443	0.53 0.64
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	396 873	950 1560	560 1280	313 688	0.42 0.56
2	2	0+88.25	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	395 912	158 353	107 245	58 142	2.50 2.58
							40	3.44 14.94	402 913	448 977	222 547	75 185	0.90 0.93
							130	3.44 14.94	415 912	760 1440	394 806	109 231	0.55 0.63
							326	3.44 14.94	407 880	1345 2215	571 1050	112 215	0.30 0.40
							650	3.44 14.94	406 887	1710 2540	788 1210	102 189	0.24 0.35
							1300	-- --	-- --	-- --	-- --	-- --	-- --

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+88.25 (Cont'd)					2600	3.44 14.94	302 681	2570 2290	1170 2020	132 150	0.12 0.30
2	2	0+89.83	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	387 909	160 376	98 252	54 142	2.42 2.42
							40	3.44 14.94	401 925	416 851	176 393	52 144	0.96 1.09
							130	3.44 14.94	409 921	724 1320	215 444	54 134	0.56 0.70
							326	3.44 14.94	416 900	1165 1825	282 519	60 142	0.36 0.49
							650	3.44 14.94	423 928	1430 2230	237 472	55 132	0.30 0.42
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	364 847	1970 2705	170 185	41 98	0.18 0.31
2	2	0+91.29	Cement Stab. Blend II	12	Blend II	60	0	3.44 14.94	392 910	215 413	140 261	73 147	1.82 2.20
							40	3.44 14.94	405 923	259 574	113 272	52 122	1.56 1.61
							130	3.44 14.94	418 928	345 686	120 277	52 117	1.21 1.35
							326	3.44 14.94	424 938	459 875	115 267	52 127	0.92 1.07
							650	3.44 14.94	415 941	300 622	102 269	60 139	1.38 1.51

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	2	0+91.29 (Cont'd)					1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	234	430	110	55	0.54
								14.94	533	1005	265	138	0.53
2	2	0+92.75	Cement	12	Blend II	60	0	3.44	411	182	122	67	2.50
			Stab.					14.94	911	403	263	122	2.16
			Blend II				40	3.44	402	196	94	45	2.05
								14.94	919	457	254	120	2.01
							130	3.44	416	199	104	52	2.09
								14.94	923	493	255	116	1.87
							326	3.44	415	257	117	59	1.61
								14.94	935	569	288	139	1.64
							650	3.44	424	369	138	37	1.15
								14.94	956	617	299	98	1.55
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	388	220	95	34	1.76
								14.94	897	570	255	70	1.57
2	2	0+94.21	Cement	12	Blend II	60	0	3.44	393	212	117	46	1.85
			Stab.					14.94	916	380	218	104	2.41
			Blend II				40	3.44	399	198	126	57	2.02
								14.94	921	487	323	138	1.89
							130	3.44	407	245	137	56	1.66
								14.94	914	568	373	140	1.61
							326	3.44	418	442	160	52	0.95
								14.94	942	749	360	153	1.26

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
2	2	0+94.21 (Cont'd)					650	3.44	295	466	143	44	0.63							
								14.94	709	864	320	109	0.82							
							1300	--	--	--	--	--	--							
								--	--	--	--	--	--							
							2600	3.44	381	345	80	35	1.01							
								14.94	901	740	220	67	1.22							
							2	2	0+95.67	Cement Stab. Blend II	12	Blend II	60	0	3.44	388	121	64	42	3.21
															14.94	556	191	106	58	2.91
40	3.44	408	326	172	86	1.25														
	14.94	926	619	354	184	1.50														
130	3.44	406	357	204	91	1.14														
	14.94	921	799	432	196	1.15														
326	3.44	426	536	215	85	0.79														
	14.94	928	905	447	200	1.03														
650	3.44	424	537	269	91	0.79														
	14.94	949	974	497	181	0.97														
1300	--	--	--	--	--	--														
	--	--	--	--	--	--														
2600	3.44	379	370	115	57	1.02														
	14.94	803	790	255	114	1.02														
2	2	0+97.25	Cement Stab. Blend II	12	Blend II	60	0	3.44	397	102	--	37	3.89							
								14.94	920	235	79	87	3.91							
							40	3.44	406	338	194	94	1.20							
								14.94	927	649	391	200	1.42							
							130	3.44	409	434	113	53	0.94							
								14.94	928	822	119	112	1.13							

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
2	2	0+97.25 (Cont'd)																		
														326	3.44	421	499	259	47	0.84
															14.94	933	918	470	99	1.02
														650	3.44	423	499	63	31	0.85
															14.94	959	951	85	69	1.01
														1300	--	--	--	--	--	--
															--	--	--	--	--	--
														2600	3.44	387	390	235	43	0.99
															14.94	894	610	190	86	1.47
														2	3	1+02	Lean mix Concrete Blend II	12	Blend II	60
14.94	918	140	108	76	6.56															
40	3.44	416	104	76	49	4.08														
	14.94	929	258	185	119	3.60														
130	3.44	422	147	89	53	2.87														
	14.94	930	344	211	122	2.70														
326	3.44	486	185	99	56	2.63														
	14.94	944	411	236	137	2.30														
650	3.44	439	186	119	65	2.36														
	14.94	956	386	262	148	2.48														
1300	--	--	--	--	--	--														
	--	--	--	--	--	--														
2600	3.44	399	154	71	45	2.59														
	14.94	905	320	152	97	2.83														
2	3	1+04	Lean mix Concrete Blend II	12	Blend II	60	0	--	--	--	--	--	--							
									--	920	126	102	72	7.30						
								40	3.44	416	74	58	42	5.62						
									14.94	939	181	146	104	5.19						

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
2	3	1+04 (Cont'd)					130	3.44 14.94	415 935	123 271	83 188	55 128	3.32 3.45							
							326	3.44 14.94	428 947	181 365	127 263	88 185	2.36 2.59							
							650	3.44 14.94	416 948	254 479	184 360	104 228	1.64 1.98							
							1300	-- --	-- --	-- --	-- --	-- --	-- --							
							2600	3.44 14.94	398 902	194 336	105 203	45 102	2.05 2.68							
			2	3	1+06	Lean mix Concrete Blend II	12	Blend II	60	0	-- --	-- 919	-- 130	-- 103	-- 74	-- 7.07				
										40	3.44 14.94	411 945	74 186	58 143	42 107	5.55 5.08				
										130	3.44 14.94	421 932	108 241	81 188	55 134	3.90 3.87				
										326	3.44 14.94	430 959	151 314	116 259	90 206	2.85 3.05				
										650	3.44 14.94	423 945	210 421	140 315	112 246	2.01 2.24				
1300	-- --	-- --								-- --	-- --	-- --	-- --							
2600	3.44 14.94	394 895								141 283	104 210	60 125	2.79 3.16							
2	3	1+12.5								Lean mix Concrete Blend II	12	Blend II	60	0	3.44 14.94	401 920	58 132	50 105	33 76	6.91 6.97

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
2	3	1+12.5 (Cont'd)			40	3.44 14.94	408 937	168 369	108 234	53 126	2.43 2.55
					130	-- --	-- --	-- --	-- --	-- --	-- --
					326	-- --	-- --	-- --	-- --	-- --	-- --
					650	-- --	-- --	-- --	-- --	-- --	-- --
					1300	-- --	-- --	-- --	-- --	-- --	-- --
					2600	3.44 14.94	393 897	215 412	111 224	33 87	1.83 2.18
2	3	1+18.75	Lean mix Concrete Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --
							40	-- --	-- --	-- --	-- --
							130	3.44 14.94	420 935	102 234	54 126
							326	3.44 14.94	433 950	140 303	97 217
							650	3.44 14.94	423 945	170 368	123 276
							1300	-- --	-- --	-- --	-- --
							2600	-- --	-- --	-- --	-- --

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+25	Lean mix Concrete Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --	-- --
							40	3.44 14.94	403 931	154 378	113 189	61 153	2.62 2.47
							130	3.44 14.94	419 941	281 539	154 294	66 127	1.49 1.75
							326	3.44 14.94	424 940	200 453	185 361	69 137	2.12 2.08
							650	3.44 14.94	427 948	187 426	149 303	52 105	2.28 2.23
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	387 893	203 400	101 219	42 92	1.91 2.23
2	3	1+31.25	Lean mix Concrete Blend II	12	Blend II	60	0	-- --	-- --	-- --	-- --	-- --	-- --
							40	-- --	-- --	-- --	-- --	-- --	-- --
							130	3.44 14.94	411 927	77 183	60 143	43 107	5.34 5.09
							326	3.44 14.94	434 949	107 244	90 209	66 155	4.06 3.89
							650	3.44 14.94	426 946	121 280	87 206	58 141	3.52 3.26
							1300	-- --	-- --	-- --	-- --	-- --	-- --

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+31.25 (Cont'd)					2600	-- --	-- --	-- --	-- --	-- --	-- --
2	3	1+37.5	Lean mix Concrete Blend II	12	Blend II	60	0	3.44 14.94	403 914	59 134	49 107	35 78	6.83 6.82
							40	3.44 14.94	402 919	198 485	102 239	57 129	2.03 1.89
							130	-- --	-- --	-- --	-- --	-- --	-- --
							326	-- --	-- --	-- --	-- --	-- --	-- --
							650	-- --	-- --	-- --	-- --	-- --	-- --
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	395 894	235 448	108 235	43 99	1.68 1.99
2	3	1+44	Lean mix Concrete Blend II	12	Blend II	60	0	14.94	917	144	110	79	6.37
							40	3.44 14.94	409 942	94 217	72 179	54 131	4.35 4.34
							130	3.44 14.94	421 939	102 238	88 209	54 131	4.12 3.94
							326	3.44 14.94	430 950	170 354	127 273	64 143	2.53 2.68

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+44 (Cont'd)					650	--	--	--	--	--	--
								--	--	--	--	--	--
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	391	184	93	49	2.13
								14.94	890	357	212	113	2.49
2	3	1+46	Lean mix Concrete Blend II	12	Blend II	60	0	14.94	924	138	121	99	6.70
							40	3.44	407	125	92	65	3.26
								14.94	928	284	223	180	3.27
							130	3.44	418	121	93	68	3.45
								14.94	936	303	232	170	3.10
							326	3.44	423	169	79	38	2.50
								14.94	949	395	231	126	2.40
							650	3.44	422	193	132	42	2.19
								14.94	943	409	292	102	2.31
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	390	186	73	40	2.10
								14.94	887	375	315	93	2.37
2	3	1+48	Lean mix Concrete Blend II	12	Blend II	60	0	14.94	922	192	212	64	4.80
							40	3.44	405	153	167	38	2.64
								14.94	931	368	409	97	2.53
							130	3.44	408	160	169	37	2.55
								14.94	910	366	409	79	2.49
							326	3.44	429	161	182	43	2.25
								14.94	941	373	415	102	2.53

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	3	1+48 (Cont'd)					650	3.44 14.94	412 943	212 432	113 299	43 95	1.94 2.18
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	386 896	152 351	143 338	87 195	2.54 2.55
2	4	1+52	Cement Stab. Blend I	12	Blend II	60	0	14.94	899	351	176	86	2.56
							40	3.44 14.94	409 921	302 662	138 267	46 101	1.35 1.39
							130	3.44 14.94	415 916	386 659	158 277	48 95	1.08
							326	3.44 14.94	425 952	316 580	104 234	42 97	1.34 1.64
							650	3.44 14.94	305 379	280 565	89 204	37 86	1.09
							1300	-- --	-- --	-- --	-- --	-- --	-- --
							2600	3.44 14.94	385 888	304 557	66 176	35 84	1.26 1.59
2	4	1+54	Cement Stab. Blend I	12	Blend II	60	0	14.94	911	392	180	91	2.33
							40	3.44 14.94	413 926	470 735	101 220	27 88	0.88 1.26
							130	3.44 14.94	382 910	328 754	85 207	41 87	1.16 1.21
							326	3.44 14.94	419 948	389 646	74 216	38 90	1.08 1.47

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	4	1+54 (Cont'd)					650	3.44	419	376	89	37	1.11
								14.94	945	632	206	88	1.50
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	387	315	58	36	1.22
								14.94	893	564	155	80	1.58
2	4	1+56	Cement Stab. Blend I	12	Blend II	60	0	14.94	910	304	172	90	2.99
							40	3.44	418	223	84	37	1.87
								14.94	933	490	205	90	1.90
							130	3.44	411	216	86	38	1.90
								14.94	927	467	209	82	1.99
							326	3.44	429	235	76	44	1.83
								14.94	953	482	184	95	1.98
							650	3.44	418	293	104	37	1.43
								14.94	935	542	236	84	1.73
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	380	217	63	37	1.75
	14.94	887	473	158	83	1.88							
2	4	1+62.5	Cement Stab. Blend I	12	Blend II	60	0	3.44	397	149	79	40	2.66
								14.94	909	336	183	93	2.70
							40	3.44	415	208	92	36	1.99
								14.94	929	425	212	88	2.19
							130	3.44	399	185	77	34	2.15
								14.94	902	422	196	86	2.13

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
2	4	1+62.5 (Cont'd)									
2	4	1+75	Cement Stab. Blend	12	Blend II	60					
2	4	1+87.5	Cement Stab. Blend I	12	Blend II	60					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
2	4	1+87.5 (Cont'd)									
2	4	1+94	Cement Stab. Blend I	12	Blend II	60					
2	4	1+96	Cement Stab. Blend I	12	Blend II	60					

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
2	4	1+96 (Cont'd)									
2	4	1+98	Cement Stab. Blend I	12	Blend II	60					
2	4	2+00	Cement Stab. Blend I	12	Blend II	60					

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	4	2+00 (Cont'd)					130	3.44	414	281	104	40	1.47
								14.94	918	571	243	93	1.60
							326	3.44	425	453	118	44	0.94
								14.94	953	765	291	104	1.25
							650	3.44	421	321	100	38	1.31
								14.94	934	652	265	92	1.43
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	379	316	88	42	1.20
								14.94	882	687	248	85	1.28
2	5	2+00	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	903	541	196	90	1.67
							40	3.44	421	329	106	37	1.28
								14.94	923	625	248	98	1.48
							130	3.44	414	281	104	40	1.47
								14.94	918	571	243	93	1.60
							326	3.44	425	453	118	44	0.94
								14.94	953	765	291	104	1.25
							650	3.44	421	321	100	38	1.31
								14.94	934	652	265	92	1.43
							1300	--	--	--	--	--	--
	--	--	--	--	--	--							
2	5	2+02	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	903	541	196	90	1.67
							40	3.44	419	256	99	38	1.64
								14.94	928	540	242	103	1.72

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	5	2+02 (Cont'd)					130	3.44	413	255	97	41	1.62
								14.94	921	550	242	96	1.67
							326	3.44	424	327	118	44	1.30
								14.94	951	709	301	112	1.34
							650	3.44	418	254	112	46	1.66
								14.94	938	689	296	109	1.36
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	383	268	115	42	1.43
								14.94	887	674	296	99	1.32
2	5	2+04	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	910	339	165	98	2.68
							40	3.44	421	201	90	42	2.09
								14.94	938	459	236	108	2.04
							130	3.44	408	216	84	40	1.89
								14.94	917	483	235	104	1.90
							326	3.44	416	355	105	45	1.17
								14.94	929	745	293	121	1.25
							650	3.44	429	274	108	44	1.57
								14.94	934	602	281	113	1.55
							1300	--	--	--	--	--	--
	--	--	--	--	--	--							
							2600	3.44	381	367	85	36	1.04
								14.94	884	628	251	104	1.41
2	5	2+06	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	909	282	173	95	3.22
							40	3.44	422	195	89	42	2.16
								14.94	936	438	226	105	2.14

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns			
			Top Layer		Bottom Layer											
			Material	Thickness in.	Material	Thickness in.										
2	5	2+06 (Cont'd)					130	3.44 14.94	413 928	198 445	100 241	43 103	2.09 2.06			
							326	3.44 14.94	422 945	293 633	126 331	49 137	1.44 1.49			
							650	3.44 14.94	419 946	240 579	113 287	44 107	1.75 1.63			
							1300	-- --	-- --	-- --	-- --	-- --	-- --			
							2600	3.44 14.94	390 889	330 659	108 277	41 103	1.18 1.35			
			2	5	2+12.5	Cement Stab. Blend II	16	Silt-ML	56	0	3.44 14.94	390 908	130 310	74 189	38 97	3.00 2.93
										40	3.44 14.94	419 947	175 405	95 246	44 114	2.39 2.33
										130	3.44 14.94	410 905	235 518	95 248	44 112	1.74 1.75
										326	3.44 14.94	422 944	283 614	115 306	48 130	1.49 1.54
										650	3.44 14.94	422 931	230 573	103 288	44 122	1.83 1.62
1300	-- --	-- --								-- --	-- --	-- --	-- --			
2600	3.44 14.94	389 888								230 553	102 275	45 121	1.69 1.61			

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	5	2+25	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	918	238	152	89	3.86
							40	3.44	418	180	86	42	2.32
								14.94	934	396	217	111	2.36
							130	3.44	410	235	95	43	1.74
								14.94	905	518	248	212	1.75
							326	3.44	423	225	106	49	1.88
								14.94	953	494	274	135	1.93
							650	3.44	428	230	107	52	1.86
								14.94	930	505	269	129	1.84
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	388	225	88	38	1.72
								14.94	891	487	246	106	1.83
2	5	2+37.5	Cement Stab. Blend II	16	Silt-ML	56	0	3.44	392	141	70	35	2.77
							40	14.94	907	290	167	95	3.13
								3.44	411	152	85	42	2.70
							130	14.94	930	357	219	112	2.61
								3.44	423	142	85	46	2.98
							326	14.94	915	328	202	106	2.79
								3.44	414	198	101	54	2.09
							650	14.94	946	475	270	136	1.99
								3.44	422	180	86	45	2.34
							1300	14.94	940	402	214	109	2.34
								--	--	--	--	--	--
							2600	--	--	--	--	--	--
								3.44	385	215	76	38	1.80
(Continued)	14.94	887	521	257	112	1.70							

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	5	2+44	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	911	230	161	97	3.96
							40	3.44	411	140	84	40	2.94
								14.94	934	353	218	108	2.65
							130	3.44	399	132	79	41	3.02
								14.94	905	313	198	102	2.89
							326	3.44	423	180	97	46	2.35
								14.94	950	434	256	121	2.19
							650	3.44	411	214	98	45	1.92
								14.94	936	479	176	116	2.19
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	384	196	100	52	1.96
								14.94	887	506	281	127	1.75
2	5	2+46	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	907	256	165	95	3.54
							40	3.44	393	150	77	35	2.62
								14.94	913	355	218	106	2.57
							130	3.44	397	149	80	41	2.56
								14.94	899	345	202	102	2.60
							326	3.44	418	185	96	42	2.70
								14.94	942	451	257	113	2.09
							650	3.44	421	252	99	45	1.67
								14.94	924	531	273	117	1.74
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	383	205	100	50	1.87
								14.94	882	510	280	117	1.72

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
2	5	2+48	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	904	320	160	90	2.83
							40	3.44	409	177	86	39	2.31
								14.94	921	391	226	108	2.36
							130	3.44	397	160	77	39	2.48
								14.94	905	375	201	101	2.41
							326	3.44	416	226	93	42	1.84
								14.94	941	502	255	112	1.87
							650	3.44	422	231	102	46	1.83
								14.94	932	525	279	111	1.78
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	387	285	91	39	1.36
								14.94	883	620	256	102	1.42
2	5	2+50	Cement Stab. Blend II	16	Silt-ML	56	0	14.94	904	325	160	90	2.78
							40	3.44	417	185	93	35	2.25
								14.94	931	418	239	96	2.23
							130	3.44	413	181	89	44	2.28
								14.94	920	398	215	99	2.31
							326	3.44	415	221	99	41	1.88
								14.94	946	503	264	105	1.88
							650	3.44	420	255	102	43	1.65
								14.94	933	557	282	98	1.68
							1300	--	--	--	--	--	--
								--	--	--	--	--	--
							2600	3.44	389	246	87	40	1.58
								14.94	886	583	239	97	1.52

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Material	Thickness in.	Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer									
			Material	Thickness in.									
3	1	0+00	Crushed Lime- stone	29	Heavy Clay	43	0	3.44	--	--	--	--	--
								14.94	906	581	179	110	1.56
							40	3.44	422	452	98	59	0.93
								14.94	429	332	79	57	1.29
							130	3.44	437	362	107	67	1.21
								14.94	964	688	240	142	1.40
							326	3.44	434	330	109	66	1.32
								14.94	962	706	242	135	1.36
							650	3.44	434	451	110	69	0.96
								14.94	957	908	245	155	1.05
							1300	3.44	429	396	127	76	1.08
								14.94	955	771	308	165	1.24
							2600	3.44	406	379	100	63	1.07
								14.94	937	775	245	144	1.21
3	1	0+02	Crushed Lime- stone	29	Heavy Clay	43	0	3.44	--	--	--	--	--
								14.94	906	581	179	110	1.56
							40	3.44	429	332	79	57	1.29
								14.94	955	603	183	125	1.58
							130	3.44	443	334	96	63	1.33
								14.94	967	611	218	138	1.58
							326	3.44	433	305	102	62	1.42
								14.94	963	637	220	133	1.51
							650	3.44	436	377	110	69	1.16
								14.94	968	773	256	152	1.25
							1300	3.44	431	407	110	70	1.06
								14.94	947	768	267	156	1.23

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns	
			Top Layer		Bottom Layer									
			Material	Thickness in.	Material	Thickness in.								
3	1	0+02 (Cont'd)					2600	3.44 14.94	423 934	393 789	114 258	66 143	1.08 1.18	
3	1	0+04	Crushed Lime- stone	29	Heavy Clay	43	0	3.44 14.94	-- 907	-- 615	-- 154	-- 111	-- 111	-- 1.47
							40	3.44 14.94	425 947	342 640	92 205	61 132	61 132	1.24 1.48
							130	3.44 14.94	438 968	336 643	95 213	64 138	64 138	1.30 1.51
							326	3.44 14.94	426 951	361 711	103 223	64 134	64 134	1.18 1.34
							650	3.44 14.94	436 966	292 599	89 216	72 152	72 152	1.49 1.61
							1300	3.44 14.94	429 955	314 637	118 274	74 168	74 168	1.37 1.50
							2600	3.44 14.94	408 931	357 724	111 259	68 149	68 149	1.14 1.29
3	1	0+06	Crushed Lime- stone	29	Heavy Clay	43	0	3.44 14.94	-- 910	-- 497	-- 172	-- 106	-- 106	-- 1.83
							40	3.44 14.94	427 949	312 606	101 219	58 127	58 127	1.37 1.57
							130	3.44 14.94	426 955	403 756	99 227	65 131	65 131	1.06 1.26
							326	3.44 14.94	434 952	289 571	108 232	65 136	65 136	1.50 1.67
							650	3.44 14.94	433 961	335 725	117 266	73 157	73 157	1.29 1.33

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns	
			Top Layer		Bottom Layer									
			Material	Thickness in.	Material	Thickness in.								
3	1	0+06 (Cont'd)					1300	3.44 14.94	427 947	375 743	117 279	70 159	1.14 1.27	
							2600	3.44 14.94	413 920	429 793	114 269	69 148	0.96 1.16	
3	1	0+12.5	Crushed Lime- stone	29	Heavy Clay	43	0	3.44 14.94	405 927	365 645	79 171	48 103	1.11 1.44	
							40	3.44 14.94	423 946	310 608	91 210	59 130	1.36 1.56	
							130	3.44 14.94	431 970	260 548	92 207	64 131	1.66 1.77	
							326	3.44 14.94	434 944	357 659	103 225	66 135	1.22 1.43	
							650	3.44 14.94	434 969	262 601	111 262	68 155	1.66 1.61	
							1300	3.44 14.94	428 954	340 742	118 281	71 160	1.26 1.29	
							2600	3.44 14.94	406 928	386 821	113 280	70 160	1.05 1.13	
							3	1	0+25	Crushed Lime- stone	29	Heavy Clay	43	0
40	3.44 14.94	424 942	296 559	77 172	54 116	1.43 1.69								
130	3.44 14.94	420 955	307 671	79 205	59 130	1.37 1.42								
326	3.44 14.94	420 949	300 583	88 211	57 135	1.40 1.63								

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	1	0+25 (Cont'd)					650	3.44 14.94	436 968	289 634	113 267	67 149	1.51 1.53
							1300	3.44 14.94	421 952	286 605	93 257	66 144	1.47 1.57
							2600	3.44 14.94	415 932	347 695	115 282	65 146	1.20 1.34
3	1	0+37.5	Crushed Lime- stone	29	Heavy Clay	43	0	3.44 14.94	415 933	137 278	47 107	36 81	3.03 3.36
							40	3.44 14.94	422 941	253 436	81 187	51 111	1.67 2.16
							130	3.44 14.94	442 959	294 517	92 190	58 123	1.50 1.85
							326	3.44 14.94	438 957	314 596	89 199	62 129	1.39 1.61
							650	3.44 14.94	433 961	317 600	98 228	64 139	1.37 1.60
							1300	3.44 14.94	427 939	364 675	108 248	67 144	1.17 1.39
							2600	3.44 14.94	417 934	331 648	101 241	63 140	1.26 1.44
							3	1	0+44	Crushed Lime- stone	29	Heavy Clay	43
40	3.44 14.94	418 931	284 605	85 188	54 113	1.47 1.54							
130	3.44 14.94	421 951	342 681	99 230	58 123	1.23 1.40							

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
3	1	0+44 (Cont'd)					326	3.44 14.94	432 956	330 654	102 235	64 132	1.31 1.46							
							650	3.44 14.94	433 967	296 623	102 241	65 138	1.46 1.55							
							1300	3.44 14.94	418 942	302 700	104 252	65 139	1.38 1.35							
							2600	3.44 14.94	409 937	321 694	101 253	58 132	1.27 1.35							
							3	1	0+46	Crushed Lime- stone	29	Heavy Clay	43	0	3.44 14.94	-- 952	-- 311	-- 119	-- 84	-- 3.06
							40							3.44 14.94	419 929	273 529	90 200	51 112	1.53 1.76	
							130							3.44 14.94	432 931	279 564	88 210	53 116	1.55 1.65	
							326							3.44 14.94	422 948	313 609	88 211	63 166	1.35 1.56	
							650							3.44 14.94	425 960	308 651	93 222	59 128	1.38 1.47	
							1300							3.44 14.94	418 943	309 651	98 240	64 138	1.35 1.45	
2600	3.44 14.94	402 914	320 635	91 234	54 117	1.26 1.44														
3	1	0+48	Crushed Lime- stone	29	Heavy Clay	43	0							3.44 14.94	-- 935	-- 286	-- 128	-- 86	-- 3.27	
40							3.44 14.94							414 923	387 678	81 184	51 114	1.07 1.36		

