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PERFORMANCE OF ORIGINAL AND RESURFACED PAVEMENTS ON THE ILLINOIS FREEWAY SYSTEM

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A Report of the Findings of:

Enhancements to Illinois Pavement Management

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16. Abstract

In previous studies, the performance of bare and resurfaced JRCP and CRCP on the Illinois freeway system was assessed by survival analyses. In this study, the 1994 data has been used to update the survival analysis of JRCP and CRCP and to carry out an initial survival analysis on the full depth asphalt sections (HMAC) of the Illinois freeway system. First and second asphalt concrete (AC) overlays were analyzed separately. Data for the survival analysis were retrieved from the Illinois Pavement Feedback System (IPFS) database.

The Illinois freeway system consists of over 2000 centerline miles of heavily trafficked multiple-lane pavements which were constructed largely between 1957 and 1994. As of 1994, about 32 percent of these pavements had been overlaid once with asphalt concrete (AC) ranging in thickness from 1.5 to 7.0 inches. About 26 percent of these have been overlaid for the second time with asphalt concrete ranging in thickness from 1.5 to 7 inches.

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DISCLAIMER

PERFORMANCE OF ORIGINAL AND RESURFACED PAVEMENTS ON THE ILLINOIS FREEWAY SYSTEM

INTRODUCTION

The Illinois freeway system consists of over 2000 centerline miles of heavily trafficked multiple-lane pavements which were constructed largely between 1957 and 1994. About one third of these pavements were originally constructed as 10-in, 100-ft jointed reinforced concrete pavement (JRCP), and about two thirds were originally constructed as continuously reinforced concrete pavement (CRCP) ranging in thickness from 7 to 13 inches. Several sections of full-depth hot mixed asphalt concrete (HMAC) were also constructed in the past 15 years.

As of 1994, about 32 percent of these pavements had been overlaid once with asphalt concrete (AC) ranging in thickness from 1.5 to 7.0 inches. About 26 percent of these have been overlaid for the second time with asphalt concrete ranging in thickness from 1.5 to 7 inches. The actual survival database used is given in Appendix F.

Heavy truck traffic loadings on the Illinois freeway system have been far greater than anticipated more than thirty years ago. A recent traffic loading evaluation showed that, in 1986 18-kip equivalent single-axle loads (ESALs) on Illinois interstates averaged 1.2 million per year in one direction in the outer traffic lane, and ranged from 300,000 per year to 7 million per year. [2]

In previous studies, the performance of bare and overlaid JRCP and CRCP on the Illinois interstate system was assessed by survival analyses [3, 4, 5]. A later study was conducted to reflect the performance of bare and overlaid interstate pavements through 1991. [14] In this study, the 1994 data has been used to update the survival analysis of JRCP and CRCP and to carry out a initial survival analysis on the full depth asphalt sections (HMAC) of the Illinois freeway system. Data for the survival analysis were retrieved from the Illinois Pavement Feedback System (IPFS) database. Both in-service life and accumulated ESALs at rehabilitation were estimated for each bare pavement type, and for overlays in categories by thickness (thin and thick) and overlaid pavement type (JRCP, CRCP, and HMAC). For the concrete pavements, separate survival estimates were also obtained for pavements with and without D cracking within each bare pavement and overlaid pavement category.

DESCRIPTION OF SURVIVAL DATABASE

Development of the Survival Database

The development of the database used in the 1994 survival analysis is briefly described in this section. A detailed description of its development is given in Appendix E. The survival database is given in Appendix F.

Data retrieved for each pavement section from the IPFS database included the route number, direction, beginning and ending mileposts, pavement type, D cracking indicator,

original pavement thickness, year of construction, and overlay thicknesses and years of construction.

Annual ESALs for each year from construction (or 1960 if the pavement was built before that date) to 1994 were also retrieved from the IPFS database for each section. The method used to calculate ESALs is described in Reference 2. Accumulated ESALs from construction to first overlay (or 1994, for sections without overlays) were used in the survival analysis of bare pavements. Accumulated ESALs from first overlay to second overlay (or 1994) and from the second overlay to the third (or 1994) were used in the survival analysis of the first and second AC overlays, respectively.

The ESALs used in the survival analysis, including the analysis of AC overlays, were derived from load equivalency factors for Portland Cement Concrete (PCC) pavements. Since no AC-overlaid PCC (AC/PCC) pavements were studied at the AASHO Road Test, strictly speaking there are no load equivalency factors available for calculating ESALs for AC/PCC pavements. The 1993 AASHTO Guide recommends the use of rigid pavement load equivalency factors for design of AC/PCC pavements. [7] Rigid pavement load equivalency factors were considered more appropriate for use in this analysis than flexible pavement load equivalency factors. For the HMAC pavements the ESALs were computed by using the flexible pavement load equivalency factors.

The age of each section when overlaid or in 1994 was computed by subtracting the year of original construction from the first overlay year or 1994. The age of each first overlay of the pavement when overlaid for the second time was computed by subtracting the first overlay year from the second overlay year. The age of each second overlay of the pavement when overlaid for the third time was computed by subtracting the second overlay year from the third overlay year. If the second (or third) overlay has not been put yet, age was computed by subtracting the first (or second) overlay year from 1994.

The D cracking data used in this analysis was taken from the 1994 distress survey data in the IPFS database.

Sections were excluded from the survival analysis if essential information about their original construction, overlays, D cracking status, or past traffic were not available or were questionable. The sections which were excluded from the analysis are indicated in Appendix F. A pavement section typically ranges from 1 to 10 miles and represents a consistent design and construction contract for one direction.

Sections Used in Survival Analyses

The numbers of sections used in the bare pavement survival analysis are shown in Figure 1. The number of sections that were overlaid for one time and used in the first overlay survival analysis are shown in Figure 2. The number of sections that were overlaid twice and used in the second overlay survival analysis are shown in Figure 3 These numbers do not include sections in the database which were excluded from the survival analysis due to incomplete data.

AC overlays were classified as either "thin" (less than 4 inches) or "thick" (4 inches or

more). The means and ranges of thin and thick first and second overlays are given in Tables 1 and 2.

Table 1. Mean and range of first AC overlay thicknesses.

Original pavement	JRCP			CRCP			HMAC		
Overlay category	Mean (in)	Min (in)	Max (in)	Mean (in)	Min (in)	Max (in)	Mean (in)	Min (in)	Max (in)
THIN	3.1	2.5	3.88	3.14	1.5	3.75	2.4	1.5	3
THICK	4.75	4.0	6	4.82	4.0	6.13	6.8	6	7

Table 2. Mean and range of second AC overlay thicknesses.

Original pavement	JRCP			CRCP			HMAC		
Overlay category	Mean (in)	Min (in)	Max (in)	Mean (in)	Min (in)	Max (in)	Mean (in)	Min (in)	Max (in)
THIN	2.76	1.5	3.62	2.9	1.5	3.25	2.58	2.25	3.25
THICK	5.32	4.0	6.13	4.9	4.75	5.0	7.0	7.0	7.0

DESCRIPTION OF SURVIVAL ANALYSIS

Survival analysis is a statistical method for determining the distribution of lives, as well as the "life expectancy," or mean life, of subjects in an experiment. The "life expectancy," or mean life was computed considering all sections in the database (failed and non-failed). This analysis method, which is widely used in scientific and actuarial research, is more appropriate than simple computation of an average life of failed sections when not all subjects (sections) in the experiment have yet reached the end of their life. (In statistical terms, the latter are termed "right-censored observations.") It is described in greater detail in References 11, 12, and 13.

Survival curves were generated for each bare pavement category based on both age and cumulative 18-kip ESALs in the outer traffic lane. "Failure" of a bare pavement section was defined as placement of a first overlay. It should be mentioned that when a pavement is overlaid, factors that are unrelated to the actual pavement condition (political, monetary, etc.) are considered. For example, many pavements are maintained for many years in a "poor" condition while funds are arranged for overlays.

For first overlays, survival curves were generated for each overlaid pavement category based on both age and cumulative 18-kip ESALs in the outer traffic lane. For second overlay, survival curves were generated for each overlaid pavement category based on both age and cumulative 18-kip ESALs in the outer traffic lane. "Failure" of a pavement section that was overlaid once was defined as placement of a second overlay. "Failure" of a pavement section that was overlaid twice was defined as placement of a third overlay. AC overlays are generally placed only after a pavement has reached a "poor" condition in terms of roughness, distress, and large maintenance requirements.

The results of the survival analysis for each pavement and overlay type were illustrated by charts (age and ESAL distributions and survival curves). The points for the survival curves were obtained using the LIFETEST procedure available in the PC SAS software. The percent failure for a given age or ESAL is equal to the probability that a given section will fail when it reaches that age or ESAL.

As Figure 1 illustrates, the bare pavement types with the largest proportions of failed sections are 10-in JRCP, 7-in CRCP, and 8-in CRCP. It is reasonable to expect that the survival analyses of these pavement types will yield more accurate results than the analyses of the pavement types with relatively few sections failed (9-in CRCP, 10-in CRCP or greater and HMAC). Figures 2 and 3 illustrate that the same is true for the pavement types that were overlaid for the first time and second time: larger proportions of thick overlays of JRCP and CRCP have failed than thin overlays of JRCP and CRCP. It should be mentioned that thin overlays were put over pavements in much better condition than those requiring a thick overlay. Thus, thick overlays did worse because of the poor condition of the original pavement.

These bare and overlaid pavement survival analyses were conducted with the IPFS database, which identifies a total of 1468 pavement sections. In a previous survival analysis, Reference 14, the IPFS database was identified to include a total of 1263 sections. This is due to changing some milepost limits (such as for I-72) and adding sections from Route 6 and Route 20 to the database.

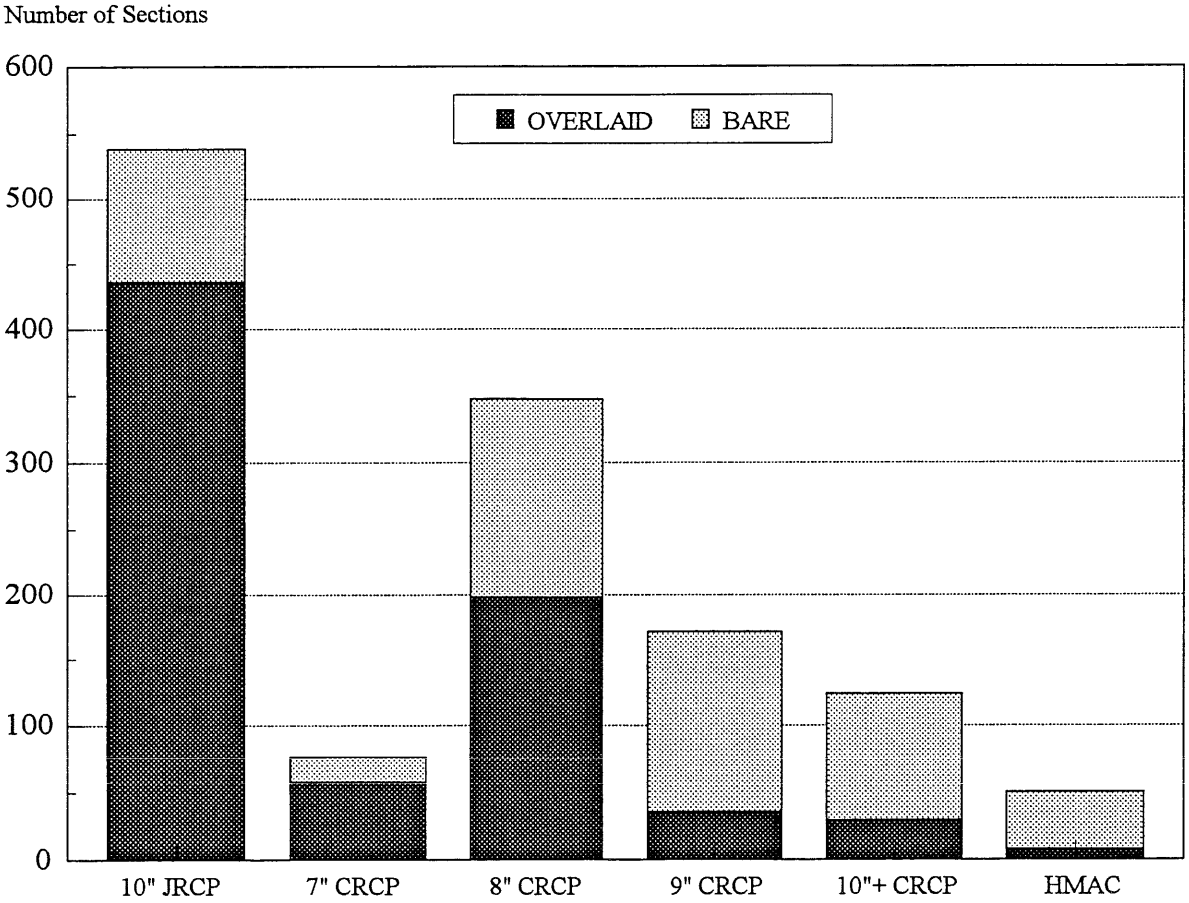

Figure 1. Number of sections used in bare pavement survival analysis.

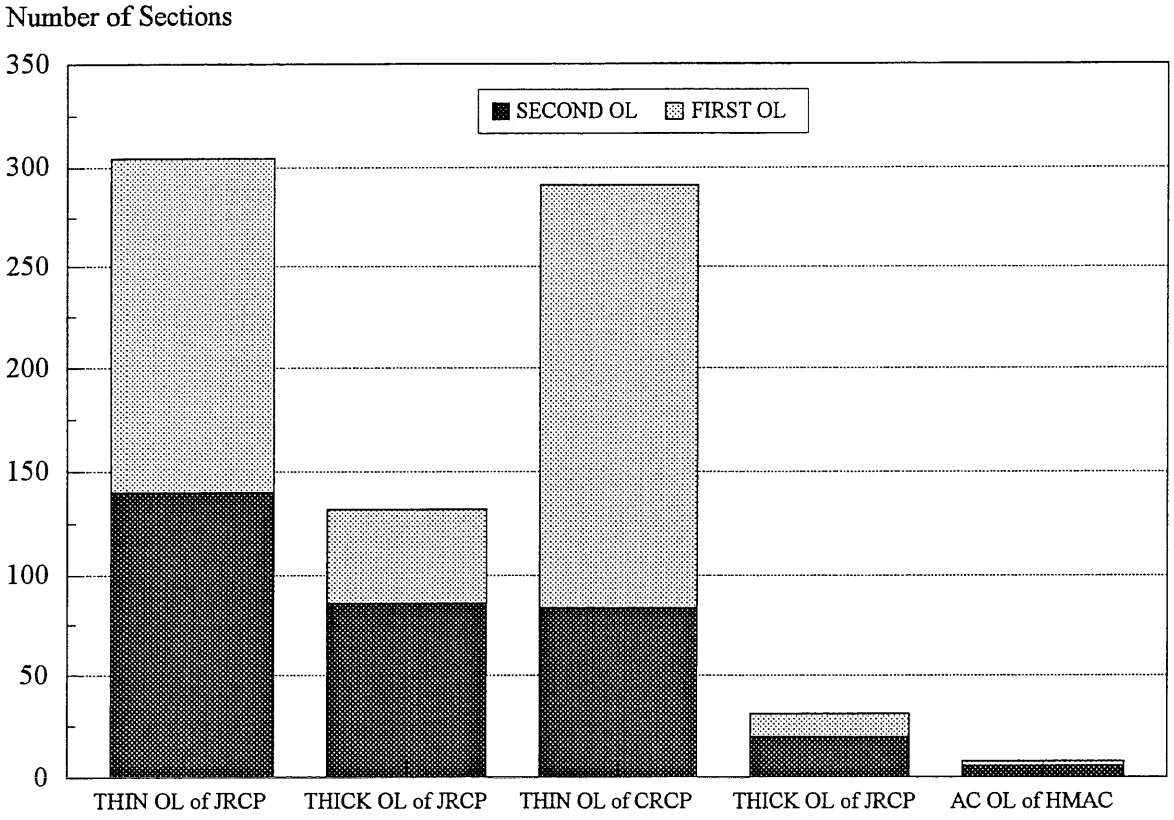

Figure 2. Number of sections used in first overlay survival analysis.

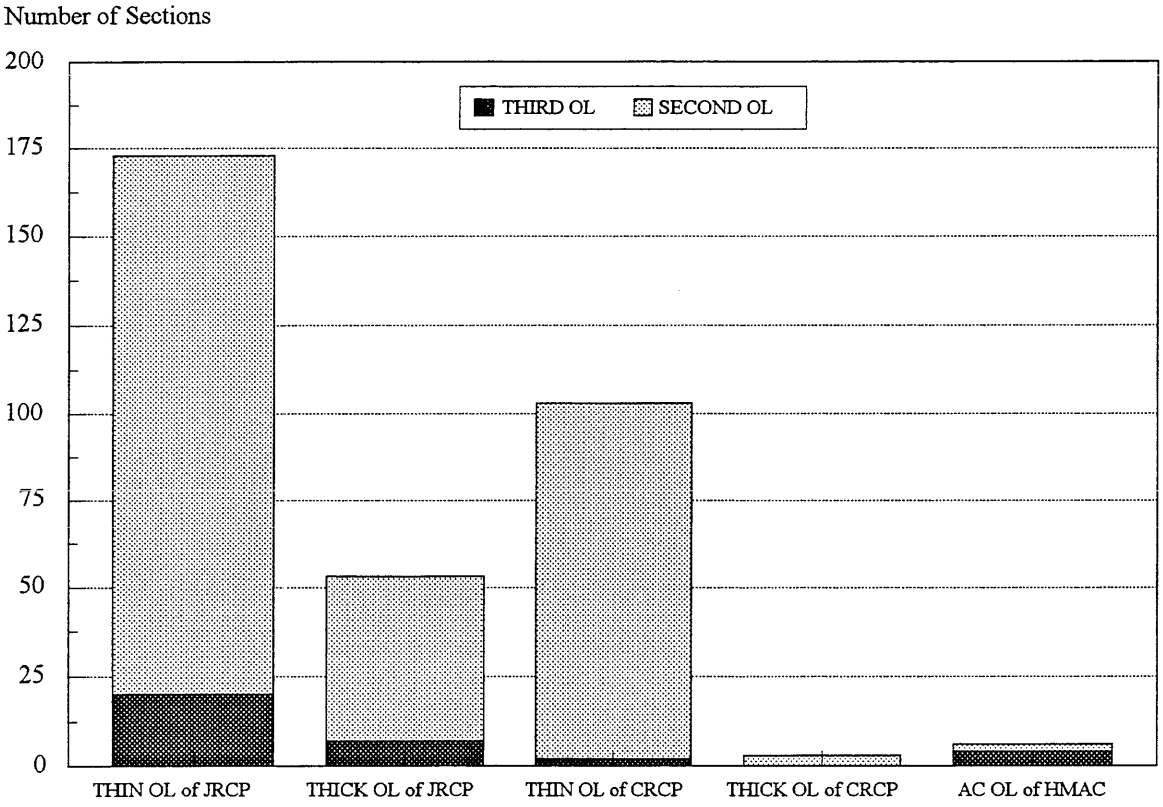

Figure 3. Number of sections used in second overlay survival analysis.

SURVIVAL ANALYSIS OF BARE PAVEMENTS

Six pavement designs were analyzed in the bare pavement survival analysis: 10-in JRCP; CRCP of 7, 8, 9 and 10-in or more thickness; and HMAC pavements. The results of the survival analysis for each pavement type are illustrated by the charts listed below, which are provided in Appendix A. Since both aging and traffic loads cause pavement deterioration, both must be considered to assess the performance of any given pavement type.

Age distributions: The number of sections failed (overlaid) and not failed (bare), broken down by age. For concrete pavements, the distributions for sections without D cracking and sections with D cracking are shown separately.

ESAL distributions: The number of sections failed (overlaid) and not failed (bare), broken down by cumulative ESALs. Actual ESALs have been grouped into classes by millions of ESALs. For concrete pavements, the distributions for sections without D cracking and sections with D cracking are shown separately.

Age survival curves: The survival analysis results with respect to age. For concrete pavements, survival curves for sections with D cracking and sections without D cracking are shown separately.

ESAL survival curves: The survival analysis results with respect to cumulative ESALs. For concrete pavements, survival curves for sections with D cracking and sections without D cracking are shown separately.

The mean life and ESALs computed for each pavement type (considering all failed and non-failed sections), as well as the 25^{th}, 50^{th}, and 75^{th} percentiles of the age and ESAL survival distributions are summarized in Table 3. For concrete pavements, the results shown for both D-cracked and non-D-cracked pavements are not the averaged results of the analyses of the two categories, but the results of a separate analysis.

Performance of 10-in JRCP

The mean life computed for 10-in JRCP sections was 24.1 years (for all sections, with and without D cracking), and the mean cumulative ESALs computed was 16.6 million. These pavement sections were designed to carry 4.8 million ESALs over a period of 20 years. Thus, these pavements have actually carried, on average, 3.5 times their design truck traffic to failure, over a time period 21 percent longer than their design life.

10-in JRCP sections without D cracking have about the same mean life as sections with D cracking when measured by age (24.1 versus 24 years). One reason for this could be that short sections without D cracking were overlaid with adjacent sections even though they were not in a deteriorated condition. Sections without D cracking carried about 37 percent more truck traffic to failure than sections with D cracking (18.4 versus 13.4 million ESALs). The ratio of actual ESALs to design ESALs is 3.8 for 10-in JRCP without D cracking and 2.8 for 10-in JRCP with D cracking.

Performance of 7-in CRCP

The mean life computed for 7-in CRCP sections was 20.6 years (for all sections, with and without D cracking), and the mean cumulative ESALs computed was 14.8 million. These pavement sections were designed to carry 2.1 million ESALs over a period of 20 years. Thus, these pavements have actually carried, on average, 7 times their design truck traffic to failure, over a time period nearly equal to their design life.

7-in CRCP sections without D cracking have a mean life about 33 percent higher than sections with D cracking when measured by age (24.7 versus 18.6 years). Sections without D cracking also carried 3.3 times more truck traffic to failure than sections with D cracking (30 versus 9.2 million ESALs). The ratio of actual ESALs to design ESALs is 14.3 for 7-in CRCP without D cracking and 4.4 for 7-in CRCP with D cracking.

Performance of 8-in CRCP

The mean life computed for 8-in CRCP sections was 21.4 years (for all sections, with and without D cracking), and the mean cumulative ESALs computed was 15.6 million. These pavement sections were designed to carry 4.8 million ESALs over a period of 20 years. Thus, these pavements have actually carried, on average, 3.3 times their design truck traffic to failure, over a time period over roughly the same time period as their design life.

8-in CRCP sections without D cracking have a mean life about 14 percent higher than sections with D cracking when measured by age (23.4 versus 20.5 years). Sections without D cracking carried nearly 76 percent more truck traffic than sections with D cracking (25 versus 14.2 million ESALs). The ratio of actual ESALs to design ESALs is 5.2 for 8-in CRCP without D cracking and 3 for 8-in JRCP with D cracking.

Performance of 9-in CRCP

The mean life computed for 9-in CRCP sections was 26.3 years (for all sections, with and without D cracking), and the mean cumulative ESALs computed was 28.5 million. These pavement sections were designed to carry 10.0 million ESALs over a period of 20 years. Thus, these pavements have actually carried, on average, 2.9 times their design truck traffic to failure, over a time period 32 percent longer than their design life.

9-in CRCP sections without D cracking have a mean life about 56 percent higher than sections with D cracking when measured by age (28.9 versus 18.5 years). Sections without D cracking also carried nearly 93 percent more truck traffic than sections with D cracking (34 versus 17.6 million ESALs). The ratio of actual ESALs to design ESALs is 3.4 for 9-in CRCP without D cracking and 1.8 for 9-in JRCP with D cracking.

Performance of 10-in or more CRCP

The mean life computed for 10-in or more CRCP sections was about 22 years, and the mean cumulative ESALs computed was 39.1 million. These pavement sections were designed to carry 21.0 million ESALs over a period of 20 years. Thus, these pavements have actually

carried, on average, 1.86 times their design truck traffic to failure, over a time period 10 percent longer than their design life.

The mean life and mean cumulative ESALs computed for 10-in or more CRCP apply only to sections without D cracking. No 10-in or more CRCP sections with D cracking were used in the survival analysis.

Performance of HMAC

The mean life computed for HMAC sections was 15.5 years, and the mean cumulative ESALs computed was 5.9 million. Since few HMAC sections were included in the analysis (50) and a small percentage of them have yet failed (only 16), the above observations concerning their survival should be considered tentative. These values will likely be changed over time as these pavements age.

It should be mentioned that in 1984 there was a major change in mix design and a majority of full depth pavements were constructed after 1986 of which no overlay have been placed on these sections as of this date.

Comparative Survival of Pavement Types

The age and ESAL survival curves for all six bare pavement designs are shown in Figures 4 and 5. The 10-in JRCP, 7-in CRCP, and 8-in CRCP, show fairly similar survival with respect to age. The survival of 7-in CRCP is somewhat worse, as one would expect, and the survival of 9-in CRCP and 10"-in or more CRCP are apparently much better. 10-in or more CRCP does not appear to exhibit much greater survival with respect to age than thinner CRCP types or 10-in JRCP, but it exhibits much greater survival in terms of ESALs (traffic loads carried).

The ESAL survival curves provide a clearer comparison of the survival of the different pavement types. The 1991 survival analysis, Reference 14, indicates that there was very similar performance of 10-in JRCP and 8-in CRCP with respect to ESALs. These two pavement types were considered equivalent by IDOT and were designed for the same truck traffic level (4.8 million ESALs). As can be seen from figure 5, the results of this analysis (based on 1994 database) support the same conclusion regarding the performance of 10-in JRCP and 8-in CRCP with respect to ESALs. Thus, the common assumption that CRCP will perform the same as JRCP when it is of equal thickness is not supported by this large amount of performance data since the 10-in CRCP actually has carried 2.1 times the ESALs that the 10-in JRCP has carried.

The survival of 7-in CRCP is worse than that of 8-in CRCP with respect to ESALs, which again is as one would expect, and the survival of 9-in CRCP is greater. The survival of 10-in or more CRCP with respect to ESALs is much greater than for any other pavement type.

These comparisons of the survival curves of the different pavement types illustrate the beneficial effect of increased slab thickness on pavement life. However, caution is advised in equating "survival" with "performance." If performance is defined by ESALs carried, then the

best-performing pavement type is 10-in or more CRCP. If performance is defined in terms of life in years, 9-in CRCP might be judged the best performers. If performance is defined in terms of the ratio of actual traffic carried to design traffic, the best performance was exhibited by 7-in CRCP.

Table 3. Survival analysis summary for original pavement sections.

PAVEMENT TYPE	D CRACK	MEAN LIFE* (years)	PERCENTILES OF AGE SURVIVAL DISTRIBUTION (year) 25th	50th	75th	MEAN ESAL (millions)	PERCENTILES OF ESAL SURVIVAL DISTRIBUTION (millions) 25th	50th	75th	NUMBER of SECTIONS	PERCENT FAILED
10" JRCP	no	24.1	14.9	23.3	32.7	18.4	8.6	12.8	24.4	330	74.5
	yes	24.0	19.6	23.0	26.9	13.4	10.6	12.6	15.0	208	91.3
	both	24.1	18.5	23.2	29.0	16.6	8.9	12.9	19.0	538	81.0
7" CRCP	no	24.7	21.2	26.2	---	30.0	11.0	12.0	---	20	50.0
	yes	18.6	14.5	15.5	20.2	9.2	4.5	6.2	12.0	56	85.7
	both	20.6	15.0	18.8	24.0	14.8	5.7	8.9	13.8	76	76.3
8" CRCR	no	23.4	20.0	22.5	27.0	25.0	11.0	15.5	---	94	43.6
	yes	20.5	16.2	19.8	22.9	14.2	8.5	12.9	19.0	253	62.1
	both	21.4	17.1	21.1	24.0	15.6	9.2	13.8	19.8	347	57.1
9" CRCP	no	28.9	---	---	---	34.0	---	---	---	110	6.4
	yes	18.6	14.5	15.8	20.6	17.6	15.1	18.2	18.6	61	47.5
	both	26.3	21.2	---	---	28.5	19.2	---	---	171	21.1
10"+ CRCP	no	21.9	18.2	18.9	20.0	39.1	24.0	29.5	40.9	124	23.4
	yes	---	---	---	---	---	---	---	---	0	0.0
	both	21.9	18.2	18.8	20.0	39.1	24.0	29.5	40.9	124	23.4
HMAC	all	15.5	13.0	13.8	19.1	5.9	3.8	5.3	5.7	50	16

* of all failed and non-failed sections.

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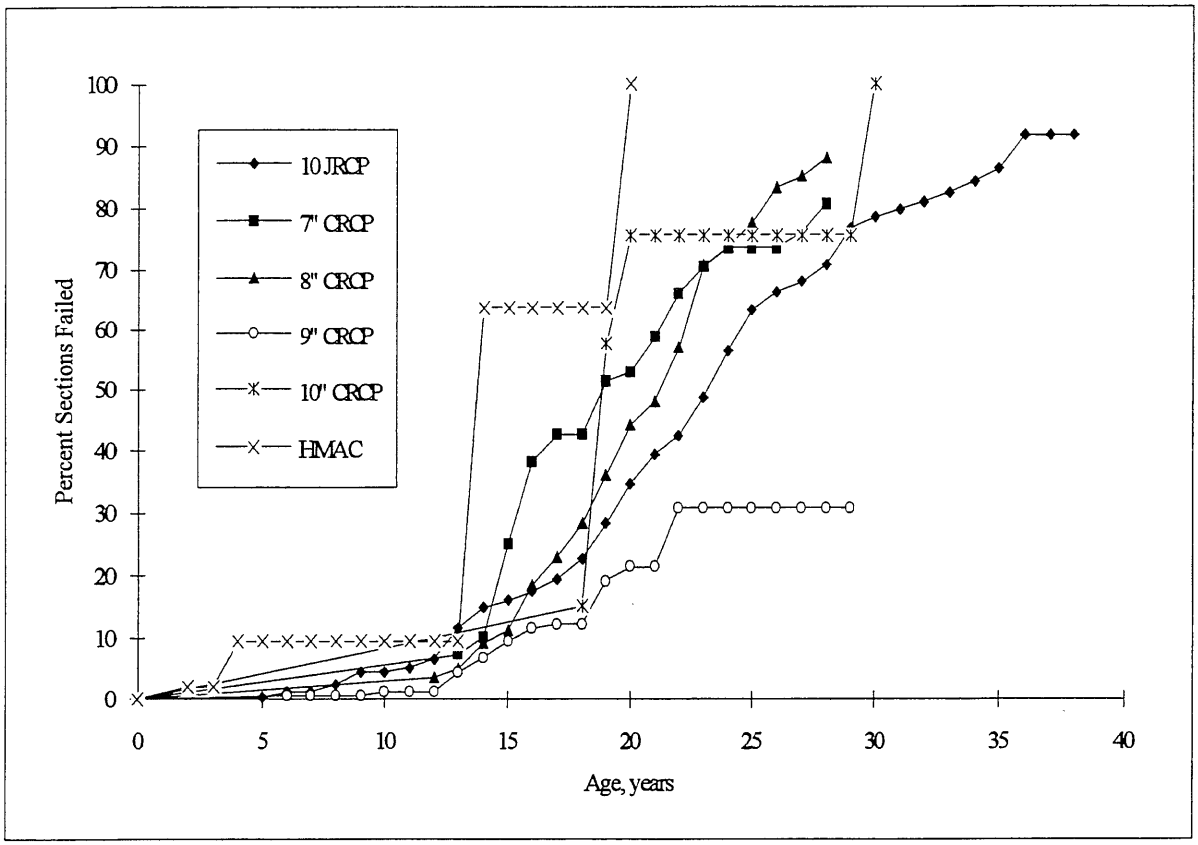

Figure 4. Age survival curves for all bare pavement types.

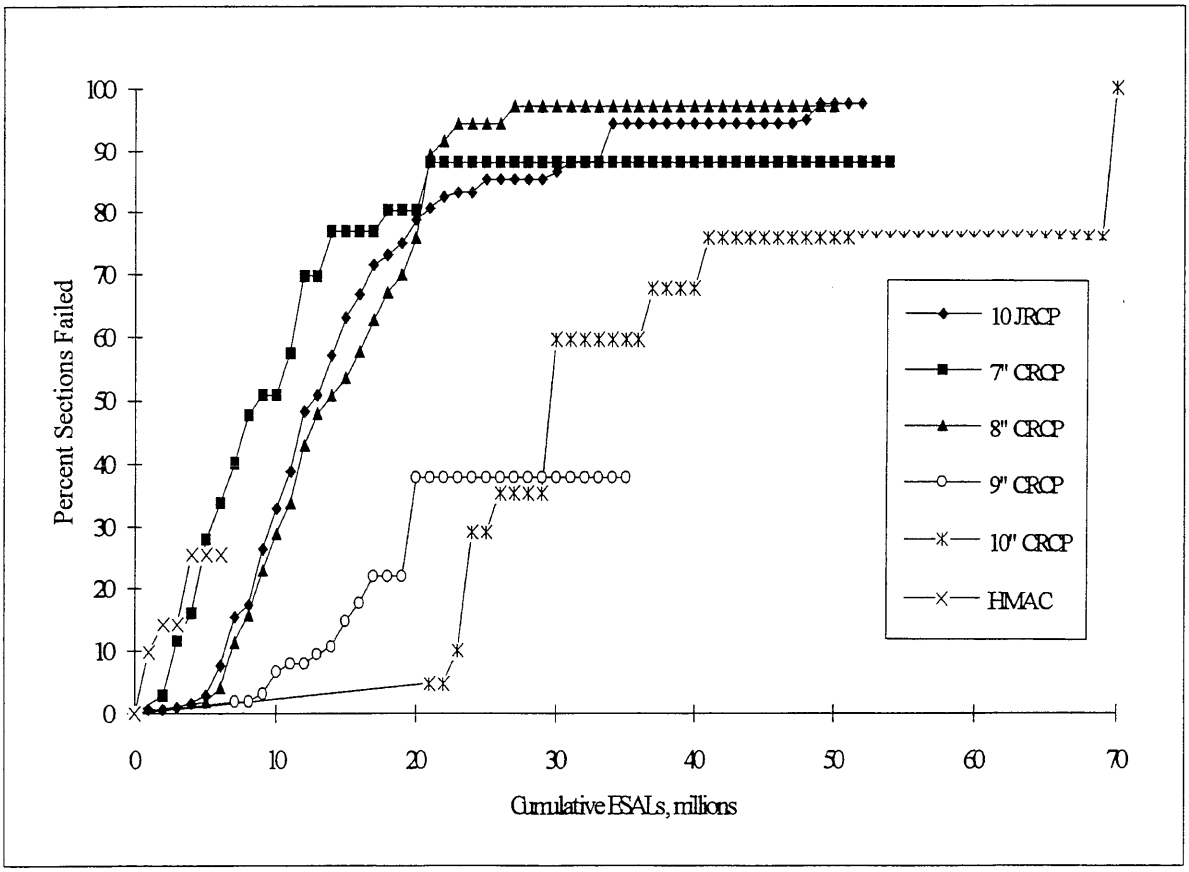

Figure 5. ESAL survival curves for all bare pavement types.

SURVIVAL ANALYSIS OF FIRST AC OVERLAYS

Six overlay/pavement combinations were analyzed in the overlay survival analysis: thin AC overlays of JRCP, thick AC overlays of JRCP, thin AC overlays of CRCP, thick overlays of CRCP, thin AC overlay of HMAC, thick AC overlay of HMAC. For concrete pavements, within each category, sections without D cracking and sections with D cracking were analyzed separately and together. Thin overlays were defined as those less than 4 inches, and thick overlays were defined as those 4 inches or more. The results of the survival analysis for each category are illustrated by the charts listed below, which are provided in Appendix B.

Age distributions: The number of sections failed (overlaid twice) and not failed (overlaid once), broken down by age. For concrete pavements, the distributions for sections without D cracking and sections with D cracking are shown separately.

ESAL distributions: The number of sections failed and not failed, broken down by cumulative ESALs. Actual ESALs have been grouped into classes by millions of ESALs. For concrete pavements, the distributions for sections without D cracking and sections with D cracking are shown separately.

Age survival curves: The survival analysis results with respect to age. For concrete pavements, survival curves for sections with D cracking and sections without D cracking are shown separately.

ESAL survival curves: The survival analysis results with respect to cumulative ESALs. For concrete pavements, survival curves for sections with D cracking and sections without D cracking are shown separately.

The mean life and ESALs computed for each category (considering all failed and non-failed sections), as well as the 25^{th}, 50^{th}, and 75^{th} percentiles of the age and ESAL survival distributions, are summarized in Table 4. For concrete pavements, the results shown for both D-cracked and non-D-cracked pavements are not the averaged results of the analyses of the two categories, but the results of a separate analysis.

Performance of Thin AC Overlays of JRCP

The mean life computed for thin AC overlays of JRCP sections was 14.9 years (for all sections, with and without D cracking), and the mean truck traffic to failure was 22.5 million ESALs. Sections without D cracking lasted nearly 48 percent longer (16.3 versus 11 years) and carried about 98 percent more truck traffic to failure (25.6 versus 12.9 million ESALs).

Table 4. Survival analysis summary for first AC overlays.

OVERLAY / PAVEMENT TYPE	D CRACK	MEAN LIFE* (years)	PERCENTILES OF AGE SURVIVAL DISTRIBUTION (year)			MEAN ESAL (millions)	PERCENTILES OF ESAL SURVIVAL DISTRIBUTION (millions)			NUMBER of SECTIONS	PERCENT FAILED
			25th	50th	75th		25th	50th	75th		
Thin OL / JRCP	no	16.3	12.3	15.9	18.8	25.6	19.3	20.5	22.7	175	54.9
	yes	11.0	8.3	11.8	---	12.9	9.9	12.2	13.7	129	34.1
	both	14.9	10.4	15.3	18.7	22.5	12.8	20.0	22.1	304	46.0
Thick OL / JRCP	no	16.5	12.0	16.0	19.7	28.9	17.0	24.5	37.0	71	59.2
	yes	13.4	10.0	11.0	13.0	14.2	10.5	12.5	16.0	61	72.1
	both	14.5	10.6	12.9	18.1	23.0	11.5	17.0	34.5	132	65.2
Thin OL / CRCP	no	12.3	12.0	12.3	12.9	33.9	18.5	35.0	38.0	79	38.0
	yes	10.7	8.0	10.7	13.1	13.2	7.0	14.0	18.0	212	25.5
	both	11.1	8.5	12.2	13.0	25.3	10.1	19.2	35.0	291	28.9
Thick OL / CRCP	no	15.6	15.2	15.5	15.9	16.9	14.5	---	---	8	37.5
	yes	13.4	10.5	11.0	12.5	9.7	8.2	9.2	10.4	23	73.9
	both	12.4	7.5	13.5	14.5	11.7	8.6	9.5	12.8	31	64.5
Thin HMAC**	all	16.5	5.0	11.0	19.5	13.5	4.5	12.9	13.5	4	50.0
Thick HMAC**	all	14.7	4.5	10.3	14.1	8.0	1.0	3.0	4.8	4	100

* of all failed and non-failed sections.

** Results are tentative since there are few sections in this category.

--- : Not available

These results indicate performance of thin AC overlays of JRCP similar to that reported in a previous study based on 1991 database [14]. However, they indicate better performance of thin AC overlays of JRCP than that reported in a previous study based on 1987 database [5]. The results of the three studies follow.

Mean life of thin AC overlays of JRCP calculated in previous and current studies:

	1987	1991	1994
Mean Life, years			
Without D cracking	11.9	16.3	16.3
With D cracking	7.3	12.7	11.0
Mean ESAL, millions			
Without D cracking	18.4	20.3	25.6
With D cracking	6.3	11.2	12.9

However, it should be mentioned that the overlay survival analysis in the two previous studies did not separate overlays into first and second, but the current one does.

Performance of Thick AC Overlays of JRCP

The mean life computed for thick AC overlays of JRCP sections was 14.5 years (for all sections, with and without D cracking), and the mean truck traffic to failure was 23 million ESALs. Sections with D cracking failed 23 percent sooner, on average, than sections without D cracking (13.4 versus 16.5 years), and carried only 50 percent of truck traffic to failure as sections without D cracking (14.2 versus 28.9 million ESALs).

These results indicate performance of thick AC overlays of JRCP without D cracking in terms of age is similar to that reported in a previous studies based on 1987 and 1991 databases. [5, 14]. With respect to ESAL, the current results show poorer performance than the two previous studies. This might be due to analyzing the first and second overlays in this study separately (see tables 4 and 5). The results of the three studies follow.

Mean life of thick AC overlays of JRCP calculated in previous and current studies:

	1987	1991	1994
Mean Life, years			
Without D cracking	16.4	15.6	16.5
With D cracking	14.5	18.1	13.4
Mean ESAL, millions			
Without D cracking	45.4	46.6	28.9
With D cracking	14.7	16.8	14.2

According to the 1994 survival analysis update, thick overlays and thin overlays last for about the same period of time on JRCP without D cracking, (16.5 versus 16.3 years) but thick overlays carry about 13 percent more of truck traffic to failure (28.9 versus 25.6 million ESALs). On D-cracked JRCP, thick AC overlays last about 22 percent longer than thin

overlays (13.4 versus 11 years) and carry about 10 percent more truck traffic to failure (14.2 versus 12.9 million ESALs).

The survival analysis results indicate that thick AC overlays are likely to perform very well on JRCP without D cracking, and might be particularly well suited to routes with high truck traffic volumes. On JRCP with D cracking, thick overlays are capable of carrying more than the expected 10 million ESALs over 15 years, but may not perform well under high truck traffic volumes.

Performance of Thin AC Overlays of CRCP

The mean life computed for thin AC overlays of CRCP sections was 11.1 years (for all sections, with and without D cracking), and the mean cumulative ESALs was 25.3 million ESALs. Sections without D cracking lasted about 15 percent longer than sections with D cracking (12.3 versus 10.7 years), and carried nearly 2.6 times the truck traffic to failure (33.9 versus 13.2 million ESALs).

Both categories of thin AC overlays of CRCP (without D cracking and with D cracking) had a mean life of more than 10 years.

Performance of Thick AC Overlays of CRCP

The mean life computed for thick AC overlays of CRCP sections was 12.4 years, and the mean truck traffic to failure was 11.7 million ESALs. There are few pavement sections in this category, so the mean age and ESALs are not particularly accurate statistics. The age and ESAL distributions shown in Appendix B illustrate how difficult is to draw conclusions at this time from a survival analysis concerning the performance of thick overlays of CRCP.

Performance of Thin and Thick AC Overlays of HMAC

The mean life computed for thin AC overlays of HMAC sections was 16.5 years, and the mean truck traffic to failure was 13.5 million ESALs. The mean life computed for thick AC overlays of HMAC sections was 14.7 years, and the mean truck traffic to failure was 8 million ESALs. There are few pavement sections in this category (only 4), so the mean age and ESALs are not particularly accurate statistics. It is emphasized again that it is difficult to draw conclusions at this time from a survival analysis concerning the performance of these categories.

Comparative Survival of Overlay Types

The age and ESAL survival curves for all four AC overlay of concrete pavements categories are shown in Figures 6 and 7. No survival curves for AC overlays of HMAC pavements are shown since there are very few sections (only 4) in this category. In terms of age, thin and thick overlays of JRCP appear to exhibit similar survival, but in terms of ESALs, thick overlays exhibit better survival under high truck traffic volumes (that is, a much lower likelihood of failure) than thin overlays.

In terms of age, thin overlays do not appear to survive as well on CRCP as on JRCP. However, in terms of ESALs, thin overlays exhibit much better survival on CRCP than on JRCP. This is likely due to lower reflection cracking on the AC/CRCP sections.

The survival curves for thick overlays of CRCP do not appear to illustrate good performance in terms of cumulative ESAL to failure compared to thin overlays of CRCP, but it is emphasized that there are few sections in this category and not many have yet failed, so it is difficult to assess their performance.

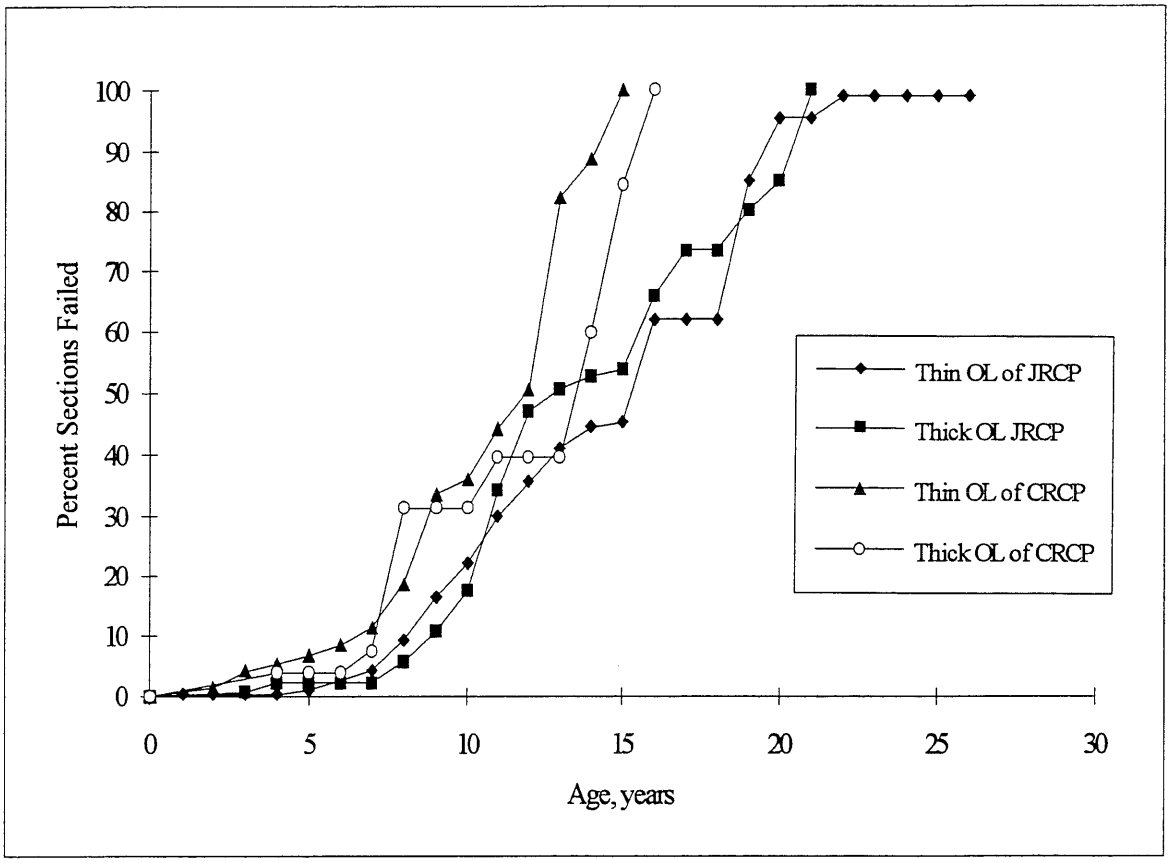

Figure 6. Age survival curves for first overlay types.

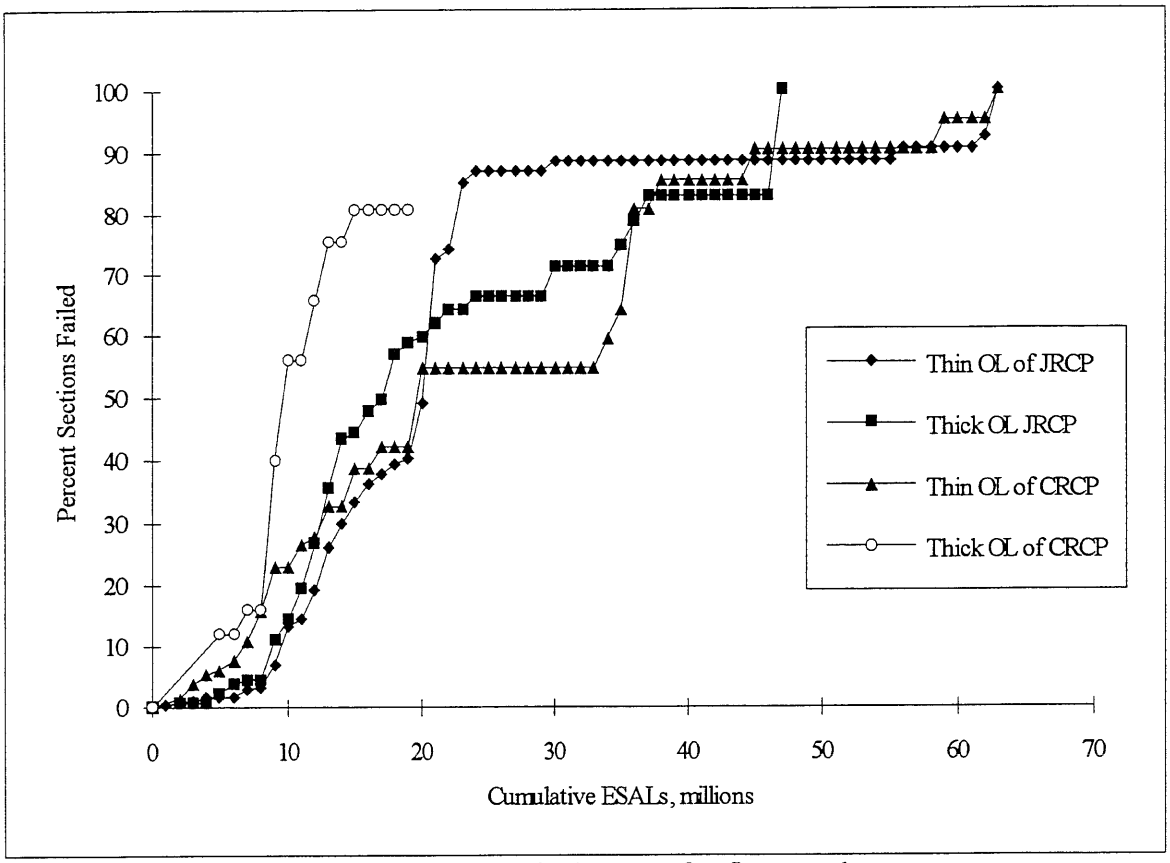

Figure 7. ESAL survival curves for first overlay types.

SURVIVAL ANALYSIS OF SECOND AC OVERLAYS

Six overlay/pavement combinations were analyzed in the second overlay survival analysis: thin AC overlays of JRCP, thick AC overlays of JRCP, thin AC overlays of CRCP, thick overlays of CRCP, thin AC overlay of HMAC, thick AC overlay of HMAC. For concrete pavements, within each category, sections without D cracking and sections with D cracking were analyzed separately and together. Thin overlays were defined as those less than 4 inches, and thick overlays were defined as those 4 inches or more. "Failure" of a second overlay was defined as placement of a third overlay. The results of the survival analysis are provided in Appendix C.

The mean life and ESALs computed for each category, as well as the 25^{th}, 50^{th}, and 75^{th} percentiles of the age and ESAL survival distributions, are summarized in Table 5. For concrete pavements, the results shown for both D-cracked and non-D-cracked pavements are not the averaged results of the analyses of the two categories, but the results of a separate analysis.

Performance of Thin AC Overlays of JRCP

The mean life computed for second thin AC overlays of JRCP sections was 9.7 years (for all sections, with and without D cracking), and the mean truck traffic to failure was 42.1

million ESALs. Sections with D cracking failed sooner, on average, than sections without D cracking (7.8 versus 9.7 years), and carried only 32 percent of truck traffic to failure as sections without D cracking (13.6 versus 42.4 million ESALs). This may indicate that D cracking of JRCP has a significant effect on the performance of second overlays.

Performance of Thick AC Overlays of JRCP

The mean life computed for thick AC overlays of JRCP sections was 15.1 years (for all sections), and the mean truck traffic to failure was 47.2 million ESALs.

The mean life and mean cumulative ESALs computed for thick AC overlays of JRCP apply only to sections without D cracking. No thick AC overlay of JRCP sections with D cracking were used in the survival analysis.

Performance of Thin AC Overlays of CRCP

The mean life computed for thin AC overlays of CRCP sections was 9.2 years (for all sections, with and without D cracking), and the mean cumulative ESALs was 19 million ESALs. Sections without D cracking lasted about 22 percent longer than sections with D cracking (10 versus 8.2 years), and carried 50 percent more truck traffic to failure (20 versus 13.3 million ESALs).

Comparative Survival of Overlay Types

The age and ESAL survival curves for second overlay categories are shown in Figures 8 and 9. There are very few sections in the categories thin overlay of CRCP, thick overlay of CRCP, thin AC overlay of HMAC, thick AC overlay of HMAC and few have yet failed, so it is difficult to assess their performance. No survival curves for these categories are shown.

For both thin and thick overlays of JRCP the mean ESALs was greater than 40 millions. For thick overlays of JRCP mean life was greater than 10 years.

It should be emphasized again that it is difficult to draw any conclusions about the performance of second overlays because very few sections were included in the analysis.

Table 5. Survival analysis summary for second AC overla ys.

OVERLAY / PAVEMENT TYPE	D CRACK	MEAN LIFE* (years)	PERCENTILES OF AGE SURVIVAL DISTRIBUTION (year)			MEAN ESAL (millions)	PERCENTILES OF ESAL SURVIVAL DISTRIBUTION (millions)			NUMBER of SECTIONS	PERCENT FAILED
			25th	50th	75th		25th	50th	75th		
Thin OL / JRCP	no	9.7	8.2	8.7	10.4	42.4	10.5	56.2	56.9	85	20.0
	yes	7.8	4.8	---	---	13.6	---	---	---	88	3.4
	both	9.7	8.2	8.7	10.4	42.1	10.4	56.2	56.9	173	11.6
Thick OL / JRCP	no	15.1	14.0	14.2	14.5	47.2	46.0	46.4	46.8	53	13.2
	yes	---	---	---	---	---	---	---	---	0	0.0
	both	15.1	14.0	14.2	14.5	47.2	46.0	46.4	46.8	53	13.2
Thin OL / CRCP	no	10	---	---	---	20	---	---	---	35	0
	yes	8.2	6.8	---	---	13.3	---	---	---	68	2.9
	both	9.2	---	---	---	19	---	---	---	103	1.9
Thick OL / CRCP**	no	---	---	---	---	---	---	---	---	0	0.0
	yes	4.0	---	---	---	5.0	---	---	---	3	0.0
	both	4.0	---	---	---	5.0	---	---	---	3	0.0
Thin HMAC**	all	9.0	---	---	---	15.0	---	---	---	2	0.0
Thick HMAC**	all	7.5	1.5	4.2	6.2	6.5	0.5	4.0	4.5	4	100

* of all failed and non-failed sections.

