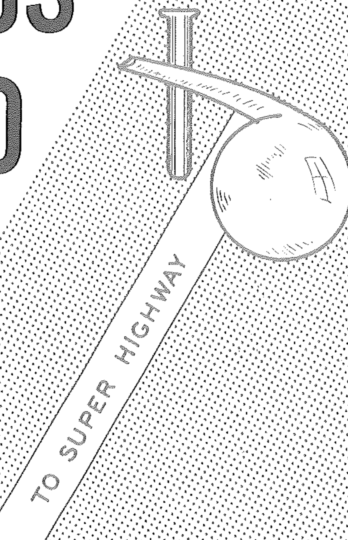
MICHIGAN BITUMINOUS EXPERIMENTAL ROAD
Final Report



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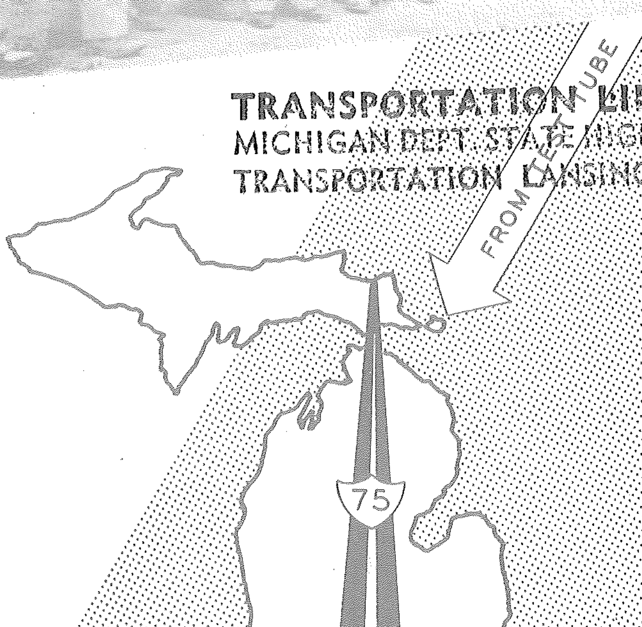

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

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Test Road personnel shown on the cover include (from left): Ward K. Parr, Laboratory Director, MDSH (Michigan Department of State Highways); Donald Arnott, Bituminous Plant Inspector, MDSH; Carl J. Stoike, Aggregate Inspector, MDSH: Arthur Hulkoff, Bituminous Plant Inspector, MDSH; John H. Goshorn, District Engineer, The Asphalt Institute; Arnold J. Hoiberg, Asphalt Research Engineer, Lion Oil Co.; Clifford J. Kole, Project Engineer, MDSH; William Donaldson, Assistant District Construction Engineer, MDSH; Owen Fisher, Contractor, Lake & Howell Construction Co.; Virgil Campbell, Truck Driver, Lake & Howell Construction Co.; Morley Durston, Superintendant, Lakė & Howell Construction Co.; Edward Schwoppe, District Construction Engineer, MDSH; Edward Eriksen, Contractor, Lake & Howell Construction Co.; Paul J. Serafin, Bituminous Testing Engineer, MDSH; Tom Humphries, Bituminous Construction Engineer, MDSH.

MICHIGAN BITUMINOUS EXPERIMENTAL ROAD: FINAL REPORT

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ABSTRACT: This third and final report summarizes field and laboratory data covering 12 years of service of a test road which included asphalts from six sources, differing in viscosities, temperature susceptibilities, and heat stabilities. Coring, skid resistance tests, rut depth measurements, and visual observations are reported. Asphalt in two of the six sections of the project appeared to undergo more change with age, but performance generally justified use in regular construction of all asphalts involved.

KEY WORDS: asphalts, asphalt cements, crude oil, viscosity, plastic deformation, penetration, recovery, coring, experimental roads, pavement durability.

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Background

In 1950 it appeared that several new sources of asphalt cement would become available to contractors in Michigan. At that time the Michigan Department of State Highways began an investigation to compare qualities of these new sources with others that had previously met specifications and given satisfactory service.

A laboratory study of 35 different asphalts, within penetration grades 60-70, 85-100, and 150-175, was completed in 1952 and a supplemental study of materials from Wyoming and Canadian crude oil sources completed in 1954. Reports on these studies (1, 2) indicated that some of the new sources had physical characteristics different from those with which satisfactory experience had been obtained. Three main physical characteristics were found to be different:

1. Viscosities,
2. Temperature susceptibilities, and
3. Heat stabilities.

It was felt that no definite conclusions regarding expected performance of these materials could be based on laboratory research. After consultation with industry and the Bureau of Public Roads it was decided to construct an experimental test road using various materials in an attempt to correlate actual construction and in-service performance with laboratory results.

Project

The project identified as M 63-30, C8R selected for the test road was a 6-mile resurfacing of a 40-ft four-lane reinforced concrete pavement constructed in 1931. At the time of construction this was known as US 10 and was located in Oakland County between Pontiac and Flint. In 1962 a parallel route (I 75) was constructed, resulting in turning back this portion of the road to the Oakland County Road Commission. The project was selected because this portion of roadway was heavily travelled and it was desired to subject the test road to fairly intensive traffic conditions in order to obtain performance information as quickly as possible.

Table 1 lists average daily traffic count by years during the service life of the test road. It is estimated that approximately 36,000,000 passenger and light commercial vehicles and 8,000,000 tractor-trailer units have passed over the test road since it was constructed. The decrease in traffic in 1958 is attributed to completion of US 23, a parallel expressway route, and further reduction in 1962 to the completion of I 75, the parallel interstate route.

The test road portion of the project was constructed in six identical sections of 2400 ft each. The layout of individual sections and subsections was as shown in Figure 1.

TABLE 1
AVERAGE
DAILY TRAFFIC

Year	Average Daily Traffic	Percent Commercial
1954	11,000	22.3
1955	11,300	22.1
1956	11,800	21.6
1957	12,200	21.3
1958	10,800	17.5
1959	10,900	17.0
1960	11,000	17.3
1961	11,500	17.3
1962	7,700	14.3
1963	8,300	13.3
1964	7,300	13.7
1965	7,300	13.7
1966	7,300	13.7

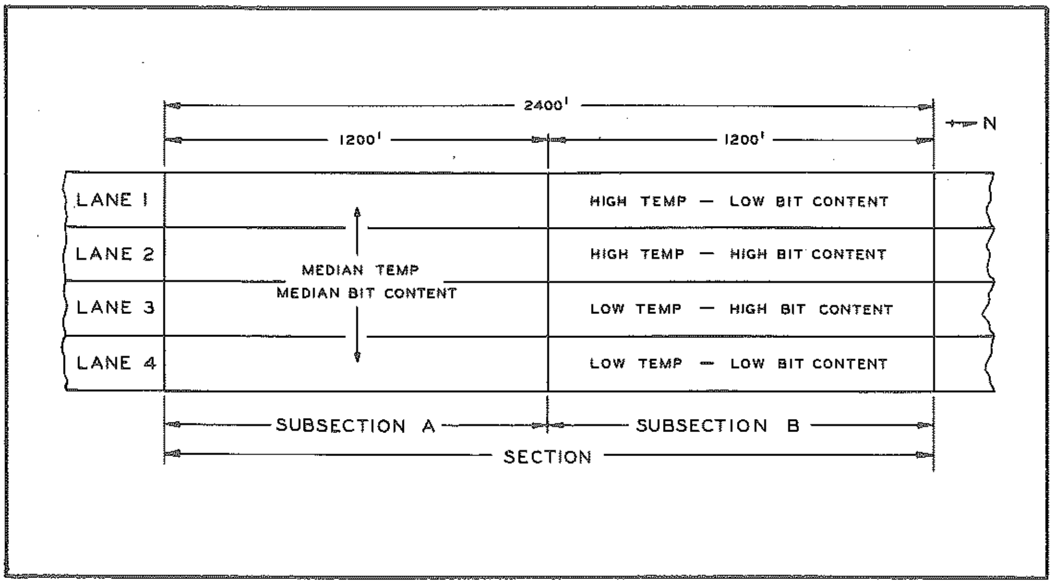


Figure 1. Typical layout of test road sections and subsections.

Materials

The contractor was required to use the same sources of aggregates in producing the bituminous mixtures for each of the test sections. In addition, mixture proportions were maintained as uniform as possible in order to eliminate any effects such variations would have on pavement performance or physical properties of the asphalt or mixtures. Table 2 lists sources and proportions of materials used.

TABLE 2
WEARING COURSE BITUMINOUS MIXTURE
MATERIALS AND PROPORTIONS

Material	Source	Typical Batch Proportioning, percent
25A Coarse Aggregate	American Aggregate Corp., Green Oak, Mich.	55.0
3BC Fine Aggregate	Blend of two local sands	34.5
3MF Limestone Mineral Filler	National Lime & Stone Co., Findlay, Ohio	5.0
60-70 Asphalt Cement	Section 1-Wyoming Crude, Refinery A Section 2-Venezuelan Crude Section 3-Wyoming Crude, Refinery B Section 4-West Texas Winkler Crude Section 5-Arkansas Smackover Crude Section 6-East Texas Talco Crude	5.5

The bitumen contents used in producing the mixtures were determined from results of Marshall check tests conducted on two sources of asphalt whose viscosity characteristics were the outer limits of the ranges studied. As shown in Figure 1, the high, low, and median bitumen content mixes were produced and placed at high, low, and median temperatures at specified locations in each test section. These variations--bitumen content and temperature--were the only differences programmed for production and placing of the mixtures. All other production and construction operations were controlled as uniformly as was practical.

The high, low, and median temperatures were determined from viscosity characteristics of the asphalts. Table 3 lists results of various consistency tests performed on the test road asphalts. The 1954 data are results obtained on fresh asphalt samples taken prior to construction. The 1965 data are results obtained after bulk storage for 11 years in 5-gal containers. These were heated and their entire contents blended together for testing. The surface is believed to have hardened during storage, and blending this into the balance of the sample may have contributed to the changes in consistency noted. Figure 2 shows viscosity-temperature curves of the original asphalts taken before start of construction. An attempt was made during construction to maintain mixture temperatures as uniform as possible so that the asphalts used would have Saybolt Furol viscosities of 75 sec at high temperatures and 200 sec at low temperatures. The median temperatures used were generally close to the average of the high and low temperatures for each type of asphalt. Although temperatures were maintained fairly uniformly, it was not always possible to obtain the desired viscosities due to problems of moisture removal and workability. Table 4 lists average mix temperatures at the street observed in paving each section and corresponding asphalt viscosities.

TABLE 3
RESULTS OF CONSISTENCY TESTS ON
ORIGINAL TEST ROAD ASPHALTS*

Test	Section 1		Section 2		Section 3		Section 4		Section 5		Section 6	
	1954	1965	1954	1965	1954	1965	1954	1965	1954	1965	1954	1965
Penetration												
59 F, 100 g, 5 sec, dmm	22		21		22		23		21		23	
77 F, 100 g, 5 sec, dmm	63	58	60	57	67	58	60	53	61	52	65	61
95 F, 100 g, 5 sec, dmm	173		154		186		151		144		141	
Softening Point (R & B), F	120		125		119		123		120		124	
Viscosity												
Saybolt Furol												
225 F, centistokes	192	211	313	338	197	204	217	237	276	288	337	345
300 F, centistokes	101		170		105		128		150		172	
325 F, centistokes	61		100		61		84		91		93	
Kinematic												
140 F, stokes		2457		4336		2361		3159		3869		4418
275 F, centistokes		439		676		399		454		576		675

*1954 - Tests run on original asphalts before test road was paved.
1965 - Samples of the original asphalts were taken in 1954 and stored in 5-gallon cans.

Construction Procedure

The project was scheduled for construction during summer months to take advantage of optimum Michigan weather conditions. Since special equipment and operations were required, to maintain uniform temperatures and quality of mixtures produced, 1-mile organizational sections at each end of the project were paved first to familiarize personnel with operations and equipment before work started on the test sections.

Binder course mixture was placed at the rate of 170 lb per sq yd over each test section, immediately followed by the placing of wearing course mixture in the pattern shown in Figure 1 at the rate of 130 lb per sq yd. Construction time required to complete each 1/2-mile test section of 40-ft pavement was 2-1/2 to 3 days. The same asphalt source was used for both binder and wearing course in each test section.

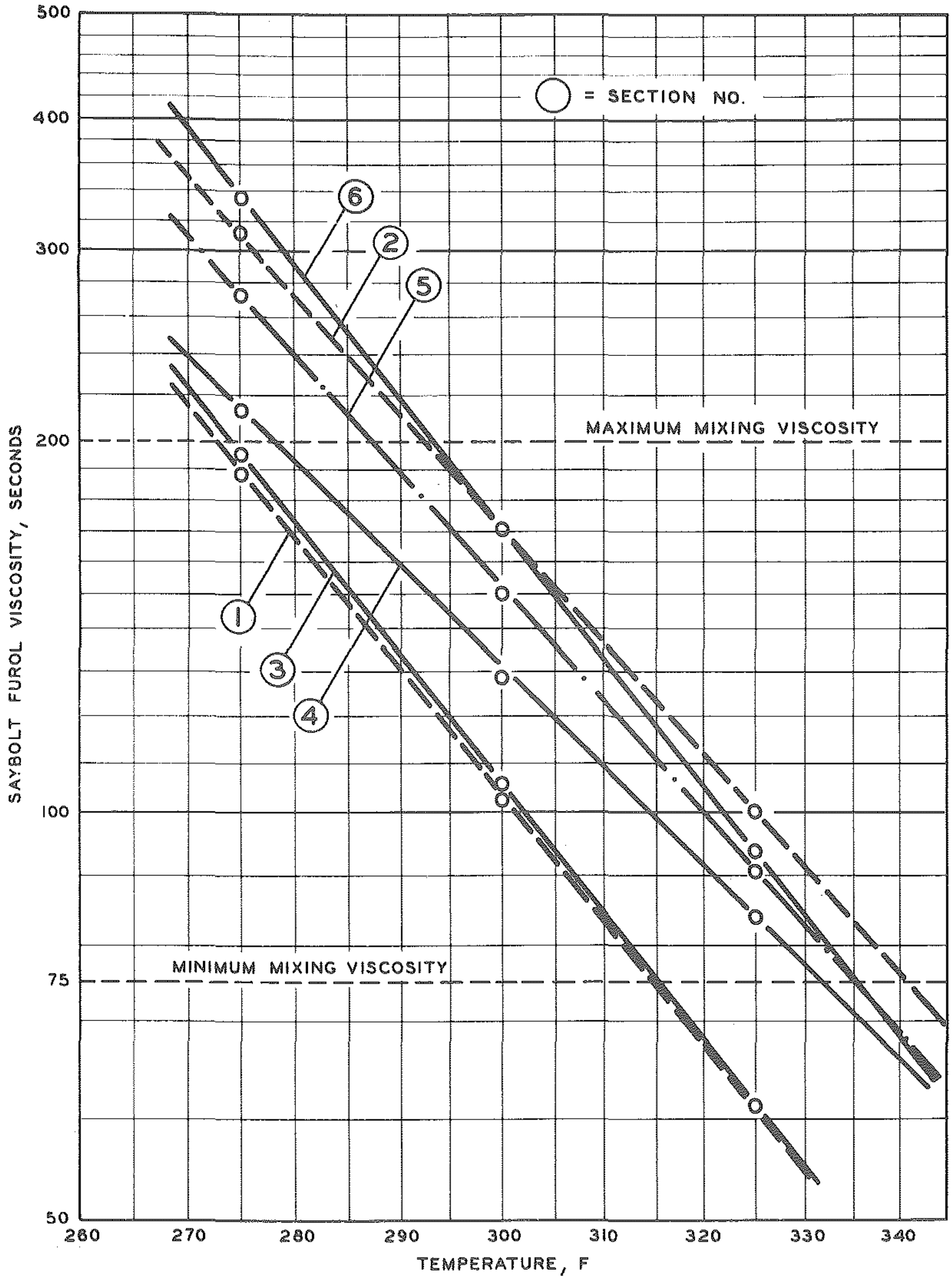


Figure 2. Viscosity-temperature curves of asphalts used for indicated test sections.

TABLE 4
AVERAGE TEMPERATURES OF BITUMINOUS CONCRETE WEARING COURSE MIXTURES AND CORRESPONDING ASPHALT CEMENT VISCOSITIES

Sub-Section	Lane	Street Temperature, F	Saybolt-Furol Viscosity, sec.*	Sub-Section	Lane	Street Temperature, F	Saybolt-Furol Viscosity, sec.*
1A	1	300	103	4A	1	295	144
	2	295	118		2	295	144
	3	295	118		3	300	129
	4	285	148		4	300	129
1B	1	310	82	4B	1	265	266
	2	310	82		2	285	175
	3	285	148		3	310	109
	4	285	148		4	315	98
2A	1	310	138	5A	1	305	135
	2	300	170		2	295	171
	3	320	112		3	310	122
	4	325	100		4	305	135
2B	1	335	83	5B	1	320	99
	2	325	100		2	320	99
	3	290	215		3	295	171
	4	290	215		4	285	212
3A	1	300	107	6A	1	295	193
	2	310	84		2	295	193
	3	310	84		3	290	220
	4	300	107		4	300	172
3B	1	315	76	6B	1	320	105
	2	305	94		2	320	105
	3	285	171		3	290	220
	4	285	171		4	290	220

* Saybolt Furol viscosities at street temperatures interpolated from viscosity curves.

FIELD AND LABORATORY OBSERVATIONS

Field Data Collection

At the time of construction, temperatures of each truckload were measured at the plant and paver. Two truckloads from each lane in each subsection were sampled to supply mixture for Marshall specimens. These Marshall specimens were tested to determine their properties, and a mix analysis and recovery test were run. Samples of pavement produced from the same truckloads were taken for determination of physical properties, mix analysis, and recovery tests.

In November 1954, the test road coring program began. Through 1957 at least four core samples at two to four locations in each subsection were obtained annually for laboratory analysis. In December 1957, the number of core samples was increased so that both the center and one wheel track of each lane could be analyzed. Figure 3 shows a typical core location. Approximately 2880 core samples have been obtained from the test road since it was completed. Core test results are summarized in Appendices A and B.

Figure 3. Typical core location.

Skid resistance tests were conducted on the test road in 1958 and 1963, with the results given in Table 5. By 1958, this bituminous surface had already been subjected to 4 years of polishing action by traffic.

The coarse aggregate used was a predominantly silicious crushed gravel. With this type of aggregate, not much additional polishing was expected to take place after 1963. This is substantiated by Table 5, which indicates only a slight decrease in average coefficients between 1958 and 1963. The lack of any significant difference of coefficient of friction in the various sections and lanes indicates uniformity of the pavement surfaces and the absence of any effect of asphalt source on this property. The difference in values between traffic and passing lanes indicates effects of both number of repetitions of wheel passages and higher wheel loadings in the traffic lane.

TABLE 5
SKID RESISTANCE TEST RESULTS
Coefficients of Wet Sliding Friction at 40 mph

Section	Traffic Lanes		Passing Lanes	
	May 1958	July 1963	May 1958	July 1963
1	0.43	0.42	0.51	0.44
2	0.44	0.44	0.50	0.48
3	0.43	0.44	0.50	0.48
4	0.40	0.42	0.51	0.47
5	0.42	0.41	0.49	0.46
6	0.41	0.40	0.49	0.47
Avg.	0.42	0.42	0.50	0.47

Visual observations have been made at periodic intervals. No serious deterioration has been observed in any of the test sections, although all sections have developed fairly extensive reflective cracking. Figure 4 shows pavement condition prior to resurfacing and after 12 years of service. Some differences in coloration do appear between sections, but not to any degree that can be correlated with the core data obtained.

During August 1966, rut depth measurements were made at 100-ft intervals in each lane of each test section (Appendix C). Figure 5 shows the 10-ft straight-edge used in measuring maximum rut depth in each wheel track. It was felt that such measurements might provide data that could be correlated with core information or with the horizontal or vertical alignments of the test sections.

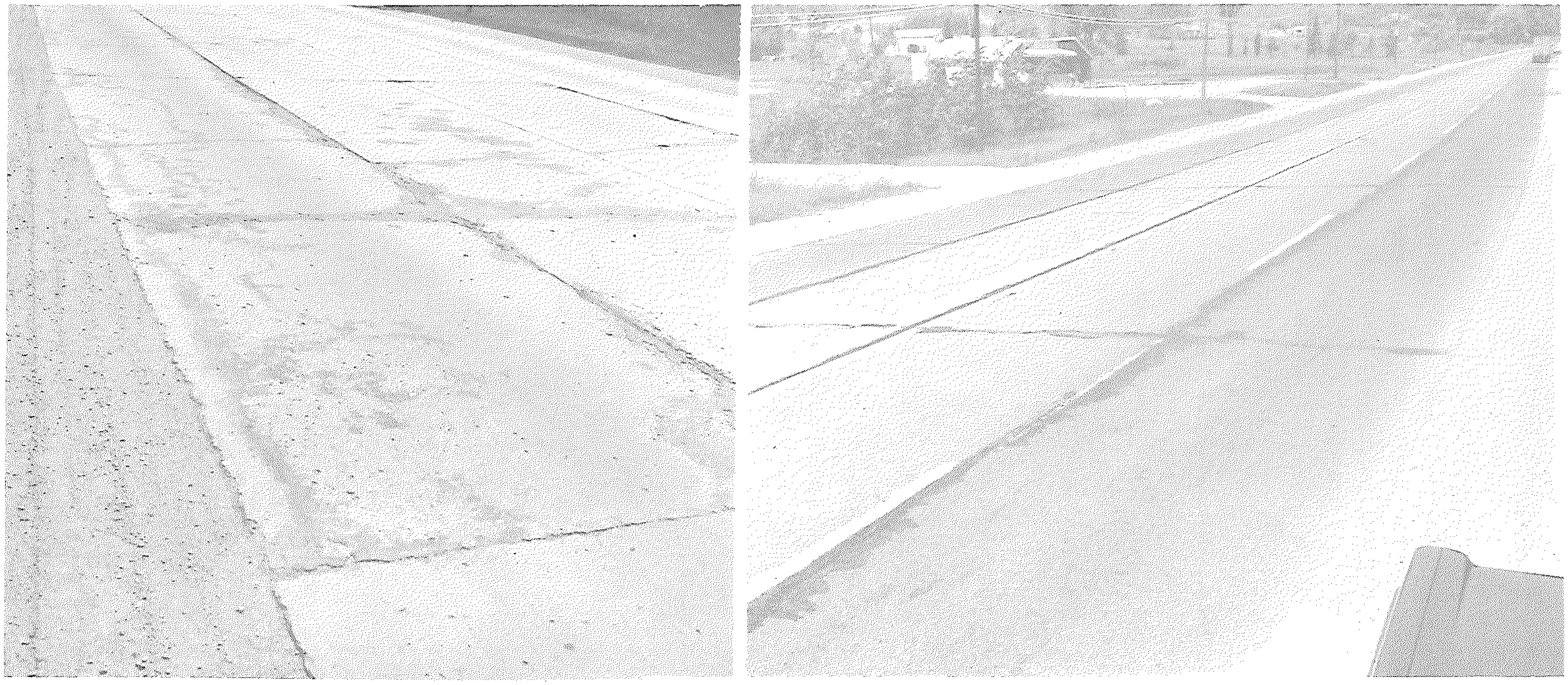
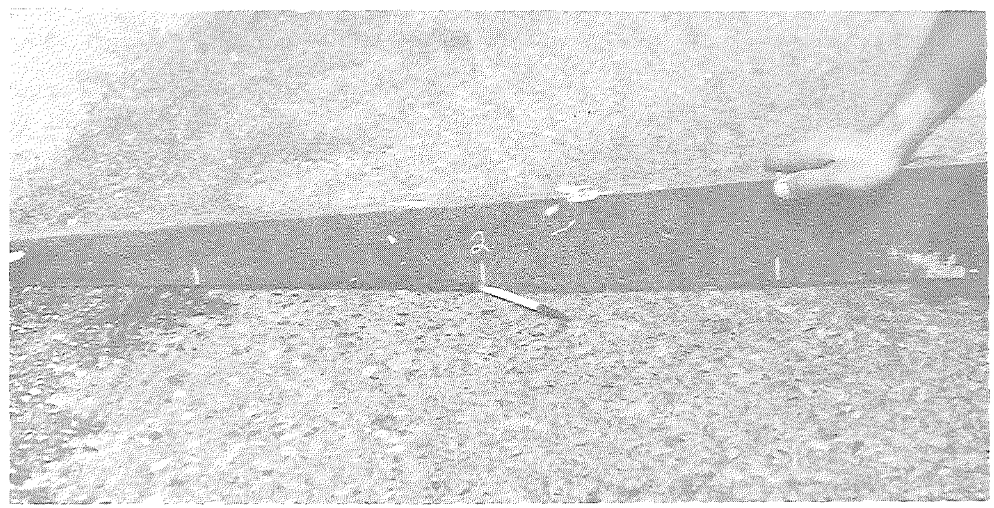


Figure 4 (above). Appearance of concrete before resurfacing (left) and test road surface after 12 years of service (right).

Figure 5 (right). Rut depth measurement device.



Laboratory Physical and Chemical Analyses

A solvent separation into major constituents was made on the six test road asphalts as recovered from pavement cores after service of approximately 3-1/2 years. In addition, for comparative purposes a solvent separation was also made on the six test road asphalts set aside during construction in 1954 and stored in the laboratory in 5-gal pails for the same 3-1/2-year period.

The Abson method was used to recover the asphalt from the pavement cores following the procedure described in ASTM Method D 1856. The asphalts were separated quantitatively into four major constituents: asphaltenes, oily constituents, light resins, and heavy resins. In addition, to determine the degree of saturation of the different components, an Iodine Number was determined for each. The results of these analyses did not correlate significantly with service performance of these six asphalts (Table 6).

The procedure used for the solvent separations and method used to determine the Iodine Number are summarized as follows:

Asphaltenes. The asphalt was dispersed in 86 deg Baumé paraffin naphtha and the precipitate filtered through a tared Gooch crucible having an asbestos mat. The tared crucible containing the precipitate was dried at 100 C and weighed to determine the percentage of asphaltenes.

Oily Constituents. The filtrate from the asphaltene procedure was poured into a paper-type Soxhlet thimble containing fuller's earth and refluxed with 86 deg Bé naphtha. The extracted naphtha was then evaporated, and the residue dried at 65 C and weighed to determine the percentage of oily constituents.

Light Resins. The Soxhlet thimble containing fuller's earth and the balance of the asphaltic components was then refluxed with benzene. The extract was evaporated, and the residue dried at 100 C and weighed to determine the percentage of light resins.

Heavy Resins. The Soxhlet thimble containing fuller's earth and the remaining asphaltic components was then refluxed with acetone. The extract was evaporated, and the residue dried at 100 C and weighed to determine the percentage of heavy resins.

Iodine Number. The Iodine Number was determined using the Wijs reagent method.

TABLE 6
PHYSICAL AND CHEMICAL ANALYSES OF ASPHALT CEMENTS

Section →	1		2		3		4		5		6	
Crude Source →	Wyoming, Refinery A		Venezuelan		Wyoming, Refinery B		West Texas Winkler		Arkansas Smackover		East Texas Talco	
Asphalt Cement →	Original	Recovered	Original	Recovered	Original	Recovered	Original	Recovered	Original	Recovered	Original	Recovered
Date Sampled	1954	1957	1954	1957	1954	1957	1954	1957	1954	1957	1954	1957
Penetration	63	37	60	37	67	30	60	41	61	37	65	36
Asphaltenes, %	19.1	20.6	24.3	26.3	18.4	20.6	17.2	19.4	19.0	21.3	25.4	28.6
Iodine No.	67.6	57.6	75.9	68.2	71.3	63.3	60.0	57.3	67.0	63.9	72.8	64.6
Oily Constituents, %	42.4	42.6	40.4	32.1	43.8	38.2	40.9	39.3	38.4	37.4	39.2	38.6
Iodine No.	51.0	48.2	70.4	64.0	51.0	38.0	39.6	35.2	37.6	34.7	60.6	45.4
Light Resins, %	17.8	11.8	13.5	18.0	13.9	17.7	16.7	20.2	19.4	18.0	12.5	12.3
Iodine No.	98.4	88.9	128.7	75.8	110.4	70.7	80.6	76.2	97.7	64.2	85.0	60.1
Heavy Resins, %	18.9	23.5	21.8	23.6	23.7	23.0	24.6	19.7	22.4	21.8	21.0	18.8
Iodine No.	72.4	60.7	95.1	65.1	78.9	61.5	49.3	59.5	96.0	60.8	71.7	72.5
Total, %	98.2	98.5	100.0	100.0	99.8	99.5	99.4	98.6	99.2	98.5	98.1	98.3

DISCUSSION

Prior reports on the bituminous test road (3, 4) indicated certain features considered pertinent in 1955 and 1959. After 12 years of service, the trends observed earlier have been confirmed by the additional data obtained.

In an attempt to determine how well the various test sections performed, statistical analyses were undertaken. These showed a wide dispersion or variation in quantitative values obtained for the various properties of the asphalt cements used and pavement densities, regardless of the manner in which the data were grouped. Indeed, variations were expected to result from service time or aging effects. The analyses did show a wider variation in data for asphalt properties obtained from Sections 2 and 6, indicating that the asphalts used there underwent more change than other asphalts.