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
3	1	0+48 (Cont'd)					130	3.44 14.94	421 949	305 637	83 203	58 116	1.38 1.49							
							326	3.44 14.94	432 943	398 663	95 208	56 116	1.09 1.42							
							650	3.44 14.94	429 965	265 583	91 213	56 117	1.62 1.66							
							1300	3.44 14.94	421 946	326 649	100 245	56 129	1.29 1.46							
							2600	3.44 14.94	404 937	325 637	86 209	50 110	1.24 1.47							
			3	1	0+50	Crushed Lime- stone	29	Heavy Clay	43	0	3.44 14.94	-- 934	-- 365	-- 148	-- 85	-- 2.56				
										40	3.44 14.94	417 919	313 615	83 185	50 105	1.33 1.49				
										130	3.44 14.94	438 942	423 750	84 181	55 121	1.04 1.26				
										326	3.44 14.94	434 951	314 593	71 159	46 99	1.38 1.60				
										650	3.44 14.94	422 955	288 628	77 193	52 112	1.47 1.52				
1300	3.44 14.94	417 941								337 648	85 209	55 122	1.24 1.45							
2600	3.44 14.94	404 929								342 725	80 205	54 109	1.18 1.28							
3	2	0+50												0	3.44 14.94	-- 934	-- 365	-- 148	-- 85	-- 2.56

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
3	2	0+50 (Cont'd)									
3	2	0+52	Crushed Lime- stone	12		Blend II	60				

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	2	0+54	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	-- 922	-- 566	-- 173	-- 84	-- 1.63
							40	3.44 14.94	408 907	343 718	90 213	46 104	1.19 1.26
							130	3.44 14.94	418 948	286 592	58 165	45 94	1.46 1.60
							326	3.44 14.94	419 945	336 617	63 165	43 95	1.25 1.53
							650	3.44 14.94	424 956	298 581	74 184	46 106	1.42 1.65
							1300	3.44 14.94	408 935	299 627	80 197	51 114	1.36 1.49
							2600	3.44 14.94	403 938	259 579	69 177	44 102	1.56 1.62
3	2	0+56	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	-- 928	-- 490	-- 168	-- 83	-- 1.89
							40	3.44 14.94	407 909	302 683	89 216	45 104	1.35 1.33
							130	3.44 14.94	426 944	318 615	67 174	46 96	1.34 1.53
							326	3.44 14.94	426 944	281 531	59 148	25 83	1.52 1.78
							650	3.44 14.94	421 946	306 578	70 171	47 108	1.38 1.64
							1300	3.44 14.94	416 934	343 666	74 179	47 111	1.21 1.40

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	2	0+56 (Cont'd)					2600	3.44 14.94	406 939	273 560	65 170	43 102	1.49 1.68
3	2	0+62.5	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	409 927	252 501	81 174	42 88	1.62 1.85
							40	3.44 14.94	405 926	273 626	77 194	46 103	1.48 1.48
							130	3.44 14.94	416 941	414 789	90 177	44 96	1.00 1.19
							326	3.44 14.94	410 934	332 624	62 152	40 92	1.23 1.50
							650	3.44 14.94	422 952	328 599	80 190	45 109	1.29 1.59
							1300	3.44 14.94	414 940	250 528	86 209	50 113	1.66 1.78
							2600	3.44 14.94	413 940	278 622	76 192	45 108	1.49 1.51
3	2	0+75	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	-- 924	-- 480	-- 179	-- 85	-- 1.93
							40	3.44 14.94	411 917	339 711	90 208	50 109	1.21 1.29
							130	3.44 14.94	414 944	308 671	64 168	47 103	1.34 1.41
							326	3.44 14.94	414 936	304 641	60 148	40 92	1.36 1.46
							650	3.44 14.94	420 953	271 589	69 179	49 111	1.55 1.62

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	2	0+75 (Cont'd)					1300	3.44 14.94	412 931	361 692	72 186	49 115	1.14 1.35
							2600	3.44 14.94	412 945	284 597	72 190	46 110	1.45 1.58
3	2	0+87.5	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	410 926	275 522	90 188	41 90	1.49 1.77
							40	3.44 14.94	414 914	338 652	76 178	45 99	1.22 1.40
							130	3.44 14.94	419 941	254 606	77 160	45 97	1.65 1.55
							326	3.44 14.94	417 939	316 639	60 149	42 91	1.32 1.47
							650	3.44 14.94	417 943	317 649	67 182	47 107	1.32 1.45
							1300	3.44 14.94	407 925	299 663	72 194	51 113	1.36 1.40
							2600	3.44 14.94	411 946	270 568	67 174	46 109	1.52 1.67
3	2	0+94	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	-- 924	-- 523	-- 210	-- 91	-- 1.77
							40	3.44 14.94	413 914	327 652	78 184	43 100	1.26 1.63
							130	3.44 14.94	417 933	274 572	64 161	44 94	1.52 1.63
							326	3.44 14.94	430 940	295 579	73 152	99 87	1.46 1.62

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns			
			Top Layer		Bottom Layer											
			Material	Thickness in.	Material	Thickness in.										
3	2	0+94 (Cont'd)					650	3.44 14.94	417 946	263 569	67 177	44 105	1.59 1.66			
							1300	3.44 14.94	404 919	314 608	74 200	47 110	1.29 1.51			
							2600	3.44 14.94	412 939	269 580	72 182	43 101	1.53 1.62			
3	2	0+96	Crushed Lime- stone.	12	Blend II	60	0	3.44 14.94	-- 917	-- 663	-- 208	-- 94	-- 1.38			
							40	3.44 14.94	407 909	348 631	69 165	46 102	1.17 1.44			
							130	3.44 14.94	415 938	258 772	62 166	67 103	1.61 1.22			
							326	3.44 14.94	420 942	302 620	64 152	44 96	1.39 1.52			
							650	3.44 14.94	419 939	257 608	82 188	47 106	1.63 1.54			
							1300	3.44 14.94	395 909	274 601	68 186	60 115	1.44 1.51			
							2600	3.44 14.94	407 944	289 586	71 167	45 103	1.41 1.61			
							3	2	0+98	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	-- 915
40	3.44 14.94	407 911	336 688	84 194	42 94	1.21 1.32										
130	3.44 14.94	422 947	304 598	71 183	42 96	1.39 1.58										

(Continued)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	2	0+98 (Cont'd)					326	3.44 14.94	425 947	317 583	71 158	42 88	1.34 1.62
							650	3.44 14.94	417 943	286 624	75 192	44 100	1.46 1.51
							1300	3.44 14.94	416 935	414 895	105 266	57 136	1.00 1.04
3	2	1+00	Crushed Lime- stone	12	Blend II	60	0	3.44 14.94	-- 738	-- 715	-- 204	-- 88	-- 1.03
							40	3.44 14.94	406 914	339 668	60 176	45 100	1.20 1.37
							130	3.44 14.94	420 944	265 635	67 173	43 97	1.58 1.49
							326	3.44 14.94	421 949	287 591	69 158	43 91	1.47 1.61
							650	3.44 14.94	419 939	376 669	75 185	45 105	1.11 1.40
							1300	3.44 14.94	398 915	340 793	71 191	46 109	1.17 1.15
							2600	3.44 14.94	409 938	351 689	77 192	45 103	1.17 1.36
							3	3	1+00	TRANSITION			
40	3.44 14.94	406 914	339 668	60 176	45 100	1.20 1.37							
130	3.44 14.94	420 944	265 635	67 173	43 97	1.58 1.49							

(Continued)

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Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns			
			Top Layer		Bottom Layer											
			Material	Thickness in.	Material	Thickness in.										
3	3	1+00 (Cont'd)					326	3.44 14.94	421 949	287 591	69 158	43 91	1.47 1.61			
							650	3.44 14.94	419 939	376 669	75 185	45 105	1.11 1.40			
							1300	3.44 14.94	398 915	340 793	71 191	46 109	1.17 1.15			
							2600	3.44 14.94	409 938	351 689	77 192	45 103	1.17 1.36			
			3	3	1+02	Blend II* Op- timum	6	Blend II	66	0	3.44 14.94	-- 908	-- 995	-- 240	-- 95	-- 0.91
										40	3.44 14.94	397 916	300 703	73 204	44 99	1.32 1.30
										130	3.44 14.94	424 953	292 617	77 193	45 98	1.45 1.54
										326	3.44 14.94	425 948	317 619	74 177	43 100	1.34 1.53
650	3.44 14.94	415 943								349 662	76 192	46 108	1.19 1.42			
1300	3.44 14.94	403 931								261 666	80 208	49 107	1.54 1.40			
2600	3.44 14.94	412 938								280 599	82 201	46 105	1.47 1.57			
3	3	1+04								Blend II* Op- timum	6	Blend II	66	0	3.44 14.94	-- 909
			40	3.44 14.94	401 919	184 632	74 215	46 102	2.18 1.45							
			(Continued)													

(Continued)

\* Double bituminous surface treatment.



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	3	1+04 (Cont'd)					130	3.44	411	346	78	42	1.19
								14.94	941	761	198	96	1.24
							326	3.44	414	294	73	42	1.41
								14.94	945	654	178	96	1.44
							650	3.44	416	339	85	45	1.23
								14.94	943	700	201	105	1.35
							1300	3.44	401	356	83	50	1.13
								14.94	925	835	217	109	1.11
							2600	3.44	412	277	80	45	1.49
								14.94	930	637	198	102	1.46
3	3	1+06	Blend II* Op- timum	6	Blend II	66	0	3.44	--	--	--	--	--
								14.94	912	864	242	98	1.06
							40	3.44	398	285	88	44	1.40
								14.94	906	624	212	102	1.45
							130	3.44	411	268	73	46	1.53
								14.94	945	702	192	100	1.35
							326	3.44	413	291	74	45	1.42
								14.94	944	682	186	95	1.38
							650	3.44	416	299	84	46	1.39
								14.94	941	632	199	108	1.49
							1300	3.44	404	327	86	46	1.24
								14.94	921	693	222	112	1.33
3	3	1+12.5	Blend II* Op- timum	6	Blend II	66	0	3.44	410	311	98	45	1.32
								14.94	917	688	215	99	1.33

(Continued)

(Continued)

\* Double bituminous surface treatment.

(Sheet 108 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
3	3	1+12.5 (Cont'd)			40	3.44 14.94	410 917	300 678	89 202	46 100	1.37 1.35
					130	3.44 14.94	422 949	252 603	78 186	45 97	1.67 1.57
					326	3.44 14.94	419 943	243 606	75 176	43 94	1.72 1.56
					650	3.44 14.94	419 939	290 625	80 198	46 105	1.44 1.50
					1300	3.44 14.94	393 900	317 663	87 216	45 108	1.24 1.36
					2600	3.44 14.94	410 931	260 587	77 187	47 105	1.58 1.59
					0	3.44 14.94	-- 914	-- 724	-- 242	-- 98	-- 1.26
					40	3.44 14.94	396 907	374 774	83 208	38 97	0.82 1.17
					130	3.44 14.94	429 944	265 614	84 193	44 97	1.62 1.54
					326	3.44 14.94	421 939	273 611	69 170	41 90	1.54 1.54
					650	3.44 14.94	419 944	289 605	80 198	46 103	1.45 1.56
					1300	3.44 14.94	393 900	476 663	87 216	45 108	0.83 1.36
					2600	3.44 14.94	408 931	253 573	80 199	43 101	1.61 1.62

(Continued)

\* Double bituminous surface treatment.

(Sheet 109 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	3	1+37.5	Blend II* Op- timum	6	Blend II	66	0	3.44	403	322	98	48	1.25
							14.94	914	671	218	101	1.36	
							40	3.44	401	345	86	47	1.16
							14.94	910	779	208	104	1.17	
							130	3.44	431	310	79	43	1.39
							14.94	946	618	181	145	1.53	
							326	3.44	416	254	71	44	1.64
							14.94	943	592	173	97	1.59	
							650	3.44	413	268	78	42	1.54
							14.94	942	577	196	107	1.63	
							1300	3.44	405	297	84	40	1.36
							14.94	916	583	205	114	1.57	
							2600	3.44	410	233	78	37	1.76
							14.94	937	568	205	105	1.65	
3	3	1+44	Blend II* Op- timum	6	Blend II	66	0	3.44	--	--	--	--	--
							14.94	914	665	227	103	1.37	
							40	3.44	404	346	89	47	1.17
							14.94	914	793	210	104	1.15	
							130	3.44	424	295	85	46	1.44
							14.94	944	639	202	103	1.48	
							326	3.44	417	268	76	42	1.56
							14.94	944	608	189	94	1.55	
							650	3.44	419	292	85	47	1.43
							14.94	943	628	207	109	1.50	
							1300	3.44	406	327	96	44	1.24
							14.94	931	620	236	114	1.50	

(Continued)

\* Double bituminous surface treatment.

(Sheet 110 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	3	1+44 (Cont'd)					2600	3.44 14.94	411 934	276 587	83 209	46 105	1.49 1.59
3	3	1+46	Blend II* Op- timum	6	Blend II	66	0	3.44 14.94	-- 909	-- 711	-- 221	-- 101	-- 1.28
						40	3.44 14.94	408 914	298 703	88 211	47 106	1.37 1.30	
						130	3.44 14.94	416 929	325 771	79 196	63 117	1.28 1.20	
						326	3.44 14.94	413 940	330 671	81 188	43 101	1.25 1.40	
						650	3.44 14.94	413 928	327 634	86 203	43 109	1.26 1.46	
						1300	3.44 14.94	413 923	410 784	89 218	52 119	1.01 1.18	
						2600	3.44 14.94	406 920	330 669	81 199	46 111	1.23 1.38	
3	3	1+48	Blend II* Op- timum	6	Blend II	66	0	3.44 14.94	-- 910	-- 731	-- 219	-- 100	-- 1.24
						40	3.44 14.94	409 912	291 637	90 213	48 108	1.41 1.43	
						130	3.44 14.94	409 929	384 746	81 199	45 105	1.07 1.25	
						326	3.44 14.94	411 941	248 568	74 188	43 101	1.66 1.66	
						650	3.44 14.94	414 926	337 659	86 205	44 109	1.23 1.41	

(Continued)

\* Double bituminous surface treatment.

(Sheet 111 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
3	3	1+48 (Cont'd)			1300	3.44 14.94	404 928	264 628	86 222	48 117	1.53 1.48
					2600	3.44 14.94	402 934	286 647	76 208	47 110	1.41 1.44
					0	3.44 14.94	-- 914	-- 810	-- 223	-- 102	-- 1.13
					40	3.44 14.94	404 908	367 832	90 211	47 107	1.10 1.09
					130	3.44 14.94	425 938	338 717	87 195	76 170	1.26 1.31
					326	3.44 14.94	409 944	276 677	72 180	50 102	1.48 1.39
		1+50	Blend II* Op- timum	6	650	3.44 14.94	415 932	291 648	82 206	46 110	1.43 1.44
					1300	3.44 14.94	406 926	317 805	84 220	46 114	1.28 1.15
					2600	3.44 14.94	404 929	342 725	80 205	54 109	1.18 1.28
					0	3.44 14.94	-- 914	-- 810	-- 223	-- 102	-- 1.13
					40	3.44 14.94	404 908	367 832	90 211	47 107	1.10 1.09
					130	3.44 14.94	425 938	338 717	87 195	76 170	1.26 1.31
3	4	1+50		TRANSITION	326	3.44 14.94	409 944	276 677	72 180	50 102	1.48 1.39
					(Continued)						

\* Double bituminous surface treatment.

(Sheet 112 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	4	1+50 (Cont'd)					650	3.44 14.94	415 932	291 648	82 206	46 110	1.43 1.44
							1300	3.44 14.94	406 926	317 805	84 220	46 114	1.28 1.15
							2600	3.44 14.94	404 929	342 725	80 205	54 109	1.18 1.28
3	4	1+52	Blend I* Optimum	12	Blend II	60	0	3.44 14.94	-- 900	-- 681	-- 237	-- 101	-- 1.32
							40	3.44 14.94	406 911	211 408	84 224	43 107	1.92 2.23
							130	3.44 14.94	431 941	278 618	89 206	46 100	1.55 1.52
							326	3.44 14.94	414 949	242 572	83 182	44 93	1.71 1.66
							650	3.44 14.94	409 935	290 680	81 204	48 108	1.41 1.38
							1300	3.44 14.94	402 913	355 775	90 229	48 115	1.13 1.18
							2600	3.44 14.94	408 929	318 736	83 205	46 105	1.28 1.26
3	4	1+54	Blend I* Optimum	12	Blend II	60	0	3.44 14.94	-- 918	-- 873	-- 225	-- 103	-- 1.05
							40	3.44 14.94	408 907	343 718	90 213	46 104	1.19 1.26
							130	3.44 14.94	409 931	306 712	82 203	46 97	1.34 1.31
(Continued)													

(Continued)

\* Single bituminous surface treatment.

(Sheet 113 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	4	1+43 (Cont'd)					326 14.94 650 14.94 1300 14.94 2600 14.94	3.44 14.94 3.44 14.94 3.44 14.94 3.44 14.94	412 943 420 943 408 927 404 930	314 706 331 732 317 720 292 712	81 221 89 212 93 234 77 206	44 96 46 106 45 113 46 104	1.31 1.34 1.27 1.29 1.29 1.29 1.38 1.31
3	4	1+56	Blend I* Optimum	12	Blend II	60	0 40 130 326 650 1300 2600	3.44 14.94 3.44 14.94 3.44 14.94 3.44 14.94	-- 906 407 909 416 932 413 943 420 942 399 910 408 930	-- 752 302 683 303 651 278 636 309 680 305 689 308 687	-- 220 89 216 88 206 77 192 85 208 91 225 76 201	-- 101 45 104 44 97 45 96 46 105 48 113 43 104	-- 1.20 1.35 1.33 1.37 1.43 1.49 1.48 1.36 1.39 1.31 1.32 1.32 1.35
3	4	1+62.5	Blend I* Optimum	12	Blend II	60	0 40	3.44 14.94 3.44 14.94	401 911 403 908	420 873 326 695	103 228 91 214	49 107 45 102	0.95 1.04 1.24 1.31
(Continued)													

(Continued)

\* Single bituminous surface treatment.

(Sheet 114 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	4	1+62.5 (Cont'd)					130 3.44 14.94	412 930	369 775	81 196	41 96	1.12 1.20	
							326 3.44 14.94	411 930	392 845	75 183	40 92	1.05 1.10	
							650 3.44 14.94	411 935	397 793	89 213	43 103	1.04 1.18	
							1300 3.44 14.94	407 926	346 765	88 222	45 108	1.18 1.21	
							2600 3.44 14.94	408 930	342 770	80 197	42 99	1.19 1.21	
3	4	1+75	Blend I* Optimum	12	Blend II	60	0 3.44 14.94	-- 918	-- 988	-- 228	-- 100	-- 0.93	
							40 3.44 14.94	405 907	356 807	90 208	50 107	1.14 1.12	
							130 3.44 14.94	407 930	291 728	78 191	45 100	1.40 1.28	
							326 3.44 14.94	410 938	340 807	76 179	76 123	1.21 1.16	
							650 3.44 14.94	411 938	321 732	82 203	48 105	1.28 1.28	
							1300 3.44 14.94	409 929	321 719	96 234	50 114	1.27 1.29	
							2600 3.44 14.94	408 930	328 731	79 204	44 103	1.24 1.27	
3	4	1+87.5	Blend I* Optimum	12	Blend II	60	0 3.44 14.94	401 913	375 795	105 220	39 101	1.07 1.15	
(Continued)													

(Continued)

\* Single bituminous surface treatment.

(Sheet 115 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	4	1+87.5 (Cont'd)					40	3.44	399	354	88	48	1.13
								14.94	903	835	206	102	1.08
							130	3.44	406	339	78	45	1.20
								14.94	934	788	198	98	1.19
							326	3.44	409	395	75	38	1.04
								14.94	935	854	184	92	1.09
							650	3.44	411	337	87	50	1.22
								14.94	935	661	206	106	1.41
							1300	3.44	408	474	93	48	0.86
								14.94	913	850	223	111	1.07
							2600	3.44	398	430	87	43	0.93
								14.94	907	862	215	106	1.05
3	4	1+94	Blend I* Optimum	12	Blend II	60	0	3.44	--	--	--	--	--
								14.94	926	677	222	107	1.37
							40	3.44	404	285	91	48	1.42
								14.94	906	660	216	107	1.37
							130	3.44	416	405	86	49	1.03
								14.94	931	846	203	107	1.10
							326	3.44	411	370	84	44	1.11
								14.94	938	838	190	94	1.12
							650	3.44	409	386	83	49	1.06
								14.94	931	825	214	115	1.13
							1300	3.44	417	359	90	52	1.16
								14.94	936	782	224	122	1.20
2600	3.44	400	291	75	43	1.37							
	14.94	925	680	203	102	1.36							
(Continued)													

\* Single bituminous surface treatment.

(Sheet 116 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns		
			Top Layer	Bottom Layer									
			Material Thickness in.	Material Thickness in.									
3	4	1+96	Blend I* Optimum	12	Blend II	60	0	3.44 14.94	-- 902	-- 922	-- 247	-- 111	-- 0.98
							40	3.44 14.94	404 902	417 908	103 231	50 112	0.97 0.99
							130	3.44 14.94	417 932	385 795	100 240	50 114	1.08 1.17
							326	3.44 14.94	404 943	360 779	89 220	49 110	1.12 1.21
							650	3.44 14.94	412 926	371 819	93 233	53 117	1.11 1.13
							1300	3.44 14.94	414 934	405 888	106 268	55 125	1.02 1.05
							2600	3.44 14.94	412 915	353 720	101 227	48 112	1.17 1.27
3	4	1+98	Blend I* Optimum	12	Blend II	60	0	3.44 14.94	-- 910	-- 850	-- 258	-- 107	-- 1.07
							40	3.44 14.94	404 902	412 914	106 258	51 118	0.98 0.99
							130	3.44 14.94	418 924	401 910	102 254	48 115	1.04 1.02
							326	3.44 14.94	409 939	366 894	98 235	52 115	1.12 1.05
							650	3.44 14.94	418 933	430 896	110 264	54 125	0.97 1.04
							1300	3.44 14.94	416 935	414 895	105 266	57 136	1.00 1.04
(Continued)													

\* Single bituminous surface treatment.

(Sheet 117 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material	Thickness in.	Material	Thickness in.					
3	4	1+98 (Cont'd)									
					2600	3.44 14.94	411 921	365 768	96 246	48 113	1.13 1.20
3	4	2+00	TRANSITION		0	3.44 14.94	-- 906	-- 747	-- 247	-- 109	-- 1.21
					40	3.44 14.94	399 899	325 821	109 261	52 120	1.23 1.10
					130	3.44 14.94	410 928	359 875	88 252	53 130	1.14 1.06
					326	3.44 14.94	414 936	365 779	104 257	52 121	1.13 1.20
					650	3.44 14.94	409 932	383 850	102 283	55 134	1.07 1.10
					1300	3.44 14.94	414 933	372 860	123 319	57 144	1.11 1.08
					2600	3.44 14.94	407 918	384 857	100 272	50 124	1.06 1.07
3	5	2+00	TRANSITION		0	3.44 14.94	-- 906	-- 747	-- 247	-- 109	-- 1.21
					40	3.44 14.94	399 899	325 821	109 261	52 120	1.23 1.10
					130	3.44 14.94	410 928	359 875	88 252	53 130	1.14 1.06
					326	3.44 14.94	414 936	365 779	104 257	52 121	1.13 1.20
					650	3.44 14.94	409 932	383 850	102 283	55 134	1.07 1.10

(Continued)

\* Single bituminous surface treatment.

(Sheet 118 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns		
			Top Layer	Bottom Layer									
			Material	Thickness in.								Material	Thickness in.
3	5	2+00 (Cont'd)											
3	5	2+02	Blend II* Op- timum	16	ML	56	0	3.44 14.94	-- 915	-- 636	-- 230	-- 109	-- 1.44
3	5	2+04	Blend II* Op- timum	16	ML	56	0	3.44 14.94	-- 913	-- 578	-- 224	-- 107	-- 1.58
(Continued)													

\* Single bituminous surface treatment.

(Sheet 119 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition		Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer	Bottom Layer							
			Material Thickness in.	Material Thickness in.							
3	5	2+04 (Cont'd)									
3	5	2+06	Blend II* Op- timum	16	ML	56					
3	5	2+12.5	Blend II* Op- timum	16	ML	56					

(Continued)

\* Single bituminous surface treatment.

(Sheet 120 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
3	5	2+12.5 (Cont'd)					326	3.44	405	294	87	54	1.38							
								14.94	944	713	234	125	1.32							
							650	3.44	408	310	101	55	1.32							
								14.94	918	735	274	134	1.25							
							1300	3.44	413	360	111	58	1.15							
								14.94	933	800	298	144	1.17							
							2600	3.44	408	420	101	51	0.97							
								14.94	915	841	258	124	1.09							
							3	5	2+25	Blend II* Op- timum	16	ML	56	0	3.44	--	--	--	--	--
															14.94	908	645	236	112	1.41
40	3.44	403	348	101	53	1.16														
	14.94	908	779	254	125	1.17														
130	3.44	407	386	99	50	1.05														
	14.94	931	829	251	128	1.12														
326	3.44	421	311	109	57	1.35														
	14.94	937	677	252	127	1.38														
650	3.44	408	303	103	57	1.35														
	14.94	917	735	281	139	1.25														
1300	3.44	412	317	120	59	1.30														
	14.94	927	691	315	149	1.34														
2600	3.44	405	363	101	52	1.12														
	14.94	918	833	287	132	1.10														
3	5	2+37.5	Blend II* Op- timum	16	ML	56	0	3.44	405	260	95	49	1.56							
								14.94	914	523	218	113	1.75							
							40	3.44	405	331	105	56	1.22							
								14.94	906	719	253	132	1.26							

(Continued)

(Continued)

\* Single bituminous surface treatment.