** Results are tentative since there are few sections in this category.

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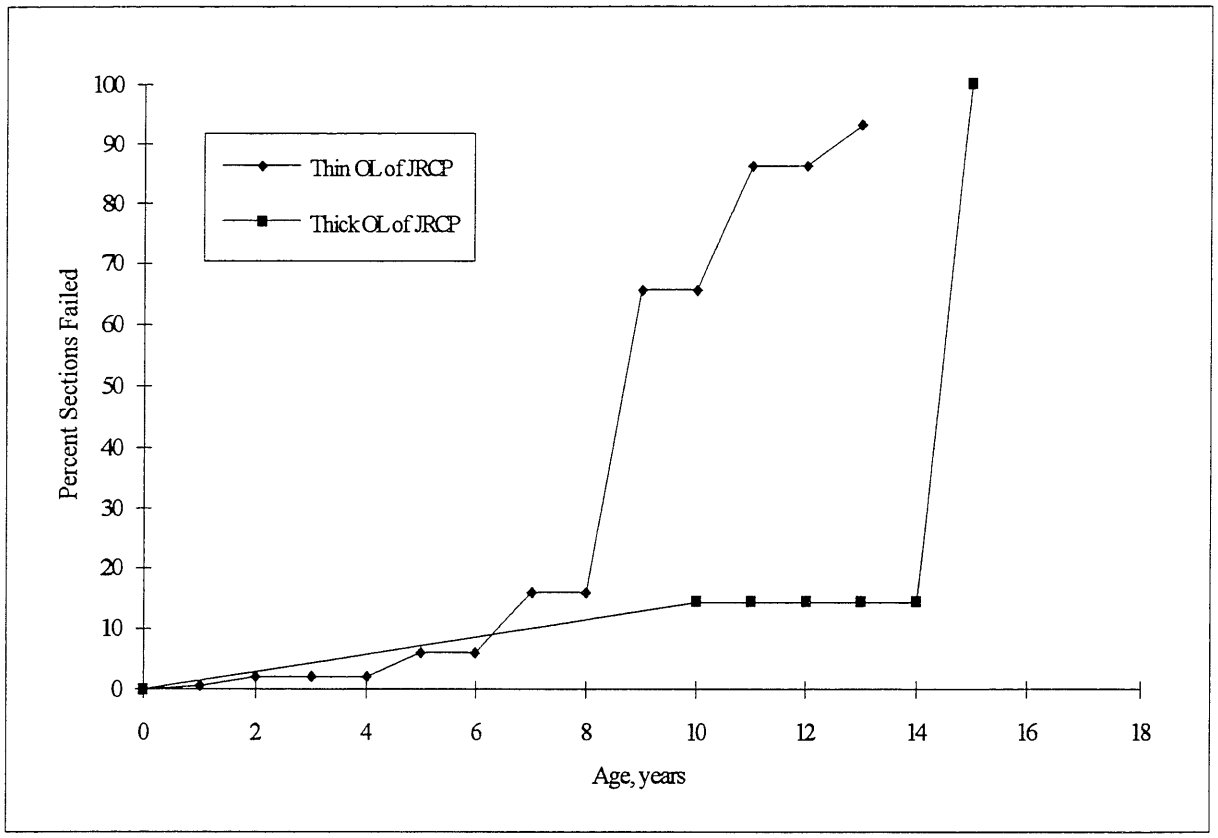

Figure 8. Age survival curve for thin AC overlays of JRCP (second overlay).

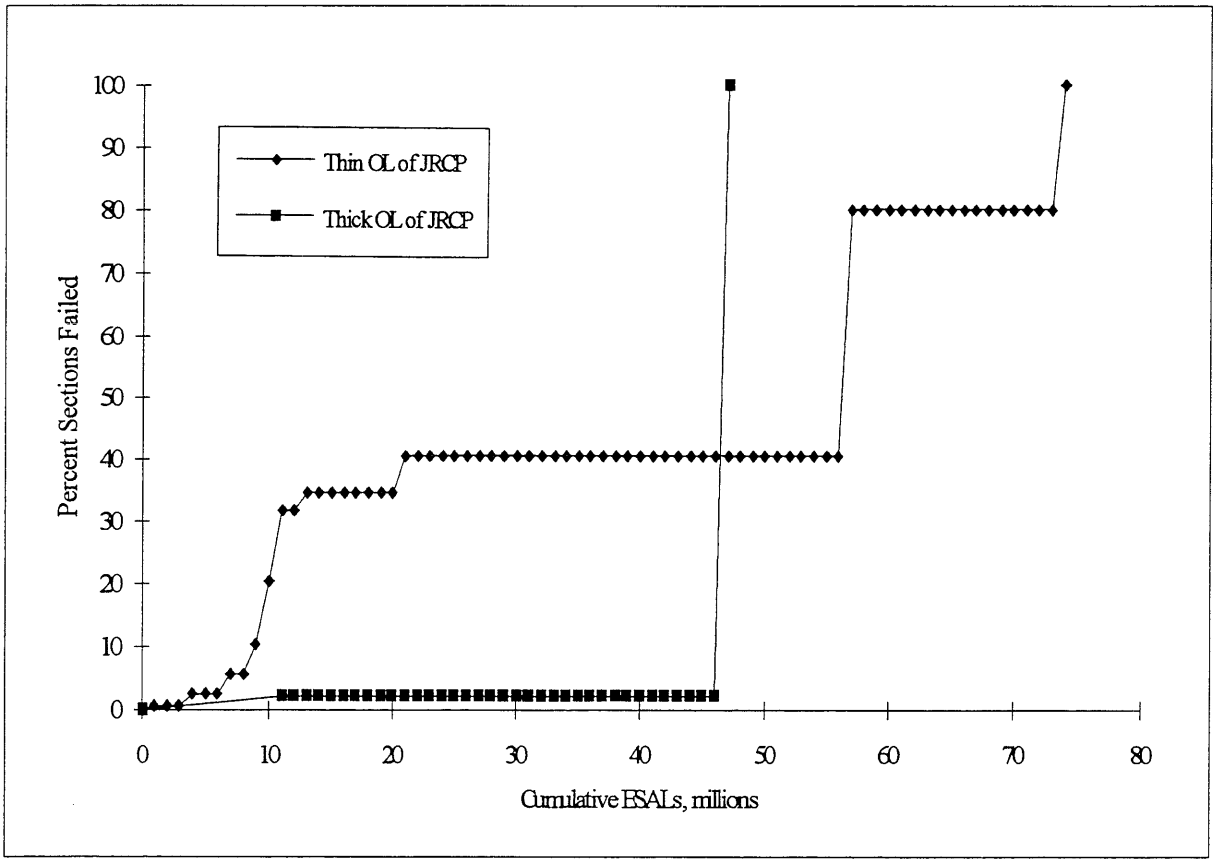

Figure 9. ESAL survival curve for thin AC overlays of JRCP (second overlay).

SURVIVAL ANALYSIS OF AC MIXTURE TYPES

Two AC overlay mixture types were analyzed in the mixture types survival analysis: Mixture D and Mixture E. Within each category, sections from first overlay and sections from second overlay were analyzed separately. Overlaid sections with unknown mixture type were not included in this analysis. "Failure" of an AC overlay was defined as placement of another one. It should be mentioned that sections were excluded from this analysis if the mixture type was not available. These sections are indicated in Appendix F. The results of the survival analysis for each category are provided in Appendix D. Survival analysis was conducted for three zones: state wide, district 1, districts 2 to 9. As can be seen from Table 6, the difference in the total number of sections and the percent failed between zones could be very high. For example, for first AC overlays with Mixture D, the total number of sections included in the state wide analysis is 329 and the percent failed is 31.3 while in district one's analysis they are 18 and 7.8, respectively. Thus, it is emphasized that no comparison among the results of the three zones should be made.

The mean life and ESALs computed for each category, as well as the 25^{th}, 50^{th}, and 75^{th} percentiles of the age and ESAL survival distributions, are summarized in Table 6.

a) State Wide:

Performance of Mixture D

The mean life computed for first AC overlay sections with Mixture D was 12.3 years (for all thicknesses, thin and thick), and the mean truck traffic to failure was 22.2 million ESALs. The mean life computed for second AC overlay sections with Mixture D was 7.7 years, and the mean truck traffic to failure was 17.8 million ESALs. Second overlay sections failed sooner, on average, than first overlay sections (7.7 versus 12.3 years) and carried about 80 percent of truck traffic to failure as first overlay sections (17.8 versus 22.2 million ESALs). However, it is emphasized that few second overlay sections with mixture type D have yet failed (only 8.7 percent), so it is difficult to assess their performance.

Performance of Mixture E

The mean life computed for first AC overlay sections with Mixture E was 13.6 years (for all thicknesses, thin and thick), and the mean truck traffic to failure was 26.6 million ESALs. The mean life computed for second AC overlay sections with Mixture E was 11.6 years, and the mean truck traffic to failure was 34.2 million ESALs. Second overlay sections failed sooner, on average, than first overlay sections (11.6 versus 13.6 years), but carried 28 percent more truck traffic to failure than first overlay sections (34.2 versus 26.6 million ESALs).

Comparative Survival of mixture Types

The age and ESAL survival curves for AC surface mixture types are shown in Figures 10 and 11. In terms of both age and ESAL, Mixture E appears to exhibit greater survival than

Mixture D. For first overlays, sections with surface Mixture E have a mean life about 11 percent longer than sections with surface Mixture D (13.6 versus 12.3). Sections with surface Mixture E also carried nearly 20 percent more truck traffic to failure than sections with surface Mixture D (26.6 versus 22.2 million ESALs). For second overlays, Mixture E exhibits much better survival than Mixture D. Sections with surface Mixture E have a mean life about 50 percent longer than sections with surface Mixture D (11.6 versus 7.7). Sections with surface Mixture E also carried nearly 92 percent more truck traffic to failure than sections with surface Mixture D (34.2 versus 17.8 million ESALs).

b) Districts 2 to 9:

Performance of Mixture D

The mean life computed for first AC overlay sections with Mixture D in Districts 2 to 9 was 11.7 years (for all thicknesses, thin and thick), and the mean truck traffic to failure was 12.5 million ESALs. The mean life computed for second AC overlay sections with Mixture D was 7.5 years, and the mean truck traffic to failure was 11.7 million ESALs. Second overlay sections failed sooner, on average, than first overlay sections (7.5 versus 11.7 years) but carried about the same truck traffic to failure as first overlay sections (11.7 versus 12.5 million ESALs). However, it is emphasized again that few second overlay sections with mixture type D have yet failed in Districts 2 to 9 (only 10 percent), so it is difficult to assess their performance.

Performance of Mixture E

The mean life computed for first AC overlay sections with Mixture E was 10.65 years (for all thicknesses, thin and thick), and the mean truck traffic to failure was 14.5 million ESALs. None of the second AC overlay sections with Mixture E has yet failed, so no conclusions can be drawn about the performance of these sections.

Comparative Survival of mixture Types

The age and ESAL survival curves for AC surface mixture types in Districts 2 to 9 are shown in Figures 12 and 13. For first overlays, sections with surface Mixture D have a mean life about 9 percent longer than sections with surface Mixture E (11.7 versus 10.7). However, sections with surface Mixture E carried 16 percent more truck traffic to failure than sections with surface Mixture D (14.5 versus 12.5 million ESALs). For second AC overlay, no section with Mixture E has yet failed, so no comparison can be made between the two mixture types.

Table 6. Survival analysis summary for mixture type of first and second AC overlays.

OVERLAY / MIX TYPE	MEAN LIFE* (years)	PERCENTILES OF AGE SURVIVAL DISTRIBUTION (year) 25th	50th	75th	MEAN ESAL (millions)	PERCENTILES OF ESAL SURVIVAL DISTRIBUTION (millions) 25th	50th	75th	NUMBER of SECTIONS	PERCENT FAILED
State Wide										
First / D-mix	12.3	8.2	10.6	15.4	22.2	9.8	13.5	23.2	329	31.3
Second / D-mix**	7.7	6.5	7.3	---	17.8	---	---	---	103	8.7
First / E-mix	13.6	10.6	12.4	15.4	26.6	15.0	20.8	35.8	104	70.2
Second / E-mix	11.6	8.2	10.1	14.1	34.2	9.8	47.1	48.0	73	30.1
Districts 2 to 9										
First / D-mix	11.7	8.2	10.4	11.9	12.5	9.0	12.9	15.3	311	28.6
Second / D-mix**	7.5	6.5	7.3	---	11.7	6.8	---	---	89	10.1
First / E-mix	10.6	8.8	9.6	10.4	14.5	11.5	15.3	---	36	41.7
Second / E-mix	---	---	---	---	---	---	---	---	15	0.0
District 1										
First / D-mix	17.7	15.4	15.8	20.2	48.0	23.1	61.7	62.4	18	77.8
Second / D-mix	---	---	---	---	---	---	---	---	14	0.0
First / E-mix	14.3	12.1	12.8	15.8	29.1	19.2	29.2	35.8	68	85.3
Second / E-mix	11.4	8.2	10.1	14.1	33.4	9.0	47.1	48.0	58	37.9

* of all failed and non-failed sections.

** Results are tentative since there are few sections in this category.

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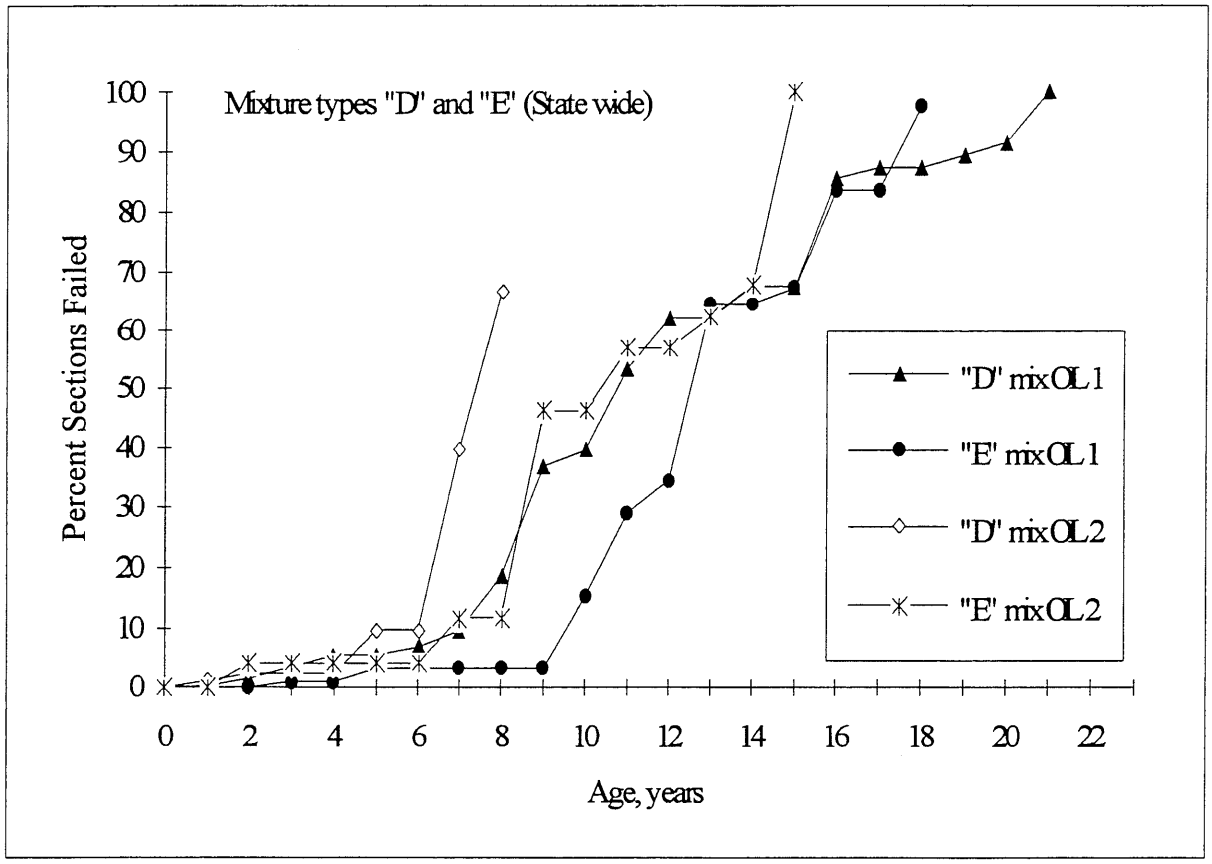

Figure 10. Age survival curves for AC mixture types "D" and "E" (State wide).

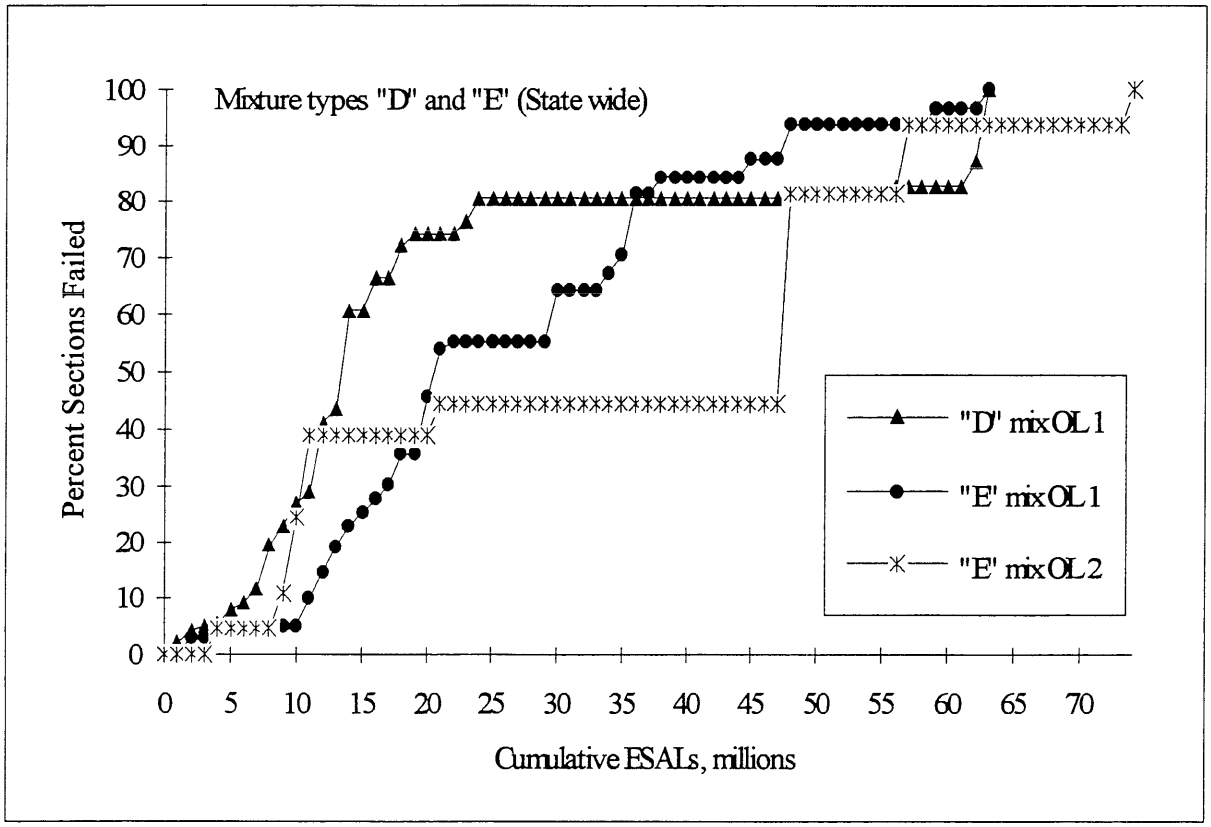

Figure 11. ESAL survival curves for AC mixture types "D" and "E" (State wide).

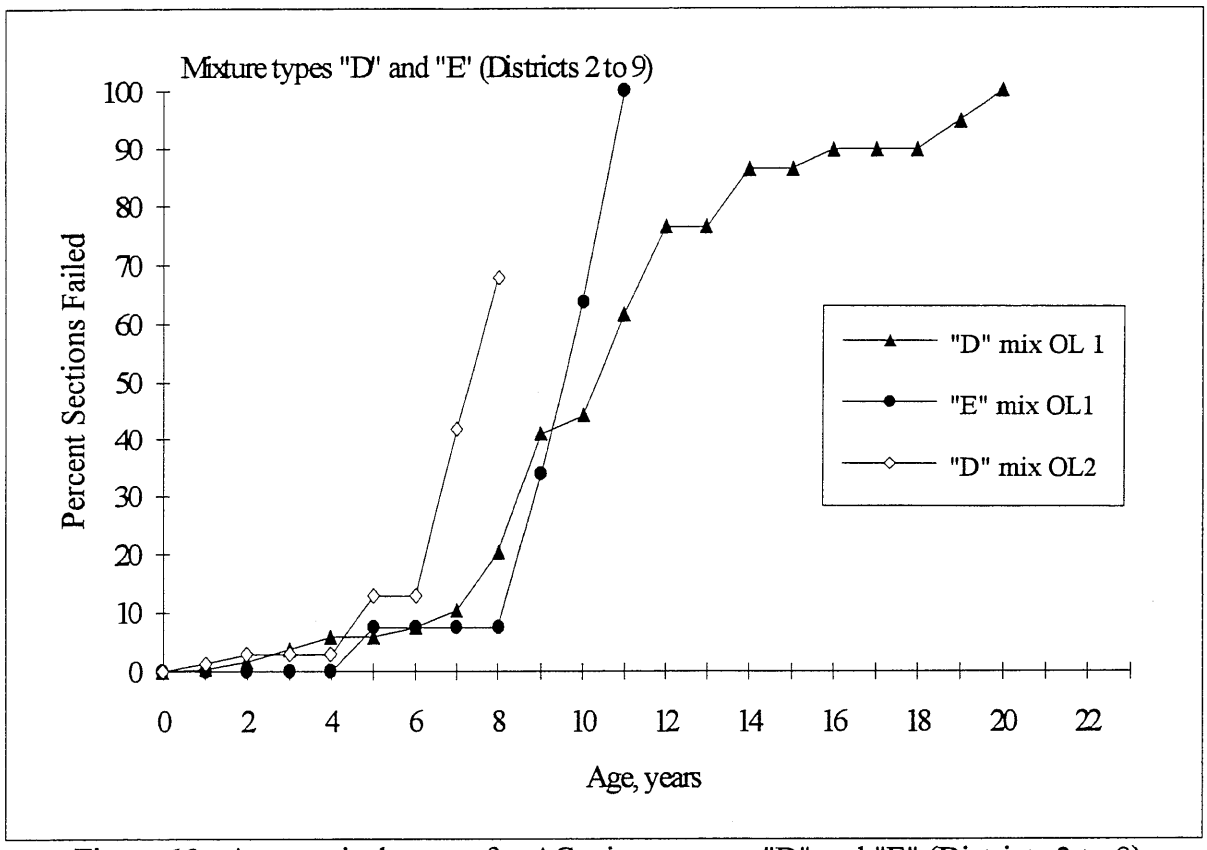

Figure 12. Age survival curves for AC mixture types "D" and "E" (Districts 2 to 9).

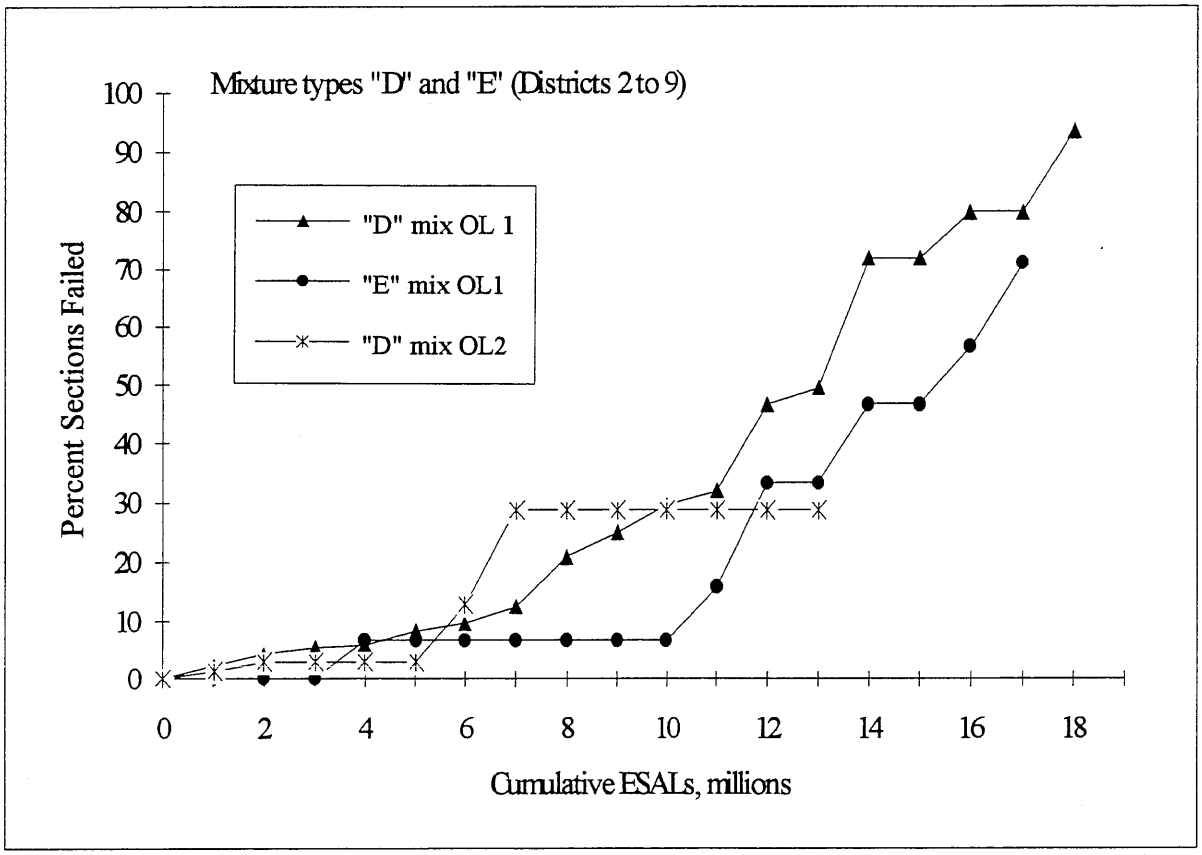

Figure 13. ESAL survival curves for AC mixture types "D" and "E" (Districts 2 to 9).

c) District 1:

Performance of Mixture D

The mean life computed for first AC overlay sections with Mixture D was 17.8 years (for all thicknesses, thin and thick), and the mean truck traffic to failure was 48 million ESALs None of the second AC overlay sections with Mixture D in District 1 has yet failed, so no conclusions can be drawn about the performance of these sections.

Performance of Mixture E

The mean life computed for first AC overlay sections with Mixture E was 14.3 years (for all thicknesses, thin and thick), and the mean truck traffic to failure was 29 million ESALs. The mean life computed for second AC overlay sections with Mixture E was 11.4 years, and the mean truck traffic to failure was 33.4 million ESALs. Second overlay sections failed sooner, on average, than first overlay sections (11.4 versus 14.3 years), but carried 15 percent more truck traffic to failure than first overlay sections (33.4 versus 29 million ESALs).

Comparative Survival of mixture Types

The age and ESAL survival curves for AC surface mixture types in District 1 are shown in Figures 14 and 15. For first overlays, sections with surface Mixture D have a mean life about 24 percent longer than sections with surface Mixture E (17.7 versus 14.3) and carried , on average, 66 percent more truck traffic to failure (48 versus 29 million ESALs). For second AC overlay, no section with Mixture D has yet failed, so no comparison can be made between the two mixture types.

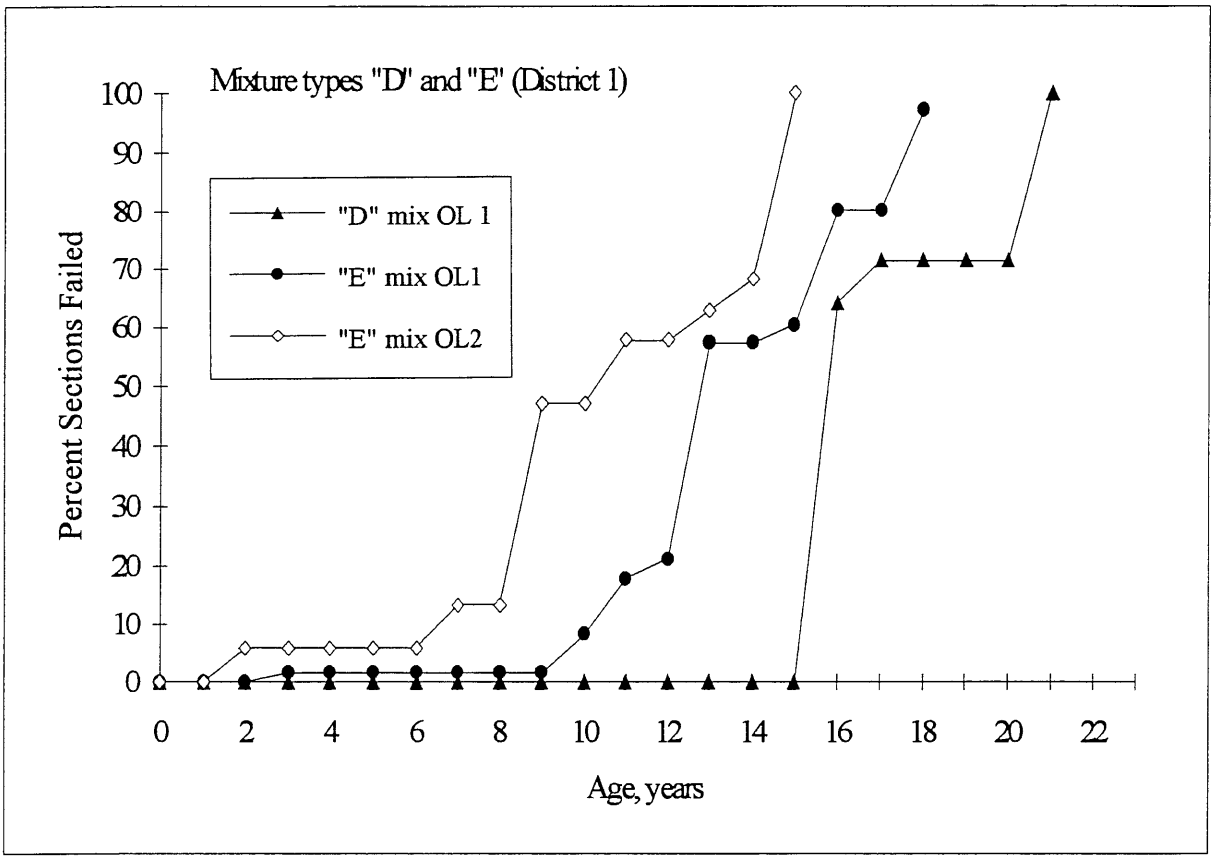

Figure 14. Age survival curves for AC mixture types "D" and "E" (Districts 1).

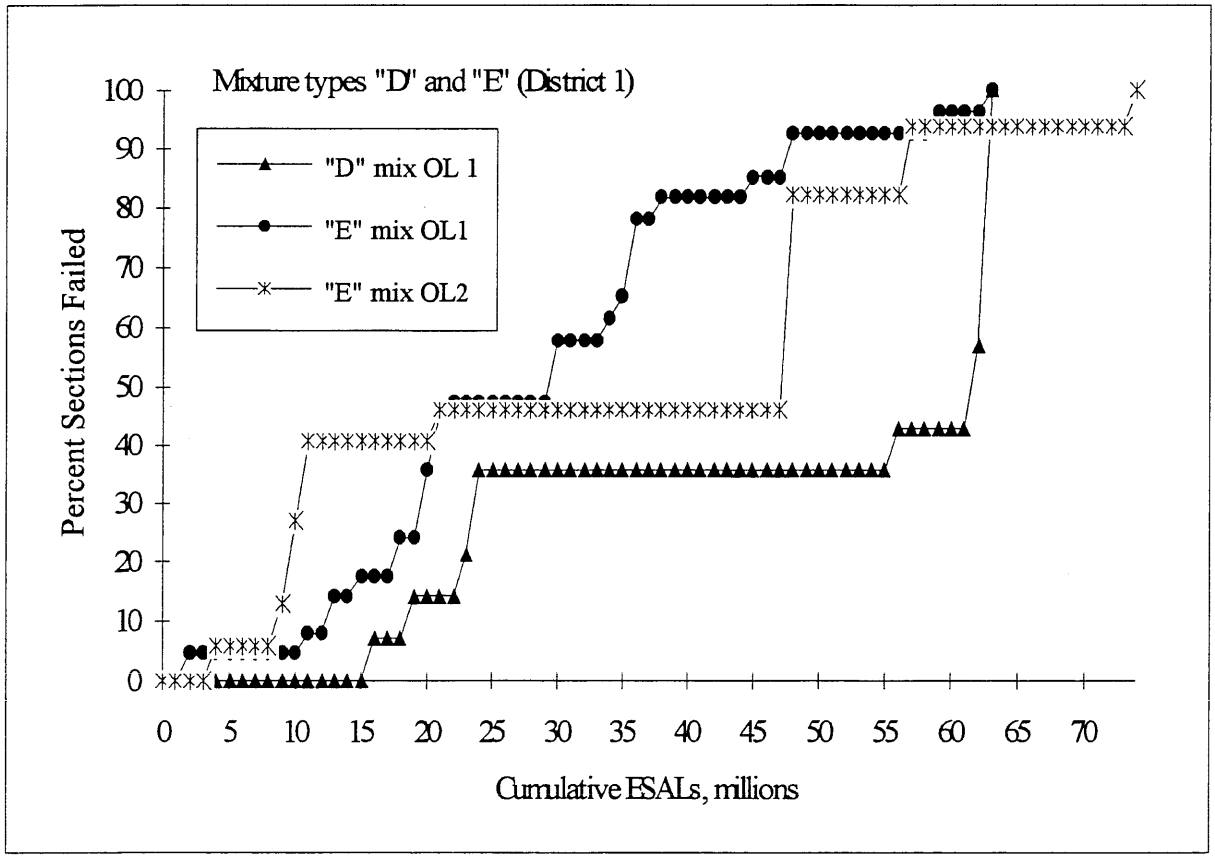

Figure 15. ESAL survival curves for AC mixture types "D" and "E" (Districts 1).

DESIGN IMPLICATIONS

The following observations and implications are made with regard to pavement design. They are based on thousands of miles of pavements and over 30 years of performance data.

1. The survival analysis shows that even for a given type of pavement and specific structural design, there is a large amount of performance variability. For example, consider the pavement family consisting of 10 in JRCP over an aggregate base, approximately 25 percent sections had been overlaid (failed) by the time 9 million ESALs were carried, 50 percent had failed by the time 13 million ESALs were carried, and 75 percent had failed by the time 19 million ESALs were carried. These pavements were all built with about the same design and construction specifications, and built on about the same subgrade soils.

These highly variable results show the need for a safety factor in design to ensure that a design will carry a certain amount of ESALs at a high reliability level. Thus, the need for a design reliability is obvious if the designer wants a high probability of success for any given design. For this pavement type, only 3 percent sections had failed by the time the design traffic of 5 million ESALs had been applied indicating a 97 percent level of reliability. Had this level of design reliability not been used in the design of these pavements, they would have been constructed much thinner and many more failures would have occurred before the 20 year design period was over.

Reasons for this wide range in performance between construction sections would include many aspects. Even though each construction section was built to the same nominal structural design (10 in slab, 100 ft. Joint spacing, same reinforcement, 6 in granular base, 650 psi minimum 14 day flexural strength, etc.), there would be some variation between these factors from section to section. The subgrades throughout Illinois are 90 percent fine grained silts and clays, but some variation would exist from section to section. Some of the sections did experience concrete durability problems which did affect the number of ESALs carried. Variations between different contractors from section to section would of course account for some variation in performance (differences in placement of reinforcement, dowel placement, concrete consolidation, etc.). One other source of variation is in the estimation of cumulative ESALs that each project has sustained. The time and pavement condition at which major rehabilitation has occurred is another variable. Short sections are sometimes overlaid with adjacent sections even though they are not in a deteriorated condition.

2. A 10-in JRCP carries approximately the same ESALs as an 8-in CRCP. A 10-in CRCP carries far more ESALs (2.1 times) than a 10-in JRCP on average. The performance of JRCP and CRCP are clearly different which is not in agreement with the AASHTO Design Guide. The Guide is clearly over designing CRCP.

3. The mean ESALs carried for JRCP or CRCP to approximately 25 and 50 percent section failures are shown in figure 16. These values may be useful as approximate checks to designers. Thus, a project having a design ESAL of 10 million would require at least a 10-in JRCP or an 8-in CRCP, 15-million a 9-in CRCP, and 20 million a 10-in CRCP for a probability of survival of 75 percent.

4. The JRCP and CRCP have more than carried their design traffic levels. This means that they have been designed with a greater than 50 percent level of reliability. For example, when the 4.8 million design ESALs have been carried by the 8-in CRCP, only about 2 percent of all projects had failed (figure 5). This would indicate about a 98 percent reliability. When the 20 million design ESALs had been carried by the 10-in CRCP, only about 4 percent of sections had failed, indicating a 96 percent reliability level.

5. The mean ESALs carried for first AC overlays to approximately 25 and 50 percent section failures are shown in figure 17. These values may be useful as approximate checks to designers. Thus, an AC overlay of a CRCP with "D" cracking would carry only about 7 million ESALs with a 25 percent probability of failure. For JRCP, the ESALs carried would be only 10 million.

6. Design of AC overlays for CRCP that is "D" cracked requires a thicker overlay than when there is no "D" cracking to carry large traffic loadings if the same design life is required.

7. The second and third AC overlays of JRCP or CRCP projects will carry much more traffic loads over the same time period as the first overlay. The limited data suggests that these overlays are carrying high levels of traffic (the 50 percentile is about 50 million), however, there is not adequate data to fully support this conclusion, and these estimates may require revision as these pavements age. This may be due to the build up of AC material and the further full-depth repairs of failures that are done when the second overlay is placed (i.e., the bad areas are repaired). Full depth concrete repair of deteriorated areas are highly recommended prior to placement of the AC overlay.

8. On the average, original concrete pavements carry far more truck traffic to failure than the amounts for which they were originally designed. However, the carried ESALs to failure decreases significantly (more than 50 percent) if D-cracking exists. This should be taken into consideration in life cycle cost analysis. Effort to screen D-cracking aggregate is an extremely cost effective way of increasing pavement life. The survival results for non-D cracked and D cracked original pavements are summarized figure 18.

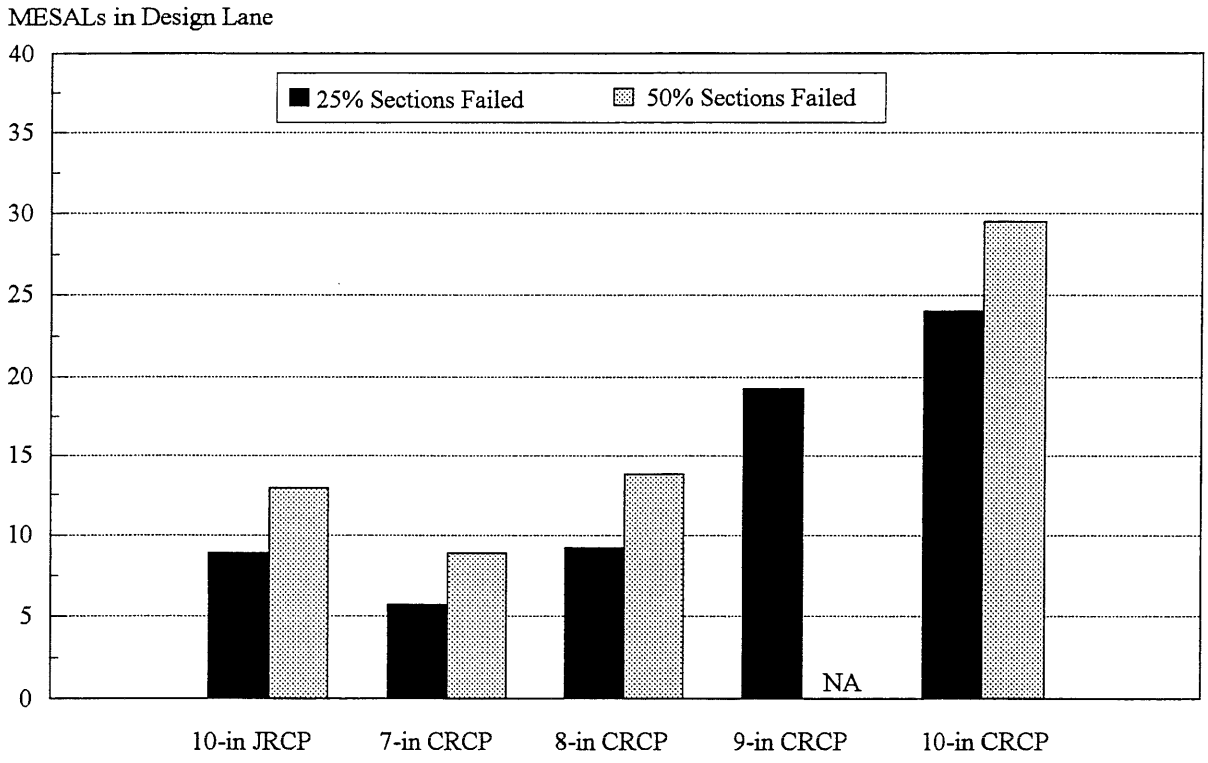

Figure 16. Mean ESALs carried by original pavements to 25 and 50 percent sections failed.

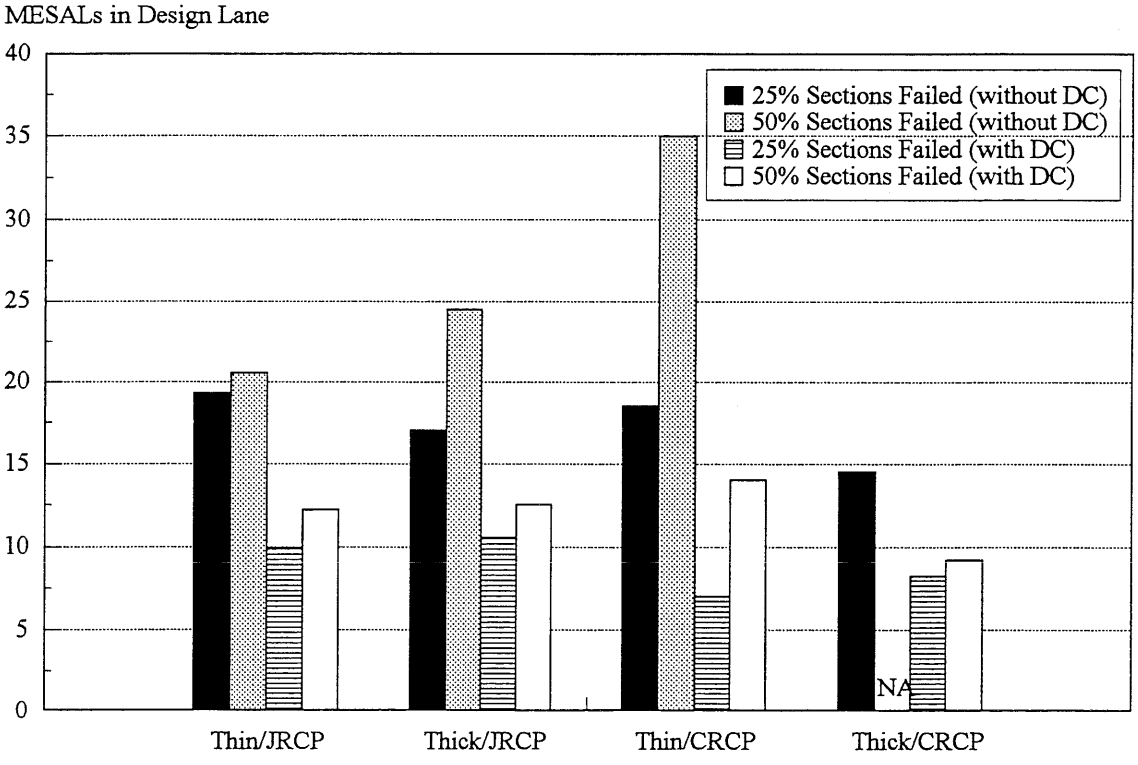

Figure 17. Mean ESALs carried by AC overlays to 25 and 50 percent sections failed.

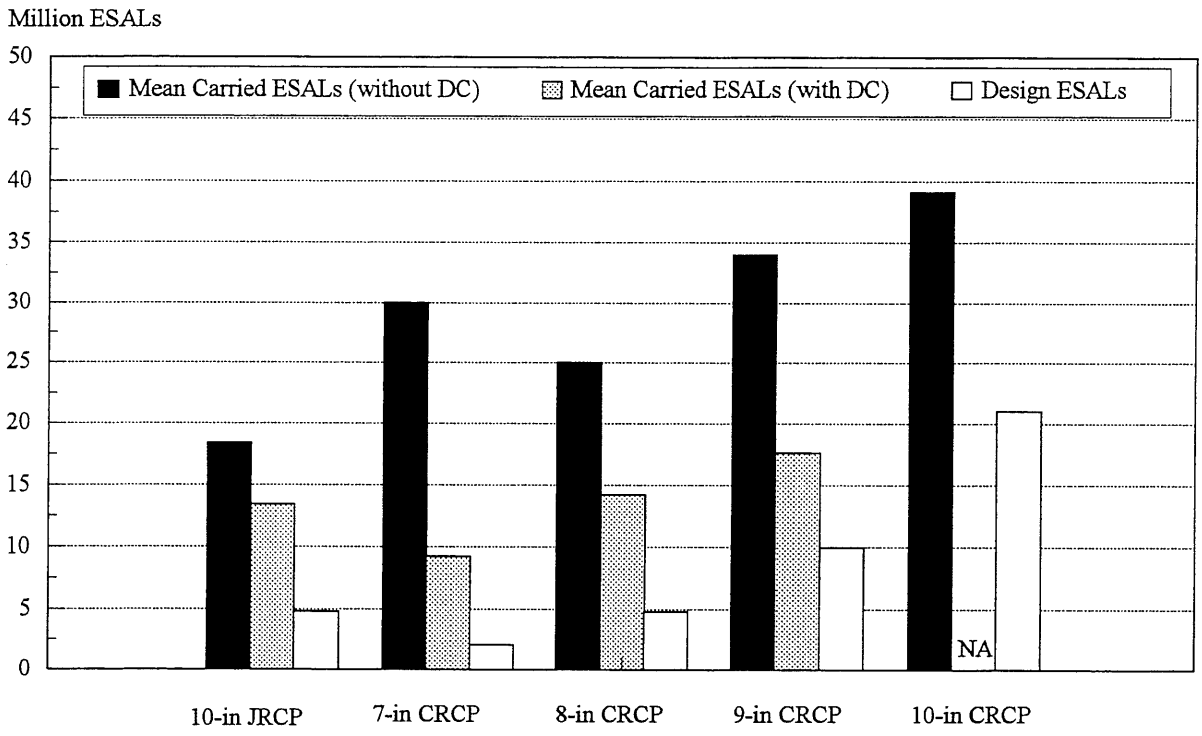

Figure 18. Mean carried ESALs versus design ESALs for original pavements.

CONCLUSIONS

This report presents the results of an analysis of the performance of bare and resurfaced JRCP, CRCP and HMAC on the Illinois freeway system through 1994. The results of an analysis of the performance of two asphalt mixtures (D and E) are also presented. The six bare pavement designs studied were 10-in JRCP, 7-in CRCP, 8-in CRCP, 9-in CRCP, 10-in or more CRCP and HMAC. The six overlay types studied were thin overlays of JRCP, thick overlays of JRCP, thin overlays of CRCP, thick overlays of CRCP, thin overlays of HMAC, and thick overlays of HMAC.

Survival analyses were conducted to determine the survival distributions, as well as the mean life, of each pavement type, overlay type (for first and second overlays) and mixture type studied. Pavement life was measured in two ways, by age and by accumulated 18-kip equivalent single-axle loads (ESALs). For concrete pavements, within each category, sections without D cracking and sections with D cracking were analyzed separately and together.

Performance of Bare JRCP and CRCP

In every category studied, bare concrete pavements on Illinois freeways performed very well, carrying far more truck traffic to failure than the amounts for which they were originally designed. The survival results are summarized as follows:

Pavement Type	Mean Age (Years)	Mean ESALs (millions)	Design ESALs (millions)	Actual / Design ESAL Ratio
Without D cracking:				
10-in JRCP	24.1	18.4	4.8	3.8
7-in CRCP	24.7	30.0	2.1	14.3
8-in CRCP	23.4	25.0	4.8	5.2
9-in CRCP	28.9	34.0	10.0	3.4
10-in CRCP	21.9	39.1	21.0	1.9
With D cracking:				
10-in JRCP	24.0	13.4	4.8	2.8
7-in CRCP	18.6	9.2	2.1	4.4
8-in CRCP	20.5	14.2	4.8	3.0
9-in CRCP	18.6	17.6	10.0	1.8
10-in CRCP	---	---	21.0	---

In four categories for which comparisons were possible, pavements without D cracking lasted longer and carried more truck traffic than pavements of the same type with D cracking. The ratios of mean ages and mean cumulative ESALs of sections without D cracking versus sections with D cracking are summarized below:

Pavement Type	Age Ratio	ESAL Ratio
10-in JRCP	1.0	1.4
7-in CRCP	1.3	3.3
8-in CRCP	1.1	1.8
9-in CRCP	1.6	1.9

Performance of First Overlays of JRCP, CRCP and HMAC

The survival analysis results indicate that AC overlays have performed remarkably well in some categories, but may not be able to provide excellent performance in terms of both life and traffic capacity in all categories. This is particularly true if the pavement overlaid has D cracking. These results are summarized as follows:

Overlay/ Pvt Type	D Cracking	Mean Age (years)	Ratio	Mean ESALs (millions)	Ratio
Thin / JRCP	no	16.3	1.5	25.6	2.0
	yes	11.0		12.9	
Thick / JRCP	no	16.5	1.2	28.9	2.0
	yes	13.4		14.2	
Thin / CRCP	no	12.3	1.1	33.9	2.6
	yes	10.7		13.2	
Thick / CRCP	no	15.6	1.2	16.9	1.7
	yes	13.4		9.7	

The above results suggest that most overlays in Illinois freeway system exhibit good performance and meet current overlay design expectations (e.g., 10 million ESALs over 15 years).

Thick overlays on JRCP carry more traffic (in nearly equal life) than thin overlays, with and without D cracking. It is reasonable to expect that this would also be true of thick overlays versus thin overlays of CRCP, but the survival results for thick overlays of CRCP at this time do not support this conclusion.

Overall, the survival results for AC overlays indicate that very good performance is achieved when an appropriate overlay thickness is selected for the traffic level, and the type and durability of the existing pavement. Obviously, there are other factors involved such as the condition of the existing pavement (cracking) and amount of repairs completed.

In terms of cumulative ESAL to failure, thick AC overlays of HMAC appear to exhibit the poorest performance. However, at this time there are very few sections in this category, so it is difficult to assess their performance.

It was difficult to draw any conclusions about the performance of second overlays because very few sections were included in the analysis. Second overlays are carrying more traffic loads over the same amount of time than the first AC overlay on a given project (growth is about 7 percent per year). This needs to be considered in design.

Performance of mixtures D and E

It has been found that the performance of asphalt mixture types "E" and "D" depends on location. Thus survival analyses were conducted for three zones: state wide, districts 2 to 9, and district 1. The ratios of mean lives and mean cumulative ESALs to failure of sections with surface mixture type "D" versus sections with surface mixture type "E" (Type D / Type E) for each zone are summarized as follows:

	Overlay	Age Ratio	ESAL Ratio
State wide:			
	First	0.9	0.8
	Second	0.7	0.5
Districts 2 to 9:			
	First	1.1	0.9
District 1:			
	First	1.2	1.6

Design Observations

The following observations and implications are made with regard to pavement design. They are based on thousands of miles of pavements and over 30 years of performance data.

1. A 10-in JRCP carries approximately the same ESALs as an 8-in CRCP. A 10-in CRCP carries far more ESALs (2.1 times) than a 10-in JRCP on average.

2. The mean ESALs carried for JRCP or CRCP to approximately 25 and 50 percent section failures are summarized below. These values may be useful as approximate checks to designers. Thus, a project having a design ESAL of 10 million would require at least a 10-in JRCP or an 8-in CRCP, 15-million a 9-in CRCP, and 20 million a 10-in CRCP for a probability of survival of 75 percent.

	Million ESALs in Design Lane for Percent Sections Failed	
Pavement	**25%**	**50%**
10-in JRCP	9	13
7-in CRCP	6	9
8-in CRCP	9	14
9-in CRCP	15	18
10-in CRCP	24	30

3. The JRCP and CRCP have more than carried their design traffic levels as shown. This means that they have been designed with a greater than 50 percent level of reliability. For example, when the 4.8 million design ESALs have been carried by the 8-in CRCP, only about 2 percent of all projects had failed. This would indicate about a 98 percent reliability. When the 20 million design ESALs had been carried by the 10-in CRCP, only about 4 percent of sections had failed, indicating a 96 percent reliability level.

4. The performance of HMAC cannot be stated adequately because of the low number of sections that have failed (16 percent). However, based on this data, the 25 percentile is 4 million. These values will likely change over time as these pavements age.

5. The mean ESALs carried for first AC overlays to approximately 25 and 50 percent section failures are summarized as follows. These values may be useful as approximate checks to designers.

Overlay / Pavement	DC	Million ESALs in Design Lane for Percent Sections Failed 25%	50%
Thin OL / JRCP	No	19	21
	Yes	10	12
Thick OL / JRCP	No	17	25
	Yes	11	13
Thin OL / CRCP	No	19	35
	Yes	7	14
Thick OL / CRCP	No	15	Not available
	Yes	8	9

Thus, an AC overlay of a CRCP with "D" cracking would carry only about 7 million ESALs with a 25 percent probability of failure. For JRCP, the ESALs carried would be only 10 million.

6. Design of AC overlays for JRCP or CRCP that is "D" cracked requires a thicker overlay than when there is no "D" cracking to carry large traffic loadings if the same design life is required.

7. The second and third AC overlays of JRCP or CRCP projects will carry much more traffic loads over the same time period as the first overlay. The limited data suggests that these overlays are carrying high levels of traffic (the 50 percentile is about 50 million), however, there is not adequate data to fully support this conclusion, and these results may require revision as these pavements age. This may be due to the build up of AC material and the further full-depth repairs of failures that are done when the second overlay is placed (i.e., the bad areas are repaired).

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APPENDIX A

SURVIVAL CURVES AND DISTRIBUTIONS

FOR BARE JRCP, CRCP AND HMAC

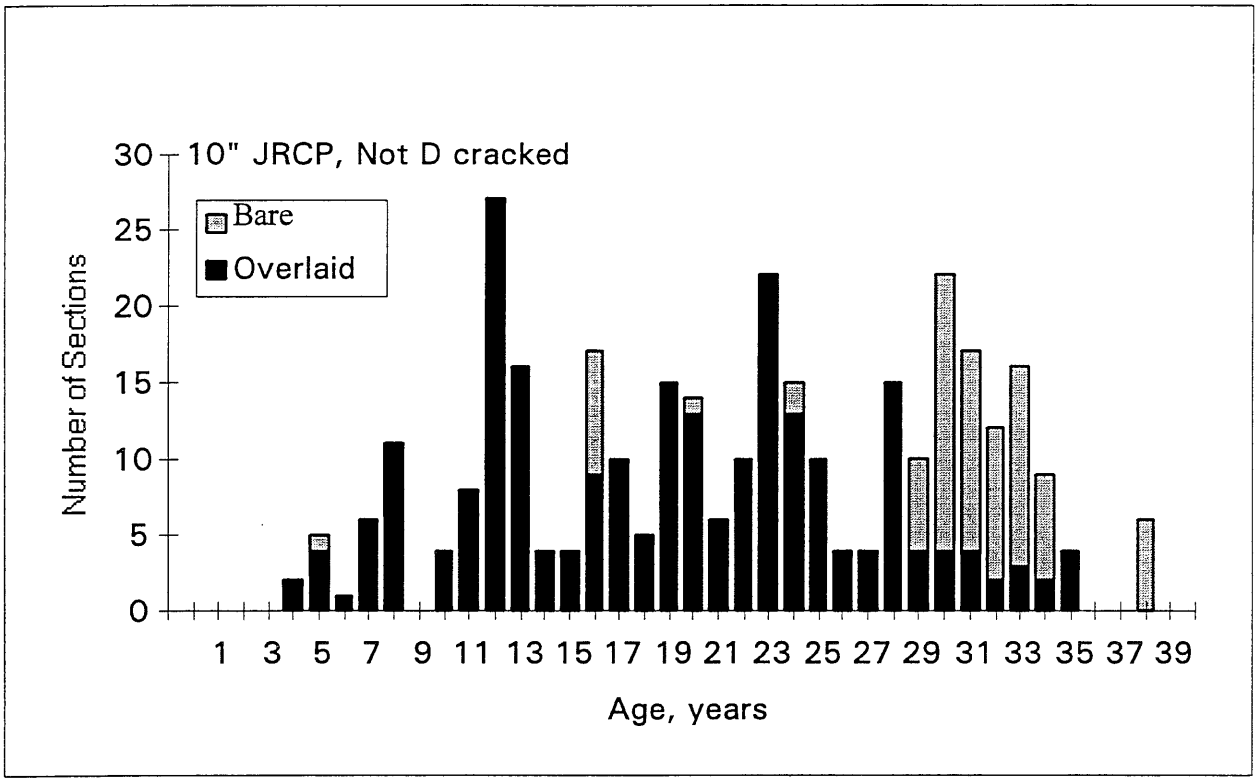

Figure 1. Age distribution of 10-in JRCP without D cracking.