TABLE 7
STATISTICAL FUNCTIONS FOR DATA
FROM 570 EXTRACTION TESTS
PERFORMED ON PAVEMENT CORE SAMPLES
OF WEARING COURSE MIXTURE

	Arithmetic Mean, %	Standard Deviation, %
	$\bar{X}$	σ
Mixture Proportions		
Coarse Aggregate (R10)	57.33	1.21
Fine Aggregate (P10-R200)	32.04	1.14
Dust (P200)	5.48	0.60
Bitumen	5.17	0.21
Gradation of Extracted Aggregate		
Passing 5/8 in.	99.98	0.14
Passing 1/2 in.	97.35	1.41
Passing 3/8 in.*	80.09	2.55
Passing No. 4	50.25	1.94
Passing No. 10	39.57	1.26
Passing No. 40	30.78	1.56
Passing No. 80	15.46	1.09
Passing No. 200	5.77	0.63

*3/8 in. sieve was added in 1961 and only 246 extraction tests were performed using this sieve.

Table 7 is a compilation of statistical functions for results obtained from the 570 extraction tests performed on pavement core samples of wearing course mixture. It is interesting to note that there is very little difference in standard deviations for each sieve size analyzed in the gradation of extracted aggregate, except material passing the No. 200 sieve. This is borne out in the analysis of mixture proportions, which shows a higher standard deviation for the mineral filler in proportion to the quantity evaluated than for the other ingredients. Since a fairly uniform quantity of mineral filler was added to the mixture during production, and there is no evidence of degradation in the aggregates used, this indicates that there may have been some fluctuation in this fraction present in the raw materials.

Figures 6 and 7 are plots of specific gravities and penetrations of recovered asphalt expressed as a percentage of original penetration versus length of pavement service in months. These plots of data from wheel track pavement cores indicate an increase in pavement density up to some maximum value and then very little change. The penetration values show a decrease, but the rate of decrease generally becomes smaller as the pavement ages. The wheel track data were used for these plots because of fluctuations present in data obtained from center-of-lane core samples. These fluctuations are partially attributed to oil drippings and other road debris impregnating the wearing course.

Regression analyses were performed on the data used for Figures 6 and 7. Equations developed from these analyses were of the following form:

$$\text{Specific Gravity} = a + b\,(\ln t)$$
$$\text{Percent of Original Penetration} = c - dt$$

where

a, b, c, and d = constants
t = test road service life in months.

Correlation coefficients (r values) for the data analyzed are listed and indicate much better correlation for the specific gravity data. It is interesting to note that correlation coefficients for traffic lane specific gravity data were generally higher than passing lane data.

Table 8 presents average values determined from maximum rut depths measured with a straight edge transversely across the pavement. Plan and profile views of the test sections are shown in Figure 8. As can be seen, there is very little significant difference between various sections in results obtained for a given lane. It should be noted that much more

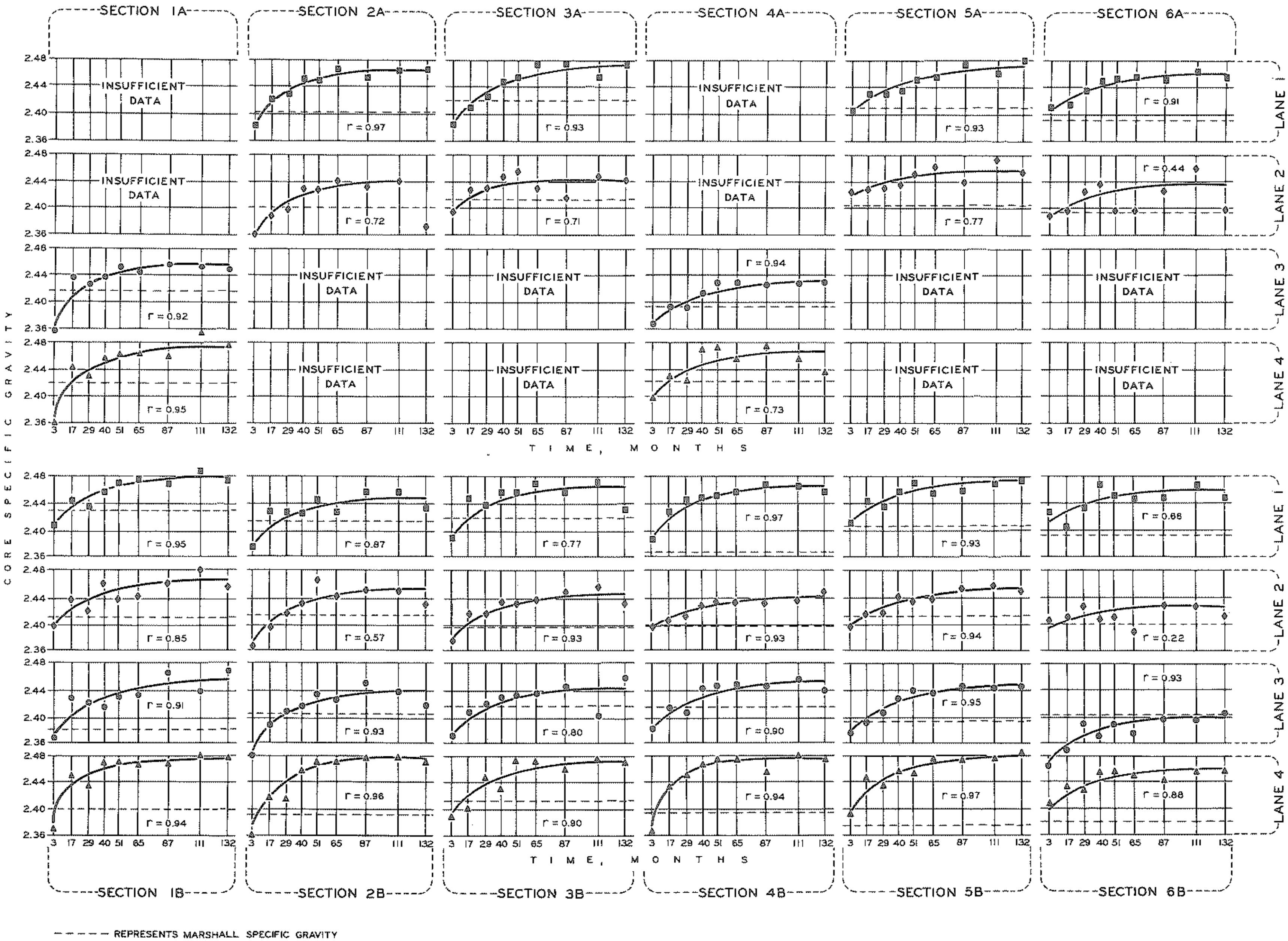


Figure 6. Change in specific gravity of wheel track core samples with time.

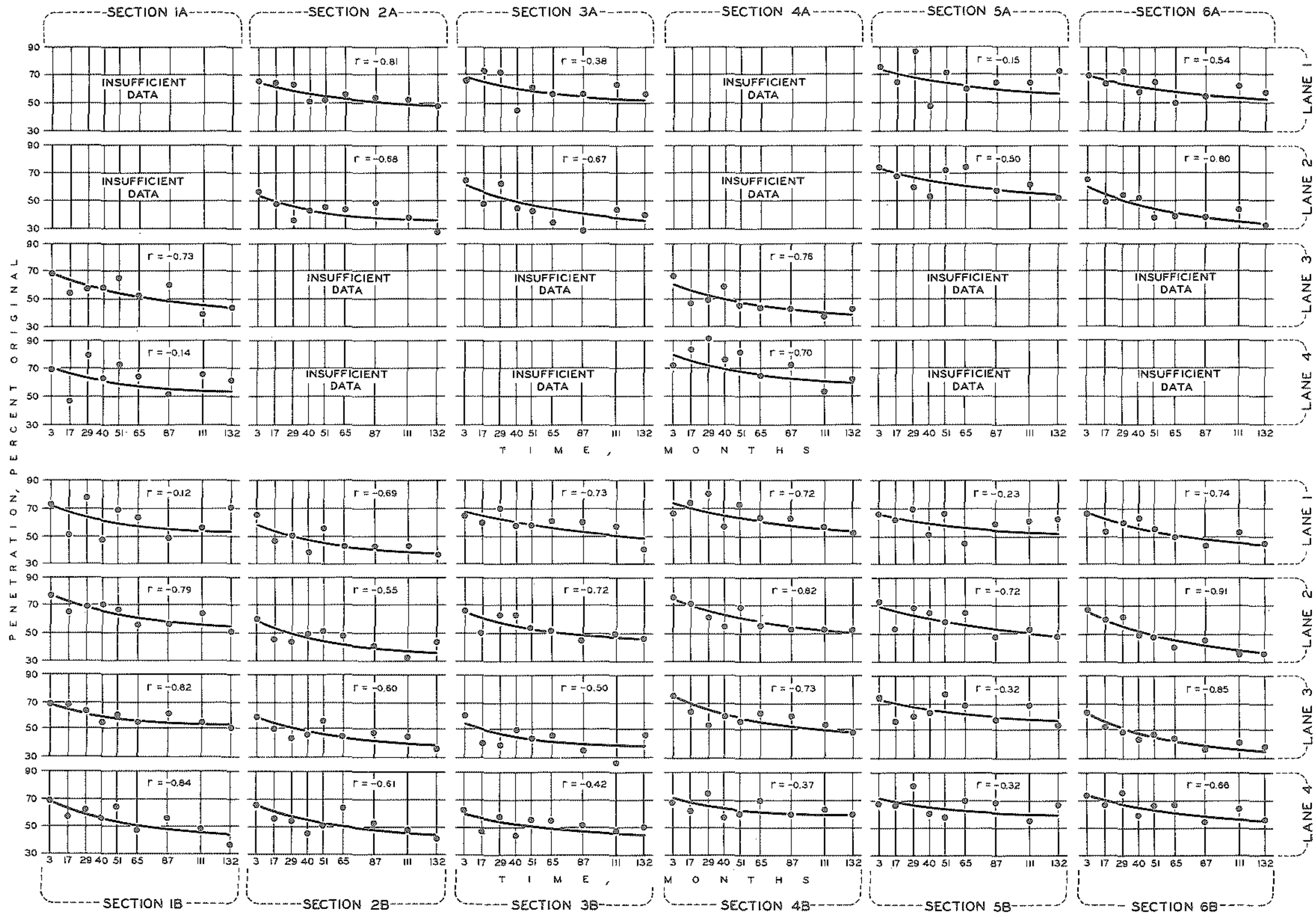


Figure 7. Change in penetration of recovered asphalt from wheel track core samples with time.

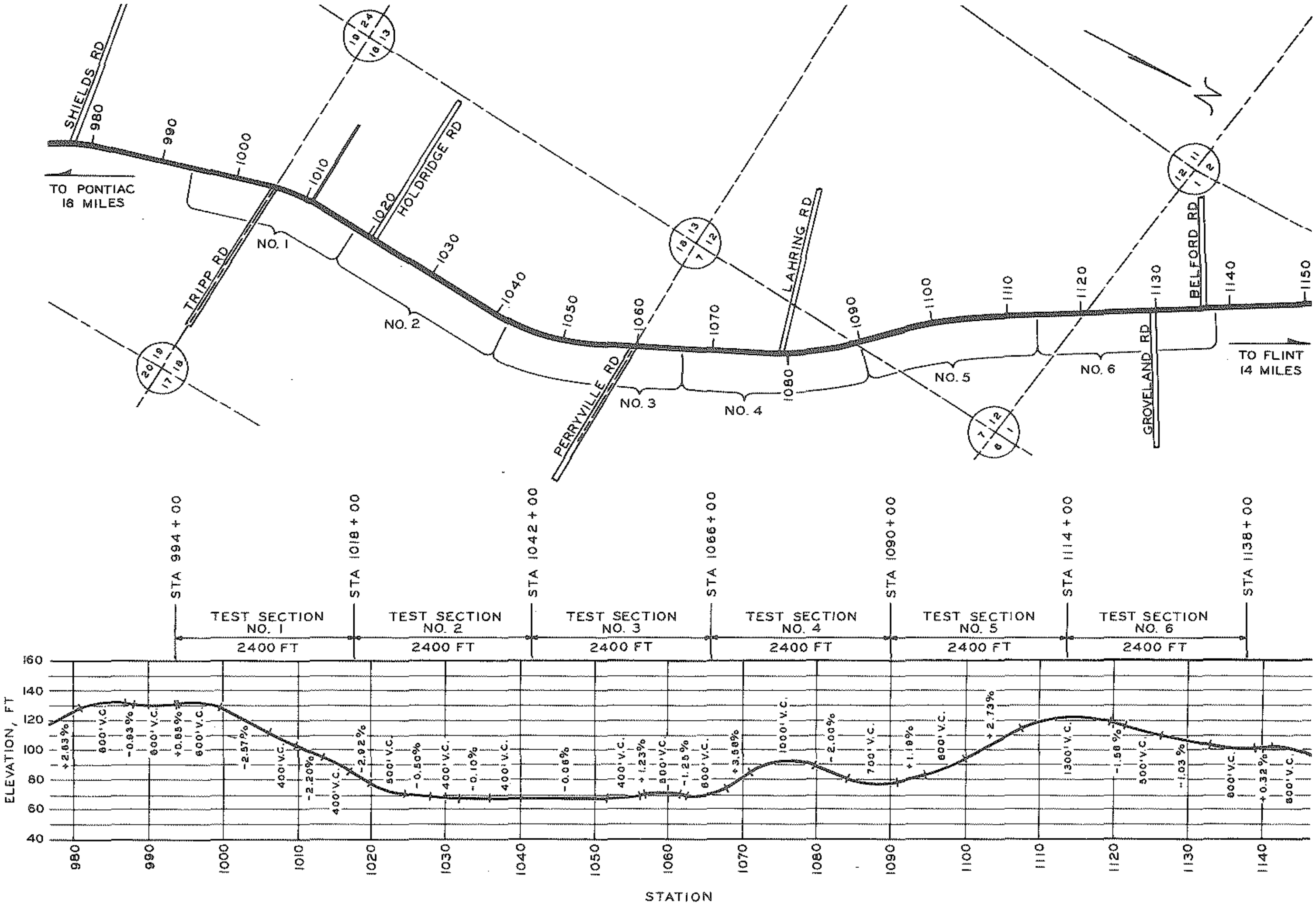


Figure 8. Plan and profile of the test road.

rutting developed in traffic lanes than passing lanes. Analysis of the data in Appendix C indicated no significant correlation between rutting and vertical alignment. In general, the greatest rutting occurred in the outermost lane around horizontal curves, indicating that a component of centrifugal force contributed to an increased force applied normal to the pavement surface in these areas. Another significant indication is that more rutting occurred in the northbound traffic lane than the southbound. It is believed that this is due to northbound truck traffic being more heavily loaded, because of numerous gravel pits at the south end of the test project.

TABLE 8
SUMMARY OF RUT DEPTH MEASUREMENTS

Lane	Wheel Track	Average Rut Depth for Subsection Indicated, in.											
		1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
1	Right	0.16	0.08	0.14	0.16	0.20	0.21	0.14	0.18	0.19	0.15	0.13	0.18
	Left	0.11	0.05	0.15	0.16	0.20	0.15	0.22	0.15	0.10	0.12	0.11	0.11
2	Right	0.03	0.02	0.05	0.06	0.03	0.05	0.09	0.06	0.03	0.06	0.05	0.03
	Left	0.07	0.04	0.09	0.03	0.04	0.08	0.12	0.09	0.07	0.09	0.09	0.06
3	Left	0.01	0.03	0.03	0.05	0.04	0.06	0.04	0.04	0.04	0.05	0.05	0.03
	Right	0.02	0.01	0.03	0.03	0.07	0.05	0.05	0.02	0.03	0.06	0.03	0.06
4	Left	0.16	0.21	0.13	0.11	0.07	0.17	0.28	0.15	0.18	0.38	0.16	0.23
	Right	0.19	0.19	0.28	0.22	0.19	0.27	0.36	0.21	0.23	0.24	0.17	0.22

No correlation could be established regarding the relation of increase in rut depth to decrease in asphalt viscosity, as was found by Speer (5). Lack of such correlation may be due to Speer's better precision of measurement, as well as other effects not as controllable in a field experiment as in his controlled laboratory study.

Summary

Based on service behavior of the asphalts and information in previously published reports (3, 4) the asphalt cements from those sources used on the test road were approved for bituminous construction on State trunklines in Michigan.

One of the test road's objectives was to determine if any construction problems would arise from use of new asphalt sources becoming available in Michigan. No problems arose and subsequent performance of the test road has provided justification for permitting their use since 1955. In addition, it soon became apparent that the voluminous data gathered from this project were an excellent source of valuable information of interest to the bituminous industry. This information is presented either in the text of this report or its Appendices, with discussion of those subjects of interest to Michigan, while other data have been left in raw form and are available for further evaluation by others.

Results of tests on recovered asphalts from the various test sections show more marked changes in the properties of asphalts from Sections 2 and 6. One might expect these changes to be reflected in performance of the six sections. However, with many engineers inspecting the test road during the past 12 years, there have been some differences of opinion, in which some felt that slightly more cracking had developed in Sections 2 and 6 than in the balance of the project. These conditions may or may not correlate with some physical changes in the asphalt cements observable in the data presented in this report. Since there may have been variations in condition of the concrete pavement at the time of resurfacing as well as in the underlying base materials, it would be difficult to make any firm, significant conclusions regarding any differences in condition of the six test sections.

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APPENDIX A

WEARING COURSE
Summary of Laboratory Analyses of Bituminous Concrete

Section 1. Wyoming Crude, Refinery A
Section 2. Venezuelan Crude
Section 3. Wyoming Crude, Refinery B
Section 4. West Texas Winkler Crude
Section 5. Arkansas Smackover Crude
Section 6. East Texas Talco Crude

SECTION 1. WYOMING CRUDE, REFINERY A

Section	Lane	Location Sampled [b]	Date Sampled	Mixture Analysis, % R 10	P 10 R 200	P 200	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve 5/8	1/2	3/8	4	10	40	80	200	Recovered Asphalt Penetration [c]	Ductility	Ash, %	Measured Specific Gravity [d]	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate	Compaction %
SECTION 1A (Sta. 1000)	Lane 1 [a]	WT	11-63	58.4	31.6	5.1	4.9	100	99	82	50	39	29	15	5.3	40	150+	2.8	2.478	2.5	82	13.9	
		C	11-63	57.5	32.5	5.1	4.9	100	98	82	51	40	31	15	5.4	55	150+	1.8	2.464	3.0	80	15.0	
		WT	8-65	58.4	33.1	4.5	5.0	99	96	81	50	38	29	15	4.7	34	150+	1.6	2.476	2.6	82	14.4	
		C	8-65	57.8	32.8	4.2	5.2	100	96	78	50	39	28	14	4.4	46	150+	1.7	2.443	3.9	76	16.3	
	Lane 2	WT	11-63	57.5	31.8	5.8	4.9	100	97	84	50	40	31	16	6.1	22	150+	1.6	2.437	4.1	74	15.8	
		C	11-63	57.7	32.1	5.1	5.1	100	98	81	50	39	31	16	5.4	21	141	2.0	2.438	4.1	75	16.4	
		WT	8-65	57.2	33.0	4.8	5.0	100	99	80	50	40	31	16	5.1	26	150+	1.5	2.440	4.0	75	16.0	
		C	8-65	57.4	32.9	4.7	5.0	100	97	80	50	40	30	15	5.0	23	150+	2.0	2.431	4.3	73	15.9	
	Lane 3	M	8-54	54.7	33.3	6.7	5.3	100	98		52	42	33	16	7.1	46	150+	2.2	2.427	4.5	74	17.3	100.0
		--	11-54	55.6	33.5	5.6	5.3	100	97		51	41	32	15	5.9	41	150+	1.0	2.356	7.3	63	19.7	97.0
		--	1-56	58.6	30.8	5.4	5.2	100	100		48	38	29	14	5.7	32	150+	1.9	2.436	4.2	75	16.8	100.3
		--	1-57	56.8	32.0	5.8	5.4	100	98		49	40	31	15	6.1	34	150+	0.2	2.423	4.6	74	17.7	99.8
		WT	12-57	56.9	32.6	5.2	5.3	100	99		49	40	31	16	5.5	35	150+	0.3	2.436	4.1	78	17.1	100.4
		C	12-57	56.7	32.3	5.7	5.3	100	99		50	40	31	16	6.0	37	150+	0.1	2.441	3.9	78	16.3	100.6
		WT	11-58	57.5	32.8	4.7	5.0	100	97		49	39	29	14	4.9	39	150+	0.2	2.451	3.5	77	15.2	101.0
		WT	1-60	59.5	30.7	4.7	5.0	100	98		46	37	28	14	5.0	31	150+	0.5	2.442	3.9	76	16.3	100.6
		WT	11-61	58.3	31.2	5.2	5.3	100	98	83	49	39	29	14	5.5	36	150+	2.3	2.454	3.4	79	16.2	101.1
		WT	11-63	58.3	30.9	5.7	5.1	100	98	82	49	39	30	16	6.0	23	133	0.5	2.462	3.5	78	15.9	101.0
		C	11-63	58.4	30.6	6.0	5.0	100	98	80	48	39	30	15	6.3	24	150+	1.6	2.460	3.2	79	15.2	101.4
		WT	8-65	56.2	32.5	6.2	5.1	100	98	82	51	41	32	16	6.5	26	150+	2.4	2.446	3.7	77	16.1	100.8
		C	8-65	57.6	31.6	5.7	5.1	100	99	81	50	39	30	17	5.9	25	150+	2.0	2.464	3.0	80	15.0	101.5
	Lane 4	M	8-54	55.4	33.0	6.1	5.5	100	99		51	41	32	15	6.5	51	150+	1.8	2.429	4.4	75	17.6	100.0
		--	11-54	56.9	31.0	7.0	5.1	100	98		50	40	31	16	7.4	42	150+	2.1	2.358	7.2	62	18.9	97.1
		--	1-56	59.5	30.8	4.7	5.2	100	94		46	37	28	13	5.0	28	150+	2.9	2.440	4.0	76	16.7	100.5
		--	1-57	56.6	32.0	5.9	5.5	100	98		50	40	32	16	6.3	49	150+	0.2	2.426	4.5	74	17.3	99.9
		WT	12-57	56.4	33.2	5.1	5.3	100	99		51	40	32	16	5.4	38	150+	0.7	2.453	3.5	78	15.9	101.0
		C	12-57	57.1	32.2	5.3	5.4	100	99		49	40	31	16	5.6	49	150+	0.5	2.441	3.9	77	17.0	100.5
		WT	11-58	56.6	32.7	5.5	5.2	100	98		50	40	30	15	5.8	44	150+	0.5	2.460	3.2	80	16.0	101.3
		C	11-58	57.3	31.2	6.1	5.4	100	98		50	40	30	16	6.5	46	150+	0.4	2.452	3.5	79	16.7	100.9
		WT	1-60	56.7	32.3	5.8	5.3	100	98		51	40	30	17	6.1	39	150+	0.6	2.460	3.2	80	16.0	101.3
		C	1-60	57.9	31.2	5.8	5.1	100	99		50	39	30	16	6.1	47	150+	0.2	2.467	3.3	79	15.7	101.2
		WT	11-61	58.2	31.7	5.1	5.0	100	98	83	51	39	30	15	5.3	31	150+	2.0	2.468	3.3	79	15.7	101.2
		C	11-61	57.9	32.0	4.8	5.3	100	98	80	49	39	29	15	5.1	45	150+	2.9	2.459	3.2	80	16.0	101.3
		WT	11-63	58.1	30.7	5.9	5.3	100	98	84	49	39	30	16	6.2	40	150+	1.7	2.496	1.8	88	15.0	102.8
		C	11-63	56.9	32.1	5.9	5.1	100	99	82	51	40	31	16	6.2	47	150+	1.6	2.465	3.0	80	16.0	101.5
		WT	8-65	56.8	31.6	6.3	5.1	100	99	83	51	40	31	16	6.7	37	150+	2.4	2.475	2.6	82	14.4	101.9
		C	8-65	56.8	32.6	5.7	5.0	100	97	82	51	40	31	16	6.0	44	150+	2.7	2.444	3.8	76	15.8	100.6
SECTION 1B (Sta. 1012)	Lane 1 [a]	M	8-54	56.1	32.4	6.1	5.4	100	97		52	41	31	15	6.4	42	150+	1.6	2.438	4.4	74	16.9	100.0
		--	11-54	55.3	33.4	6.2	5.1	100	98		53	42	31	16	6.5	43	150+	0.8	2.403	5.7	68	17.8	98.6
		--	1-56	58.2	30.4	6.3	5.1	100	100		49	39	29	14	6.6	30	150+	0.4	2.439	4.3	74	16.5	100.0
		--	1-57	56.3	32.6	5.9	5.3	100	99		52	40	30	15	6.2	47	150+	0.0	2.436	4.5	74	17.3	99.9
		WT	12-57	58.1	31.3	5.6	5.0	100	99		50	39	29	15	5.9	28	150+	0.3	2.456	3.6	77	15.7	100.7
		C	12-57	57.0	32.3	6.4	5.3	100	98		50	40	31	16	5.7	39	150+	0.2	2.447	4.0	76	16.7	100.4
		WT	11-58	57.8	31.1	6.1	5.0	100	98		50	39	29	16	6.4	41	150+	0.2	2.468	3.2	79	15.2	101.2
		C	11-58	58.3	30.4	6.3	5.0	100	97		49	39	28	15	6.6	40	150+	0.8	2.455	3.7	76	15.4	100.7
		WT	1-60	58.0	31.5	5.3	5.2	100	98		50	39	27	14	5.6	37	150+	0.2	2.474	2.9	81	15.3	101.5
		C	1-60	58.4	31.4	4.9	5.3	100	98		50	36	27	14	5.2	44	150+	0.4	2.469	3.1	81	16.3	101.3
		WT	11-61	58.2	32.3	4.3	5.2	100	97	78	50	39	29	14	4.5	29	150+	1.2	2.467	3.2	80	16.0	101.2
		C	11-61	58.1	31.3	5.5	5.1	100	99	78	50	39	28	13	5.8	41	150+	2.1	2.457	3.6	77	15.7	100.8
		WT	11-63	59.2	30.5	5.6	4.7	100	97	79	49	38	28	15	5.9	33	150+	2.3	2.489	2.4	83	14.1	102.1
		C	11-63	58.1	31.4	5.5	5.0	100	99	81	51	39	29	15	5.8	47	150+	2.8	2.470	3.1	79	14.8	101.3
		WT	8-65	58.2	31.0	5.8	5.0	100	99	81	50	39	29	16	6.1	42	150+	2.3	2.478	2.9	80	14.5	101.6
		C	8-65	58.1	32.2	4.7	5.0	100	96	78	48	39	28	14	4.9	45	150+	2.1	2.464	3.3	78	15.0	101.1
	Lane 2	M	8-54	55.2	33.3	6.1	5.4	100	97		52	42	32	15	6.5	46	150+	2.0	2.420	4.8	73	17.8	100.0
		--	11-54	54.8	33.7	6.0	5.5	100	100		53	42	32	16	6.4	47	150+	1.5	2.397	5.7	69	18.4	99.0
		--	1-56	56.6	32.4	5.3	5.7	100	100		50	40	31	15	5.6	39	150+	0.7	2.438	4.2	76	17.5	100.7
		--	1-57	55.5	32.5	6.3	5.7	100	97		51	41	32	17	6.6	42	150+	0.2	2.418	4.9	73	18.1	99.9
		WT	12-57	58.0	31.8	5.1	5.1	100	98		48	39	30	16	5.3	43	150+	0.4	2.459	3.3	79	15.7	101.6
		C	12-57	57.0	32.4	6.3	5.3	100	98		50	40	31	16	5.6	42	150+	0.4	2.441	4.0	76	16.7	100.9
		WT	11-58	56.2	32.3	6.1	5.4	100	99		51	41	32	17	6.4	41	150+	0.7	2.437	4.2	75	16.8	100.7
		WT	1-60	58.6	30.5	5.4	5.5	100	97		47	38	28	15	5.7	34	150+	0.4	2.440	4.1	76	17.1	100.8
		WT	11-61	58.8	30.7	5.1	5.4	100	97	79	48	38	29	15	5.4	35	150+	3.0	2.459	3.3	80	16.5	101.6
		WT	11-63	58.2	31.0	5.6	5.2	100	99	85	49	39	30	16	5.9	39	150+	2.2	2.481	2.4	84	15.0	102.5
		C	11-63	57.9	31.4	5.6	5.1	100	98	81	50	39	30	16	5.9	40	150+	2.2	2.462	3.2	79	15.2	101.7
		WT	8-65	56.9	33.3	4.7	5.1	100	97	80	49	40	31	16	5.0	31	150+	2.0	2.456	3.4	78	15.5	101.5
		C	8-65	57.1	33.4	4.3	5.2	100	97	80	49	40	30	13	4.5	35	150+	1.8	2.431	4.4	74	16.9	100.5
	Lane 3	M	8-54	55.7	33.0	5.8	5.5	100	99		51	41	32	15	6.1	43	150+	2.2	2.394	5.9	69	19.0	100.0
		--	11-54	54.3	32.7	7.4	5.6	100	99		53	42	32	16	7.8	42	150+	2.3	2.363	7.1	65	20.3	98.7
		--	1-56	55.8	33.1	5.5	5.6	100	98		51	41	31	15	5.8	42	150+	2.2	2.424	4.7	74	18.1	101.3
		--	1-57	56.2	32.7	5.5	5.6	100	99		51	40	32	16	5.9	39	150+	0.2	2.419	4.9	73	18.1	101.0
		WT	12-57	56.8	32.4	5.4	5.4	100	99		49	40	31	16	5.7	34	150+	0.4	2.414	5.1	71	17.6	100.8
		C	12-57	57.7	31.6	5.2	5.3	100	98		48	39	30	15	5.4	37	150+	0.7	2.425	4.6	73	17.0	101.3
		WT	11-58	55.5	32.8	6.2	5.5	100	98		51	41	31	16	6.6	37	150+	1.2	2.425	4.6	74	17.7	101.3
		WT	1-60	57.2	31.8	5.5	5.5	100	99		50	40	29	16	5.8	34	150+	0.4	2.430	4.4	75	17.6	101.5
		WT	11-61	58.1	31.3	5.4	5.2	100	97	84	49	39	29	15	5.7	38	150+	0.2	2.462	3.2	80	16.0	102.8
		WT	11-63	56.4	32.8	5.5	5.3	100	98	85	52	40	31	17	5.8	34	150+	3.0	2.436	4.2	75	16.8	101.8
		C	11-63	56.5	32.8	5.4	5.3	100	98	86	52	40	32	16	5.7	30	150+	2.0	2.444	3.9	76	16.2	102.1
		WT	8-65	56.2	33.1	5.5	5.2	100	98	83	50	41	30	15	5.8	31	150+	2.1	2.464	3.1	80	15.5	102.9
		C	8-65	54.8	33.9	6.0	5.3	100	100	86	52	42	31	17	6.3	31	150+	2.5	2.443	3.9	76	16.2	102.0
	Lane 4	M	8-54	55.5	33.3	6.1	5.1	100	98		52	42	32	15	6.4	40	150+	2.5	2.413	5.3	69	17.1	100.0
		--	11-54	56.2	32.9	5.9	5.0	100	99		51	41	32	15	6.2	42	150+	2.2	2.369	7.1	62	18.7	98.2
		--	1-56	55.9	33.0	5.9	5.2	100	98		51	41	32	15	6.2	35	150+	0.3	2.448	4.0	76	16.7	101.5
		--	1-57	56.5	32.5	5.8	5.2	100	98		51	40	32	16	6.1	38	150+	1.7	2.434	4.5	73	16.7	100.9
		WT	12-57	57.3	32.2	5.3	5.2	100	99		49	40	30	16	5.6	34	150+	0.2	2.468	3.2	80	16.0	102.3
		C	12-57	56.6	32.8	5.5	5.1	100	98		50	40	31	16	5.8	42	150+	0.2	2.449	3.9	76	16.3	101.5
		WT	11-58	56.3	32.5	6.2	5.0	100	99		51	41	31	16	6.5	39	150+	0.2	2.469	3.1	80	15.5	102.3
		C	11-58	57.0	33.0	5.0	5.0	100	98		51	40	30	14	5.3	46	150+	0.5	2.461	3.5	78	15.9	102.0
		WT	1-60	58.0	31.9	5.1	5.0	100	98		50	39	29	14	5.4	29	150+	0.2	2.463	3.4	78	15.5	102.1
		C	1-60	57.1	32.5	5.1	5.3	100	99		51	40	29	15	5.4	44	150+	0.3	2.445	4.1	76	17.1	101.3
		WT	11-61	58.6	31.7	4.7	5.0	100	99	84	50	38	30	13	5.0	34	150+	1.8	2.464	3.3	79	15.7	102.1
		C	11-61	58.3	31.8	4.9	5.0	100	100	83	50	39	30	15	5.2	32	150+	2.3	2.453	3.8	76	15.8	101.7
		WT	11-63	56.7	32.5	5.9	4.9	100	100	85	52	40	31	16	6.3	30	150+	2.1	2.480	2.7	81	14.2	102.8
		C	11-63	56.2	32.7	6.0	5.1	100	100	86	53	41	31	16	6.3	30	150+	2.1	2.472	2.4	84	15.0	102.4
		WT	8-65	55.8	33.6	5.6	5.0	100	97	83	51	41	31	16	5.9	23	150+	2.4	2.476	2.9	81	15.3	102.6
		C	8-65	55.3	33.5	6.2	5.0	100	99	88	54	42	31	17	6.5	35	150+	2.6	2.469	3.1	79	14.8	102.3

(a) Lanes numbered west to east.
(b) M = mix sample, C = core from center of lane, WT = core from wheel track. Dashes indicate cores taken at random locations.