(Sheet 121 of 124)



Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
3	5	2+37.5 (Cont'd)					130	3.44 14.94	402 928	300 708	95 245	53 128	1.34 1.31							
							326	3.44 14.94	411 937	277 647	111 264	58 133	1.48 1.45							
							650	3.44 14.94	410 918	320 690	108 283	58 141	1.28 1.33							
							1300	3.44 14.94	413 932	321 730	116 305	58 148	1.29 1.28							
							2600	3.44 14.94	402 926	354 786	100 281	49 133	1.14 1.18							
							3	5	2+44	Blend II* Op- timum	16	ML	56	0	3.44 14.94	-- 906	-- 700	-- 214	-- 117	-- 1.29
							40	3.44 14.94	396 901					340 817	103 247	55 124	1.16 1.10			
							130	3.44 14.94	409 932					316 757	95 251	55 125	1.29 1.23			
							326	3.44 14.94	410 929					348 775	105 253	58 133	1.18 1.20			
							650	3.44 14.94	408 923					315 705	98 264	52 133	1.30 1.31			
							1300	3.44 14.94	409 933					336 763	110 293	50 140	1.22 1.22			
							2600	3.44 14.94	399 920					305 739	83 228	49 127	1.31 1.24			
3	5	2+46	Blend II* Op- timum	16	ML	56	0	3.44 14.94	-- 910					-- 579	-- 217	-- 119	-- 1.57			
(Continued)																				

(Continued)

\* Single bituminous surface treatment.

(Sheet 122 of 124)

Table A18 (Continued)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	P/ $\Delta_0$ kPa/microns							
			Top Layer		Bottom Layer															
			Material	Thickness in.	Material	Thickness in.														
3	5	2+46 (Cont'd)					40	3.44 14.94	403 902	284 657	101 249	54 126	1.42 1.37							
							130	3.44 14.94	405 929	335 830	89 238	61 136	3.70 1.12							
							326	3.44 14.94	413 930	295 647	107 253	54 127	1.40 1.44							
							650	3.44 14.94	403 911	377 870	98 256	55 132	1.07 1.05							
							1300	3.44 14.94	410 931	368 812	104 273	52 132	1.11 1.15							
							2600	3.44 14.94	399 921	350 740	90 262	51 125	1.14 1.24							
							3	5	2+48	Blend II* Op- timum	16	ML	56	0	3.44 14.94	-- 905	-- 672	-- 219	-- 117	-- 1.35
							40	3.44 14.94	286 715					435 960	99 239	55 123	0.55 0.74			
							130	3.44 14.94	403 919					360 854	94 248	53 120	1.12 1.08			
							326	3.44 14.94	407 920					438 921	99 250	70 141	0.93 1.00			
							650	3.44 14.94	406 914					345 740	98 248	54 134	1.18 1.24			
							1300	3.44 14.94	410 923					413 876	106 279	52 133	0.99 1.05			
2600	3.44 14.94	388 899	329 830	95 259	128 234	1.18 1.08														

(Continued)

\* Single bituminous surface treatment.



Table A18 (Concluded)

Lane	Item	Station ft	Composition				Number of Passes	Drop Height in.	Pres- sure kPa	$\Delta_0$ microns	$\Delta_{18}$ microns	$\Delta_{36}$ microns	$P/\Delta_0$ kPa/microns
			Top Layer		Bottom Layer								
			Material	Thickness in.	Material	Thickness in.							
3	5	2+50	Blend II* Op- timum	16	ML	56	0	3.44 14.94	-- 888	-- 1223	-- 220	-- 119	-- 0.73
							40	3.44 14.94	404 893	502 995	98 236	53 127	0.80 0.90
							130	3.44 14.94	236 619	333 827	86 279	50 109	0.71 0.75
							326	3.44 14.94	407 917	488 1075	96 255	61 133	0.83 0.85
							650	3.44 14.94	257 704	455 1020	91 231	53 118	0.56 0.69
							1300	3.44 14.94	312 756	858 1837	111 290	49 126	0.36 0.41
							2600	3.44 14.94	154 471	494 1235	89 245	46 112	0.31 0.38

\* Single bituminous surface treatment.

(Sheet 124 of 124)

Table A19  
Rut Depths with Traffic

Structural Composition							Maximum Rut from Cross-Section Data, in., at Designated Number of Load Cart Passes							
Upper Layer			Lower Layer											
Lane	Item	Material	Thick- ness in.	Material	Thick- ness in.	Station ft	40	130	326	650	1100	1300	1950	2600
1	1	Crushed limestone	36	Heavy clay	36	0+12.5 0+25.0 0+37.5	0.1 0.0 0.2	0.3 0.2 0.3	0.2 0.1 0.3	0.2 0.2 0.3	0.2 0.4 0.5	0.2 0.3 0.4	0.2 0.3 0.3	0.3 0.4 0.5
						Average	0.1	0.3	0.2	0.2	0.4	0.3	0.3	0.4
1	2	Crushed limestone	9	Blend II	63	0+62.5 0+75.0 0+87.5	0.5 0.5 0.5	0.7 0.4 0.9	0.8 0.5 0.9	0.8 0.5 1.0	1.1 0.7 1.2	1.1 0.6 1.1	1.0 0.5 1.1	1.1 0.7 1.2
						Average	0.5	0.7	0.7	0.8	0.7	0.9	0.9	1.0
1	3	Blend II	72	--	--	1+12.5 1+25.0 1+37.5	0.5 0.4 0.2	0.8 0.7 0.5	1.0 0.9 0.7	0.7 0.8 0.9	1.5 1.6 2.3	1.4 1.3 3.7	1.5 1.2 2.2	1.5 1.4 2.9
						Average	0.4	0.7	0.9	0.8	1.8	2.1	1.6	1.9
1	4	Blend I	9	Blend II	63	1+62.5 1+75.0 1+87.5	0.5 0.5 1.5	0.7 0.9 1.4	1.6 1.8 1.8	2.3 2.2 2.2	4.6 2.7 2.9	4.6 3.0 3.2	5.3 3.5 3.2	5.6 3.5 3.4
						Average	0.8	1.0	1.7	2.2	3.4	3.6	4.0	4.2
1	5	Silt	72	--	--	2+12.5 2+25.0 2+37.5	0.7 0.8 0.6	0.9 0.9 0.9	0.9 1.0 1.0	1.0 1.2 1.0	0.6 1.2 1.3	0.8 0.9 1.3	0.9 1.2 1.5	1.0 1.3 1.6
						Average	0.7	0.9	1.0	1.1	1.0	1.0	1.2	1.3
2	1	Cement stabilized Blend I	29	Heavy clay	43	0+12.5 0+25.0 0+37.5	0.1 0.1 0.1	0.2 0.1 0.1	0.2 0.1 0.2	0.1 0.1 0.1	-- -- --	0.3 0.3 0.3	-- -- --	0.4 0.5 0.4
						Average	0.1	0.1	0.2	0.1	--	0.3	--	0.4
2	2	Cement stabilized Blend II	12	Blend II	60	0+62.5 0+75.0 0+87.5	0.3 0.1 0.2	0.3 0.1 0.3	0.3 0.5 0.5	0.4 0.4 0.7	-- -- --	0.6 0.7 0.9	-- -- --	0.8 1.0 1.2
						Average	0.2	0.2	0.4	0.5	--	0.7	--	1.0
2	3	Lean mix concrete	12	Blend II	90	1+12.5 1+25.0 1+37.5	0.1 0.1 0.2	0.1 0.1 0.1	0.2 0.1 0.1	0.2 0.1 0.2	-- -- --	0.3 0.2 0.2	-- -- --	0.2 0.1 0.2
						Average	0.1	0.1	0.1	0.2	--	0.2	--	0.2
2	4	Cement stabilized Blend I	12	Blend II	60	1+62.5 1+75.0 1+87.5	0.1 0.1 0.1	0.2 0.1 0.2	0.3 0.2 0.1	0.8 0.4 0.3	-- -- --	0.9 0.5 0.3	-- -- --	0.9 0.7 0.6
						Average	0.1	0.2	0.2	0.5	--	0.6	--	0.7
2	5	Cement stabilized Blend II	16	Silt	56	2+12.5 2+25.0 2+37.5	0.1 0.1 0.1	0.1 0.2 0.1	0.1 0.2 0.2	0.3 0.4 0.2	-- -- --	0.4 0.5 0.3	-- -- --	0.6 0.4 0.2
						Average	0.1	0.1	0.2	0.3	--	0.4	--	0.4
3	1	Crushed limestone	29	Heavy clay	43	0+12.5 0+25.0 0+37.5	0.2 0.1 0.3	0.2 0.1 0.2	0.2 0.2 0.2	0.3 0.3 0.4	-- -- --	0.2 0.1 0.1	-- -- --	0.3 0.3 0.3
						Average	0.2	0.2	0.2	0.3	--	0.1	--	0.3
3	2	Crushed limestone	12	Blend II	60	0+62.5 0+75.0 0+87.5	0.4 0.3 0.5	0.5 0.3 0.5	0.5 0.5 0.5	0.7 0.7 0.7	-- -- --	0.5 0.4 0.6	-- -- --	0.6 0.6 0.7
						Average	0.4	0.4	0.5	0.7	--	0.5	--	0.6
3	3	Blend II* (Optimum)	6	Blend II	66	1+12.5 1+25.0 1+37.5	0.8 0.9 0.5	0.9 0.9 0.8	1.0 1.0 0.7	1.2 1.1 0.9	-- -- --	1.0 1.0 0.8	-- -- --	1.2 1.1 0.9
						Average	0.7	0.9	0.9	1.1	--	0.9	--	1.1
3	4	Blend I** (Optimum)	12	Blend II	60	1+62.5 1+75.0 1+87.5	0.8 0.6 0.5	0.8 0.8 0.7	0.9 0.9 0.8	1.0 1.0 1.0	-- -- --	0.9 0.9 0.7	-- -- --	1.1 1.1 0.9
						Average	0.6	0.8	0.9	1.0	--	0.8	--	1.0
3	5	Blend II**	16	Silt	56	2+12.5 2+25.0 2+37.5	0.2 0.3 0.2	0.2 0.6 0.6	0.5 0.5 0.6	0.6 0.8 0.8	-- -- --	0.5 0.6 0.7	-- -- --	0.6 0.7 0.8
						Average	0.2	0.5	0.5	0.7	--	0.6	--	0.7

\* Double bituminous surface treatment.  
\*\* Single bituminous surface treatment.



Table A20  
Post Traffic Test Pit Data - CBR, Moisture Content, and Density  
Determinations In and Out of Traffic Lane

Lane	Item	Material	Depth in.	Station ft	In Traffic Lane					Out of Traffic				
					Ele- vation ft	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %	Ele- vation ft	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %
1	1	Crushed limestone	Surface	0+37.5	101.00	127	139	1.0	0.2	101.06	150+	140	1.2	0.4
			6	0+37.5	100.50	125	137	2.0	1.1	100.50	150+	135	2.4	0.9
			12	0+37.5	100.03	92	139	2.3	1.1	100.05	91	138	1.9	1.2
			18	0+37.5	99.58	86	140	1.7	0.8	99.62	76	139	2.0	0.9
			24	0+37.5	99.02	92	132	2.4	1.0	99.09	102	127	2.5	1.0
		Heavy clay	36	0+37.5	98.00	6	89	32.4	28.8	98.00	6	89	33.1	28.4
			48	0+37.5	97.00	5	92	29.7	28.6	97.00	4.8	95	27.3	28.2
			60	0+37.5	96.00	6	88	34.9	29.4	96.00	6	89	33.8	29.0
			72	0+37.5	95.00	7	91	29.3	28.6	95.00	7	94	28.3	28.7
1	2	Crushed limestone Blend II	Surface	0+56	101.07	150+	145	0.9	0.1	100.95	150+	142	1.1	0.2
			6	0+56	100.65	99	139	1.4	0.4	100.57	94	136	1.6	0.4
			12	0+56	100.19	45	130	3.0	2.9	100.00	51	129	3.0	2.7
			18	0+56	99.62	26	125	3.4	3.2	99.66	32	124	3.3	3.0
			24	0+56	99.20	21	120	3.6	2.6	99.24	20	120	2.9	2.3
			36	0+56	97.98	34	126	5.1	3.7	98.03	27	125	5.0	3.4
			48	0+56	97.06	21	123	4.3	3.4	97.12	22	123	4.2	3.3
			60	0+56	96.21	9	118	6.5	4.5	96.24	15	122	6.4	4.5
			72	0+56	95.33	54	131	8.1	5.6	95.41	31	127	8.4	5.7
1	3	Blend II	Surface	1+12.5	100.91	24	121	2.2	--	100.98	12	123	1.8	0.7
			6	1+12.5	100.52	43	124	2.7	1.5	100.52	51	120	2.7	1.7
			12	1+12.5	100.23	16	123	2.3	1.6	100.13	29	124	2.6	1.4
			18	1+12.5	99.73	27	124	2.9	1.7	99.70	24	123	3.3	2.2
			24	1+12.5	99.06	11	118	3.7	2.4	99.23	21	120	3.5	2.1
			36	1+12.5	97.95	14	120	3.7	2.8	97.97	21	119	4.5	3.3
			48	1+12.5	96.98	11	121	4.6	3.4	96.86	7	120	5.0	3.1
			60	1+12.5	95.98	8	125	6.2	4.1	95.92	8	127	6.8	4.0
		Lean clay	72	1+12.5	94.57	3	102	21.5	--	94.64	4.3	108	20.0	
1	4	Blend I Blend I Blend II	Surface	1+75	100.73	16	118	2.4	1.1	100.89	34	124	2.1	1.1
			6	1+75	100.50	80	121	2.7	1.9	100.50	53	123	2.6	1.8
			12	1+75	100.00	32	120	2.8	1.8	100.00	16	120	3.2	1.6
			18	1+75	99.47	47	121	3.1	2.5	99.60	45	121	3.3	2.7
			24	1+75	98.91	21	118	3.9	2.8	98.90	19	117	4.2	2.9
			36	1+75	97.94	14	120	3.9	2.7	97.96	11	119	4.3	2.7
			48	1+75	96.97	20	122	4.7	3.0	96.93	11	121	4.3	3.5
			60	1+75	95.88	11	122	6.6	3.8	95.92	11	122	6.3	4.2
		Lean clay	72	1+75	94.91	4	101	21.0	18.8	94.91	4	104	21.5	17.4
1	5	Silt	Surface	2+37.5	100.87	72	110	10.7	9.1	101.07	54	112	9.4	8.3
			6	2+37.5	100.61	83	103	15.7	13.4	100.59	34	104	13.5	13.4
			12	2+37.5	100.13	47	105	16.7	13.2	100.13	30	106	14.9	12.9

(Continued)

(Sheet 1 of 3)

Table A20 (Continued)

Lane	Item	Material	Depth in.	Station ft	In Traffic Lane					Out of Traffic				
					Ele- vation ft	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %	Ele- vation ft	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %
1	5	Silt (Continued)	18	2+37.5	99.61	28	107	15.1	15.0	99.65	40	105	17.7	15.1
			24	2+37.5	99.02	20	103	17.5	14.0	98.97	21	102	15.7	15.1
			36	2+37.5	98.12	39	106	19.4	15.8	98.08	23	105	18.3	16.6
			48	2+37.5	97.02	26	108	18.0	16.1	96.99	14	105	18.2	16.9
			60	2+37.5	96.32	29	106	17.7	16.4	96.30	19	104	18.0	16.4
			72	2+37.5	94.95	21	105	17.6	15.3	95.00	20	104	17.4	14.7
2	1	Cement stabilized Blend I Heavy clay	Surface	0+25	100.98	150+	116	4.7	--	101.10	150+	120	6.5	--
			31	0+25	98.44	6	95	27.7	27.5	98.42	7	94	28.7	29.1
			38	0+25	97.83	5	94	28.8	--	97.91	6	94	28.5	28.7
2	2	Cement stabilized Blend II Blend II	Surface	0+56	101.06	150+	118	4.0	--	101.06	150+	119	3.9	--
			6	0+56	100.50	--*	112	4.0	--	100.50	--*	114	4.8	--
			12	0+56	100.00	8	124	2.5	1.9	100.00	11	125	2.5	2.0
			18	0+56	99.50	19	119	3.2	2.6	99.50	24	119	3.3	2.8
			24	0+56	99.00	11	119	3.2	2.4	99.00	17	118	3.4	2.5
			36	0+56	98.00	29	122	4.5	3.3	98.00	25	118	4.6	3.5
2	3	Lean mix concrete Blend II	Surface	1+25	101.00	--	--	--	--	101.00	--	--	--	--
			12	1+25	99.94	2.7	106	5.0	--	100.01	20	118	3.4	2.0
			18	1+25	99.54	30	121	3.7	2.5	99.66	27	122	2.9	2.4
			24	1+25	99.09	26	121	3.5	2.8	99.15	30	122	3.7	2.8
			33	1+25	98.33	15	121	4.1	2.9	98.19	17	121	3.7	2.7
2	4	Cement stabilized Blend I Blend II	Surface	1+75	101.00	150+	116	4.7	--	101.08	150+	116	4.6	--
			12	1+75	99.93	28	123	2.7	1.4	99.93	26	123	2.7	1.9
			18	1+75	99.59	19	119	3.3	2.0	99.62	39	120	3.0	2.2
			24	1+75	99.02	22	119	3.9	2.9	99.03	28	119	3.6	2.7
			36	1+75	97.91	14	119	4.4	2.9	97.90	14	119	4.3	2.9
2	5	Cement stabilized Blend II Silt	Surface	2+25	101.00	150+	119	4.3	--	101.7	150+	123	3.8	--
			16	2+25	99.63	41	108	16.1	15.8	99.63	55	110	15.9	15.3
			24	2+25	99.20	22	103	16.2	15.8	99.20	17	106	16.0	15.4
			30	2+25	98.71	19	108	14.9	15.0	98.66	17	107	15.2	15.3
			36	2+25	98.00	30	106	17.7	16.6	98.00	25	105	17.6	16.8

(Continued)

\* No CBR's run at 6 in. on cement stabilized material.

(Sheet 2 of 3)



Table A20 (Concluded)

Lane	Item	Material	Depth in.	Station ft	In Traffic Lane					Out of Traffic				
					Ele- vation ft	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %	Ele- vation ft	CBR	Dry Density -Nuclear- lbs/ft <sup>3</sup>	Moisture Content -Nuclear- %	Moisture Content -Oven Dry- %
3	1	Crushed limestone	Surface	0+25	101.07	124	143	1.0	0.2	101.10	150+	143	1.2	0.2
			6	0+25	100.53	125+	137	1.7	1.0	100.63	100+	135	1.8	0.9
			12	0+25	100.26	135+	141	1.8	1.1	100.25	130+	137	2.0	1.3
			18	0+25	99.57	100	132	1.8	1.0	99.59	98	130	2.1	1.1
			24	0+25	99.38	101	130	2.3	1.1	99.19	144	138	2.1	1.3
		Heavy clay	30	0+25	98.85	109	138	2.2	1.1	98.79	117	140	2.7	1.2
			36	0+25	98.00	6	91	31.5	29.9	98.00	5	93	30.6	29.6
			42	0+25	97.50	3.7	90	32.1	31.7	97.50	5	90	32.5	30.9
3	2	Crushed limestone Blend II	Surface	0+75	101.00	150+	146	1.2	0.5	100.97	125+	138	1.2	0.2
			6	0+75	100.42	41	134	1.7	0.6	100.39	50	129	1.8	0.4
			12	0+75	99.63	56	123	3.2	2.6	100.08	50	126	3.3	2.6
			18	0+75	99.47	26	123	3.9	2.7	99.52	20	123	3.9	2.6
			24	0+75	98.80	16	118	3.6	3.0	98.92	20	119	3.8	2.9
3	3	Blend II	Surface	1+25	100.91	134	124	3.6	5.9	101.02	96	131	3.0	2.6
			6	1+25	100.60	90	127	2.9	2.7	100.49	36	124	3.5	2.8
			12	1+25	99.90	32	120	3.5	2.2	99.87	32	122	3.4	2.1
			18	1+25	99.30	18	121	3.6	2.3	99.36	32	122	3.2	2.3
			24	1+25	98.82	18	118	3.4	2.7	98.94	23	119	3.8	2.9
			36	1+25	98.31	25	120	4.1	3.1	98.33	31	123	4.2	3.3
			48	1+25	97.34	20	117	4.4	2.6	97.33	21	120	4.5	3.0
			60	1+25	96.00	14	120	5.8	3.6	96.00	19	122	5.9	3.5
3	4	Blend I Blend I Blend II	Surface	1+75	101.00	123	119	3.5	3.1	101.03	78	122	3.9	3.5
			6	1+75	100.59	35	121	3.9	3.2	100.53	30	120	4.2	3.3
			12	1+75	99.99	38	124	3.1	2.2	100.04	21	121	3.9	2.2
			18	1+75	99.49	9	118	3.5	2.6	99.49	14	121	3.1	3.0
			24	1+75	99.27	8	119	3.4	2.5	99.27	6	121	3.3	2.5
3	5	Blend II	Surface	2+25	100.95	105	124	4.2	3.3	101.06	86	129	3.6	3.1
			6	2+25	100.61	63	126	4.0	3.6	100.53	23	125	4.9	3.8
			12	2+25	100.11	42	129	5.2	4.0	100.12	38	128	5.8	5.2
			18	2+25	99.72	24	120	9.3	5.0	99.67	27	116	11.1	6.6
		Silt	24	2+25	99.38	27	106	16.9	15.0	99.38	9	103	16.8	16.3
			36	2+25	98.29	12	102	16.5	15.6	98.39	24	106	16.9	15.0
			48	2+25	97.21	16	107	16.7	15.4	97.21	19	108	16.2	15.9
			60	2+25	96.21	17	104	17.7	16.6	96.29	19	106	17.9	16.1
			72	2+25	95.17	8	102	17.3	15.0	95.08	15	103	16.8	15.0





Photo A1. Proportioning aggregates prior to blending





Photo A2. Blending of aggregates to obtain desired gradation



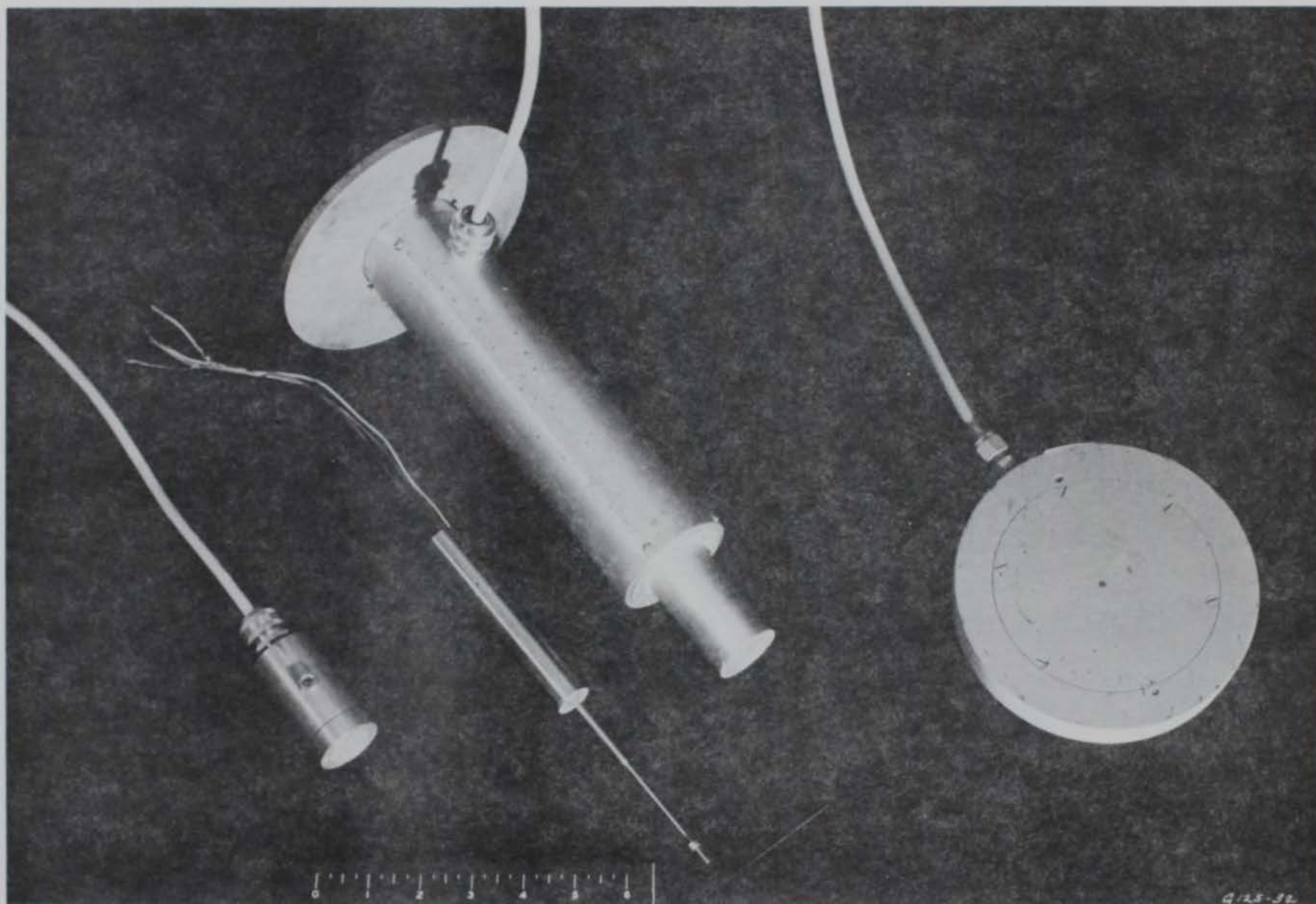


Photo A3. Three types of soil instrumentation gages located in lane 1 (Items 1, 3, and 5)