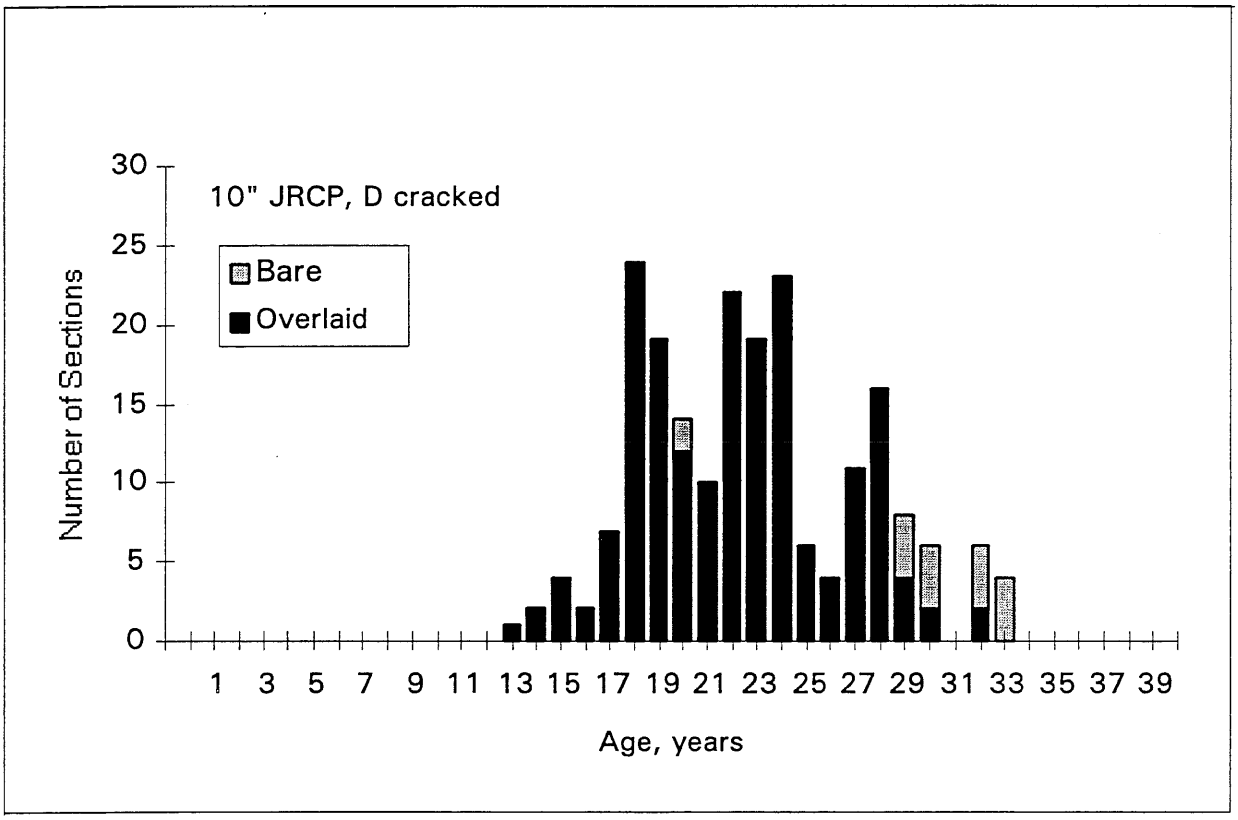

Figure 2. Age distribution of 10-in JRCP with D cracking.

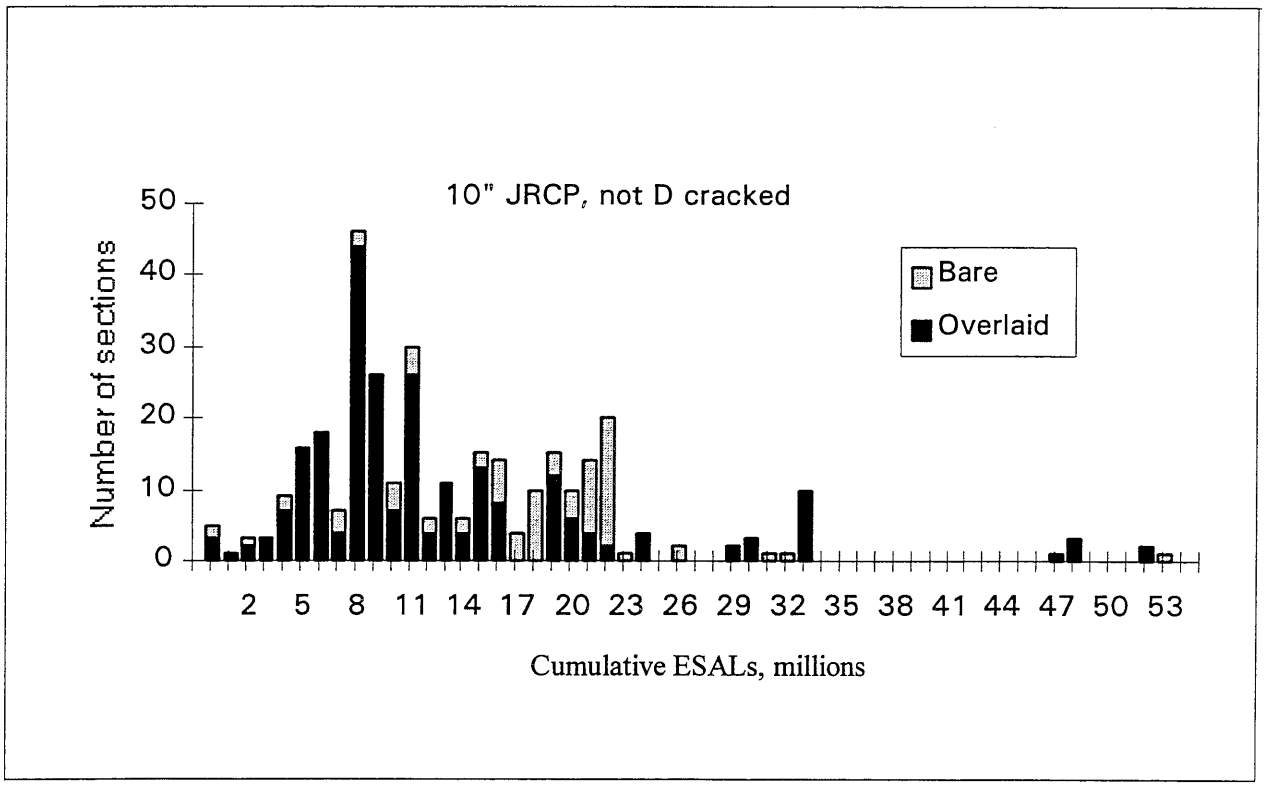

Figure 3. ESAL distribution of 10-in JRCP without D cracking.

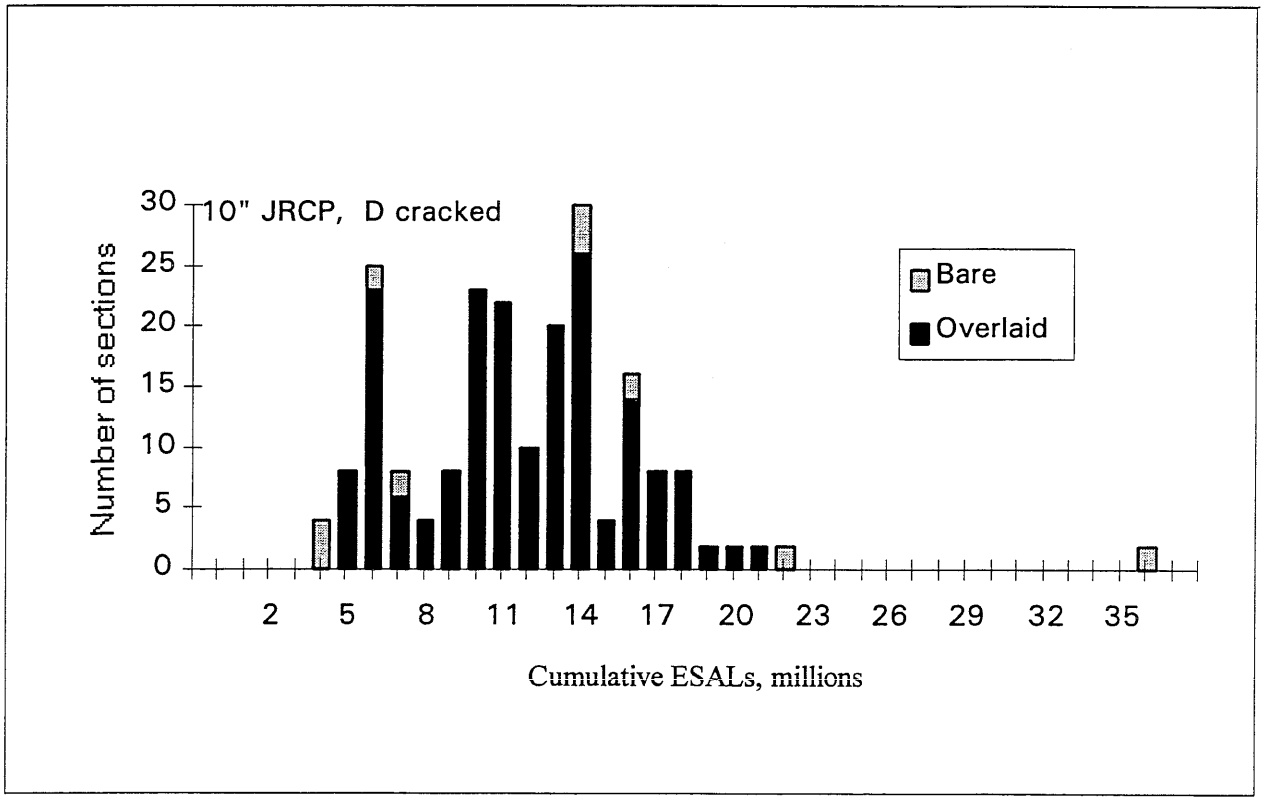

Figure 4. ESAL distribution of 10-in JRCP with D cracking.

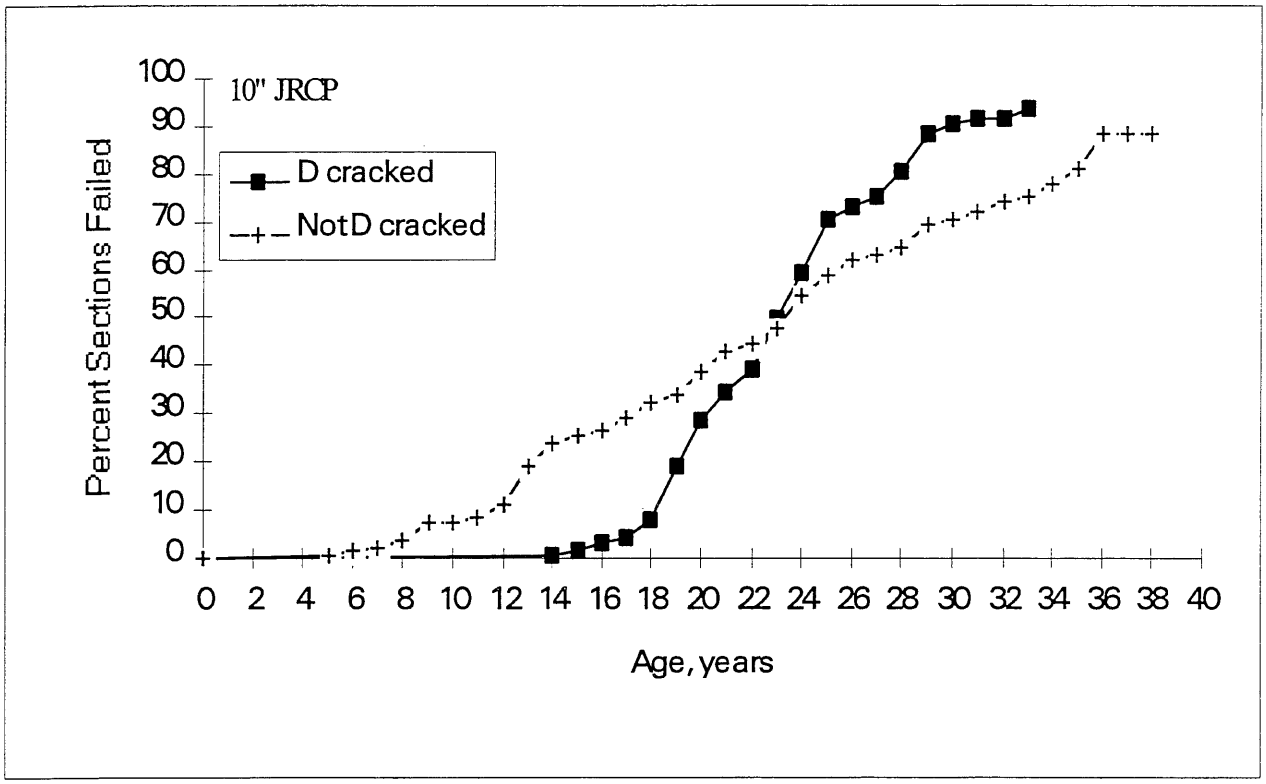

Figure 5. Age survival curves for 10-in JRCP.

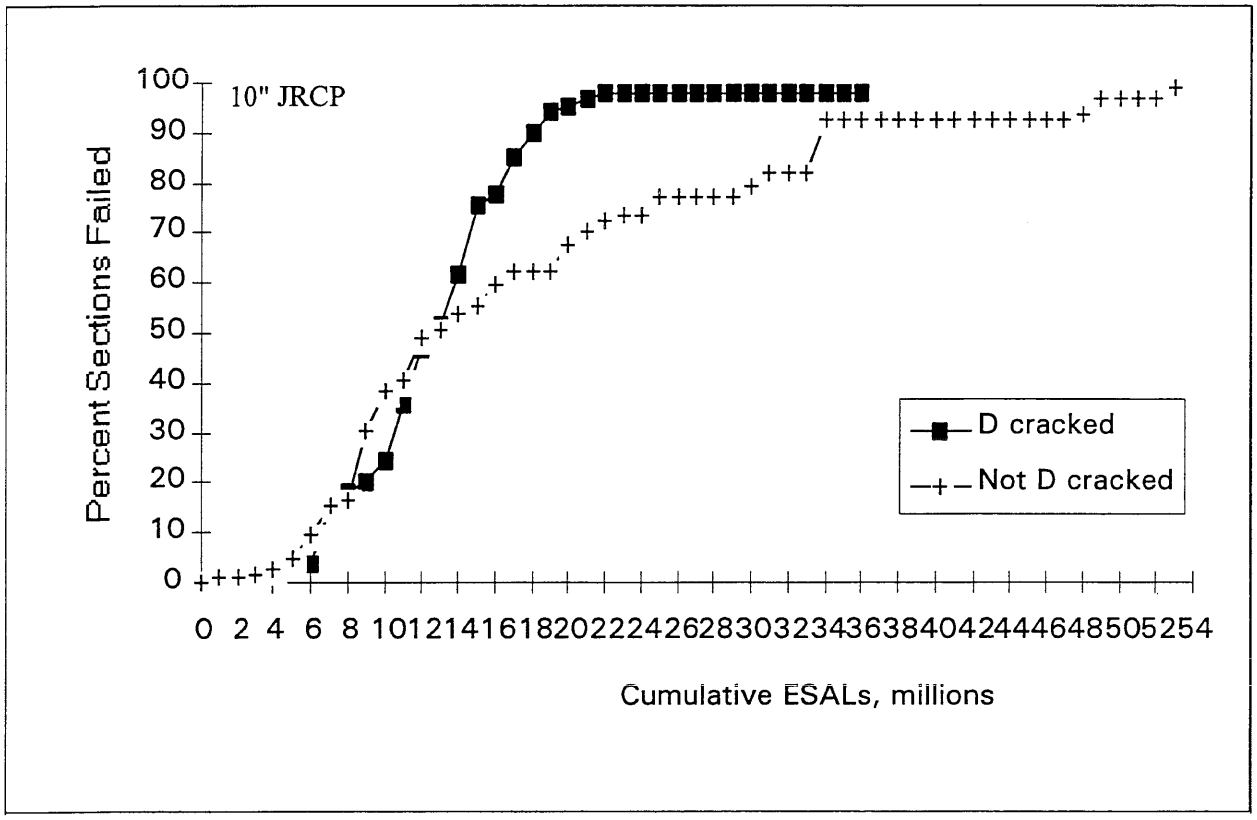

Figure 6. ESAL survival curves for 10-in JRCP.

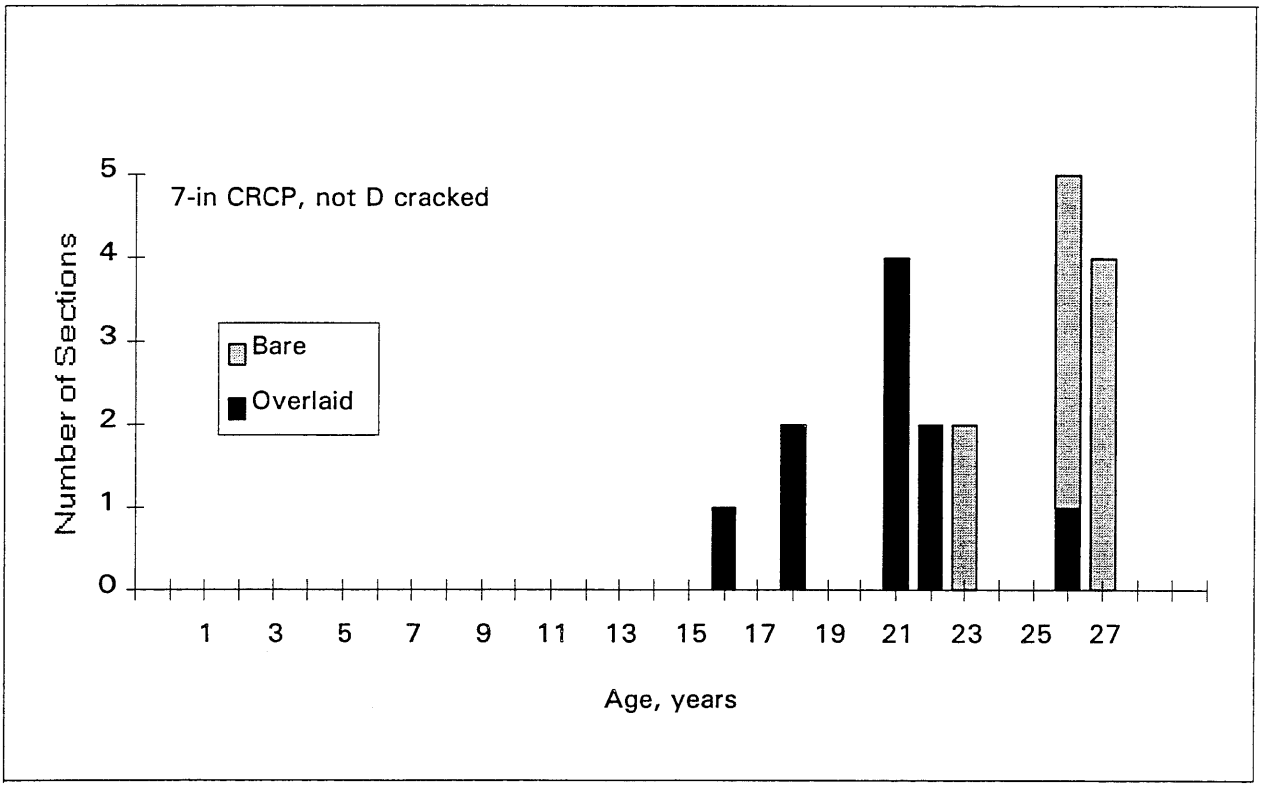

Figure 7. Age distribution of 7-in CRCP without D cracking.

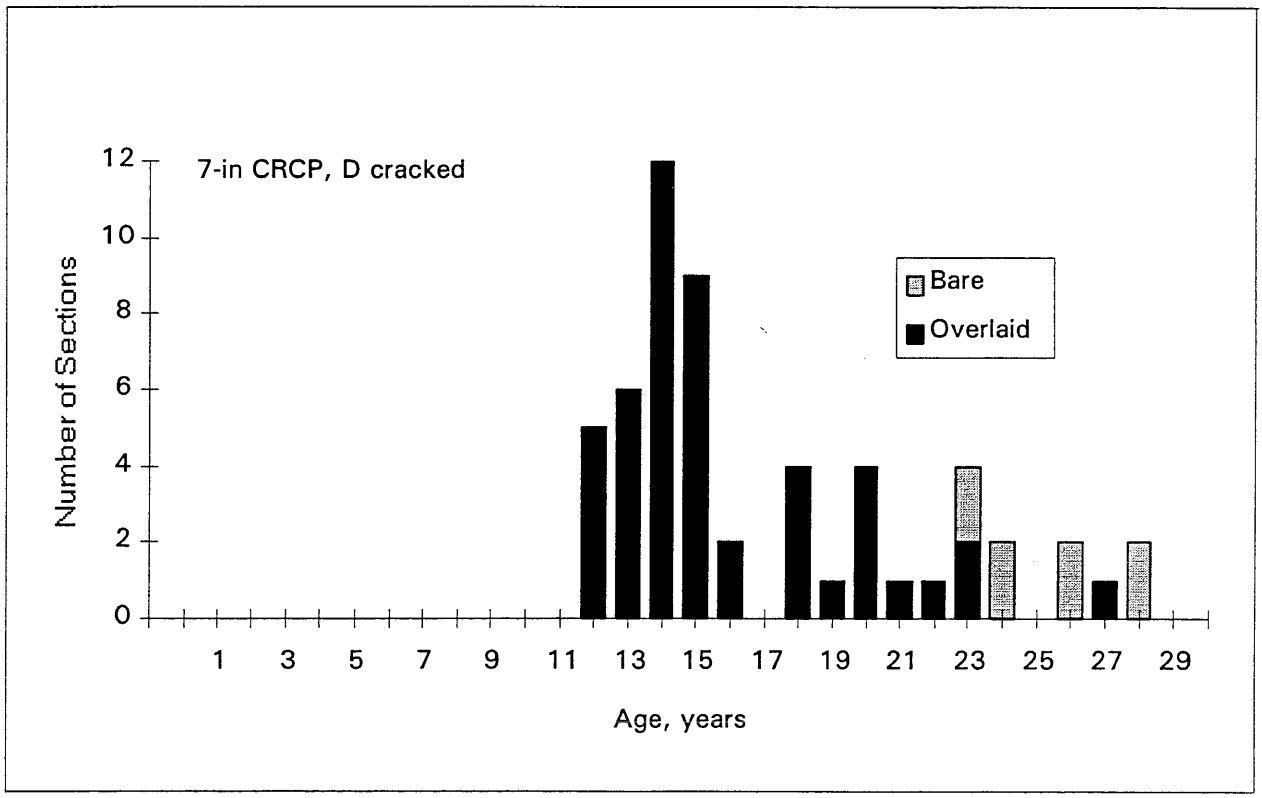

Figure 8. Age distribution of 7-in CRCP with D cracking.

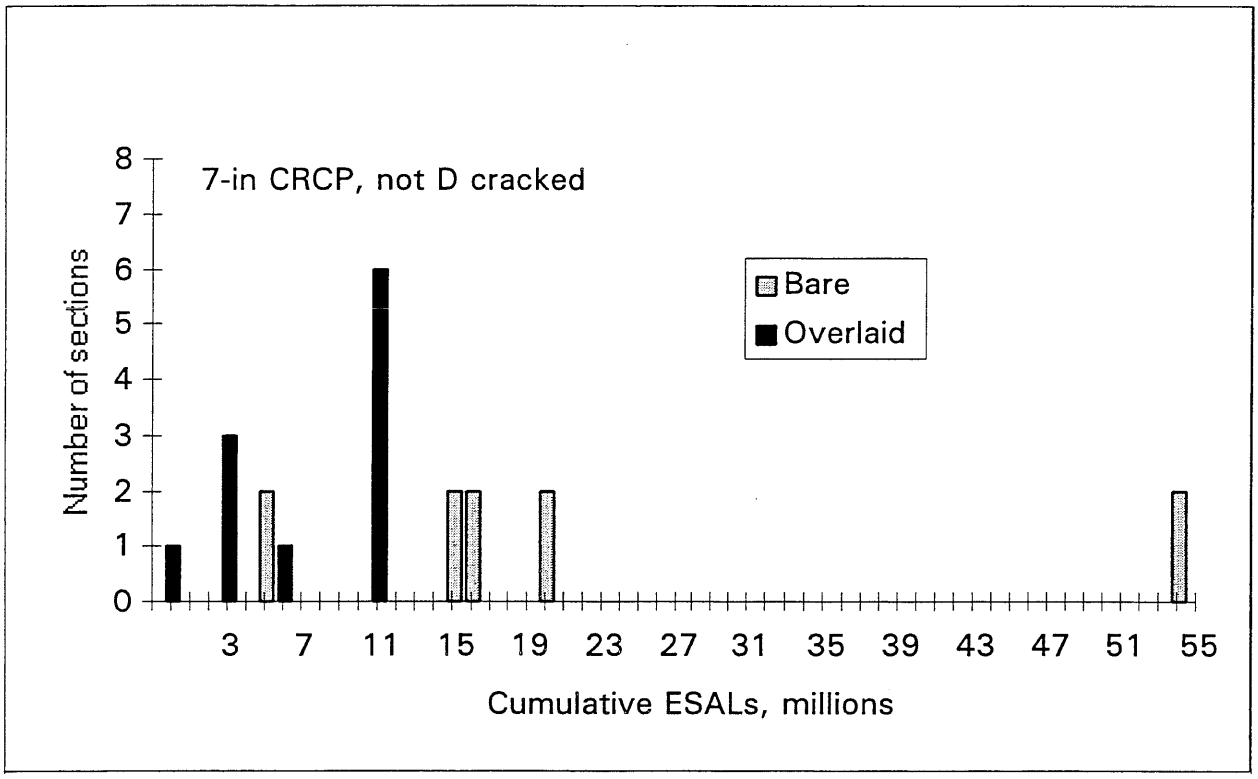

Figure 9. ESAL distribution of 7-in CRCP without D cracking.

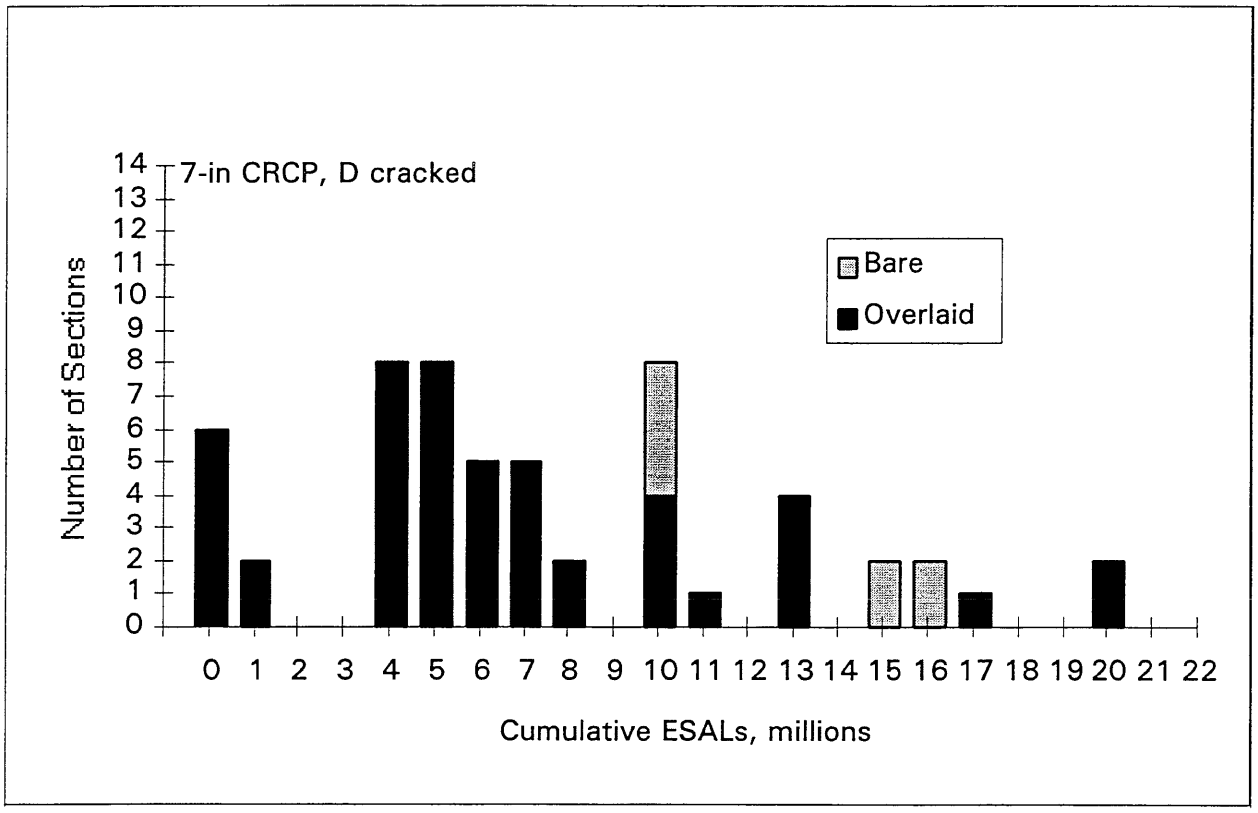

Figure 10. ESAL distribution of 7-in CRCP with D cracking.

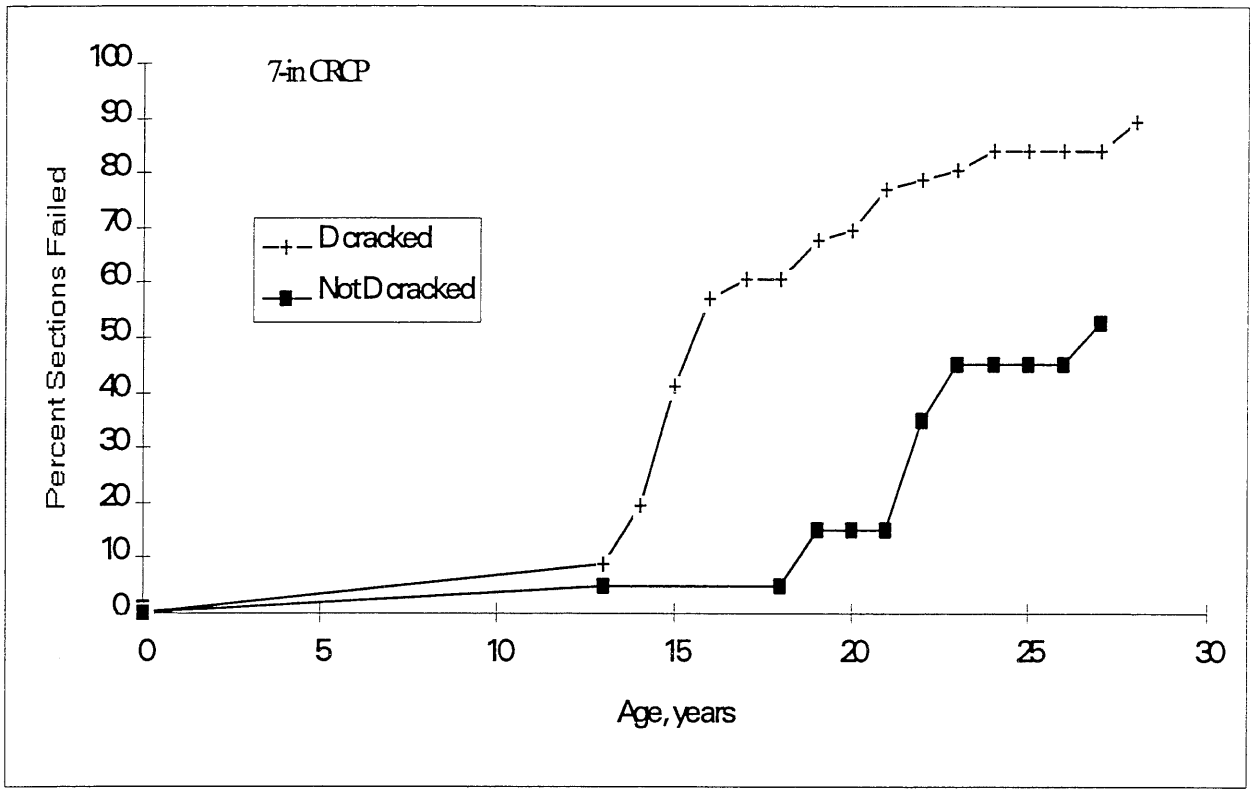

Figure 11. Age survival curves for 7-in CRCP.

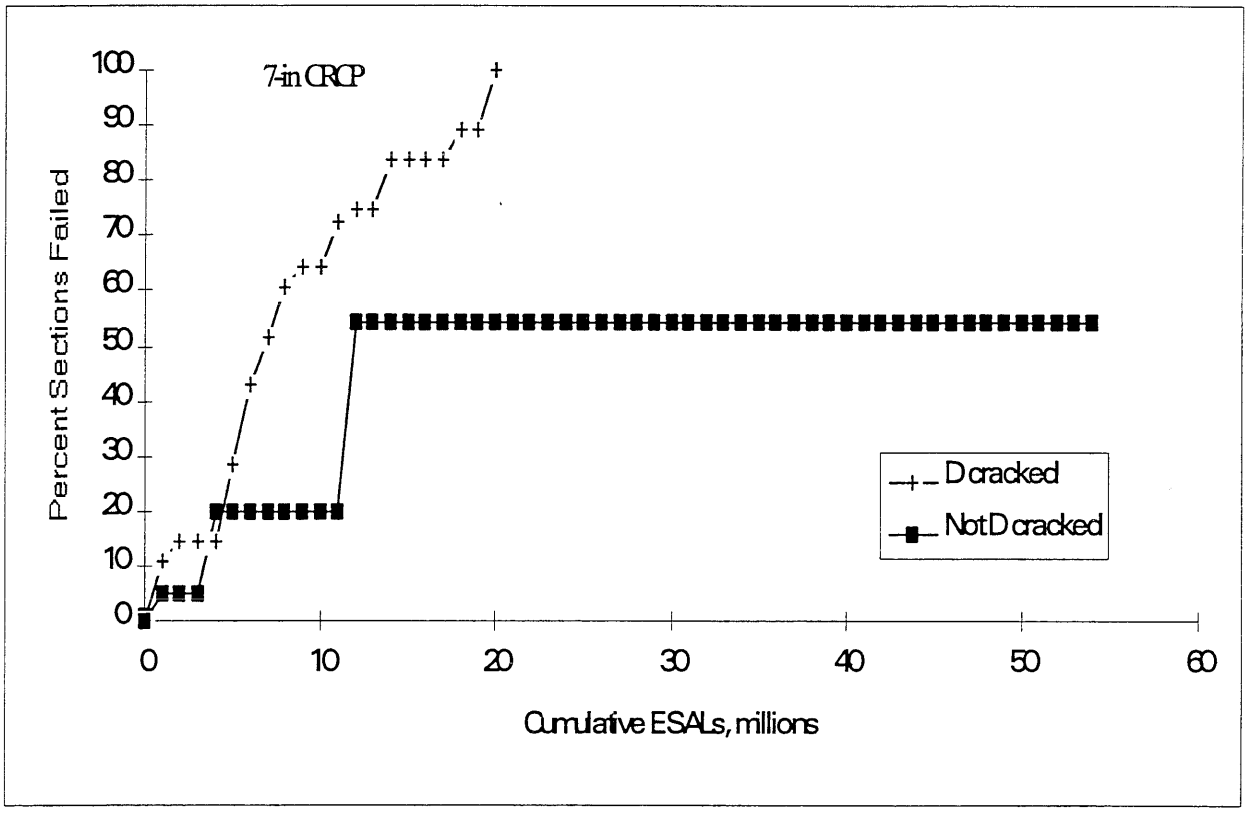

Figure 12. ESAL survival curves for 7-in CRCP.

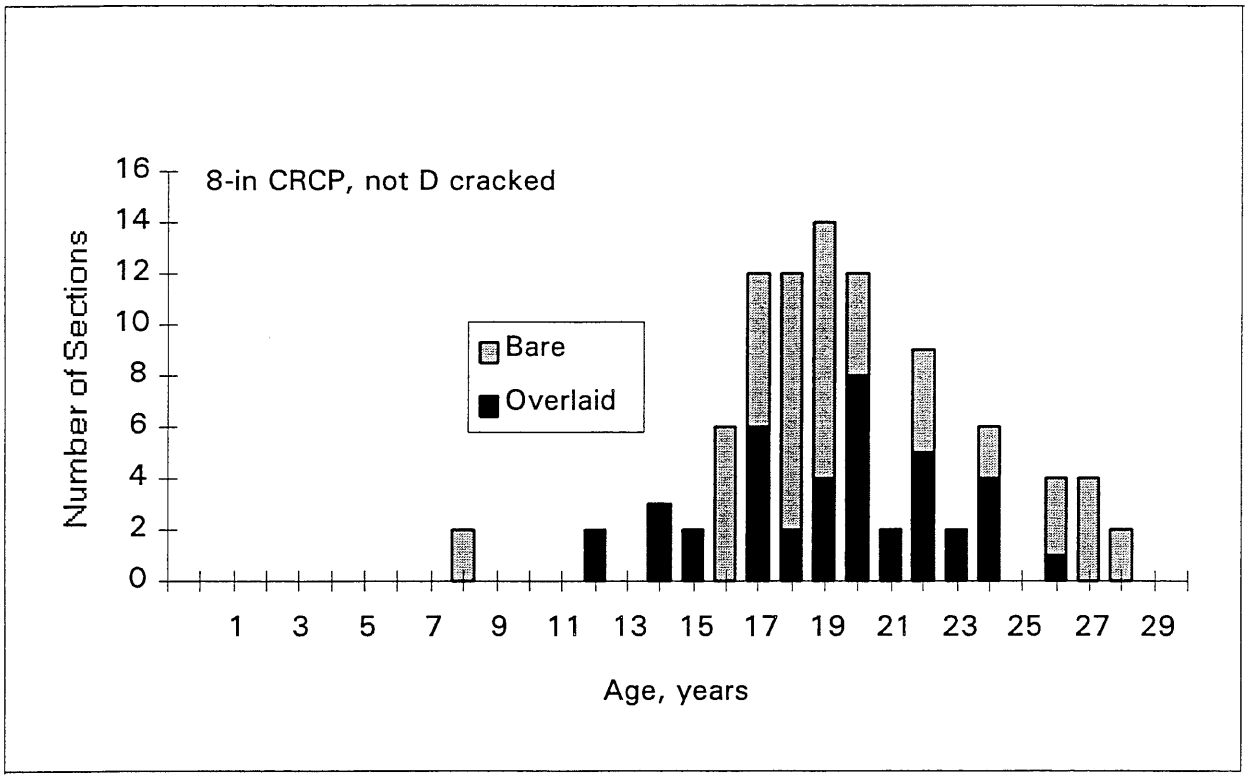

Figure 13. Age distribution of 8-in CRCP without D cracking.

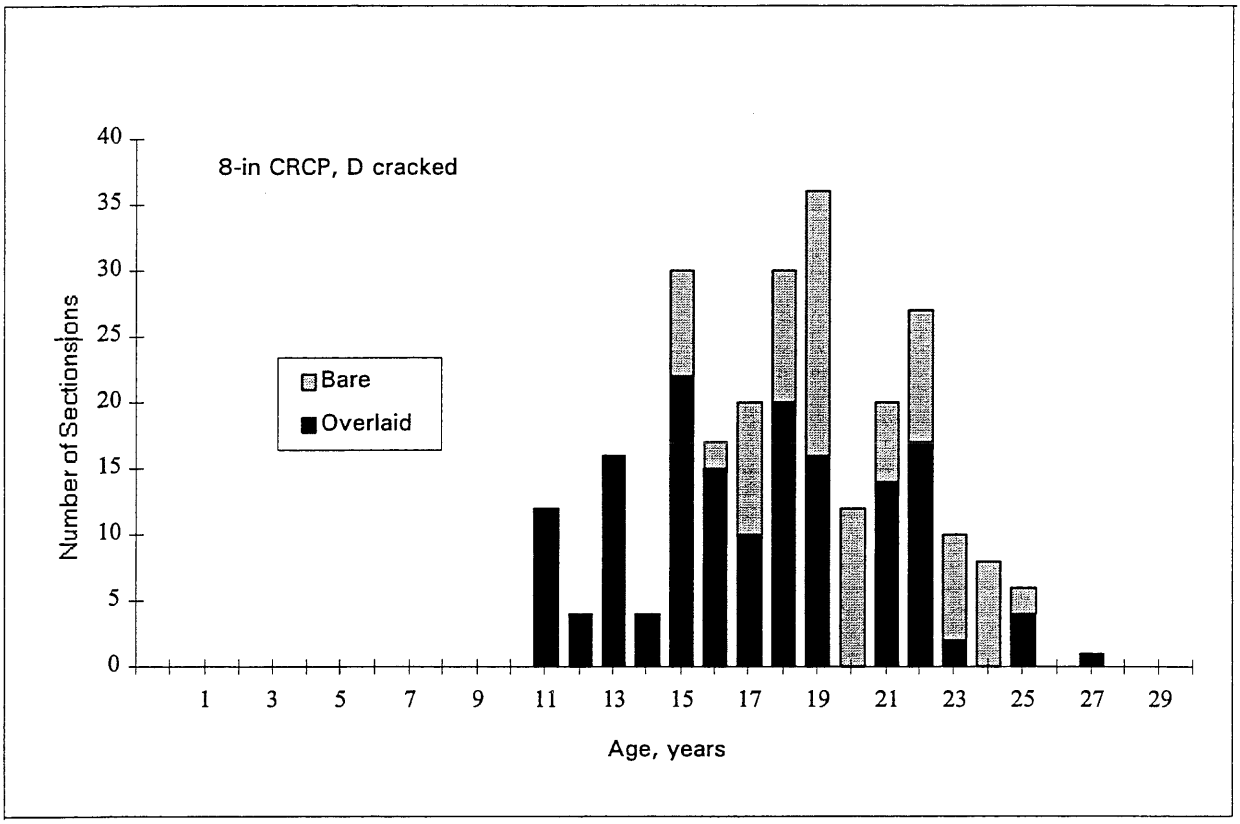

Figure 14. Age distribution of 8-in CRCP with D cracking.

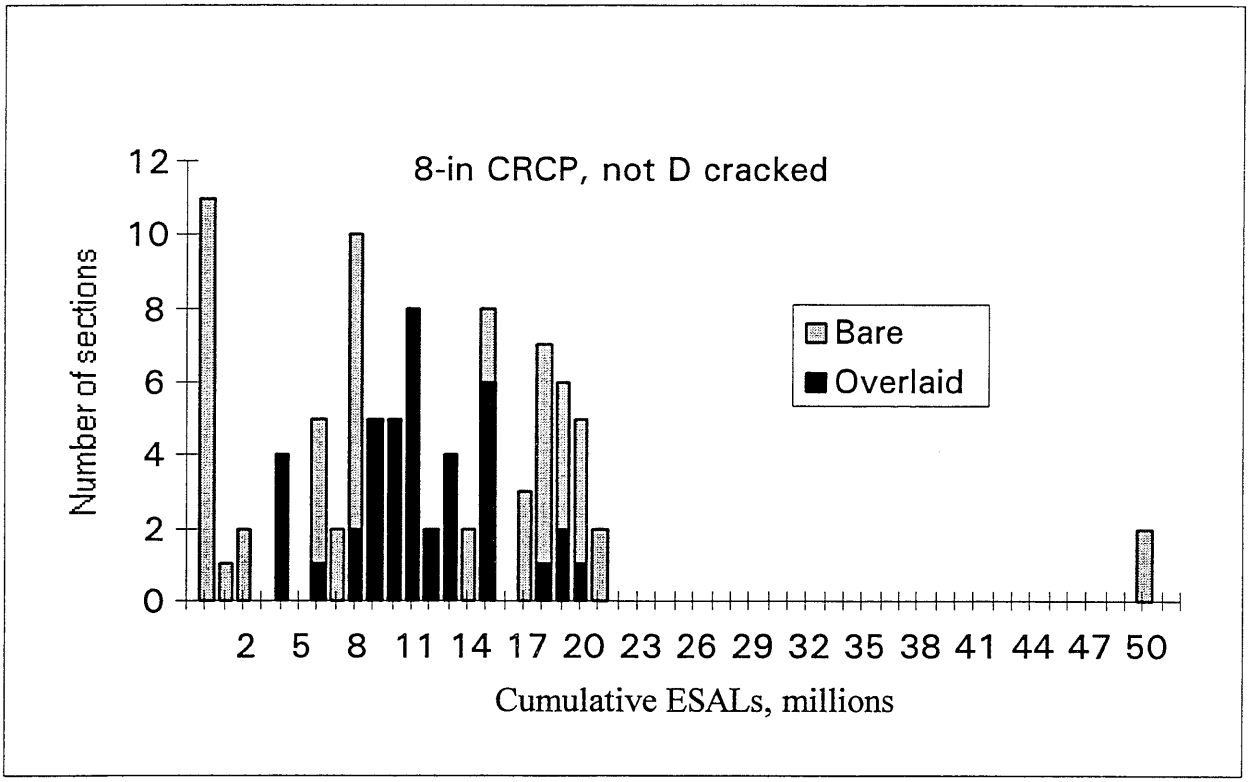

Figure 15. ESAL distribution of 8-in CRCP without D cracking.

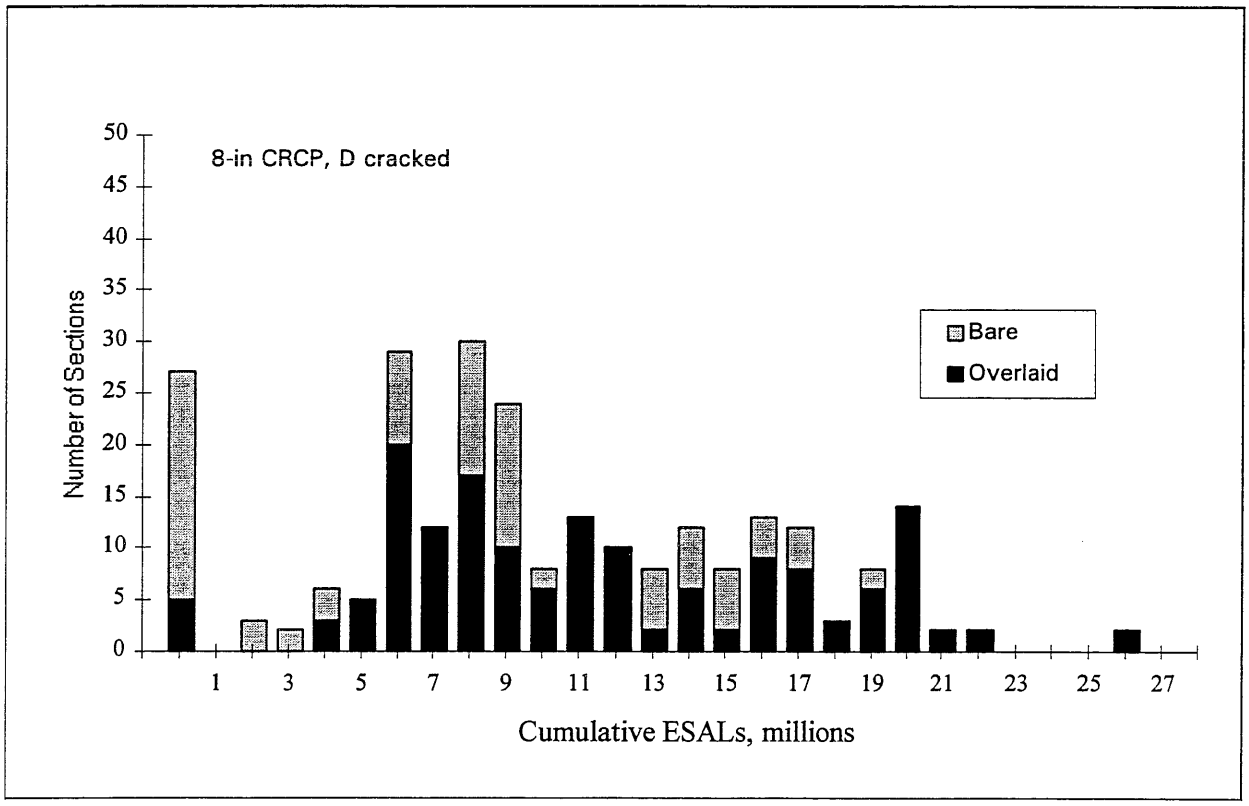

Figure 16. ESAL distribution of 8-in CRCP with D cracking.

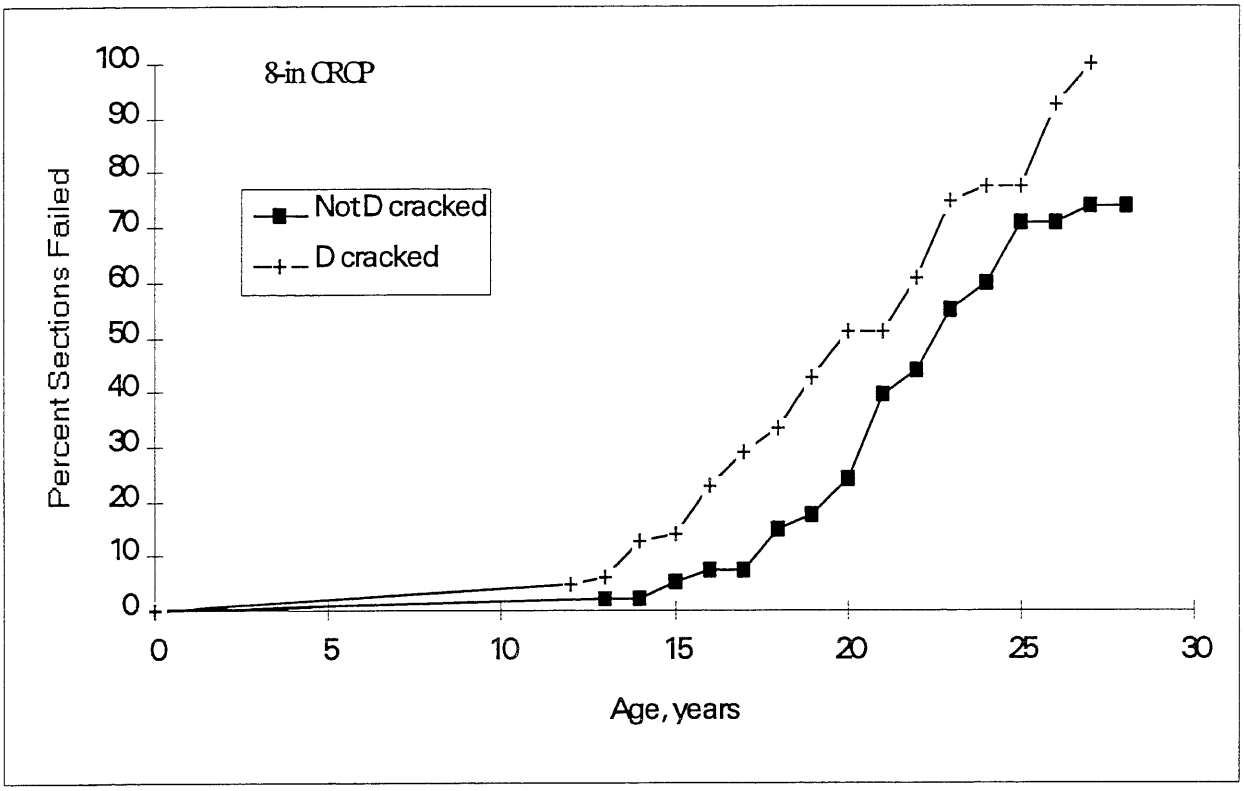

Figure 17. Age survival curves for 8-in CRCP.

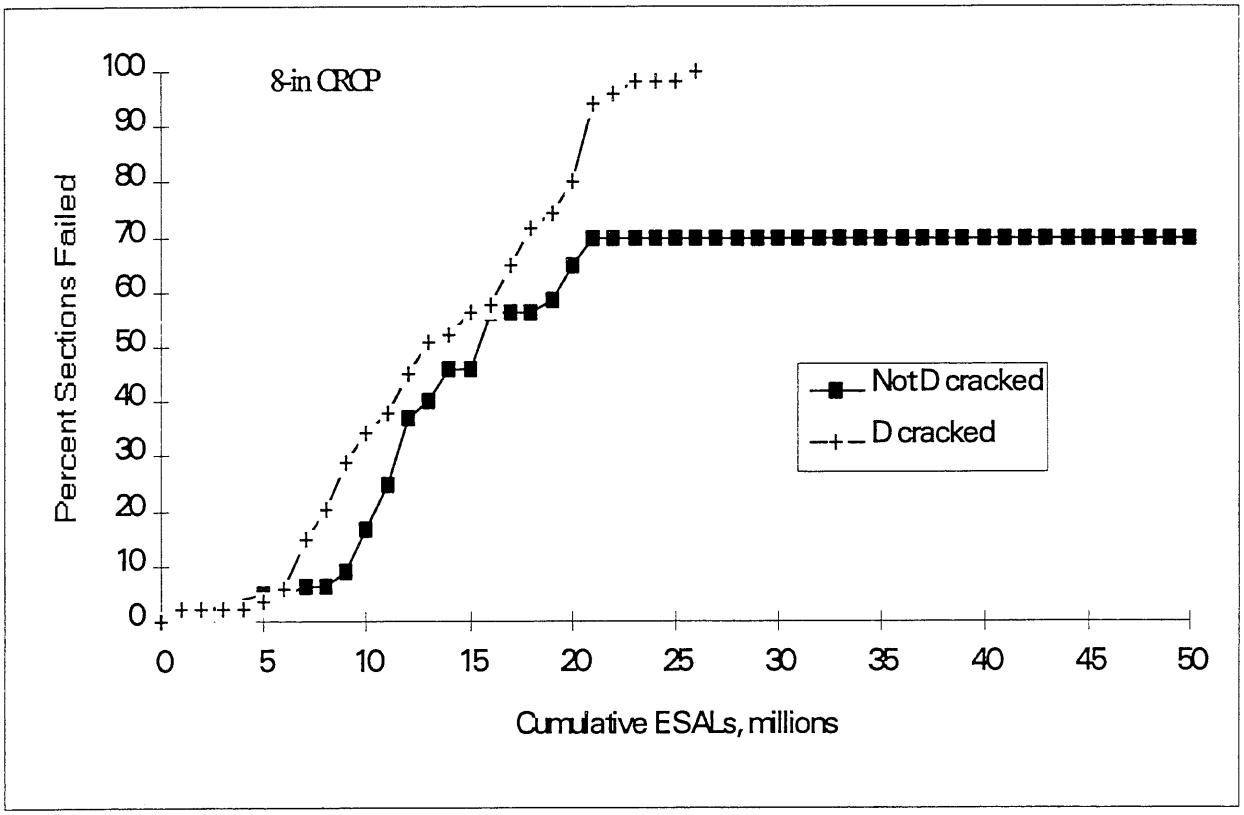

Figure 18. ESAL survival curves for 8-in CRCP.