(c) Penetrations of original asphalt = 60 (Section 1B Lane 1); 61 (Section 1A all lanes); 62 (Section 1B Lanes 2, 3, 4)

(d) Maximum theoretical specific gravities = 2.451 (Section 1A all lanes); 2.543 (Section 1B Lanes 2, 3); 2.549 (Section 1B Lanes 1, 4)

SECTION 2. VENEZUELAN CRUDE

Section	Lane	Location Sampled [b]	Date Sampled	Mixture Analysis, %: R 10	P 10 R 200	P 200	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve: 5/8	1/2	3/8	4	10	40	80	200	Recovered Asphalt: Penetration (c)	Ductility	Ash, %	Measured Specific Gravity (d)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate	Compaction %
SECTION 2A (Sta. 1024)	Lane 1[a]	M	8-54	54.2	33.7	6.7	5.4	100	98		52	43	33	16	7.1	40	150+	2.7	2.416	4.8	73	17.8	100.0
		--	11-54	56.1	32.2	6.5	5.2	100	97		52	41	32	15	6.9	41	150+	0.2	2.383	6.1	67	18.5	98.6
		--	1-56	55.9	31.6	7.0	5.6	100	98		51	41	32	16	7.4	40	150+	2.3	2.421	4.6	74	17.7	100.2
		--	1-57	58.1	30.6	5.6	5.7	100	98		50	38	29	14	5.9	39	150+	0.1	2.430	4.3	76	17.9	100.6
		WT	12-57	58.7	30.3	5.9	5.1	100	95		47	38	30	18	6.2	31	150+	2.1	2.462	3.4	78	15.5	101.5
		C	12-57	58.2	30.4	6.2	5.2	100	98		49	39	30	17	6.6	34	150+	0.8	2.431	4.2	75	16.8	100.6
		WT	11-58	58.2	31.0	5.7	5.1	100	98		49	39	29	15	6.0	32	150+	2.3	2.451	3.4	78	15.5	101.4
		C	11-58	57.3	31.5	5.7	5.5	100	98		50	39	30	16	6.0	41	150+	0.5	2.432	4.2	76	17.6	100.7
		WT	1-60	58.6	30.6	5.6	5.3	100	98		48	38	29	16	5.9	35	150+	0.4	2.468	2.8	82	15.6	102.2
		C	1-60	58.2	31.1	5.3	5.4	100	98		49	38	29	15	5.6	38	150+	0.7	2.444	3.7	78	16.8	101.2
		WT	11-61	58.4	31.8	4.6	5.2	100	98	84	52	39	31	15	4.9	33	150+	2.7	2.454	3.3	79	15.7	101.6
		C	11-61	57.7	32.2	4.7	5.4	100	98	85	52	39	32	17	5.0	38	147	1.5	2.432	4.2	75	16.8	100.7
		WT	11-63	58.8	30.9	5.1	5.2	100	98	79	49	38	29	15	5.3	32	150+	2.6	2.464	2.9	81	15.2	102.0
		C	11-63	59.4	30.1	5.4	5.1	100	96	75	48	38	29	15	5.7	36	150+	2.0	2.441	3.8	76	15.8	101.0
		WT	8-65	57.6	32.0	5.2	5.2	100	98	80	49	39	30	14	5.4	29	150+	2.2	2.466	2.8	82	15.6	102.1
		C	8-65	58.0	31.4	5.5	5.1	100	97	77	49	39	30	15	5.8	28	150+	2.3	2.432	4.2	74	16.2	100.7
	Lane 2	M	8-54	56.2	32.8	5.7	5.3	100	99		52	41	32	16	6.0	49	150+	2.1	2.414	4.9	72	17.5	100.0
		--	11-54	54.8	33.3	6.8	5.1	100	97		54	42	34	16	7.2	35	150+	0.3	2.360	7.0	63	18.9	97.8
		--	1-56	57.1	32.5	5.5	4.9	100	97		51	40	32	15	5.8	29	150+	0.8	2.387	5.9	66	17.4	98.9
		--	1-57	56.5	31.4	6.7	5.4	100	95		56	40	32	17	7.1	22	120+	0.3	2.398	5.5	70	18.3	99.3
		WT	12-57	56.5	32.4	5.9	5.2	100	99		52	40	32	17	6.2	26	150+	1.0	2.428	4.3	74	16.5	100.6
		C	12-57	57.1	32.1	5.8	5.0	100	98		57	40	32	17	6.1	28	150+	0.6	2.422	4.6	72	16.4	100.3
		WT	11-58	58.4	30.9	5.7	5.0	100	90		49	38	30	16	6.0	28	150+	0.4	2.426	4.4	73	16.3	100.5
		WT	1-60	58.6	31.0	6.3	5.1	100	97		51	38	30	16	5.6	26	150+	0.7	2.440	3.5	78	15.9	101.1
		WT	11-61	59.6	29.9	6.5	5.0	100	96	80	50	37	29	14	5.8	30	116	1.4	2.432	4.2	74	16.2	100.7
		WT	11-63	59.0	30.3	5.8	4.9	100	97	81	50	38	30	16	6.1	23	119	1.3	2.440	3.9	75	15.6	101.1
		C	11-63	57.7	31.6	5.5	5.2	100	97	78	51	39	30	16	5.8	29	160+	2.1	2.364	6.1	66	17.9	98.8
		WT	8-65	56.6	33.0	5.2	5.2	100	99	83	51	40	30	16	5.5	17	46	1.4	2.388	6.9	67	17.9	98.9
		C	8-65	57.3	32.4	5.1	5.2	100	98	83	51	39	30	16	5.3	31	150+	1.8	2.354	7.3	62	19.2	97.5
	Lane 3	WT	11-63	58.1	30.9	6.2	4.8	100	97	79	49	39	32	17	6.5	19	75	1.0	2.405	5.2	68	16.3	
		C	11-63	58.8	31.4	5.0	4.8	100	98	78	49	38	30	15	5.3	20	77	1.3	2.431	4.2	73	15.6	
		WT	8-65	57.4	32.0	5.4	5.2	100	97	76	49	39	31	16	5.7	28	150+	1.8	2.451	3.4	78	15.5	
		C	8-65	57.9	31.8	5.2	5.1	100	95	73	49	38	31	17	5.6	19	97	1.9	2.422	4.6	72	16.4	
	Lane 4	WT	11-63	58.3	31.1	5.4	5.2	100	97	79	51	39	30	16	5.7	35	150+	1.1	2.454	3.3	79	15.7	
		C	11-63	54.8	33.7	6.1	5.4	100	98	84	56	42	32	17	6.4	39	150+	2.0	2.451	3.4	79	16.2	
		WT	8-65	58.3	32.5	4.1	5.1	100	97	80	51	39	29	14	4.3	38	150+	1.4	2.465	2.9	81	15.3	
		C	8-65	58.3	31.8	4.7	5.2	100	97	78	51	38	29	14	5.0	34	150+	1.4	2.438	3.9	76	16.2	
SECTION 2B (Sta. 1036)	Lane 1[a]	M	8-54	57.2	32.9	4.7	5.2	100	98		51	40	32	13	5.0	49	150+	1.8	2.422	4.9	72	17.6	100.0
		--	11-54	54.9	33.5	6.6	5.0	100	98		56	42	34	17	7.0	39	150+	0.1	2.377	6.7	63	18.1	98.1
		--	1-56	55.4	33.4	6.3	4.9	100	98		54	42	34	17	6.6	28	150+	2.7	2.426	4.8	71	16.6	100.2
		--	1-57	55.2	33.7	6.1	5.0	100	97		55	42	34	16	6.4	30	150+	0.4	2.425	4.8	71	16.6	100.1
		WT	12-57	59.2	30.3	5.5	5.0	100	95		48	36	29	15	5.8	23	150+	1.1	2.423	4.9	71	16.9	100.0
		C	12-57	58.0	30.6	6.4	5.0	100	96		50	39	30	16	6.7	28	150+	0.4	2.413	5.3	69	17.1	99.6
		WT	11-58	59.5	30.1	5.1	5.3	100	97		48	37	28	14	5.4	33	150+	0.5	2.442	4.2	75	16.8	100.8
		C	11-58	56.6	33.4	5.2	4.8	100	98		54	41	32	16	5.5	30	150+	0.3	2.441	4.2	73	15.6	100.8
		WT	1-60	59.0	30.8	5.0	5.2	100	98		49	36	28	15	5.3	25	150+	0.4	2.425	4.8	72	17.1	100.1
		C	1-60	59.8	30.7	5.5	5.0	100	97		49	38	29	15	5.8	24	150+	0.5	2.426	4.8	71	16.6	100.2
		WT	11-61	56.9	32.5	5.6	5.0	100	98	84	53	40	33	16	5.9	25	83	2.2	2.457	3.7	76	15.4	101.4
		C	11-61	56.1	34.5	4.8	4.6	100	100	88	55	41	33	16	5.0	24	53	1.7	2.411	5.4	67	16.4	99.5
		WT	11-63	58.1	31.8	5.2	4.9	100	97	79	51	39	31	16	5.5	25	101	2.8	2.468	3.5	76	14.6	101.5
		C	11-63	57.9	31.6	5.7	4.8	100	97	80	51	39	32	18	6.0	25	126	2.7	2.440	4.0	74	15.4	101.0
		WT	8-65	57.2	32.4	5.4	5.0	100	97	77	51	40	30	16	5.7	22	92	2.1	2.432	4.6	72	16.4	100.4
		C	8-65	58.3	32.1	4.7	4.9	100	94	77	50	39	29	14	4.9	22	47	2.7	2.415	5.2	69	16.8	99.7
	Lane 2	M	8-54	57.8	31.9	5.2	5.1	100	98		50	39	30	14	5.5	40	150+	2.7	2.421	4.7	72	16.8	100.0
		--	11-54	57.4	32.0	5.4	5.2	100	98		50	40	31	14	5.7	37	150+	2.7	2.364	7.0	63	18.9	97.6
		--	1-56	57.0	31.2	6.6	5.2	100	98		52	40	31	16	7.0	28	150+	0.6	2.393	5.8	68	18.1	98.8
		--	1-57	58.4	31.0	5.2	5.4	100	96		50	38	30	14	5.4	27	150+	0.6	2.416	4.9	72	17.5	99.8
		WT	12-57	59.3	29.6	6.0	5.1	100	98		48	38	29	15	6.4	30	150+	0.5	2.430	4.4	73	16.3	100.4
		C	12-57	59.1	29.4	6.3	5.2	100	96		48	38	29	16	6.6	29	150+	0.9	2.441	3.9	76	16.3	100.8
		WT	11-58	57.8	31.9	5.3	5.0	100	96		52	39	31	16	5.6	31	150+	0.5	2.464	3.0	80	15.0	101.8
		WT	1-60	59.5	29.6	5.5	5.4	100	98		48	37	28	13	5.8	29	150+	0.5	2.440	4.0	76	16.7	100.8
		WT	11-61	58.3	31.2	5.4	5.1	100	98	80	50	39	30	14	5.7	25	83	2.2	2.450	3.6	77	15.7	101.2
		WT	11-63	58.0	31.9	5.0	5.1	100	93	75	51	39	31	16	5.3	20	57	2.5	2.449	3.6	77	15.7	101.2
		C	11-63	59.0	30.9	5.0	5.1	100	96	77	49	38	30	15	5.3	19	65	2.1	2.427	4.5	73	16.7	100.2
		WT	8-65	57.9	32.1	4.6	5.4	100	97	80	51	39	30	13	4.9	27	150+	1.6	2.429	4.4	74	16.9	100.3
		C	8-65	59.9	30.1	4.8	5.2	100	94	77	49	37	28	14	5.1	23	150+	1.6	2.424	4.6	72	16.4	100.1
	Lane 3	M	8-54	58.6	30.7	5.6	5.1	100	98		50	38	29	15	5.9	45	150+	2.0	2.414	5.0	71	17.2	100.0
		--	11-54	56.5	31.8	6.3	5.4	100	96		52	40	30	15	6.7	36	150+	2.0	2.340	7.9	61	20.3	96.9
		--	1-56	57.1	30.9	6.4	5.6	100	98		51	40	32	17	6.8	30	150+	2.8	2.383	6.2	68	19.4	98.7
		--	1-57	59.2	29.5	5.8	5.5	100	96		50	37	28	14	6.1	26	150+	2.4	2.405	5.4	71	18.6	99.6
		WT	12-57	58.7	30.9	5.4	5.0	99	97		50	38	29	15	5.7	28	150+	0.5	2.413	5.0	70	16.7	100.0
		C	12-57	58.9	30.1	5.9	5.1	100	98		49	38	29	16	6.3	25	150+	0.4	2.400	5.5	69	17.7	99.4
		WT	11-58	58.5	31.3	5.1	5.1	100	97		50	38	28	15	5.4	34	150+	0.6	2.432	4.3	74	16.5	100.7
		WT	1-60	58.6	30.2	5.5	5.5	100	98		50	38	28	14	5.8	27	150+	0.8	2.421	4.7	74	18.1	100.3
		WT	11-61	59.3	30.8	4.7	5.2	100	97	89	50	38	29	14	4.9	29	98	2.2	2.449	3.6	78	16.4	101.4
		WT	11-63	58.2	31.3	5.0	5.5	100	98	80	51	38	30	14	5.3	27	150+	1.8	2.435	4.2	75	16.8	100.9
		C	11-63	58.9	30.4	5.6	5.1	100	98	82	50	38	29	16	5.9	25	148	2.0	2.443	3.9	75	15.6	101.2
		WT	8-65	57.8	31.4	5.7	5.1	100	97	81	52	39	29	14	6.0	22	150+	2.4	2.415	5.0	70	16.7	100.0
		C	8-65	58.2	31.2	5.4	5.2	100	97	81	52	39	28	15	5.7	20	125	2.5	2.401	5.5	69	17.7	99.5
	Lane 4	M	8-54	56.2	34.7	4.7	5.3	100	100		52	42	34	15	5.0	43	150+	1.6	2.406	5.6	69	18.1	100.0
		--	11-54	56.7	32.2	6.1	5.0	100	99		52	40	32	16	6.4	39	150+	1.4	2.354	7.6	60	19.0	97.8
		--	1-56	55.3	33.3	5.9	5.5	100	98		51	42	32	17	6.2	33	150+	0.4	2.415	5.2	71	17.9	100.4
		--	1-57	57.9	30.6	6.2	5.3	100	96		49	39	29	14	5.2	32	150+	0.6	2.413	5.3	70	17.7	100.3
		WT	12-57	58.6	30.5	5.8	5.1	100	97		49	38	30	16	6.1	27	150+	0.3	2.455	3.6	77	15.7	102.0
		C	12-57	59.1	30.7	5.2	5.0	100	98		49	38	29	15	5.5	29	150+	0.4	2.429	4.7	72	16.8	101.0
		WT	11-58	58.2	31.7	4.9	5.2	100	99		51	39	28	14	5.2	30	150+	1.1	2.467	3.2	80	16.0	102.5
		C	11-58	58.2	31.1	5.8	4.9	100	98		51	39	29	16	6.1	35	150+	0.4	2.458	3.5	77	15.2	102.2
		WT	1-60	57.5	31.6	5.4	5.5	100	98		51	39	29	14	5.7	38	150+	0.9	2.466	3.2	81	16.8	102.5
		C	1-60	58.0	30.9	5.9	5.2	100	98		50	39	29	15	6.2	36	150+	0.7	2.436	4.4	74	16.9	101.2
		WT	11-61	57.5	32.2	5.1	5.2	100	98	83	53	39	30	14	5.4	31	73	2.8	2.477	2.9	81	15.3	103.0
		C	11-61	57.9	31.3	5.8	5.1	100	99	81	52	39	30	14	6.1	33	150+	2.9	2.456	3.6	77	15.7	102.1
		WP	11-63	57.7	31.3	5.7	5.3	100	99	84	53	39	30	15	6.0	29	142	2.8	2.478	2.7	82	15.0	103.0
		C	11-63	57.8	31.0	6.0	5.2	100	99	83	52	39	30	16	6.3	38	150+	2.6	2.460	3.5	78	15.9	102.2
		WT	8-65	59.2	30.7	5.1	5.0	100	97	80	49	38	28	14	5.4	25	145	1.9	2.468	3.1	79	14.8	102.6
		C	8-65	59.2	30.6	5.3	4.9	100	97	79	49	38	29	15	5.6	30	144	2.1	2.459	3.5	77	15.2	102.2

(a) Lanes numbered west to east.
(b) M = mix sample, C = core from center of lane, WT = core from wheel track. Dashes indicate cores taken at random locations.

(c) Penetrations of original asphalt = 60 (Section 2B Lanes 1, 3, 4); 61 (Section 2A all lanes; Section 2B Lane 2)

(d) Maximum theoretical specific gravities = 2.538 (Section 2A all lanes); 2.541 (Section 2B Lanes 2, 3); 2.548 (Section 2B Lanes 1, 4)

SECTION 3. WYOMING CRUDE, REFINERY B

Section	Lane	Location Sampled (b)	Date Sampled	Mixture Analysis, %: R 10	P 10 R 200	P 200	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve: 5/8	1/2	3/8	4	10	40	80	200	Recovered Asphalt: Penetration (c)	Ductility	Ash, %	Measured Specific Gravity (d)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate	Compaction %
SECTION 3A (Sta. 1048)	Lane 1(a)	M	8-54	57.3	31.7	5.4	5.6	100	97		49	39	32	14	5.7	47	150+	2.9	2.430	4.0	77	17.4	100.0
		--	11-54	54.8	33.8	5.9	5.5	100	99		54	42	33	16	6.2	44	150+	0.2	2.383	5.5	70	18.3	98.1
		--	1-56	57.1	31.7	5.9	5.3	100	97		51	40	31	15	6.2	49	150+	2.3	2.409	4.8	72	17.1	99.1
		--	1-57	57.4	31.4	5.7	5.5	100	94		51	39	30	15	6.0	48	150+	0.3	2.422	4.3	75	17.2	99.7
		WT	12-57	57.5	31.2	6.1	5.2	100	99		52	39	31	16	6.4	30	150+	0.0	2.445	3.4	79	16.2	100.6
		C	12-57	58.0	31.8	4.9	5.3	100	96		51	39	30	15	5.2	47	150+	0.2	2.441	3.6	78	16.4	100.5
		WT	11-58	58.1	32.1	4.7	5.1	100	98		52	39	29	14	4.9	41	150+	0.4	2.454	3.0	80	15.0	101.0
		C	11-58	56.6	32.3	5.6	5.5	100	98		53	40	30	15	5.9	55	150+	0.5	2.444	3.4	79	16.2	100.0
		WT	1-60	58.1	31.5	5.0	5.4	100	98		51	39	29	15	5.3	38	150+	0.4	2.473	2.3	85	15.3	101.8
		C	1-60	58.7	31.2	4.9	5.2	100	97		50	38	28	15	5.2	59	150+	0.4	2.450	3.2	80	16.0	100.8
		WT	11-61	58.5	30.8	5.7	5.0	100	99	80	49	39	30	15	6.0	38	150+	1.4	2.476	2.2	85	14.7	101.9
		C	11-61	57.2	32.0	5.5	5.3	100	98	81	51	40	31	15	5.8	57	150+	2.5	2.463	2.7	83	15.9	101.4
		WT	11-63	56.6	32.6	5.5	5.3	100	97	84	54	40	32	16	5.8	42	150+	1.0	2.463	3.1	80	15.5	100.9
		C	11-63	58.5	31.3	5.1	5.1	100	97	79	52	38	30	15	5.4	42	150+	1.4	2.448	3.3	79	15.7	100.7
		WT	8-65	58.3	32.2	4.4	5.1	100	97	78	49	39	29	13	4.6	38	150+	2.2	2.475	2.2	85	14.7	101.9
		C	8-65	57.7	32.2	5.1	5.0	100	97	79	51	39	30	15	5.4	47	150+	2.4	2.448	3.3	78	15.0	100.7
	Lane 2	M	8-54	57.2	32.5	5.2	5.1	100	97		50	40	31	14	5.5	50	150+	1.5	2.425	4.2	74	16.2	100.0
		--	11-54	55.9	31.4	7.4	5.3	100	97		51	41	32	15	7.8	44	150+	2.0	2.393	5.5	69	17.7	98.7
		--	1-56	56.7	32.2	5.9	5.2	100	98		52	40	31	16	6.2	33	150+	2.0	2.423	4.3	74	16.5	99.9
		--	1-57	57.8	30.3	6.3	5.6	100	98		50	39	31	16	6.7	43	150+	0.2	2.427	4.1	76	17.1	100.1
		WT	12-57	57.0	32.3	5.4	5.3	100	99		51	40	32	16	5.7	31	150+	0.0	2.443	3.5	78	15.9	100.7
		C	12-57	58.2	31.4	5.2	5.2	100	100		48	39	30	15	5.5	43	150+	0.2	2.434	3.8	77	16.5	100.4
		WT	11-58	57.8	31.7	5.5	5.0	100	98		51	39	30	16	5.8	29	150+	0.4	2.454	3.0	80	15.0	101.2
		WT	1-60	58.2	31.4	5.2	5.2	100	98		49	39	29	14	5.5	24	150+	0.2	2.426	4.1	75	16.4	100.0
		WT	11-61	59.3	31.2	4.4	5.1	100	98	79	50	38	30	13	4.6	20	32	2.0	2.416	4.5	73	16.7	99.6
		WT	11-63	60.1	29.9	4.9	5.1	100	97	76	48	37	29	15	5.2	30	150+	2.0	2.444	3.4	78	15.5	100.8
		C	11-63	58.1	31.6	5.1	5.2	100	98	80	51	39	31	16	5.4	38	150+	0.8	2.444	3.4	78	15.5	100.8
		WT	8-65	58.1	32.2	4.8	4.9	100	95	80	50	39	30	15	5.1	27	150+	2.0	2.440	3.6	76	16.0	100.6
		C	8-65	59.3	31.4	4.3	5.0	100	96	78	49	38	29	14	4.5	21	150+	1.9	2.424	4.2	74	16.2	100.0
	Lane 3	WT	11-63	59.1	30.6	5.1	5.2	100	98	80	48	38	30	15	5.4	36	150+	1.4	2.449	3.2	79	15.2	
		C	11-63	56.1	33.5	5.1	5.3	100	96	81	52	41	33	16	5.4	42	150+	2.9	2.441	3.6	78	16.4	
		WT	8-65	57.8	31.9	5.3	5.0	100	98	81	49	39	31	16	5.6	27	150+	2.3	2.453	3.1	79	14.8	
		C	8-65	57.6	32.5	4.8	5.1	100	98	82	51	39	30	16	5.2	34	150+	2.1	2.444	3.4	78	15.5	
	Lane 4	WT	11-63	56.9	33.2	5.1	4.8	100	99	79	50	40	32	17	5.4	35	150+	2.4	2.453	3.1	79	14.8	
		C	11-63	56.4	34.3	5.3	5.0	100	98	80	52	42	33	17	5.6	46	150+	0.8	2.458	2.9	80	14.5	
		WT	8-65	57.5	32.5	5.1	4.9	100	99	81	49	39	31	16	5.3	23	150+	2.3	2.441	3.6	76	16.0	
		C	8-65	56.9	32.9	5.2	5.0	100	99	81	51	40	31	16	5.5	38	150+	2.5	2.458	2.9	80	14.5	
SECTION 3B (Sta. 1060)	Lane 1(a)	M	8-54	56.3	32.6	6.1	5.0	100	95		52	41	31	16	6.4	49	150+	1.8	2.428	4.3	73	15.9	100.0
		--	11-54	55.4	33.9	5.4	5.3	100	98		53	42	32	16	5.7	43	150+	2.3	2.388	5.8	68	18.1	98.4
		--	1-56	56.5	32.7	5.5	5.3	100	98		52	40	32	15	5.8	40	150+	0.1	2.445	3.6	78	16.4	100.7
		--	1-57	56.9	33.1	4.8	5.2	100	98		52	40	31	15	5.1	47	150+	0.3	2.438	3.9	76	16.3	100.4
		WT	12-57	57.5	32.3	5.2	5.0	100	98		50	40	31	16	5.5	30	150+	0.5	2.455	3.2	79	15.2	101.1
		C	12-57	57.1	32.0	5.6	5.3	100	97		50	40	31	16	5.9	42	150+	0.4	2.438	3.9	76	16.3	100.4
		WT	11-58	56.7	32.8	5.4	5.1	100	99		52	40	31	15	5.7	39	150+	0.4	2.455	3.2	79	15.2	101.1
		C	11-58	58.5	31.3	5.2	5.0	100	96		49	38	30	15	5.5	32	150+	0.2	2.435	4.0	75	16.0	100.3
		WT	1-60	57.6	31.9	5.4	5.1	100	98		51	39	30	16	5.7	41	150+	0.4	2.468	2.7	82	15.0	101.6
		C	1-60	57.9	31.8	5.1	5.2	99	97		50	38	30	16	5.4	56	150+	0.3	2.461	3.4	79	16.2	100.9
		WT	11-61	58.0	31.8	5.1	5.1	100	98	79	51	39	31	16	5.4	40	150+	2.3	2.456	3.2	79	15.2	101.2
		C	11-61	57.9	31.9	5.1	5.1	100	96	79	52	39	30	15	5.4	48	150+	1.7	2.451	3.4	78	15.5	100.9
		WT	11-63	56.9	32.3	5.8	5.0	100	99	83	54	40	32	17	6.1	39	150+	2.4	2.473	2.5	83	14.7	101.9
		C	11-63	57.1	32.7	5.0	5.2	100	98	83	53	40	31	15	5.3	54	150+	2.0	2.447	3.5	78	15.9	100.7
		WT	8-65	57.7	32.1	5.3	4.9	100	98	80	51	39	30	16	5.6	27	150+	1.5	2.430	4.2	73	16.6	100.1
		C	8-65	56.6	33.0	5.1	5.3	100	98	81	52	40	30	14	5.4	40	150+	1.8	2.440	3.8	77	16.5	100.5
	Lane 2	M	8-54	56.2	33.7	4.5	5.6	100	97		50	40	32	13	4.8	49	150+	0.4	2.410	4.8	73	17.8	100.0
		--	11-54	56.4	32.1	6.2	5.3	100	98		51	40	30	14	6.5	44	150+	1.6	2.375	6.2	67	18.8	98.5
		--	1-56	56.8	32.2	5.4	5.6	100	95		50	40	30	16	5.7	33	150+	2.0	2.413	4.7	74	18.1	100.1
		--	1-57	55.4	33.4	5.5	5.7	100	98		52	41	33	16	5.8	42	150+	0.1	2.414	4.7	74	18.1	100.2
		WT	12-57	58.3	31.1	5.2	5.4	100	99		48	36	30	15	5.5	42	150+	0.1	2.430	4.0	76	16.7	100.8
		C	12-57	58.3	31.5	4.7	5.5	100	98		48	38	29	14	4.9	41	150+	0.2	2.438	3.7	78	16.8	101.2
		WT	11-58	58.3	31.6	4.9	5.2	100	97		48	39	29	14	5.2	36	150+	0.6	2.429	4.1	75	16.4	100.8
		WT	1-60	59.9	30.9	4.8	5.4	100	97		47	38	28	14	5.1	35	150+	0.8	2.436	3.8	77	16.5	101.1
		WT	11-61	57.3	33.4	4.0	5.3	100	99	80	49	40	32	15	4.2	30	123	2.9	2.445	3.4	79	16.2	101.4
		WT	11-63	57.1	32.1	5.5	5.3	100	96	83	51	40	32	17	5.8	33	150+	2.8	2.463	3.1	80	15.5	101.8
		C	11-63	58.4	31.1	5.3	5.2	100	96	82	50	38	31	16	5.6	35	150+	2.8	2.437	3.8	76	15.8	101.1
		WT	8-65	57.8	31.9	5.4	5.1	100	97	79	50	39	30	16	5.6	31	150+	2.1	2.428	4.1	75	16.4	100.7
		C	8-65	57.7	32.1	5.1	5.1	100	97	76	49	39	29	15	5.3	23	150+	1.8	2.439	3.7	77	16.1	101.2
	Lane 3	M	8-54	56.9	32.8	4.9	5.4	100	94		48	40	32	15	5.2	46	150+	1.5	2.423	4.3	75	17.2	100.0
		--	11-54	56.5	31.8	6.5	5.2	100	97		50	40	31	15	6.9	42	150+	2.7	2.369	6.4	65	18.3	97.8
		--	1-56	58.6	30.0	6.3	5.1	100	96		46	38	28	14	6.6	29	150+	2.6	2.403	5.1	70	17.0	99.2
		--	1-57	57.6	31.4	5.7	5.3	100	96		48	39	31	15	6.0	27	150+	0.2	2.418	4.5	74	17.3	99.8
		WT	12-57	59.3	30.0	5.5	5.2	100	97		46	38	29	15	5.8	35	150+	0.0	2.425	4.2	75	16.8	100.1
		C	12-57	58.9	30.5	5.6	5.0	100	98		46	38	28	15	5.9	32	150+	0.5	2.424	4.3	73	15.9	100.0
		WT	11-58	57.4	31.7	5.7	5.2	100	98		49	39	29	15	6.0	31	150+	0.2	2.428	4.1	75	16.4	100.2
		WT	1-60	58.0	31.8	4.9	5.3	100	99		51	39	28	15	5.2	32	150+	0.2	2.431	3.3	79	15.7	100.3
		WT	11-61	59.5	31.2	4.2	5.1	100	98	77	46	37	29	14	4.4	25	117	3.0	2.441	3.6	77	15.7	100.7
		WT	11-63	59.2	30.8	5.3	4.7	100	96	76	47	38	30	16	5.6	19	63	1.1	2.399	5.3	67	16.1	99.0
		C	11-63	58.4	31.3	5.2	5.1	100	97	78	48	39	31	16	5.5	21	104	1.4	2.432	3.9	75	16.3	100.4
		WT	8-65	59.1	31.4	4.4	5.1	100	97	79	48	38	27	13	4.6	33	150+	2.8	2.455	3.0	80	15.0	101.3
		C	8-65	59.5	30.9	4.4	5.2	100	95	78	48	37	27	12	4.6	25	150+	2.0	2.434	3.9	76	16.3	100.5
	Lane 4	M	8-54	56.5	33.1	6.3	5.1	100	94		50	41	33	15	5.2	46	150+	1.2	2.421	4.5	73	16.7	100.0
		--	11-54	54.3	34.3	6.2	5.2	100	98		53	43	34	16	6.5	43	150+	0.9	2.387	5.9	67	17.9	98.6
		--	1-56	55.7	32.5	6.5	5.3	100	97		51	41	32	17	6.9	33	150+	0.4	2.400	5.4	70	18.0	99.1
		--	1-57	57.3	32.3	5.0	5.4	100	96		49	40	31	15	5.3	40	150+	0.4	2.446	3.6	78	16.4	101.0
		WT	12-57	57.9	31.4	5.5	5.2	100	98		49	39	30	16	5.8	30	150+	0.4	2.427	4.3	74	16.5	100.2
		C	12-57	58.1	31.4	5.2	5.3	100	98		49	39	30	15	5.5	41	150+	0.3	2.431	4.1	75	16.4	100.4
		WT	11-58	57.7	31.6	5.2	5.5	100	97		50	39	29	15	5.5	38	150+	0.8	2.472	2.5	84	15.6	102.1
		C	11-58	58.4	30.6	6.1	4.9	100	97		48	38	30	15	6.4	32	150+	0.4	2.445	3.6	77	15.7	101.0
		WT	1-60	58.0	31.8	5.0	5.2	100	96		50	39	30	16	5.3	37	150+	0.2	2.471	2.6	83	15.3	102.1
		C	1-60	58.0	31.4	5.5	5.1	100	96		50	39	30	17	5.8	39	150+	0.2	2.449	3.4	78	15.5	101.2
		WT	11-61	58.2	32.2	4.5	5.1	100	97	80	50	39	31	14	4.7	35	150+	2.5	2.459	3.0	80	15.0	101.6
		C	11-61	58.0	31.7	5.2	5.1	100	98	80	50	39	30	16	5.5	33	150+	2.8	2.429	4.2	74	16.2	100.3
		WT	11-63	57.6	31.8	5.5	5.1	100	97	77	50	39	31	15	5.8	33	150+	1.1	2.475	2.4	84	15.0	102.2
		C	11-63	56.4	32.9	5.8	4.9	100	97	78	52	41	32	16	6.1	39	150+	2.5	2.461	3.0	80	15.0	101.7
		WT	8-65	59.4	31.2	4.3	5.1	100	96	78	48	37	29	13	4.5	34	150+	1.6	2.469	2.6	82	14.4	102.0
		C	8-65	59.1	31.3	4.6	5.0	100	97	78	50	39	30	16	4.8	41	150+	2.4	2.463	2.9	80	14.5	101.7