Photo A4. Cap and pin surface deflection gage



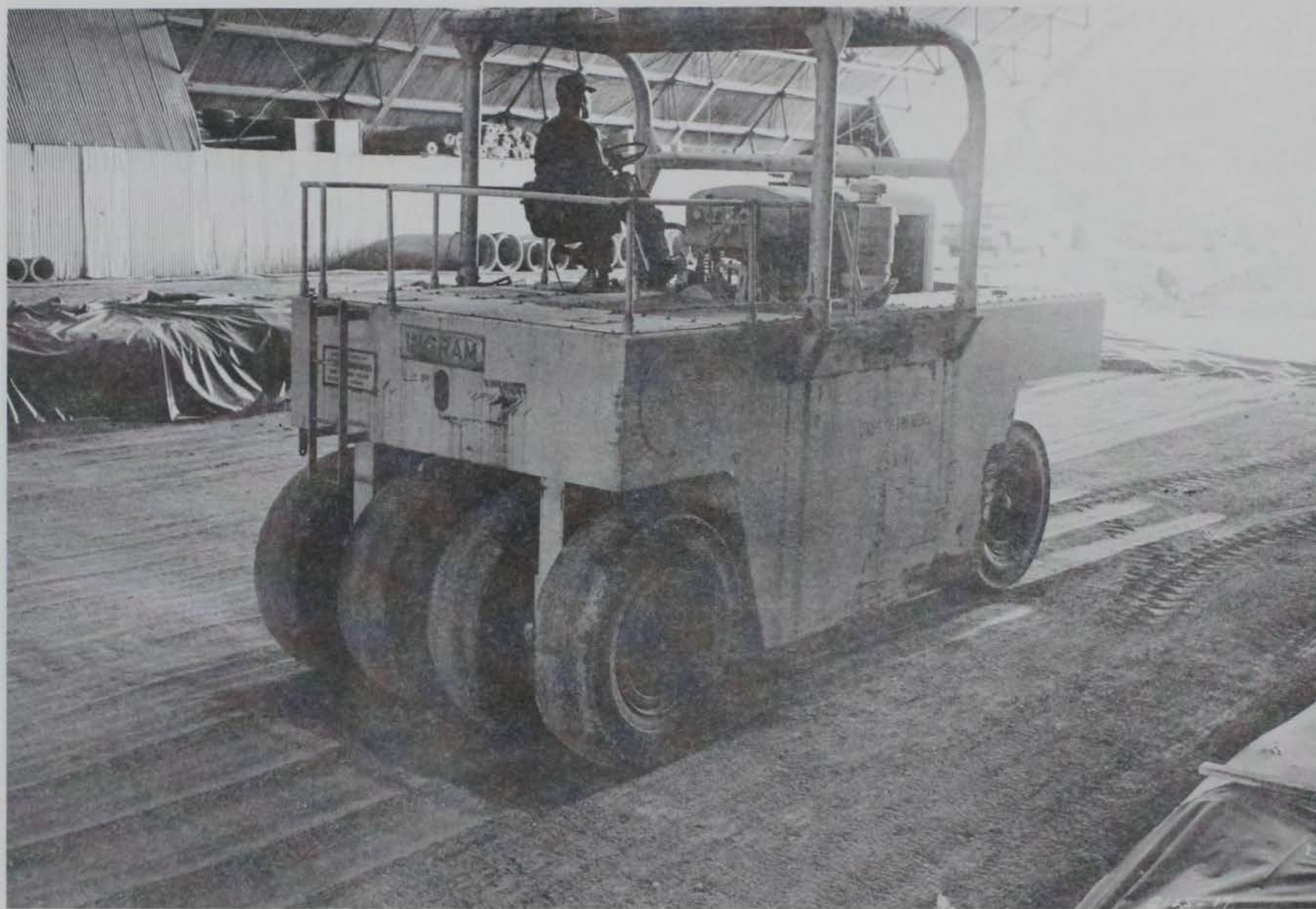


Photo A5. Twenty-five-ton self-propelled rubber-tired roller



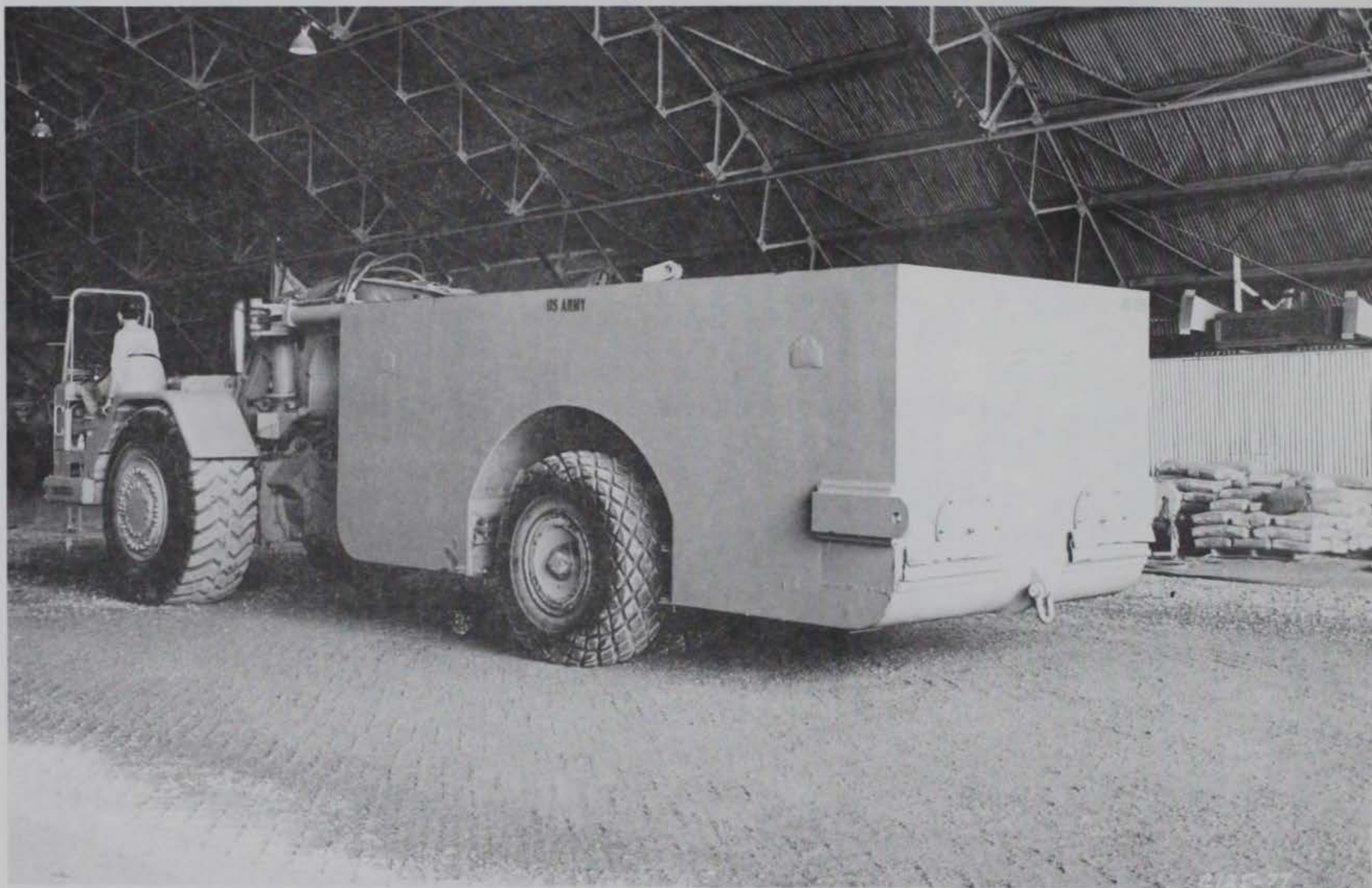


Photo A6. Fifty-ton rubber-tired Bross Roller





Photo A7. Vibratory steel-wheeled roller



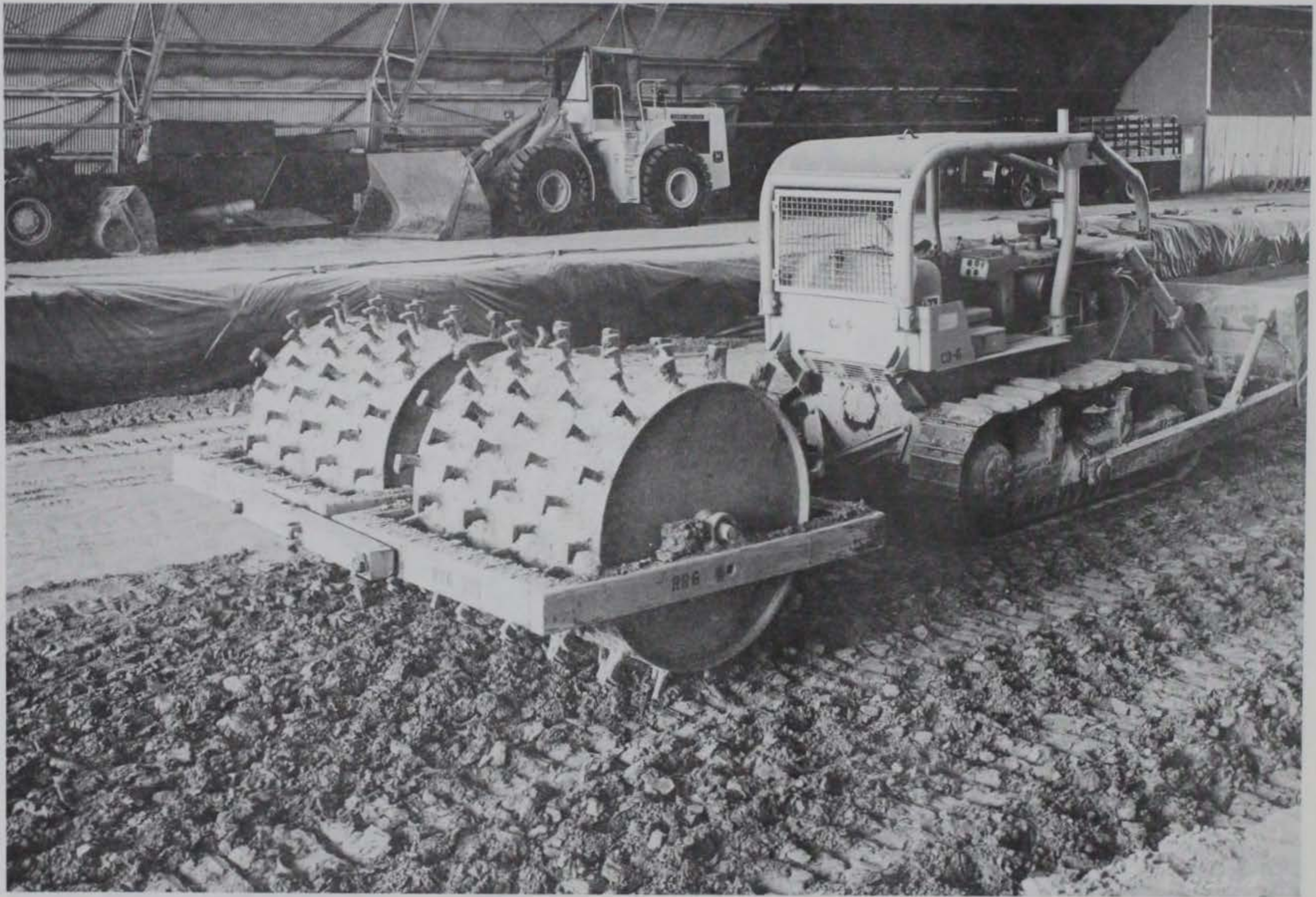


Photo A8. Dual-drum sheepfoot roller





Photo A9. Excavation for MX test section in progress





Photo A10. Excavation completed, 250 ft long by 50 ft wide by 6 ft deep





Photo All. French drain around perimeter of test section





Photo A12. Processing of heavy clay prior to placement in MX test section





Photo A13. Addition of portland cement (Type 1) to blended soil





Photo A14. Pulvimixing cement and blended soil



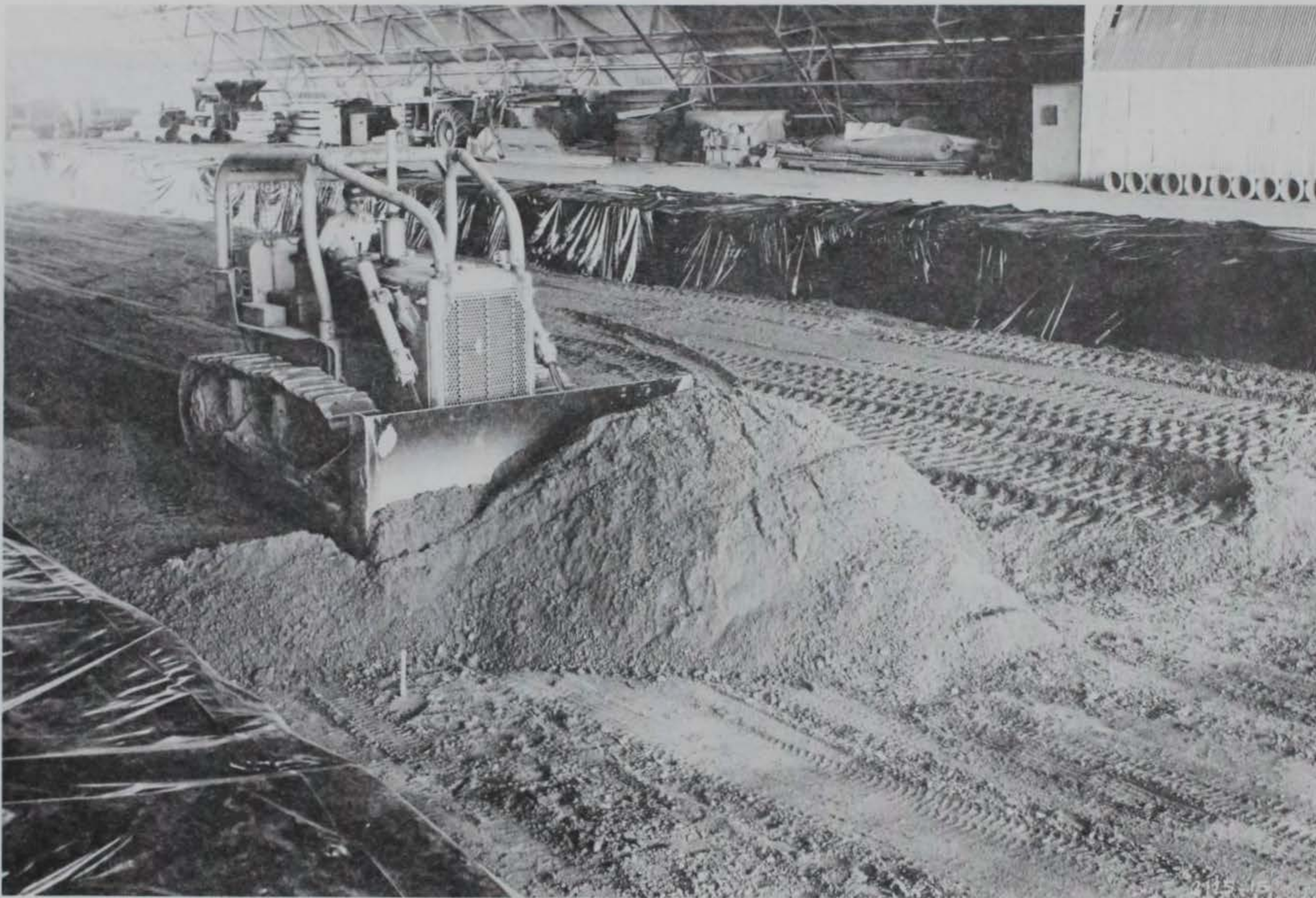


Photo A15. Placing 6-in. lift of Blend II material



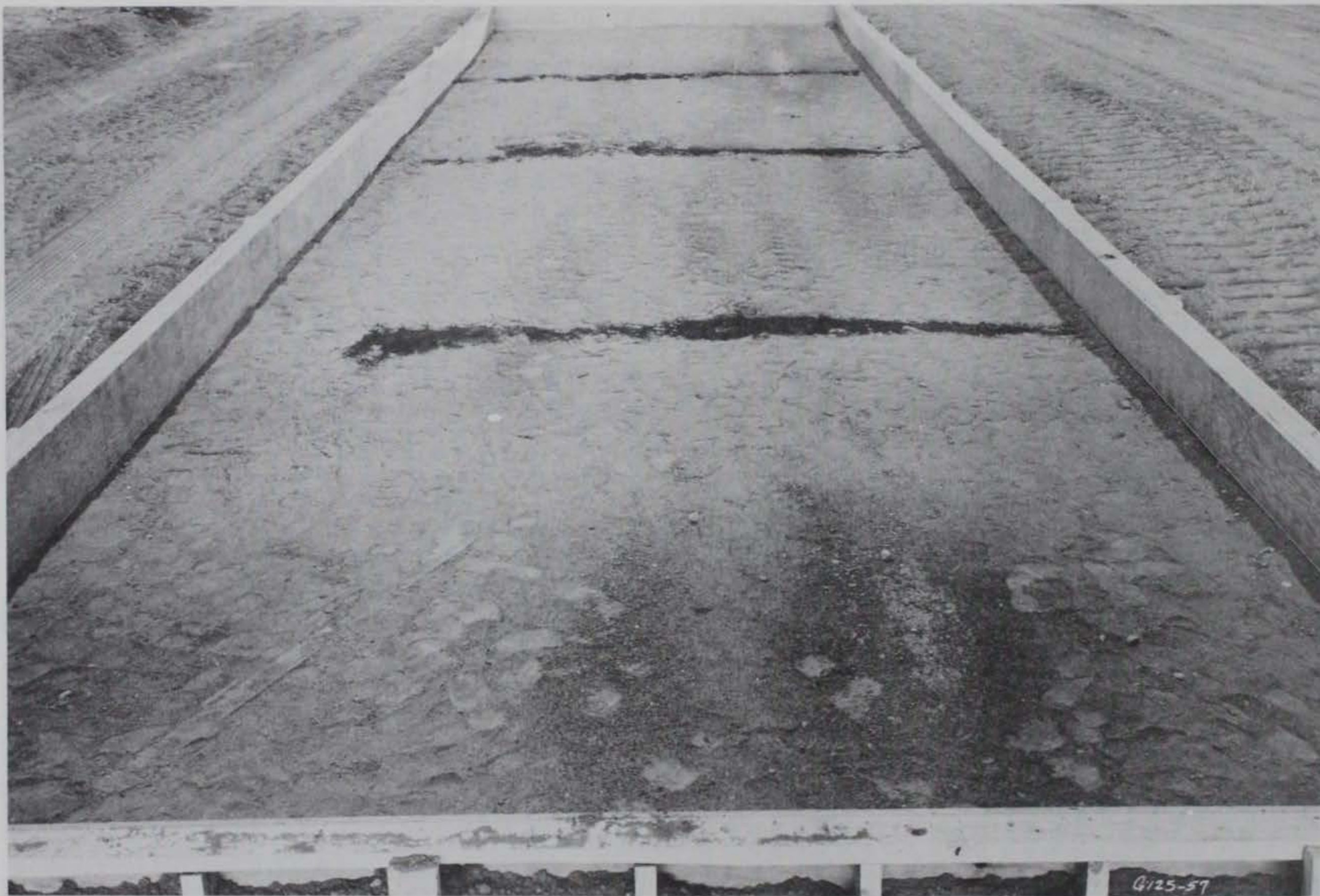


Photo A16. Forms for lean mix concrete



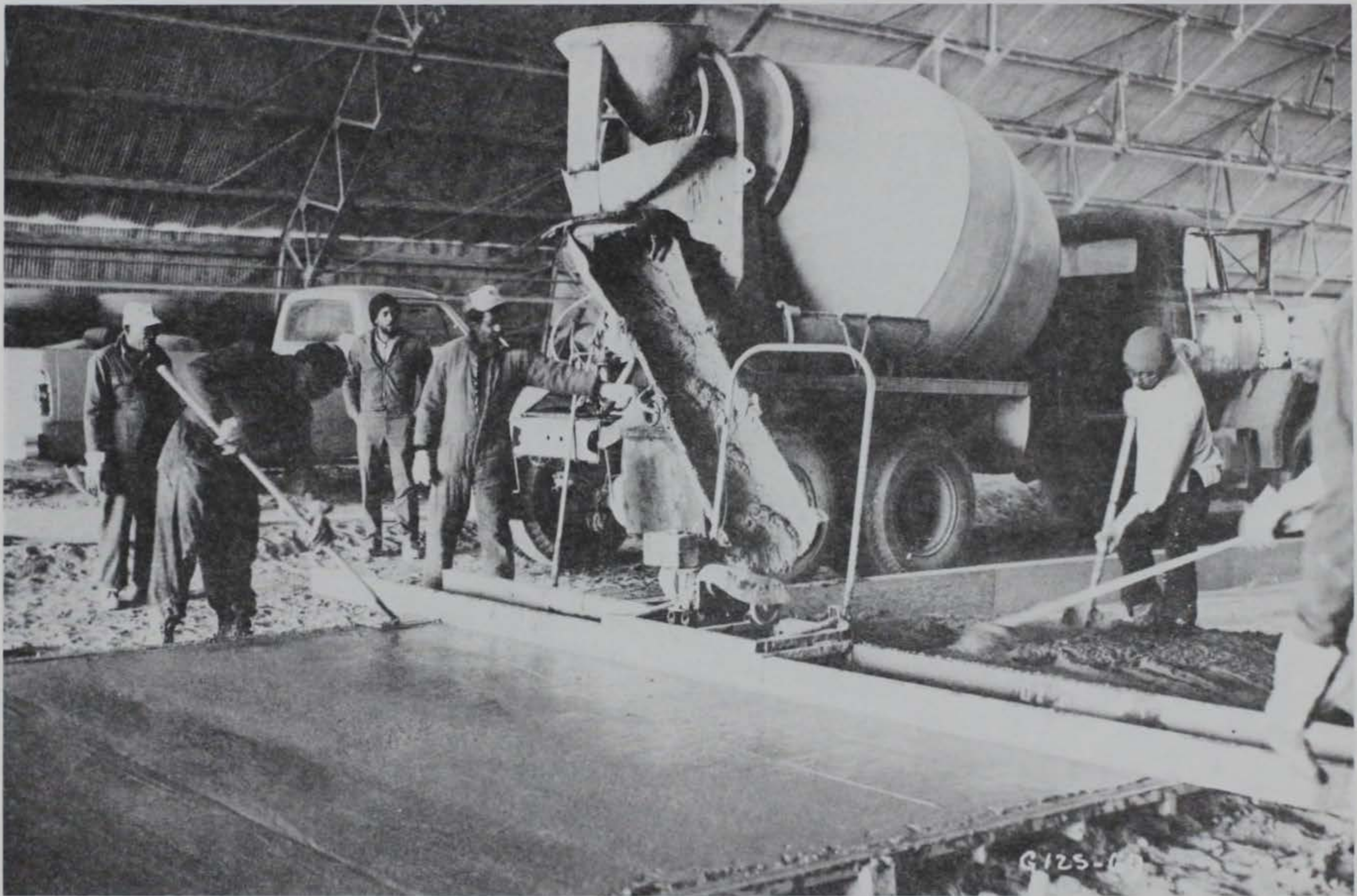


Photo A17. Placement of lean mix concrete (lane 2, Item 3)



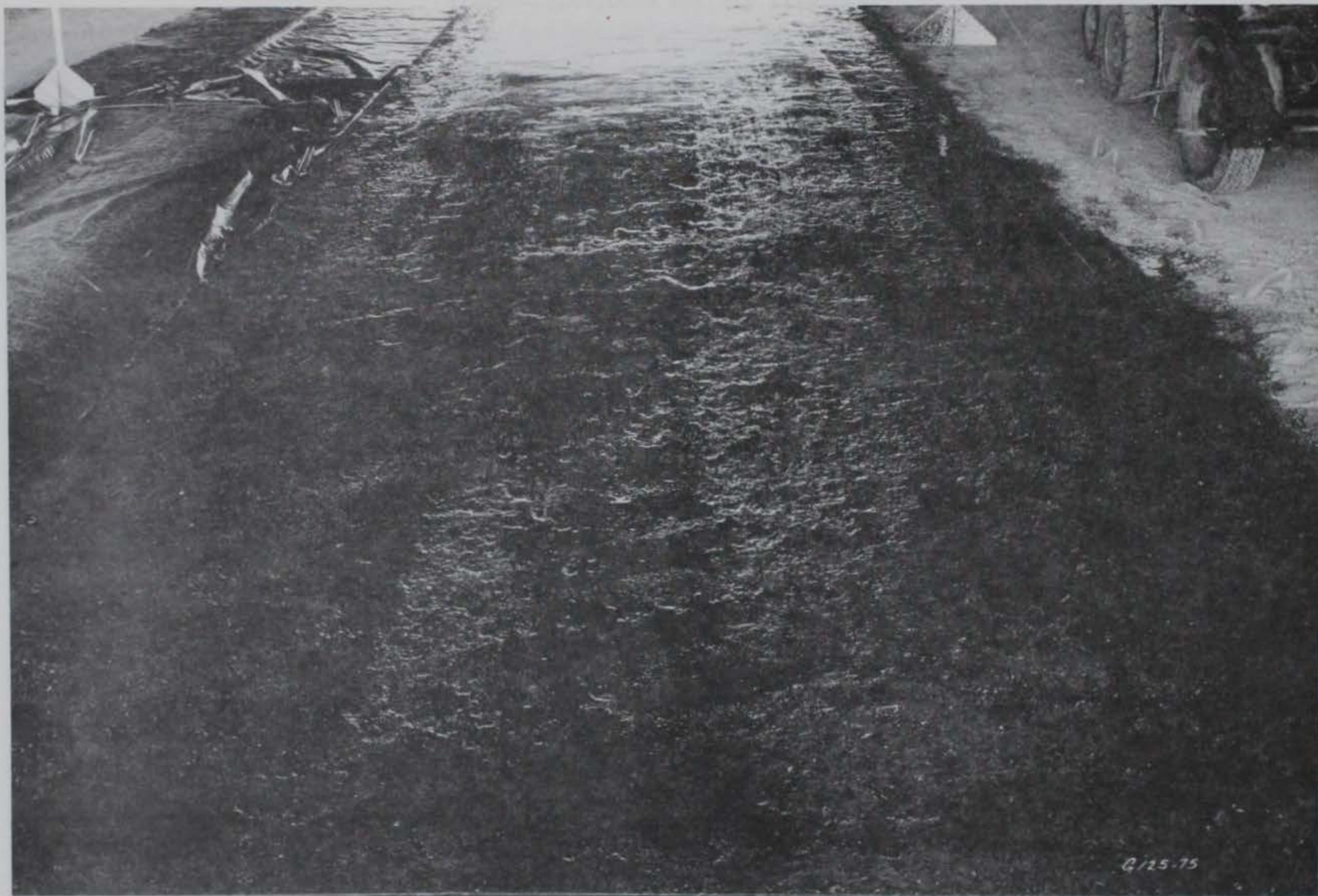


Photo A18. Blend II (lane 3, Item 3) primed with MC-70 cutback asphalt





Photo A19. Application of RS-3K emulsion and crushed limestone aggregate  
(single-bituminous surface treatment)