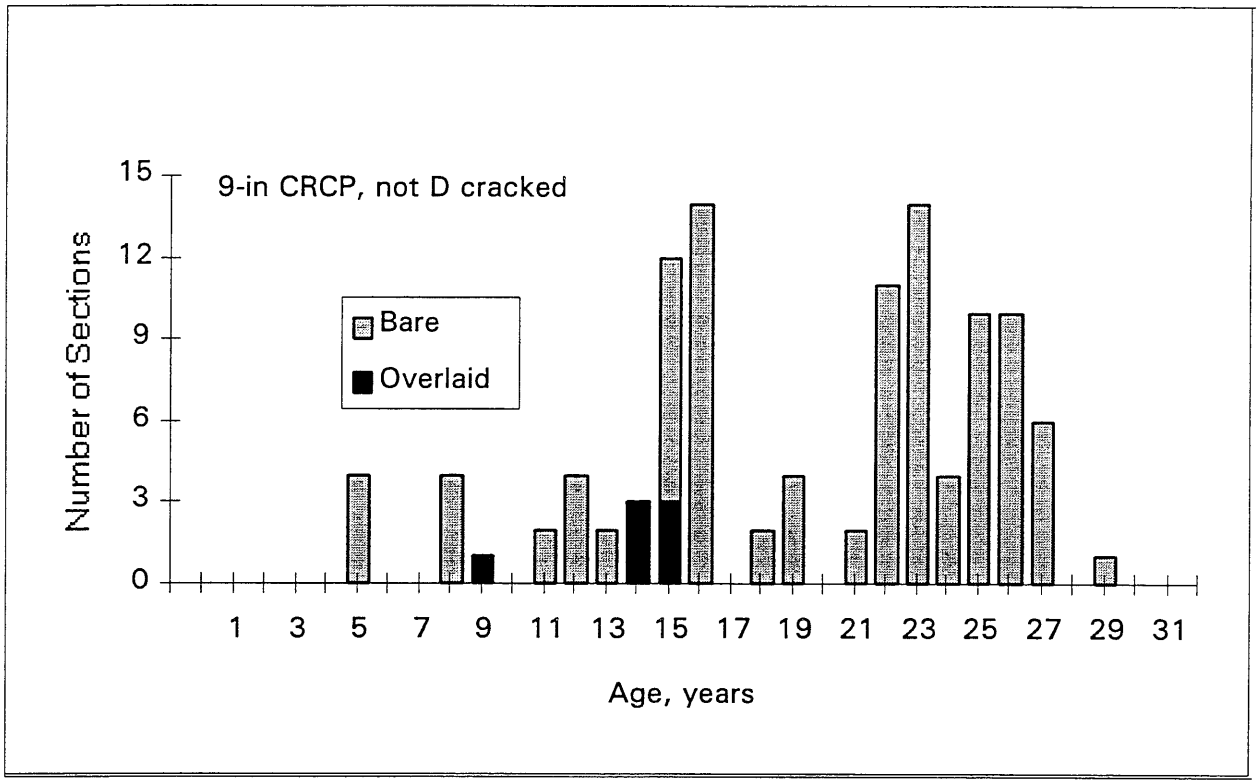

Figure 19. Age distribution of 9-in CRCP without D cracking.

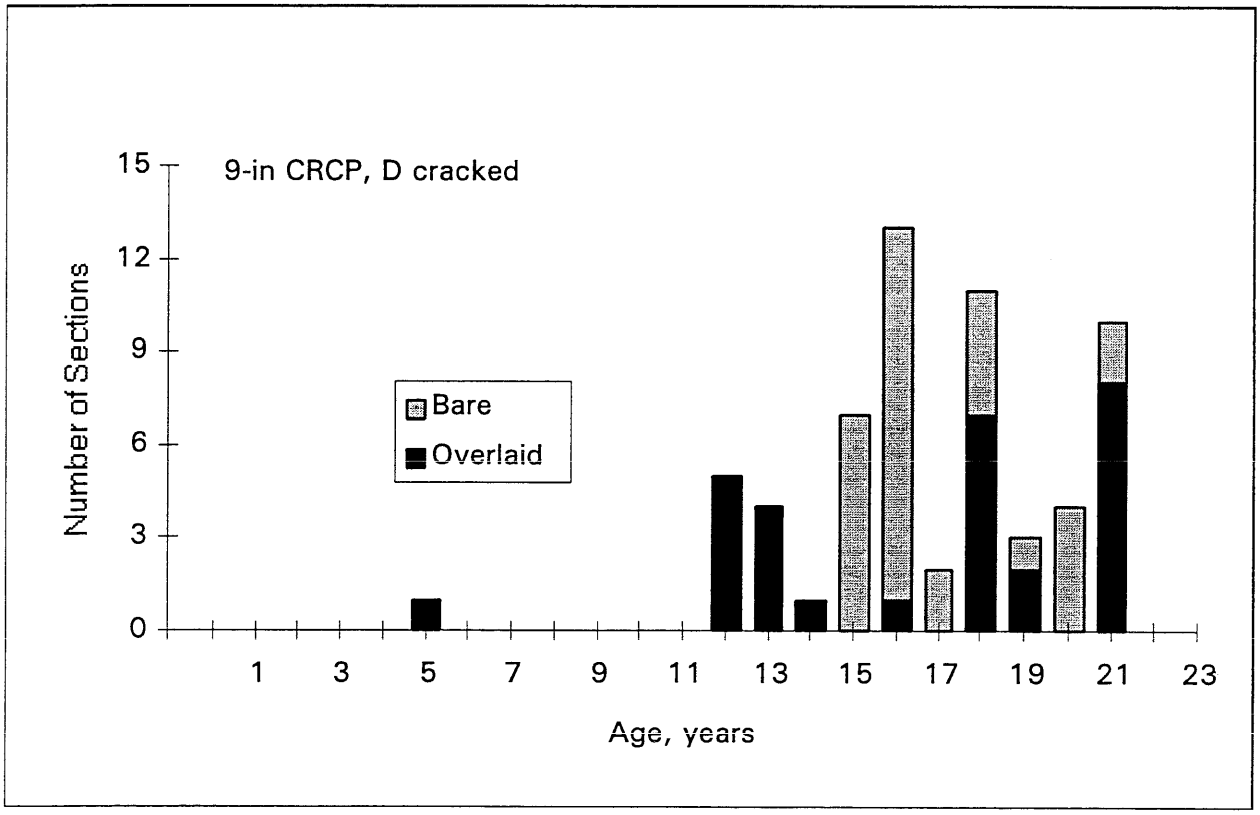

Figure 20. Age distribution of 9-in CRCP with D cracking.

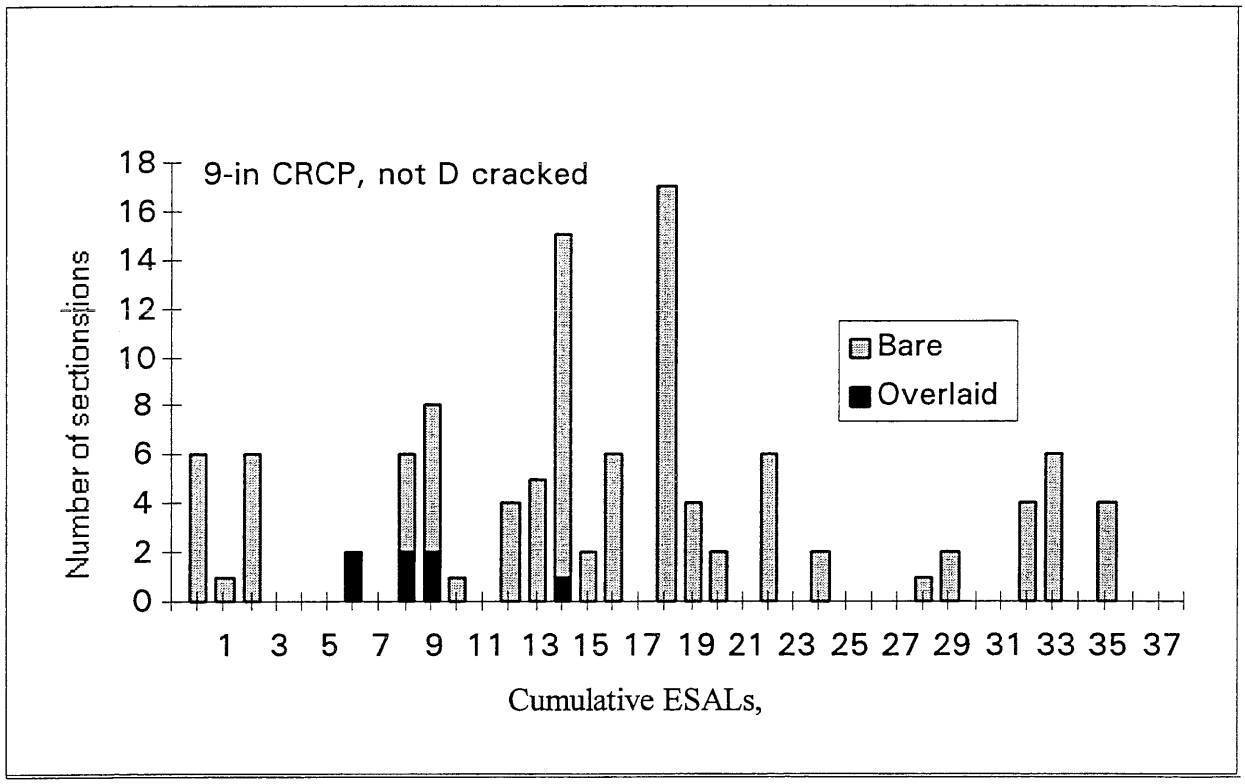

Figure 21. ESAL distribution of 9-in CRCP without D cracking.

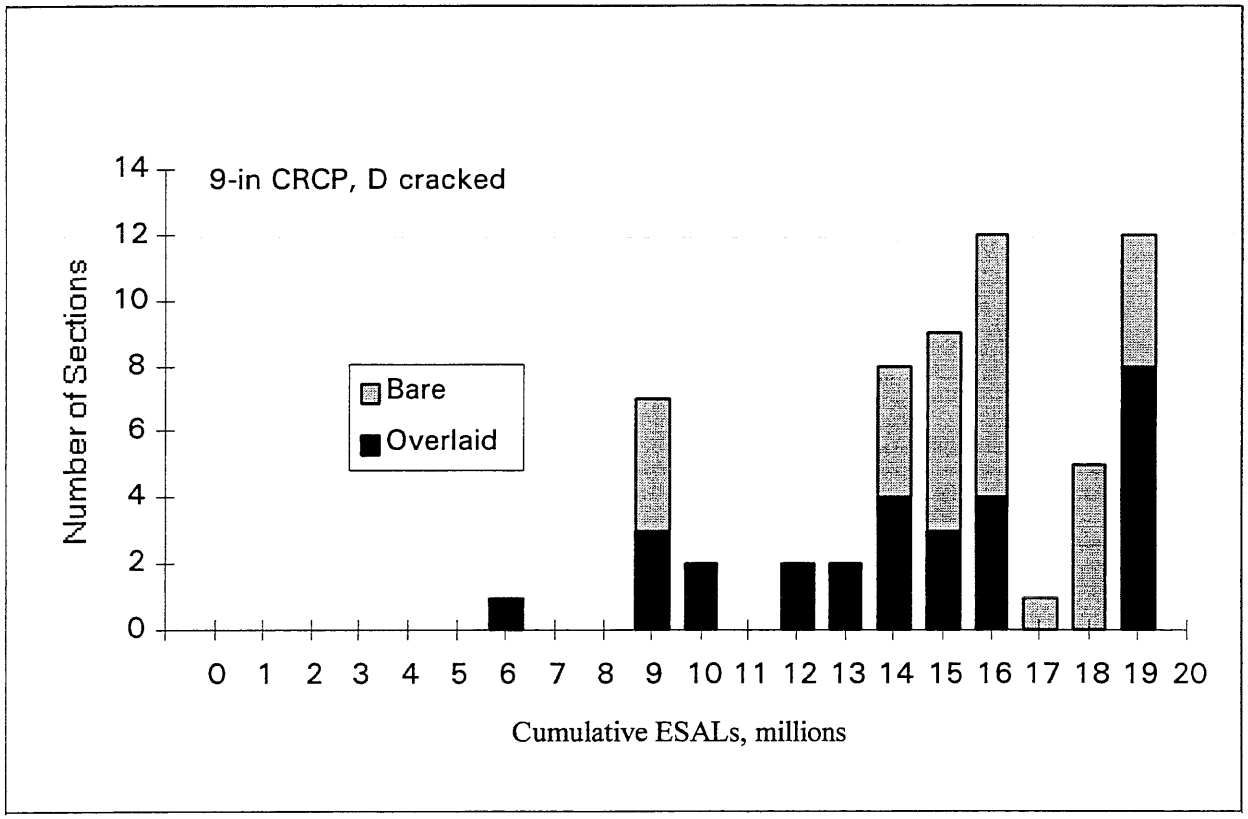

Figure 22. ESAL distribution of 9-in CRCP with D cracking.

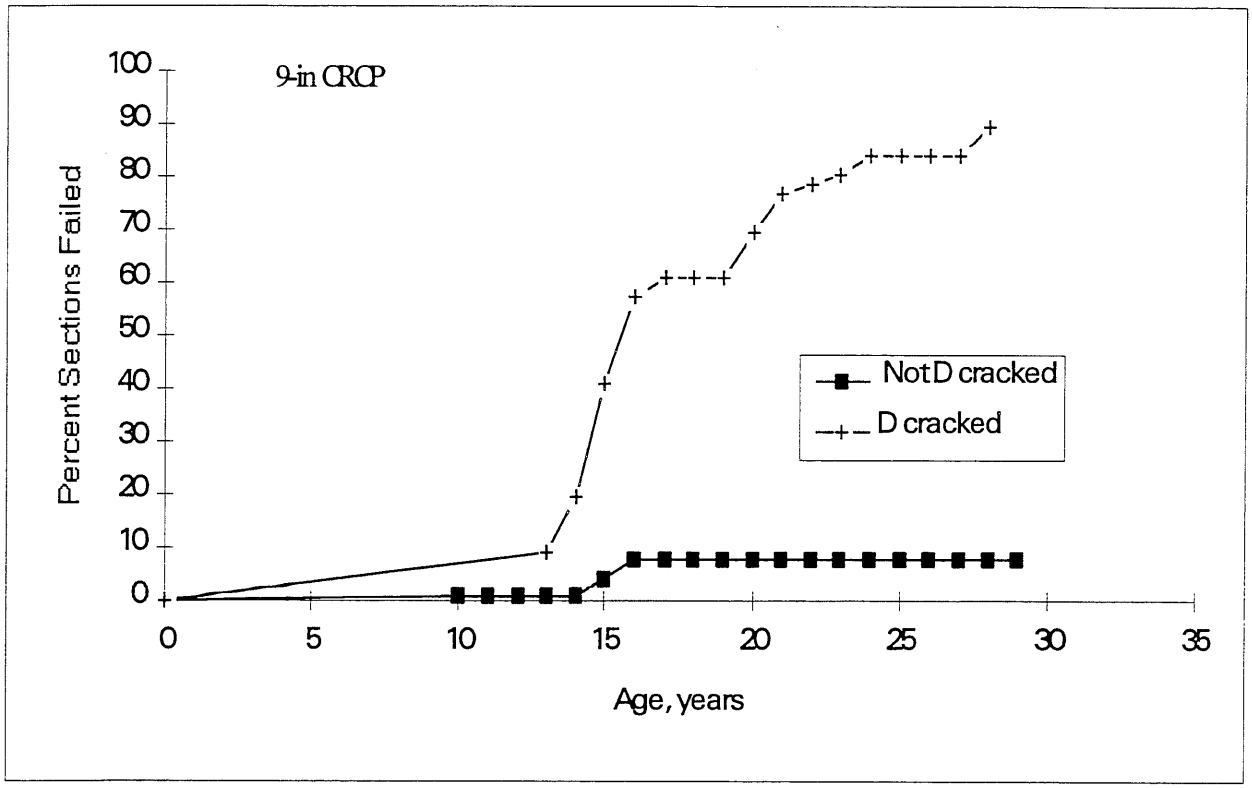

Figure 23. Age survival curves for 9-in CRCP.

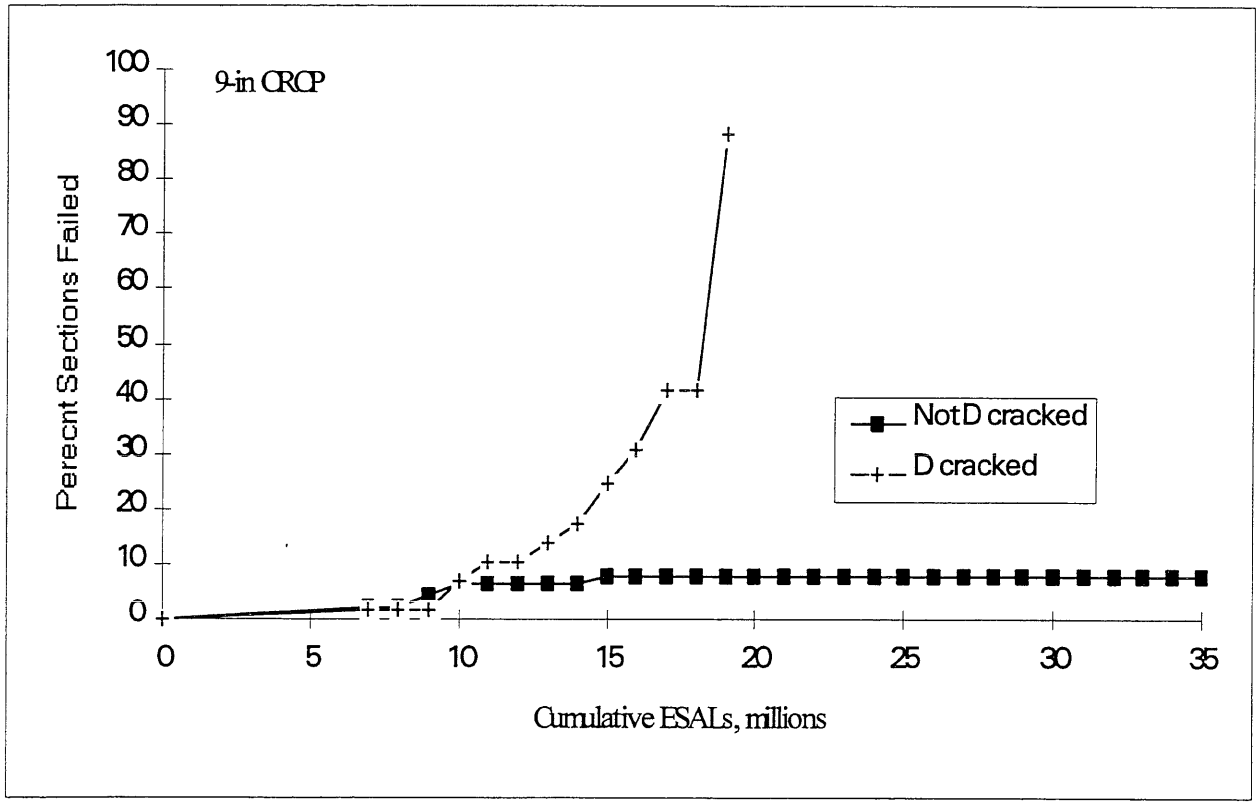

Figure 24. ESAL survival curves for 9-in CRCP

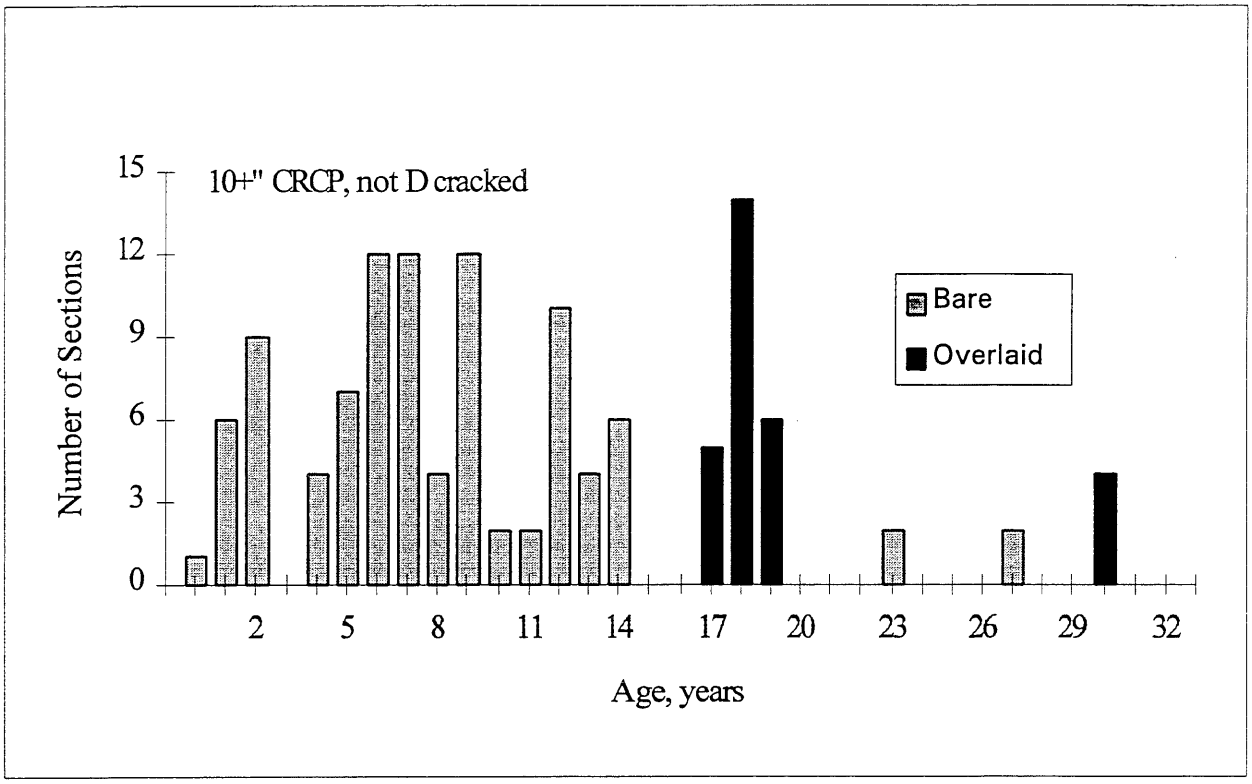

Figure 25. Age distribution of 10-in or more CRCP without D cracking.

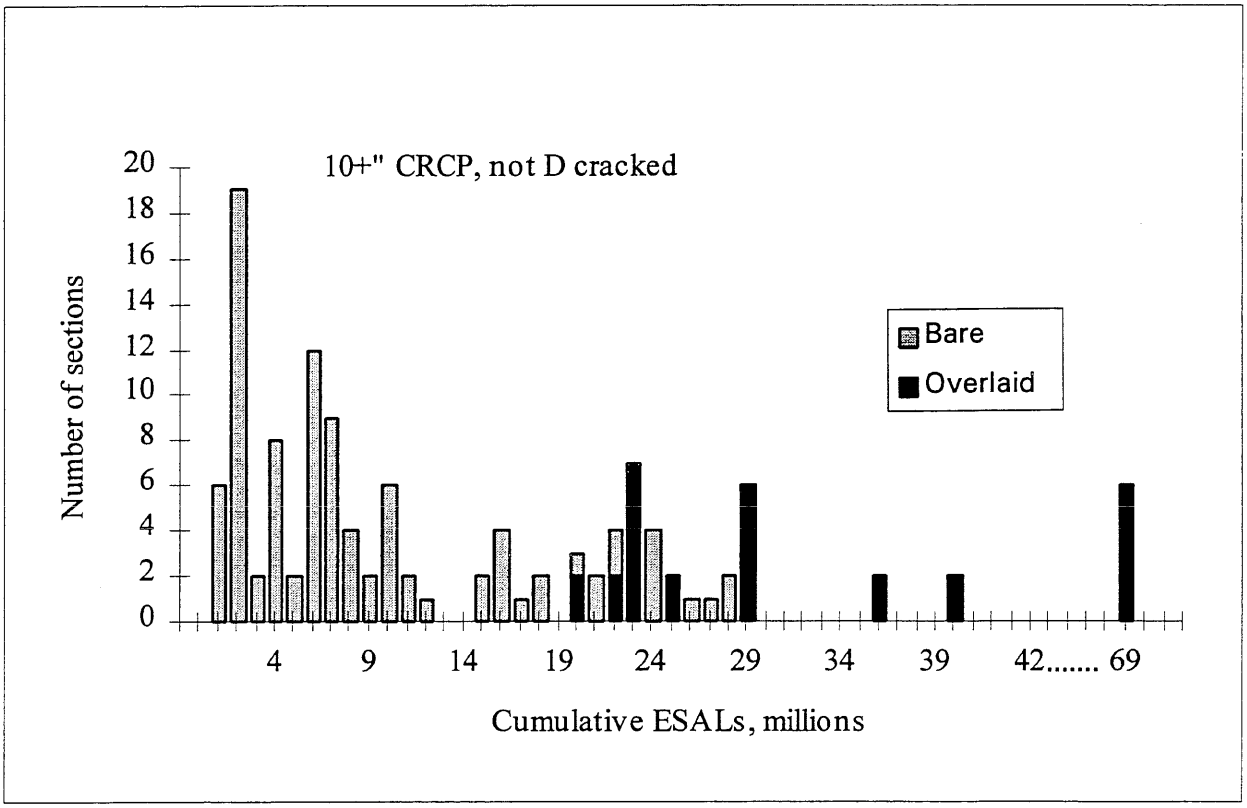

Figure 26. ESAL distribution of 10-in or more CRCP without D cracking.

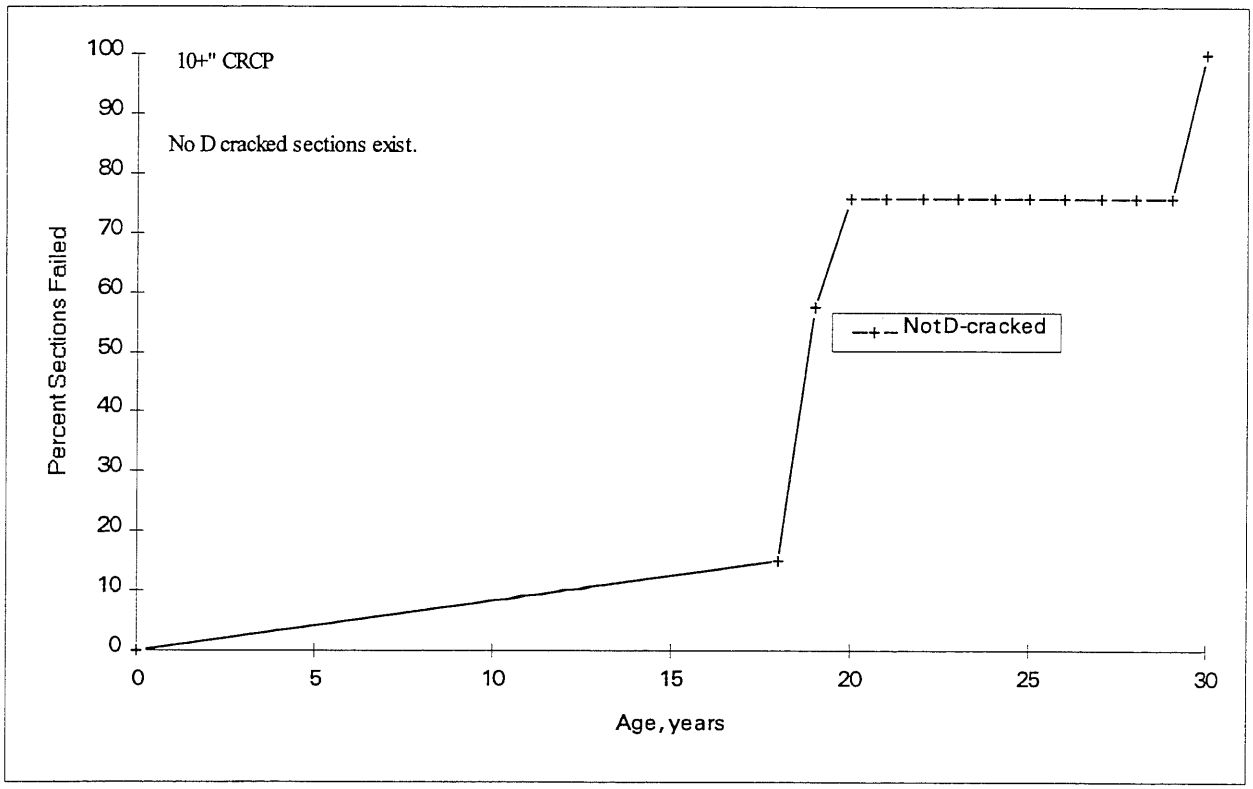

Figure 27. Age survival curves for 10-in or more CRCP.

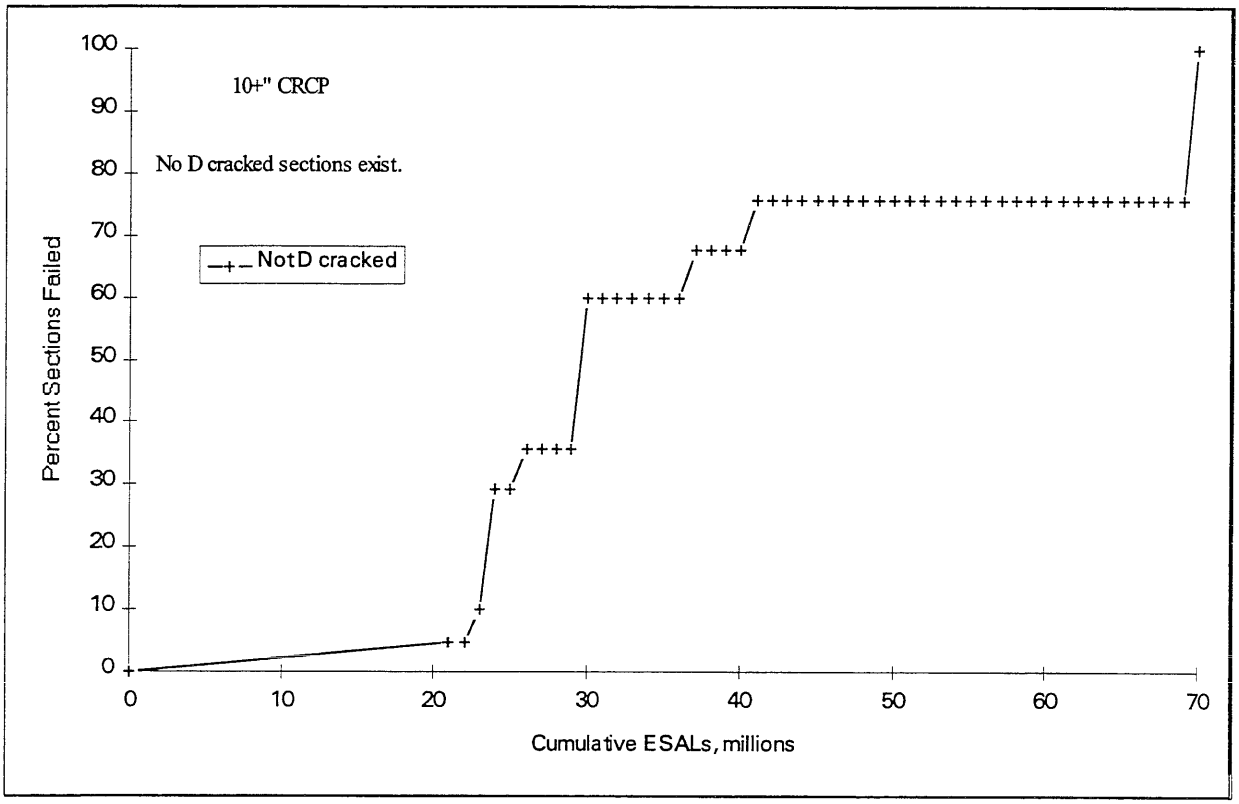

Figure 28. ESAL Survival curves for 10-in or more CRCP.

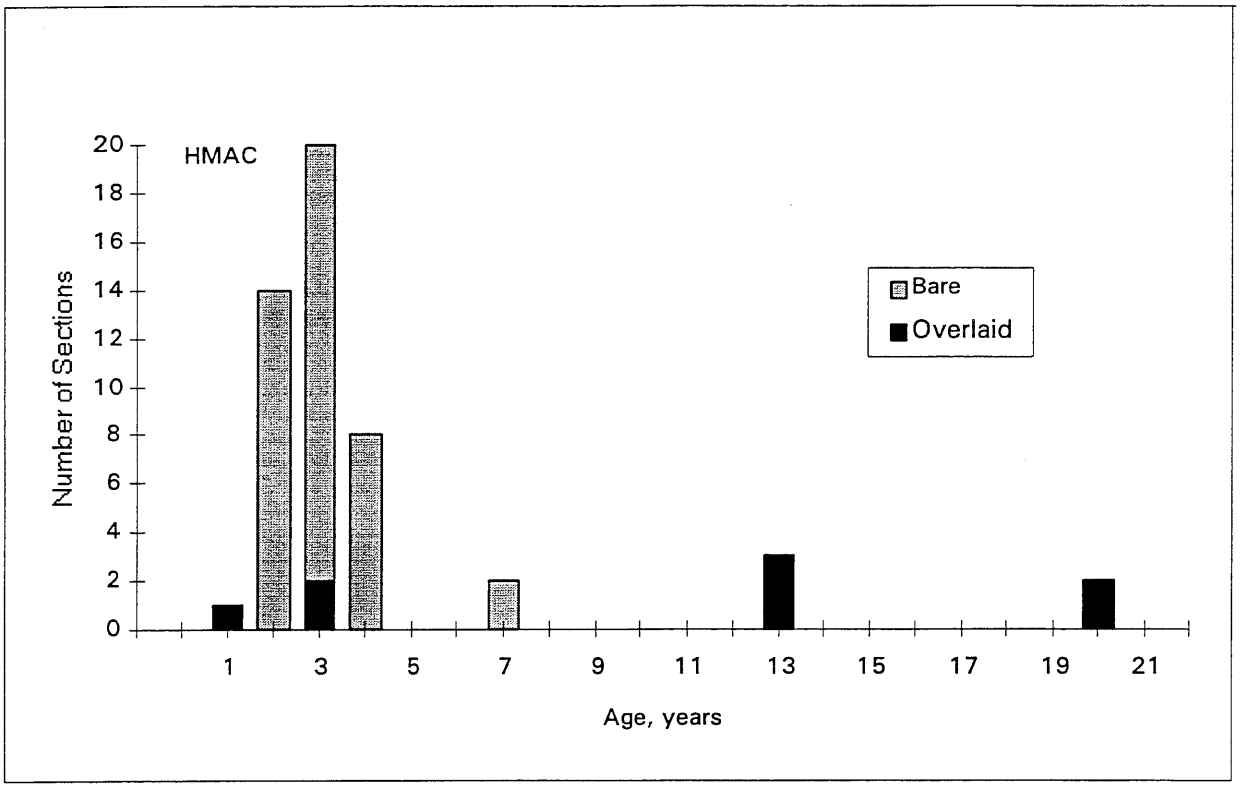

Figure 29. Age distribution of HMAC.

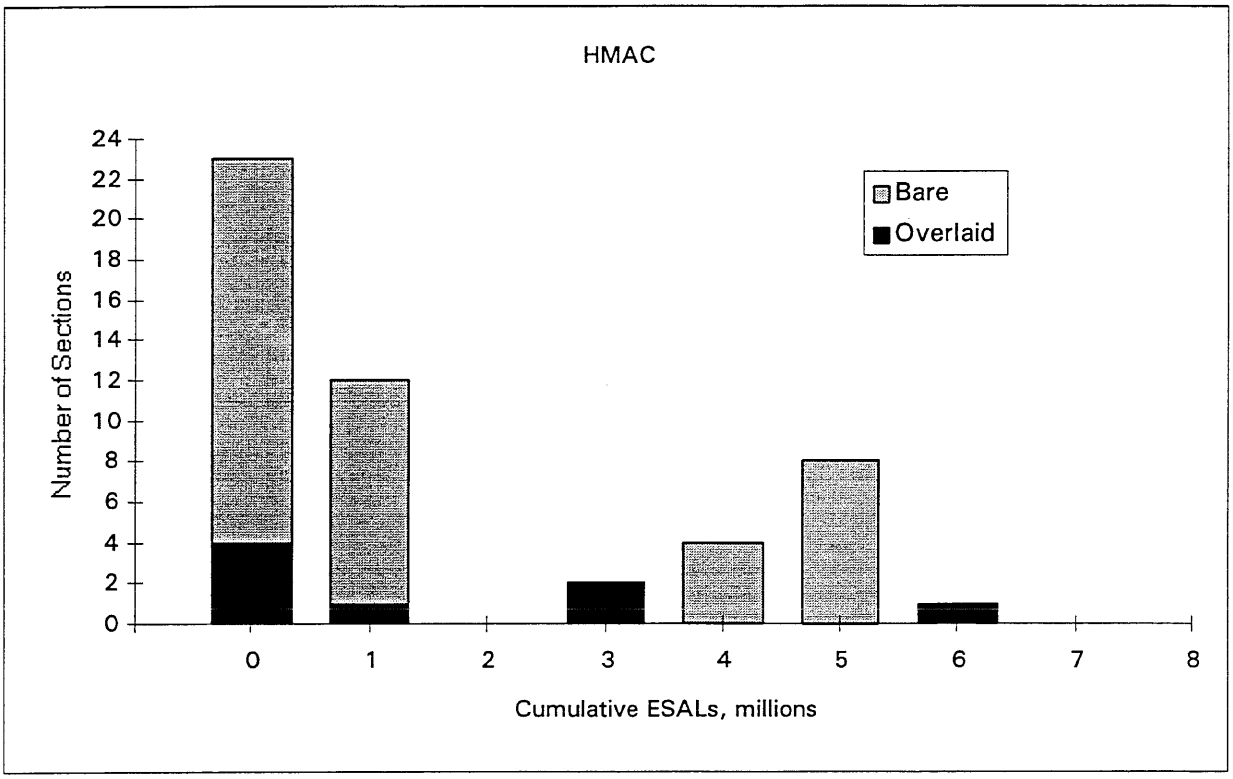

Figure 30. ESAL distribution of HMAC.

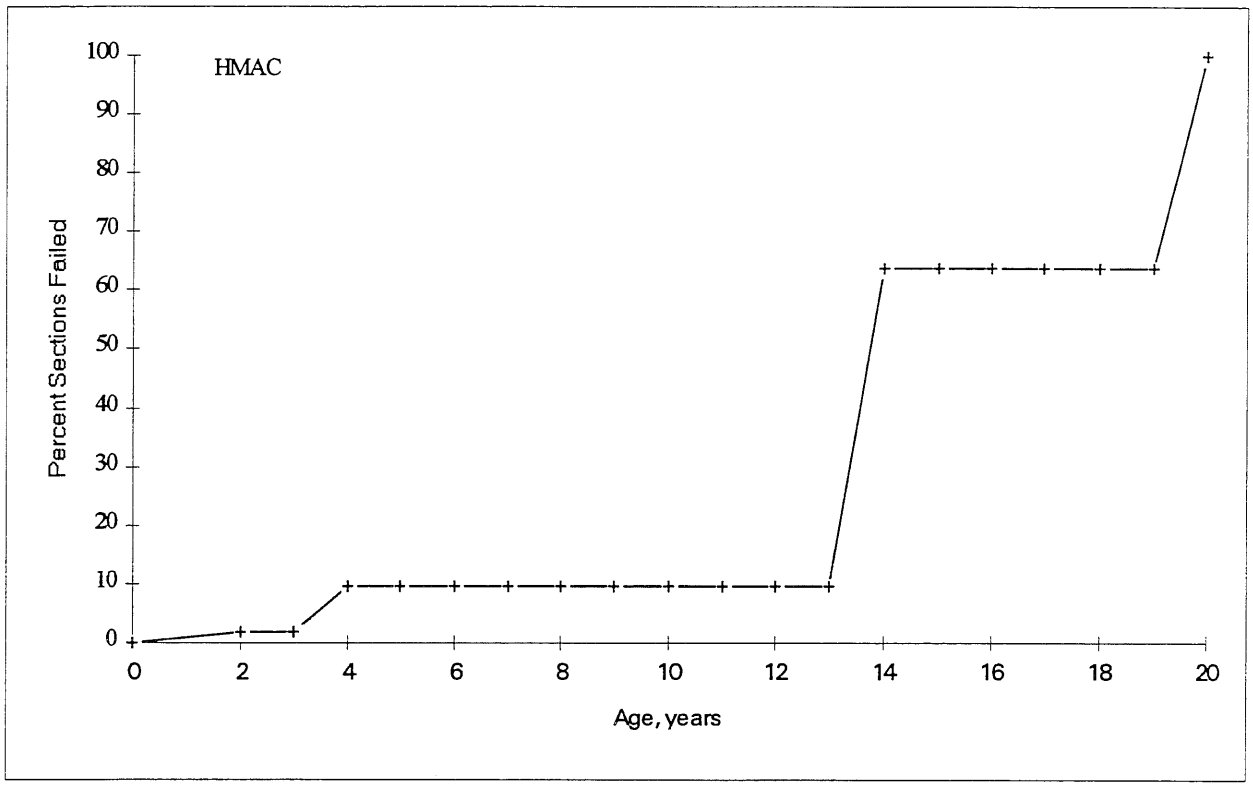

Figure 31. Age Survival curve for HMAC.

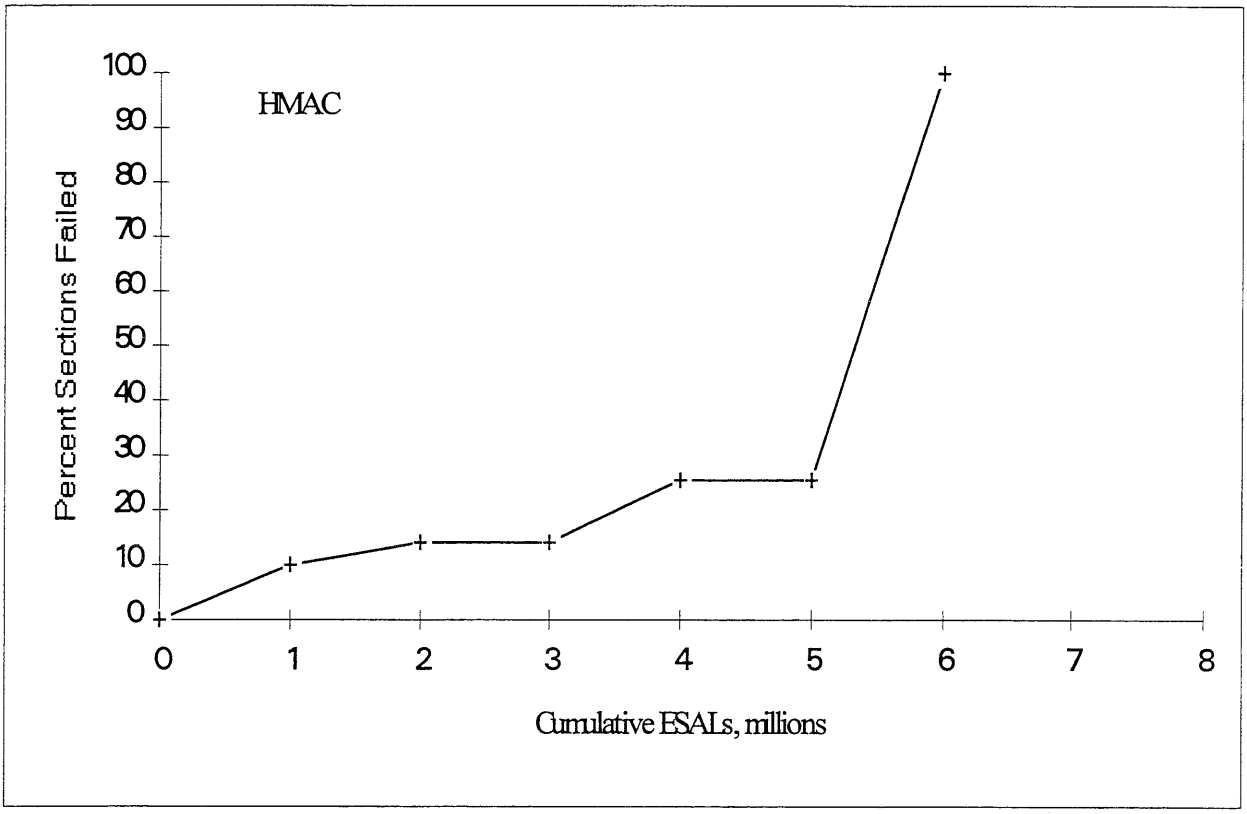

Figure 32. ESAL Survival curve for HMAC.

APPENDIX B

SURVIVAL CURVES AND DISTRIBUTIONS

FOR FIRST AC OVERLAYS OF JRCP, CRCP and HMAC

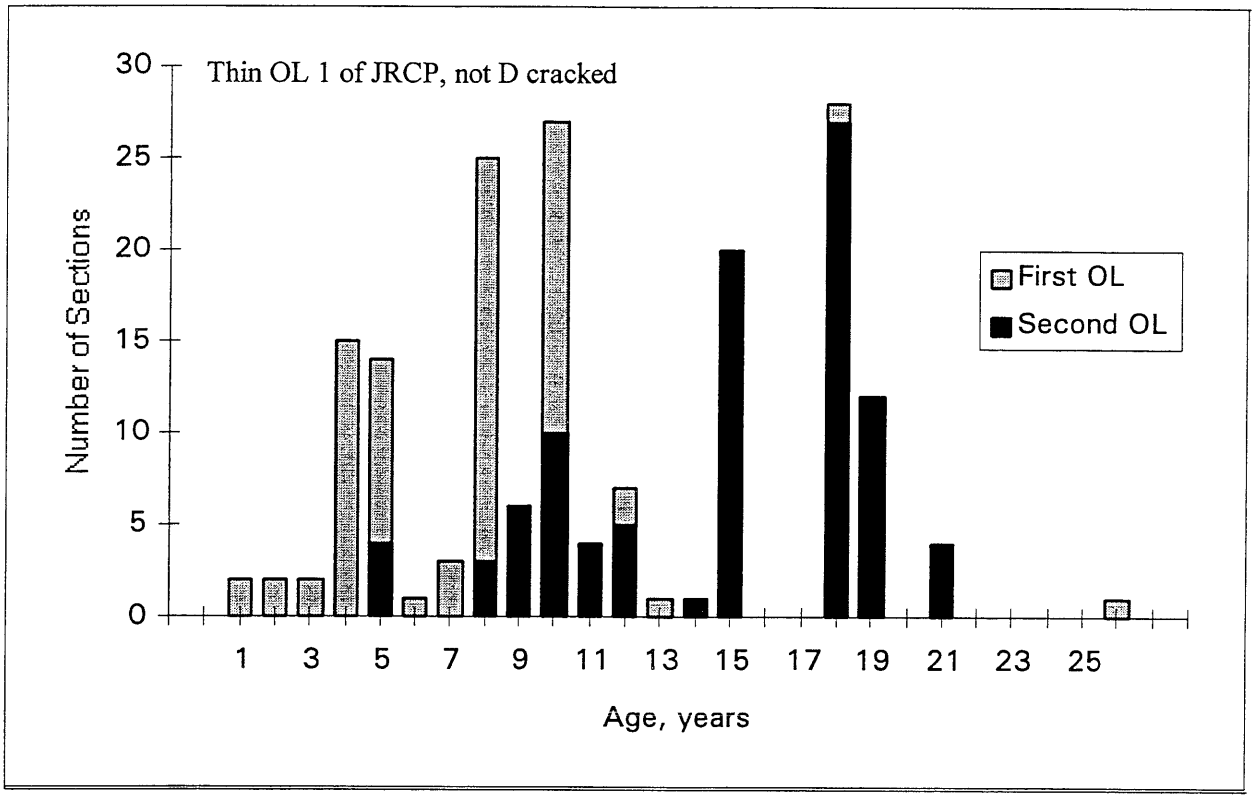

Figure 33. Age distribution for first (thin) AC overlays over JRCP, without D cracking.

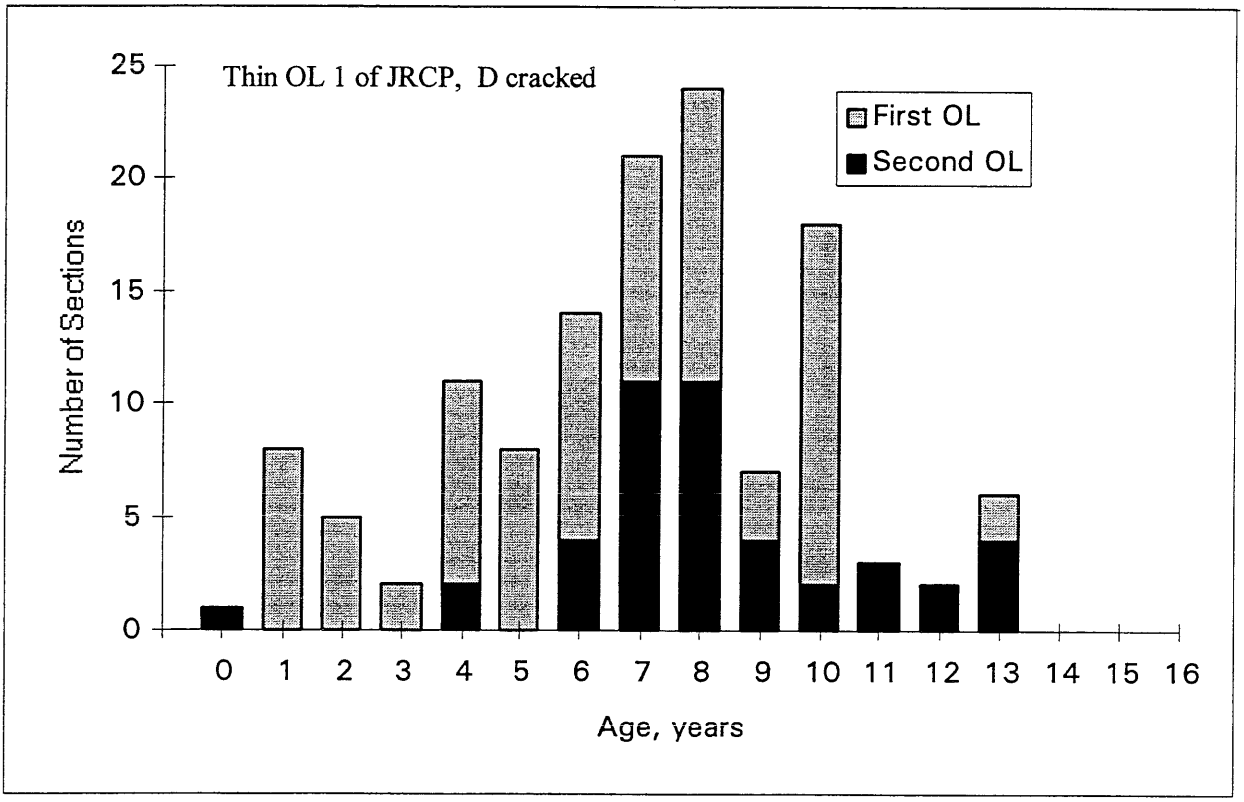

Figure 34. Age distribution for first (thin) AC overlays over JRCP, with D cracking.

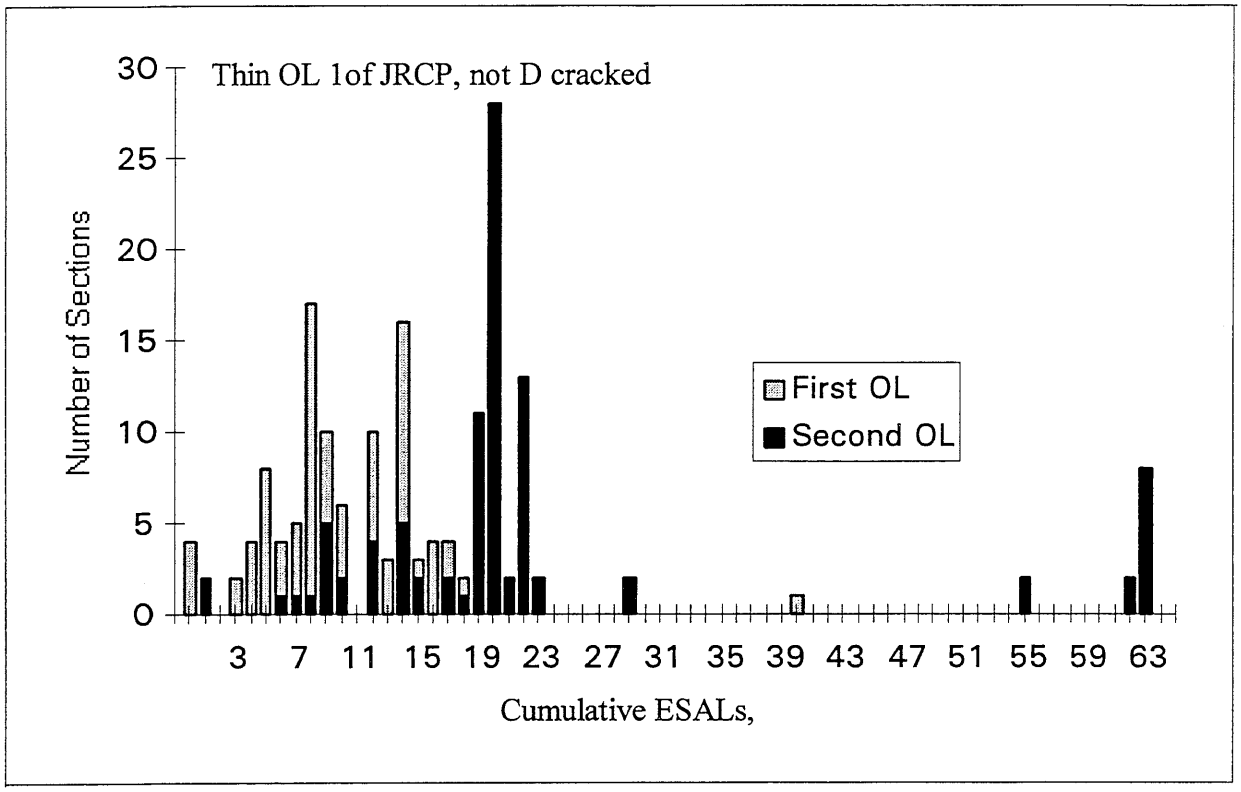

Figure 35. ESAL distribution for first (thin) AC overlays over JRCP, without D cracking.

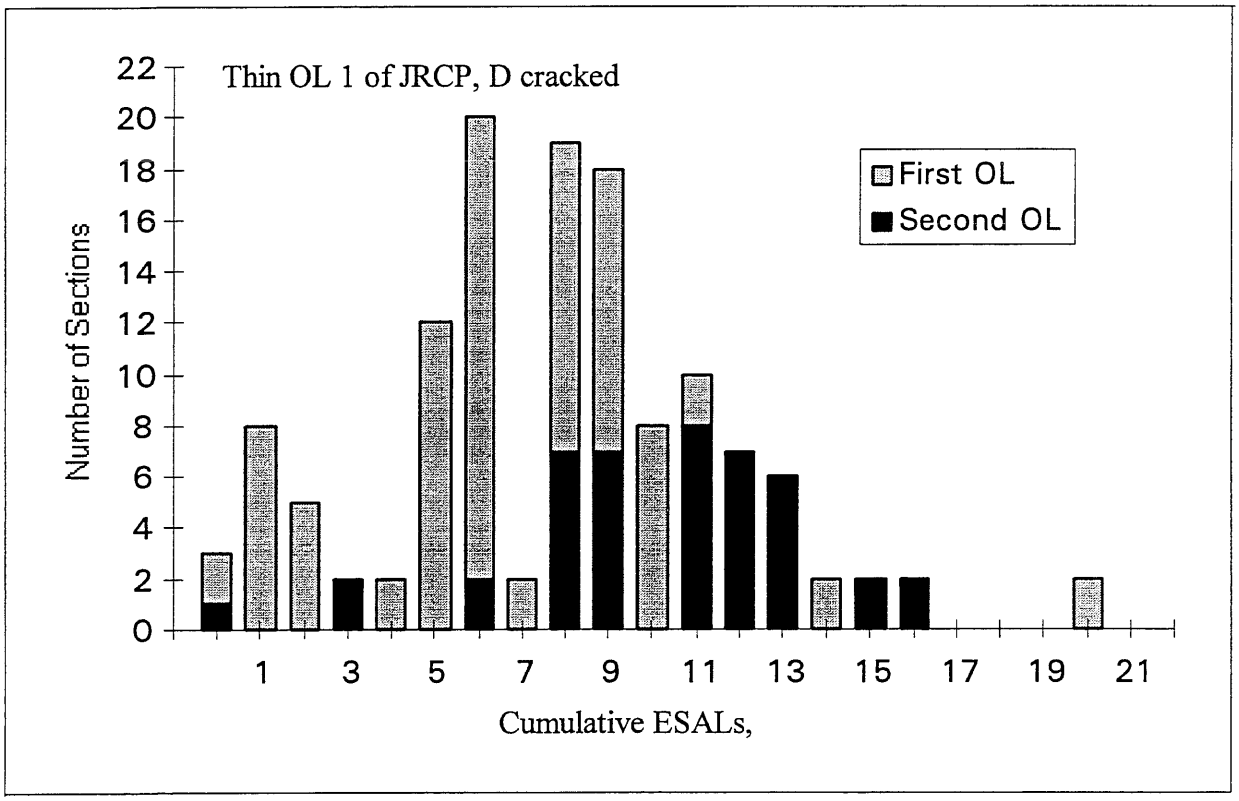

Figure 36. ESAL distribution for first (thin) AC overlays over JRCP, with D cracking.