(a) Lanes numbered west to east.
(b) M = mix sample, C = core from center of lane, WT = core from wheel track. Dashes indicate cores taken at random locations.

(c) Penetrations of original asphalt = 68 (Section 3A all lanes; Section 3B Lanes 1, 2); 70 (Section 3B Lanes 3, 4)

(d) Maximum theoretical specific gravities = 2.531 (Section 3A all lanes); 2.532 (Section 3B Lanes 2, 3); 2.536 (Section 3B Lanes 1, 4)

SECTION 4. WEST TEXAS WINKLER CRUDE

Section	Lane	Location Sampled[b]	Date Sampled	Mixture Analysis, %: R 10	P 10 R 200	P 200	Bitumen	Gradation of Extracted Aggregate, % passing indicated sieve: 5/8	1/2	3/8	4	10	40	80	200	Recovered Asphalt: Penetration[c]	Ductility	Ash, %	Measured Specific Gravity[d]	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate	Compaction %
SECTION 4A (Sta. 1072)	Lane 1[a]	WT	11-63	57.7	32.6	4.8	4.9	100	98	81	50	39	31	16	5.0	38	150+	2.0	2.439	3.7	76	15.4	
		C	11-63	56.5	33.5	5.1	4.9	100	99	80	51	41	32	16	5.4	51	150+	2.6	2.437	3.8	75	15.2	
		WT	8-65	56.6	34.2	4.4	4.8	100	98	80	48	40	31	13	4.6	35	150+	2.2	2.458	3.0	79	14.3	
		C	8-65	55.2	36.2	4.8	4.8	100	99	82	51	42	33	16	4.8	34	100	2.3	2.414	4.7	71	16.2	
	Lane 2	WT	11-63	59.5	30.0	5.7	4.8	100	97	79	48	37	29	16	6.0	29	140	2.1	2.466	2.7	81	14.2	
		C	11-63	58.3	31.4	5.3	5.0	100	98	80	50	39	29	15	5.6	32	150+	1.7	2.463	2.8	81	14.7	
		WT	8-65	57.7	32.0	5.1	5.2	100	98	81	51	39	31	16	5.4	26	15	2.3	2.449	3.4	78	15.5	
		C	8-65	59.1	31.2	4.7	5.0	100	98	78	49	36	29	15	6.0	30	150+	2.6	2.449	3.4	77	14.8	
	Lane 3	M	8-54	56.9	32.7	5.1	5.3	100	98		48	40	33	13	5.4	40	150+	1.4	2.407	5.0	71	17.2	100.0
		--	11-54	56.0	33.0	5.9	5.1	100	98		50	41	32	15	6.2	41	150+	1.7	2.366	6.6	64	18.3	98.3
		--	1-56	57.3	32.2	5.4	5.1	100	98		49	40	30	14	5.7	29	150+	0.5	2.392	5.6	68	17.5	99.4
		--	1-57	56.4	32.4	5.8	5.4	100	97		49	40	31	15	6.1	30	150+	0.4	2.391	5.6	69	18.1	99.3
		WT	12-57	58.3	31.6	5.2	4.9	100	97		47	39	30	15	5.5	36	150+	0.4	2.413	4.8	71	16.6	100.3
		C	12-57	58.5	31.1	5.5	4.9	100	100		47	38	32	17	5.7	27	150+	0.5	2.402	5.2	69	16.8	99.8
		WT	11-58	55.8	33.1	5.8	5.3	100	99		50	41	31	16	6.1	28	88	0.7	2.427	4.2	75	16.8	100.8
		WT	1-60	58.2	31.9	4.8	5.1	100	99		48	39	29	14	5.1	27	89	0.5	2.426	4.3	74	16.5	100.8
		WT	11-61	58.4	32.1	4.3	5.2	100	97	76	48	38	29	13	4.5	26	8	2.4	2.422	4.4	74	16.9	100.6
		WT	11-63	58.7	31.9	4.5	4.9	100	98	77	49	38	29	14	4.7	23	7	1.4	2.424	4.3	73	15.9	100.7
		C	11-63	59.3	31.3	4.5	4.9	100	99	76	47	38	29	14	4.7	23	7	2.4	2.419	4.5	72	16.1	100.5
		WT	8-65	58.5	31.8	4.7	5.0	100	97	79	48	38	29	13	5.0	26	8	1.8	2.428	4.2	74	16.2	100.9
		C	8-65	57.7	32.4	4.8	5.1	100	98	82	49	39	30	15	5.0	25	7	2.6	2.403	5.2	70	17.3	99.8
	Lane 4	M	8-54	57.4	29.5	7.9	5.2	100	98		50	39	32	15	8.3	52	150+	1.0	2.431	4.1	75	16.4	100.0
		--	11-54	56.6	31.5	6.8	5.1	100	97		52	40	31	15	7.2	44	150+	2.2	2.398	5.4	69	17.4	98.6
		--	1-56	57.4	31.2	6.1	5.3	100	98		51	39	30	14	6.5	51	150+	0.6	2.429	4.1	75	16.4	99.9
		--	1-57	57.1	31.3	6.1	5.5	100	95		51	40	31	15	6.4	55	150+	0.4	2.421	4.5	74	17.3	99.6
		WT	12-57	59.2	30.3	5.5	5.0	100	97		48	38	29	15	5.8	41	150+	0.4	2.470	2.5	83	14.7	101.6
		C	12-57	58.5	31.2	5.2	5.1	100	98		49	38	30	15	5.4	41	150+	0.1	2.451	3.3	79	15.7	100.8
		WT	11-58	58.4	30.4	5.9	5.3	100	98		49	38	29	15	6.2	43	150+	0.7	2.472	2.4	84	15.0	101.7
		C	11-58	59.0	30.7	5.2	5.1	100	99		49	38	29	14	5.5	56	150+	0.4	2.459	3.0	80	15.0	101.2
		WT	1-60	58.8	30.7	5.6	4.9	100	95		49	38	28	14	5.9	39	150+	0.7	2.458	3.0	80	15.0	101.1
		C	1-60	58.1	31.1	5.5	5.3	100	98		50	39	29	15	5.8	59	150+	0.6	2.466	2.7	83	15.9	101.4
		WT	11-61	58.3	31.3	5.2	5.2	100	98	80	50	39	29	15	5.5	44	132	2.3	2.477	2.2	85	14.7	101.9
		C	11-61	59.0	31.1	4.9	5.0	100	96	79	49	39	29	14	5.2	62	150+	2.8	2.462	2.8	81	14.7	101.3
		WT	11-63	56.8	32.7	5.4	5.1	100	98	80	52	40	31	16	5.7	32	130	2.0	2.455	3.1	80	15.5	101.0
		C	11-63	57.5	31.8	5.7	5.0	100	97	80	51	40	30	15	6.0	56	150+	2.7	2.460	2.9	81	15.3	101.2
		WT	8-65	58.0	31.5	5.4	5.1	100	99	82	52	39	29	16	5.7	37	150+	2.1	2.437	3.8	76	15.8	100.2
		C	8-65	57.5	32.4	5.1	5.0	100	97	82	52	40	29	13	5.3	55	150+	1.5	2.450	3.3	78	15.0	100.8
SECTION 4B (Sta. 1084)	Lane 1[a]	M	8-54	58.1	32.3	4.3	5.3	100	95		49	39	31	14	4.5	51	150+	1.6	2.386	6.3	66	18.5	100.0
		--	11-54	56.0	33.1	5.6	5.3	100	98		53	41	32	15	5.9	40	150+	2.5	2.385	6.3	66	18.5	100.0
		--	1-56	57.2	33.0	4.5	5.3	100	97		50	40	31	13	4.8	44	150+	0.5	2.426	4.7	73	17.4	101.7
		--	1-57	57.4	32.6	4.9	5.1	99	93		50	40	31	14	5.2	48	150+	0.3	2.441	4.1	76	16.4	102.3
		WT	12-57	59.2	31.1	4.9	4.8	99	97		48	38	29	15	5.2	34	150+	0.5	2.445	3.9	75	15.6	102.5
		C	12-57	55.4	34.1	5.2	5.3	100	98		53	42	33	16	5.4	55	150+	0.3	2.445	3.9	77	17.0	102.5
		WT	11-58	58.4	31.4	5.1	5.1	100	96		48	38	31	16	5.4	43	150+	0.7	2.449	3.8	76	15.8	102.7
		C	11-58	57.7	32.3	4.8	5.2	99	94		50	39	30	15	5.1	53	150+	0.3	2.435	4.3	74	16.5	102.1
		WT	1-60	57.1	32.7	5.1	5.1	100	98		51	40	31	16	5.4	37	150+	0.4	2.455	3.5	78	15.9	102.9
		C	1-60	57.0	33.0	4.4	5.6	100	98		51	40	31	15	4.7	45	150+	0.5	2.450	3.7	78	16.8	102.7
		WT	11-61	57.8	32.1	4.9	5.2	99	96	76	49	39	30	15	5.2	37	118	2.5	2.464	3.3	79	15.7	103.3
		C	11-61	57.3	32.6	4.9	5.2	100	96	80	53	40	30	15	5.2	45	150+	2.6	2.458	3.4	79	16.2	103.1
		WT	11-63	57.7	32.2	5.2	4.9	100	97	80	51	39	31	16	5.5	34	150+	2.5	2.461	3.3	78	15.0	103.2
		C	11-63	57.2	32.3	5.4	5.1	100	97	79	51	40	31	16	5.7	48	150+	2.8	2.456	3.5	78	15.9	103.0
		WT	8-65	58.0	32.7	4.4	4.9	99	96	79	51	39	30	15	4.4	31	150+	1.7	2.456	3.5	77	15.2	102.9
		C	8-65	57.6	32.9	4.5	5.0	100	97	80	51	39	30	15	4.6	42	150+	2.2	2.449	3.8	76	15.8	102.7
	Lane 2	M	8-54	58.3	30.8	5.5	5.4	100	97		48	38	30	13	5.8	50	150+	2.5	2.410	5.0	72	17.9	100.0
		--	11-54	56.0	31.2	7.1	5.7	100	98		51	41	32	15	7.5	47	150+	1.8	2.397	5.5	71	19.0	99.5
		--	1-56	57.1	31.8	5.5	5.6	100	97		50	40	31	15	5.8	43	150+	0.7	2.405	5.2	72	18.6	99.8
		--	1-57	57.4	31.0	5.8	5.8	100	93		48	39	31	16	6.2	37	150+	0.4	2.411	4.9	74	18.8	100.0
		WT	12-57	58.2	31.7	5.0	5.1	100	95		49	39	31	16	5.3	34	150+	0.3	2.426	4.3	74	16.5	100.7
		C	12-57	58.5	31.2	4.9	5.4	100	97		48	38	30	15	5.1	41	150+	0.1	2.430	4.2	75	16.8	100.5
		WT	11-58	57.2	32.3	5.0	5.5	100	96		49	40	31	16	5.3	42	150+	0.3	2.433	4.1	76	17.1	101.0
		WT	1-60	59.7	29.7	5.0	5.6	100	94		46	37	28	15	5.3	34	150+	0.5	2.432	4.1	77	17.8	101.0
		WT	11-61	56.8	33.4	4.4	5.4	100	98	82	51	40	32	15	4.7	32	145	2.8	2.431	4.1	76	17.1	100.9
		WT	11-63	58.5	30.5	5.9	5.1	100	95	78	49	38	31	15	6.2	32	150+	2.7	2.436	3.9	76	16.2	101.1
		C	11-63	58.4	31.0	5.5	5.1	100	97	80	50	38	30	16	5.8	35	150+	2.5	2.433	4.1	75	16.4	101.0
		WT	8-65	58.5	31.9	4.4	5.2	100	95	77	48	38	29	14	4.7	32	150+	1.9	2.448	3.5	78	15.9	101.8
		C	8-65	57.9	32.7	4.2	5.2	100	95	76	49	39	31	14	4.5	32	150+	2.1	2.438	3.9	76	16.3	101.2
	Lane 3	M	8-54	57.0	31.7	6.1	5.2	100	97		50	40	32	15	6.4	51	150+	1.3	2.422	4.5	73	16.7	100.0
		--	11-54	55.9	32.8	5.9	5.4	100	97		51	41	32	15	6.2	45	150+	2.3	2.381	6.1	67	18.5	98.3
		--	1-56	57.7	31.3	5.5	5.5	100	96		48	39	30	15	5.8	38	150+	0.2	2.413	4.9	73	18.1	99.6
		--	1-57	56.1	32.8	5.5	5.6	100	95		49	40	33	16	5.8	32	150+	0.4	2.403	5.2	72	18.6	99.2
		WT	12-57	57.2	32.5	5.2	5.1	100	96		48	40	33	17	5.4	36	150+	0.4	2.441	3.7	77	16.1	100.8
		C	12-57	58.2	31.7	5.0	5.1	100	97		47	38	31	16	5.2	31	150+	0.4	2.434	4.0	75	16.0	100.5
		WT	11-58	55.9	33.0	5.9	5.2	100	97		50	41	33	18	6.2	34	150+	1.1	2.445	3.6	78	18.4	100.9
		WT	1-60	58.2	31.3	5.0	5.5	99	96		47	38	30	15	5.3	37	150+	0.5	2.448	3.5	79	16.7	101.0
		WT	11-61	57.7	31.6	5.2	5.5	100	98	80	50	39	32	17	5.5	36	145	2.0	2.443	3.7	78	16.8	100.0
		WT	11-63	56.6	32.2	5.7	5.3	100	97	83	51	40	32	17	6.0	32	150+	2.6	2.456	3.2	80	16.0	101.4
		C	11-63	57.2	32.0	5.3	5.5	100	97	82	50	40	31	16	5.6	35	150+	2.2	2.444	3.6	78	16.4	100.9
		WT	8-65	57.9	32.1	5.0	5.0	100	96	78	49	39	31	14	5.2	29	87	1.7	2.439	3.8	76	15.8	100.7
		C	8-65	58.0	31.6	5.5	4.9	100	97	77	49	39	30	16	5.8	32	105	1.8	2.442	3.7	76	15.4	100.8
	Lane 4	M	8-64	58.1	32.3	4.3	5.2	100	95		49	39	31	14	4.5	52	150+	1.6	2.409	5.3	70	17.7	100.0
		--	11-54	56.9	33.1	5.6	5.2	100	98		53	41	32	15	5.9	41	150+	2.5	2.365	7.1	63	19.2	98.2
		--	1-56	57.8	31.1	6.0	5.1	100	98		48	39	31	15	6.3	37	150+	0.4	2.431	4.5	73	16.7	100.9
		--	1-57	57.8	31.0	5.9	5.3	100	98		50	39	31	16	6.2	45	150+	0.4	2.447	3.9	77	17.0	101.6
		WT	12-57	57.8	31.7	5.7	4.8	100	97		50	39	31	16	6.0	35	150+	0.3	2.465	3.1	79	14.8	102.3
		C	12-57	58.2	30.9	6.0	4.9	100	99		50	39	31	16	6.4	48	150+	0.4	2.464	3.2	79	15.2	102.3
		WT	11-58	57.8	31.1	6.2	5.1	100	96		50	39	30	16	6.5	36	150+	0.9	2.473	2.8	82	15.6	102.7
		C	11-58	58.8	30.8	5.6	4.8	100	96		49	38	29	15	5.9	45	150+	0.7	2.473	2.8	81	14.7	102.7
		WT	1-60	57.9	31.7	5.0	5.4	100	97		50	39	29	15	5.3	42	150+	0.6	2.474	2.8	82	15.6	102.7
		C	1-60	58.5	30.2	6.1	5.2	100	98		49	38	29	16	6.4	50	150+	0.4	2.471	2.9	81	15.3	102.6
		WT	11-61	57.7	32.0	5.1	5.2	100	99	82	51	39	31	14	5.4	36	150+	2.1	2.454	3.6	78	16.4	101.9
		C	11-61	58.1	31.8	5.1	5.0	100	97	78	50	39	31	16	5.4	47	150+	3.0	2.454	3.6	79	15.7	101.9
		WT	11-63	56.9	32.2	6.0	4.9	100	97	79	52	40	32	17	6.3	38	150+	2.2	2.480	2.6	82	14.4	102.9
		C	11-63	56.9	32.4	5.8	4.9	100	96	78	52	40	32	16	6.1	43	150+	2.6	2.460	3.3	78	15.0	102.1
		WT	8-65	61.6	28.9	4.9	4.6	100	93	76	47	36	27	14	5.2	36	150+	2.4	2.475	2.8	80	14.0	102.7
		C	8-65	57.3	31.5	6.2	5.0	100	99	81	52	40	30	17	6.6	46	150+	1.9	2.471	2.9	81	15.3	102.6

(a) Lanes numbered west to east.
(b) M = mix sample, C = core from center of lane, WT = core from wheel track. Dashes indicate cores taken at random locations.

(c) Penetrations of original asphalt = 60 (Section 4A all lanes, Section 4B Lanes 1, 2, 3); 61 (Section 4B Lane 4)

(d) Maximum theoretical specific gravities = 2.534 (Section 4A all lanes); 2.536 (Section 4B Lanes 2, 3); 2.545 (Section 4B Lanes 1, 4)