Photo A20. Double-bituminous surface treatment (lane 2, Item 3)





Photo A21. Close-up of double-bituminous surface treatment





Photo A22. Trailer-mounted drill rig used during LVDT gage installation



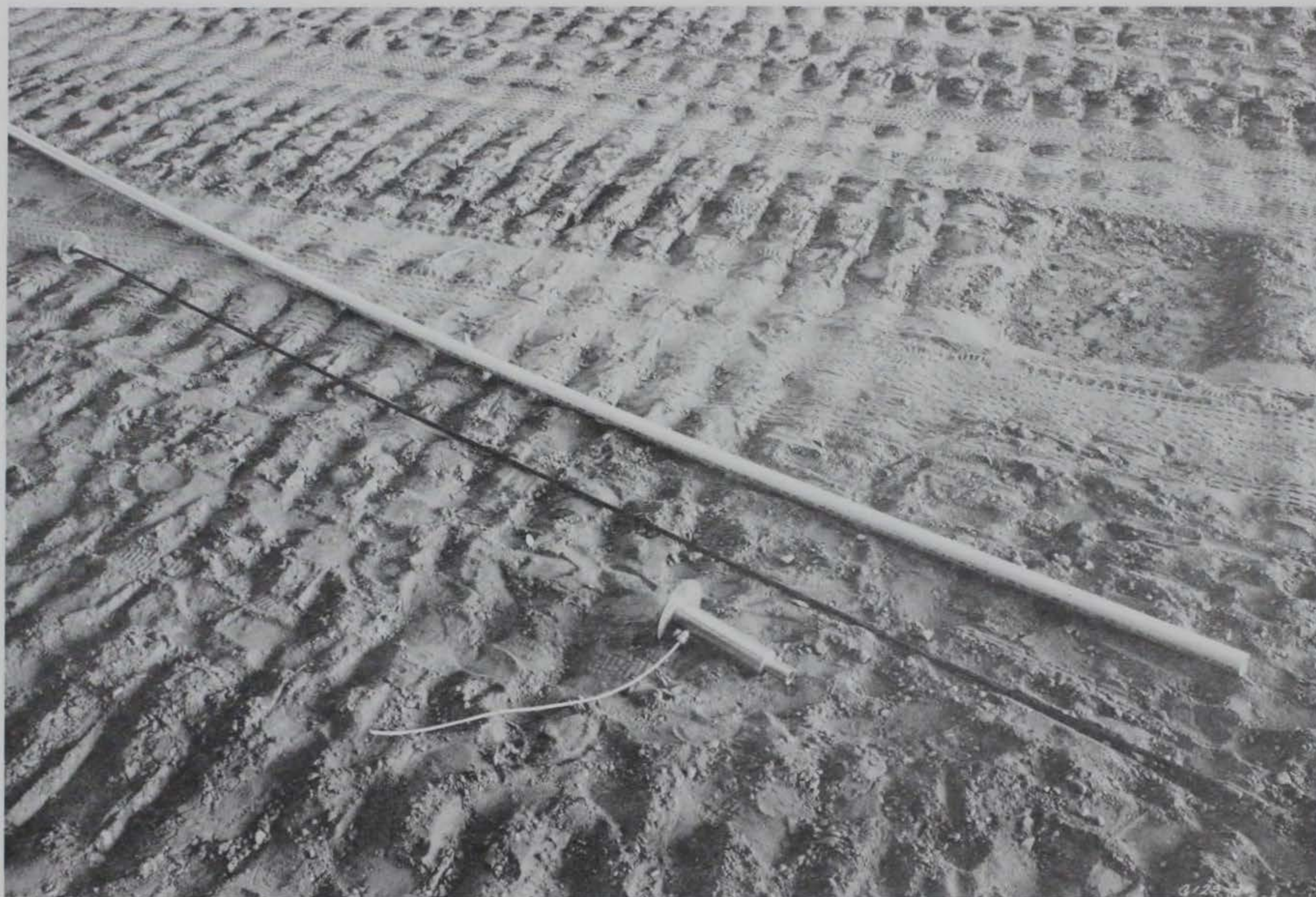


Photo A23. LVDT deflection gage, reference rod, and PVC casing





Photo A24. Reference rod in-place with LVDT core and flexible connecting hose attached



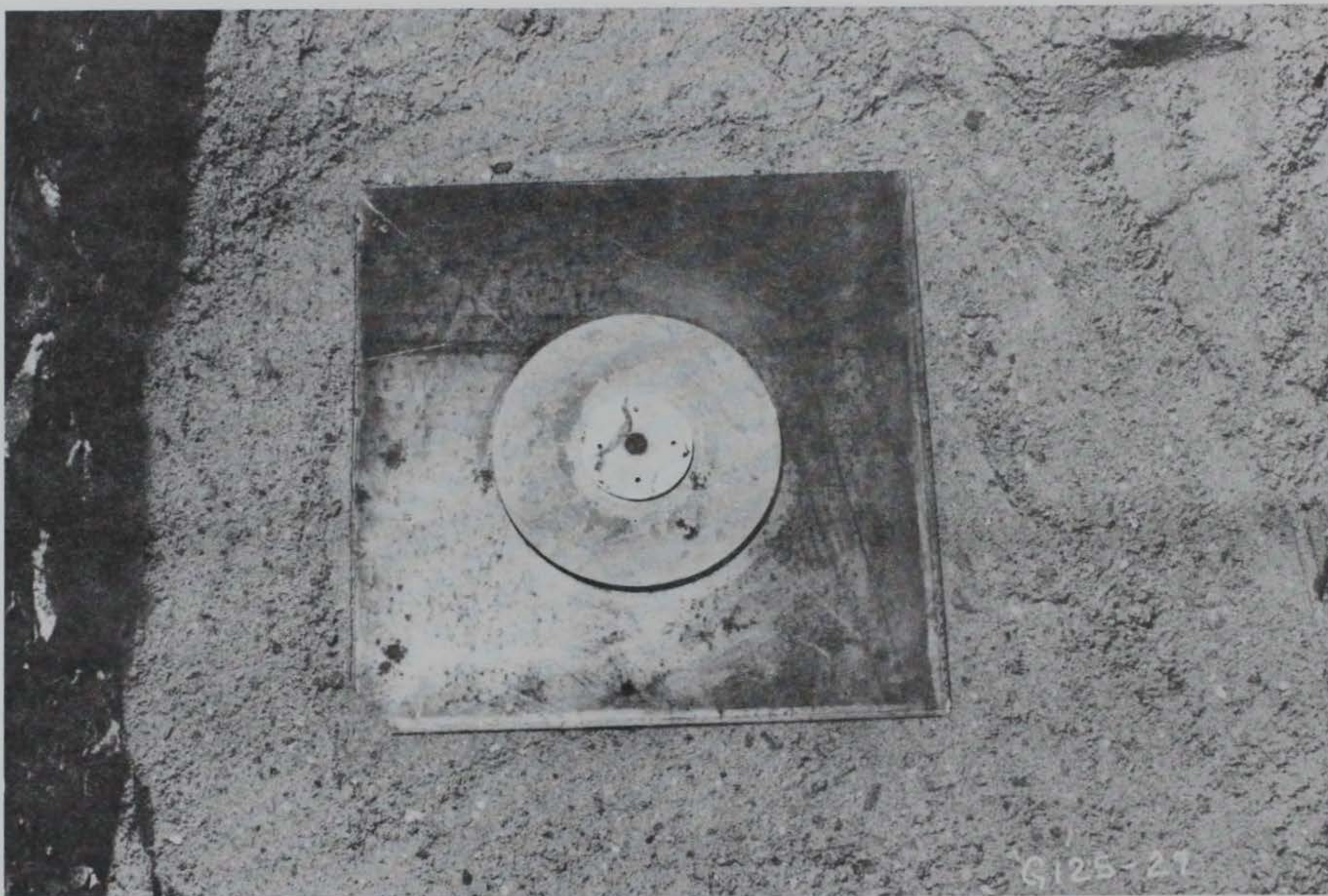


Photo A25. LVDT gage as installed with 1-ft- by 1-ft-steel plate





Photo A26. WES soil pressure cell as installed in the test section





Photo A27. Installation of cap and pin deflection gages





Photo A28. Mechanical whacker used for compaction of backfill above the pipes





Photo A29. Reinforced concrete pipe as placed in trench during construction



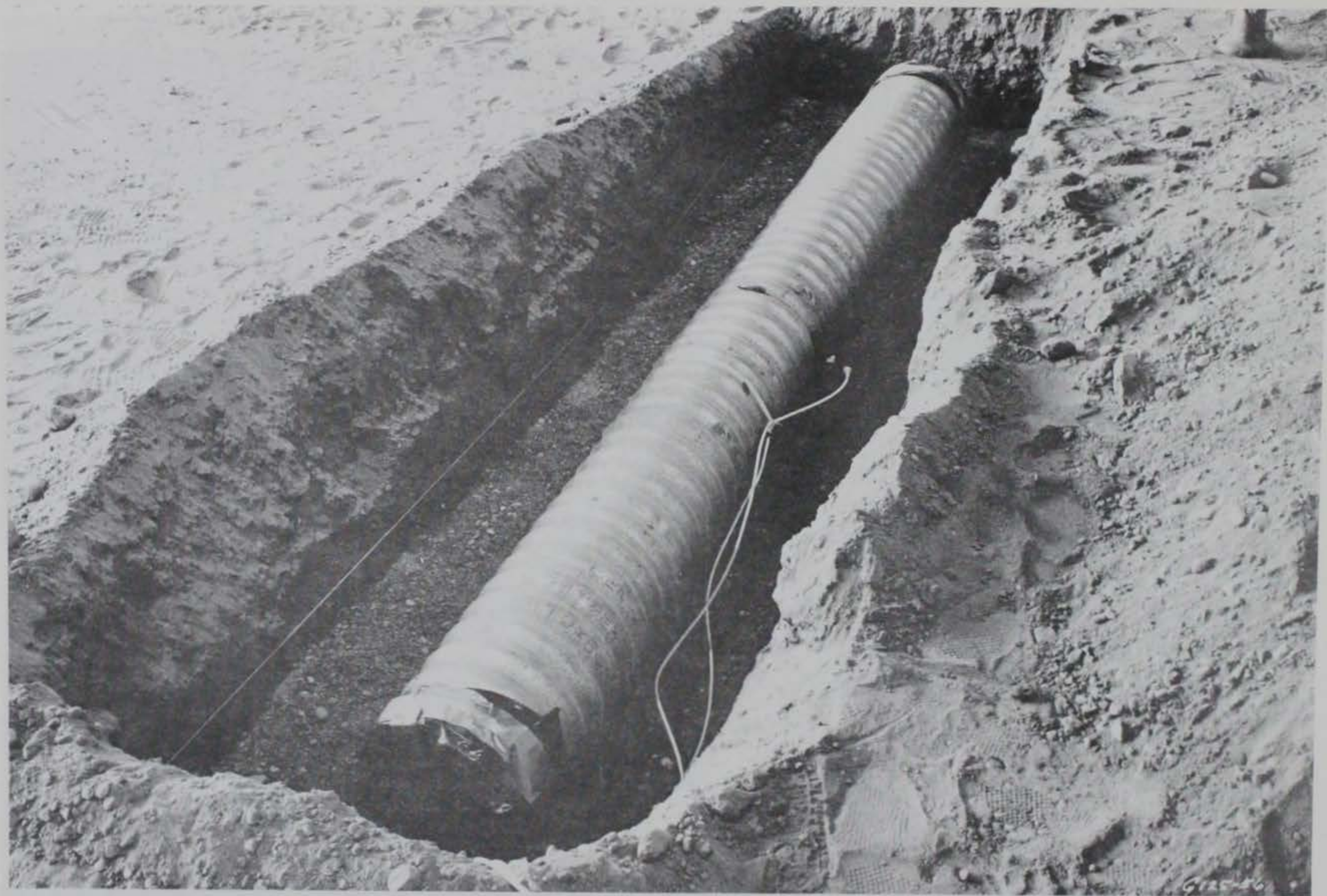


Photo A30. Corrugated steel pipe as placed in trench prior to backfill



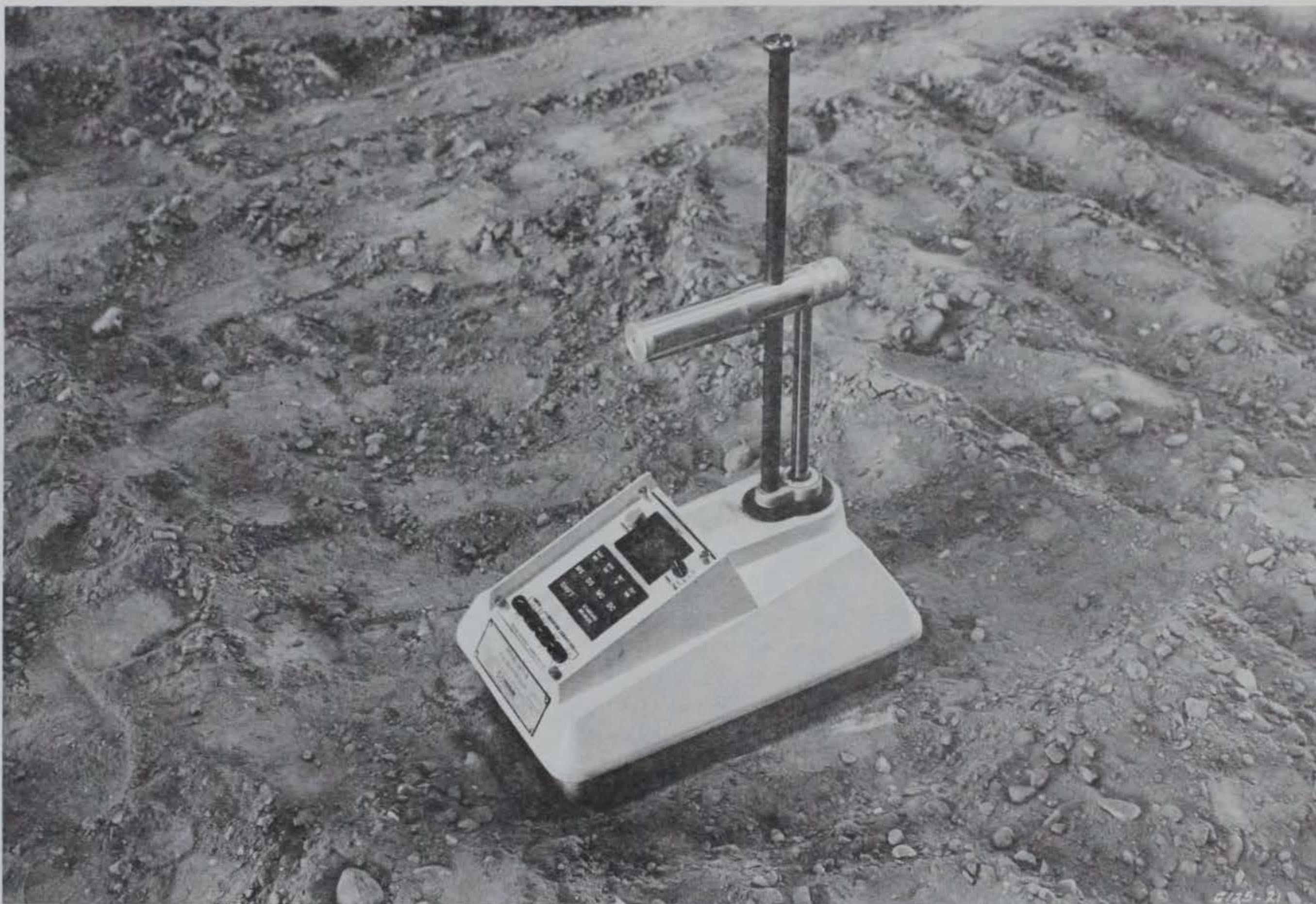


Photo A31. Troxler nuclear gage used for rapid moisture and density determinations



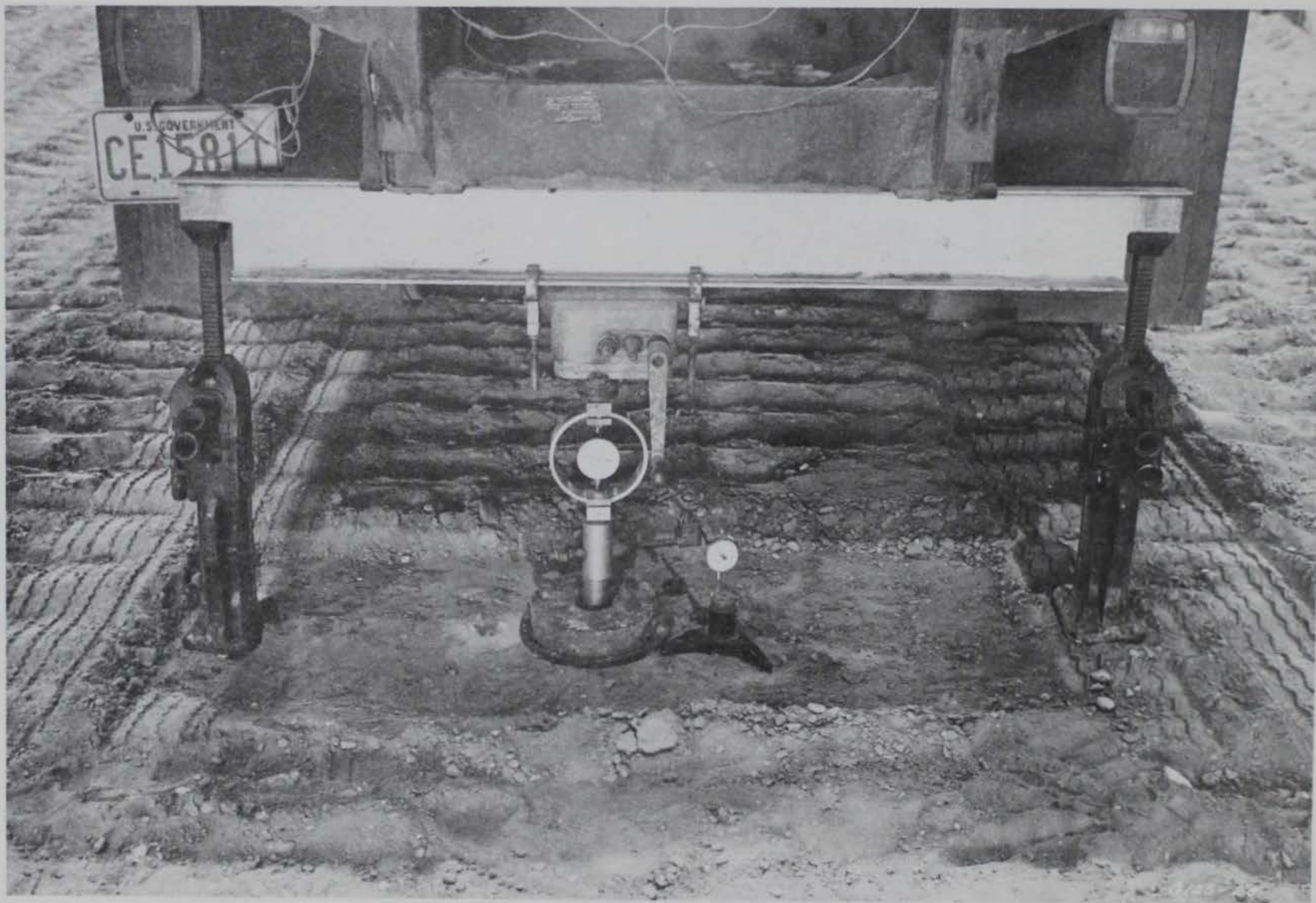
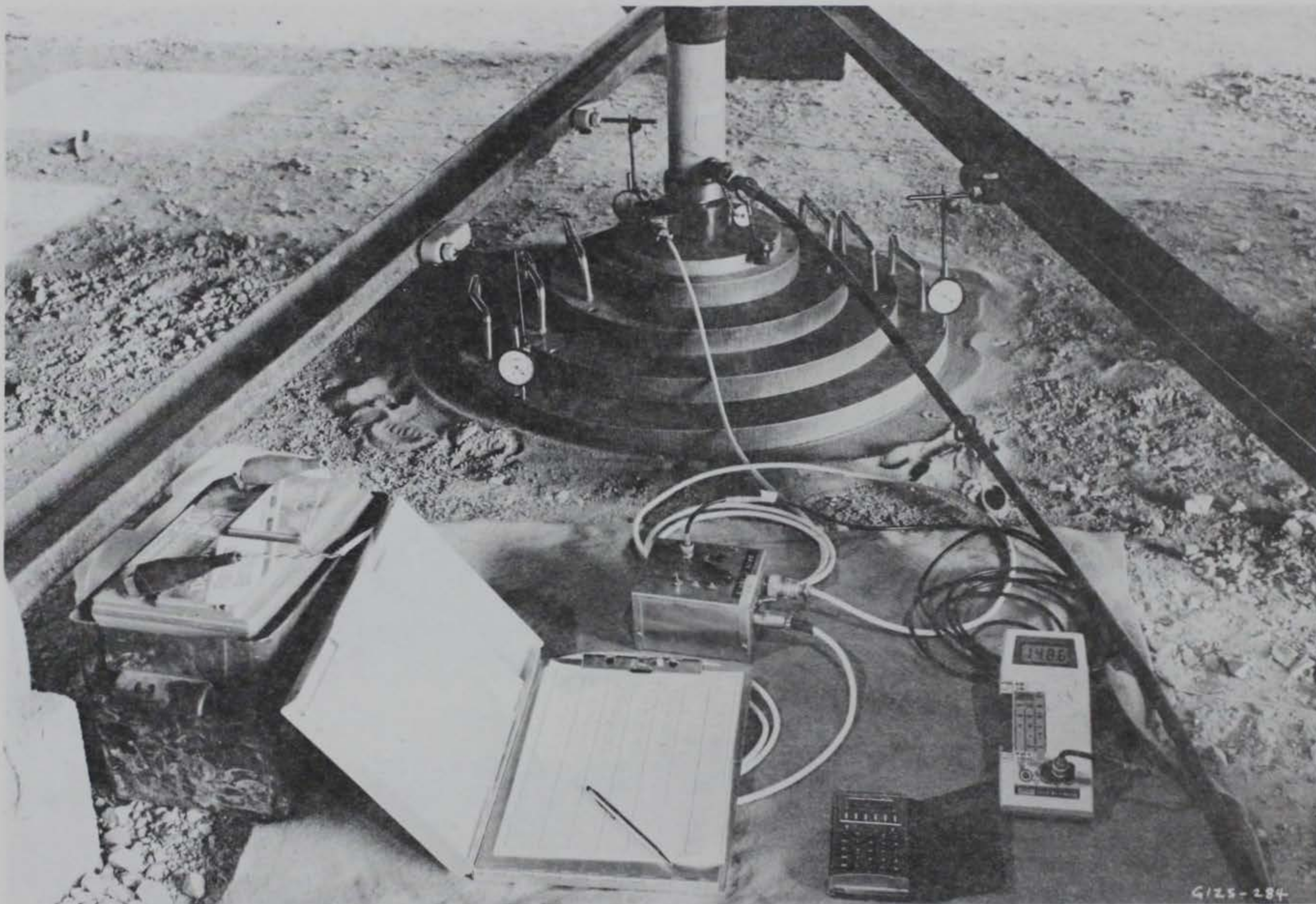


Photo A32. Field CBR equipment setup for in-place soil strength measurements





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Photo A33. Equipment setup for plate-bearing tests