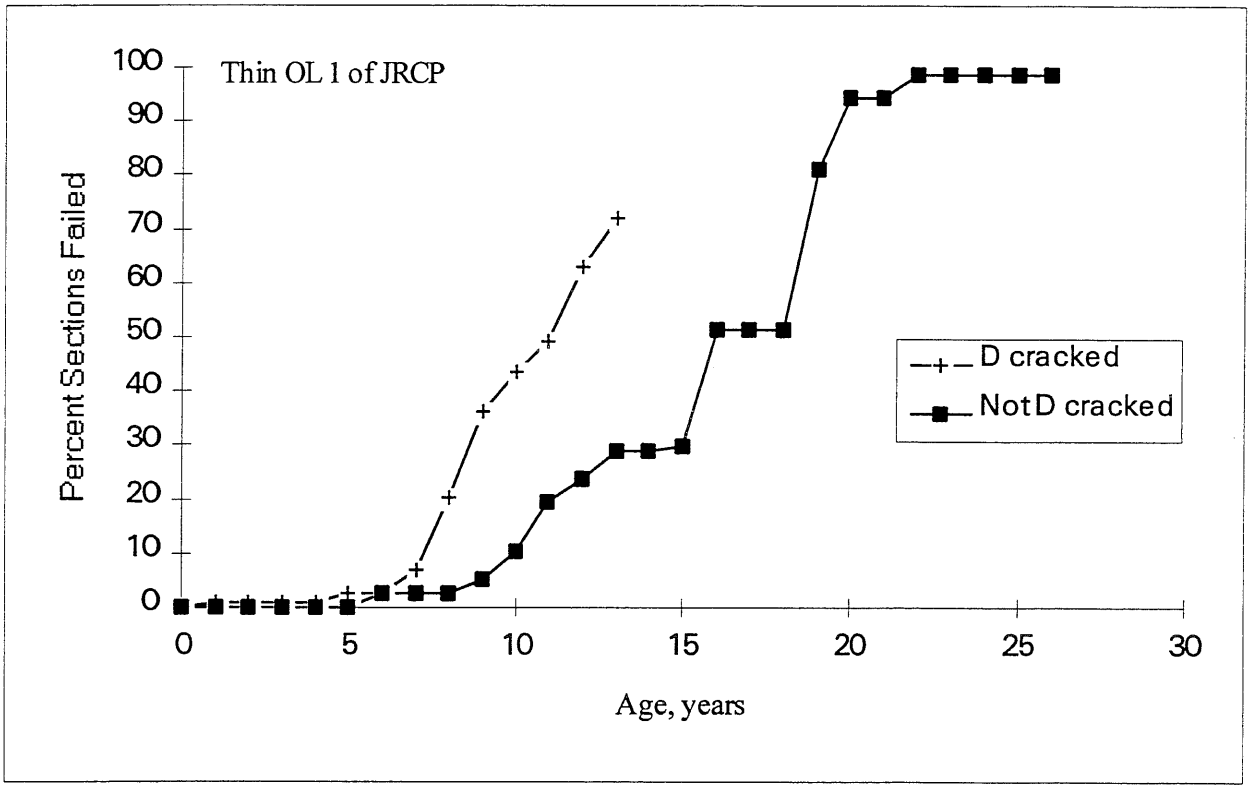

Figure 37. Age survival curves for first (thin) AC overlays over JRCP.

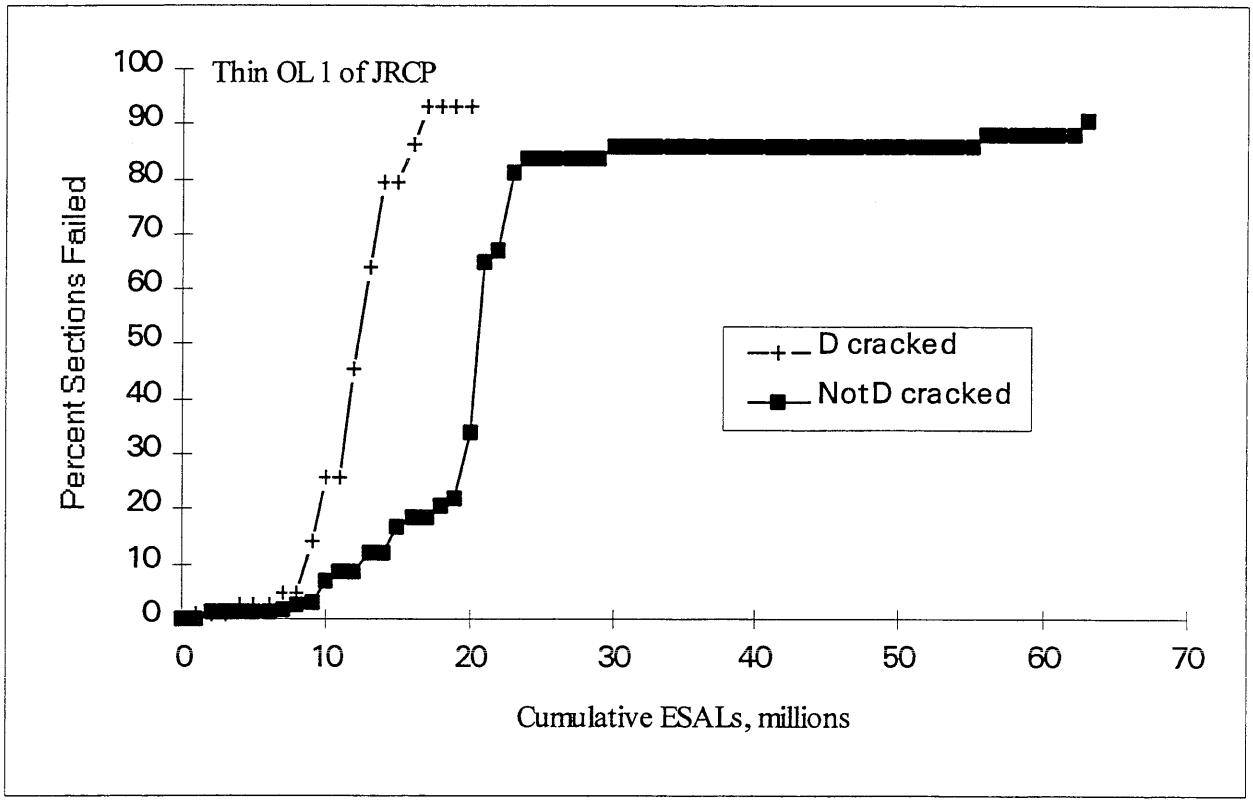

Figure 38. ESAL survival curves for first (thin) AC overlays over JRCP.

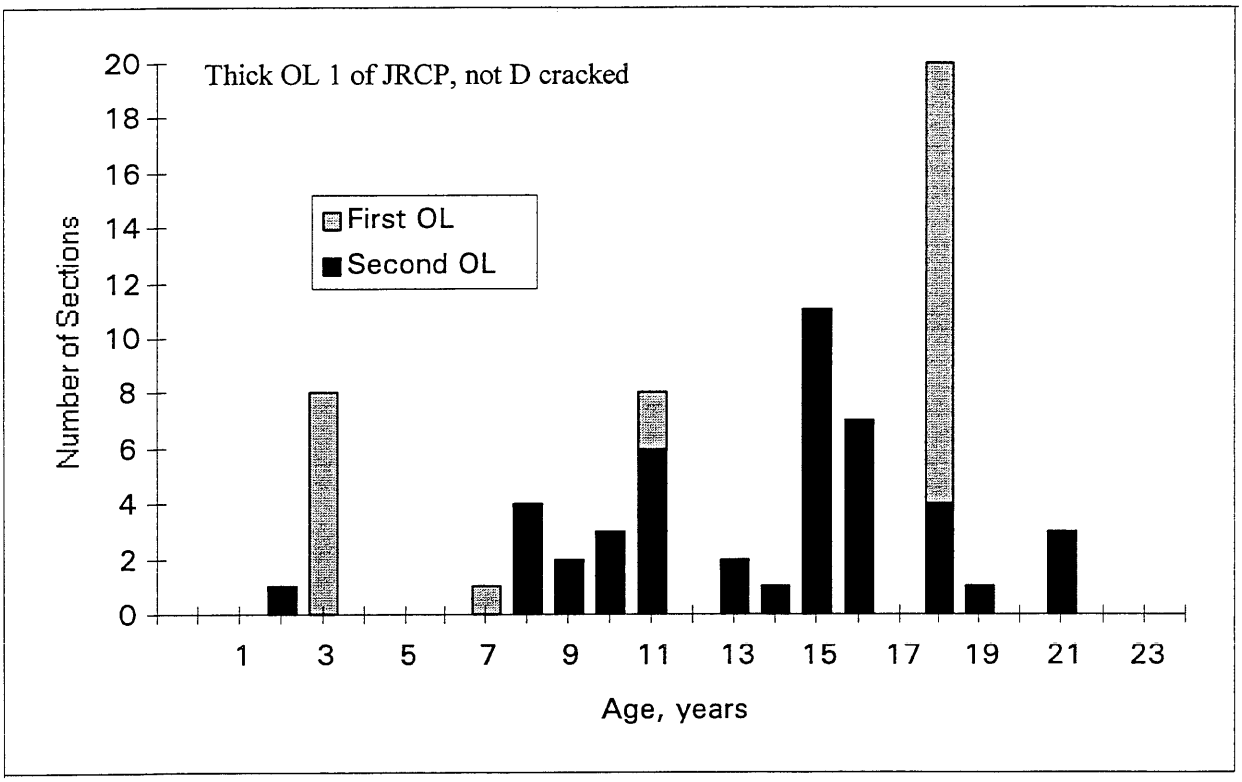

Figure 39. Age distribution for first (thick) AC overlays over JRCP, without D cracking.

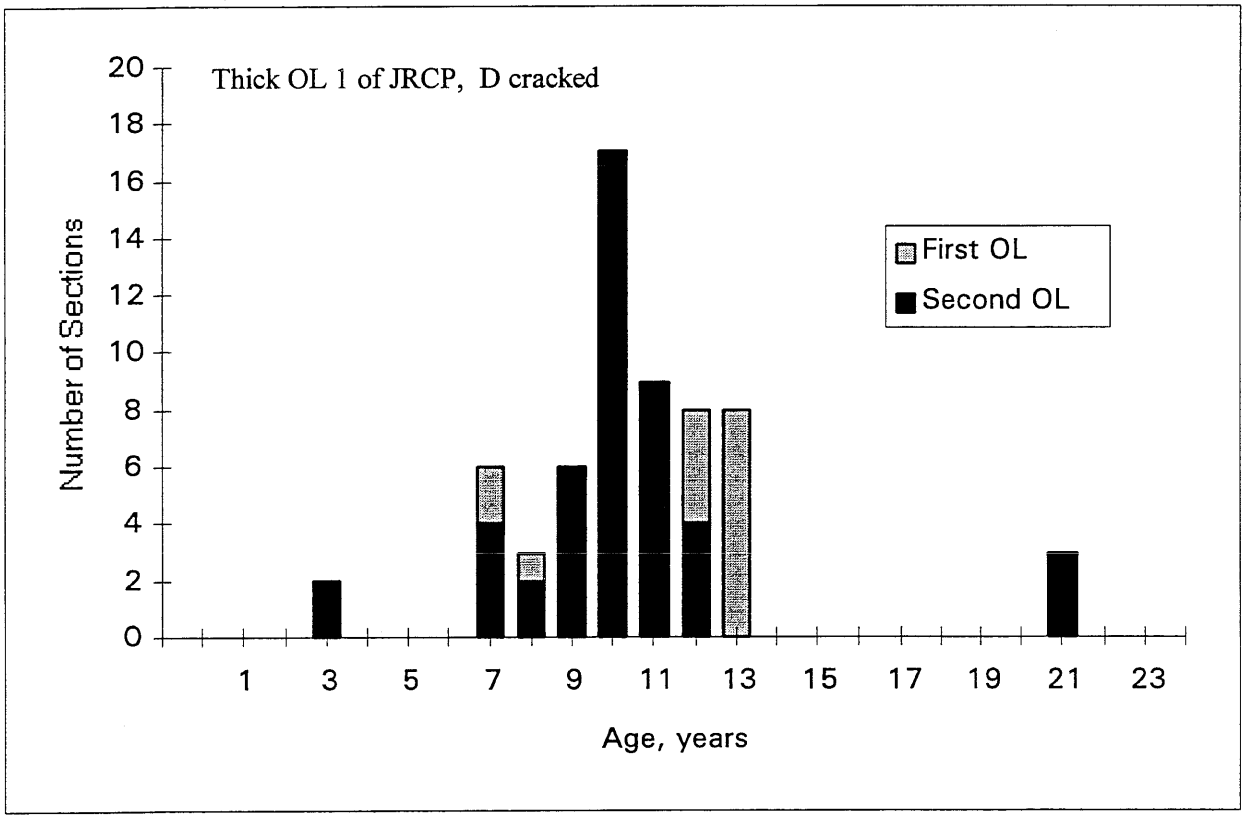

Figure 40. Age distribution for first (thick) AC overlays over JRCP, with D cracking.

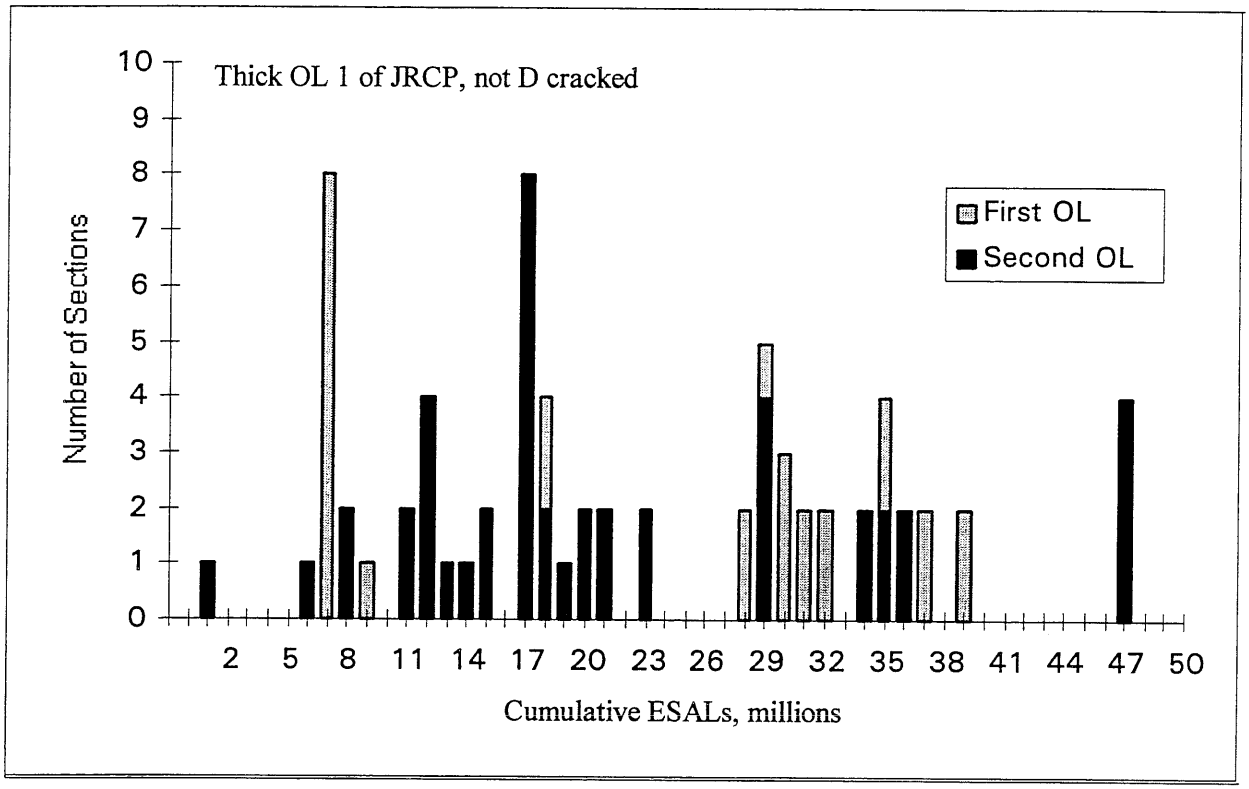

Figure 41. ESAL distribution for first (thick) AC overlays over JRCP, without D cracking.

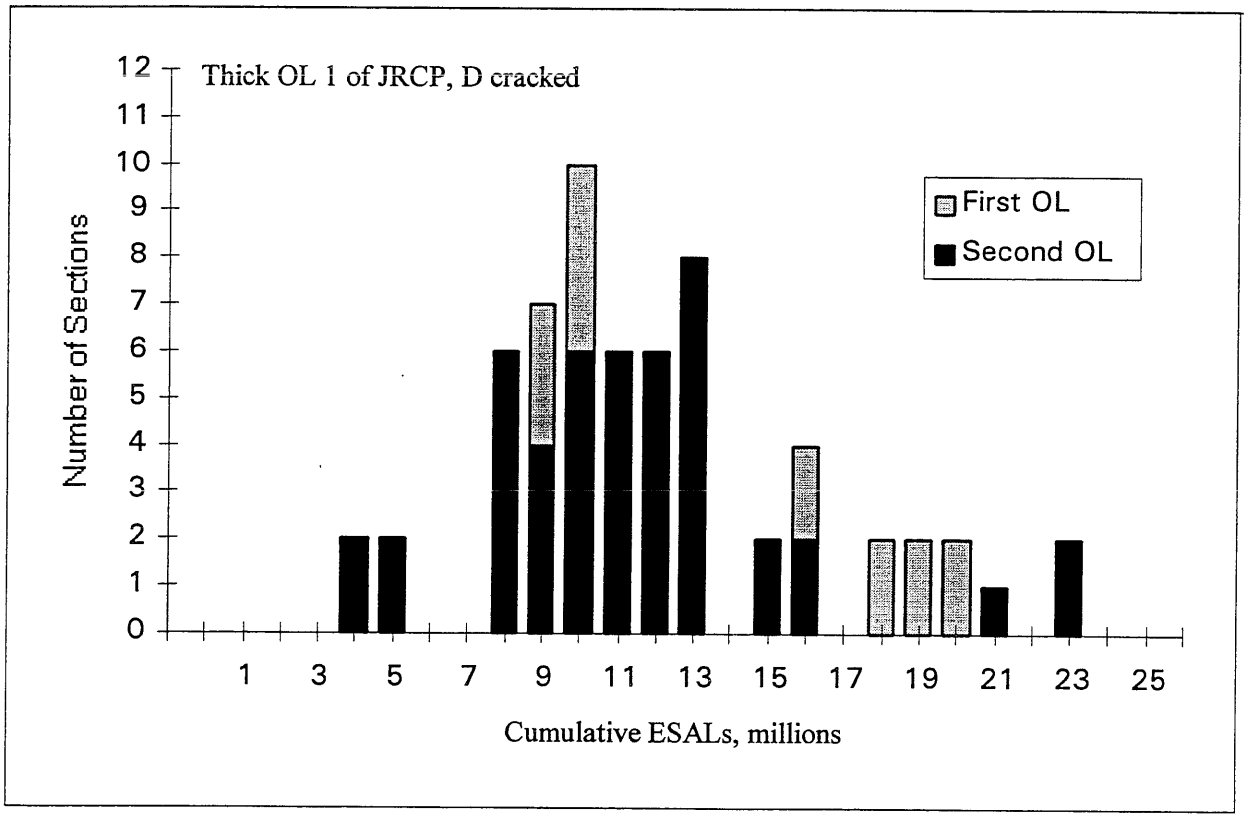

Figure 42. ESAL distribution for first (thick) AC overlays over JRCP, with D cracking.

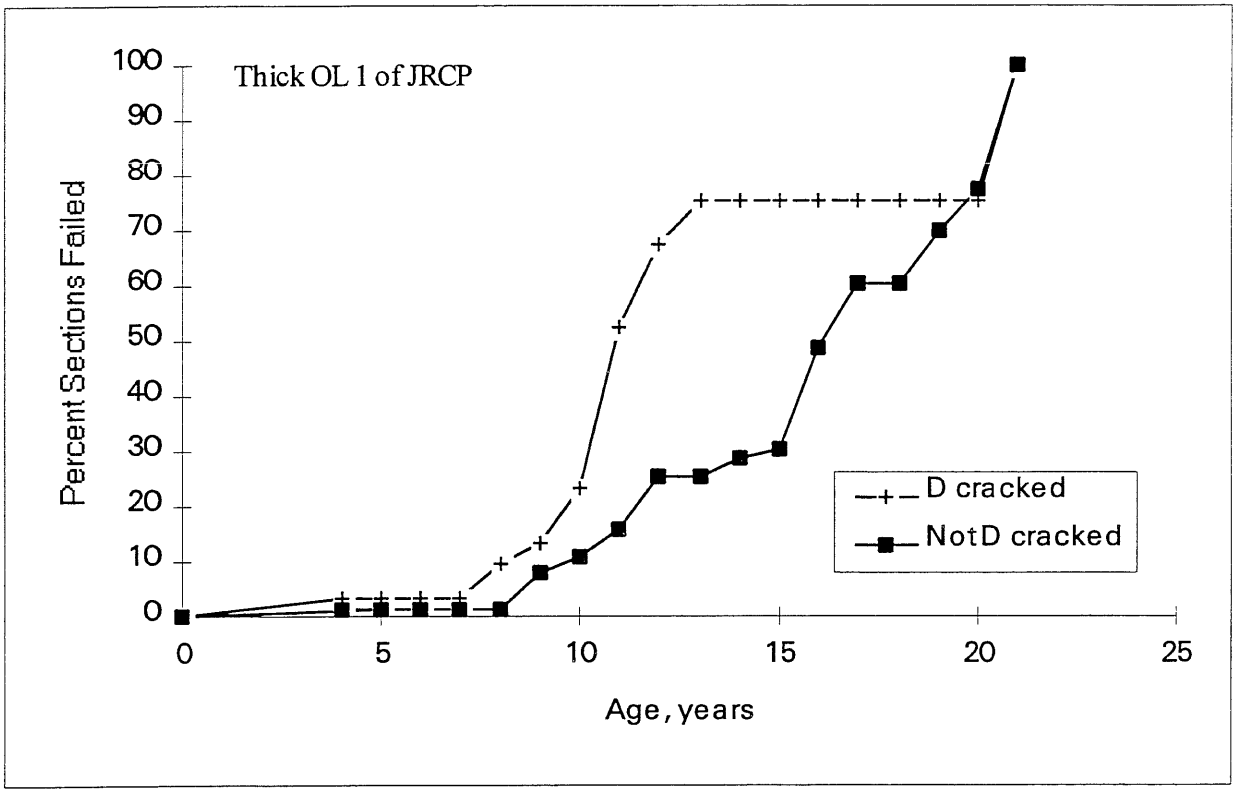

Figure 43. Age survival curves for first (thick) AC overlays over JRCP.

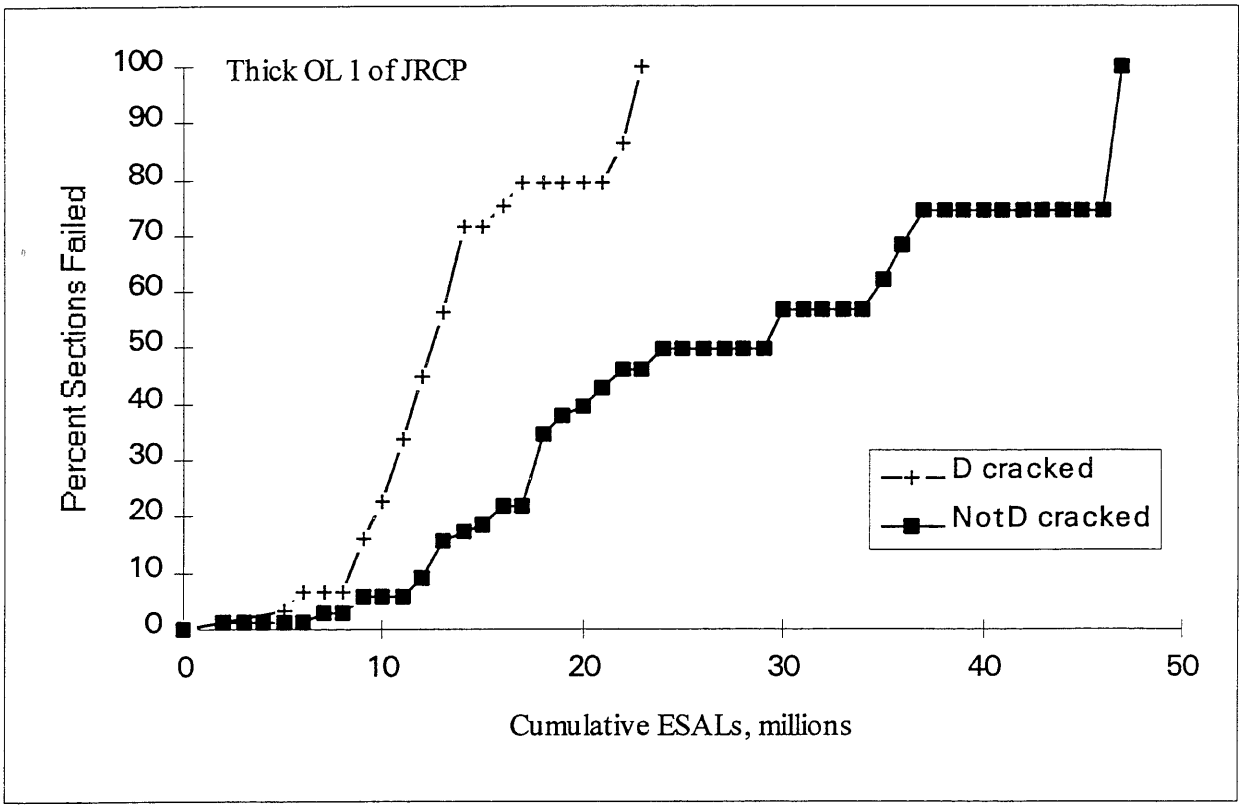

Figure 44. ESAL survival curves for first (thick) AC overlays over JRCP.

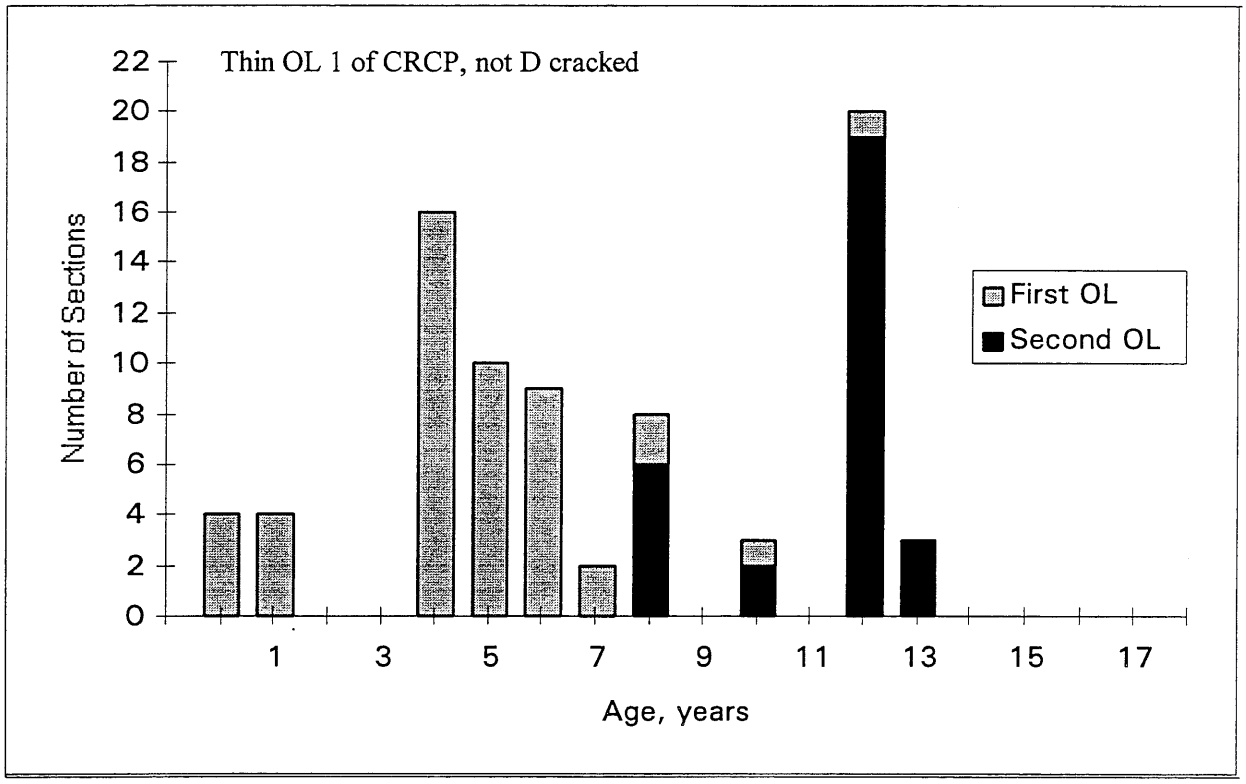

Figure 45. Age distribution for first (thin) AC overlays over CRCP, without D cracking.

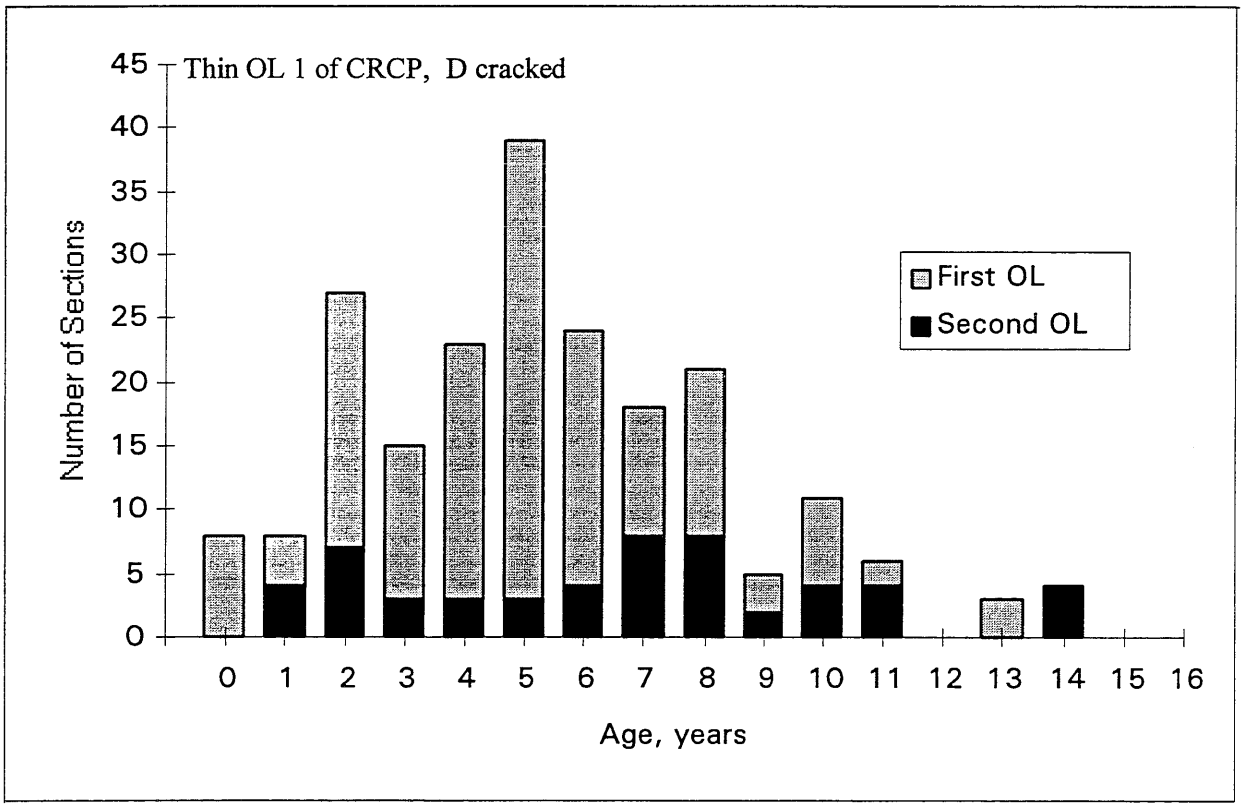

Figure 46. Age distribution for first (thin) AC overlays over CRCP, with D cracking.

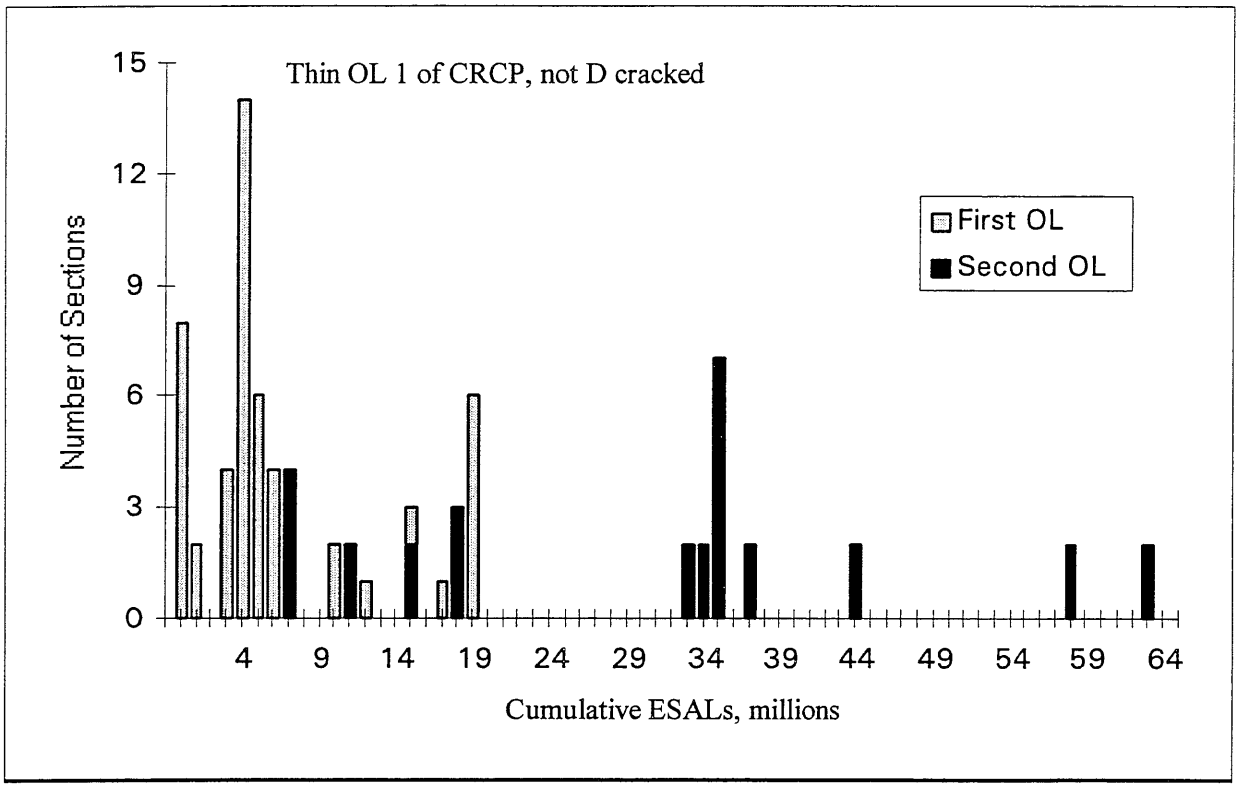

Figure 47. ESAL distribution for first (thin) AC overlays over CRCP, without D cracking.

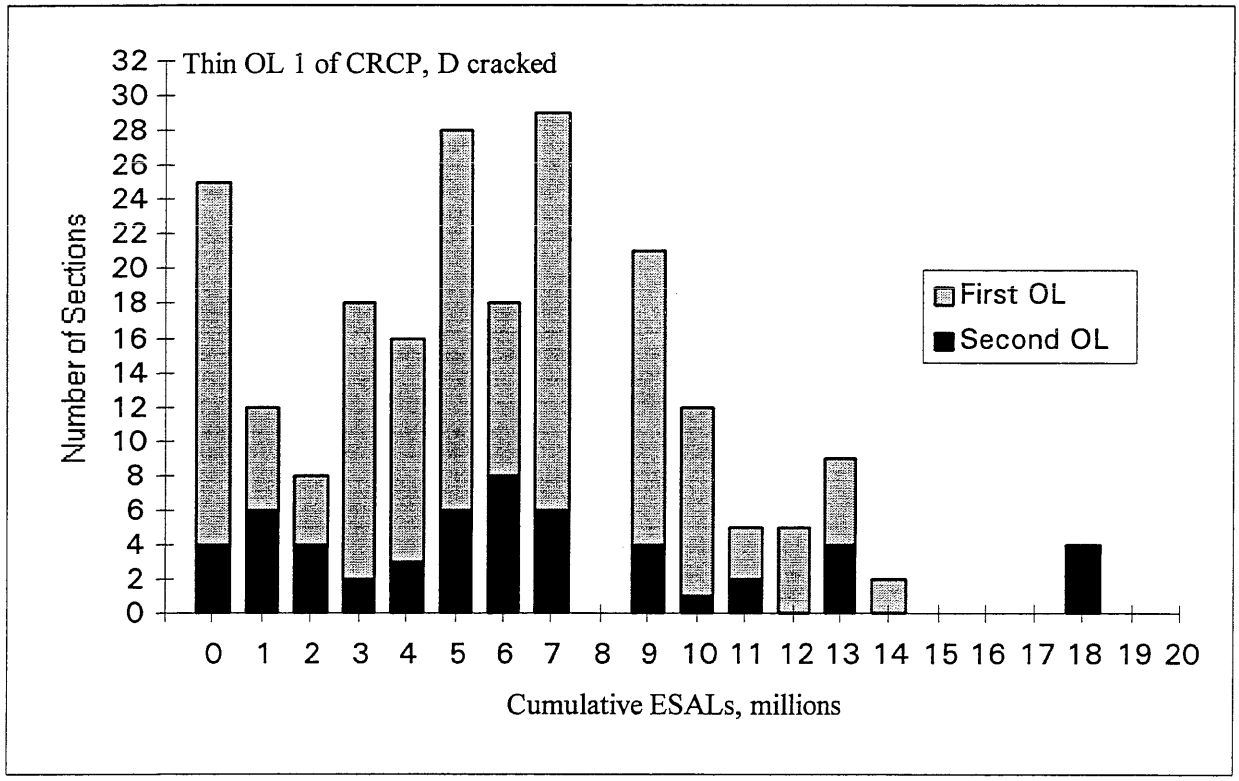

Figure 48. ESAL distribution for first (thin) AC overlays over CRCP, with D cracking.

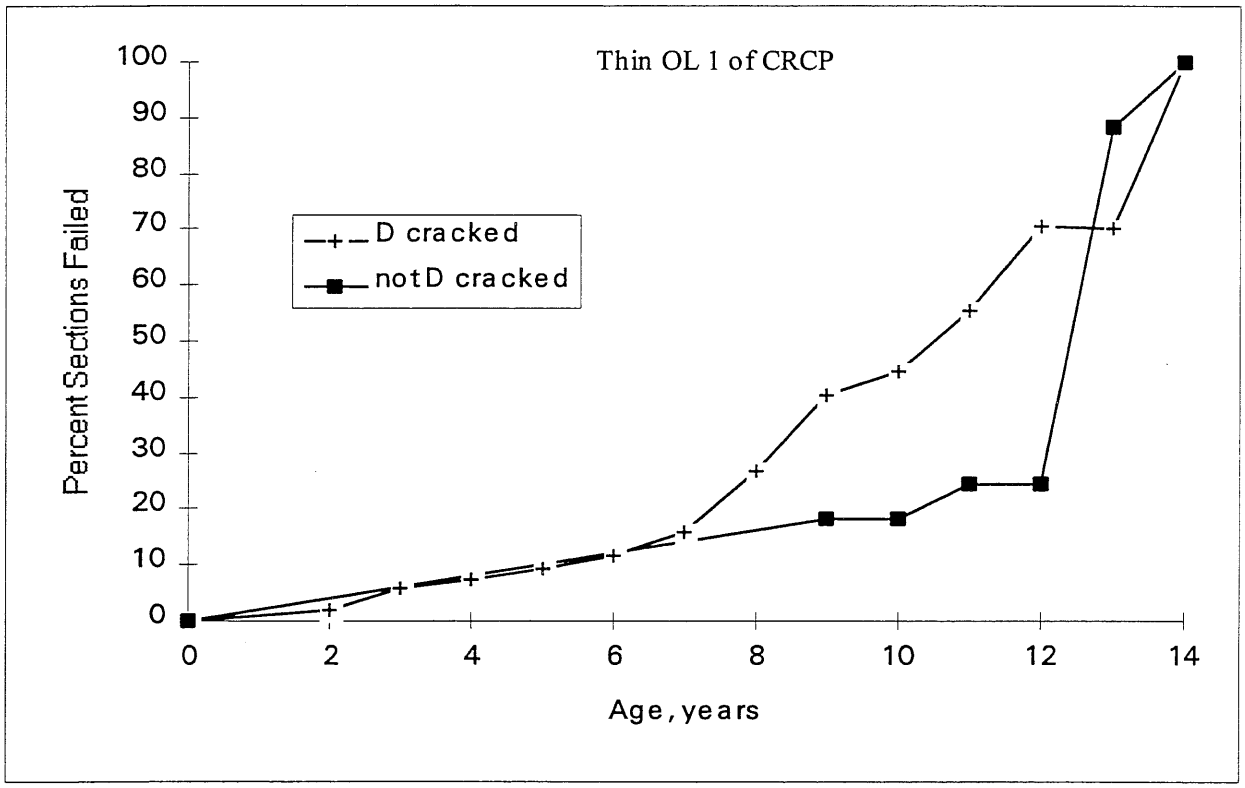

Figure 49. Age survival curves for first (thin) AC overlays over CRCP.

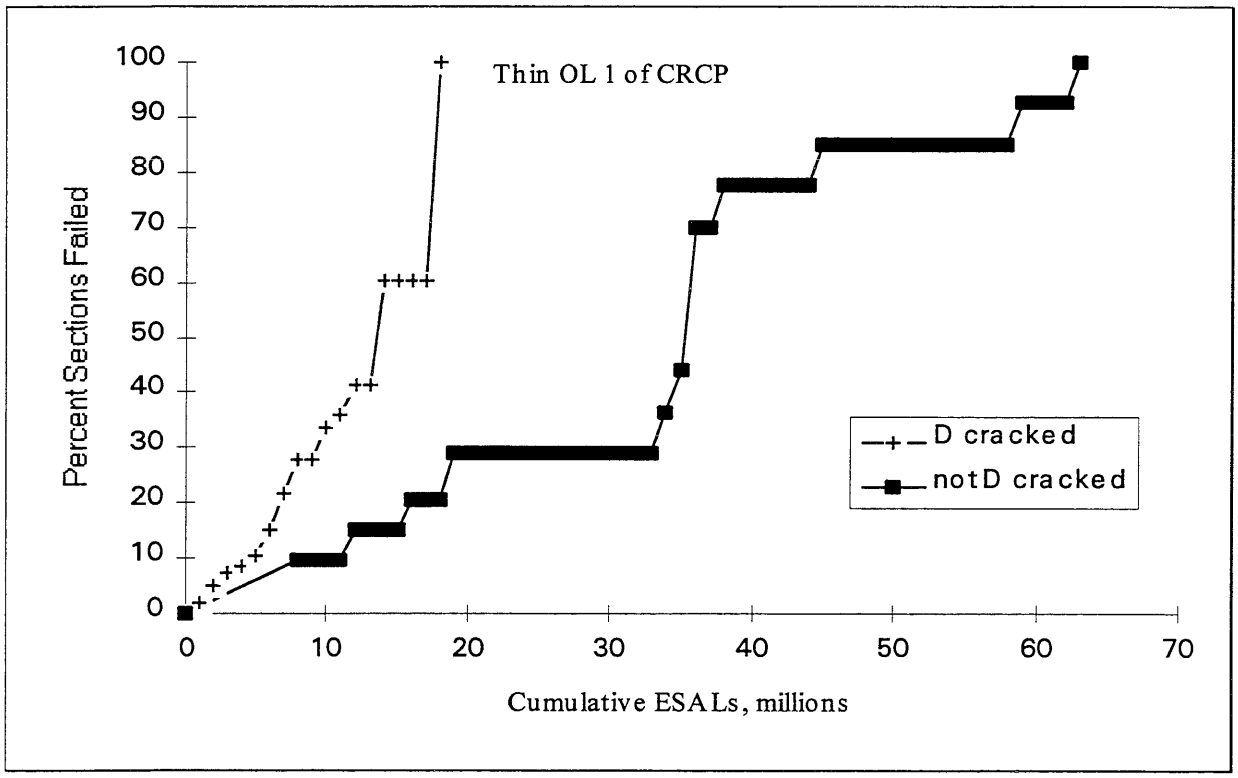

Figure 50. ESAL survival curves for first (thin) AC overlays over CRCP.

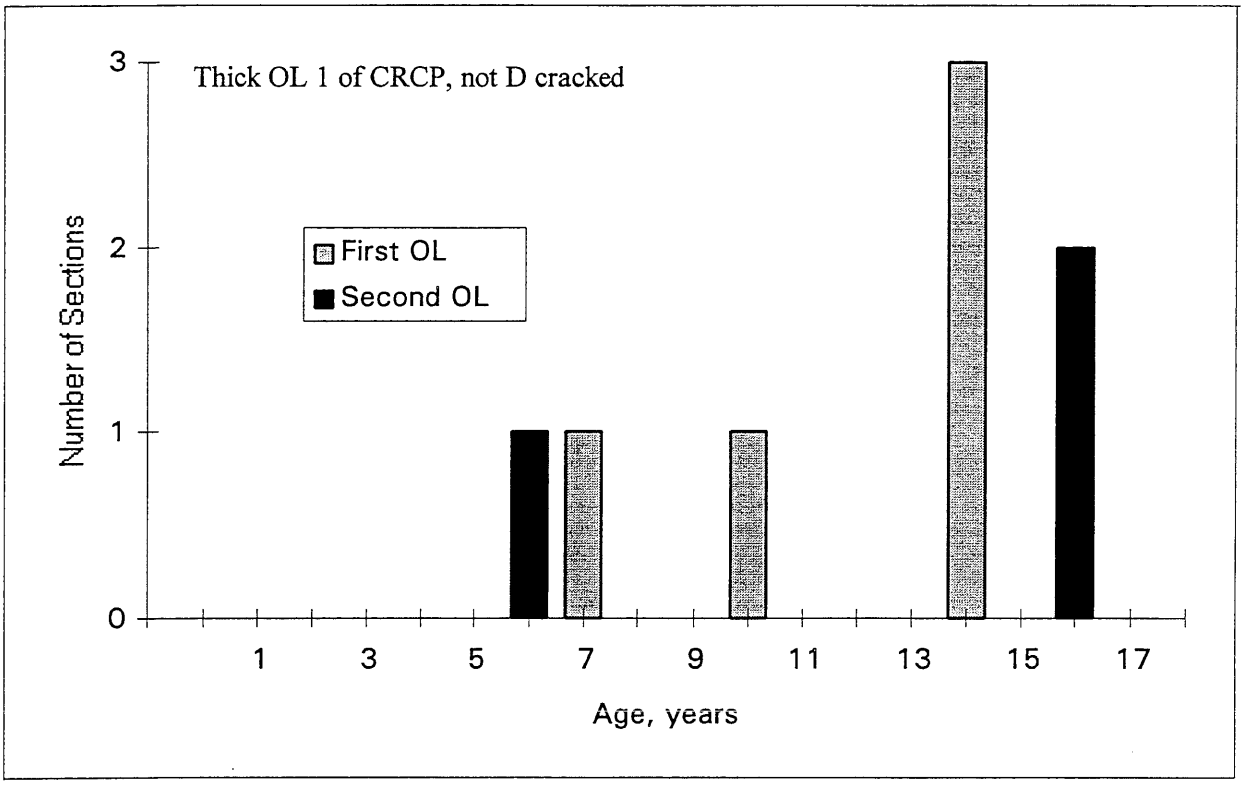

Figure 51. Age distribution for first (thick) AC overlays over CRCP, without D cracking.

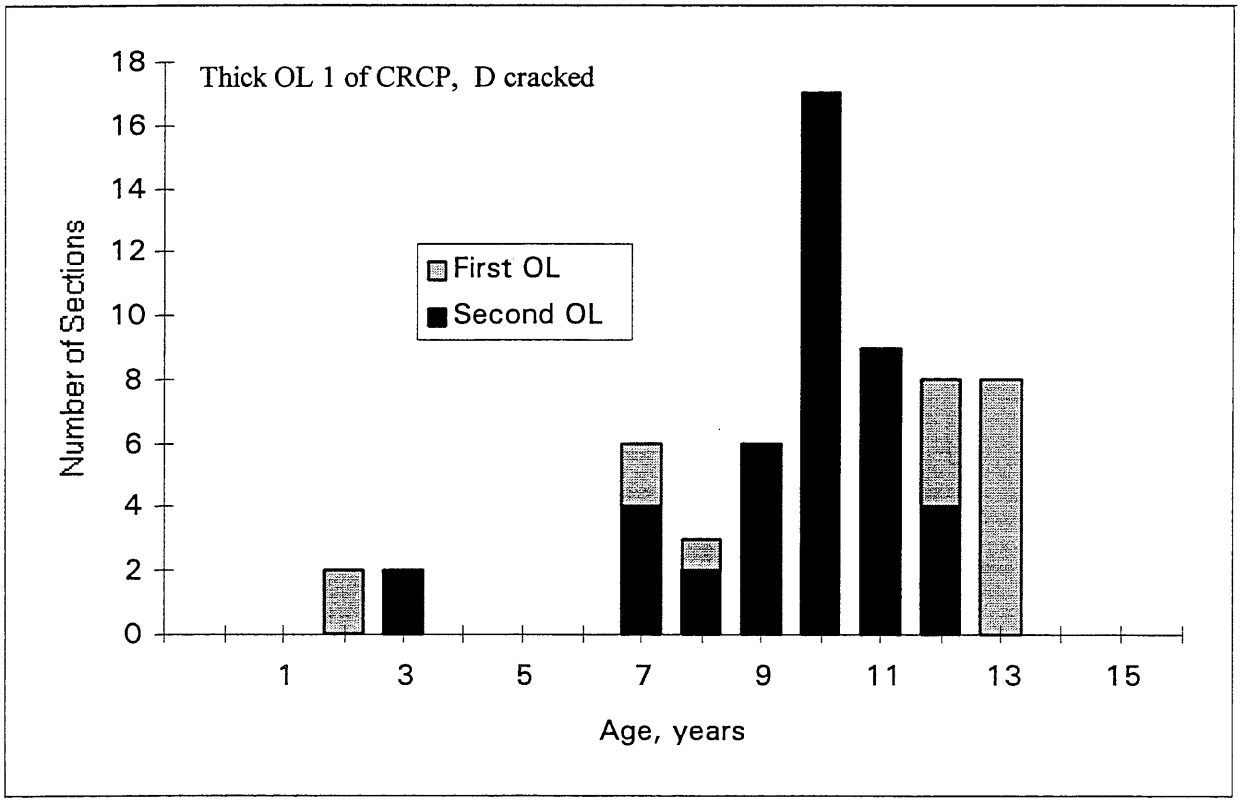

Figure 52. Age distribution for first (thick) AC overlays over CRCP, with D cracking.

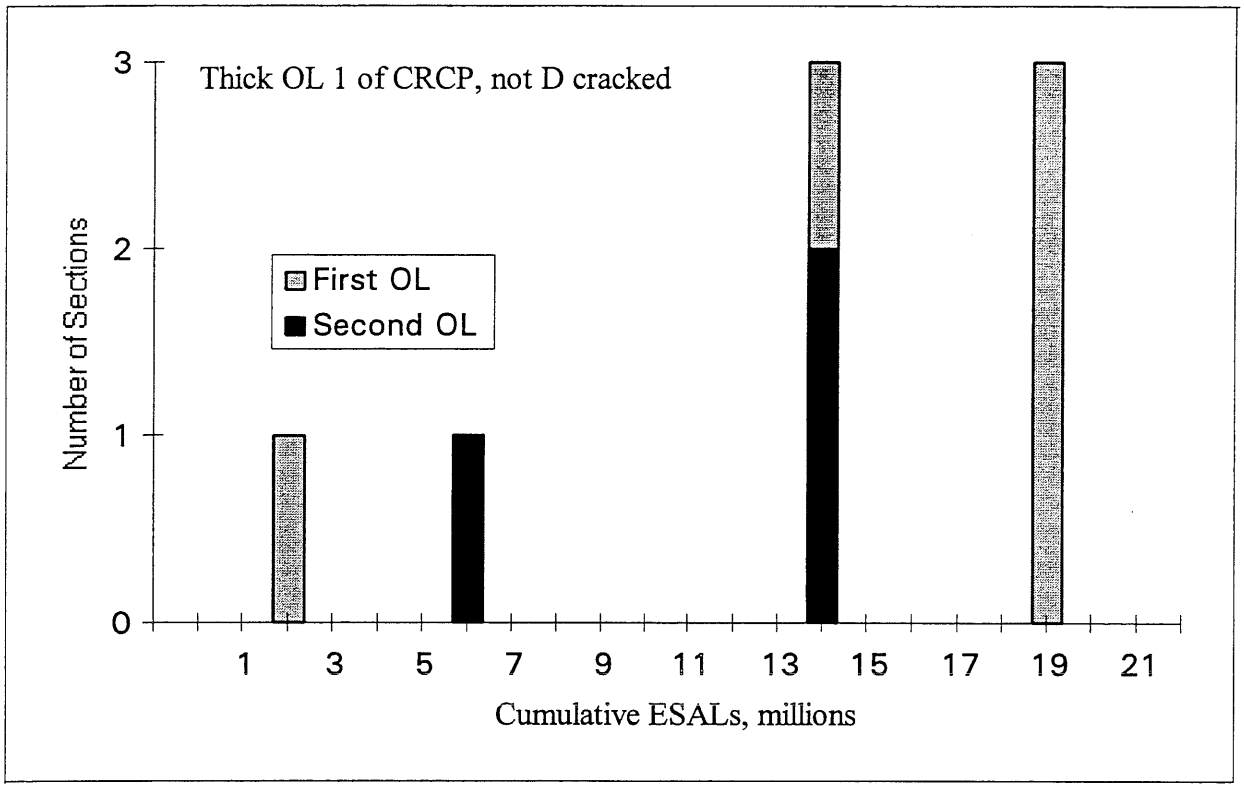

Figure 53. ESAL distribution for first (thick) AC overlays over CRCP, without D cracking.