SECTION 5. ARKANSAS SMACKOVER CRUDE

Section	Lane	Location Sampled (b)	Date Sampled	Mixture Analysis, % R 10	P 10 R 200	P 200	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve 5/8	1/2	3/8	4	10	40	80	200	Recovered Asphalt Penetration (c)	Ductility	Ash, %	Measured Specific Gravity (d)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate	Compaction %
SECTION 5A (Sta. 1096)	Lane 1 (a)	M	8-54	55.9	33.0	5.9	5.2	100	98		51	41	32	16	6.2	46	150+	1.4	2.420	4.7	72	16.8	100.0
		--	11-54	56.4	31.7	6.7	5.2	100	98		50	40	31	14	7.0	47	150+	0.3	2.405	5.3	70	17.7	99.4
		--	1-56	57.2	32.1	5.4	5.3	100	98		49	40	31	14	5.7	39	150+	0.6	2.428	4.4	74	16.9	100.3
		--	1-57	57.6	31.8	5.4	5.2	100	94		50	39	32	15	5.7	52	150+	0.4	2.428	4.4	74	16.9	100.3
		WT	12-57	59.3	31.1	4.8	4.8	100	97		46	38	30	15	5.0	29	150+	0.2	2.434	4.1	74	15.8	100.6
		C	12-57	57.5	31.8	5.6	5.1	100	97		49	39	30	16	5.9	52	150+	0.2	2.452	3.4	78	15.5	101.3
		WT	11-58	56.8	33.0	5.0	5.2	100	97		50	40	30	15	5.3	43	150+	0.4	2.450	3.5	78	15.9	101.2
		C	11-58	57.8	31.0	5.2	5.1	100	98		49	39	30	15	5.5	48	150+	0.6	2.455	3.3	79	15.7	101.4
		WT	1-60	56.9	33.2	4.4	5.5	100	96		50	40	30	15	4.7	36	150+	0.2	2.454	3.3	80	16.5	101.4
		C	1-60	57.6	32.1	5.1	5.2	100	97		50	39	30	15	5.4	45	150+	1.0	2.466	2.9	81	15.3	101.9
		WT	11-61	56.8	33.2	5.0	5.0	100	97	80	50	39	31	15	5.3	38	150+	2.5	2.471	2.7	82	15.0	102.1
		C	11-61	58.0	31.0	5.0	5.1	100	97	78	49	39	30	14	5.2	55	150+	2.0	2.465	2.9	81	15.3	101.9
		WT	11-63	57.4	32.4	5.2	5.0	100	98	78	50	40	31	16	5.5	39	150+	2.1	2.459	3.2	80	16.0	101.6
		C	11-63	56.4	33.5	5.0	5.1	100	95	79	50	40	31	16	5.3	53	150+	2.6	2.466	2.9	81	15.3	101.9
		WT	8-65	57.8	32.6	4.6	5.0	100	97	78	51	40	30	16	4.9	44	150+	2.3	2.480	2.3	84	14.4	102.5
		C	8-65	57.4	32.6	4.8	5.0	100	96	79	51	40	31	15	5.0	50	150+	2.0	2.462	3.0	80	15.0	101.7
	Lane 2	M	8-54	56.1	32.8	5.9	5.2	100	97		52	41	33	15	6.2	48	150+	1.4	2.415	4.9	73	18.1	100.0
		--	11-54	55.1	33.6	6.0	5.3	100	99		53	42	34	16	6.3	45	150+	0.2	2.423	4.6	73	17.0	100.3
		--	1-56	57.0	31.3	6.4	5.3	100	98		50	40	30	14	6.8	41	150+	0.3	2.426	4.5	74	17.3	100.5
		--	1-57	56.5	32.5	5.6	5.4	100	95		50	40	32	15	6.0	36	150+	0.1	2.429	4.3	75	17.2	100.6
		WT	12-57	57.3	32.4	5.3	5.0	100	98		50	40	32	16	5.6	32	150+	0.2	2.436	4.1	74	15.8	100.8
		C	12-57	56.9	32.3	5.6	5.2	100	98		50	40	32	16	5.9	45	150+	0.3	2.443	3.8	77	16.5	101.2
		WT	11-58	56.4	32.5	5.8	5.3	100	98		51	40	31	16	6.1	43	150+	0.7	2.450	3.5	78	15.9	101.4
		WT	1-60	59.1	30.9	4.8	5.2	100	96		48	38	30	15	5.1	45	150+	0.3	2.460	3.1	77	13.5	101.9
		WT	11-61	57.2	32.4	5.2	5.2	100	98	82	51	40	31	16	5.5	35	137	2.4	2.439	3.9	76	16.3	101.0
		WT	11-63	58.3	30.9	5.9	4.9	99	97	81	49	39	31	17	6.2	37	150+	2.9	2.474	2.6	82	14.4	102.4
		C	11-63	57.5	31.6	5.9	5.0	100	97	80	50	40	32	17	6.2	35	150+	1.8	2.463	3.0	80	15.0	102.0
		WT	8-65	58.4	31.1	5.6	4.9	100	97	80	50	39	30	16	5.8	32	150+	2.2	2.457	3.2	79	15.2	101.7
		C	8-65	58.6	31.6	4.7	5.1	100	94	78	49	38	30	15	5.0	33	150+	2.4	2.461	3.1	80	15.5	101.9
	Lane 3	WT	11-63	56.6	33.0	5.2	5.2	100	96	77	50	40	33	17	5.5	20	138	2.2	2.426	4.5	72	16.1	
		C	11-63	56.6	32.8	5.3	5.3	100	97	78	51	40	33	17	5.6	27	96	1.6	2.427	4.4	74	16.9	
		WT	8-65	59.4	31.3	4.5	4.8	100	94	74	48	38	27	13	4.7	28	51	2.2	2.404	5.3	68	16.6	
		C	8-65	57.1	32.3	5.5	5.1	100	97	82	50	40	31	15	5.8	23	54	1.8	2.375	6.5	65	18.0	
	Lane 4	WT	11-63	56.0	32.3	6.4	5.3	100	98	82	55	41	33	18	6.7	44	150+	1.7	2.463	3.0	81	15.8	
		C	11-63	57.2	32.0	5.6	5.2	100	98	83	53	40	31	16	6.0	58	150+	2.2	2.458	3.2	80	16.0	
		WT	8-65	58.5	31.4	5.3	4.8	100	95	76	49	39	30	14	5.6	39	150+	2.4	2.471	2.7	81	14.2	
		C	8-65	58.9	30.8	5.3	5.0	100	94	75	49	38	29	15	5.6	40	150+	2.4	2.446	3.7	76	15.4	
SECTION 5B (Sta. 1108)	Lane 1 (a)	M	8-54	55.4	33.8	5.7	5.1	100	95		52	42	33	15	6.0	47	150+	2.4	2.415	4.5	73	16.7	100.0
		--	11-54	54.3	34.5	6.3	4.9	100	97		52	43	33	16	6.6	40	150+	1.2	2.407	4.9	70	16.3	99.7
		--	1-56	55.3	34.3	5.7	4.7	100	97		52	42	32	18	6.0	37	150+	0.7	2.440	3.6	76	15.0	101.0
		--	1-57	56.2	32.8	5.8	5.2	99	96		50	41	32	16	6.1	42	150+	0.3	2.434	3.8	77	16.5	100.8
		WT	12-57	57.8	31.6	5.7	4.9	99	95		47	39	31	16	5.9	31	113	0.1	2.465	3.0	80	15.0	101.7
		C	12-57	55.7	33.7	5.5	5.1	100	97		50	41	32	17	5.8	39	150+	0.2	2.438	3.6	77	15.7	101.0
		WT	11-58	55.8	34.1	6.3	4.8	100	96		50	41	32	16	5.6	41	150+	0.5	2.467	2.5	82	13.9	102.2
		C	11-58	56.1	33.1	5.9	4.9	100	98		50	41	31	16	6.2	41	150+	0.5	2.451	3.1	79	14.8	101.6
		WT	1-60	58.2	32.0	5.1	4.7	100	98		49	39	29	14	5.4	28	150+	1.4	2.452	3.1	78	14.1	101.5
		C	1-60	57.7	31.6	5.8	4.9	100	99		50	38	30	15	6.1	38	150+	1.6	2.464	2.6	82	14.4	102.0
		WT	11-61	57.7	32.4	4.9	5.0	100	97	78	50	38	31	15	5.2	36	150+	2.6	2.458	2.8	81	14.7	101.8
		C	11-61	56.9	32.0	5.9	5.2	100	97	79	51	40	31	16	6.2	39	150+	2.8	2.427	4.1	75	16.4	100.5
		WT	11-63	56.7	32.8	5.6	4.9	100	98	77	50	40	32	18	5.9	37	150+	2.4	2.466	2.5	83	14.7	102.1
		C	11-63	56.7	32.8	5.6	4.9	100	97	79	51	40	32	15	5.9	50	150+	2.4	2.465	2.6	82	14.4	102.1
		WT	8-65	56.9	33.1	5.1	4.9	100	98	78	50	40	31	15	5.4	38	150+	2.1	2.477	2.1	84	13.1	102.6
		C	8-65	57.1	32.5	5.4	5.0	100	96	77	50	40	30	18	5.7	45	150+	2.0	2.458	2.8	81	14.7	101.8
	Lane 2	M	8-54	57.4	31.2	6.0	5.4	100	96		48	39	31	14	6.4	42	150+	1.5	2.420	4.5	74	17.3	100.0
		--	11-54	55.5	31.5	7.6	5.4	100	98		51	41	34	17	8.0	44	150+	2.7	2.396	5.4	70	18.0	99.0
		--	1-56	56.0	32.0	6.7	5.3	100	97		50	41	33	17	7.1	32	150+	0.5	2.414	4.7	73	17.4	99.8
		--	1-57	55.7	32.4	6.3	5.6	100	96		51	41	33	17	6.7	42	150+	0.3	2.416	4.6	74	17.7	99.8
		WT	12-57	57.8	31.8	5.4	5.0	100	96		48	39	31	16	5.7	40	150+	0.2	2.439	3.7	76	15.4	100.8
		C	12-57	56.0	32.4	6.1	5.5	100	96		50	41	33	17	6.5	38	150+	0.3	2.429	4.1	76	17.1	100.4
		WT	11-58	56.2	33.1	5.3	5.4	100	98		52	41	31	16	5.6	36	150+	1.0	2.434	3.9	77	17.0	100.6
		WT	1-60	56.4	33.5	4.7	5.4	100	99		50	40	31	16	5.0	40	150+	0.6	2.437	3.8	77	16.5	100.7
		WT	11-61	58.6	31.6	4.6	5.2	100	97	78	48	38	31	14	4.8	30	49	2.7	2.449	3.3	79	15.7	101.2
		WT	11-63	58.1	31.1	5.7	5.1	100	97	78	49	39	32	17	5.9	32	101	1.6	2.456	3.0	80	15.0	101.5
		C	11-63	57.1	32.1	5.6	5.2	100	96	81	50	40	33	17	5.9	38	150+	1.2	2.445	3.5	78	15.9	101.0
		WT	8-65	57.7	31.5	5.7	5.1	100	96	78	49	39	31	17	6.0	30	150+	2.4	2.446	3.4	78	15.5	101.1
		C	8-65	57.5	32.7	4.6	5.2	100	97	77	49	39	31	14	4.9	32	150+	1.9	2.448	3.4	79	16.2	101.2
	Lane 3	M	8-54	55.3	32.8	6.2	5.7	100	97		50	41	33	13	6.5	45	150+	1.0	2.403	5.1	72	18.2	100.0
		--	11-54	56.0	33.2	5.5	5.3	100	96		51	41	32	15	5.8	44	150+	1.9	2.377	6.2	67	18.8	98.9
		--	1-56	56.7	31.8	6.1	5.4	100	96		50	40	32	15	6.4	34	150+	1.3	2.392	5.6	69	18.1	99.5
		--	1-57	56.0	32.3	6.0	5.7	100	95		51	41	32	16	6.4	36	150+	0.5	2.405	5.1	72	18.2	100.1
		WT	12-57	57.1	32.6	5.0	5.3	100	97		51	40	31	15	5.2	37	150+	0.0	2.426	4.2	75	16.8	101.0
		C	12-57	57.5	31.6	5.7	5.2	100	98		49	39	32	17	6.0	37	150+	0.0	2.409	4.9	71	16.9	100.2
		WT	11-58	56.9	31.9	6.0	5.2	100	99		51	40	31	16	6.3	47	150+	1.2	2.439	3.7	77	16.1	101.5
		WT	1-60	57.5	33.3	4.1	5.1	100	96		50	39	30	14	4.3	41	150+	0.4	2.438	3.8	76	15.8	101.6
		WT	11-61	57.7	30.9	6.3	5.1	100	97	75	49	39	32	15	6.6	35	150+	2.3	2.444	3.5	78	15.9	101.7
		WT	11-63	56.9	32.9	5.1	5.1	100	98	83	52	40	32	18	5.4	41	150+	3.0	2.442	3.6	77	15.7	101.6
		C	11-65	58.8	31.3	4.7	5.2	100	97	78	50	35	31	15	5.0	33	150+	2.9	2.430	3.7	77	16.1	101.5
		WT	8-65	58.7	31.8	4.5	5.0	100	96	75	49	38	30	13	4.7	32	150+	1.8	2.445	3.5	77	15.2	101.7
		C	8-65	58.2	30.7	5.9	5.2	100	96	79	49	39	32	18	6.2	27	71	1.8	2.425	4.3	74	16.5	100.9
	Lane 4	M	8-54	53.4	35.8	5.8	5.0	100	98		54	44	36	18	6.1	46	150+	0.8	2.391	5.5	68	17.2	100.0
		--	11-54	53.7	33.2	8.1	5.0	100	96		54	44	34	17	8.5	41	150+	2.5	2.393	5.4	68	16.9	100.1
		--	1-56	56.2	33.4	5.5	4.9	100	98		50	41	32	15	5.8	40	150+	0.2	2.442	3.5	77	15.2	102.1
		--	1-57	56.0	32.5	6.3	5.2	100	97		51	41	33	17	6.8	48	150+	0.4	2.434	3.8	77	16.5	101.8
		WT	12-57	58.1	30.7	6.3	4.9	100	95		48	39	31	17	6.6	36	150+	0.0	2.457	2.9	80	14.5	102.8
		C	12-57	56.4	32.1	6.4	5.1	100	98		50	40	33	17	6.7	50	150+	0.0	2.460	2.8	81	14.7	102.9
		WT	11-58	58.6	30.9	5.8	4.7	100	97		48	39	31	16	6.1	35	150+	0.4	2.454	3.0	79	14.3	102.6
		C	11-58	56.8	31.6	6.5	5.1	100	98		50	40	31	17	6.8	52	150+	0.8	2.468	2.5	83	14.7	103.2
		WT	1-60	57.2	32.4	5.3	5.1	100	97		49	40	30	16	5.6	42	150+	0.8	2.478	2.1	86	15.0	103.6
		C	1-60	58.0	31.1	5.8	5.1	100	98		48	39	30	16	6.1	45	150+	1.4	2.464	2.6	83	15.3	103.1
		WT	11-61	57.4	32.3	5.3	5.0	100	97	78	50	40	31	15	5.6	41	150+	2.6	2.472	2.3	84	14.4	103.4
		C	11-61	57.8	31.8	5.4	5.0	100	97	80	50	39	32	16	5.6	50	150+	2.1	2.458	2.8	81	14.7	102.8
		WT	11-63	57.7	31.6	5.9	4.8	100	98	83	51	40	31	17	6.2	33	150+	2.8	2.476	2.1	85	14.0	103.6
		C	11-63	56.5	33.5	5.2	4.8	100	98	83	52	41	32	17	5.5	41	150+	2.5	2.466	2.5	82	13.9	103.1
		WT	8-65	57.6	32.3	5.3	4.8	100	98	84	50	40	31	16	5.6	40	150+	1.8	2.485	1.8	87	13.8	103.9
		C	8-65	57.3	31.8	5.9	5.0	100	98	82	50	40	31	17	6.2	56	150+	1.7	2.470	2.4	83	14.1	103.3

(a) Lanes numbered west to east.
(b) M = mix sample, C = core from center of lane, WT = core from wheel track. Dashes indicate cores taken at random locations.

(c) Penetrations of original asphalt = 60 (Section 5A all lanes, Section 5B Lane 3); 61 (Section 5B Lanes 1, 4); 62 (Section 5B Lane 2)

(d) Maximum theoretical specific gravities = 2.530 (Section 5B Lanes 1, 4); 2.533 (Section 5B Lanes 2, 3); 2.539 (Section 5A all lanes)

SECTION 6. EAST TEXAS TALCO CRUDE

Section	Lane	Location Sampled[b]	Date Sampled	Mixture Analysis, %: R 10	P 10 R 200	P 200	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve: 5/8	1/2	3/8	4	10	40	80	200	Recovered Asphalt: Penetration[c]	Ductility	Ash, %	Measured Specific Gravity[d]	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate	Compaction %
SECTION 6A (Sta. 1120)	Lane 1[a]	M	8-54	53.9	34.2	6.3	5.6	100	97		53	43	35	16	6.7	44	150+	2.2	2.404	5.2	72	16.6	100.0
		--	11-54	55.5	33.3	5.9	5.3	100	98		51	41	34	17	6.2	46	111	2.2	2.410	5.0	71	17.2	100.2
		--	1-56	55.6	32.4	6.6	5.4	100	98		52	41	34	17	7.0	41	104	0.3	2.412	4.9	72	17.5	100.3
		--	1-57	54.5	33.9	6.2	5.4	100	99		53	42	34	18	6.5	47	150+	0.2	2.435	4.0	76	16.7	101.3
		WT	12-57	57.1	32.2	5.5	5.2	100	97		50	40	32	17	5.9	37	150+	0.3	2.448	3.5	78	15.9	101.8
		C	12-57	57.9	31.3	5.7	5.1	100	98		48	39	32	17	6.1	45	145	0.4	2.444	3.6	77	15.7	101.7
		WT	11-58	57.2	31.3	6.1	5.4	100	98		50	40	31	17	6.4	42	150+	0.6	2.452	3.3	80	16.5	102.0
		C	11-58	56.7	33.0	5.0	5.3	100	98		52	41	32	16	5.6	41	91	0.7	2.442	3.7	77	16.1	101.6
		WT	1-60	59.8	29.8	5.4	5.0	100	97		47	37	29	16	5.7	32	48	0.4	2.455	3.2	79	15.2	102.1
		C	1-60	57.3	31.6	5.8	5.3	100	97		49	40	31	17	6.1	44	106	0.6	2.448	3.5	78	15.9	101.8
		WT	11-61	54.5	33.9	6.2	5.4	100	98	83	53	42	35	18	6.5	35	69	2.8	2.451	3.4	79	16.2	102.0
		C	11-61	56.3	32.5	5.8	5.4	100	96	81	51	40	34	17	6.2	43	61	3.0	2.440	3.8	77	16.5	101.5
		WT	11-63	56.2	33.2	5.4	5.2	100	98	82	52	41	33	17	5.7	40	69	1.5	2.462	2.9	81	15.3	102.4
		C	11-63	56.3	32.5	5.8	5.1	100	98	80	52	41	32	16	6.1	51	91	1.8	2.464	3.2	79	15.2	102.1
		WT	8-65	56.2	33.6	5.0	5.2	100	96	79	52	41	32	16	5.2	37	85	2.2	2.456	3.2	79	15.2	102.2
		C	8-65	56.8	32.9	5.1	5.2	100	95	77	51	40	31	17	5.4	38	40	2.4	2.428	4.3	74	16.5	101.0
	Lane 2	M	8-54	57.3	31.3	6.2	5.2	100	99		50	40	31	17	6.5	46	150+	1.9	2.413	4.9	72	17.5	100.0
		--	11-54	55.3	31.6	7.6	5.5	100	98		53	42	33	17	8.0	43	135	0.3	2.388	5.8	69	18.7	99.0
		--	1-56	56.6	31.5	6.8	5.1	100	99		50	40	34	18	7.0	32	47	0.4	2.395	5.6	68	17.5	99.3
		--	1-57	57.2	31.0	6.3	5.5	100	99		51	39	31	16	6.6	36	88	0.2	2.426	4.4	75	17.6	100.5
		WT	12-57	59.0	30.1	5.8	5.1	100	98		49	38	30	16	6.1	34	80	0.2	2.438	3.9	76	16.3	101.0
		C	12-57	57.9	31.7	5.2	5.2	100	98		50	39	30	15	5.5	40	150+	0.4	2.451	3.4	79	16.2	101.6
		WT	11-58	58.7	30.3	6.0	5.0	100	98		48	38	31	17	6.3	25	8	0.2	2.397	5.5	68	17.2	99.3
		WT	1-60	58.5	30.5	5.9	5.1	100	98		49	38	30	16	6.2	26	8	0.2	2.396	5.5	69	17.7	99.3
		WT	11-61	56.6	32.7	5.4	5.3	100	99	82	52	40	34	16	5.7	26	12	2.2	2.423	4.5	74	17.3	100.4
		WT	11-63	57.9	31.1	5.9	5.1	100	98	83	52	39	30	16	6.2	29	28	2.6	2.460	3.0	80	15.0	101.9
		C	11-63	57.4	31.3	6.3	5.0	100	99	82	52	40	31	17	6.6	29	10	2.1	2.428	4.3	73	15.9	100.6
		WT	8-65	59.9	30.7	4.6	4.8	100	98	80	48	37	31	17	4.9	21	7	1.6	2.397	5.5	67	16.7	99.3
		C	8-65	58.6	32.0	4.5	4.9	100	96	80	50	38	32	16	4.7	23	8	1.9	2.385	6.0	65	17.1	98.8
	Lane 3	WT	11-63	56.6	32.9	5.4	5.1	100	98	83	51	40	33	17	5.6	25	5	1.9	2.407	5.1	68	15.9	
		C	11-63	59.7	30.4	5.0	4.9	100	97	79	47	37	30	15	5.3	23	7	2.0	2.407	5.1	68	15.9	
		WT	8-65	56.6	33.2	5.1	5.1	100	97	80	52	41	32	16	5.4	32	23	2.2	2.437	3.9	75	16.6	
		C	8-65	58.0	32.0	5.0	5.0	100	98	81	51	39	31	16	5.2	23	9	2.2	2.425	4.4	73	16.3	
	Lane 4	WT	11-63	56.3	32.9	5.7	5.1	100	98	82	52	41	32	17	6.0	36	104	1.5	2.472	2.5	83	14.7	
		C	11-63	57.1	31.8	5.8	5.3	100	97	78	51	40	31	16	6.2	39	60	1.3	2.435	4.0	76	16.7	
		WT	8-65	57.6	32.6	4.8	5.0	100	98	80	51	40	32	16	5.0	31	62	1.8	2.454	3.2	79	16.2	
		C	8-65	56.8	33.3	4.9	5.0	100	96	78	51	40	31	17	5.1	31	34	1.1	2.426	4.3	73	15.9	
SECTION 6B (Sta. 1132)	Lane 1[a]	M	8-54	55.5	33.4	6.0	5.1	100	97		51	42	33	15	6.3	43	150+	1.3	2.406	5.1	70	17.0	100.0
		--	11-54	54.8	34.3	5.8	5.1	100	100		52	42	34	16	6.1	43	115	1.8	2.423	4.4	73	16.3	100.7
		--	1-56	54.9	33.5	6.4	5.2	100	98		52	42	34	17	6.8	34	85	2.5	2.401	5.3	70	17.7	99.8
		--	1-57	55.8	33.1	6.0	5.1	100	98		51	41	34	17	6.3	38	142	0.1	2.433	4.0	75	16.0	101.1
		WT	12-57	54.5	34.8	5.6	5.1	100	98		53	43	35	18	5.9	40	150+	0.3	2.463	2.8	81	14.7	102.4
		C	12-57	55.8	33.6	5.6	5.1	100	98		51	41	33	17	5.8	37	100	0.3	2.412	4.9	71	16.9	100.2
		WT	11-58	56.3	33.9	4.8	5.0	100	98		51	41	32	15	5.1	36	115	0.3	2.450	3.4	78	15.5	101.8
		C	11-58	56.4	32.6	5.7	5.1	100	99		50	40	32	16	6.0	39	66	0.2	2.421	4.5	73	16.7	100.6
		WT	1-60	56.0	33.3	5.4	5.3	100	98		50	41	32	16	5.7	32	26	0.5	2.445	3.6	78	16.4	101.6
		C	1-60	57.0	32.4	5.5	5.1	100	98		49	40	32	16	5.8	38	28	0.4	2.439	3.8	76	15.8	101.4
		WT	11-61	57.2	33.0	4.8	5.0	100	97	82	50	40	31	15	5.1	27	19	1.4	2.446	3.5	77	15.2	101.7
		C	11-61	56.7	32.5	5.8	5.0	100	98	80	50	40	33	16	6.1	28	8	0.7	2.402	5.2	71	17.9	99.8
		WT	11-63	56.6	32.7	5.7	5.0	100	98	81	51	40	32	17	6.0	34	28	1.8	2.465	2.8	81	14.7	102.5
		C	11-63	55.2	33.5	6.2	5.1	100	99	83	53	42	34	18	6.5	42	60	2.9	2.445	3.6	77	15.7	101.6
		WT	8-65	58.3	32.4	4.5	4.6	100	98	78	49	39	31	15	4.7	20	18	1.7	2.447	3.5	76	14.6	101.7
		C	8-65	57.0	33.0	5.0	5.0	100	94	78	50	40	32	15	5.3	31	12	2.4	2.384	6.0	66	17.6	99.1
	Lane 2	M	8-54	57.6	30.2	6.8	5.4	100	98		51	39	30	16	7.2	46	150+	1.6	2.409	4.7	73	17.4	100.0
		--	11-54	54.8	34.0	5.6	5.6	100	98		52	42	33	15	5.9	43	95	0.7	2.404	4.9	73	18.1	99.8
		--	1-56	55.7	32.8	6.9	5.6	100	97		52	41	32	15	6.3	36	86	2.7	2.410	4.7	74	18.1	100.0
		--	1-57	55.4	32.6	6.3	5.7	100	97		51	41	32	16	6.6	39	143	0.1	2.426	4.0	77	17.4	100.7
		WT	12-57	56.3	32.5	5.9	5.3	100	97		50	40	33	17	6.2	31	70	0.5	2.406	4.8	72	17.1	99.9
		C	12-57	57.0	32.3	5.3	5.4	100	98		49	40	32	16	5.6	30	53	0.3	2.406	4.8	73	17.8	99.9
		WT	11-58	56.0	33.3	5.3	5.4	100	98		51	41	31	15	5.6	30	12	0.2	2.410	4.7	73	17.4	100.0
		WT	1-60	58.7	30.6	5.6	5.1	100	98		47	38	30	15	5.9	25	7	0.1	2.387	5.6	68	17.5	99.1
		WT	11-61	57.0	32.6	5.0	5.4	100	98	82	50	40	32	15	5.3	28	17	2.0	2.424	4.1	76	17.1	100.6
		WT	11-63	58.4	30.6	5.8	5.2	100	98	81	49	38	31	16	6.1	23	7	2.5	2.422	4.2	74	16.2	100.5
		C	11-63	57.2	31.6	6.1	5.1	100	98	80	51	40	32	17	6.4	30	7	2.5	2.435	3.7	76	15.4	101.1
		WT	8-65	58.5	31.7	4.6	5.2	100	98	77	48	38	29	13	4.9	23	8	1.6	2.412	4.6	72	16.4	100.1
		C	8-65	56.7	32.8	5.1	5.4	100	96	79	50	40	31	16	5.4	26	11	1.9	2.435	3.7	77	16.1	101.1
	Lane 3	M	8-54	58.3	31.0	5.2	5.5	100	98		52	38	24	12	5.5	43	150+	0.9	2.413	4.5	74	17.3	100.0
		--	11-54	55.7	32.7	6.0	5.6	100	97		51	41	32	15	6.4	38	87	2.1	2.324	8.1	61	20.8	96.3
		--	1-56	55.2	33.0	6.3	5.5	100	97		52	42	33	16	6.6	32	44	0.2	2.346	7.2	64	20.0	97.2
		--	1-57	56.1	32.2	6.0	5.7	100	97		51	41	31	15	6.4	30	35	0.1	2.390	5.5	71	19.6	99.0
		WT	12-57	59.2	30.1	5.7	5.0	100	96		47	38	29	15	6.0	27	37	0.2	2.372	6.2	65	17.7	98.3
		C	12-57	55.9	33.1	5.6	5.4	100	97		50	41	33	17	5.9	26	21	0.0	2.363	6.9	64	19.2	97.5
		WT	11-58	57.3	32.0	5.6	5.1	100	98		51	40	29	14	5.9	29	15	0.1	2.366	5.5	68	17.2	99.0
		WT	1-60	57.0	31.8	5.9	5.3	100	97		50	40	30	16	6.2	27	14	0.0	2.378	5.9	68	18.4	98.6
		WT	11-61	56.4	33.2	5.1	5.3	100	99	84	51	40	32	17	5.4	22	3	2.6	2.397	5.2	71	17.9	99.3
		WT	11-63	58.1	31.5	5.3	5.1	100	97	76	49	39	30	15	5.6	25	7	2.5	2.396	5.2	69	16.8	99.3
		C	11-63	58.1	31.1	5.9	4.9	100	98	79	49	39	30	16	6.2	22	5	1.9	2.373	6.1	65	17.4	98.3
		WT	8-65	57.3	32.1	5.2	5.4	100	98	81	52	39	28	15	5.5	23	16	2.5	2.402	5.0	71	17.2	99.5
		C	8-65	58.2	31.6	5.2	5.0	100	98	83	50	39	30	15	5.5	19	9	2.4	2.364	6.5	64	18.1	98.0
	Lane 4	M	8-54	55.5	33.7	5.6	5.2	100	96		52	41	33	17	5.9	43	131	1.8	2.383	5.6	69	18.1	100.0
		--	11-54	55.7	33.1	6.0	5.2	100	98		52	41	32	16	6.3	44	150+	1.7	2.406	5.1	71	17.6	100.5
		--	1-56	56.5	32.3	5.9	5.3	100	98		50	40	32	15	6.2	41	124	0.2	2.436	3.9	76	16.3	101.9
		--	1-57	54.4	33.7	6.4	5.5	100	96		54	42	34	17	6.8	47	150+	0.9	2.427	4.3	75	17.2	101.4
		WT	12-57	55.7	33.8	5.5	5.0	100	100		53	41	33	16	5.8	36	120	0.1	2.465	3.2	79	15.2	102.6
		C	12-57	55.9	33.9	5.1	5.1	100	99		52	41	33	16	5.4	39	83	0.4	2.437	3.9	76	16.3	101.8
		WT	11-58	55.9	33.0	5.9	5.2	100	99		52	41	32	16	6.2	40	150+	0.4	2.456	3.1	80	15.5	102.6
		C	11-58	55.6	33.1	6.1	5.2	100	99		52	41	32	16	6.4	42	132	0.4	2.438	3.8	77	16.5	101.9
		WT	1-60	55.3	33.3	5.9	5.5	100	99		53	41	32	17	6.2	41	92	0.2	2.450	3.4	80	17.0	102.4
		C	1-60	56.5	32.8	5.4	5.3	100	99		52	40	32	16	5.6	43	107	0.4	2.439	3.8	77	16.5	101.9
		WT	11-61	56.1	33.1	5.6	5.2	100	98	83	53	41	32	15	5.9	33	45	2.2	2.441	3.7	77	16.1	102.0
		C	11-61	57.9	31.9	5.1	5.1	100	98	82	50	39	31	16	5.4	40	51	2.1	2.439	3.8	76	15.8	101.9
		WT	11-63	56.8	32.5	5.7	5.0	100	96	81	52	40	32	17	6.0	30	106	1.6	2.455	3.2	79	15.2	102.6
		C	11-63	56.0	33.8	4.8	5.4	100	99	82	54	41	32	15	5.1	44	63	2.2	2.436	3.9	76	16.2	101.8
		WT	8-65	57.7	32.5	4.8	5.0	100	95	80	51	39	28	15	5.0	35	47	2.1	2.458	3.0	80	15.0	102.7
		C	8-65	56.7	32.8	5.3	5.2	100	99	83	52	40	31	16	5.6	32	30	2.2	2.450	3.4	78	15.5	102.4

(a) Lanes numbered west to east.
(b) M = mix sample, C = core from center of lane, WT = core from wheel track. Dashes indicate cores taken at random locations.