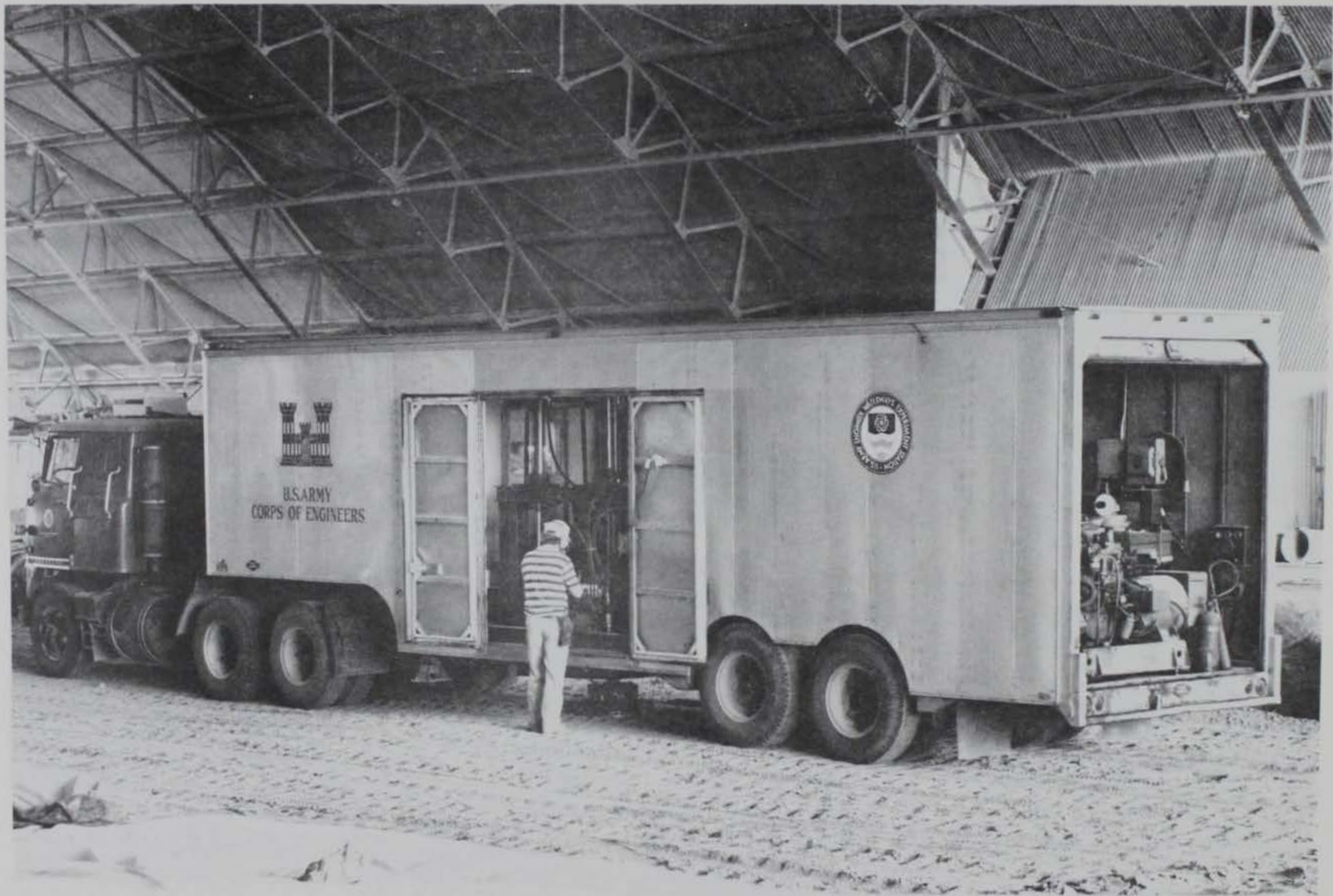


Photo A34. WES 16-kip vibrator





Photo A35. Model 2008 Road Rater



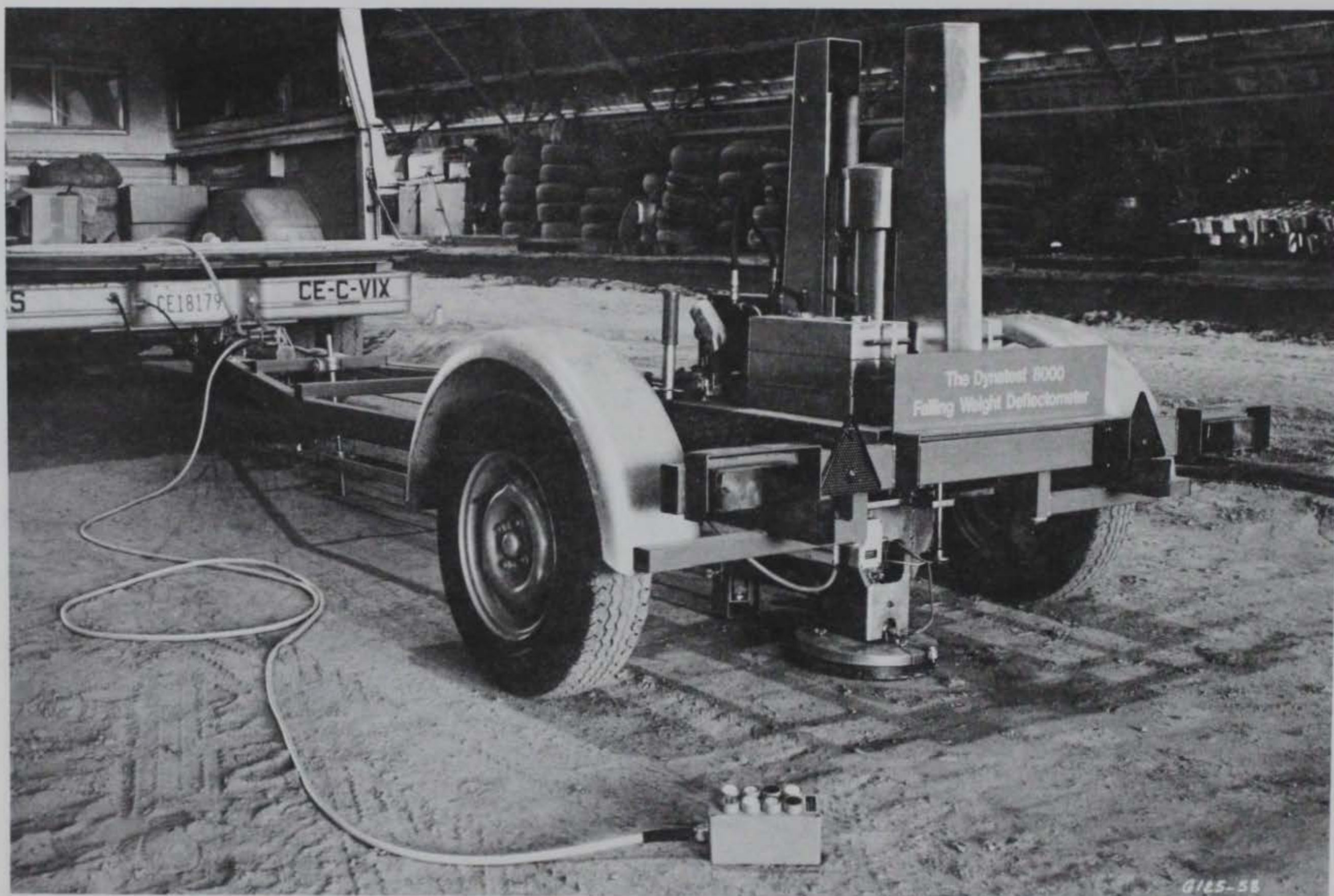


Photo A36. Falling Weight Deflectometer



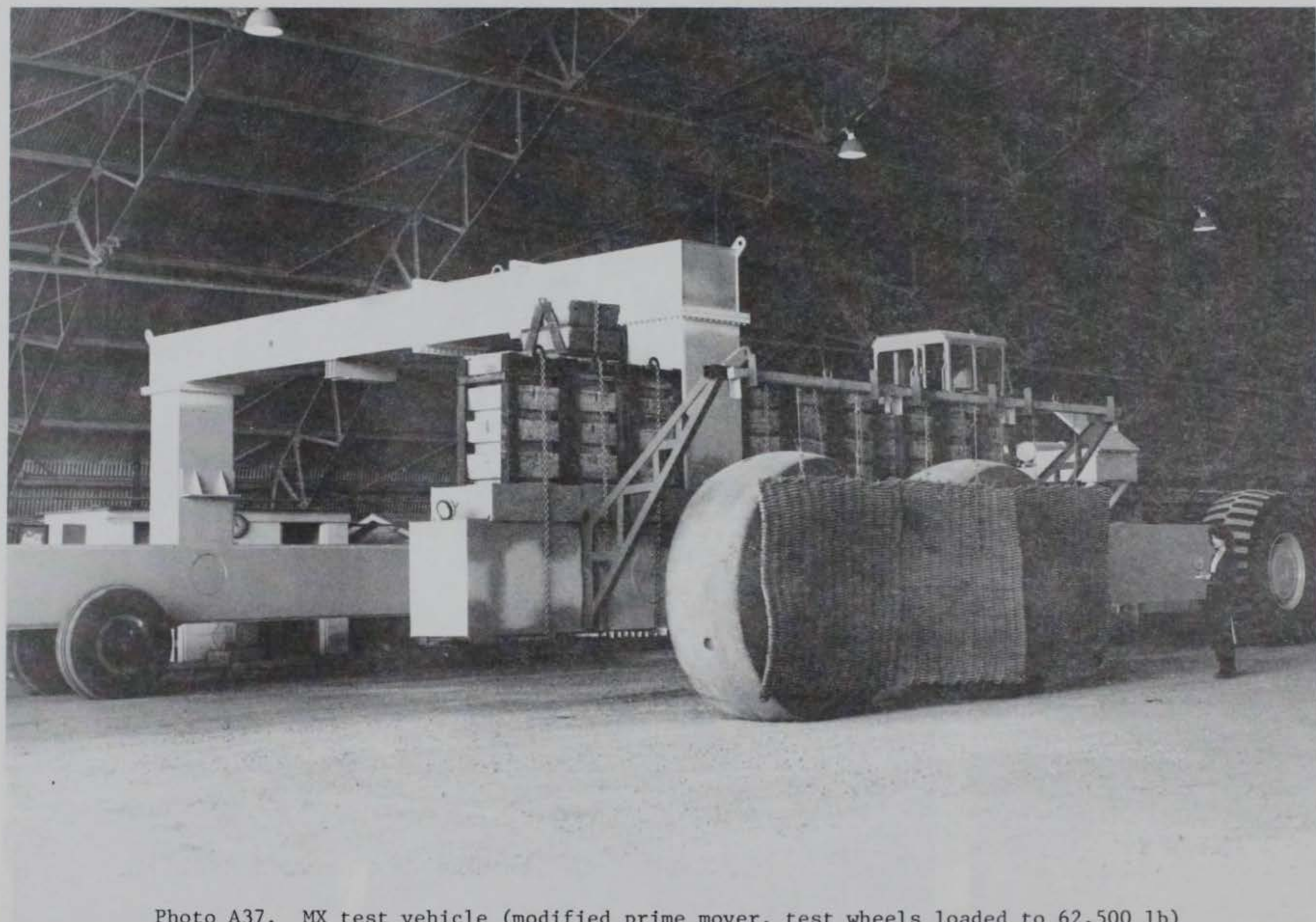


Photo A37. MX test vehicle (modified prime mover, test wheels loaded to 62,500 lb)



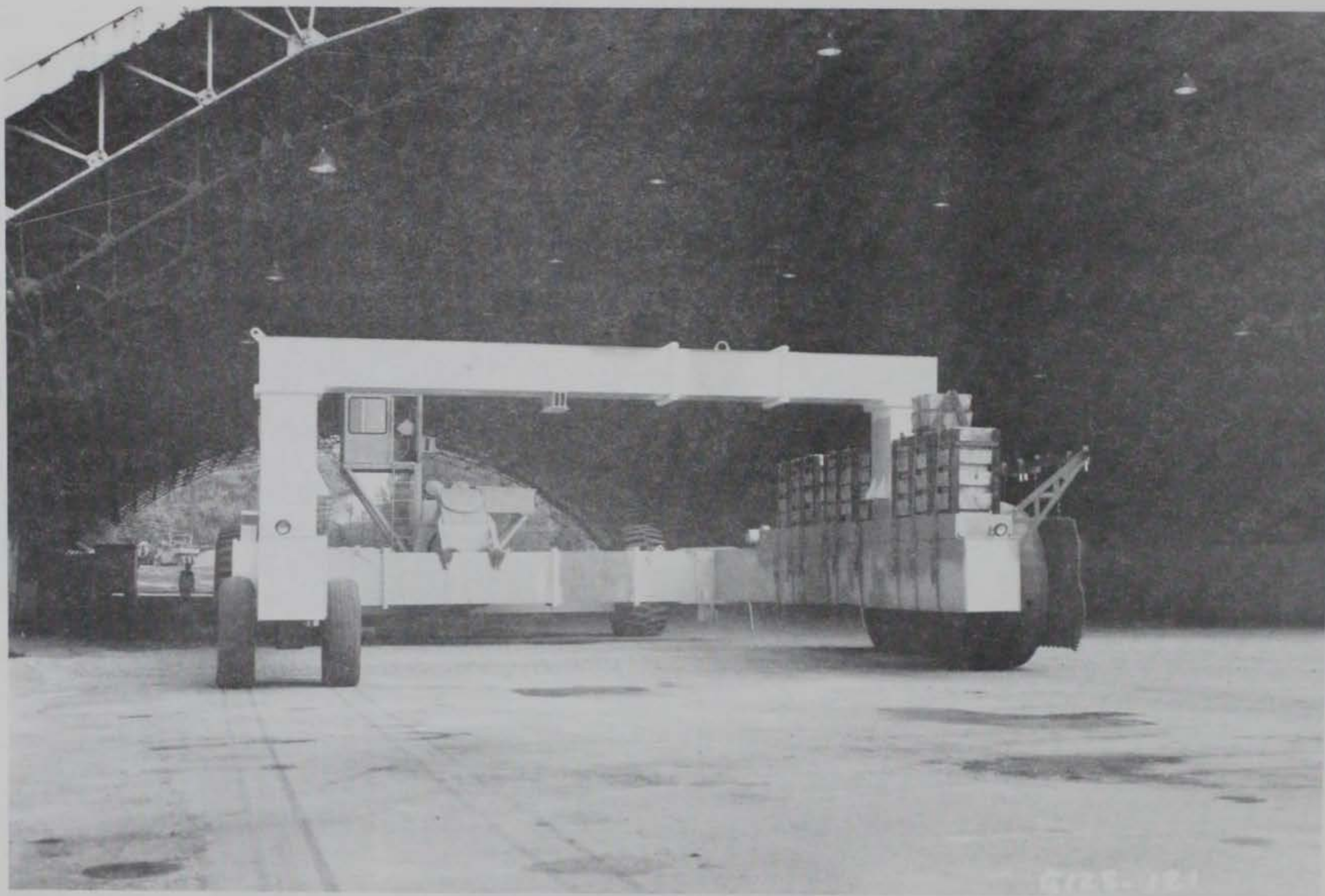


Photo A38. MX test vehicle (shown from behind)



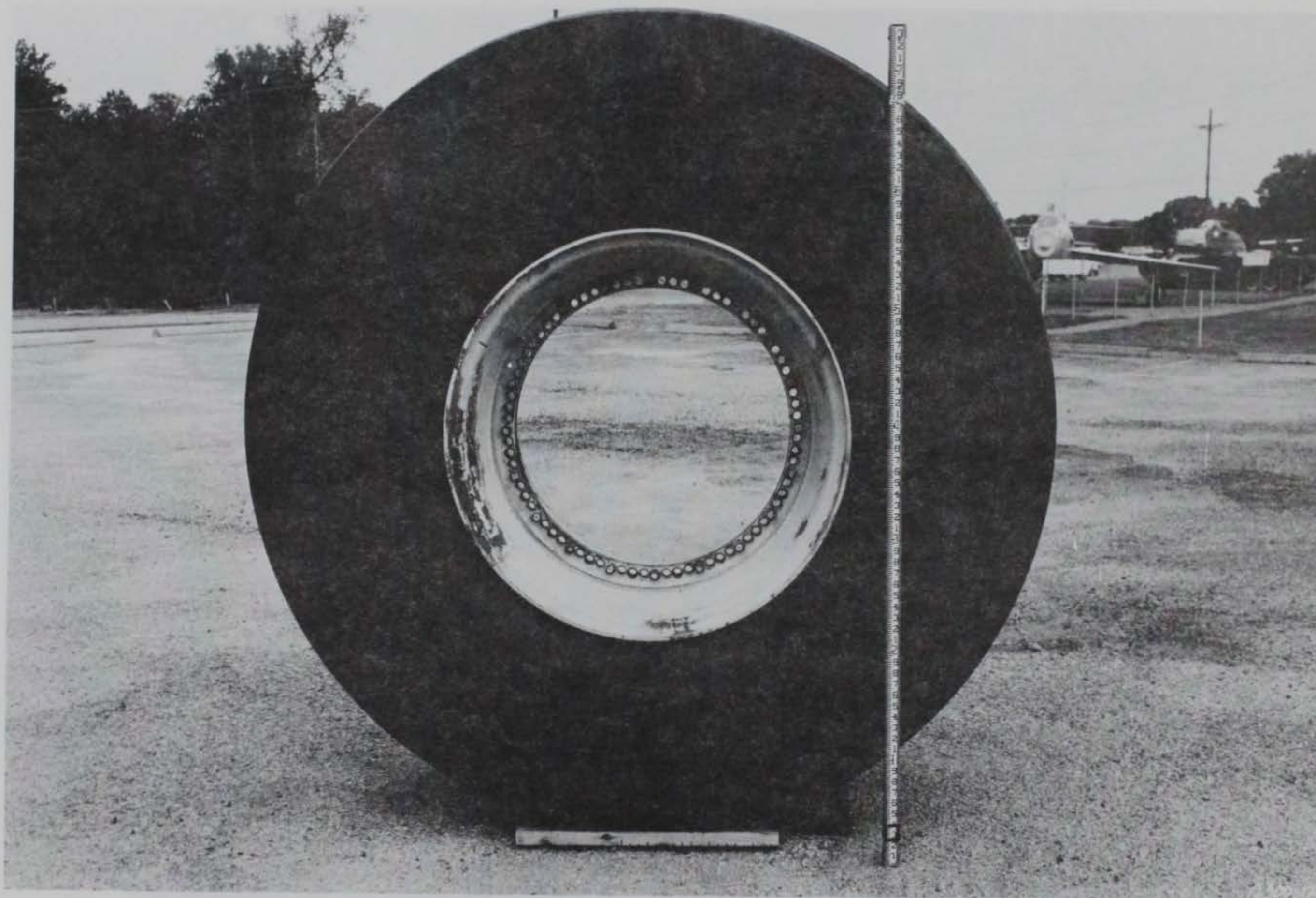


Photo A39. Side view of tires used on the MX load cart



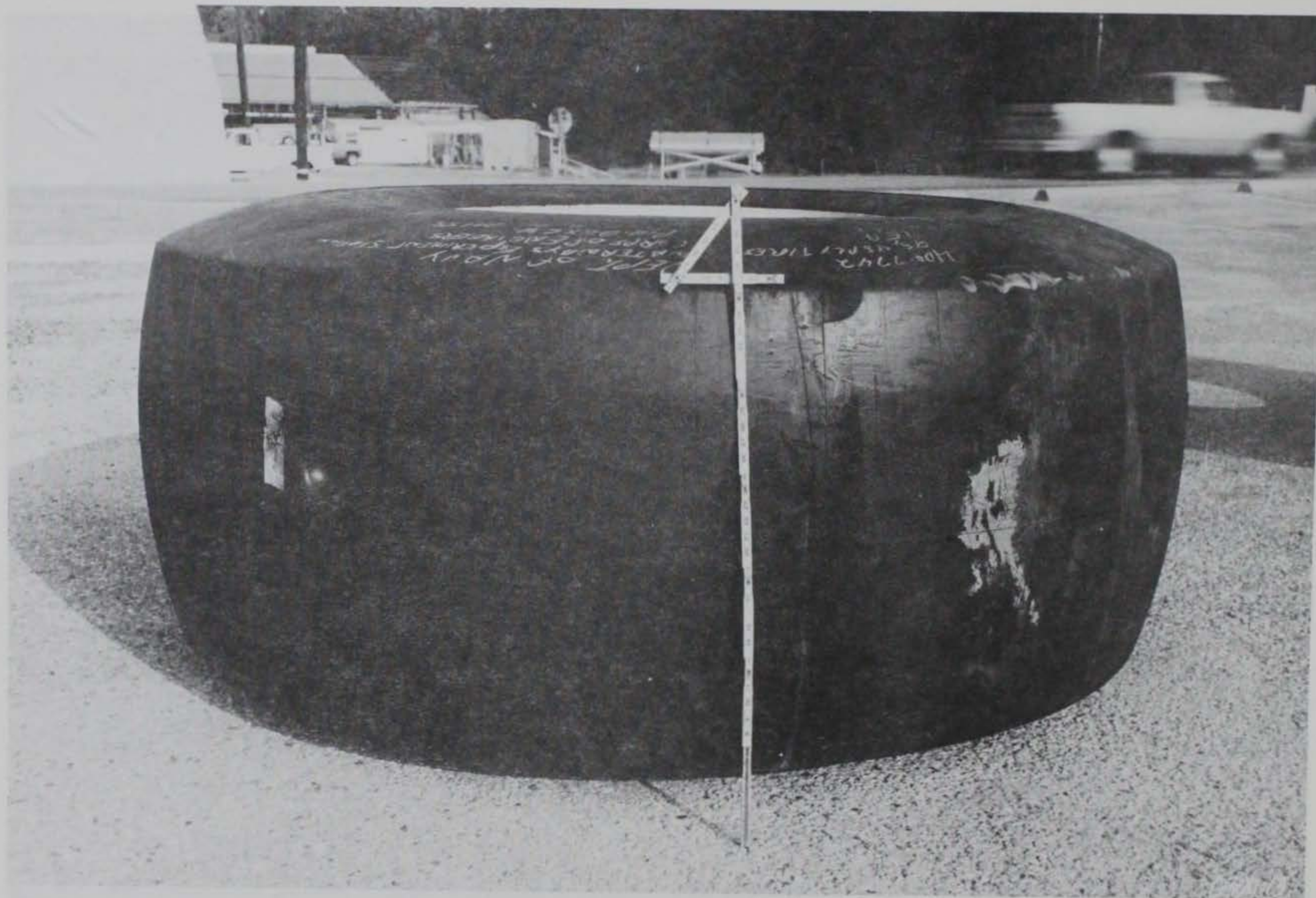


Photo A40. Smooth tires used on the MX load cart



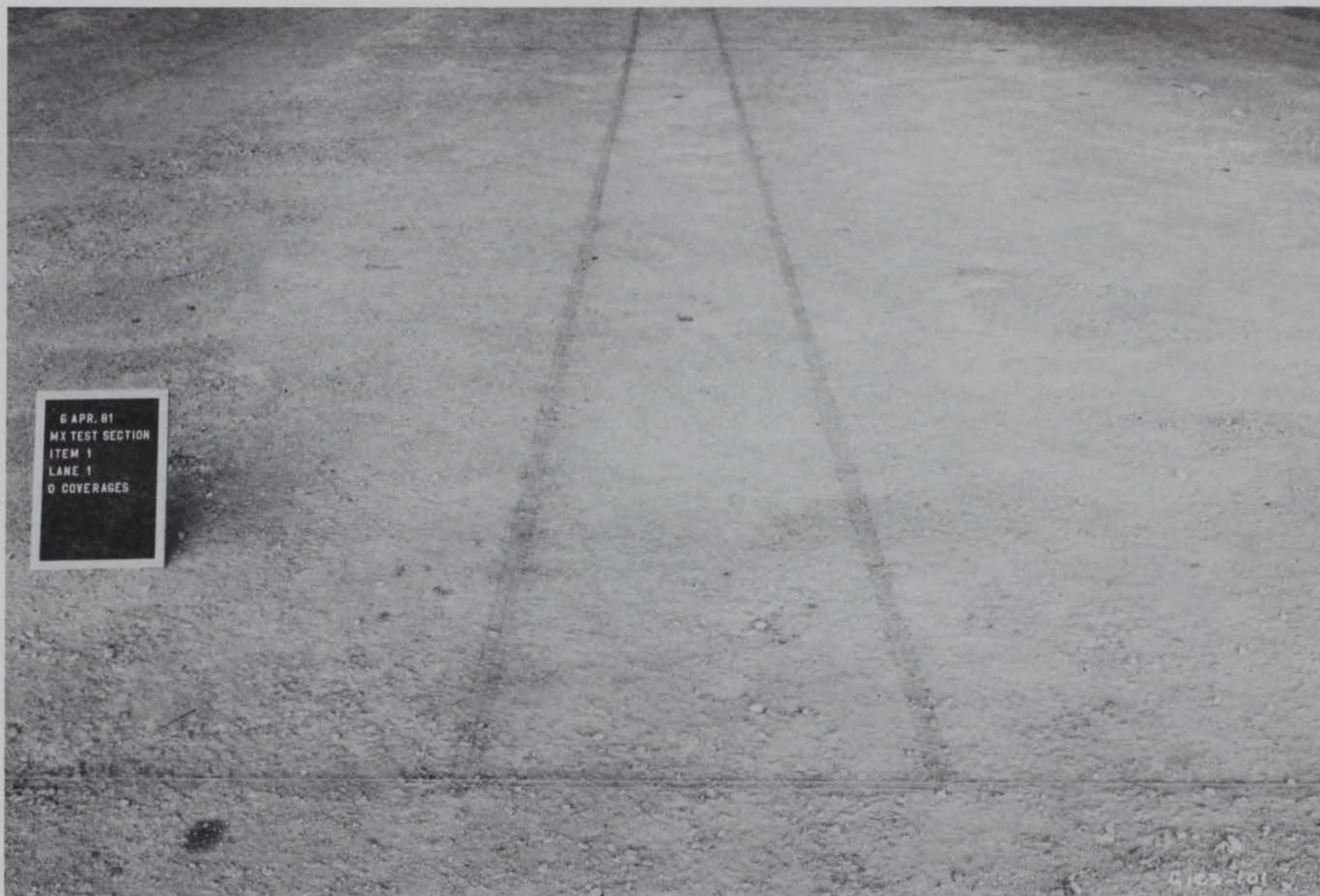


Photo A41. Lane 1, Item 1, before traffic (0 passes)