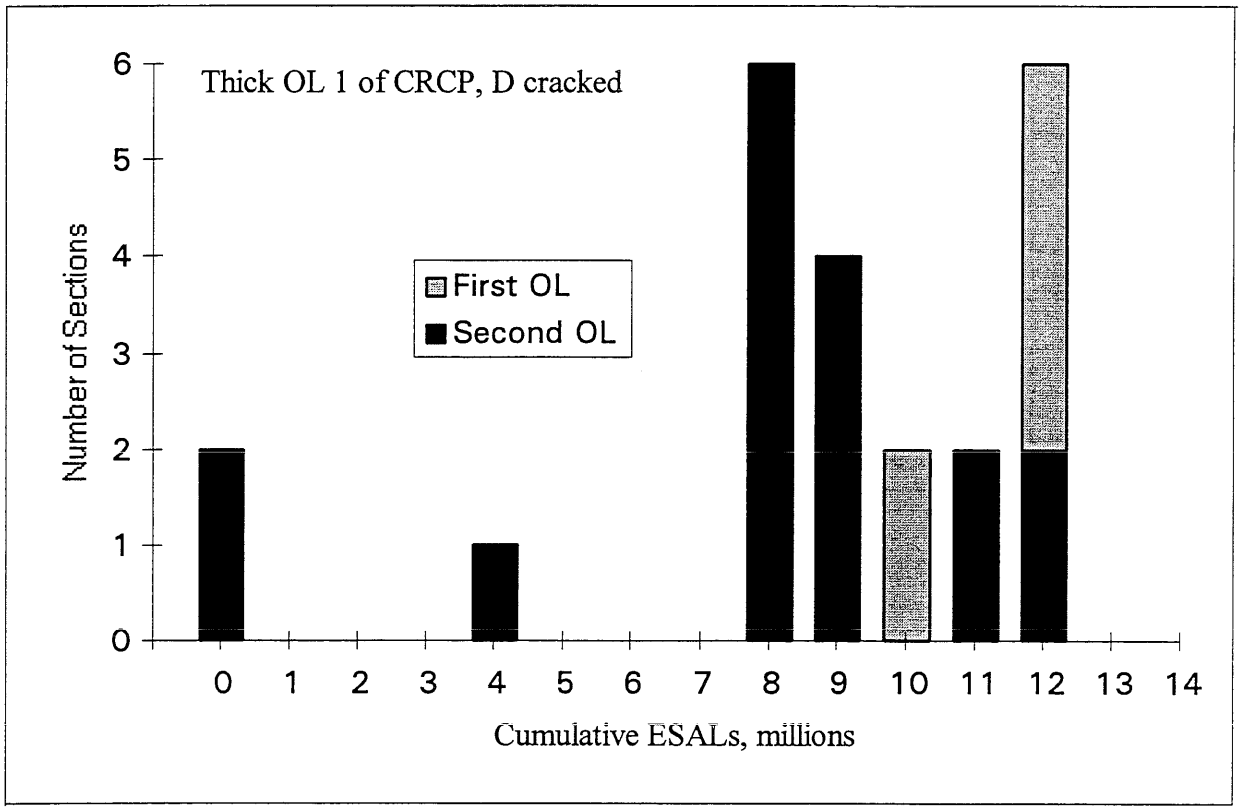

Figure 54. ESAL distribution for first (thick) AC overlays over CRCP, with D cracking.

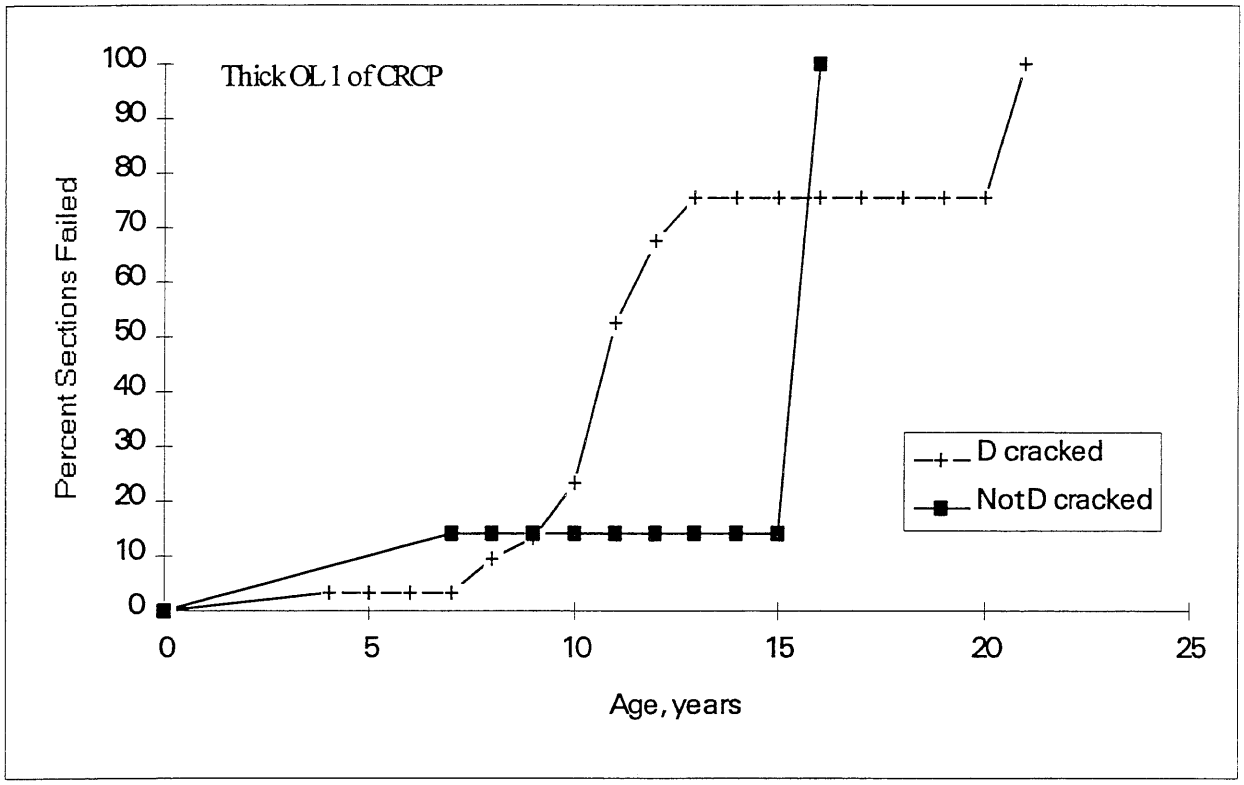

Figure 55. Age survival curves for first (thick) AC overlays over CRCP.

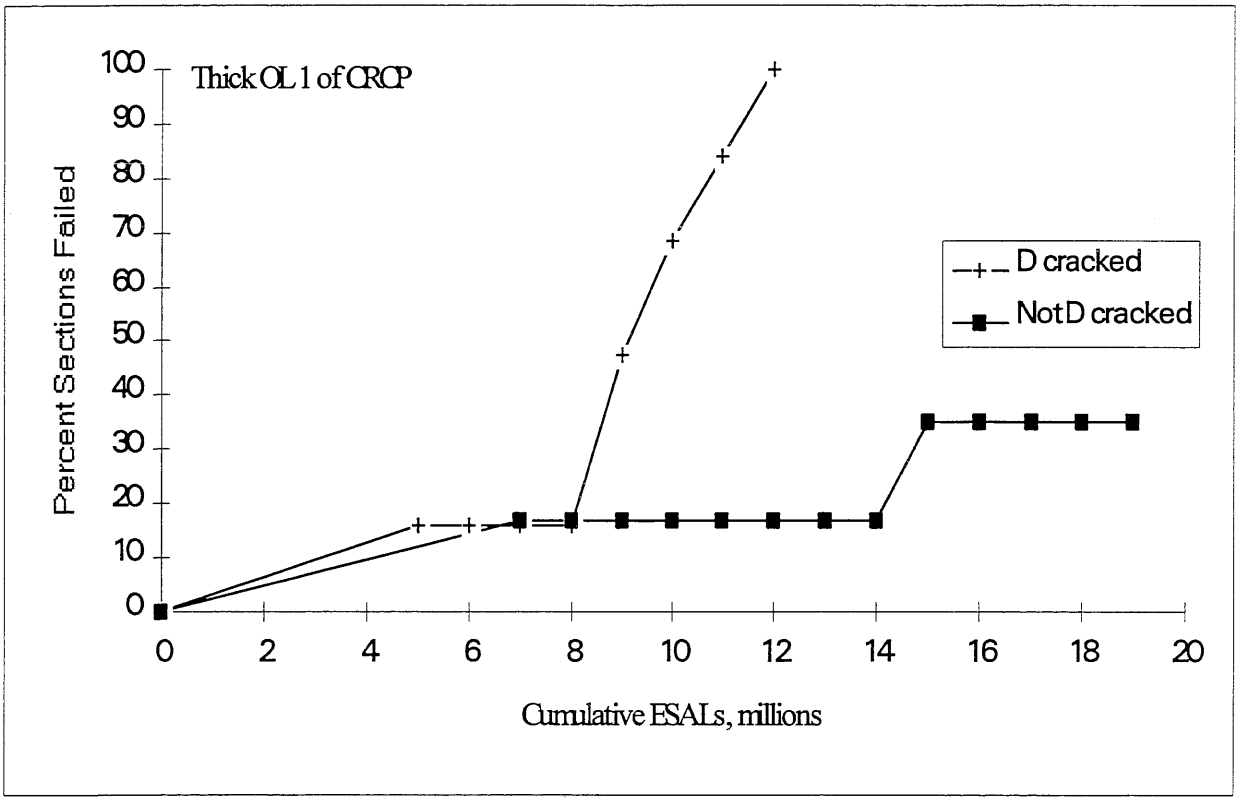

Figure 56. ESAL survival curves for first (thick) AC overlays over CRCP.

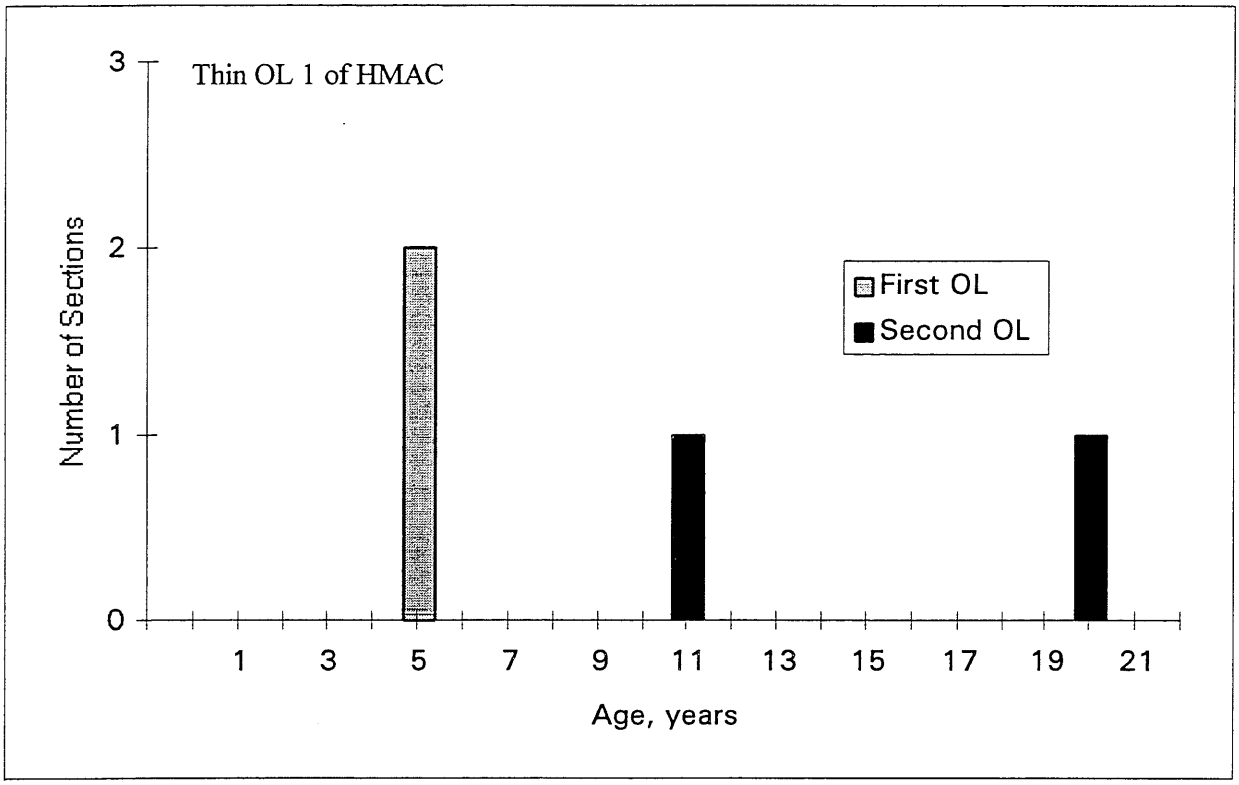

Figure 57. Age distribution for first (thin) AC overlays over HMAC.

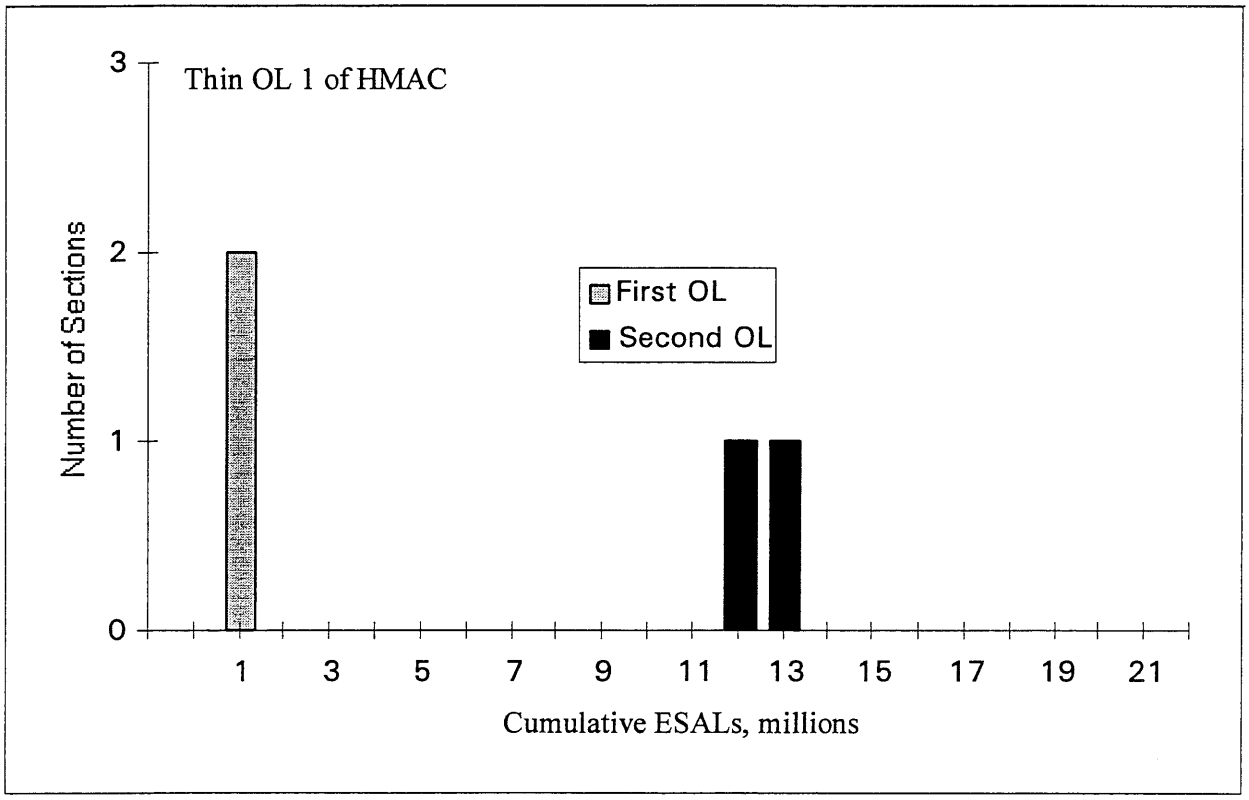

Figure 58. ESAL distribution for first (thin) AC overlays over HMAC.

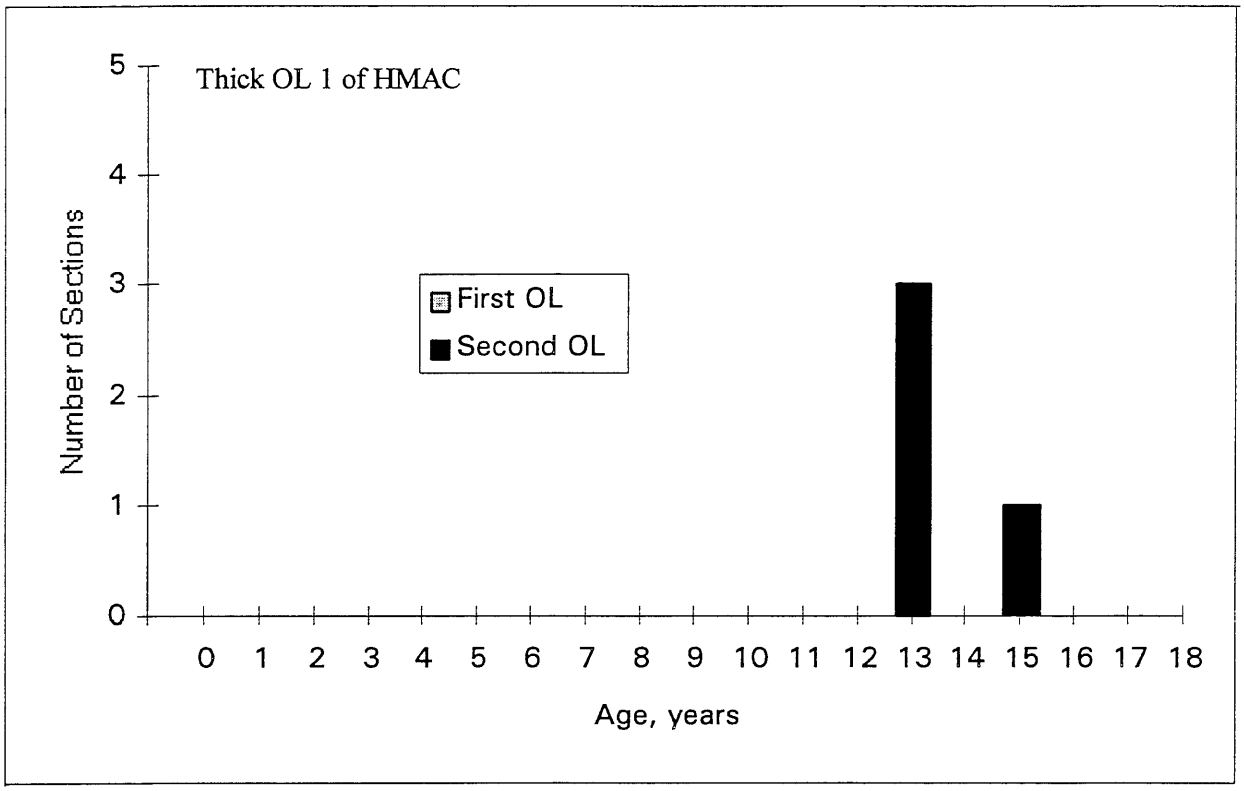

Figure 59. Age distribution for first (thick) AC overlays over HMAC.

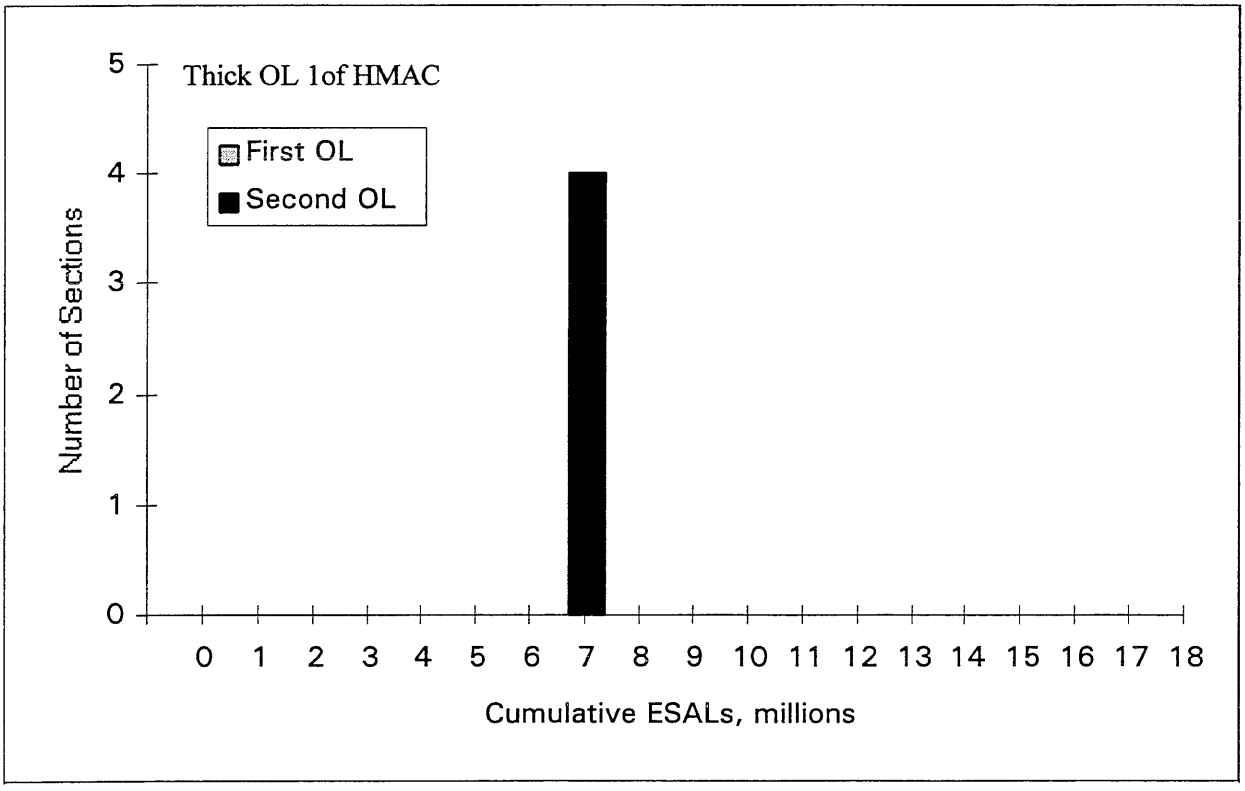

Figure 60. ESAL distribution for first (thick) AC overlays over HMAC.

APPENDIX C

SURVIVAL CURVES AND DISTRIBUTIONS

FOR SECOND AC OVERLAYS OF JRCP and CRCP

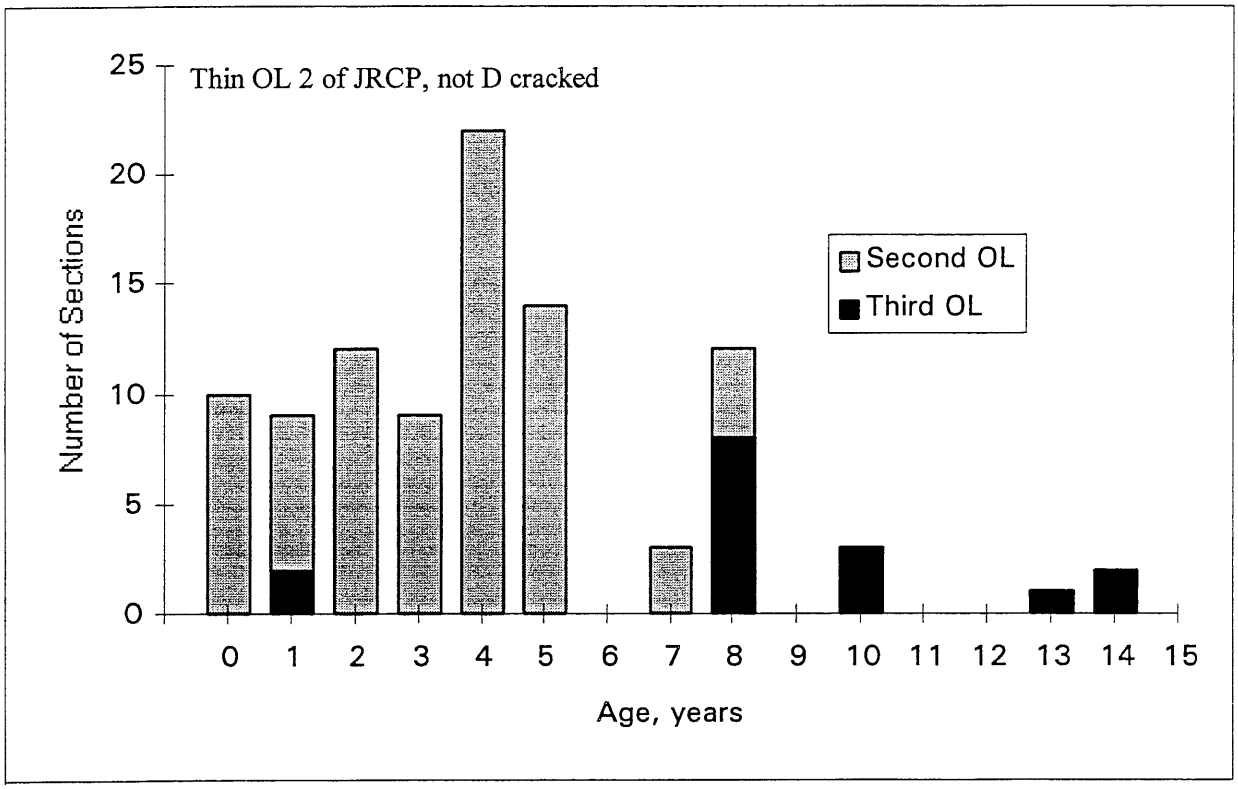

Figure 61. Age distribution for second (thin) AC overlays over JRCP, without D cracking.

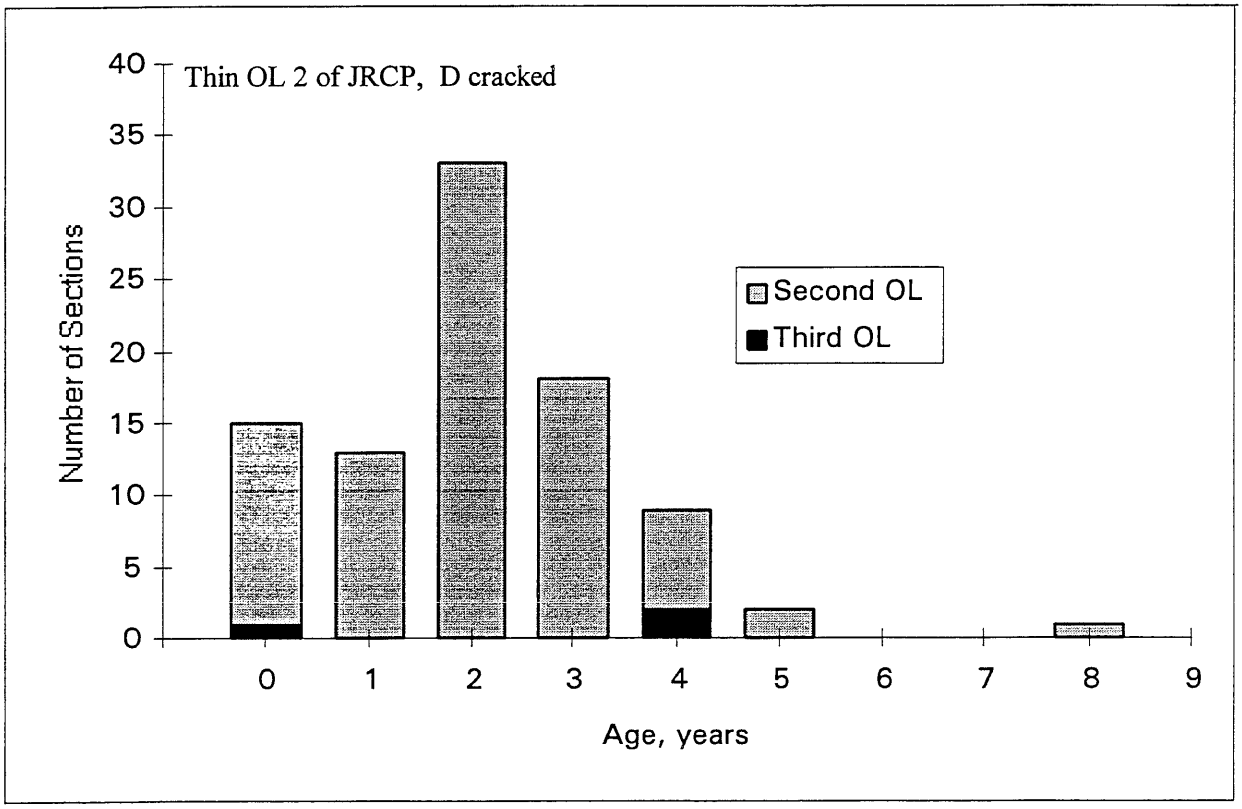

Figure 62. Age distribution for second (thin) AC overlays over JRCP, with D cracking.

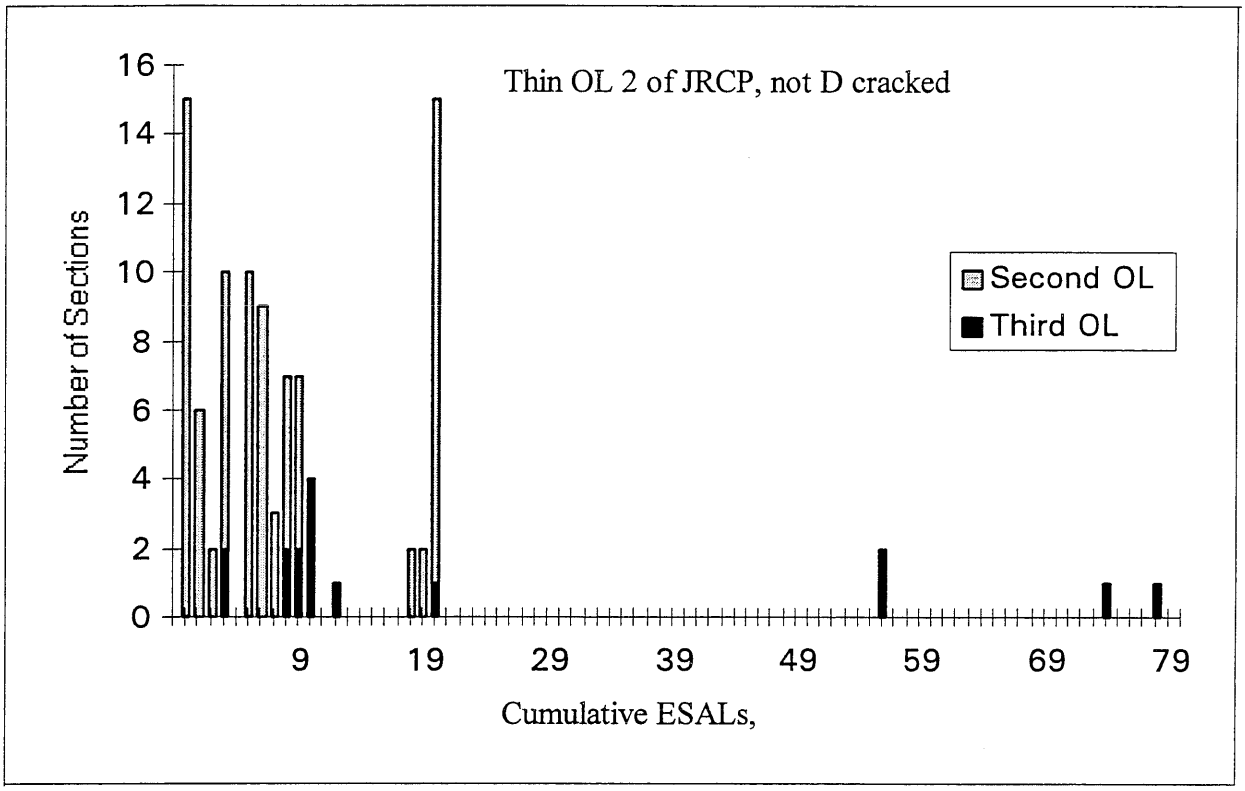

Figure 63. ESAL distribution for second (thin) AC overlays over JRCP, without D cracking.

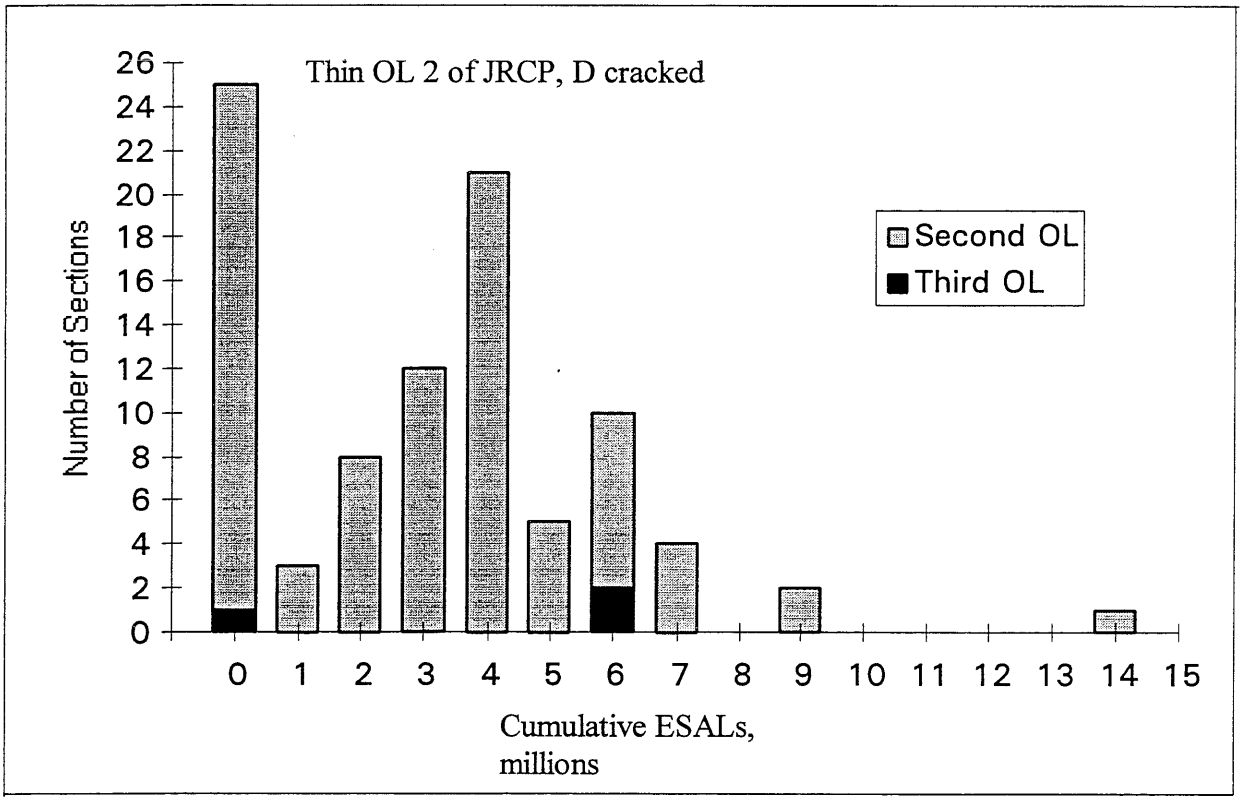

Figure 64. ESAL distribution for second (thin) AC overlays over JRCP, with D cracking.

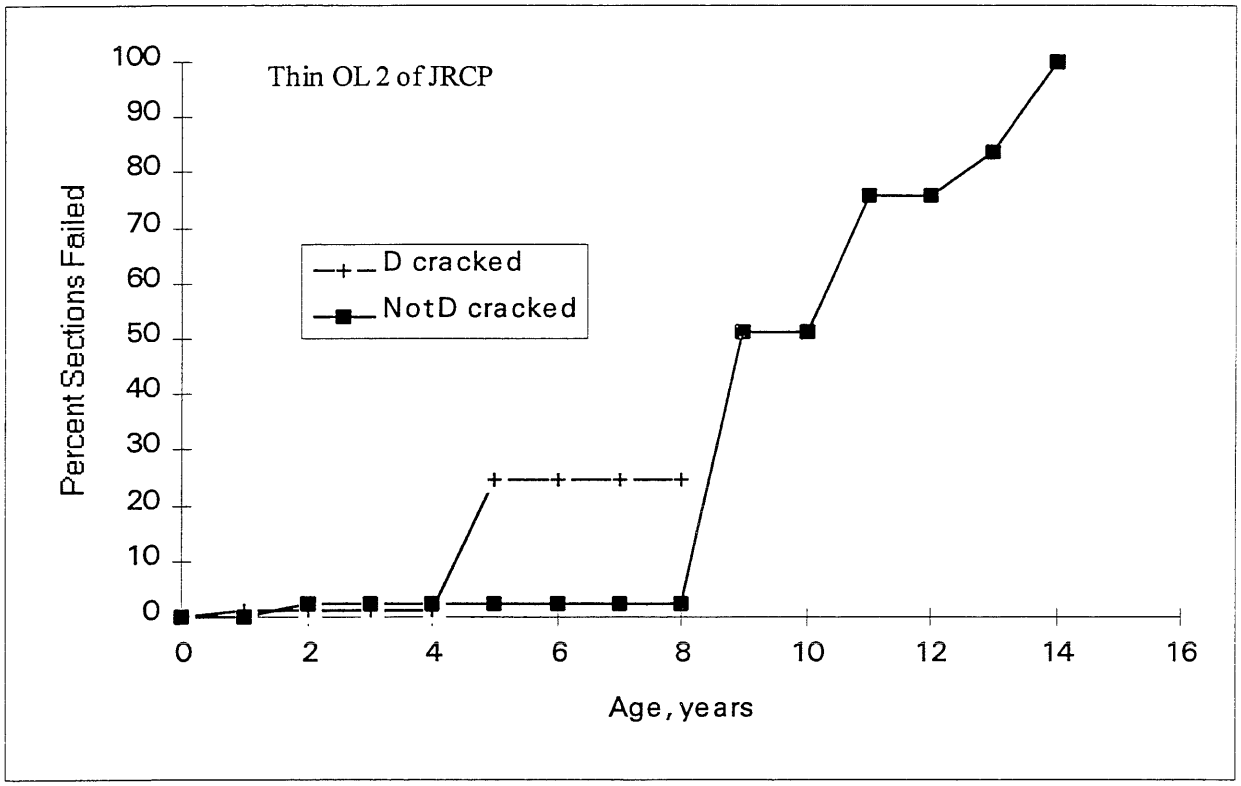

Figure 65. Age survival curves for second (thin) AC overlays over JRCP.

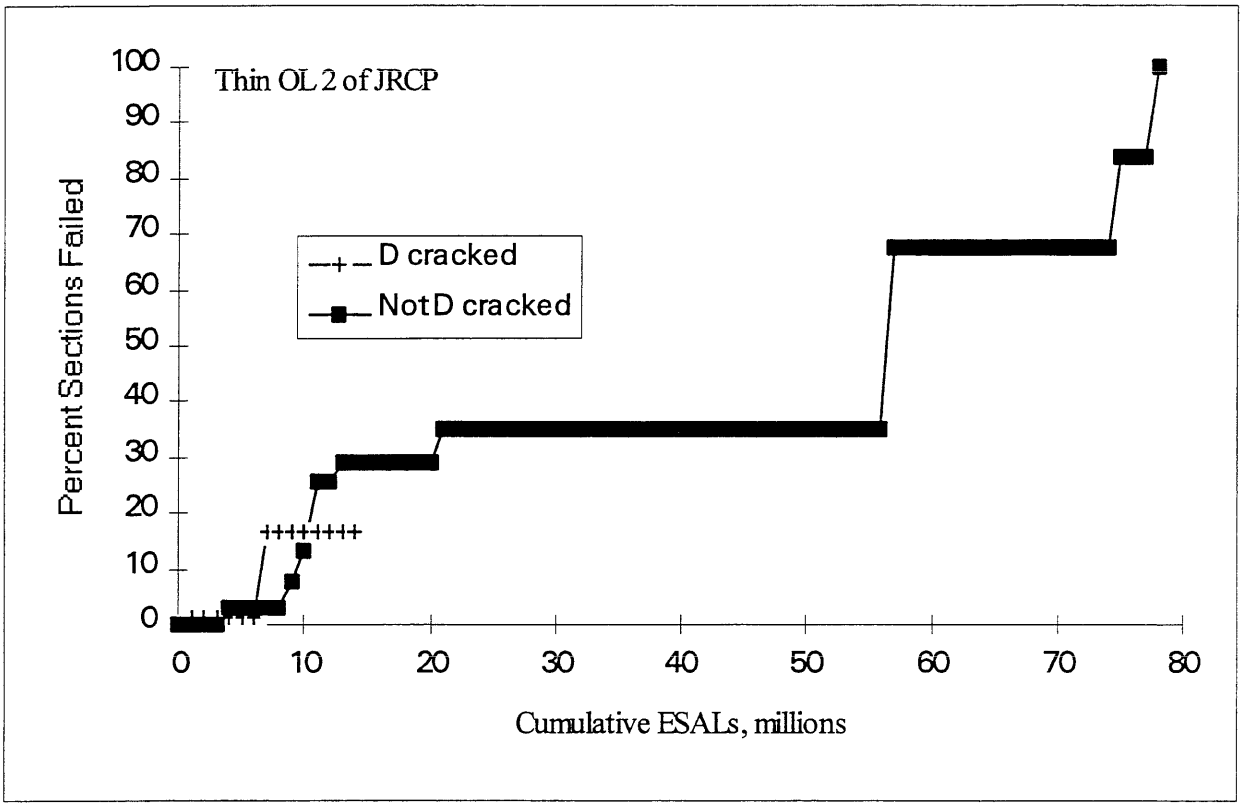

Figure 66. ESAL survival curves for second (thin) AC overlays over JRCP.

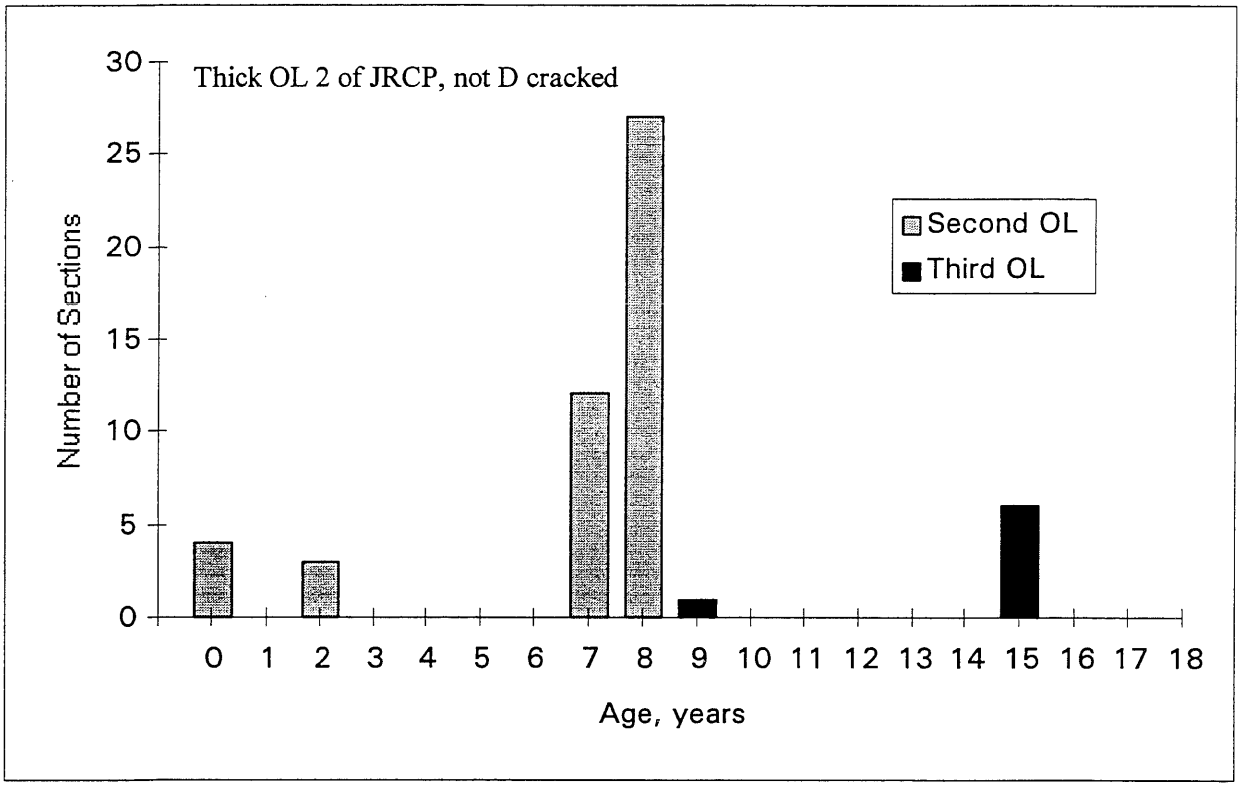

Figure 67. Age distribution for second (thick) AC overlays over JRCP, without D cracking.

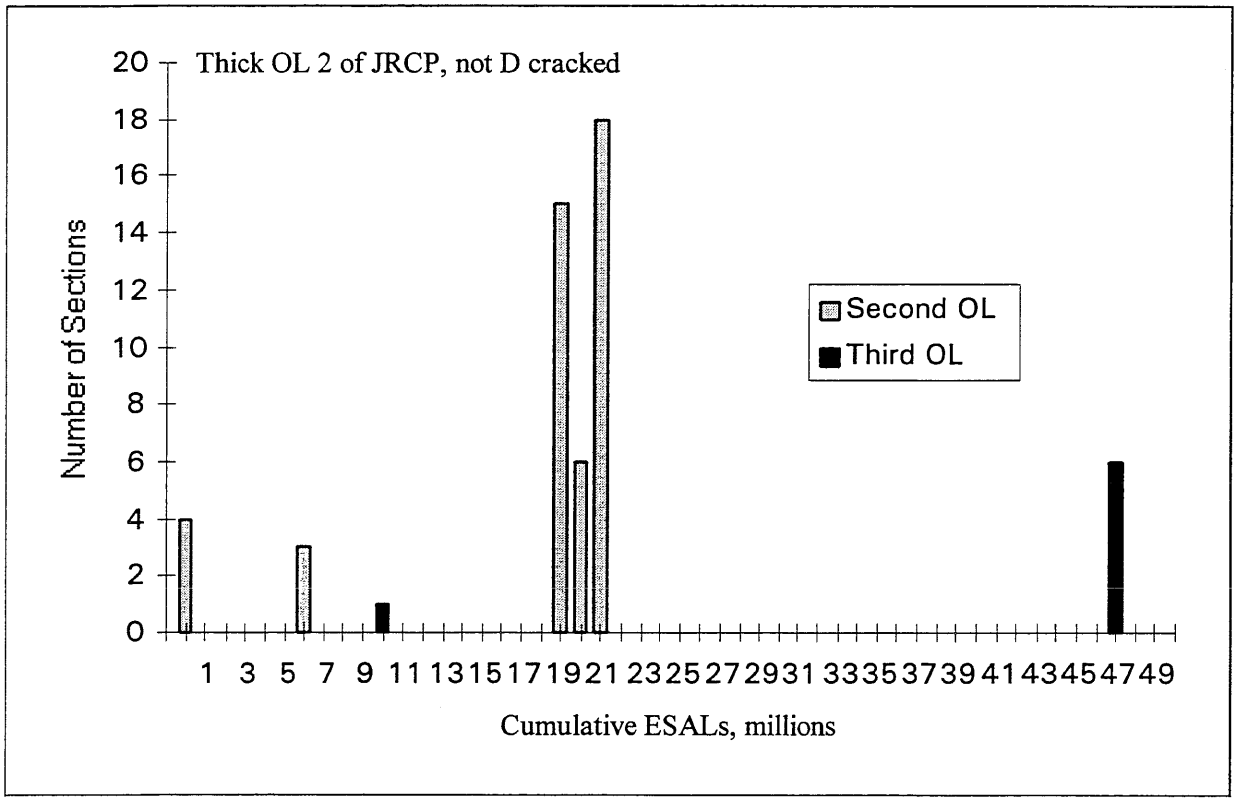

Figure 68. ESAL distribution for second (thick) AC overlays over JRCP, without D cracking.

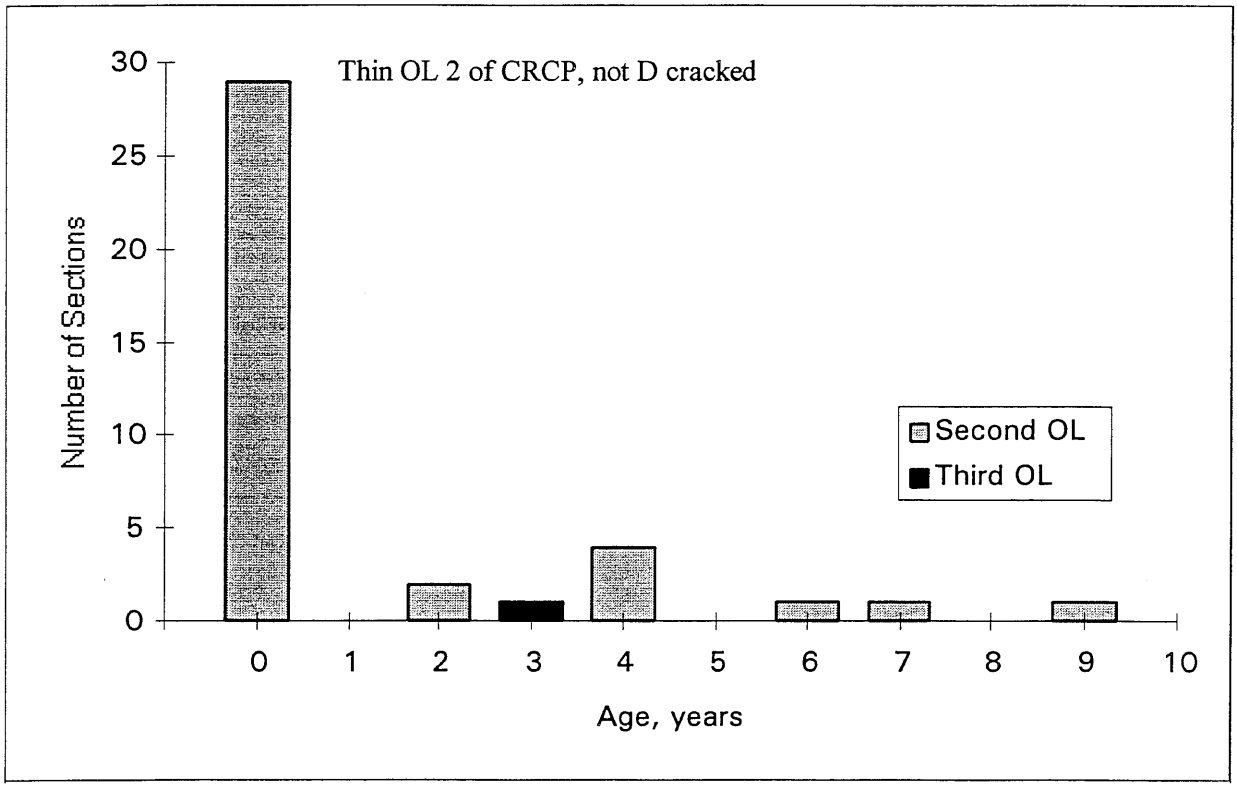

Figure 69. Age distribution for second (thin) AC overlays over CRCP, without D cracking.

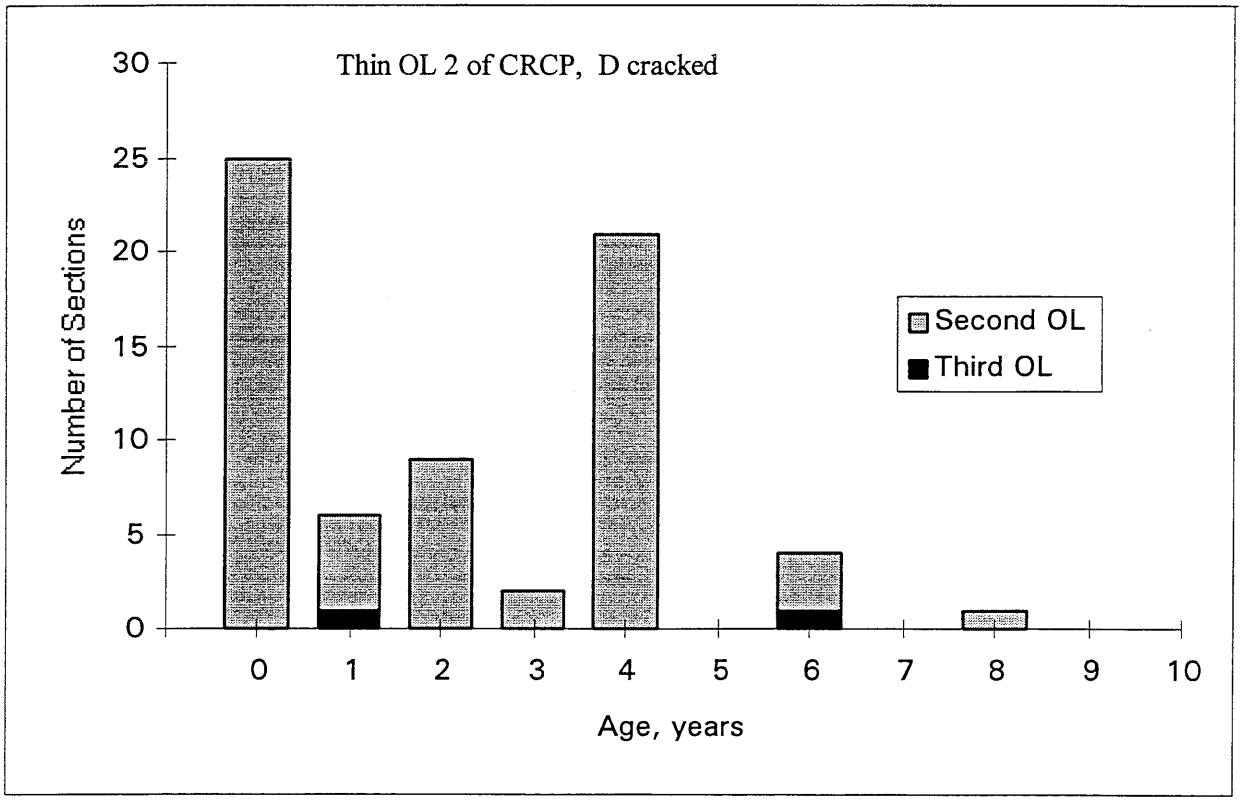

Figure 70. Age distribution for second (thin) AC overlays over CRCP, with D cracking.