(c) Penetrations of original asphalt = 61 (Section 6B Lanes 3, 4); 63 (Section 6B Lane 2); 64 (Section 6A all lanes); 65 (Section 6B Lane 1)

(d) Maximum theoretical specific densities = 2.528 (Section 6B Lanes 2, 3); 2.535 (Section 6B Lanes 1, 4); 2.536 (Section 6A all lanes)

APPENDIX B

BINDER COURSE

Summary of Laboratory Analyses of Bituminous Concrete

Section 1. Wyoming Crude, Refinery A
Section 2. Venezuelan Crude
Section 3. Wyoming Crude, Refinery B
Section 4. West Texas Winkler Crude
Section 5. Arkansas Smackover Crude
Section 6. East Texas Talco Crude

SECTION 1. WYOMING CRUDE, REFINERY A

Section	Lane	Location Sampled(b)	Date Sampled	Mixture Analysis, %: R 10	P 10	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve: 1(c)	3/4	3/8	4	10	40	80	200	Recovered Asphalt: Penetration (d)	Ductility	Ash, %	Measured Specific Gravity(e)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate
		Mix	8-54	70.9	24.8	4.3		55	31	28	26				42	150+	1.3				
SECTION 1A (Sta. 1000)	Lane 1(a)	WT	11-63	70.5	25.4	4.1	92	72	38	30	26	21	10.0	2.4	36	150+	2.2	2.495	2.8	78	12.7
		C	11-63	69.1	26.7	4.2	93	70	38	32	28	22	10.0	2.5	32	150+	2.9	2.476	3.6	74	13.8
		WT	8-65	67.9	28.0	4.1	97	83	39	32	29	23	11.0	2.1	22	113	1.8	2.468	3.9	72	13.9
		C	8-65	66.9	28.7	4.4	100	77	38	33	30	25	11.0	3.0	26	150+	1.9	2.451	4.6	69	14.8
	Lane 2	WT	11-63	66.0	29.5	4.5	98	71	40	34	31	24	12.0	2.3	23	150+	2.7	2.424	5.6	65	16.0
		C	11-63	68.2	27.3	4.5	94	67	39	32	29	23	11.0	2.3	27	150+	1.7	2.469	3.9	73	14.4
		WT	8-65	69.3	26.4	4.3	99	86	35	31	28	21	9.3	1.9	21	150+	1.4	2.413	6.0	63	16.2
		C	8-65	67.9	27.7	4.4	100	100	36	32	29	23	8.6	2.3	20	124	1.7	2.393	6.8	60	17.0
	Lane 3		1-56	67.3	28.0	4.7		62	36	32	29				31	150+	1.9	2.442	4.9	70	16.3
			1-57	71.4	24.4	4.2		62	32	28	25				31	150+	1.1	2.439	5.0	67	15.2
		WT	12-57	70.0	25.6	4.4		67	34	30	27				35	150+	0.2	2.434	5.2	67	15.8
		C	12-57	67.4	27.8	4.8		64	36	32	29				34	150+	0.4	2.436	5.1	69	16.5
		WT	11-58	71.0	24.8	4.2		58	32	28	26				30	150+	0.3	2.454	4.4	69	14.2
		WT	1-60	74.8	21.7	3.5		65	29	25	22				24	150+	0.2	2.437	5.1	62	13.4
		WT	11-61	66.6	28.7	4.7		72	39	34	30	23	11.0	2.4	21	150+	2.1	2.431	5.3	68	16.6
		WT	11-63	68.3	26.9	4.8	98	77	37	31	28	21	8.0	1.2	28	150+	2.6	2.467	3.9	75	15.6
		C	11-63	73.4	22.1	4.5	96	71	31	26	23	18	8.0	1.1	23	150+	1.9	2.457	4.3	71	14.8
		WT	8-65	70.7	25.2	4.1	98	75	35	29	26	21	9.2	2.0	18	74	2.1	2.447	4.7	67	14.2
		C	8-65	69.1	26.7	4.2	98	77	36	31	28	22	9.6	2.1	19	121	1.9	2.448	4.7	68	14.7
	Lane 4		1-56	65.9	29.3	4.8		73	40	34	31				30	150+	2.6	2.425	5.6	67	17.0
			1-57	69.0	26.3	4.7		66	35	31	28				30	150+	2.3	2.436	5.1	69	16.5
		WT	12-57	68.7	27.0	4.3		68	36	31	28				27	150+	1.3	2.441	4.9	68	15.3
		C	12-57	68.9	26.5	4.6		70	36	31	28				37	150+	0.3	2.469	3.9	74	15.0
		WT	11-58	70.4	25.4	4.2		63	32	29	26				29	150+	0.3	2.451	4.6	69	14.8
		C	11-58	69.4	26.1	4.5		68	34	30	27				40	150+	0.4	2.455	4.4	71	15.2
		WT	1-60	69.6	26.0	4.4		70	34	30	27				31	150+	0.5	2.466	4.0	73	14.8
		C	1-60	65.6	29.7	4.7		77	41	34	31				30	150+	0.2	2.466	4.0	71	13.8
		WT	11-61	68.3	27.6	4.1		67	37	32	29	23	9.0	2.6	18	85	0.7	2.458	4.3	70	14.3
		C	11-61	68.1	27.3	4.6		67	35	31	29	23	11.0	2.2	36	150+	1.8	2.462	4.1	73	15.2
		WT	11-63	73.3	22.3	4.4	97	61	29	26	23	18	7.0	1.2	22	150+	1.7	2.506	2.4	82	13.3
		C	11-63	69.0	26.4	4.6	100	75	35	31	28	22	10.0	1.6	30	150+	2.9	2.476	3.6	75	14.4
		WT	8-65	69.8	25.9	4.3	96	72	35	30	27	21	8.7	2.2	30	150+	1.4	2.477	3.5	75	14.0
		C	8-65	68.4	27.2	4.4	94	73	38	32	29	22	10.0	2.3	35	150+	1.3	2.464	4.4	70	14.7
SECTION 1B (Sta. 1012)	Lane 1(a)		1-56	65.3	29.9	4.8		74	41	35	31				29	150+	2.8	2.410	6.2	65	17.7
			1-57	69.6	25.7	4.7		65	35	30	27				29	150+	1.8	2.458	4.3	72	15.4
		WT	12-57	72.8	23.3	3.9		59	33	28	24				23	150+	0.6	2.407	6.3	59	15.4
		C	12-57	71.2	24.3	4.5		63	32	28	26				32	150+	0.1	2.430	5.4	67	16.4
		WT	11-58	71.0	24.8	4.2		66	34	29	26				33	150+	0.2	2.466	4.0	72	14.3
		C	11-58	70.8	24.6	4.6		60	33	28	26				37	150+	1.1	2.466	4.0	74	15.4
		WT	1-60	70.8	24.9	4.3		61	34	29	26				30	150+	0.5	2.470	3.8	73	14.1
		C	1-60	68.2	27.2	4.6		74	40	33	28				31	150+	0.2	2.490	3.0	76	12.5
		WT	11-61	69.7	26.0	4.3		69	36	31	27	21	10.0	2.6	22	145	0.9	2.429	5.4	65	15.4
		C	11-61	68.3	27.2	4.5		69	37	32	29	23	11.0	2.3	40	150+	0.8	2.453	4.5	71	15.5
		WT	11-63	70.5	25.4	4.1	92	72	38	30	26	21	10.0	2.4	36	150+	2.2	2.495	2.8	78	12.7
		C	11-63	69.1	26.7	4.2	93	70	38	32	28	22	10.0	2.5	32	150+	2.9	2.476	3.6	74	13.8
		WT	8-65	69.7	26.1	4.2	95	66	35	30	27	22	10.0	2.3	27	150+	1.9	2.477	3.5	74	13.5
		C	8-65	69.2	26.5	4.3	97	70	36	31	28	23	10.0	2.2	25	150+	1.8	2.472	3.7	74	14.2
	Lane 2		1-56	66.7	28.5	4.8		67	38	33	30				35	150+	2.7	2.418	5.8	66	17.1
			1-57	71.4	24.4	4.2		59	32	28	26				35	150+	0.9	2.410	6.2	62	16.3
		WT	12-57	69.4	26.2	4.4		72	37	31	27				32	150+	0.9	2.420	5.8	64	16.1
		C	12-57	72.9	23.2	3.9		61	31	27	24				32	150+	2.2	2.442	4.9	66	14.4
		WT	11-58	69.2	26.5	4.3		68	36	30	28				40	150+	0.2	2.432	5.3	66	15.6
		WT	1-60	73.1	22.9	4.0		68	33	27	24				31	150+	0.2	2.443	4.9	66	14.4
		WT	11-61	67.0	28.1	4.9		80	39	33	30	23	9.0	1.7	27	124	2.5	2.448	4.7	71	16.2
		WT	11-63	65.7	29.7	4.6	97	81	41	35	31	25	12.0	2.1	37	150+	1.4	2.460	4.1	73	15.2
		C	11-63	68.7	27.0	4.3	99	71	36	32	28	22	9.0	2.3	29	150+	2.4	2.420	5.8	63	15.7
		WT	8-65	68.3	27.3	4.4	95	77	40	34	29	22	9.9	2.0	26	150+	1.2	2.468	3.9	73	14.4
		C	8-65	67.1	28.5	4.4	98	82	45	35	30	23	11.0	2.4	22	150+	1.3	2.423	5.6	65	16.0
	Lane 3		1-56	65.9	29.3	4.8		71	38	34	31				36	150+	2.2	2.413	6.0	65	17.1
			1-57	70.0	25.8	4.2		66	34	30	27				35	150+	1.2	2.422	5.7	64	15.8
		WT	12-57	71.8	24.2	4.0		61	30	27	25				25	150+	1.7	2.424	5.6	63	15.1
		C	12-57	67.2	28.4	4.4		61	40	33	30				27	150+	0.1	2.419	5.8	64	16.1
		WT	11-58	68.7	26.8	4.5		71	34	30	28				27	150+	0.2	2.430	6.4	67	16.4
		WT	1-60	73.0	23.3	3.7		59	30	27	24				24	150+	0.4	2.439	5.0	64	13.9
		WT	11-61	71.5	24.2	4.3		66	32	28	25	20	7.0	1.7	22	123	2.7	2.450	4.6	69	14.8
		WT	11-63	69.3	26.5	4.2	91	67	35	31	26	22	10.0	1.8	30	150+	2.0	2.422	5.7	63	15.4
		C	11-63	66.0	29.5	4.5	96	71	40	35	31	24	11.0	2.3	27	150+	1.8	2.403	6.4	62	16.8
		WT	8-65	68.5	27.2	4.3	100	69	41	34	28	22	8.4	2.0	26	150+	1.0	2.443	4.9	67	14.8
		C	8-65	67.6	27.9	4.5	98	65	38	33	29	22	8.3	2.0	23	150+	1.4	2.429	5.4	66	15.9
	Lane 4		1-56	68.0	27.3	4.7		72	40	33	29				37	150+	2.5	2.429	6.4	67	16.4
			1-57	69.1	26.4	4.5		71	41	33	28				37	150+	0.2	2.451	4.6	70	15.3
		WT	12-57	66.9	28.6	4.5		66	40	34	30				38	150+	0.1	2.448	4.7	70	15.7
		C	12-57	70.0	25.5	4.5		69	38	30	27				42	150+	0.4	2.463	4.1	73	15.2
		WT	11-58	71.0	24.8	4.2		62	33	29	26				31	150+	0.2	2.447	4.7	68	14.7
		C	11-58	69.5	26.0	4.5		67	36	30	27				42	150+	0.2	2.472	3.7	75	14.8
		WT	1-60	71.2	24.8	4.0		64	34	29	26				27	150+	0.1	2.468	3.9	71	13.4
		C	1-60	76.2	20.3	3.5		54	28	23	21				33	150+	0.3	2.448	4.7	64	13.1
		WT	11-61	69.6	25.7	4.7		65	36	30	27	20	9.0	1.6	21	113	1.5	2.458	4.3	72	15.4
		C	11-61	70.1	25.7	4.2		67	35	30	27	21	9.0	2.1	40	150+	2.5	2.455	4.4	69	14.2
		WT	11-63	69.0	26.8	4.2	100	75	41	32	28	22	10.0	2.2	33	150+	2.6	2.488	3.1	77	13.5
		C	11-63	70.2	25.7	4.1	94	70	41	32	27	21	10.0	2.5	29	150+	2.0	2.473	3.7	73	13.7
		WT	8-65	69.6	26.0	4.4	98	76	39	31	27	21	8.7	2.0	21	150+	1.1	2.442	4.9	68	15.3
		C	8-65	69.5	26.1	4.4	98	73	38	31	27	21	8.8	2.4	24	150+	1.2	2.466	4.0	72	14.3

(a) Lanes numbered west to east.

(b) C = core from center of lane. WT = core from wheel track.

(c) 100 percent passed 1-1/4 in. sieve.

(d) Penetration of original asphalt = 62

(e) Maximum theoretical specific gravity = 2.568

SECTION 2. VENEZUELAN CRUDE

Section	Lane	Location Sampled[b]	Date Sampled	Mixture Analysis, % R 10	Mixture Analysis, % P 10	Mixture Analysis, % Bitumen	Gradation of Extracted Aggregate % passing indicated sieve 1[c]	3/4	3/8	4	10	40	80	200	Recovered Asphalt Penetration[d]	Ductility	Ash, %	Measured Specific Gravity[e]	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate
		Mix	8-54	71.7	24.0	4.3		55	29	27	25				43	150+	1.4				
SECTION 2A (Sta. 1024)	Lane 1[a]		1-56	68.9	26.6	4.5		71	37	32	28				36	150+	2.3	2.421	5.7	65	16.3
			1-57	67.5	27.9	4.8		71	45	34	29				35	150+	2.6	2.425	5.6	66	16.5
		WT	12-57	66.2	28.9	4.9		77	41	34	30				37	150+	0.0	2.412	6.1	66	17.9
		C	12-57	68.2	27.4	4.4		71	36	32	29				34	150+	2.2	2.447	4.7	69	15.2
		WT	11-58	68.6	27.1	4.3		73	37	31	28				43	150+	0.4	2.441	4.9	68	16.3
		C	11-58	67.3	28.0	4.7		70	40	33	29				40	150+	0.4	2.427	5.5	67	16.7
		WT	1-60	68.8	26.8	4.4		72	37	31	28				36	150+	0.4	2.459	4.2	72	15.0
		C	1-60	71.0	24.9	4.1		70	35	30	26				39	150+	0.6	2.418	5.8	63	15.7
		WT	11-61	70.3	25.5	4.2		63	35	30	27	21	10.0	2.1	29	149	1.0	2.439	5.1	66	15.0
		C	11-61	66.7	28.8	4.5		74	40	34	30	24	11.0	2.4	34	124	1.0	2.413	6.0	64	16.7
		WT	11-63	68.5	27.3	4.2	96	71	39	32	29	22	10.0	2.2	37	150+	2.9	2.449	4.6	68	14.4
		C	11-63	66.6	28.8	4.6	97	79	41	34	30	23	10.0	2.1	37	147	2.4	2.462	4.5	71	15.5
		WT	8-65	67.1	28.0	4.9	99	72	38	33	30	23	11.0	2.0	34	150+	2.2	2.470	3.8	75	15.2
		C	8-65	67.9	27.4	4.7	97	73	38	33	29	22	10.0	2.2	32	150+	1.6	2.436	5.1	68	15.9
	Lane 2		1-56	71.8	24.2	4.0		62	33	28	25				29	150+	0.5	2.419	5.8	62	15.3
			1-57	67.9	27.5	4.6		72	40	33	29				29	128	1.9	2.333	9.2	53	19.6
		WT	12-57	70.4	25.5	4.1		64	34	30	27				29	150+	0.0	2.419	5.8	63	15.7
		C	12-57	70.0	25.5	4.5		70	33	29	27				28	150+	0.3	2.407	6.3	63	17.0
		WT	11-58	68.8	27.2	4.0		74	40	32	28				29	150+	0.2	2.451	4.6	68	14.4
		WT	1-60	71.0	24.9	4.1		63	32	28	26				23	150+	0.6	2.438	5.1	66	15.0
		WT	11-61	70.3	25.6	4.1		68	35	30	27	21	9.0	1.9	28	126	1.7	2.431	5.3	65	15.1
		WT	11-63	68.6	27.2	4.2	97	66	37	32	28	22	11.0	2.4	27	150+	1.8	2.445	4.8	67	14.5
		C	11-63	68.3	27.2	4.5	99	73	37	32	29	22	9.0	1.6	28	145	2.0	2.435	5.2	67	15.8
		WT	8-65	67.4	28.1	4.5	96	71	43	36	29	21	8.1	2.2	24	110	1.2	2.414	6.0	64	16.7
		C	8-65	69.1	26.6	4.3	98	70	37	31	28	21	9.0	2.1	18	124	1.3	2.424	5.6	64	15.6
	Lane 3	WT	11-63	71.6	24.5	3.9	94	65	34	29	26	21	10.0	1.6	25	150+	2.4	2.449	4.6	67	13.9
		C	11-63	68.5	27.4	4.1	95	74	36	32	29	23	11.0	2.3	25	150+	2.5	2.432	5.3	64	14.7
		WT	8-65	68.2	27.4	4.4	97	67	38	32	29	22	9.4	1.8	28	127	1.4	2.428	5.5	65	15.7
		C	8-65	70.7	25.1	4.2	100	66	34	29	26	20	9.3	1.8	21	150+	1.1	2.442	4.9	67	14.8
	Lane 4	WT	11-63	70.7	25.2	4.1	96	74	36	30	27	22	11.0	1.7	39	150+	2.4	2.474	3.7	73	13.7
		C	11-63	69.5	26.3	4.2	97	78	37	32	32	22	10.0	2.2	38	150+	1.8	2.445	4.8	67	14.5
		WT	8-65	69.4	26.3	4.3	100	68	35	31	28	22	9.9	2.1	36	150+	1.2	2.475	3.6	74	13.8
		C	8-65	69.9	25.8	4.3	98	68	38	30	27	21	10.0	2.1	33	150+	1.6	2.457	4.3	70	14.3
SECTION 2B (Sta. 1036)	Lane 1[a]		1-56	68.6	27.0	4.4		73	38	32	28				36	150+	2.6	2.439	5.0	68	15.6
			1-57	66.9	28.4	4.7		80	41	34	30				36	150+	2.4	2.448	4.7	71	16.2
		WT	12-57	68.3	27.4	4.3		71	38	32	29				33	150+	0.1	2.428	5.5	65	15.7
		C	12-57	68.7	26.9	4.4		69	38	31	28				36	150+	0.2	2.441	4.9	68	16.3
		WT	11-58	71.1	24.7	4.2		67	34	29	26				29	150+	0.3	2.428	5.5	65	15.7
		C	11-58	67.9	27.7	4.4		72	39	32	29				30	150+	0.1	2.449	4.6	70	15.3
		WT	1-60	69.8	26.2	4.0		72	36	31	27				29	150+	0.4	2.437	5.1	65	14.0
		C	1-60	70.6	25.3	4.1		76	38	30	26				24	150+	0.4	2.428	5.5	64	15.3
		WT	11-61	68.9	26.8	4.3		65	36	32	28	22	10.0	2.2	31	148	2.4	2.420	6.8	64	16.1
		C	11-61	68.1	27.3	4.6		73	38	32	29	22	10.0	2.2	34	150+	1.6	2.402	6.5	62	17.1
		WT	11-63	67.2	28.5	4.3	95	75	41	33	30	23	11.0	2.4	37	150+	2.2	2.467	3.9	72	13.9
		C	11-63	70.0	25.9	4.1	93	76	38	30	27	21	10.0	2.2	28	142	1.7	2.450	4.6	68	14.4
		WT	8-65	68.5	26.9	4.6	98	75	39	32	28	22	11.0	2.0	26	150+	1.4	2.441	4.9	69	15.8
		C	8-65	68.6	27.1	4.3	94	68	39	33	28	22	8.9	2.0	26	150+	1.0	2.461	4.2	71	14.5
	Lane 2		1-56	68.1	27.4	4.5		66	40	33	29				37	150+	2.7	2.395	6.7	61	17.2
			1-57	68.3	27.3	4.4		69	38	33	29				37	150+	0.5	2.418	5.8	64	16.1
		WT	12-57	68.9	27.0	4.1		75	37	31	28				31	150+	0.2	2.438	5.1	66	15.0
		C	12-57	68.8	26.6	4.6		69	36	31	28				31	150+	0.0	2.432	5.3	67	16.1
		WT	11-58	68.0	27.5	4.5		79	38	32	29				31	150+	0.3	2.432	5.3	67	16.1
		WT	1-60	67.4	28.1	4.5		71	37	32	29				29	150+	1.4	2.427	5.5	66	16.2
		WT	11-61	68.9	26.5	4.6		67	34	31	28	22	10.0	1.8	21	63	1.2	2.422	5.7	67	17.3
		WT	11-63	68.2	27.5	4.3	100	78	36	31	29	23	11.0	2.3	23	92	2.0	2.434	5.2	66	15.3
		C	11-63	69.4	26.4	4.2	100	77	35	31	28	22	10.0	2.2	22	124	2.1	2.425	5.6	65	16.0
		WT	8-65	69.6	26.2	4.2	99	69	35	30	27	22	9.5	2.0	26	150+	1.5	2.403	6.4	60	16.0
		C	8-65	66.3	27.2	4.5	97	74	38	32	29	23	9.8	2.0	29	150+	1.8	2.416	5.9	64	16.4
	Lane 3		1-56	67.7	27.8	4.5		70	42	33	29				36	150+	3.0	2.423	5.6	66	16.5
			1-57	68.7	26.6	4.7		67	40	32	28				36	150+	1.8	2.457	4.3	72	15.4
		WT	12-57	66.7	28.4	4.9		79	40	33	30				35	150+	0.0	2.428	5.5	68	17.2
		C	12-57	70.0	25.7	4.3		69	35	30	27				30	150+	0.1	2.438	5.1	67	15.5
		WT	11-58	68.1	27.2	4.7		72	39	32	29				33	150+	0.4	2.451	4.6	71	15.9
		WT	1-60	71.6	24.3	4.1		64	34	28	25				29	150+	0.4	2.435	5.2	66	14.9
		WT	11-61	71.5	24.5	4.0		57	33	29	26	23	9.0	1.5	26	92	1.2	2.446	4.8	67	14.5
		WT	11-63	70.4	25.5	4.1	98	69	37	31	27	21	10.0	2.4	25	148	2.1	2.468	4.4	69	14.2
		C	11-63	70.5	25.2	4.3	95	67	39	30	26	21	10.0	2.4	22	92	2.8	2.434	5.2	66	15.3
		WT	8-65	69.8	26.0	4.2	94	65	38	31	27	21	9.8	2.0	21	150+	1.0	2.399	6.6	60	16.5
		C	8-65	71.2	24.6	4.2	94	61	34	29	26	20	9.6	2.2	21	135	1.4	2.449	4.6	68	14.4
	Lane 4		1-56	65.7	29.7	4.6		70	39	35	31				34	150+	2.7	2.445	4.8	70	16.0
			1-57	68.1	27.2	4.7		73	38	32	28				34	150+	2.5	2.432	5.3	68	16.6
		WT	12-57	68.3	27.4	4.3		69	39	33	29				30	150+	0.0	2.439	5.0	67	15.2
		C	12-57	70.7	24.7	4.6		62	33	28	26				31	150+	0.2	2.431	5.3	67	16.1
		WT	11-58	67.0	28.3	4.7		63	36	32	30				33	150+	0.9	2.440	5.0	69	16.1
		C	11-58	70.5	25.2	4.3		59	33	29	26				33	150+	0.4	2.439	5.0	67	15.2
		WT	1-60	69.8	25.8	4.4		68	35	30	27				38	150+	0.6	2.445	4.8	69	15.5
		C	1-60	71.7	24.4	3.9		65	34	28	25				28	150+	1.2	2.453	4.5	68	14.1
		WT	11-61	64.8	30.3	4.9		74	40	35	32	24	10.0	2.4	39	126	2.2	2.466	4.0	75	16.0
		C	11-61	67.0	28.1	4.9		65	37	32	30	23	11.0	2.4	37	110	2.6	2.441	4.9	71	16.9
		WT	11-63	68.6	26.9	4.5	98	70	34	31	28	23	11.0	2.3	33	150+	2.4	2.482	3.3	77	14.3
		C	11-63	68.8	26.9	4.3	97	70	38	31	28	23	10.0	2.1	26	110	2.3	2.460	4.2	71	14.5
		WT	8-65	69.3	26.4	4.3	95	67	37	31	28	23	8.7	2.0	27	148	1.6	2.478	3.5	75	14.0
		C	8-65	68.7	26.8	4.5	92	73	39	32	28	22	11.0	2.2	24	150+	1.2	2.461	4.2	72	15.0

[a] Lanes numbered west to east.

[b] C = core from center of lane. WT = core from wheel track.

[c] 100 percent passed 1-1/4 in. sieve.