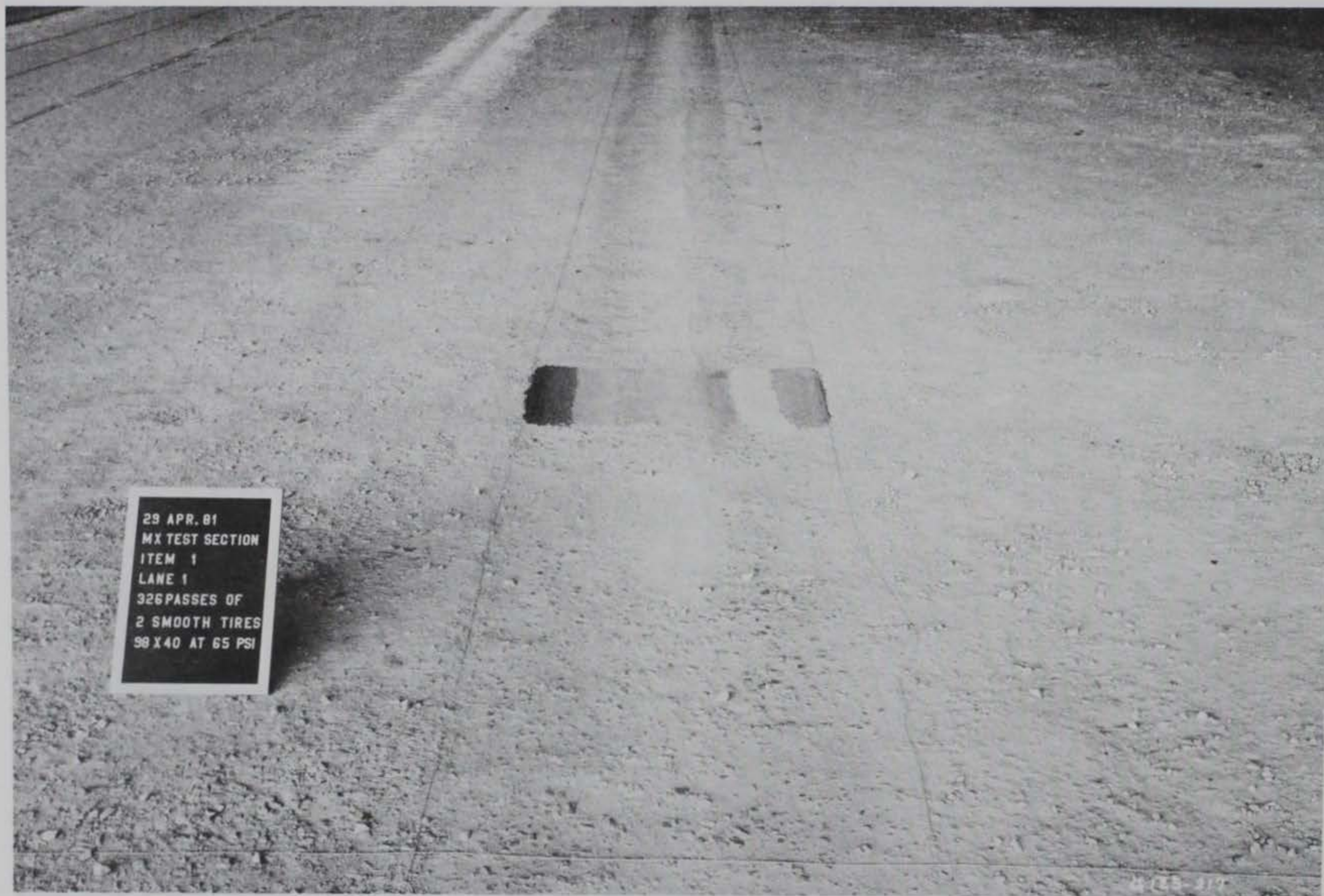


Photo A42. Lane 1, Item 1, after 326 passes



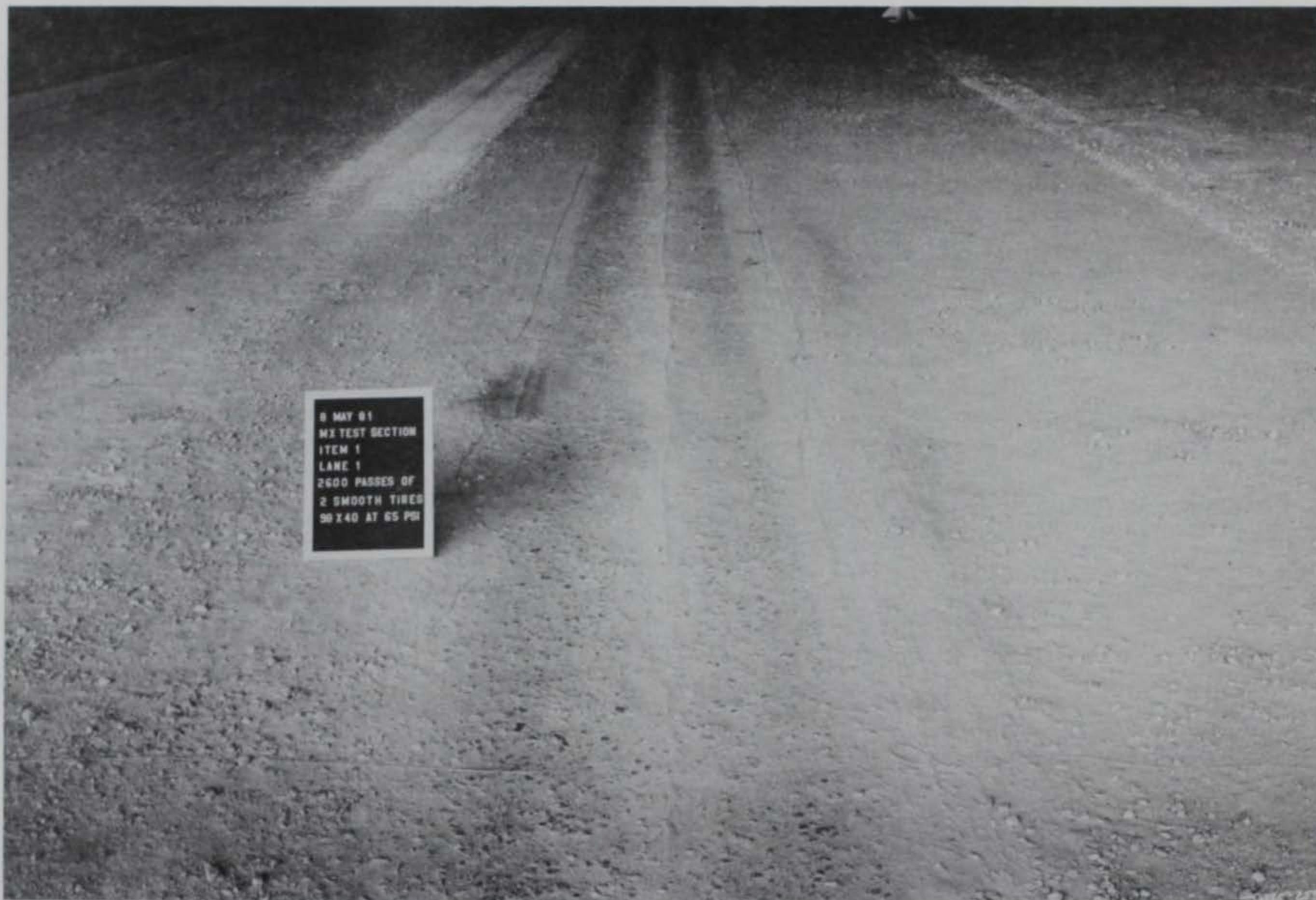


Photo A43. Lane 1, Item 1, after 2,600 passes



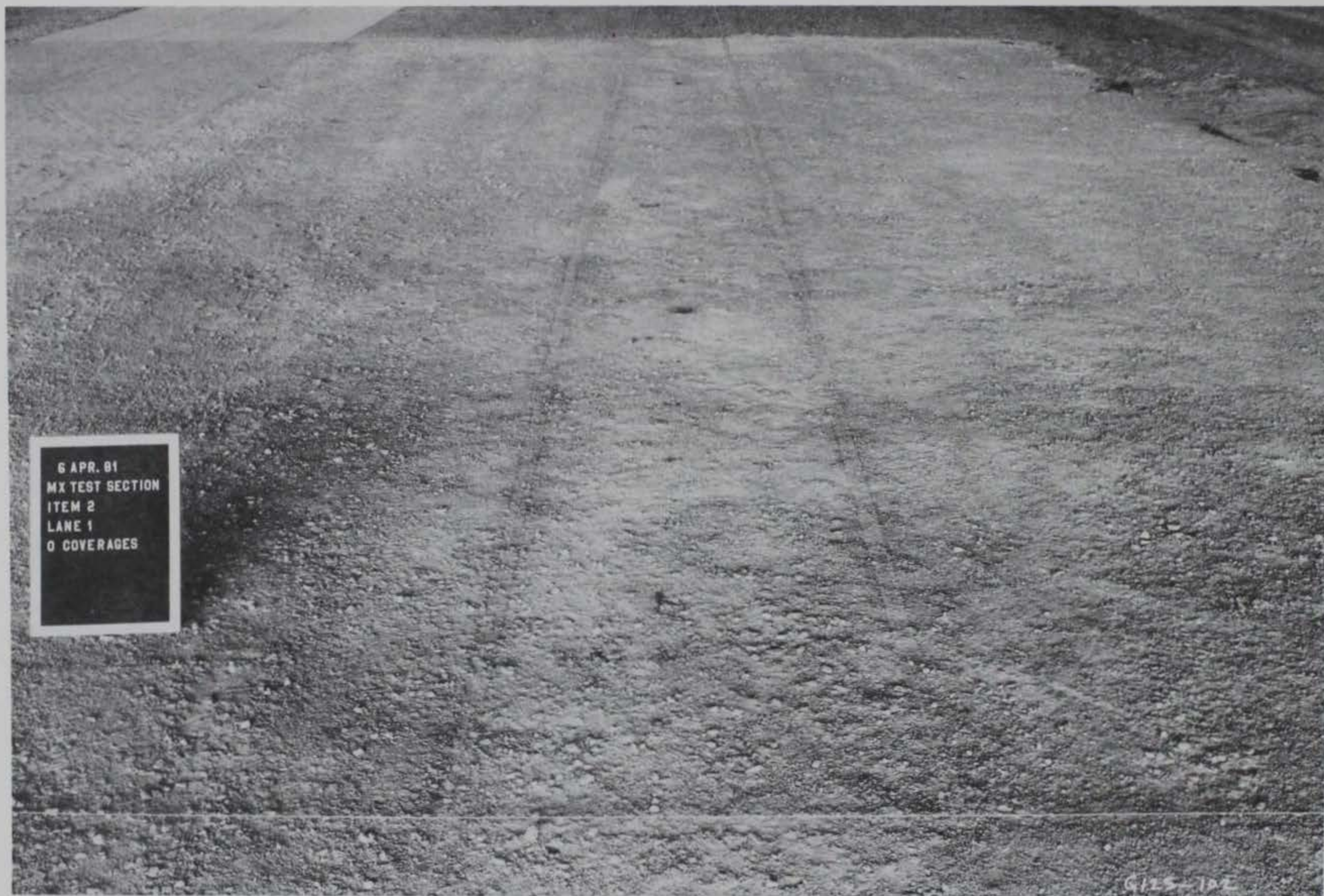


Photo A44. Lane 1, Item 2, before traffic (0 passes)





Photo A45. Lane 1, Item 2, after 326 passes





Photo A46. Lane 1, Item 2, after 2,600 passes





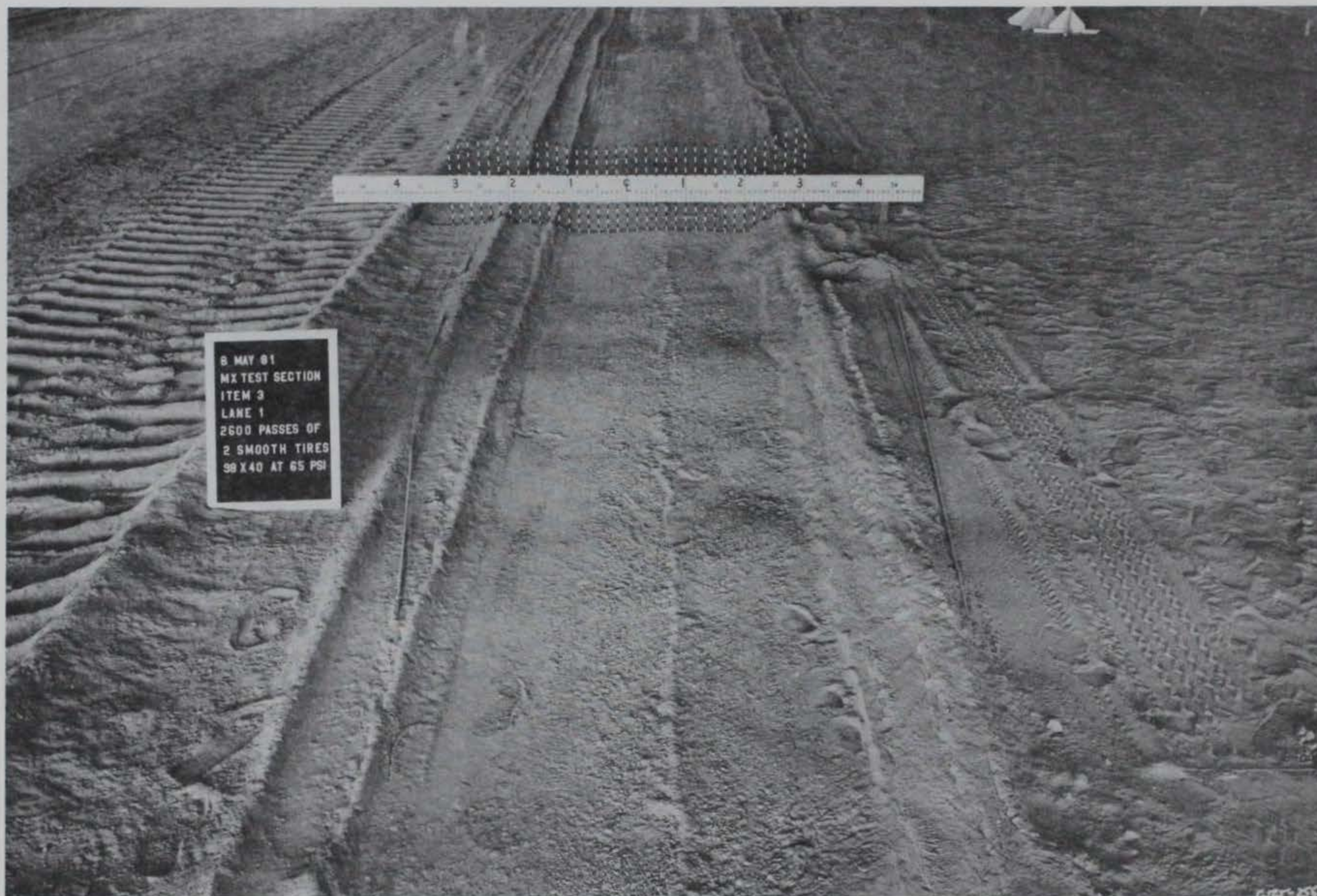
Photo A47. Lane 1, Item 3, before traffic (0 passes)





Photo A48. Lane 1, Item 3, after 326 passes





8 MAY 81  
MX TEST SECTION  
ITEM 3  
LANE 1  
2600 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

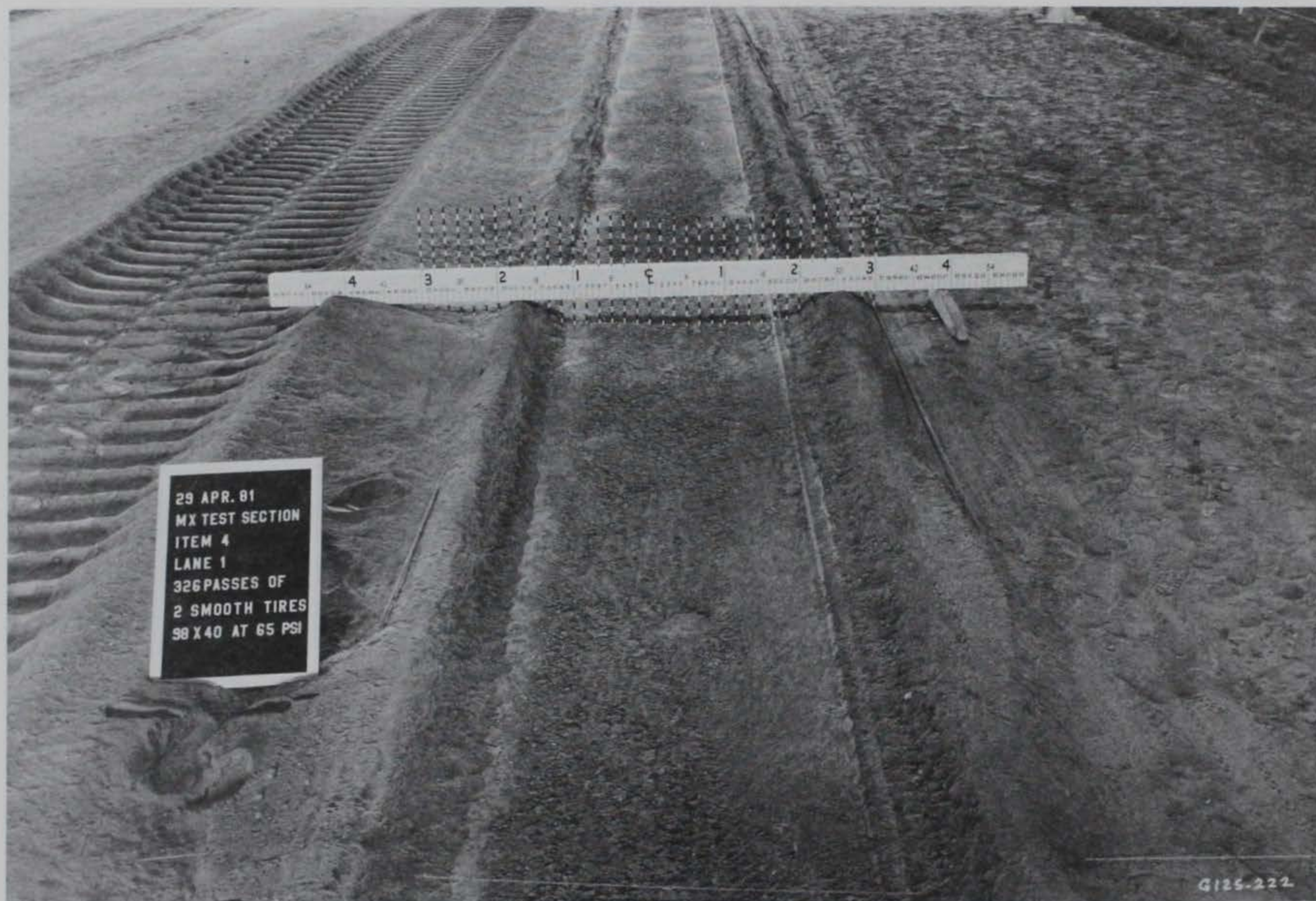
Photo A49. Lane 1, Item 3, after 2,600 passes





Photo A50. Lane 1, Item 4, before traffic (0 passes)





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MX TEST SECTION  
ITEM 4  
LANE 1  
326 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

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Photo A51. Lane 1, Item 4, after 326 passes





Photo A52. Lane 1, Item 4, after 2,600 passes





Photo A53. Lane 1, Item 5, before traffic (0 passes)





Photo A54. Lane 1, Item 5, after 326 passes





Photo A55. Lane 1, Item 5, after 2,600 passes



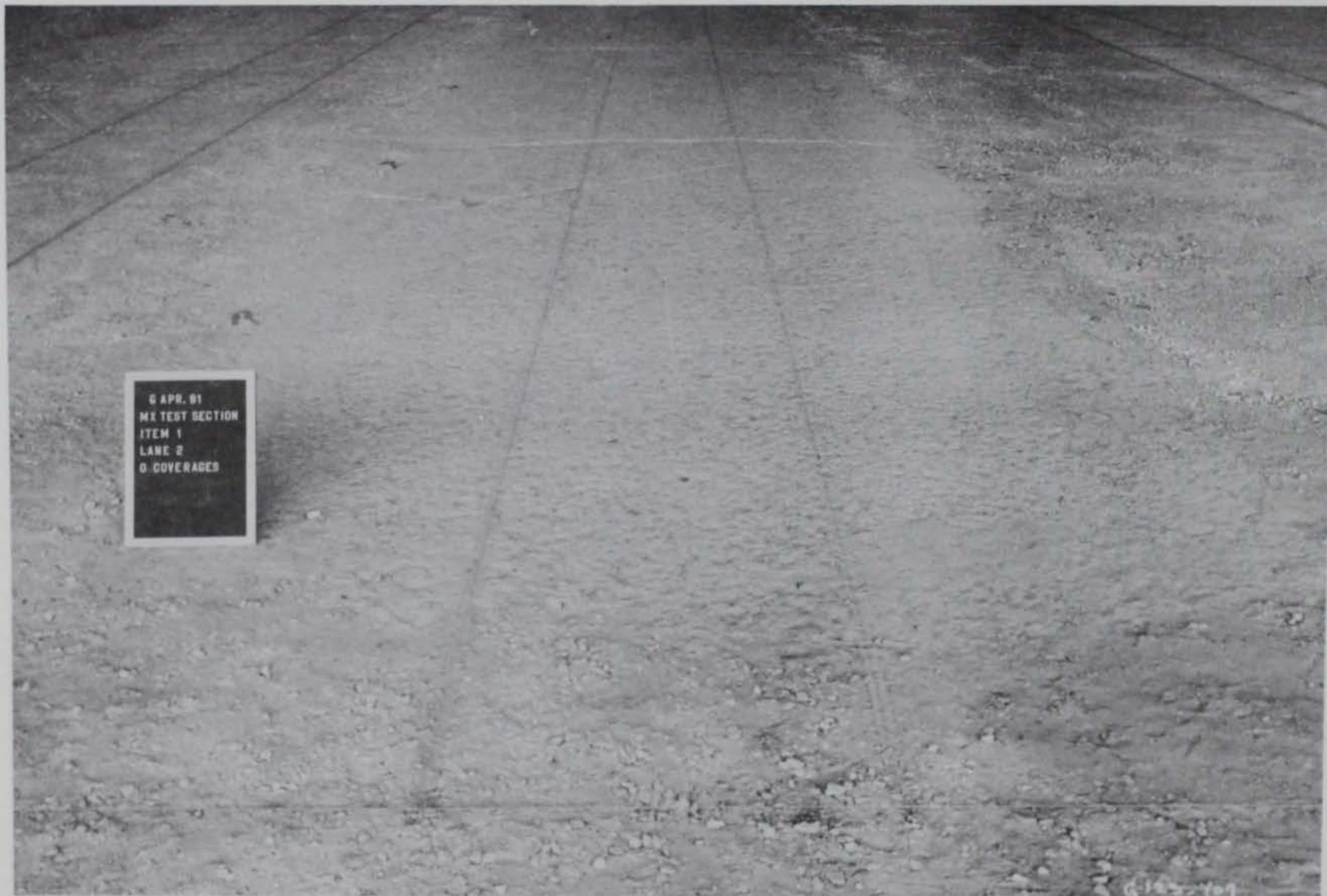


Photo A56. Lane 2, Item 1, before traffic (0 passes)





Photo A57. Lane 2, Item 1, after 326 passes



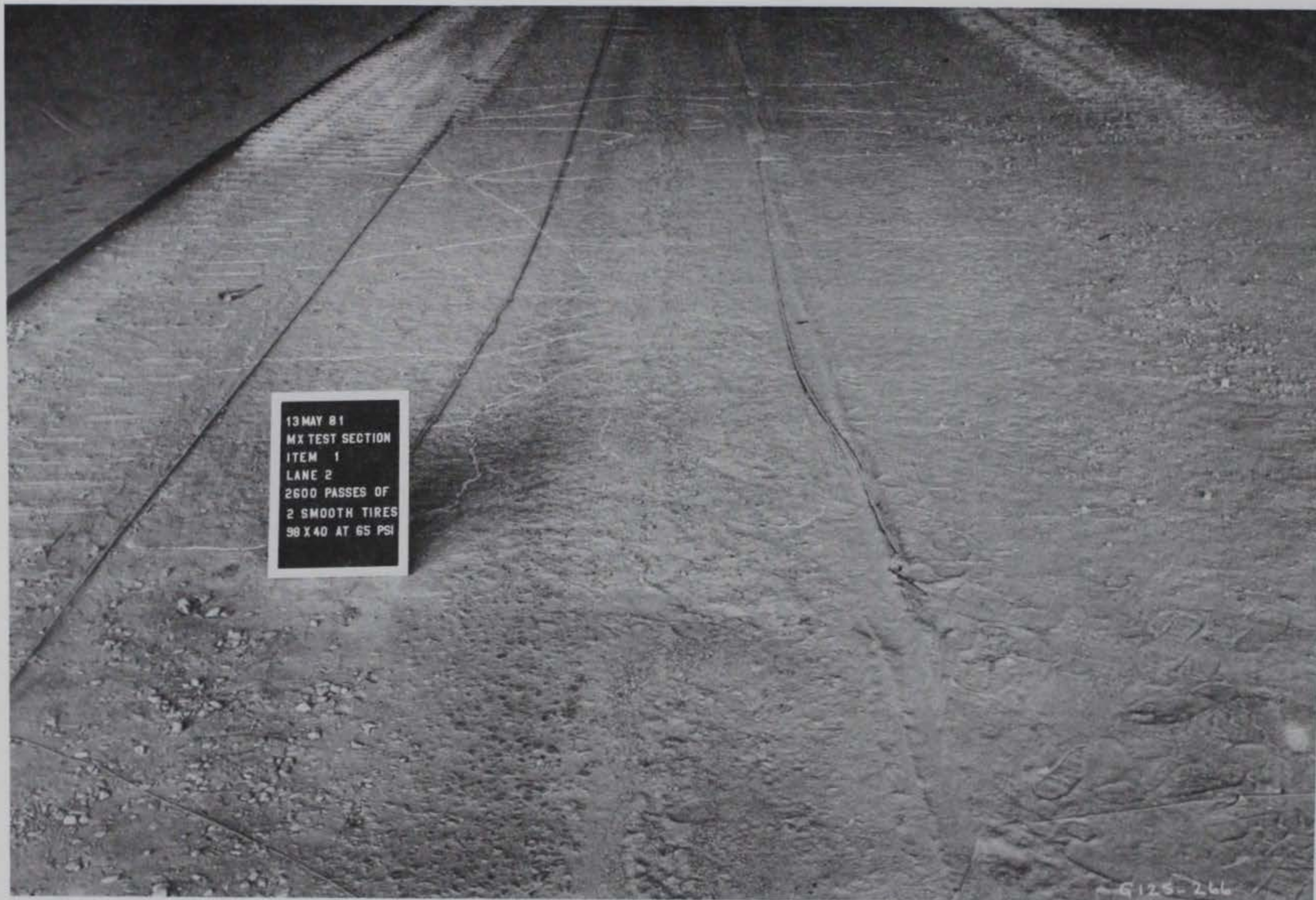


Photo A58. Lane 2, Item 1, after 2,600 passes





Photo A59. Close-up of surface, lane 2, Item 1, after 2,600 passes





Photo A60. Lane 2, Item 1, after 2,600 passes (loose material removed from the surface)