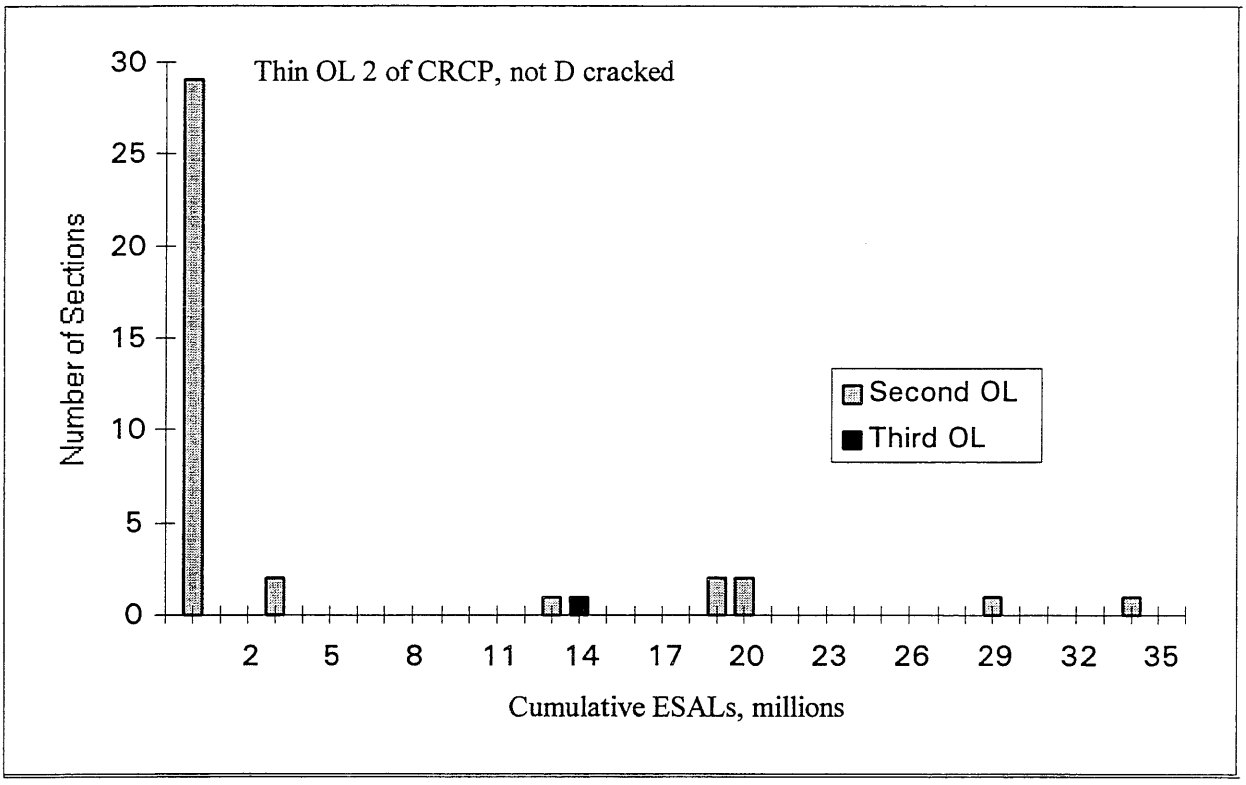

Figure 71. ESAL distribution for second (thin) AC overlays over CRCP, without D cracking.

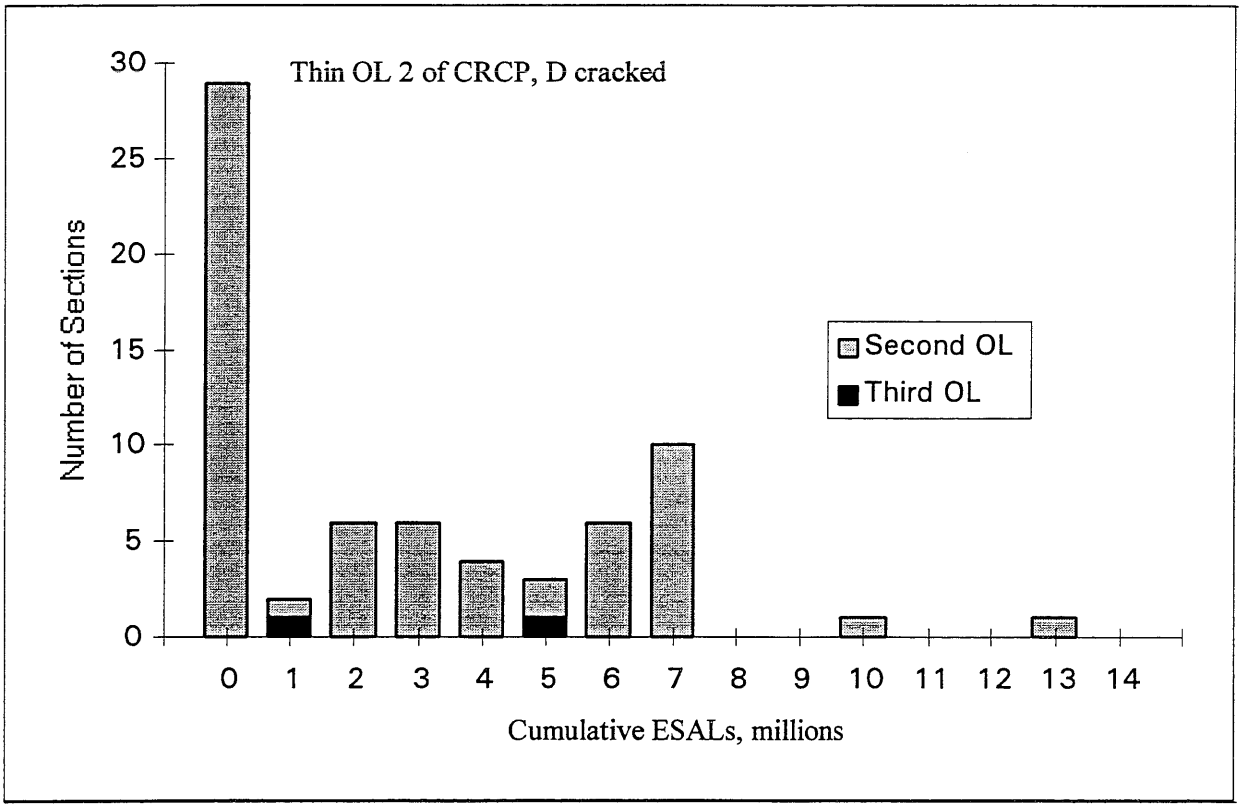

Figure 72. ESAL distribution for second (thin) AC overlays over CRCP, with D cracking.

APPENDIX D

SURVIVAL CURVES AND DISTRIBUTIONS

FOR FIRST and SECOND AC OVERLAYS OF MIXTURE TYPE "D" and "E"

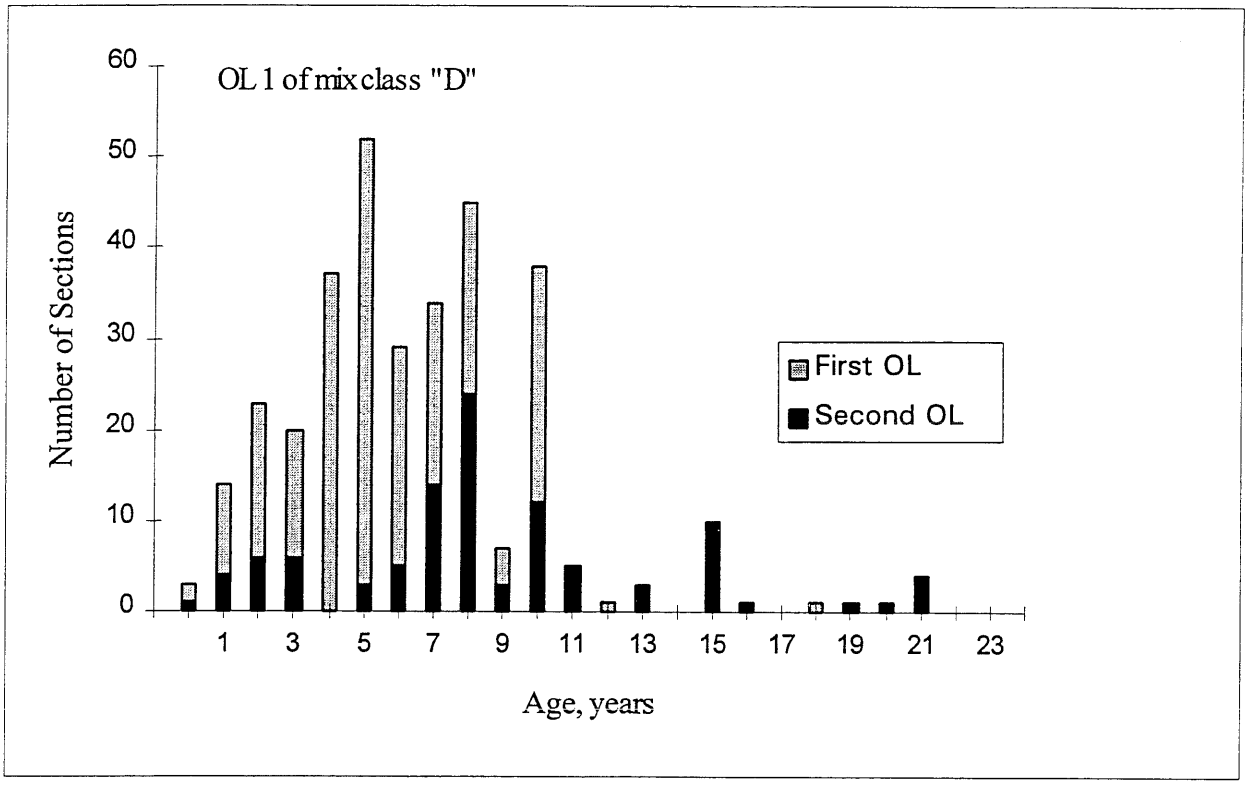

Figure 73. Age distribution of first overlays, in all districts, with mixture type "D".

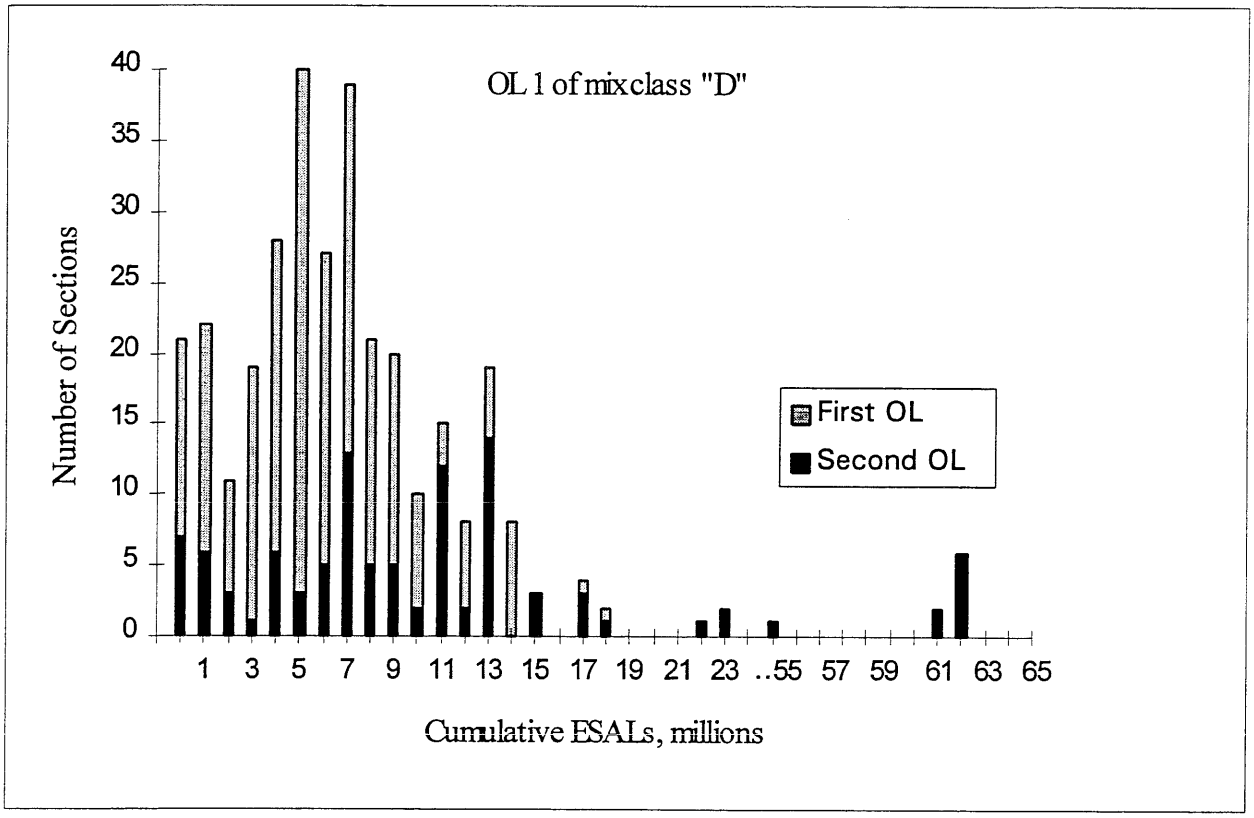

Figure 74. ESAL distribution of first overlays, in all districts, with mixture type "D".

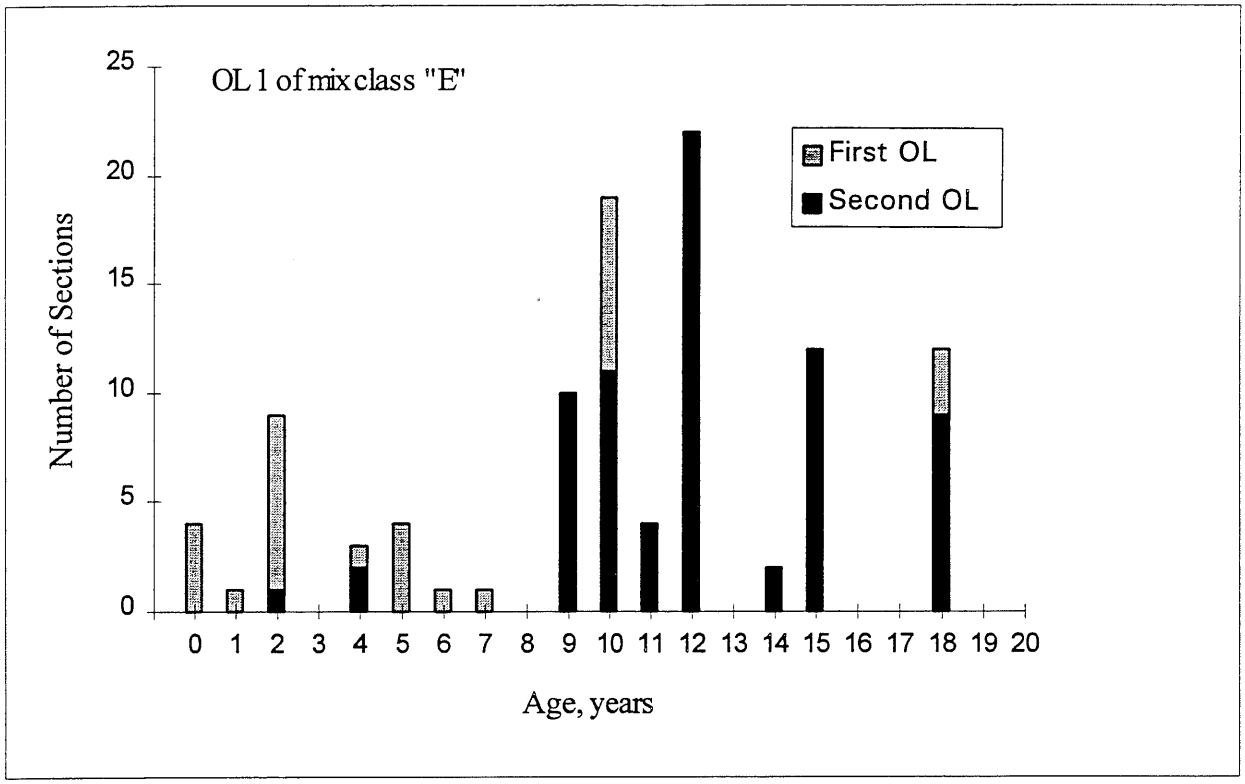

Figure 75. Age distribution of first overlays, in all districts, with mixture type "E".

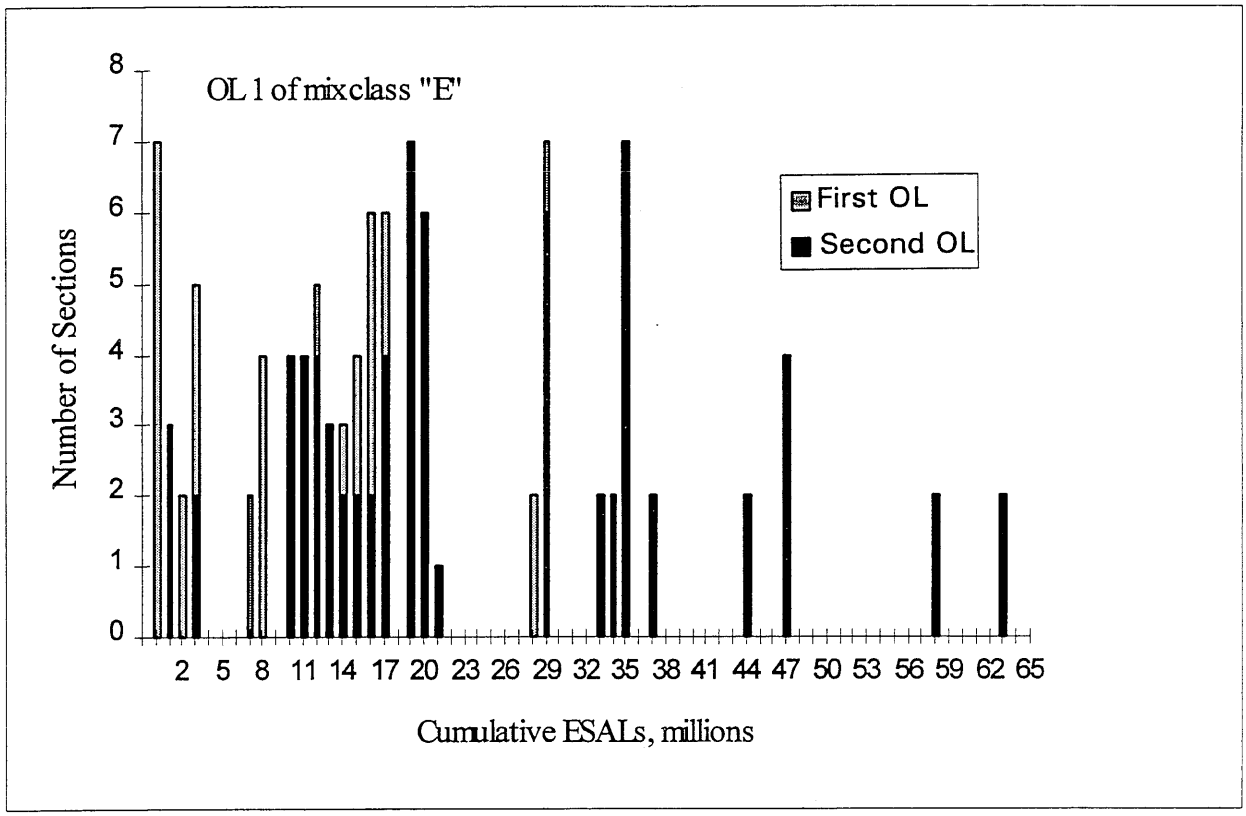

Figure 76. ESAL distribution of first overlays, in all districts, with mixture type "E".

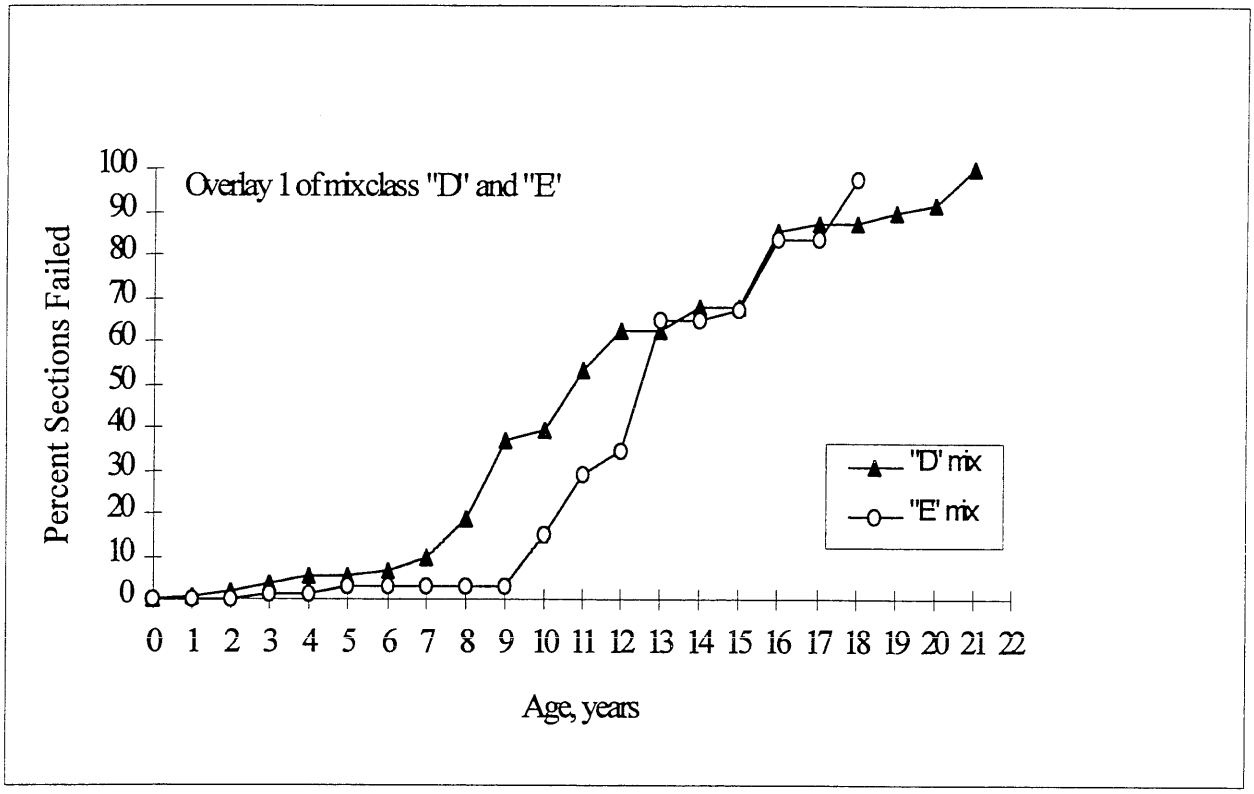

Figure 77. Age survival curves for first overlays, in all districts, with mixture types "D" and "E".

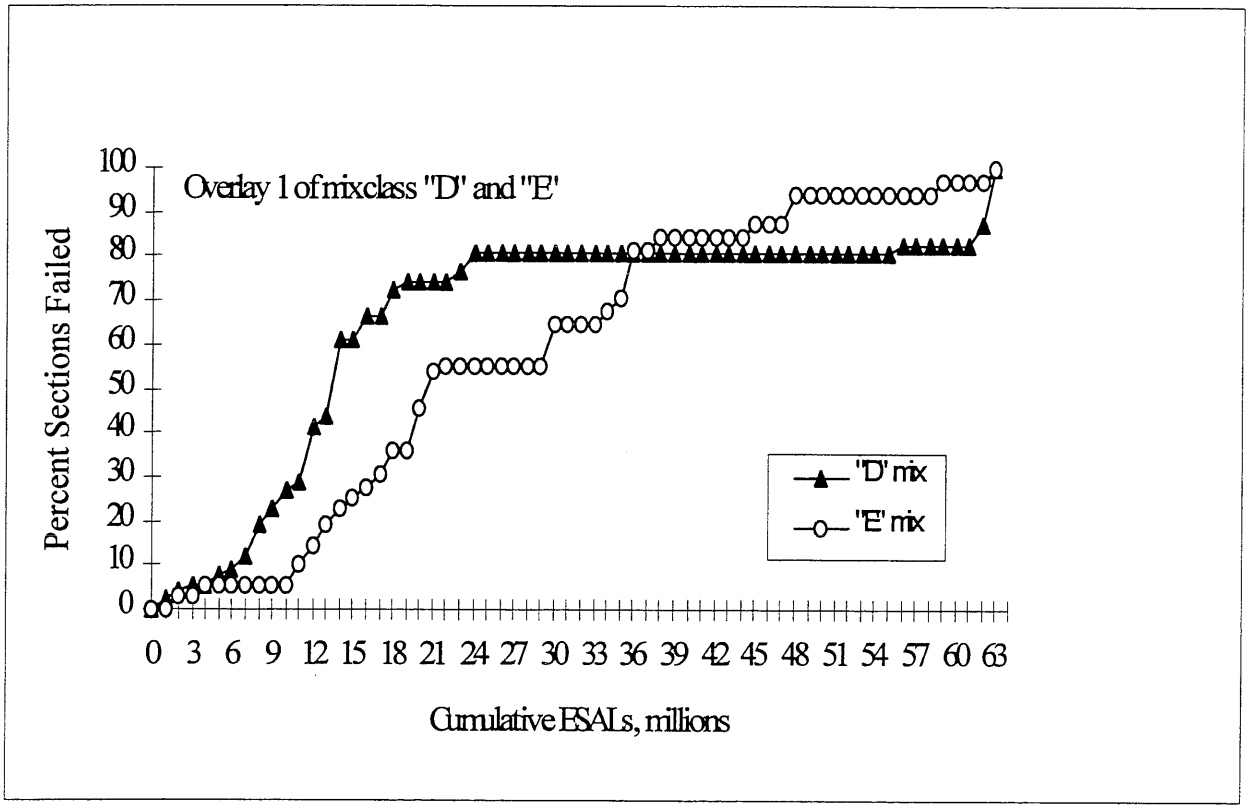

Figure 78. ESAL survival curves for first overlays, in all districts, with mixture types "D" and "E".

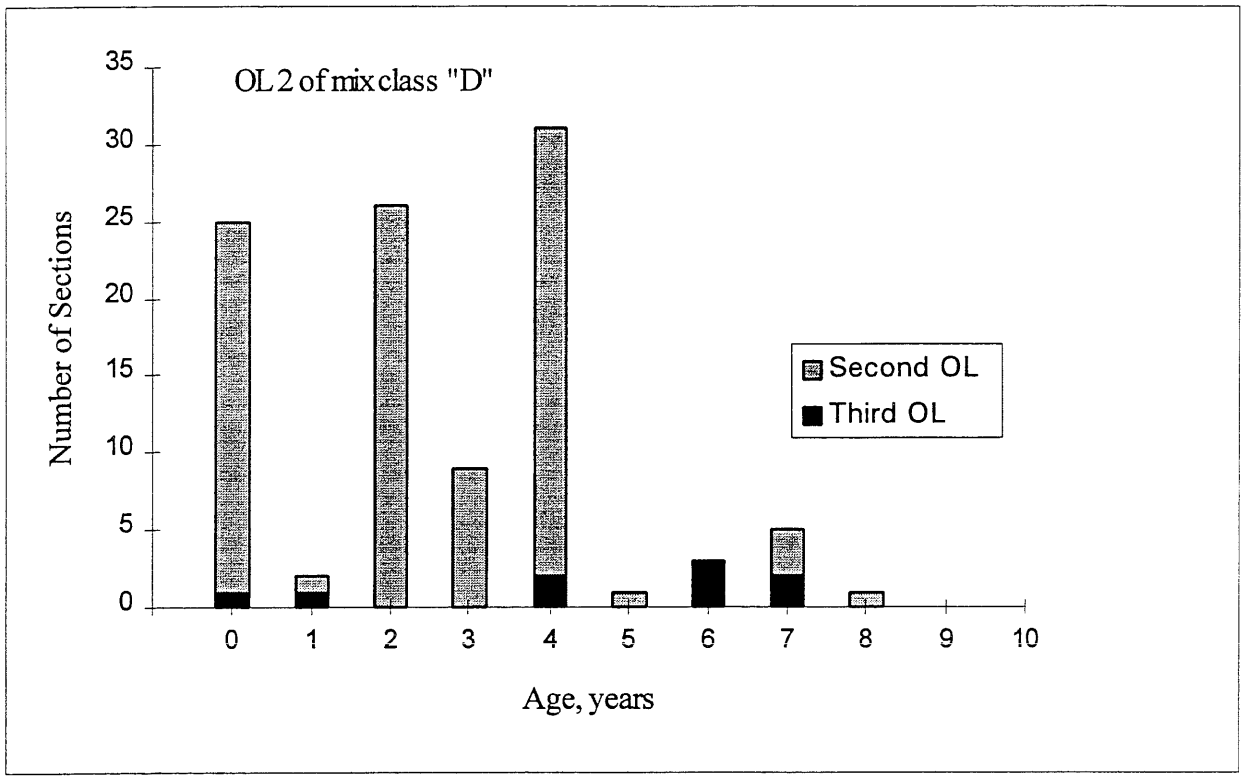

Figure 79. Age distribution of second overlays, in all districts, with mixture type "D".

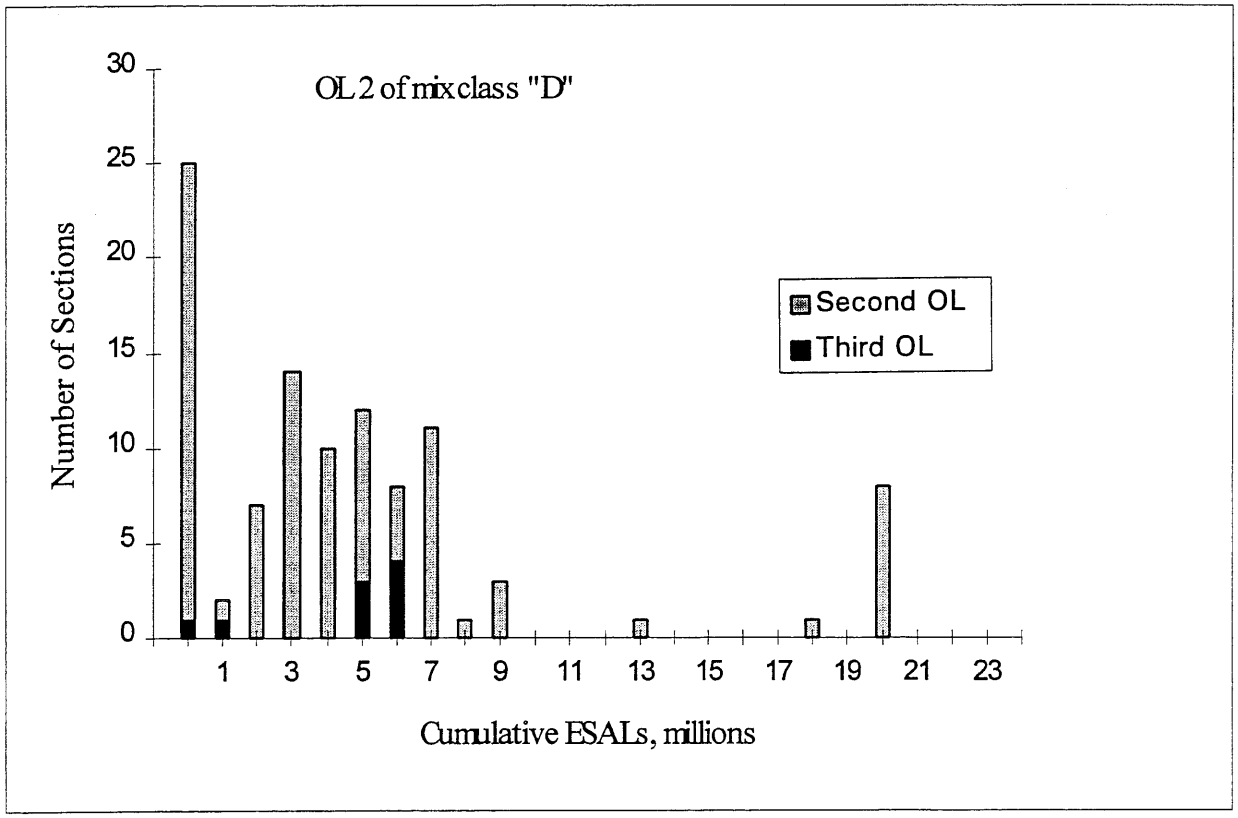

Figure 80. ESAL distribution of second overlays, in all districts, with mixture type "D".

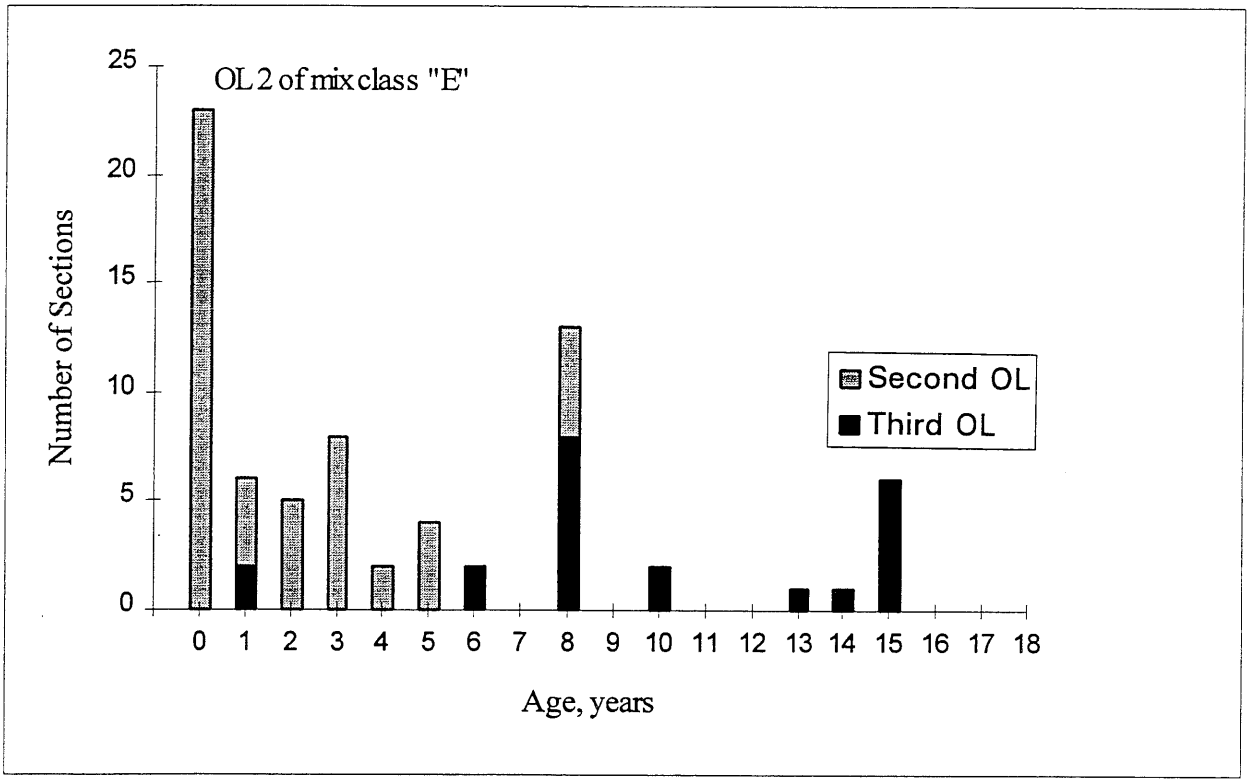

Figure 81. Age distribution of second overlays, in all districts, with mixture type "E".

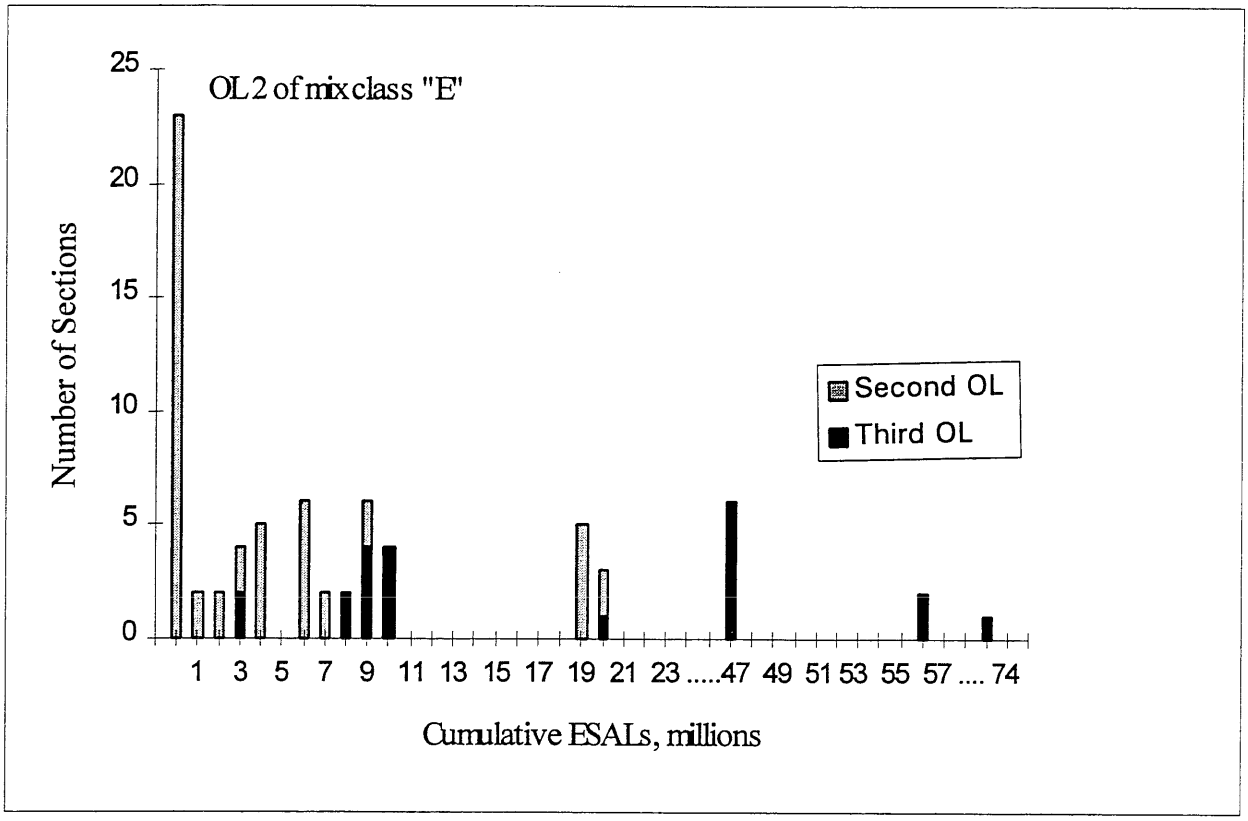

Figure 82. ESAL distribution of second overlays, in all districts, with mixture type "E".

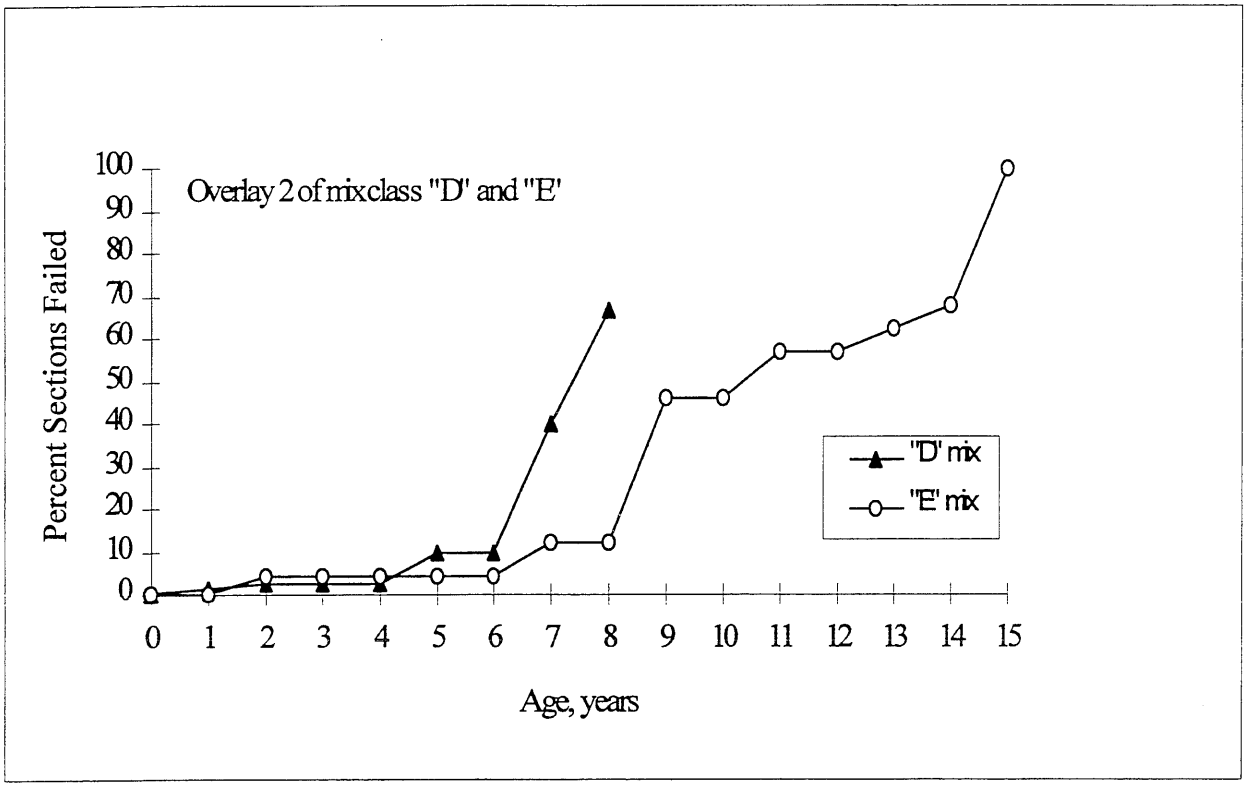

Figure 83. Age survival curves for second overlays, in all districts, with mixture types "D" and "E".

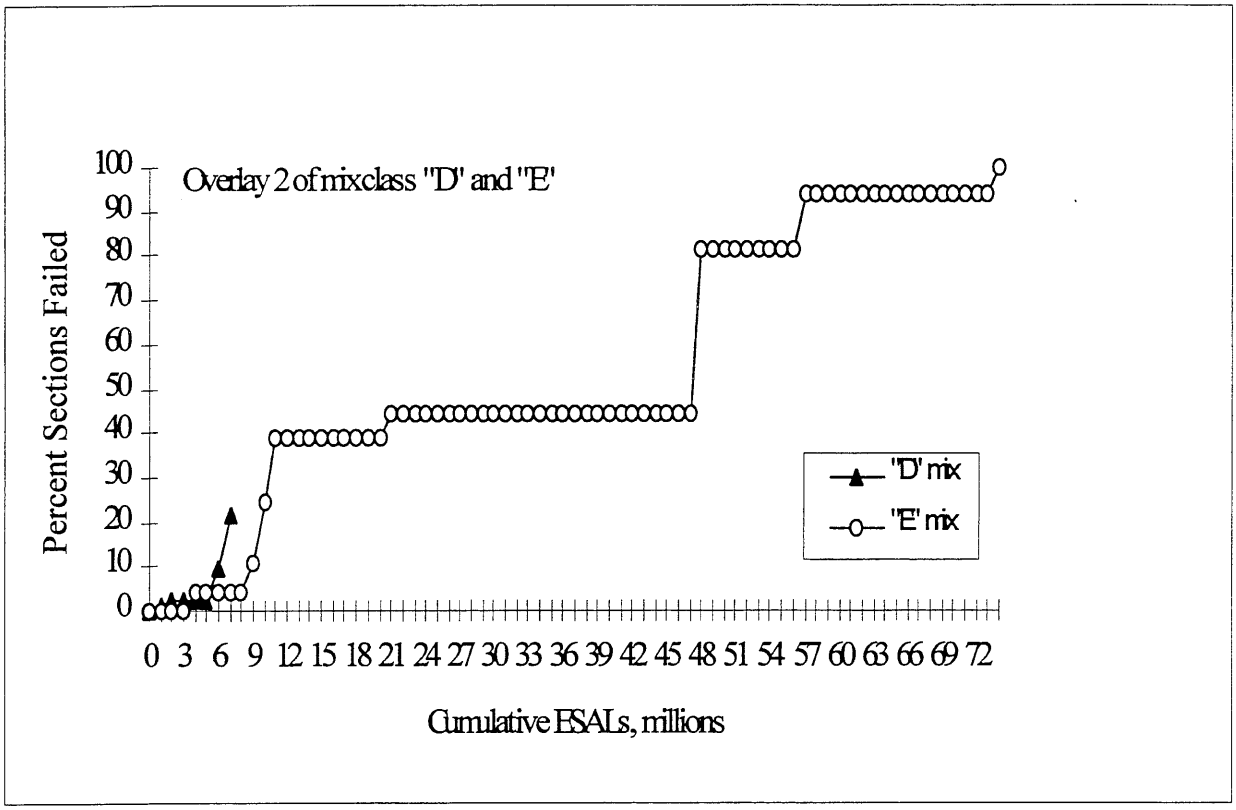

Figure 84. ESAL survival curves for second overlays, in all districts, with mixture types "D" and "E".

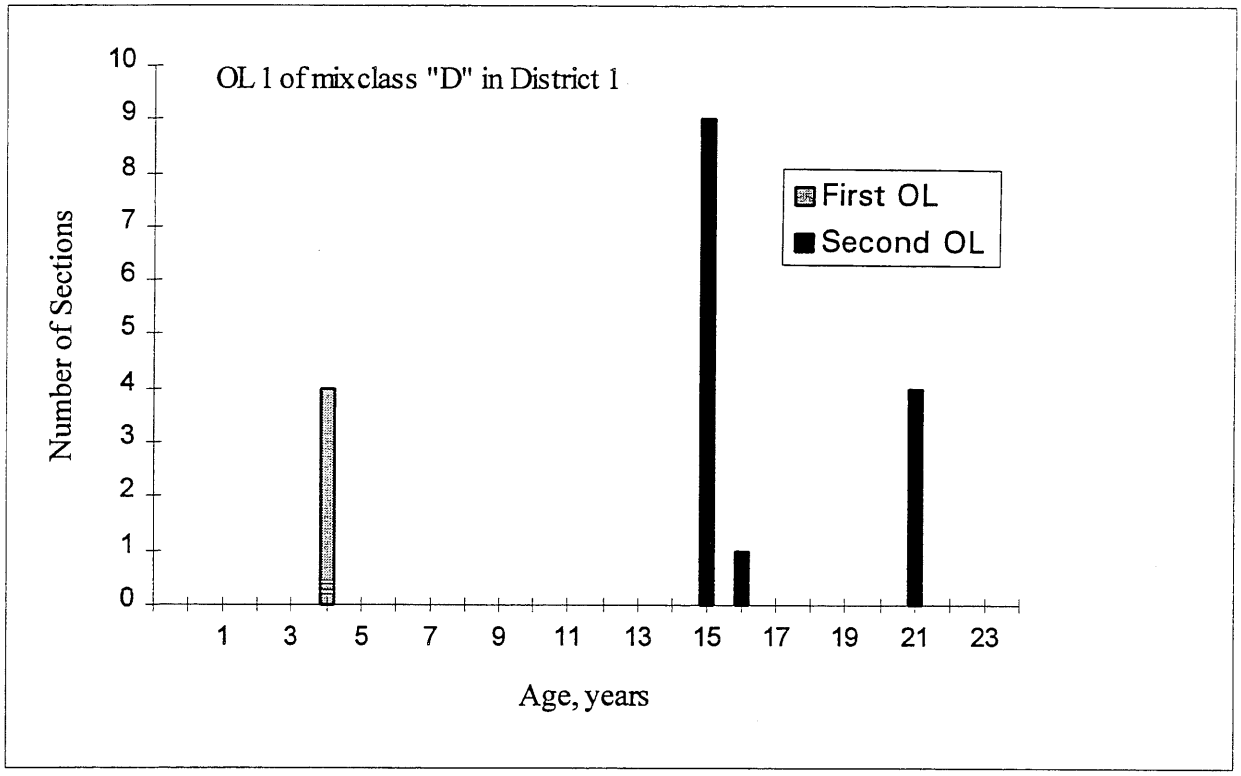

Figure 85. Age distribution of first overlays in District 1 with mixture type "D".

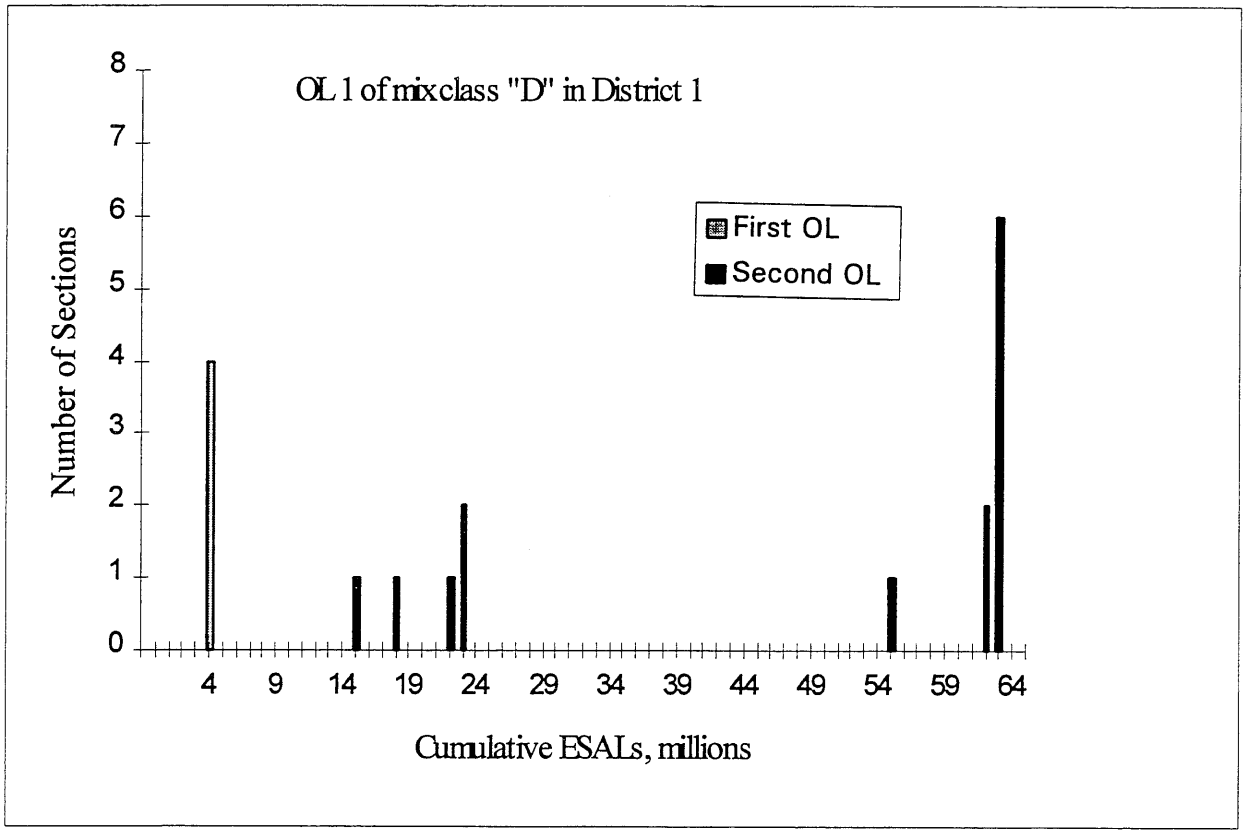

Figure 86. ESAL distribution of first overlays in District 1 with mixture type "D".

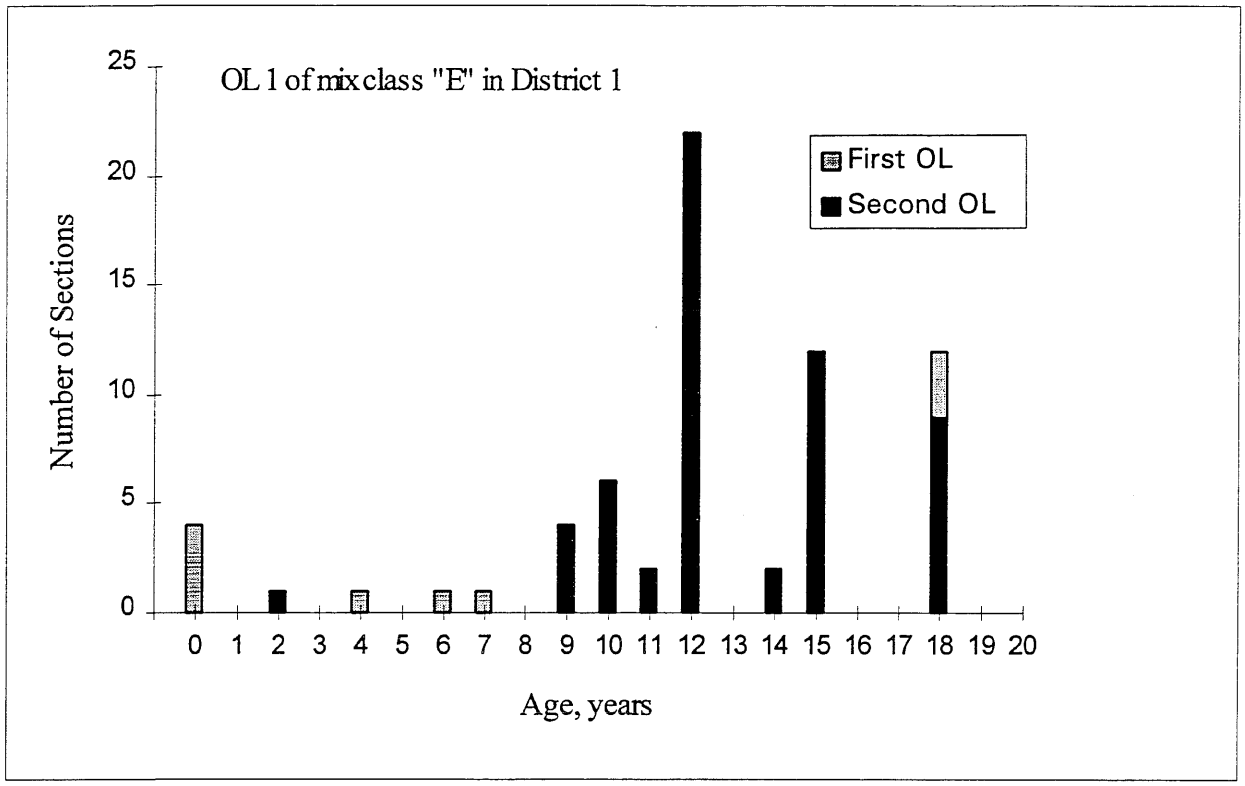

Figure 87. Age distribution of first overlays in District 1 with mixture type "E".

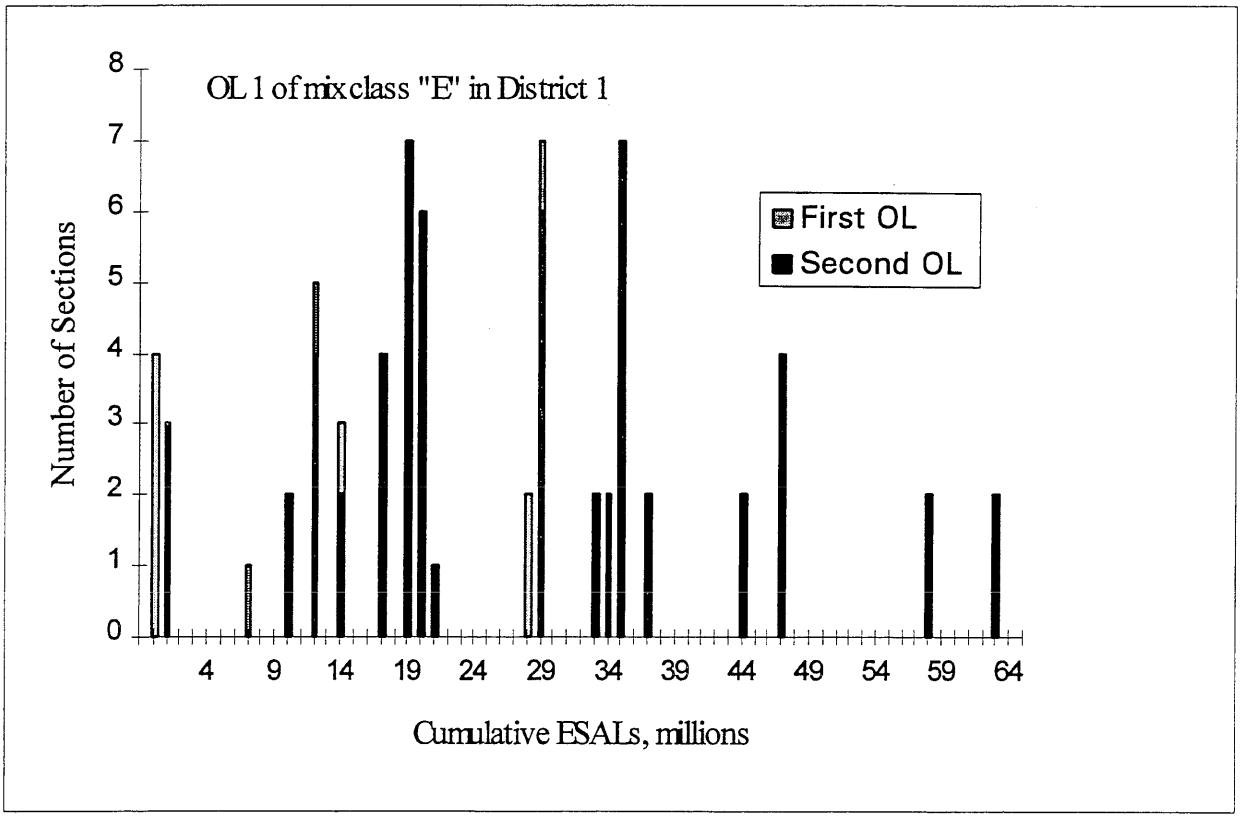

Figure 88. ESAL distribution of first overlays in District 1 with mixture type "E".