[d] Penetration of original asphalt = 60

[e] Maximum theoretical specific gravity = 2.568

SECTION 3. WYOMING CRUDE, REFINERY B

Section	Lane	Location Sampled[b]	Date Sampled	Mixture Analysis, % R 10	Mixture Analysis, % P 10	Mixture Analysis, % Bitumen	Gradation of Extracted Aggregate % passing indicated sieve 1[c]	3/4	3/8	4	10	40	80	200	Recovered Asphalt Penetration[d]	Recovered Asphalt Ductility	Recovered Asphalt Ash, %	Measured Specific Gravity[e]	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate
		Mix	8-54	67.9	27.4	4.7		56	34	31	29				38	150+	1.2				
SECTION 3A (Sta. 1048)	Lane 1[a]		1-56	66.6	28.5	4.9		72	40	34	30				41	150+	2.3	2.404	6.1	65	17.4
			1-57	68.0	27.3	4.7		69	40	33	29				28	150+	1.9	2.414	5.7	66	16.8
		WT	12-57	73.2	22.9	3.9		56	32	28	24				25	150+	0.2	2.444	4.5	67	13.6
		C	12-57	69.7	25.6	4.7		70	33	29	27				34	150+	0.4	2.415	5.7	66	16.8
		WT	11-58	70.1	25.5	4.4		61	34	30	27				35	150+	0.2	2.441	4.6	70	15.3
		C	11-58	69.3	26.1	4.6		67	34	30	27				38	150+	0.3	2.440	4.7	70	15.7
		WT	1-60	70.7	24.9	4.4		56	34	29	26				37	150+	0.7	2.479	3.2	77	13.9
		C	1-60	70.8	24.9	4.3		68	34	29	26				44	150+	0.2	2.457	4.0	72	14.3
		WT	11-61	67.8	27.5	4.7		67	36	32	29	23	10.0	2.2	33	150+	1.9	2.446	4.5	71	15.9
		C	11-61	68.3	26.8	4.9		67	36	31	26	23	10.0	1.8	43	150+	1.2	2.448	4.4	73	16.3
		WT	11-63	66.7	28.5	4.8	95	70	38	33	30	24	11.0	1.9	45	150+	1.0	2.496	2.5	82	13.9
		C	11-63	70.3	25.3	4.4	96	63	33	29	26	21	10.0	1.8	36	150+	2.4	2.467	3.6	75	14.4
		WT	8-65	69.9	26.0	4.1	94	74	37	30	27	22	10.0	2.2	32	150+	1.4	2.497	2.5	80	12.5
		C	8-65	67.8	27.6	4.6	96	73	38	32	29	23	10.0	2.3	32	150+	1.2	2.446	4.5	71	15.6
	Lane 2		1-56	68.5	27.1	4.4		68	41	35	28				28	150+	1.6	2.405	6.1	63	16.5
			1-57	72.1	23.7	4.2		53	32	28	25				41	150+	0.9	2.444	4.5	69	14.5
		WT	12-57	67.7	27.8	4.5		69	38	33	29				27	150+	0.0	2.419	5.5	66	16.2
		C	12-57	69.0	26.7	4.3		64	38	32	22				32	150+	1.1	2.435	4.9	68	15.3
		WT	11-58	67.5	28.2	4.3		78	41	35	30				28	150+	0.0	2.427	5.2	66	15.3
		WT	1-60	66.6	28.9	4.5		79	42	36	30				25	150+	0.4	2.392	6.6	62	17.4
		WT	11-61	66.1	28.8	5.1		79	41	34	30	24	11.0	2.2	21	100	1.2	2.397	6.4	65	18.3
		WT	11-63	69.3	26.5	4.2	96	71	36	32	28	22	10.0	2.3	35	150+	2.9	2.432	5.0	66	14.7
		C	11-63	68.9	26.9	4.2	92	67	40	33	28	22	11.0	2.4	31	150+	1.9	2.433	5.0	66	14.7
		WT	8-65	70.5	25.5	4.0	96	70	35	30	27	21	9.0	2.1	21	150+	1.3	2.401	6.2	60	15.5
		C	8-65	69.2	26.7	4.1	93	73	39	32	28	22	8.7	2.1	23	150+	1.0	2.423	5.3	65	15.1
	Lane 3	WT	11-63	69.7	26.1	4.2	98	68	34	30	27	20	9.0	2.2	37	150+	2.3	2.465	3.7	73	13.7
		C	11-63	69.1	26.6	4.3	93	66	35	31	28	22	10.0	2.2	39	150+	2.1	2.455	4.1	71	14.1
		WT	8-65	69.6	26.0	4.4	93	65	34	30	27	20	8.9	2.1	24	137	1.1	2.430	5.1	67	15.5
		C	8-65	69.6	26.1	4.3	94	67	35	30	27	21	8.3	2.2	23	150+	1.6	2.412	5.8	63	15.7
	Lane 4	WT	11-63	66.4	29.2	4.4	96	75	42	35	31	24	11.0	2.3	35	150+	2.8	2.479	3.2	77	13.9
		C	11-63	68.4	27.3	4.3	95	68	37	33	29	22	10.0	1.7	37	150+	2.6	2.481	3.1	77	13.5
		WT	8-65	66.9	28.6	4.5	100	77	41	34	30	23	11.0	2.4	22	150+	1.8	2.433	5.0	68	15.6
		C	8-65	69.8	26.1	4.1	99	71	38	31	27	21	9.2	2.1	30	150+	1.5	2.445	4.5	68	14.1
SECTION 3B (Sta. 1060)	Lane 1[a]		1-56	64.9	30.2	4.9		74	42	36	32				46	150+	2.5	2.424	5.3	69	17.1
			1-57	66.8	28.3	4.9		62	39	34	30				40	150+	2.2	2.446	4.5	72	16.1
		WT	12-57	68.4	27.1	4.5		66	35	31	28				39	150+	0.1	2.443	4.6	70	15.3
		C	12-57	68.5	26.9	4.6		64	36	31	28				34	150+	1.6	2.412	5.8	65	16.6
		WT	11-58	69.4	25.9	4.7		64	38	32	27				42	150+	0.3	2.440	4.7	71	16.2
		C	11-58	72.4	23.3	4.3		58	32	28	24				35	150+	0.2	2.437	4.8	68	15.0
		WT	1-60	69.7	25.8	4.5		68	36	30	27				43	150+	0.2	2.476	3.3	77	14.3
		C	1-60	70.3	25.5	4.2		65	35	30	27				33	150+	0.2	2.454	4.1	71	14.1
		WT	11-61	69.7	26.2	4.1		67	35	31	27	21	10.0	2.4	35	150+	1.1	2.442	4.6	71	15.9
		C	11-61	69.0	26.5	4.5		63	36	31	28	22	10.0	2.3	35	150+	1.2	2.381	7.0	60	17.5
		WT	11-63	68.1	27.7	4.2	97	68	40	33	29	23	11.0	2.6	25	150+	2.5	2.469	3.6	74	13.8
		C	11-63	69.4	26.3	4.3	95	67	36	31	28	22	11.0	2.1	30	150+	2.0	2.419	5.5	62	14.5
		WT	8-65	68.7	27.0	4.3	86	65	36	31	28	22	10.0	2.2	27	150+	1.2	2.435	4.9	67	14.8
		C	8-65	69.2	26.5	4.3	95	66	38	32	28	21	10.0	2.2	28	150+	1.0	2.407	6.0	63	16.2
	Lane 2		1-56	69.4	26.3	4.3		67	36	34	28				28	150+	0.8	2.429	5.1	67	15.5
			1-57	67.4	28.0	4.6		72	39	33	29				26	150+	2.1	2.418	5.5	66	16.2
		WT	12-57	66.8	28.4	4.8		73	38	33	30				29	150+	1.7	2.422	5.4	68	16.9
		C	12-57	67.8	27.7	4.5		67	37	32	29				32	150+	0.1	2.432	5.0	68	15.6
		WT	11-58	66.9	28.7	4.4		73	41	34	30				27	150+	0.1	2.426	5.2	67	15.8
		WT	1-60	70.1	25.5	4.4		75	34	30	27				29	150+	0.4	2.426	5.2	67	15.8
		WT	11-61	68.7	26.7	4.6		67	37	31	28	22	10.0	1.7	19	74	1.7	2.416	5.6	66	16.6
		WT	11-63	69.7	26.4	3.9	100	73	37	31	28	21	10.0	2.2	30	150+	1.8	2.440	4.7	66	13.8
		C	11-63	71.0	24.9	4.1	98	76	36	30	26	20	9.0	1.6	25	150+	2.2	2.431	5.0	66	14.7
		WT	8-65	68.6	27.0	4.4	100	67	39	33	29	22	8.1	2.1	26	150+	1.5	2.416	5.6	66	16.0
		C	8-65	70.6	25.3	4.1	96	70	36	30	27	20	9.1	2.0	18	124	1.1	2.434	4.9	66	14.4
	Lane 3		1-56	67.4	28.2	4.4		75	40	33	30				26	150+	1.6	2.412	5.8	64	16.1
			1-57	66.1	29.1	4.8		65	41	35	31				26	150+	1.5	2.415	5.7	67	17.3
		WT	12-57	71.1	25.0	3.9		66	34	29	26				23	150+	0.0	2.422	5.4	63	14.6
		C	12-57	68.9	26.6	4.5		65	39	31	28				25	150+	2.9	2.423	5.4	66	15.9
		WT	11-58	69.4	26.5	4.1		68	38	31	28				28	150+	0.2	2.424	5.3	65	15.1
		WT	1-60	70.4	25.5	4.1		69	34	30	27				25	150+	0.2	2.429	5.1	66	15.0
		WT	11-61	66.5	28.7	4.8		74	39	34	30	22	11.0	2.3	24	118	1.4	2.446	4.5	72	16.1
		WT	11-63	72.7	23.6	3.7	92	62	33	27	25	20	9.0	1.9	16	42	2.2	2.436	4.8	65	13.7
		C	11-63	68.5	27.4	4.1	98	73	39	32	29	23	11.0	2.4	19	120	2.1	2.445	4.5	68	14.1
		WT	8-65	67.1	28.3	4.6	94	70	41	34	30	23	10.0	2.1	31	150+	1.7	2.467	3.6	75	14.4
		C	8-65	69.5	26.3	4.2	97	68	36	31	28	22	11.0	2.2	25	150+	1.4	2.420	5.5	64	15.3
	Lane 4		1-56	66.6	28.5	4.9		66	38	33	30				44	150+	3.0	2.417	5.8	67	17.0
			1-57	66.4	28.4	5.2		71	39	33	30				44	150+	2.1	2.459	3.9	76	16.3
		WT	12-57	70.5	25.3	4.2		65	35	29	26				34	150+	1.7	2.421	5.4	65	15.4
		C	12-57	68.8	26.7	4.5		66	36	31	28				54	150+	0.6	2.438	4.8	69	15.5
		WT	11-58	69.8	25.8	4.4		59	35	30	27				30	150+	0.3	2.437	4.8	69	15.5
		C	11-58	69.6	25.8	4.6		72	35	30	27				36	150+	0.3	2.438	4.8	70	16.0
		WT	1-60	69.2	26.1	4.7		74	35	30	27				40	150+	0.3	2.480	3.1	79	14.8
		C	1-60	68.4	26.7	4.9		76	37	31	28				34	150+	0.1	2.449	4.3	73	15.9
		WT	11-61	66.3	28.8	4.9		70	40	34	30	24	11.0	2.3	43	150+	2.0	2.463	3.8	76	15.8
		C	11-61	66.4	28.6	5.0		66	38	33	30	24	11.0	2.3	36	150+	1.8	2.436	4.8	71	16.6
		WT	11-63	68.5	26.8	4.7	87	69	38	32	28	23	10.0	2.3	39	150+	2.7	2.476	3.3	77	14.3
		C	11-63	69.7	25.8	4.5	92	65	36	30	27	21	9.0	2.1	40	150+	2.1	2.470	3.5	76	14.6
		WT	8-65	67.4	27.8	4.8	100	71	38	33	29	23	9.6	1.8	35	150+	1.6	2.472	3.4	77	14.8
		C	8-65	69.9	25.8	4.3	97	72	37	31	27	21	9.1	2.2	30	150+	1.3	2.437	4.8	68	15.0

(a) Lanes numbered west to east.

(b) C = core from center of lane. WT = core from wheel track.

(c) 100 percent passed 1-1/4 in. sieve.

(d) Penetration of original asphalt = 64

(e) Maximum theoretical specific gravity = 2.560

SECTION 4. WEST TEXAS WINKLER CRUDE

Section	Lane	Location Sampled(b)	Date Sampled	Mixture Analysis, % R 10	Mixture Analysis, % P 10	Mixture Analysis, % Bitumen	Gradation of Extracted Aggregate % passing indicated sieve 1(c)	3/4	3/8	4	10	40	80	200	Recovered Asphalt Penetration (d)	Ductility	Ash, %	Measured Specific Gravity(e)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate
		Mix	8-54	69.9	25.8	4.3		53	30	29	27				46	150+	1.1				
SECTION 4A (Sta. 1072)	Lane 1(a)	WT	11-63	69.3	27.0	3.7	86	66	41	33	28	22	11.0	2.9	33	150+	1.8	2.462	4.2	68	13.1
		C	11-63	68.9	26.0	4.1	91	65	38	31	27	21	9.0	1.9	36	150+	1.7	2.432	5.4	64	15.0
		WT	8-65	67.5	28.3	4.2	96	65	40	34	30	23	10.0	2.2	33	150+	1.0	2.436	5.3	65	16.1
		C	8-65	68.6	27.3	4.1	88	66	38	32	29	21	9.4	2.0	28	150+	1.2	2.431	5.4	64	15.0
	Lane 2	WT	11-63	71.8	24.4	3.8	70	48	32	28	25	21	10.0	2.0	28	118	2.4	2.463	4.2	69	13.5
		C	11-63	71.3	24.5	4.2	90	64	33	29	26	21	9.0	2.0	29	150+	1.8	2.448	4.8	68	15.0
		WT	8-65	65.5	29.8	4.7	95	70	41	35	31	25	12.0	2.2	29	150+	1.4	2.440	5.1	69	16.5
		C	8-65	69.1	27.8	4.1	93	68	38	31	28	22	9.4	2.4	28	150+	1.6	2.441	5.1	66	15.0
	Lane 3		1-56	68.8	26.8	4.4		63	36	31	28				36	150+	2.2	2.407	6.4	62	16.8
			1-57	69.0	26.6	4.4		66	36	31	28				36	150+	1.3	2.416	6.0	63	16.2
		WT	12-57	69.2	26.4	4.4		60	36	30	28				32	150+	0.4	2.397	6.8	60	17.0
		C	12-57	70.8	25.0	4.2		59	33	29	26				32	150+	0.4	2.450	4.7	68	14.7
		WT	11-58	66.9	28.3	4.8		72	38	33	30				34	150+	0.3	2.418	6.0	65	17.1
		WT	1-60	68.5	26.9	4.6		65	36	31	28				33	150+	0.2	2.460	4.3	72	15.4
		WT	11-61	66.5	28.6	4.9		61	38	33	30	24	11.0	1.9	27	59	1.8	2.434	5.3	69	17.1
		WT	11-63	69.1	26.8	4.1	92	69	38	32	28	22	9.0	2.1	27	99	1.8	2.443	5.0	66	14.7
		C	11-63	69.4	26.3	4.3	91	61	34	30	27	22	9.0	1.9	27	78	2.2	2.449	4.7	69	15.2
		WT	8-65	65.5	29.7	4.8	96	68	40	35	31	25	12.0	2.5	28	140	1.3	2.409	6.3	64	17.5
		C	8-65	65.7	29.4	4.9	88	69	40	35	31	24	11.0	2.0	28	150+	1.2	2.427	5.6	67	17.0
	Lane 4		1-56	67.9	27.4	4.7		63	38	32	29				46	150+	1.6	2.402	6.6	63	17.8
			1-57	67.9	27.6	4.5		66	37	32	29				46	150+	2.4	2.408	6.3	63	17.0
		WT	12-57	67.8	27.5	4.7		66	38	32	29				48	150+	0.3	2.465	4.1	73	15.2
		C	12-57	65.7	29.4	4.9		71	39	34	31				45	150+	0.0	2.390	7.0	62	18.4
		WT	11-58	67.8	27.5	4.7		64	38	32	29				40	150+	0.5	2.471	3.9	74	15.0
		C	11-58	71.3	24.3	4.4		59	33	28	25				42	150+	0.4	2.422	5.8	64	16.1
		WT	1-60	72.0	23.9	4.1		60	33	28	25				33	150+	0.3	2.455	4.5	69	14.5
		C	1-60	71.4	24.5	4.1		63	32	28	26				41	150+	0.4	2.456	4.5	69	14.5
		WT	11-61	65.0	30.3	4.7		74	42	35	32	26	11.0	2.6	36	150+	2.6	2.470	3.9	75	15.6
		C	11-61	65.6	29.6	4.8		69	39	35	31	26	10.0	2.3	41	150+	1.6	2.439	5.1	69	16.5
		WT	11-63	69.5	26.4	4.1	84	61	37	31	28	22	10.0	2.0	34	136	2.1	2.488	3.2	76	13.3
		C	11-63	69.4	26.3	4.3	95	73	35	30	28	23	10.0	2.1	33	150+	2.4	2.466	4.1	72	14.6
		WT	8-65	69.8	26.4	3.8	84	56	36	31	28	22	9.4	2.5	32	150+	1.8	2.476	3.7	71	12.8
		C	8-65	70.6	25.3	4.1	91	63	34	29	26	21	10.0	2.2	36	150+	1.5	2.466	4.5	69	14.5
SECTION 4B (Sta. 1084)	Lane 1(a)		1-56	66.5	29.1	4.4		70	42	36	30				40	150+	1.0	2.436	6.3	66	16.6
			1-57	66.2	28.9	4.9		69	38	34	30				40	150+	0.8	2.436	5.3	69	17.1
		WT	12-57	67.5	28.1	4.4		67	38	33	29				38	150+	0.2	2.439	5.1	67	15.5
		C	12-57	69.9	25.9	4.2		60	35	30	27				39	150+	0.0	2.448	4.8	68	15.0
		WT	11-58	67.1	28.3	4.6		69	38	33	30				38	150+	0.5	2.445	4.9	69	15.8
		C	11-58	68.9	26.6	4.5		58	34	30	28				42	150+	0.6	2.434	5.3	67	16.1
		WT	1-60	68.9	26.5	4.6		63	36	31	28				41	150+	0.4	2.478	3.6	76	15.0
		C	1-60	72.3	23.7	4.0		63	33	28	25				31	150+	0.4	2.455	4.5	68	14.1
		WT	11-61	66.6	28.5	4.9		67	37	33	30	24	12.0	2.2	36	150+	1.1	2.456	4.5	72	16.1
		C	11-61	67.4	27.8	4.8		66	37	33	29	23	10.0	2.1	40	150+	1.2	2.433	5.4	68	16.9
		WT	11-63	67.6	27.9	4.5	95	73	39	33	29	23	10.0	2.1	37	150+	2.5	2.488	3.2	77	13.9
		C	11-63	68.5	27.2	4.3	82	67	37	32	28	23	11.0	2.4	38	150+	2.3	2.465	4.1	72	14.6
		WT	8-65	68.0	27.8	4.2	94	74	38	32	29	23	10.0	2.1	25	150+	1.9	2.450	4.7	68	14.7
		C	8-65	66.7	28.9	4.4	89	72	40	34	30	24	9.6	1.9	29	150+	1.0	2.434	5.3	66	15.6
	Lane 2		1-56	65.8	29.3	4.9		66	37	34	31				40	150+	2.2	2.409	6.3	65	18.0
			1-57	68.9	26.3	4.8		56	34	30	28				40	150+	1.9	2.401	6.6	63	17.8
		WT	12-57	67.6	27.7	4.7		59	36	32	29				35	150+	0.3	2.411	6.2	64	17.2
		C	12-57	68.6	26.8	4.6		61	38	31	28				38	150+	0.0	2.425	5.7	66	16.8
		WT	11-58	67.1	28.3	4.6		69	41	34	30				40	150+	0.3	2.401	6.6	62	17.4
		WT	1-60	65.3	30.1	4.6		69	40	35	32				36	150+	0.1	2.401	6.6	62	17.4
		WT	11-61	68.8	26.9	4.3		64	36	31	28	21	10.0	2.2	39	150+	2.2	2.428	5.6	65	16.0
		WT	11-63	71.3	24.9	3.8	86	56	35	29	26	20	9.0	2.1	29	150+	1.9	2.436	5.1	64	14.2
		C	11-63	68.7	27.9	4.3	90	66	37	32	28	22	9.0	2.3	32	150+	2.3	2.420	5.9	63	15.9
		WT	8-65	68.5	27.2	4.3	97	71	37	32	29	22	8.7	2.0	32	150+	1.4	2.411	6.2	62	16.3
		C	8-65	68.6	27.1	4.3	96	67	37	32	28	21	9.6	2.3	34	150+	1.4	2.414	6.1	62	16.1
	Lane 3		1-56	68.2	27.3	4.5		61	36	32	29				48	150+	1.8	2.438	5.2	67	16.8
			1-57	67.9	27.6	4.5		62	37	33	29				46	150+	1.7	2.430	5.5	66	16.2
		WT	12-57	73.0	23.1	3.9		56	30	26	24				31	150+	0.0	2.429	5.5	63	14.9
		C	12-57	68.0	27.2	4.8		58	36	31	28				37	150+	0.6	2.424	5.7	67	17.3
		WT	11-58	67.6	27.8	4.6		70	38	32	29				31	150+	0.5	2.439	5.1	68	15.9
		WT	1-60	68.0	27.5	4.5		68	37	32	29				34	150+	1.1	2.428	5.6	70	18.7
		WT	11-61	68.8	26.6	4.6		64	36	31	28	22	10.0	1.9	42	150+	2.0	2.458	4.4	72	15.7
		WT	11-63	68.8	26.8	4.4	94	67	39	32	28	22	10.0	2.0	31	150+	2.0	2.468	4.0	73	14.6
		C	11-63	70.2	25.5	4.3	84	68	37	30	27	21	9.0	1.9	32	150+	2.4	2.458	4.4	70	14.7
		WT	8-65	68.5	27.1	4.4	91	64	37	32	28	22	8.1	2.1	28	150+	1.6	2.437	5.2	67	15.8
		C	8-65	71.1	24.8	4.1	91	57	35	29	26	20	8.0	1.9	27	150+	1.8	2.435	5.3	65	15.1
	Lane 4		1-56	66.4	28.9	4.7		72	38	33	30				42	150+	2.1	2.441	5.1	69	16.5
			1-57	71.1	24.8	4.1		51	33	29	26				42	150+	2.7	2.451	4.7	68	14.7
		WT	12-57	69.7	26.0	4.3		59	34	30	27				40	150+	0.4	2.467	4.0	72	14.3
		C	12-57	68.2	27.1	4.7		60	36	31	28				41	150+	0.2	2.433	5.4	68	16.9
		WT	11-58	70.5	24.9	4.6		60	34	29	26				39	150+	0.5	2.471	3.9	74	15.0
		C	11-58	67.3	28.0	4.7		61	36	32	29				47	150+	0.4	2.431	5.4	67	16.4
		WT	1-60	69.6	26.0	4.4		64	36	30	27				38	150+	0.2	2.487	3.3	76	13.8
		C	1-60	70.8	25.0	4.2		63	35	30	26				41	150+	0.8	2.490	3.2	76	13.3
		WT	11-61	69.2	26.5	4.3		61	36	31	28	22	10.0	2.2	28	110	2.0	2.448	4.8	68	15.0
		C	11-61	68.4	27.0	4.6		68	37	32	28	24	11.0	2.3	46	150+	2.9	2.458	4.4	72	16.7
		WT	11-63	70.1	25.8	4.1	88	58	35	30	27	22	11.0	2.1	42	150+	2.6	2.493	3.0	77	13.0
		C	11-63	71.9	24.2	3.9	91	61	32	28	25	21	8.0	1.6	36	150+	1.7	2.484	3.4	74	13.1
		WT	8-65	71.5	24.4	4.1	89	55	33	29	26	20	7.5	1.6	30	150+	1.4	2.468	4.0	71	13.8
		C	8-65	70.3	25.4	4.3	83	58	34	29	27	21	9.8	2.0	33	150+	1.3	2.471	3.9	73	14.4

(a) Lanes numbered west to east.

(b) C = core from center of lane. WT = core from wheel track.

(c) 100 percent passed 1-1/4 in. sieve.

(d) Penetration of original asphalt = 61

(e) Maximum theoretical specific gravity = 2.571

SECTION 5. ARKANSAS SMACKOVER CRUDE

Section	Lane	Location Sampled(b)	Date Sampled	Mixture Analysis, %			Gradation of Extracted Aggregate % passing indicated sieve								Recovered Asphalt			Measured Specific Gravity(e)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate
				R 10	P 10	Bitumen	1(c)	3/4	3/8	4	10	40	80	200	Penetration (d)	Ductility	Ash, %				
		Mix	8-54	70.2	26.5	4.3		61	31	28	27				46	150+	1.16				
SECTION 5A (Sta. 1096)	Lane 1(a)		1-56	68.0	27.3	4.7		67	40	34	29				40	150+	2.2	2.433	4.6	71	15.9
			1-57	68.7	26.6	4.7		66	39	32	28				40	150+	2.9	2.449	4.0	74	15.4
		WT	12-57	68.2	27.4	4.4		67	40	33	29				29	150+	0.2	2.434	4.5	70	15.0
		C	12-57	70.8	24.9	4.3		60	36	30	26				40	150+	0.3	2.421	5.1	67	15.5
		WT	11-58	67.4	28.1	4.5		73	41	34	29				39	150+	0.2	2.466	3.3	77	14.3
		C	11-58	69.6	26.0	4.4		67	36	31	27				39	150+	0.3	2.445	4.1	71	14.1
		WT	1-60	69.4	26.3	4.3		68	38	32	28				43	150+	0.3	2.459	3.6	74	13.8
		C	1-60	67.9	27.5	4.6		74	40	33	29				41	150+	0.4	2.471	3.1	78	14.1
		WT	11-61	68.5	26.8	4.7		67	38	32	27	22	9.0	2.3	37	135	0.9	2.456	3.7	75	14.8
		C	11-61	66.6	28.6	4.8		70	42	35	30	25	10.0	2.4	46	150+	1.9	2.443	4.2	73	15.6
		WT	11-63	69.8	26.1	4.1	81	70	39	32	27	22	10.0	2.5	31	150+	1.9	2.465	3.3	76	13.2
		C	11-63	71.9	24.4	3.7	87	65	36	30	25	21	10.0	2.2	41	150+	2.4	2.476	2.9	76	12.1
		WT	8-65	69.2	26.7	4.1	87	63	39	33	28	22	10.0	2.2	30	150+	1.6	2.501	1.9	84	11.9
		C	8-65	69.9	26.2	3.9	81	67	39	32	27	22	9.8	2.6	35	150+	1.7	2.460	3.5	73	13.0
	Lane 2		1-56	68.8	26.8	4.4		60	36	31	28				34	150+	2.7	2.398	6.0	63	16.2
			1-57	66.2	28.8	5.0		67	38	33	30				34	150+	2.6	2.442	4.2	74	16.2
		WT	12-57	69.8	26.0	4.2		64	36	30	27				36	150+	0.1	2.396	6.0	62	15.8
		C	12-57	68.9	26.5	4.6		61	36	31	28				32	150+	0.2	2.402	5.8	65	16.6
		WT	11-58	69.6	26.0	4.4		61	36	30	27				35	150+	0.2	2.418	5.2	67	15.8
		WT	1-60	70.6	25.4	4.0		61	34	29	26				32	150+	0.1	2.444	4.2	70	14.0
		WT	11-61	67.1	28.1	4.8		70	38	32	29	24	11.0	2.5	38	150+	2.0	2.425	4.9	70	16.3
		WT	11-63	75.3	20.6	4.1	90	52	29	24	21	17	7.0	1.2	32	150+	1.3	2.444	4.2	70	14.0
		C	11-63	72.7	23.4	3.9	84	60	31	27	24	19	9.0	1.9	24	27	2.5	2.460	3.5	73	13.0
		WT	8-65	68.6	27.2	4.2	86	71	38	32	28	22	9.3	2.2	29	150+	1.4	2.467	3.3	75	13.2
		C	8-65	69.2	26.7	4.1	93	69	37	31	28	22	8.4	2.2	28	117	1.6	2.455	3.7	73	13.7
	Lane 3	WT	11-63	63.5	31.7	4.8	92	78	44	37	33	28	13.0	2.4	25	49	1.0	2.410	5.5	64	15.3
		C	11-63	68.3	27.6	4.1	96	79	38	31	29	25	12.0	2.3	24	34	1.8	2.396	6.0	62	15.8
		WT	8-65	69.6	26.3	4.1	81	70	36	30	28	23	10.0	2.0	25	51	1.7	2.445	4.1	71	14.1
		C	8-65	72.2	24.1	3.7	78	61	32	28	26	21	10.0	1.9	26	21	0.8	2.396	6.0	59	14.6
	Lane 4	WT	11-63	69.2	26.6	4.2	94	72	39	32	28	22	11.0	2.2	38	150+	2.4	2.483	2.6	80	13.0
		C	11-63	69.1	26.6	4.3	92	71	40	32	28	22	11.0	2.3	32	76	1.4	2.466	3.3	76	13.8
		WT	8-65	66.2	29.1	4.7	96	81	43	35	31	24	11.0	2.3	32	150+	1.9	2.441	4.3	72	15.4
		C	8-65	68.3	27.4	4.3	97	76	40	32	29	23	11.0	2.2	29	150+	1.4	2.446	4.1	72	14.6
SECTION 5B (Sta. 1108)	Lane 1(a)		1-56	63.4	31.7	4.9		73	47	38	33				41	150+	2.7	2.446	4.1	74	15.8
			1-57	68.4	27.2	4.4		73	36	32	28				41	150+	1.9	2.445	4.1	72	14.6
		WT	12-57	69.1	26.6	4.3		66	37	31	28				29	51	0.5	2.448	4.0	72	14.3
		C	12-57	68.8	26.7	4.5		64	37	31	28				37	150+	0.2	2.424	4.9	69	15.8
		WT	11-58	66.4	28.9	4.7		68	37	33	30				42	150+	0.3	2.449	4.0	74	15.4
		C	11-58	69.8	26.0	4.2		72	38	30	27				40	150+	0.2	2.423	5.0	67	15.2
		WT	1-60	71.5	24.4	4.1		63	32	28	25				31	120	0.1	2.451	3.9	72	13.9
		C	1-60	68.9	26.9	4.2		62	37	31	28				32	130	0.1	2.439	4.4	70	14.7
		WT	11-61	66.4	27.3	4.3		63	36	32	29	22	9.0	2.0	40	150+	2.6	2.438	4.4	70	14.7
		C	11-61	66.7	28.6	4.7		69	37	33	30	23	8.0	2.2	38	150+	2.4	2.402	5.8	68	18.1
		WT	11-63	70.2	25.9	3.9	94	68	35	30	27	22	10.0	2.4	30	135	2.2	2.472	3.1	75	12.4
		C	11-63	68.4	27.4	4.2	87	67	38	32	29	23	10.0	2.6	32	102	2.0	2.454	3.8	73	14.1
		WT	8-65	66.8	27.1	4.1	89	66	37	32	28	21	8.3	2.1	27	150+	1.1	2.435	4.5	68	14.1
		C	8-65	66.8	29.1	4.1	93	71	41	34	30	23	12.0	2.9	30	87	1.4	2.430	4.7	67	14.2
	Lane 2		1-56	68.2	27.2	4.6		73	36	31	28				37	150+	2.6	2.408	5.6	66	16.5
			1-57	69.9	25.7	4.4		64	36	30	27				37	136	2.6	2.439	4.4	71	15.2
		WT	12-57	68.3	27.2	4.5		72	38	31	28				34	150+	0.2	2.420	5.1	68	15.9
		C	12-57	66.9	28.3	4.8		67	38	32	30				30	150+	0.3	2.429	4.7	71	16.2
		WT	11-58	68.8	26.7	4.5		64	38	30	28				32	150+	0.4	2.425	4.9	69	15.8
		WT	1-60	68.7	26.8	4.5		67	35	30	28				36	150+	0.4	2.467	3.3	77	14.3
		WT	11-61	67.5	27.9	4.6		69	35	31	29	25	10.0	2.4	33	145	2.5	2.446	4.1	73	15.2
		WT	11-63	67.7	27.0	4.4	96	74	40	33	29	26	11.0	2.5	30	63	2.5	2.460	3.5	75	14.0
		C	11-63	68.7	27.0	4.3	94	67	37	31	28	24	11.0	2.5	25	25	2.8	2.448	4.0	72	14.3
		WT	8-65	66.0	29.5	4.5	92	74	43	35	31	25	12.0	2.3	28	149	1.5	2.460	3.5	76	14.6
		C	8-65	67.6	28.1	4.3	88	70	40	33	30	24	11.0	2.4	26	82	1.4	2.425	4.9	68	15.3
	Lane 3		1-56	69.2	26.5	4.3		61	36	31	28				32	150+	2.7	2.411	5.5	65	15.7
			1-57	68.2	27.1	4.7		66	36	31	28				32	150+	1.8	2.410	5.5	67	16.7
		WT	12-57	68.2	27.3	4.5		66	38	32	29				36	150+	0.4	2.407	5.6	65	16.0
		C	12-57	70.2	25.7	4.1		63	36	30	27				35	150+	0.0	2.421	5.1	66	15.0
		WT	11-58	72.5	23.2	4.3		66	34	27	24				41	150+	0.4	2.429	4.7	69	15.2
		WT	1-60	68.8	26.8	4.4		67	36	30	28				37	150+	0.3	2.456	3.7	74	14.2
		WT	11-61	66.6	28.5	4.9		69	38	33	30	24	10.0	2.4	36	150+	2.2	2.438	4.4	73	16.3
		WT	11-63	67.3	28.1	4.6	97	76	38	33	30	24	11.0	2.2	33	75	1.7	2.445	4.1	73	15.2
		C	11-63	69.8	26.0	4.2	89	71	36	30	27	22	11.0	2.1	25	31	2.7	2.453	3.8	73	14.1
		WT	8-65	67.5	28.0	4.5	97	75	41	33	29	24	11.0	2.4	28	134	1.6	2.426	4.9	69	15.8
		C	8-65	69.3	26.3	4.4	84	70	37	30	27	22	9.0	2.2	22	19	1.4	2.414	5.3	66	15.6
	Lane 4		1-56	66.6	28.6	4.8		68	40	34	30				38	150+	2.2	2.449	4.0	74	15.4
			1-57	69.9	25.7	4.4		66	38	31	27				35	150+	2.4	2.440	4.3	71	14.8
		WT	12-57	71.4	24.6	4.0		64	36	29	26				38	150+	0.1	2.423	5.0	66	14.7
		C	12-57	66.4	28.7	4.9		70	38	33	30				44	150+	0.1	2.449	4.0	75	16.0
		WT	11-58	70.2	25.5	4.3		72	37	30	27				39	150+	0.2	2.445	4.1	72	14.6
		C	11-58	69.4	25.9	4.7		64	36	30	27				43	150+	0.0	2.459	3.6	76	15.0
		WT	1-60	68.3	26.9	4.8		64	35	30	28				36	150+	0.4	2.492	2.3	84	14.4
		C	1-60	70.5	25.1	4.4		64	32	28	26				38	150+	0.2	2.460	3.5	75	14.0
		WT	11-61	67.9	27.3	4.8		65	37	31	29	24	11.0	2.0	41	150+	2.8	2.485	2.5	82	13.9
		C	11-61	68.1	27.0	4.9		65	36	31	29	23	11.0	2.0	40	150+	2.4	2.466	3.3	78	15.0
		WT	11-63	71.2	24.7	4.1	82	67	33	29	26	21	9.0	1.8	39	150+	2.1	2.489	2.4	81	12.6
		C	11-63	71.5	24.6	3.9	93	62	34	29	26	21	9.0	1.9	32	127	1.9	2.495	2.2	81	11.6
		WT	8-65	68.9	26.9	4.2	86	69	39	32	28	23	9.5	2.3	28	96	1.8	2.479	2.8	78	12.7
		C	8-65	68.2	27.4	4.4	93	74	39	33	29	23	12.0	2.3	30	150+	1.4	2.460	3.5	75	14.0

(a) Lanes numbered west to east.