Photo A61. Vertical cut through 29 in. of cement stabilized Blend I (lane 2, Item 1)





Photo A62. Lane 2, Item 2, before traffic (0 passes)





Photo A63. Close-up of surface, lane 2, Item 2, after 1,300 passes





13 MAY 81  
MX TEST SECTION  
ITEM 2  
LANE 2  
2600 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

Photo A64. Lane 2, Item 2, after 2,600 passes





Photo A65. Close-up of surface, lane 2, Item 2, after 2,600 passes





Photo A66. Lane 2, Item 2, after 2,600 passes (loose material removed from the surface)



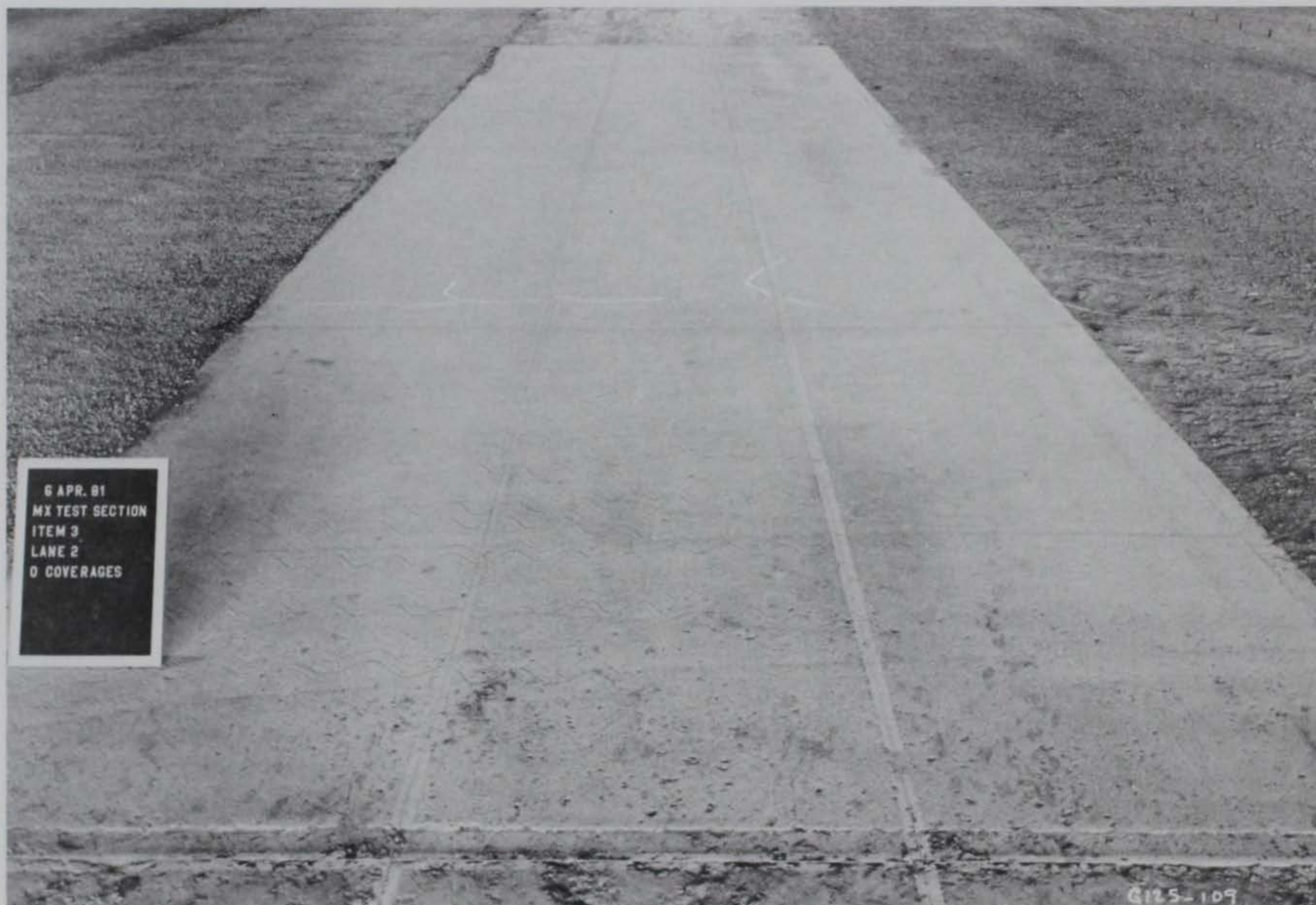


Photo A67. Lane 2, Item 3, before traffic (0 passes)





Photo A68. Lane 2, Item 3, after 326 passes





Photo A69. Lane 2, Item 3, after 2,600 passes





Photo A70. Close-up of surface, lane 2, Item 3, after 2,600 passes





Photo A71. Lane 2, Item 3, after 2,600 passes (loose material removed from the surface)





Photo A72. Lane 2, Item 4, before traffic (0 passes)



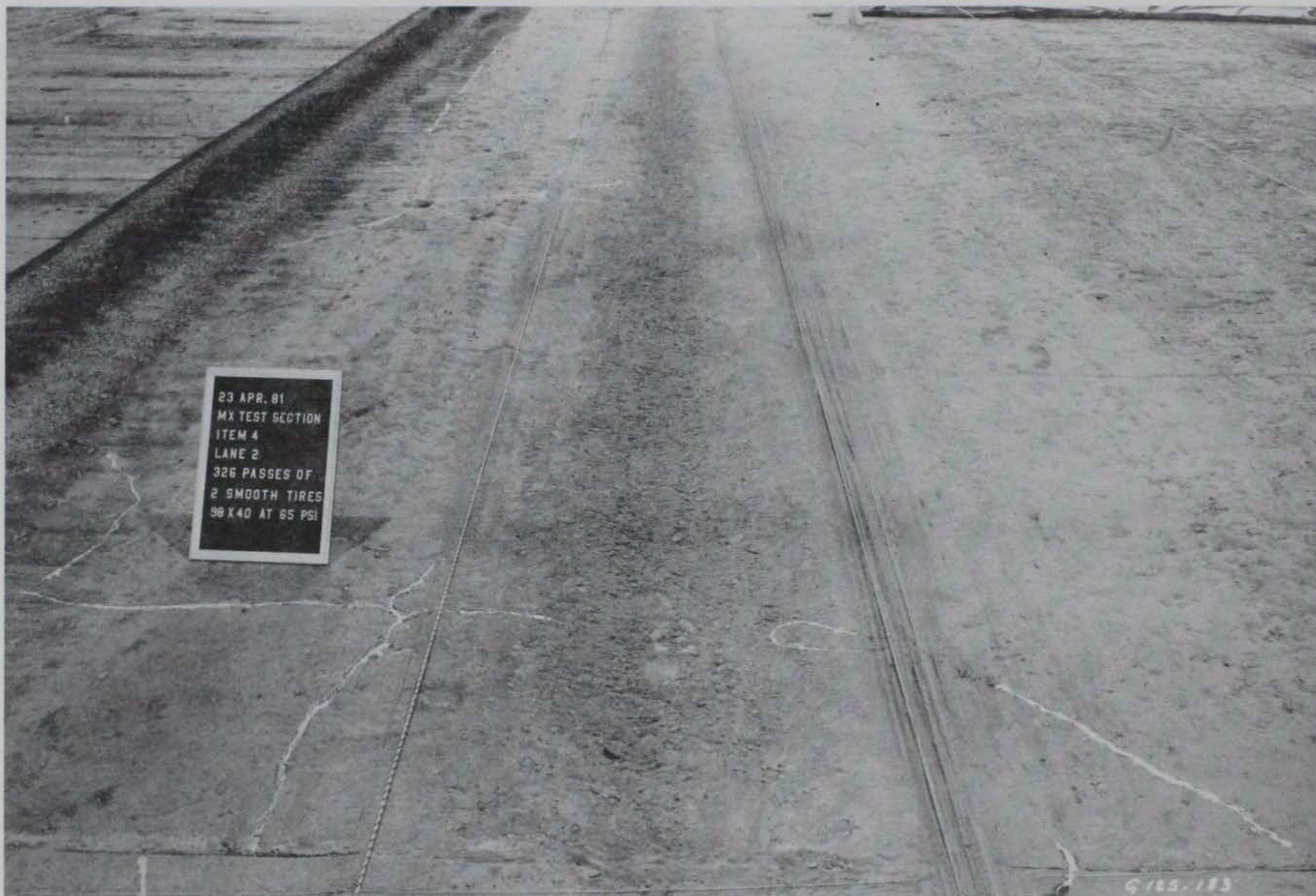


Photo A73. Lane 2, Item 4, after 326 passes





Photo A74. Lane 2, Item 4, after 2,600 passes





Photo A75. Close-up of surface, lane 2, Item 4, after 2,600 passes





Photo A76. Lane 2, Item 4, after 2,600 passes (loose material removed from the surface)





Photo A77. Lane 2, Item 5, before traffic (0 passes)





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MX TEST SECTION  
ITEM 5  
LANE 2  
326 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

Photo A78. Lane 2, Item 5, after 326 passes





Photo A79. Lane 2, Item 5, after 2,600 passes





Photo A80. Close-up of surface, lane 2, Item 5, after 2,600 passes





Photo A81. Lane 2, Item 5, after 2,600 passes (loose material removed from the surface)



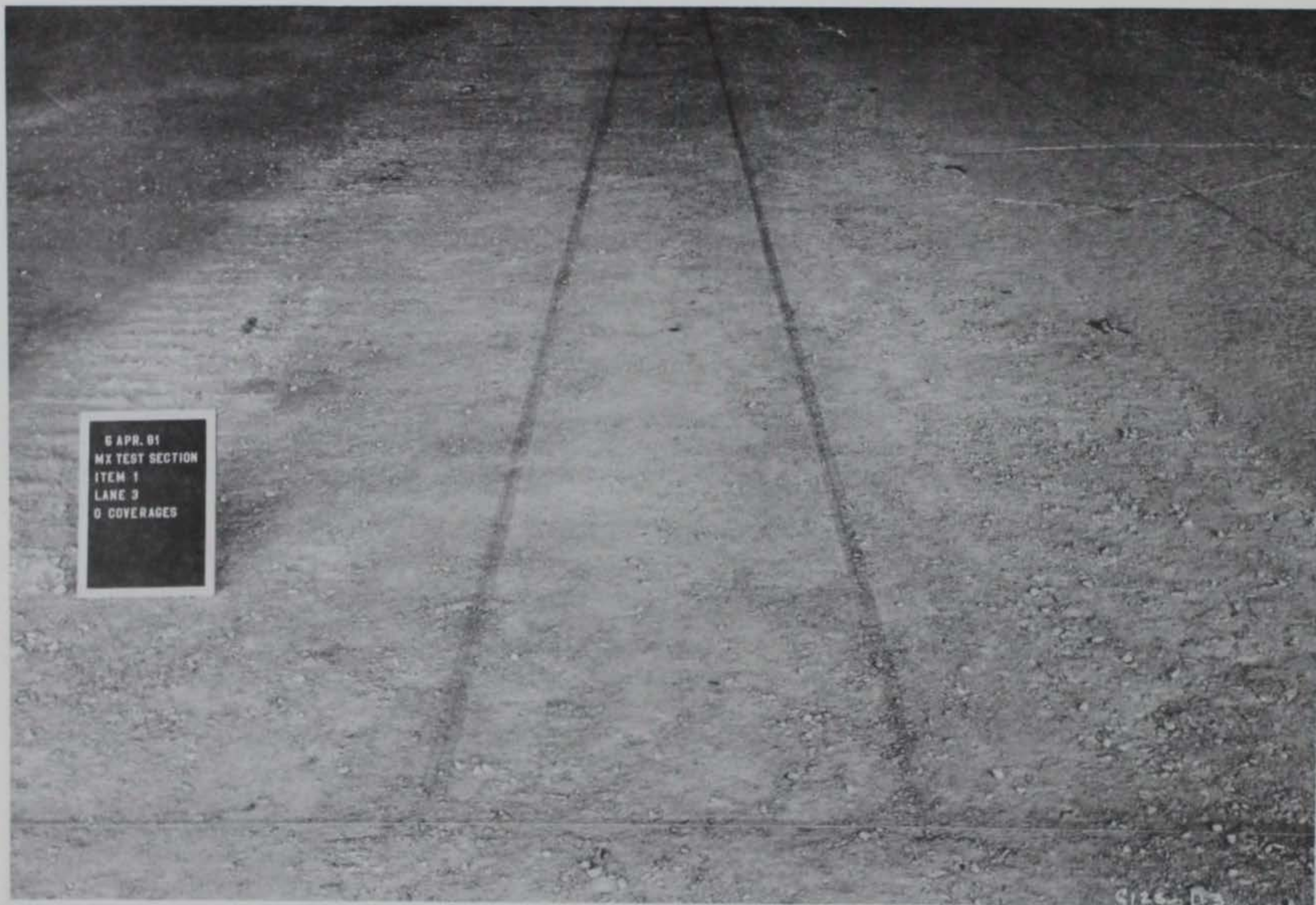


Photo A82. Lane 3, Item 1, before traffic (0 passes)





Photo A83. Lane 3, Item 1, after 326 passes





Photo A84. Lane 3, Item 1, after 2,600 passes



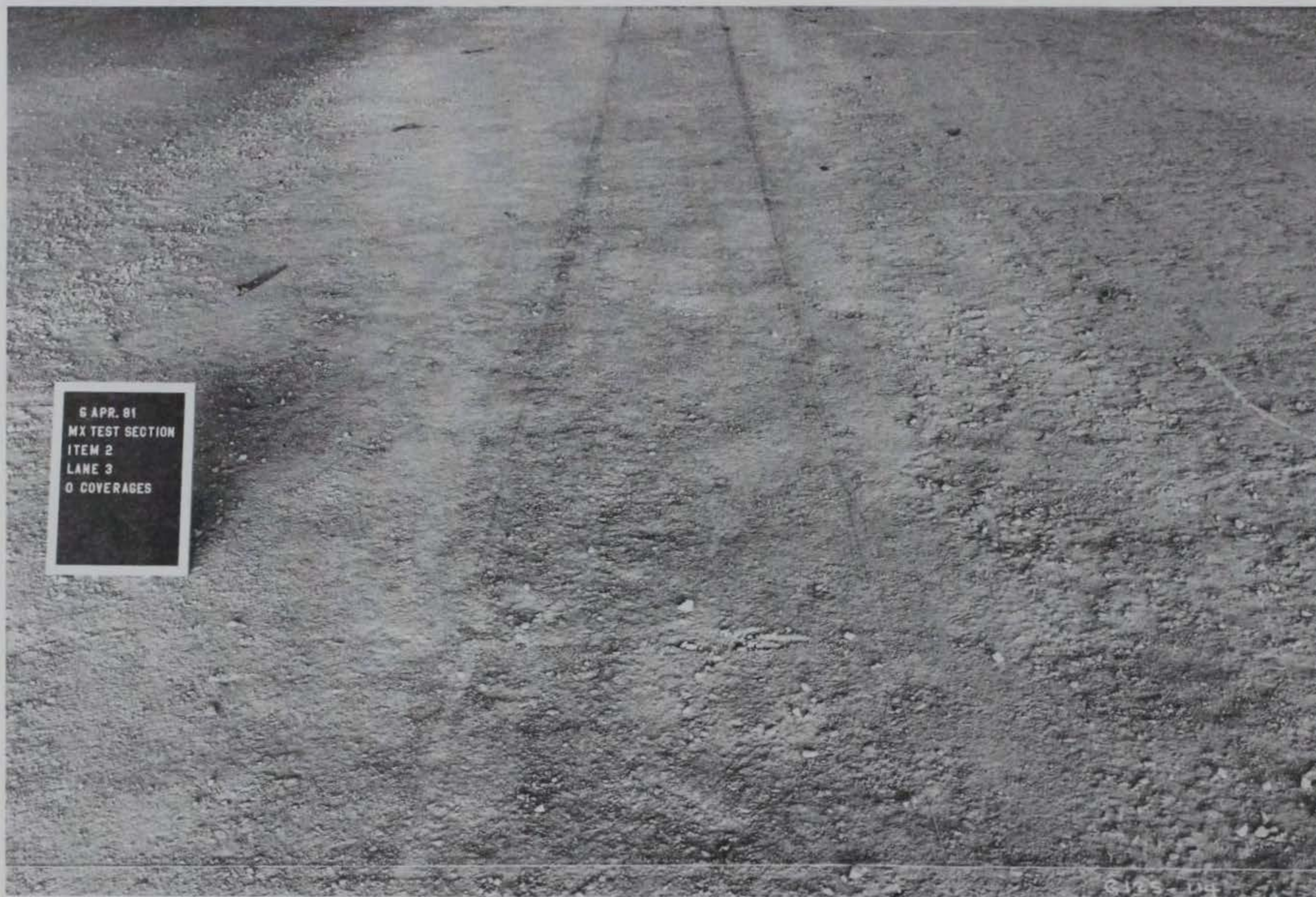


Photo A85. Lane 3, Item 2, before traffic (0 passes)





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MX TEST SECTION  
ITEM 2  
LANE 3  
326 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

Photo A86. Lane 3, Item 2, after 326 passes



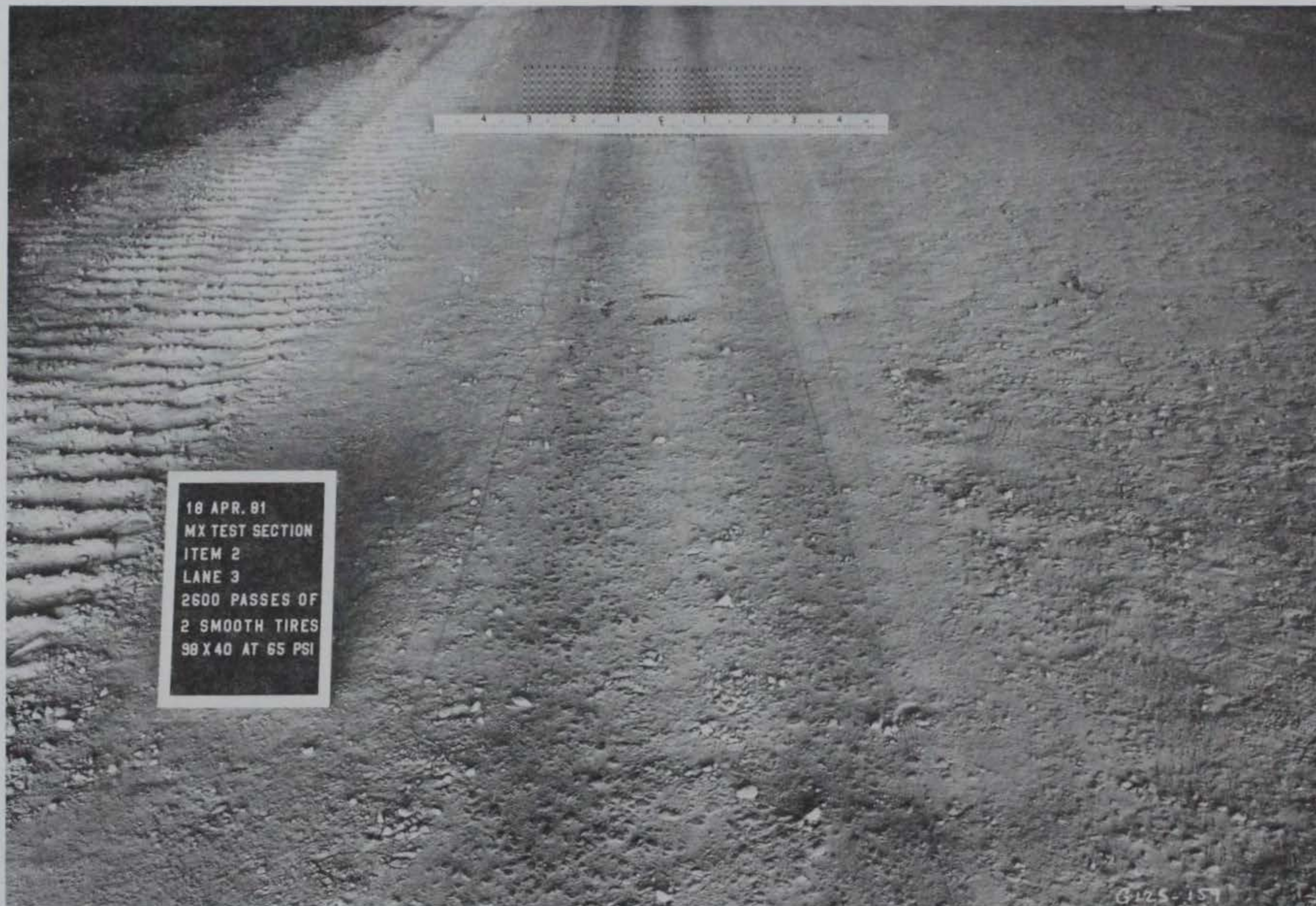


Photo A87. Lane 3, Item 2, after 2,600 passes





Photo A88. Lane 3, Item 3, before traffic (0 passes)





Photo A89. Lane 3, Item 3, after 326 passes





18 APR. 81  
MX TEST SECTION  
ITEM 3  
LANE 3  
2600 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

Photo A90. Lane 3, Item 3, after 2,600 passes



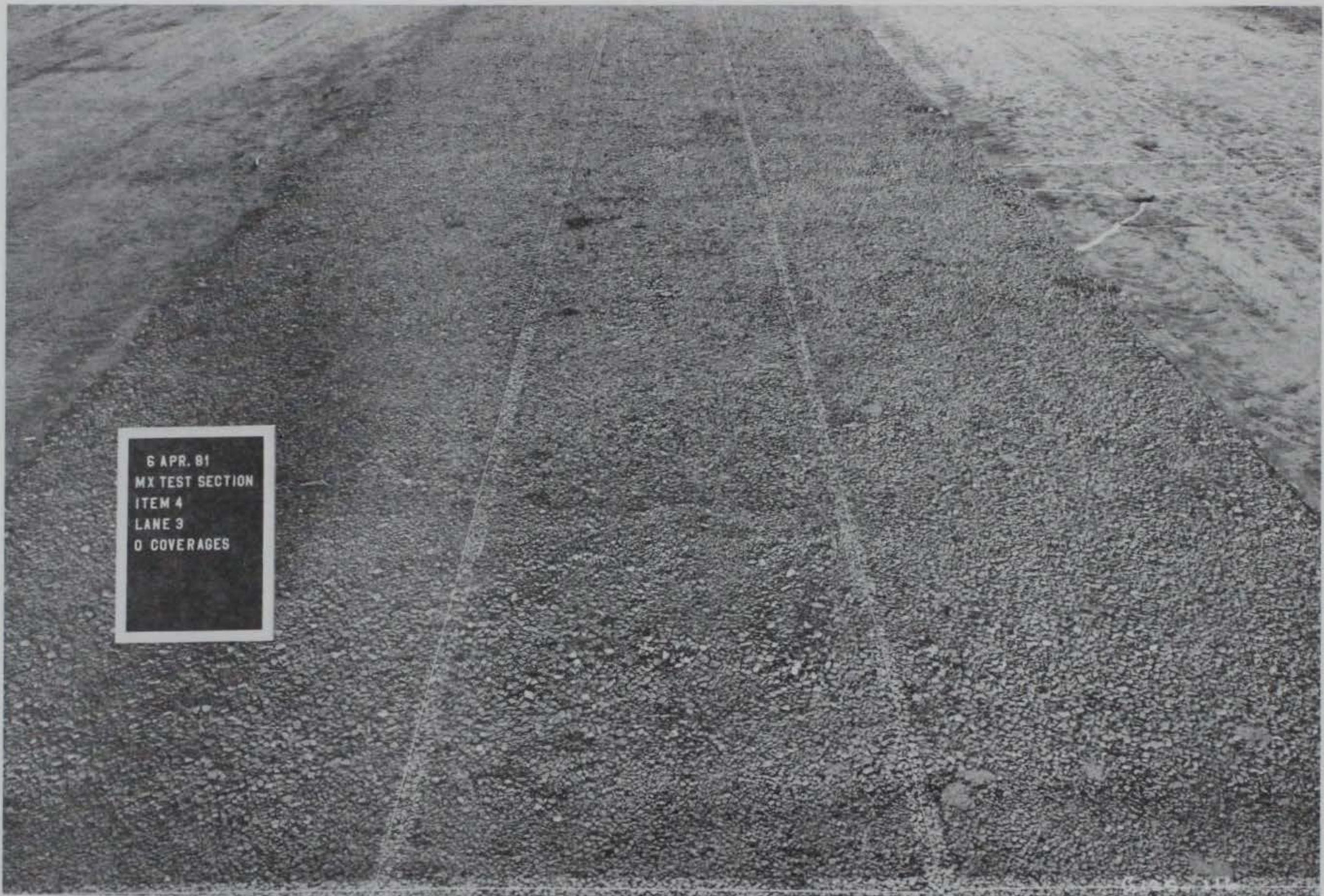


Photo A91. Lane 3, Item 4, before traffic (0 passes)





Photo A92. Lane 3, Item 4, after 326 passes





18 APR. 81  
MX TEST SECTION  
ITEM 4  
LANE 3  
2600 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

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Photo A93. Lane 3, Item 4, after 2,600 passes





Photo A94. Portion of single-bituminous surface treatment removed after 2,600 passes





Photo A95. Lane 3, Item 5, before traffic (0 passes)





Photo A96. Lane 3, Item 5, after 326 passes





18 APR. 81  
MX TEST SECTION  
ITEM 5  
LANE 3  
2600 PASSES OF  
2 SMOOTH TIRES  
98 X 40 AT 65 PSI

Photo A97. Lane 3, Item 5, after 2,600 passes