(b) C = core from center of lane.
WT = core from wheel track.

(c) 100 percent passed 1-1/4 in. sieve.

(d) Penetration of original asphalt = 60

(e) Maximum theoretical specific gravity = 2.560

SECTION 6. EAST TEXAS TALCO CRUDE

Section	Lane	Location Sampled(b)	Date Sampled	Mixture Analysis, %. R 10	P 10	Bitumen	Gradation of Extracted Aggregate % passing indicated sieve 1(c)	3/4	3/8	4	10	40	80	200	Recovered Asphalt Penetration (d)	Ductility	Ash, %	Measured Specific Gravity(e)	% Voids	% Voids Filled With Bitumen	% Voids in Mineral Aggregate
		Mix	8-54	67.5	27.9	4.6		72	36	32	29				43	150+	2.7				
SECTION 6A (Sta. 1120)	Lane 1(a)		1-56	66.3	30.1	4.8		70	42	36	32				37	72	2.8	2.415	5.7	66	16.8
			1-57	65.7	29.2	5.1		68	40	35	31				37	120	1.4	2.409	5.9	67	17.9
		WT	12-57	68.9	26.8	4.3		70	38	31	28				36	150+	0.2	2.433	5.0	67	15.2
		C	12-57	70.1	25.3	4.6		60	33	28	26				42	150+	0.1	2.422	5.4	67	16.4
		WT	11-58	68.8	26.6	4.6		66	34	30	28				43	113	0.2	2.414	5.7	66	16.8
		C	11-58	68.7	26.8	4.5		68	35	30	28				35	86	0.4	2.448	4.4	71	16.2
		WT	1-60	68.2	27.2	4.6		70	35	31	28				38	99	0.2	2.444	4.5	71	15.5
		C	1-60	70.4	25.3	4.3		68	34	29	26				34	90	0.1	2.460	3.9	73	14.4
		WT	11-61	68.9	26.8	4.3		66	36	31	28	22	6.0	1.9	36	34	1.9	2.430	5.1	67	15.5
		C	11-61	65.4	29.6	5.0		71	39	34	31	26	10.0	2.1	34	52	1.7	2.409	5.9	67	17.9
		WT	11-63	70.7	25.3	4.0	89	66	36	30	27	21	10.0	2.0	31	41	1.8	2.459	3.6	73	13.3
		C	11-63	68.3	27.4	4.3	94	78	37	32	29	23	11.0	2.2	31	40	3.0	2.445	4.5	69	14.5
		WT	8-65	69.1	26.6	4.3	90	72	35	31	28	23	10.0	1.9	30	31	1.7	2.464	3.8	73	14.1
		C	8-65	68.5	27.2	4.3	86	63	36	32	28	22	9.5	1.6	25	17	1.3	2.406	6.0	62	15.8
	Lane 2		1-56	68.5	27.1	4.4		66	39	33	28				36	128	1.7	2.417	5.6	65	16.0
			1-57	69.3	26.4	4.3		66	40	32	28				35	111	1.8	2.410	5.9	63	15.9
		WT	12-57	68.5	26.9	4.6		76	39	32	28				33	125	0.1	2.396	6.4	63	17.3
		C	12-57	67.6	27.5	4.9		74	41	33	29				37	150+	0.4	2.431	5.0	70	16.7
		WT	11-58	66.7	28.7	4.6		71	42	34	30				34	77	0.1	2.448	4.4	72	16.7
		WT	1-60	70.6	25.3	4.1		69	35	30	26				32	48	0.2	2.426	5.2	65	14.9
		WT	11-61	66.2	29.0	4.8		64	39	34	31	26	12.0	1.9	24	20	1.7	2.412	5.8	66	17.1
		WT	11-63	68.7	27.1	4.2	87	74	43	33	28	23	10.0	2.2	22	7	1.9	2.441	4.6	68	14.4
		C	11-63	67.0	28.5	4.5	92	75	44	35	30	25	12.0	2.2	26	8	2.6	2.433	5.0	68	15.6
		WT	8-65	68.7	27.2	4.1	92	68	40	33	28	24	11.0	2.1	23	15	1.8	2.401	6.2	61	16.9
		C	8-65	68.1	27.7	4.2	89	67	42	34	29	24	10.0	2.4	23	14	1.9	2.390	6.6	59	16.1
	Lane 3	WT	11-63	70.0	25.8	4.2	95	77	44	32	27	22	11.0	2.1	28	38	1.8	2.439	4.7	68	14.7
		C	11-63	70.0	25.9	4.1	93	79	42	31	27	22	10.0	2.1	24	6	1.6	2.414	5.7	63	15.4
		WT	8-65	69.1	26.8	4.1	95	73	39	32	28	21	9.4	2.0	23	18	2.2	2.426	5.2	65	14.9
		C	8-65	72.2	23.9	3.9	97	71	35	28	25	20	9.5	2.0	23	12	1.9	2.412	5.8	61	14.9
	Lane 4	WT	11-63	70.6	25.2	4.2	93	64	35	30	26	21	10.0	2.1	32	58	2.0	2.477	3.2	76	13.3
		C	11-63	70.5	25.5	4.0	96	72	38	31	27	21	9.0	2.5	28	8	2.4	2.431	5.0	65	14.3
		WT	8-65	67.2	28.5	4.3	86	72	43	34	30	23	10.0	2.6	32	64	2.2	2.452	4.2	71	14.5
		C	8-65	69.6	26.3	4.1	84	66	38	31	27	21	9.5	2.3	32	83	2.4	2.427	5.2	65	14.9
SECTION 6B (Sta. 1132)	Lane 1(a)		1-56	65.9	29.4	4.7		70	38	34	31				35	73	2.8	2.428	5.2	68	16.3
			1-57	70.3	25.6	4.1		60	34	30	27				35	73	2.4	2.435	4.9	67	14.8
		WT	12-57	68.1	27.7	4.2		73	35	31	29				39	150+	0.2	2.426	5.2	66	15.3
		C	12-57	67.9	27.9	4.2		68	39	32	29				35	150+	0.1	2.409	5.9	63	15.9
		WT	11-58	67.3	28.3	4.4		73	36	32	30				38	103	0.2	2.443	4.6	70	15.3
		C	11-58	69.3	26.4	4.3		70	37	30	28				33	76	0.2	2.403	6.1	62	16.1
		WT	1-60	72.6	23.6	3.6		59	31	27	24				30	45	0.2	2.420	5.5	70	16.3
		C	1-60	68.3	27.5	4.2		73	36	31	29				31	97	0.1	2.413	5.7	64	15.8
		WT	11-61	66.3	29.3	4.4		65	38	33	31	25	11.0	2.2	35	70	1.4	2.464	4.1	72	14.6
		C	11-61	67.2	28.3	4.5		72	37	32	30	25	11.0	1.8	28	18	1.0	2.407	6.0	64	16.7
		WT	11-63	67.3	28.2	4.5	98	84	39	33	30	23	10.0	3.1	30	62	2.4	2.460	4.3	71	14.8
		C	11-63	67.5	28.2	4.3	95	76	39	33	30	24	11.0	2.4	29	31	1.8	2.449	4.3	70	14.3
		WT	8-65	68.1	27.7	4.2	98	72	38	31	29	23	10.0	1.9	30	64	0.9	2.426	5.2	65	14.9
		C	8-65	68.2	27.4	4.4	98	67	37	32	29	22	9.3	1.8	22	9	1.4	2.389	6.7	60	16.8
	Lane 2		1-56	68.9	26.6	4.5		66	37	32	28				38	150+	0.2	2.422	5.4	66	15.9
			1-57	67.4	27.8	4.8		72	38	33	29				38	150+	1.6	2.427	5.2	69	16.8
		WT	12-57	66.9	28.5	4.6		75	40	33	30				37	150+	0.3	2.384	6.9	61	17.7
		C	12-57	67.1	28.1	4.8		68	38	32	30				34	150+	0.3	2.412	5.8	66	17.1
		WT	11-58	67.1	28.4	4.5		74	43	34	30				37	78	0.2	2.400	6.3	63	17.0
		WT	1-60	66.3	29.0	4.7		74	38	33	30				35	110	0.1	2.431	5.0	69	16.1
		WT	11-61	70.7	25.2	4.1		68	34	29	26	21	11.0	1.8	25	17	1.7	2.412	5.8	63	15.7
		WT	11-63	66.3	30.0	4.7	100	79	40	35	32	26	13.0	2.1	31	62	2.6	2.420	5.5	67	16.7
		C	11-63	69.4	26.5	4.1	86	63	36	30	28	23	10.0	1.9	32	67	1.9	2.401	6.2	61	15.9
		WT	8-65	68.4	27.4	4.2	90	67	43	34	29	22	12.0	2.7	25	26	2.4	2.417	5.6	64	16.6
		C	8-65	68.2	27.6	4.2	96	78	41	33	29	23	11.0	2.1	24	12	1.8	2.406	6.0	62	15.8
	Lane 3		1-56	67.7	27.5	4.8		65	40	33	29				38	110	2.4	2.424	5.3	68	16.6
			1-57	68.0	27.2	4.8		72	41	32	28				38	150+	1.4	2.424	5.3	68	16.6
		WT	12-57	68.6	27.0	4.4		72	38	31	28				29	101	0.3	2.419	5.5	66	15.7
		C	12-57	72.6	23.2	4.2		61	33	27	24				33	150+	0.2	2.408	5.9	63	15.9
		WT	11-58	68.2	27.2	4.6		67	38	32	28				40	126	0.1	2.416	5.6	66	16.5
		WT	1-60	72.3	23.5	4.2		55	32	27	24				36	109	0.0	2.427	5.2	66	15.3
		WT	11-61	70.3	25.4	4.3		65	35	29	27	21	10.0	2.2	27	18	1.5	2.435	4.9	68	15.3
		WT	11-63	67.7	27.9	4.4	95	74	40	33	29	23	11.0	2.3	28	18	2.4	2.437	4.8	66	15.0
		C	11-63	68.9	27.0	4.1	90	68	38	32	28	22	10.0	2.3	27	6	2.6	2.419	5.5	64	15.3
		WT	8-65	67.1	28.5	4.4	90	70	44	34	30	24	12.0	2.2	27	17	1.5	2.420	5.5	65	15.7
		C	8-65	68.2	27.7	4.1	96	72	44	34	29	23	11.0	2.6	22	11	1.9	2.381	7.0	57	16.3
	Lane 4		1-56	64.6	30.5	4.9		75	40	35	32				39	141	1.8	2.424	5.3	69	17.1
			1-57	69.3	25.9	4.8		62	36	31	27				39	150+	2.0	2.444	4.5	72	16.1
		WT	12-57	70.7	24.6	4.7		65	35	28	26				42	150+	0.1	2.425	5.3	68	16.6
		C	12-57	68.3	27.2	4.5		68	37	31	28				44	150+	0.1	2.410	5.9	64	16.4
		WT	11-58	69.6	25.9	4.5		71	36	30	27				37	140	0.6	2.437	4.8	69	15.6
		C	11-58	69.7	25.9	4.4		68	34	29	27				38	150+	0.4	2.428	5.2	67	16.8
		WT	1-60	68.6	26.7	4.7		69	34	31	28				40	150+	0.3	2.450	4.3	72	15.4
		C	1-60	71.8	24.2	4.0		62	33	28	25				38	141	0.2	2.407	6.0	61	15.4
		WT	11-61	69.2	26.5	4.3		61	38	31	28	23	10.0	2.6	34	53	2.3	2.451	4.3	71	14.8
		C	11-61	68.9	26.6	4.5		71	37	31	28	23	10.0	2.3	39	63	2.9	2.418	5.5	66	16.2
		WT	11-63	67.6	27.9	4.5	95	71	39	33	29	23	12.0	2.8	41	102	1.6	2.468	3.6	75	14.4
		C	11-63	67.3	28.2	4.5	93	73	45	35	30	24	12.0	2.9	34	105	1.9	2.457	4.0	73	14.8
		WT	8-65	69.9	26.0	4.1	90	69	35	30	27	22	11.0	2.7	32	43	2.0	2.444	4.5	68	14.1
		C	8-65	68.3	27.4	4.3	83	67	39	32	29	23	9.8	2.7	35	62	2.8	2.441	4.6	69	14.8

(a) Lanes numbered west to east.

(b) C = core from center of lane.
WT = core from wheel track.

(c) 100 percent passed 1-1/4 in. sieve.

(d) Penetration of original asphalt = 66

(e) Maximum theoretical specific gravity = 2.560

APPENDIX C

Tabulation of Rutting in Wheel Tracks With Corresponding Vertical and Horizontal Alignments

Section 1. Wyoming Crude, Refinery A
Section 2. Venezuelan Crude
Section 3. Wyoming Crude, Refinery B
Section 4. West Texas Winkler Crude
Section 5. Arkansas Smackover Crude
Section 6. East Texas Talco Crude

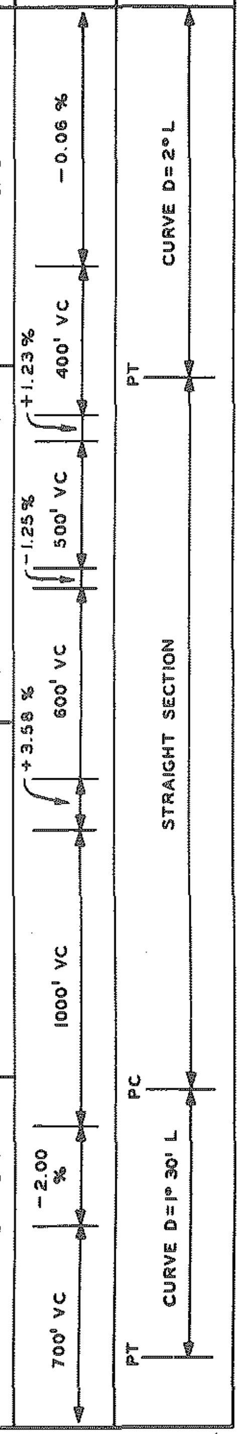
RUT DEPTH MEASUREMENTS (inches)

		Station	SBOL		SBIL		NBIL		NBOL		Plan Grade (NB)	Horizontal Alignment (NB)
			RWT	LWT	RWT	LWT	LWT	RWT	LWT	RWT		
SECTION 1. WYOMING CRUDE, REFINERY A	SECTION 1A	995	0.12	0.12	0.00	0.00	0.06	0.12	0.19	0.25		
		996	0.19	0.19	0.00	0.06	0.00	0.00	0.31	0.38		
		997	0.19	0.12	0.00	0.12	0.06	0.00	0.12	0.19	600' VC	STRAIGHT SECTION
		998	0.19	0.12	0.06	0.12	0.00	0.00	0.12	0.25		
		999	0.19	0.09	0.06	0.12	0.00	0.12	0.31	0.19		
		1000	0.31	0.31	0.06	0.12	0.00	0.00	0.06	0.19		
		1001	0.12	0.12	0.06	0.06	0.00	0.00	0.12	0.12		
		1002	0.19	0.06	0.00	0.03	0.00	0.00	0.06	0.12		
		1003	0.12	0.06	0.00	0.00	0.00	0.00	0.25	0.19	-2.57 %	PC
		1004	0.09	0.00	0.00	0.06	0.00	0.00	0.19	0.12		
		1005	0.06	0.06	0.06	0.06	0.00	0.00	0.06	0.12		
		Average	0.16	0.11	0.03	0.07	0.01	0.02	0.16	0.19		
	SECTION 1B	1007	0.12	0.06	0.00	0.00	0.06	0.00	0.06	0.12		
		1008	0.12	0.00	0.00	0.00	0.06	0.06	0.25	0.25	400' VC	CURVE D = 2° R
		1009	0.06	0.00	0.03	0.00	0.00	0.00	0.12	0.12		
		1010	0.00	0.00	0.06	0.03	0.06	0.00	0.28	0.12		
		1011	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.12	-2.20 %	
		1012	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.19		PT
		1013	0.06	0.12	0.06	0.06	0.00	0.00	0.00	0.19		
		1014	0.12	0.12	0.00	0.03	0.06	0.00	0.12	0.12		
		1015	0.16	0.12	0.00	0.19	0.00	0.00	0.19	0.25	400' VC	
		1016	0.12	0.06	0.00	0.06	0.06	0.06	0.25	0.25		
		1017	0.12	0.12	0.06	0.12	0.00	0.00	0.50	0.31		
		Average	0.08	0.05	0.02	0.04	0.03	0.01	0.21	0.19	-2.92 %	
SECTION 2. VENEZUELAN CRUDE	SECTION 2A	1019	0.12	0.12	0.06	0.09	0.00	0.00	0.06	0.25		
		1020	0.12	0.16	0.06	0.12	0.06	0.00	0.03	0.19		
		1021	0.16	0.12	0.06	0.09	0.00	0.00	0.12	0.19	500' VC	
		1022	0.12	0.12	0.06	0.06	0.06	0.06	0.06	0.25		
		1023	0.12	0.31	0.03	0.06	0.00	0.06	0.19	0.19		
		1024	0.12	0.12	0.06	0.12	0.00	0.06	0.06	0.31		
		1025	0.12	0.12	0.06	0.06	0.06	0.06	0.19	0.31	-0.50 %	STRAIGHT SECTION
		1026	0.09	0.12	0.06	0.19	0.06	0.00	0.19	0.38		
		1027	0.19	0.12	0.06	0.09	0.00	0.00	0.06	0.25		
		1028	0.19	0.19	0.06	0.12	0.06	0.03	0.25	0.38		
		1029	0.19	0.12	0.00	0.03	0.00	0.06	0.19	0.38		
		Average	0.14	0.15	0.05	0.09	0.03	0.03	0.13	0.28	400' VC	
	SECTION 2B	1031	0.22	0.19	0.06	0.00	0.06	0.06	0.12	0.19		
		1032	0.19	0.16	0.09	0.06	0.06	0.00	0.06	0.22		
		1033	0.12	0.06	0.06	0.00	0.06	0.06	0.06	0.25	-0.10 %	
		1034	0.12	0.12	0.03	0.06	0.06	0.00	0.16	0.19		
		1035	0.16	0.12	0.00	0.06	0.00	0.00	0.09	0.22		
		1036	0.19	0.16	0.00	0.00	0.06	0.06	0.06	0.12		
		1037	0.31	0.19	0.16	0.00	0.06	0.06	0.25	0.38	400' VC	
		1038	0.12	0.12	0.12	0.06	0.00	0.06	0.12	0.25		
		1039	0.12	0.19	0.06	0.00	0.06	0.00	0.12	0.19		PC
		1040	0.12	0.19	0.06	0.06	0.06	0.00	0.12	0.19		
		1041	0.12	0.25	0.06	0.03	0.06	0.03	0.06	0.19	-0.06 %	CURVE D = 2° L
		Average	0.16	0.16	0.06	0.03	0.05	0.03	0.11	0.22		

RUT DEPTH MEASUREMENTS (inches)

Section	Subsection	Station	SBOL		SBIL		NBIL		NBOL	
			RWT	LWT	RWT	LWT	LWT	RWT	LWT	RWT
SECTION 3. WYOMING CRUDE, REFINERY A	SECTION 3A	1043	0.22	0.22	0.00	0.00	0.06	0.03	0.09	0.12
		1044	0.19	0.25	0.00	0.06	0.00	0.06	0.00	0.19
		1045	0.12	0.12	0.00	0.12	0.00	0.06	0.06	0.25
		1046	0.22	0.22	0.00	0.00	0.00	0.12	0.00	0.19
		1047	0.12	0.19	0.06	0.00	0.00	0.06	0.12	0.19
		1048	0.38	0.19	0.00	0.00	0.12	0.06	0.12	0.19
		1049	0.25	0.31	0.06	0.06	0.12	0.00	0.06	0.16
		1050	0.16	0.16	0.00	0.00	0.06	0.12	0.06	0.25
		1051	0.12	0.16	0.06	0.00	0.00	0.06	0.06	0.22
		1052	0.19	0.19	0.12	0.12	0.06	0.09	0.12	0.12
		1053	0.28	0.22	0.00	0.06	0.00	0.06	0.06	0.19
		Average	0.20	0.20	0.03	0.04	0.04	0.07	0.07	0.19
	SECTION 3B	1055	0.09	0.12	0.00	0.00	0.00	0.06	0.12	0.31
		1056	0.19	0.12	0.00	0.09	0.06	0.00	0.12	0.34
		1057	0.12	0.12	0.06	0.12	0.06	0.06	0.19	0.28
		1058	0.25	0.25	0.00	0.09	0.06	0.06	0.12	0.25
		1059	0.25	0.12	0.06	0.06	0.12	0.12	0.12	0.19
		1060	0.19	0.06	0.00	0.12	0.06	0.06	0.06	0.12
		1061	0.19	0.19	0.06	0.19	0.06	0.00	0.12	0.25
		1062	0.25	0.19	0.06	0.06	0.06	0.06	0.06	0.25
		1063	0.19	0.12	0.09	0.09	0.09	0.06	0.19	0.25
		1064	0.34	0.19	0.12	0.00	0.06	0.06	0.31	0.44
		1065	0.25	0.19	0.06	0.06	0.06	0.00	0.44	0.31
		Average	0.21	0.15	0.05	0.08	0.06	0.05	0.17	0.27
SECTION 4. WEST TEXAS WINKLER CRUDE	SECTION 4A	1067	0.12	0.22	0.12	0.12	0.12	0.12	0.22	0.44
		1068	0.12	0.25	0.09	0.12	0.00	0.00	0.38	0.44
		1069	0.12	0.28	0.12	0.16	0.00	0.00	0.44	0.56
		1070	0.12	0.25	0.12	0.12	0.12	0.00	0.19	0.31
		1071	0.12	0.19	0.19	0.19	0.12	0.00	0.06	0.22
		1072	0.12	0.19	0.00	0.06	0.06	0.00	0.19	0.31
		1073	0.19	0.19	0.12	0.12	0.06	0.06	0.28	0.31
		1074	0.09	0.19	0.06	0.06	0.00	0.00	0.38	0.38
		1075	0.16	0.25	0.03	0.19	0.00	0.00	0.38	0.38
		1076	0.12	0.12	0.06	0.12	0.00	0.38	0.44	0.38
		1077	0.25	0.28	0.06	0.06	0.00	0.00	0.12	0.19
		Average	0.14	0.22	0.09	0.12	0.04	0.05	0.28	0.36
	SECTION 4B	1079	0.31	0.19	0.09	0.06	0.00	0.00	0.09	0.12
		1080	0.12	0.19	0.06	0.09	0.12	0.00	0.00	0.19
		1081	0.19	0.12	0.06	0.06	0.00	0.00	0.25	0.25
		1082	0.16	0.12	0.06	0.06	0.00	0.00	0.25	0.19
		1083	0.22	0.19	0.06	0.19	0.06	0.00	0.06	0.12
		1084	0.19	0.25	0.03	0.06	0.00	0.00	0.12	0.19
		1085	0.19	0.12	0.06	0.09	0.19	0.12	0.25	0.31
		1086	0.19	0.12	0.06	0.09	0.00	0.00	0.19	0.25
		1087	0.19	0.06	0.06	0.12	0.00	0.00	0.25	0.28
		1088	0.12	0.06	0.06	0.12	0.00	0.00	0.00	0.25
		1089	0.12	0.19	0.09	0.09	0.12	0.06	0.19	0.19
		Average	0.18	0.15	0.06	0.09	0.04	0.02	0.15	0.21

Plan Grade (NB) | Horizontal Alignment (NB)



RUT DEPTH MEASUREMENTS (inches)

Section		Station	SBOL		SBIL		NBIL		NBOL		Plan Grade (NB)	Horizontal Alignment (NB)
			RWT	LWT	RWT	LWT	LWT	RWT	LWT	RWT		
SECTION 5. ARKANSAS SMACKOVER CRUDE	SECTION 5A	1091	0.09	0.12	0.00	0.00	0.00	0.00	0.25	0.25	+1.19 %	PT STRAIGHT SECTION
		1092	0.19	0.19	0.06	0.06	0.06	0.00	0.19	0.19		
		1093	0.19	0.12	0.00	0.12	0.00	0.00	0.19	0.19		
		1094	0.19	0.12	0.06	0.12	0.12	0.06	0.12	0.00		
		1095	0.12	0.00	0.12	0.12	0.12	0.12	0.06	0.19	600' VC	PC
		1096	0.19	0.00	0.00	0.00	0.06	0.00	0.50	0.31		
		1097	0.19	0.19	0.00	0.00	0.00	0.06	0.00	0.25		
		1098	0.19	0.00	0.00	0.06	0.06	0.00	0.19	0.38		
		1099	0.19	0.06	0.06	0.12	0.00	0.06	0.06	0.19		CURVE D=1° R
		1100	0.25	0.06	0.00	0.12	0.00	0.00	0.31	0.38		
		1101	0.25	0.25	0.06	0.06	0.00	0.06	0.12	0.19		
		Average	0.19	0.10	0.03	0.07	0.04	0.03	0.18	0.23	+ 2.73 %	
	SECTION 5B	1103	0.12	0.12	0.00	0.12	0.06	0.12	0.44	0.28		
		1104	0.19	0.06	0.12	0.06	0.06	0.12	0.19	0.25		
		1105	0.19	0.12	0.12	0.19	0.12	0.12	0.31	0.25		
		1106	0.00	0.12	0.06	0.00	0.06	0.06	0.19	0.19		
		1107	0.31	0.06	0.06	0.12	0.00	0.12	0.50	0.25		
		1108	0.19	0.12	0.06	0.12	0.06	0.06	0.19	0.25		PT
		1109	0.06	0.09	0.06	0.12	0.06	0.00	0.75	0.25		
		1110	0.19	0.25	0.06	0.09	0.06	0.06	0.50	0.25		
		1111	0.19	0.12	0.03	0.12	0.06	0.00	0.31	0.19		
		1112	0.12	0.12	0.06	0.00	0.00	0.00	0.38	0.25	1300' VC	
		1113	0.12	0.12	0.06	0.00	0.00	0.00	0.38	0.25		
		Average	0.15	0.12	0.06	0.09	0.05	0.06	0.38	0.24		
SECTION 6. EAST TEXAS TALCO CRUDE	SECTION 6A	1115	0.09	0.19	0.00	0.06	0.06	0.12	0.19	0.06		
		1116	0.09	0.06	0.06	0.09	0.00	0.00	0.12	0.25	-1.58 %	
		1117	0.12	0.12	0.12	0.16	0.12	0.06	0.12	0.25		
		1118	0.09	0.12	0.06	0.06	0.00	0.00	0.19	0.25		
		1119	0.12	0.09	0.00	0.12	0.12	0.06	0.19	0.00		STRAIGHT SECTION
		1120	0.12	0.09	0.03	0.06	0.06	0.00	0.12	0.06		
		1121	0.19	0.12	0.06	0.12	0.00	0.00	0.25	0.25		
		1122	0.16	0.06	0.09	0.12	0.12	0.00	0.19	0.25		
		1123	0.06	0.19	0.06	0.12	0.00	0.00	0.12	0.19	500' VC	
		1124	0.19	0.12	0.06	0.06	0.00	0.06	0.12	0.19		
		1125	0.16	0.06	0.06	0.00	0.06	0.00	0.19	0.12		
		Average	0.13	0.11	0.05	0.09	0.05	0.03	0.16	0.17		
	SECTION 6B	1127	0.19	0.19	0.00	0.12	0.00	0.06	0.19	0.06		
		1128	0.19	0.09	0.06	0.00	0.00	0.06	0.19	0.12		
		1129	0.12	0.00	0.00	0.06	0.06	0.12	0.31	0.12		
		1130	--	--	--	--	0.12	0.00	0.12	0.12	− 1.03 %	
		1131	0.19	0.06	0.06	0.06	0.00	0.06	0.12	0.25		
		1132	0.12	0.16	0.03	0.06	0.06	0.06	0.19	0.19		
		1133	0.19	0.12	0.06	0.12	0.00	0.12	0.25	0.25		
		1134	0.12	0.12	0.06	0.06	0.00	0.00	0.31	0.38		
		1135	0.19	0.09	0.00	0.00	0.06	0.12	0.38	0.38		
		1136	0.25	0.16	0.00	0.06	0.00	0.00	0.19	0.31	600' VC	
		1137	0.25	0.12	0.06	0.06	0.00	0.06	0.31	0.25		
		Average	0.18	0.11	0.03	0.06	0.03	0.06	0.23	0.22		