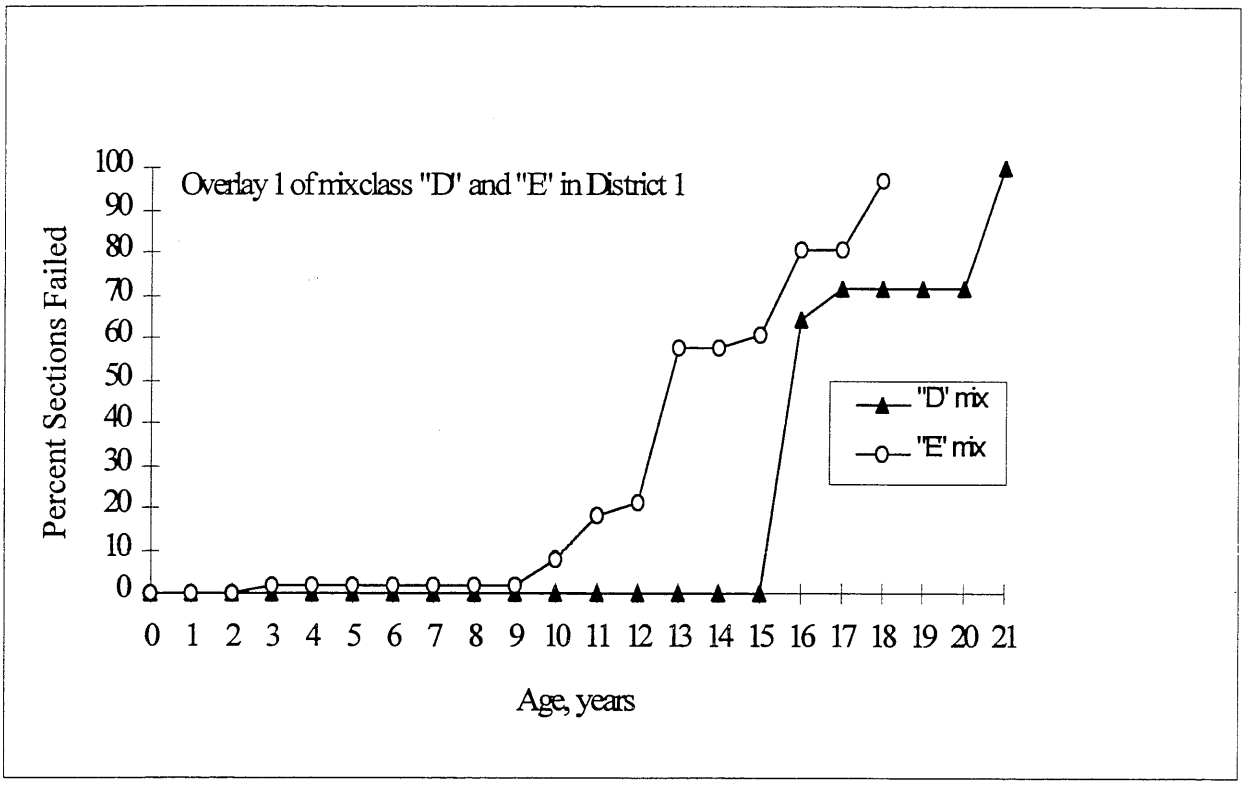

Figure 89. Age survival curves for first overlays in District 1 with mixture types "D" and "E".

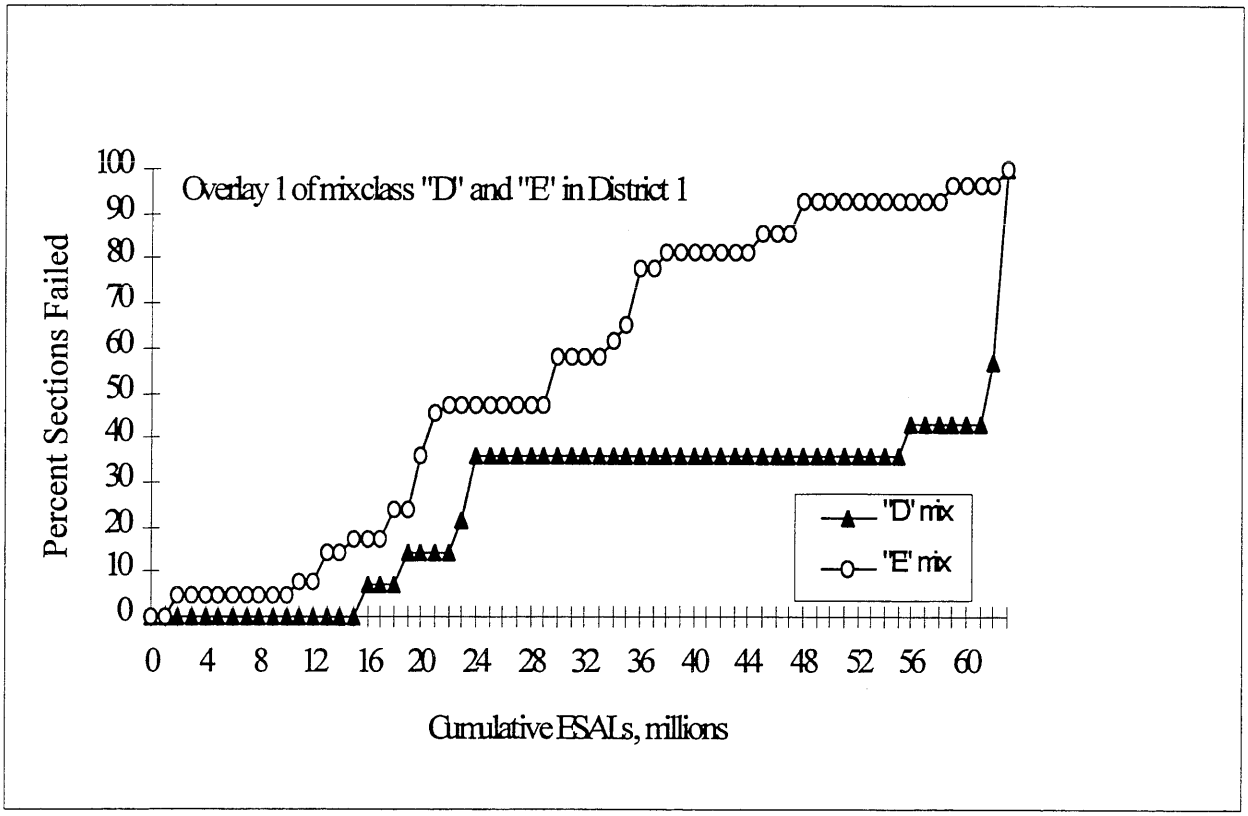

Figure 90. ESAL survival curves for first overlays in District 1 with mixture types "D" and "E".

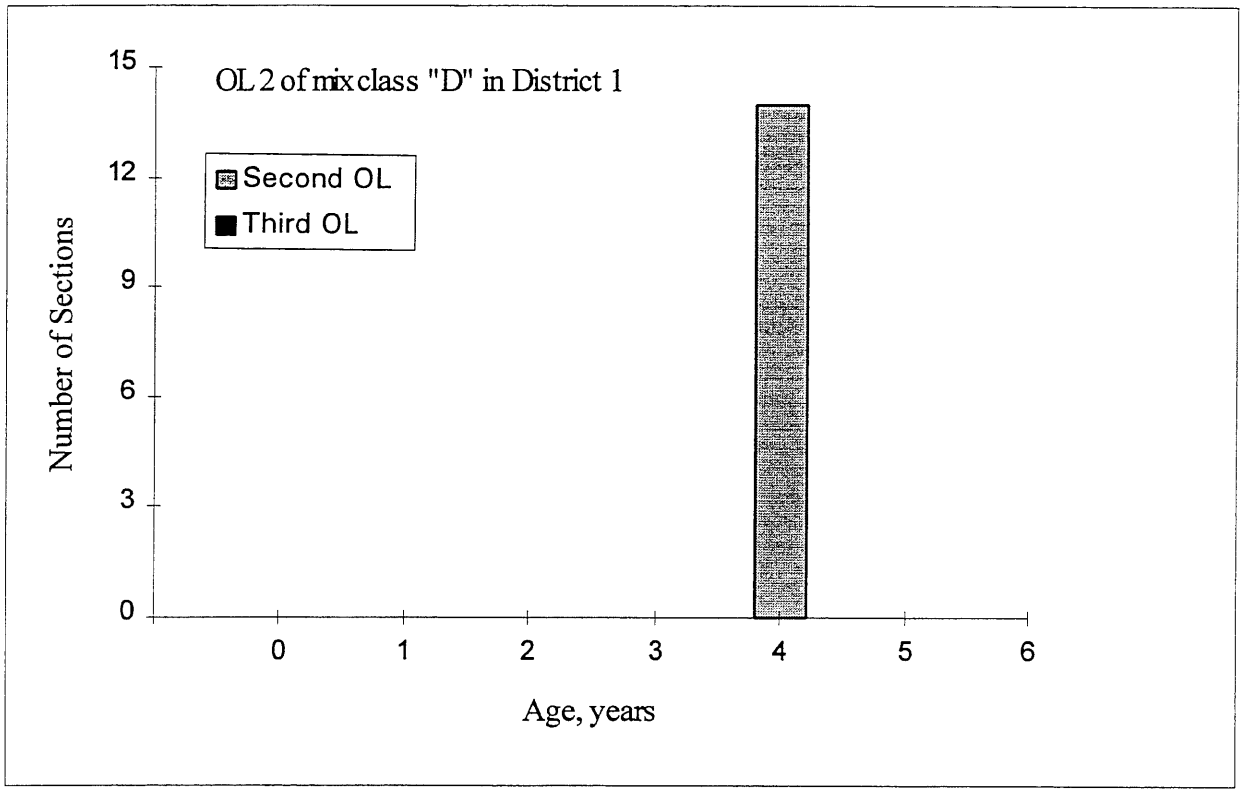

Figure 91. Age distribution for second overlays in District 1 with mixture type "D".

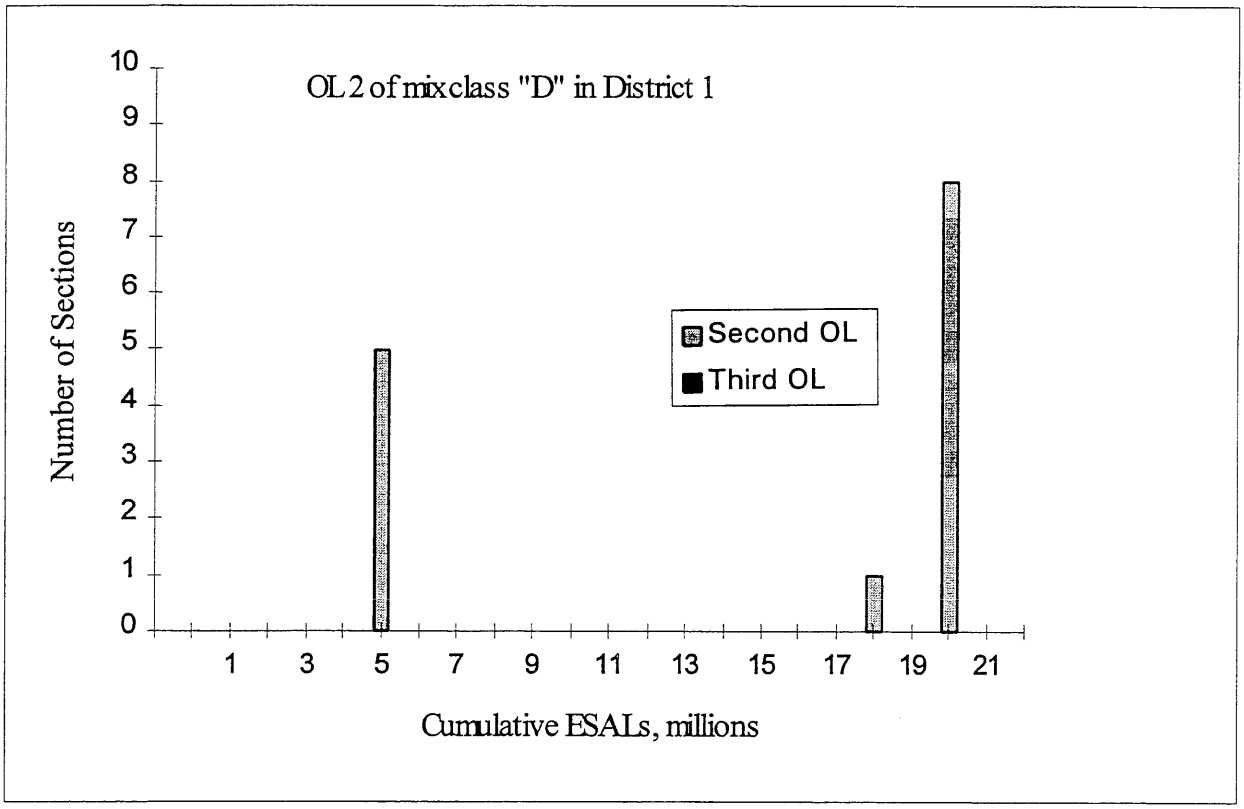

Figure 92. ESAL distribution of second overlays in District 1 with mixture type "D".

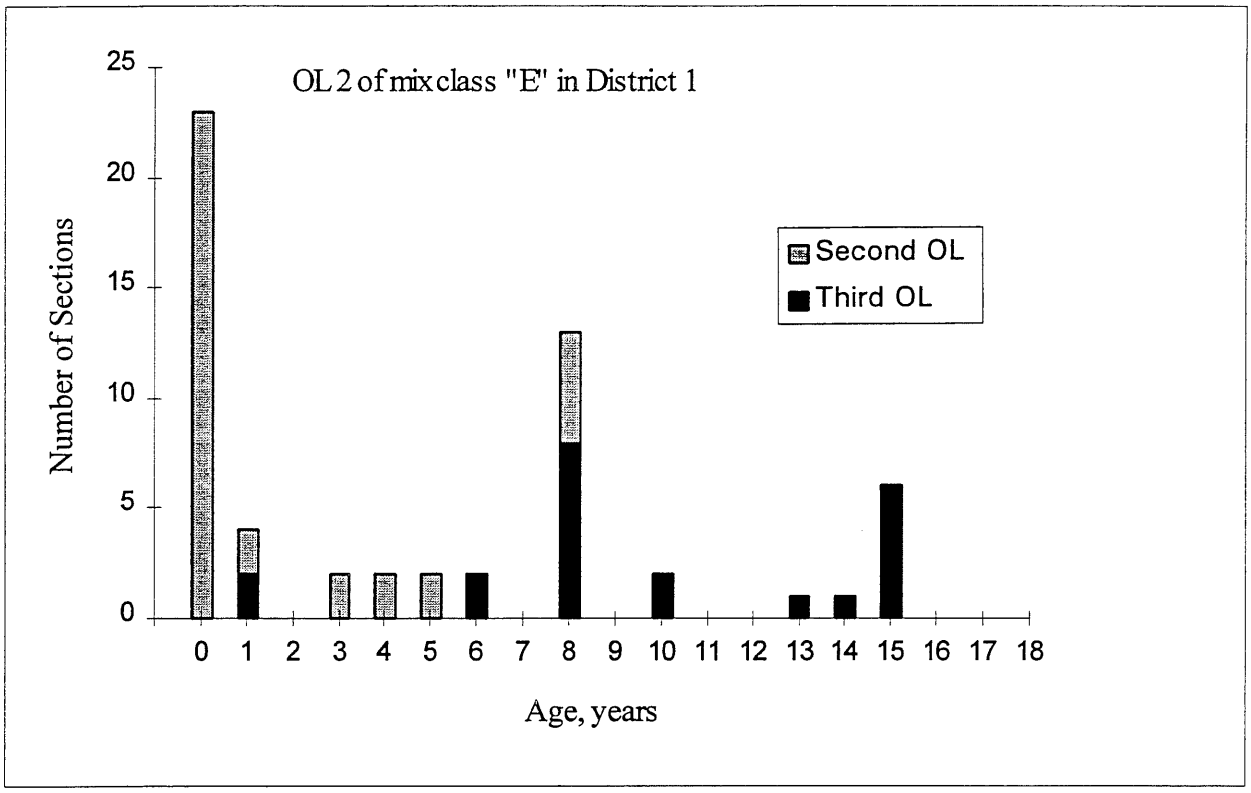

Figure 93. Age distribution for second overlays in District 1 with mixture type "E".

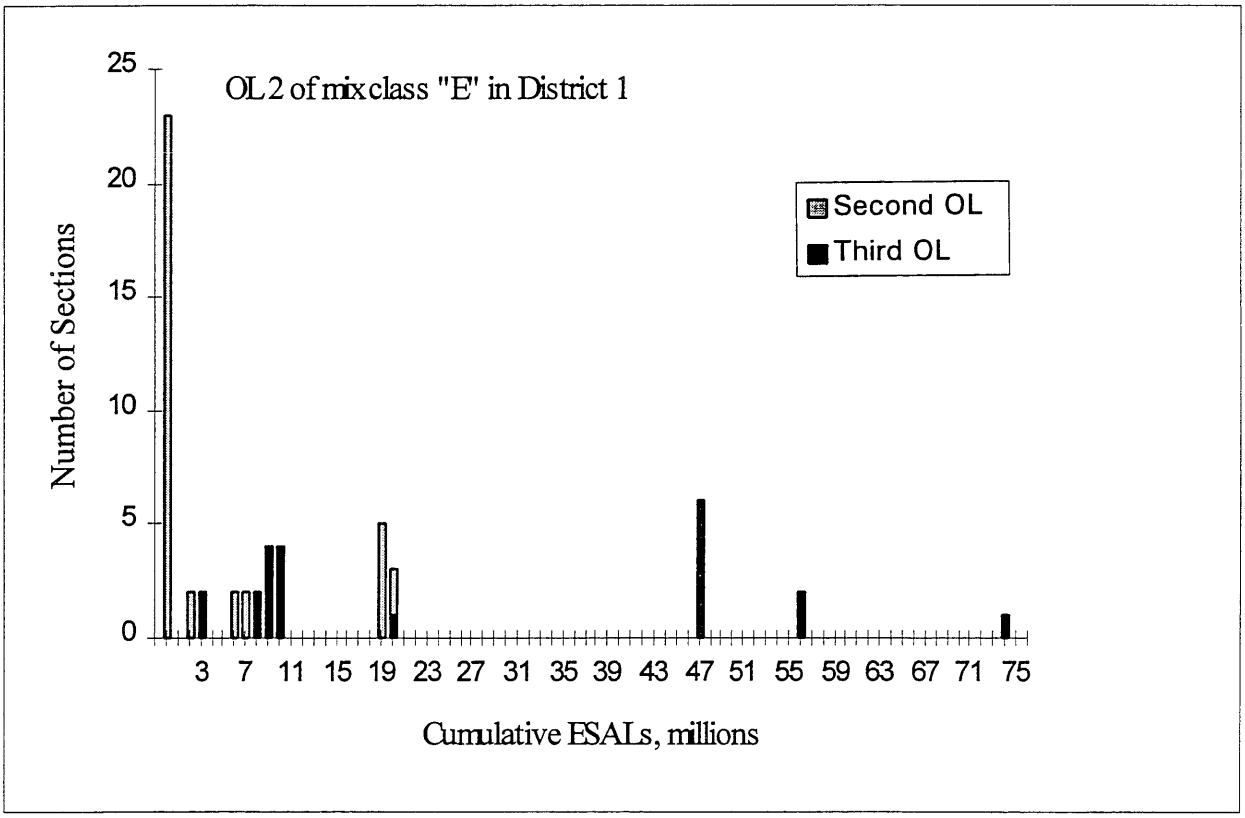

Figure 94. ESAL distribution for second overlays in District 1 with mixture type "E".

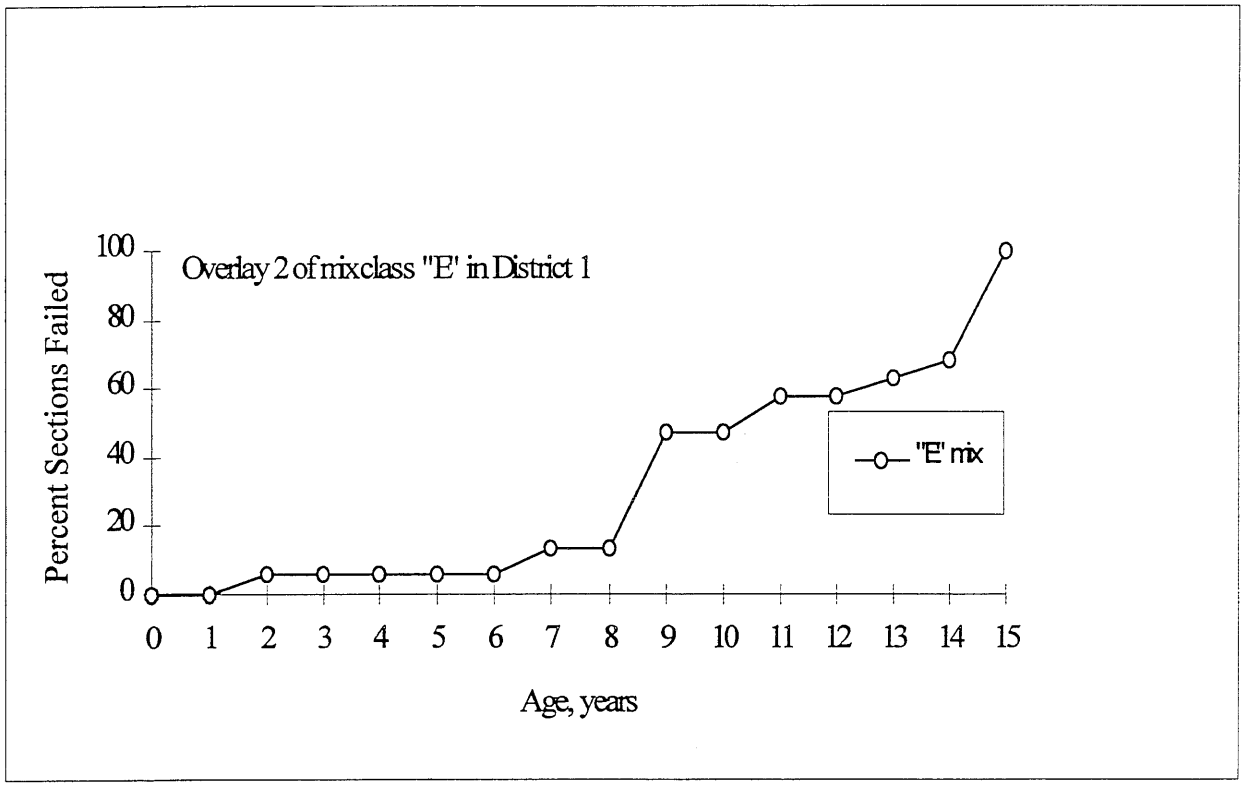

Figure 95. Age survival curves for second overlays in District 1 with mixture type "E".

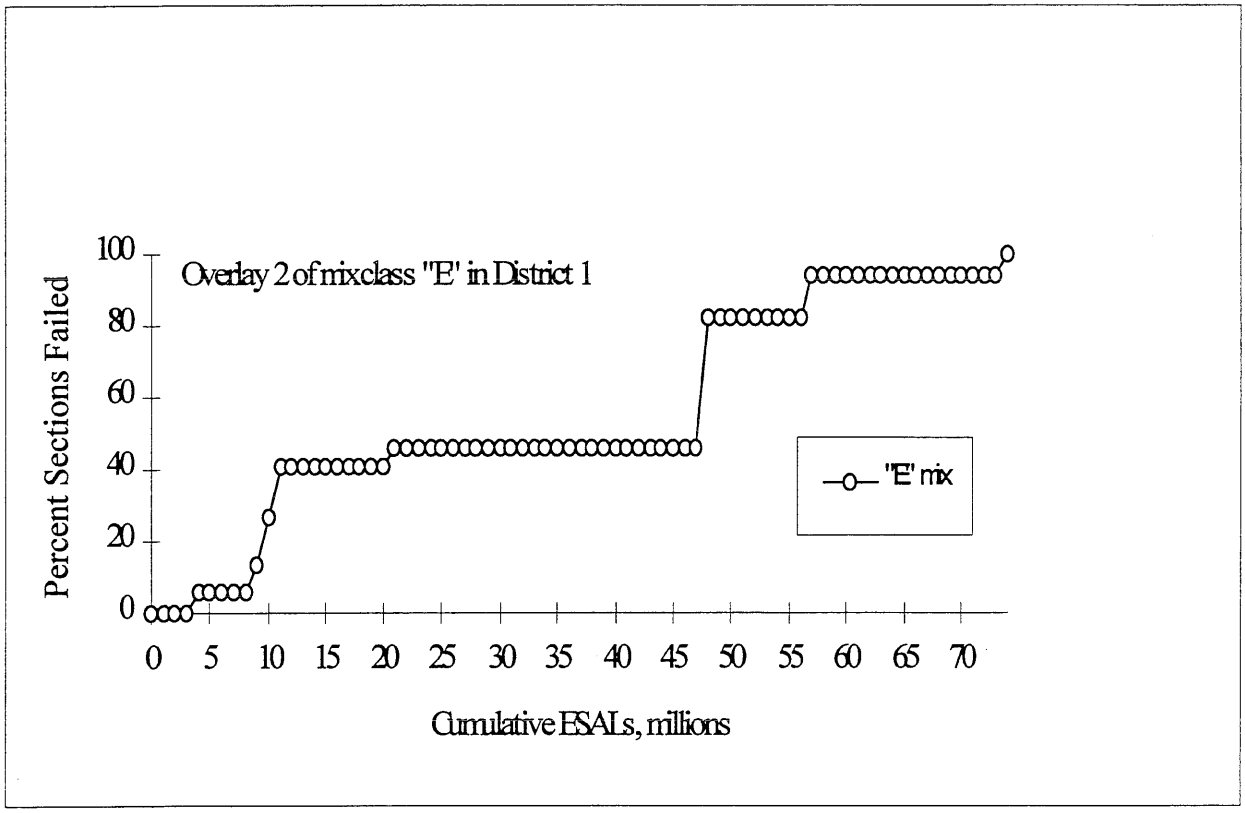

Figure 96. ESAL survival curves for second overlays in District 1 with mixture type "E".

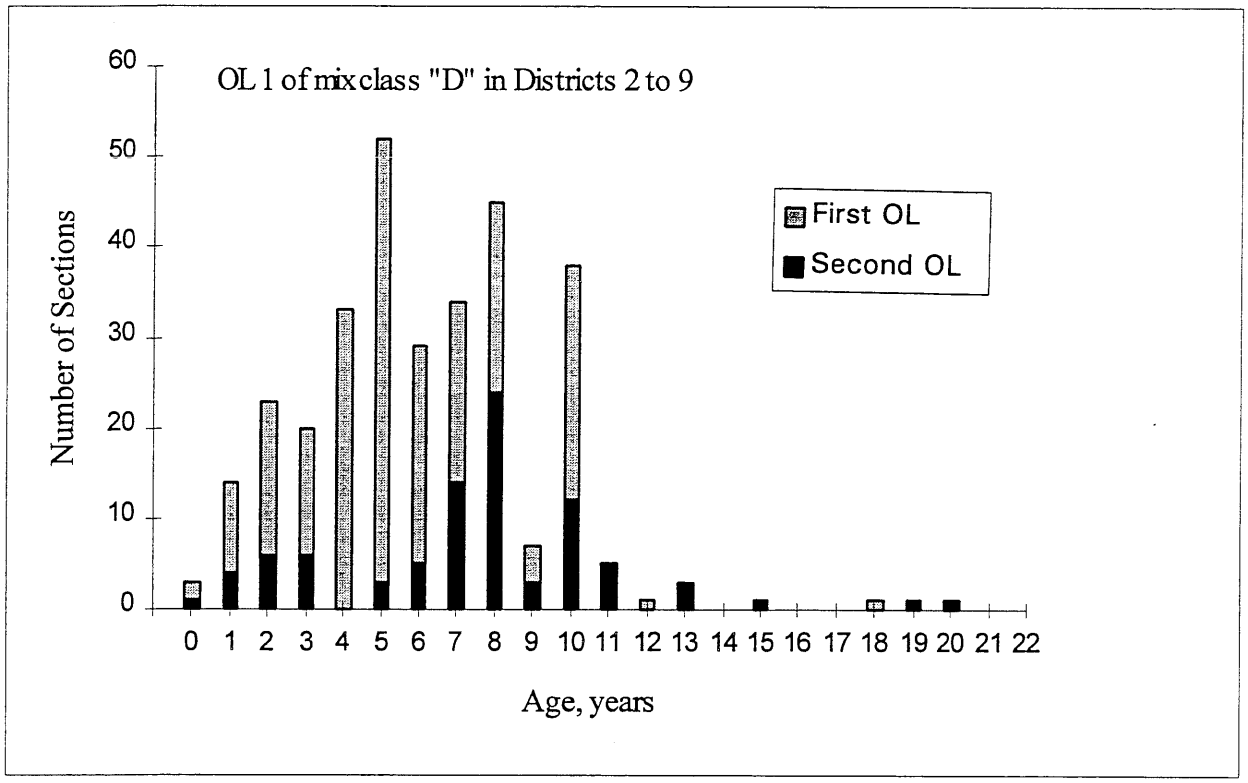

Figure 97. Age distribution for first overlays in districts 2 to 9 with mixture type "D".

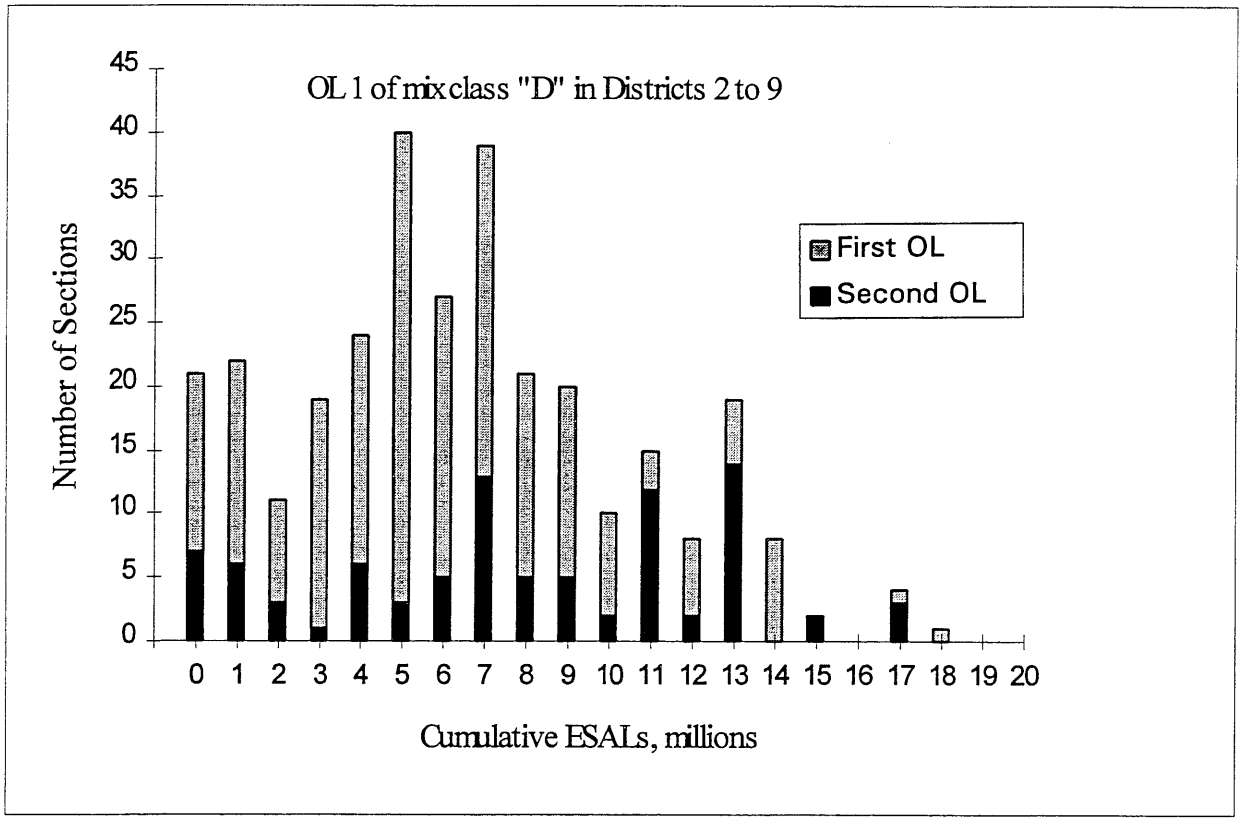

Figure 98. ESAL distribution for first overlays in districts 2 to 9 with mixture type "D".

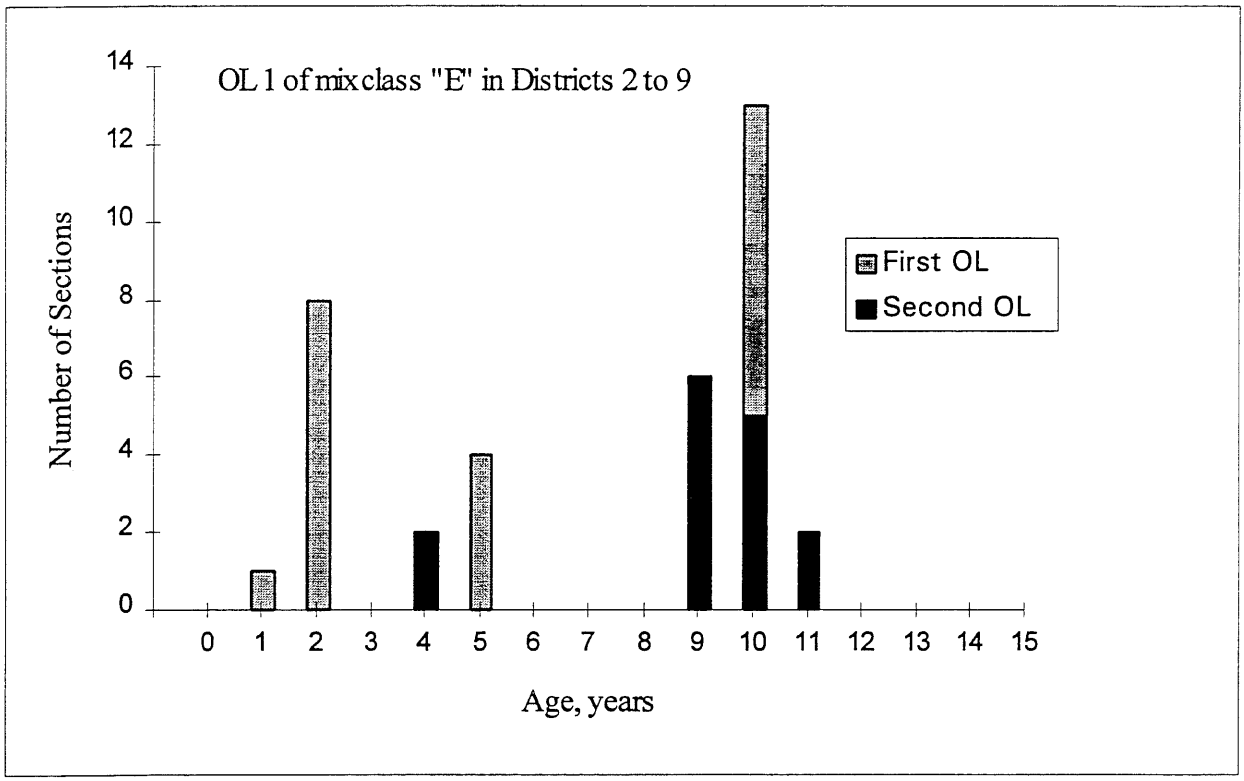

Figure 99. Age distribution for first overlays in districts 2 to 9 with mixture type "E".

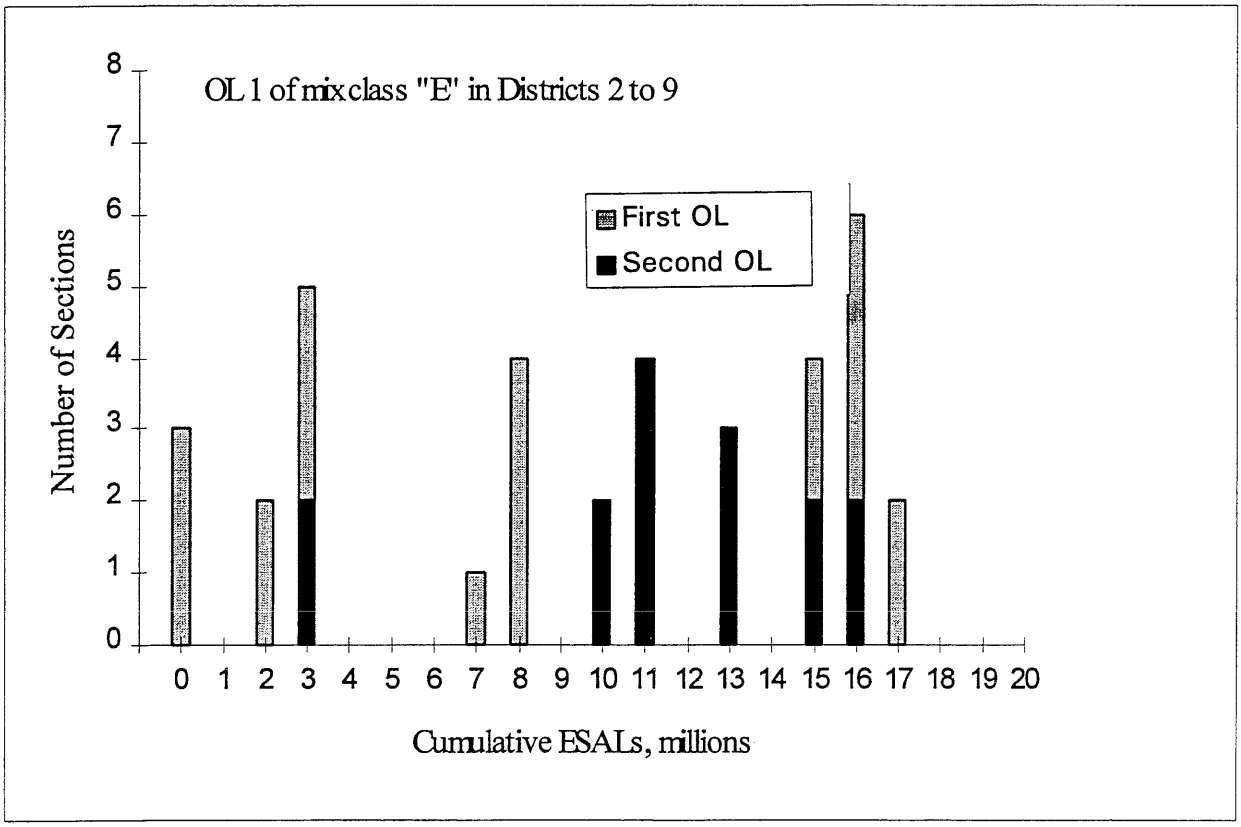

Figure 100. ESAL distribution for first overlays in District 2 to 9 with mixture type "E".

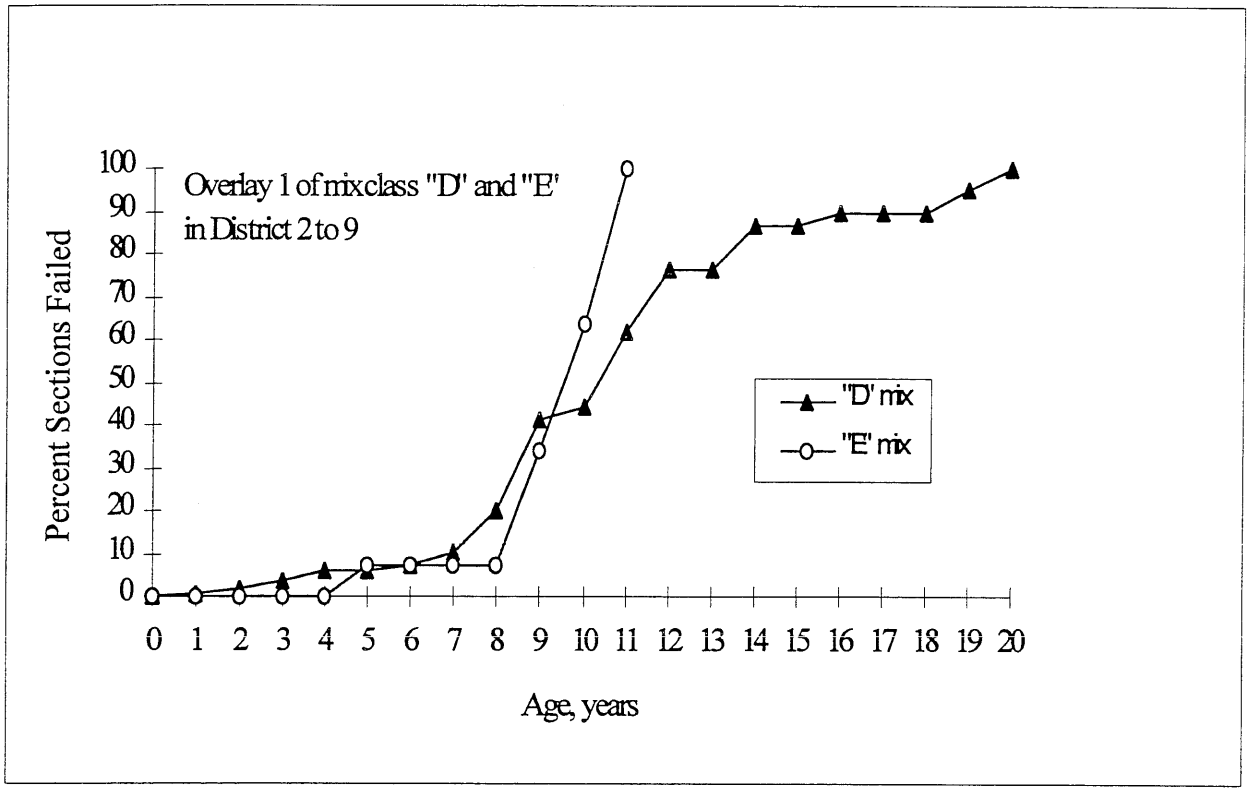

Figure 101. Age survival curves for first overlays in districts 2 to 9 with mixture types "D" & "E"

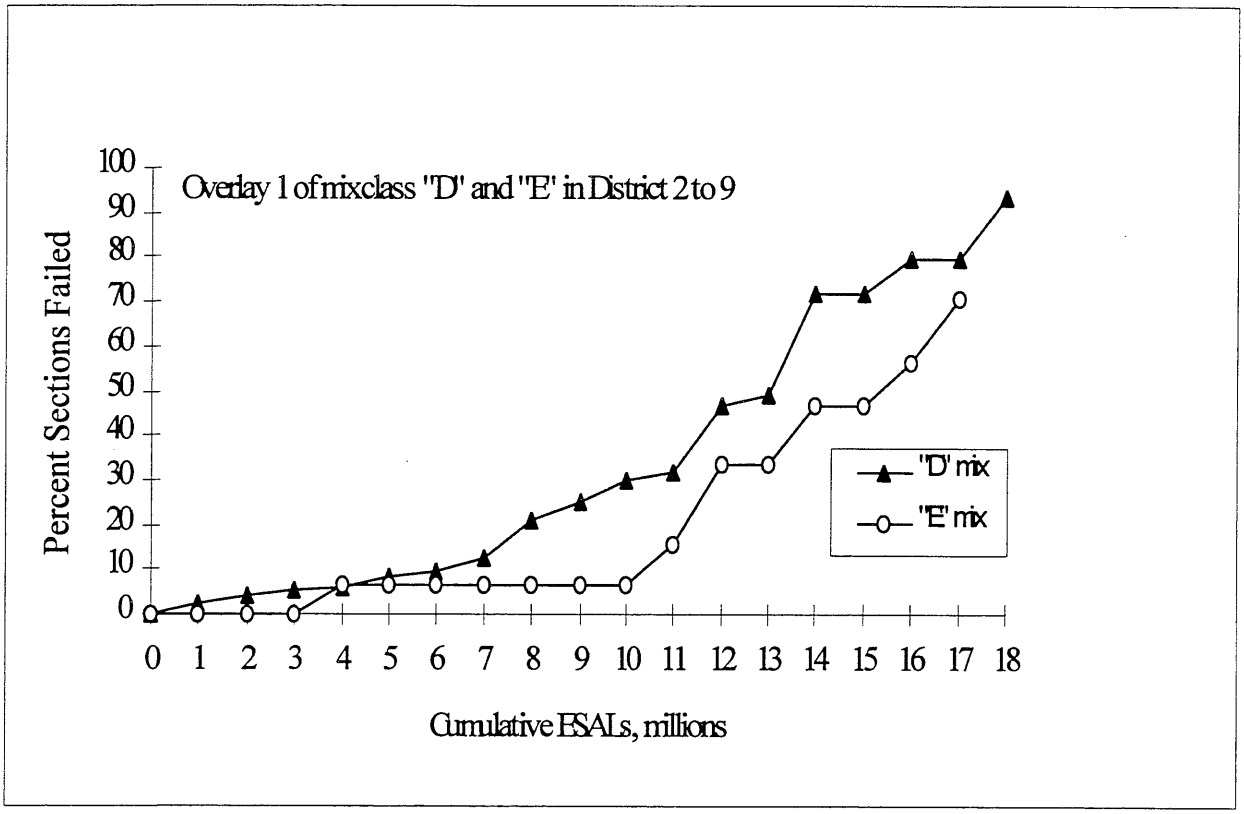

Figure 102. ESAL survival curves for first overlays in districts 2 to 9 with mix types "D" & "E"

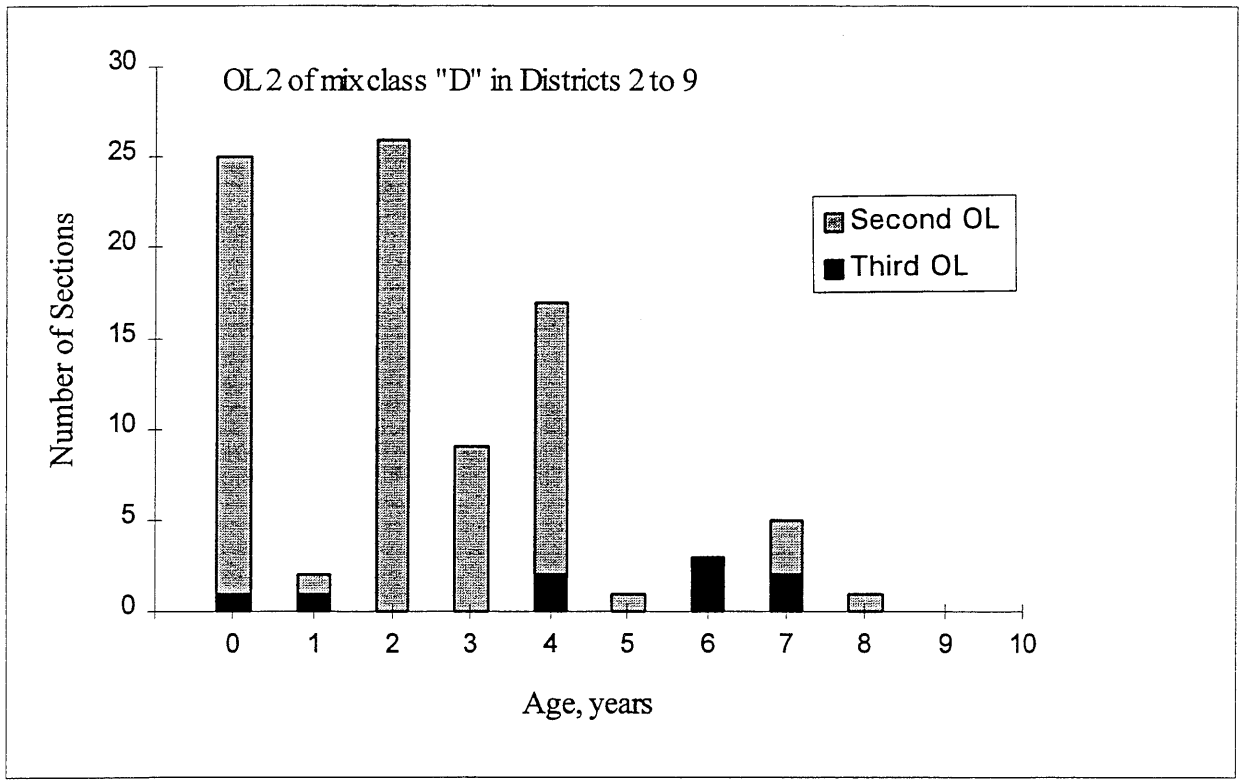

Figure 103. Age distribution for second overlays in districts 2 to 9 with mixture type "D".

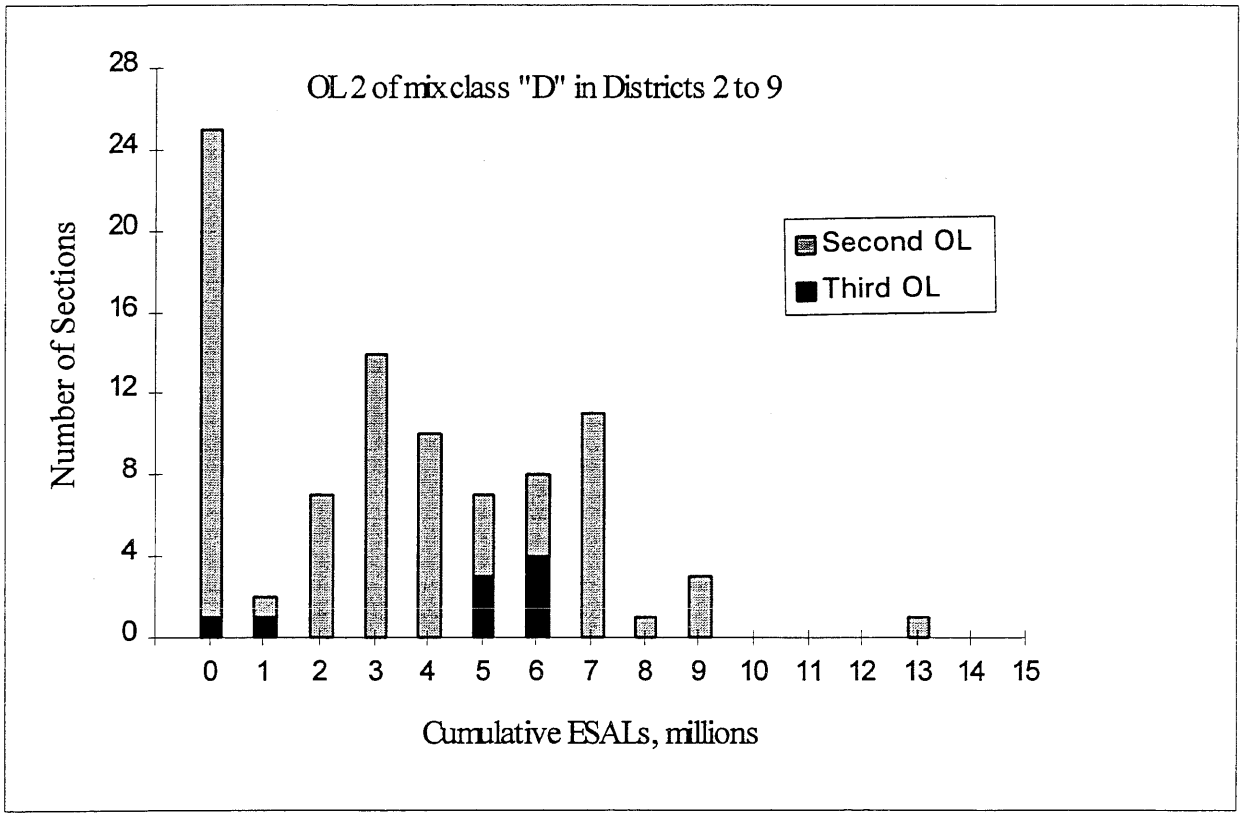

Figure 104. ESAL distribution for second overlays in districts 2 to 9 with mixture type "D".

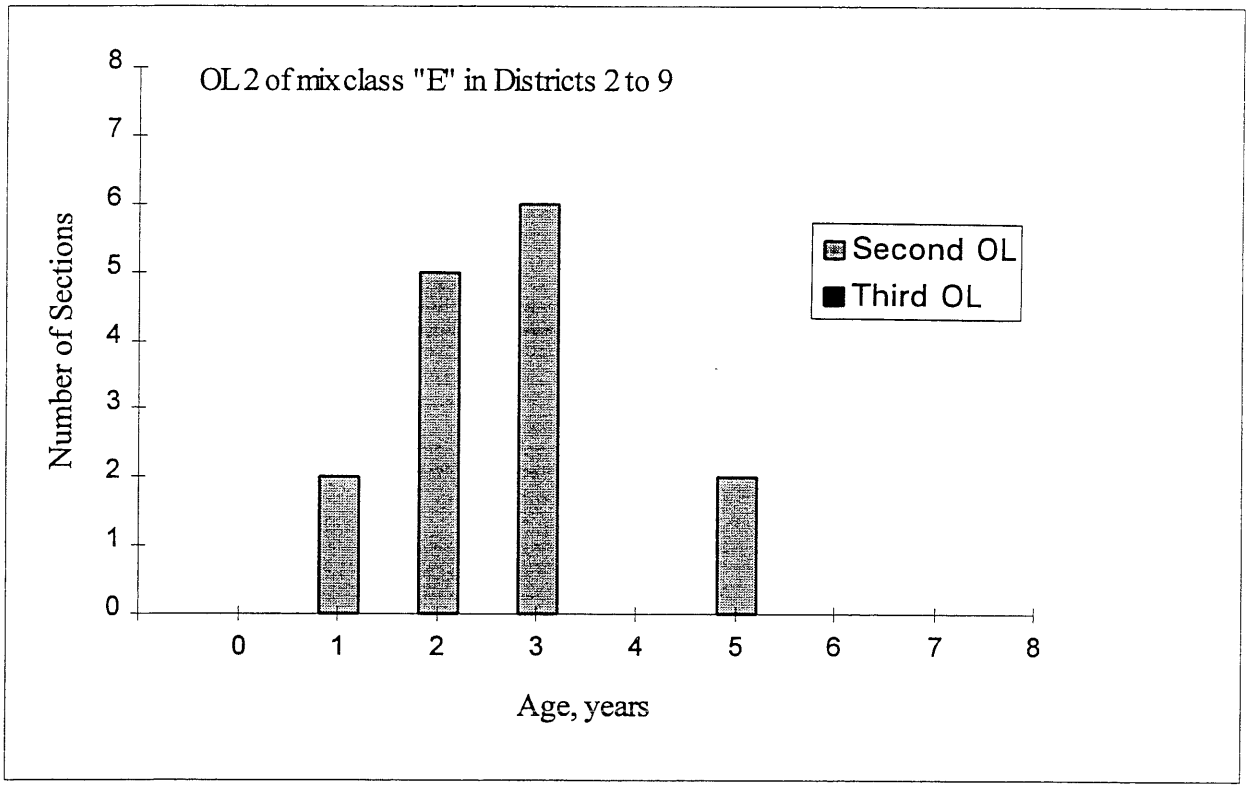

Figure 105. Age distribution for second overlays in districts 2 to 9 with mixture type "E".

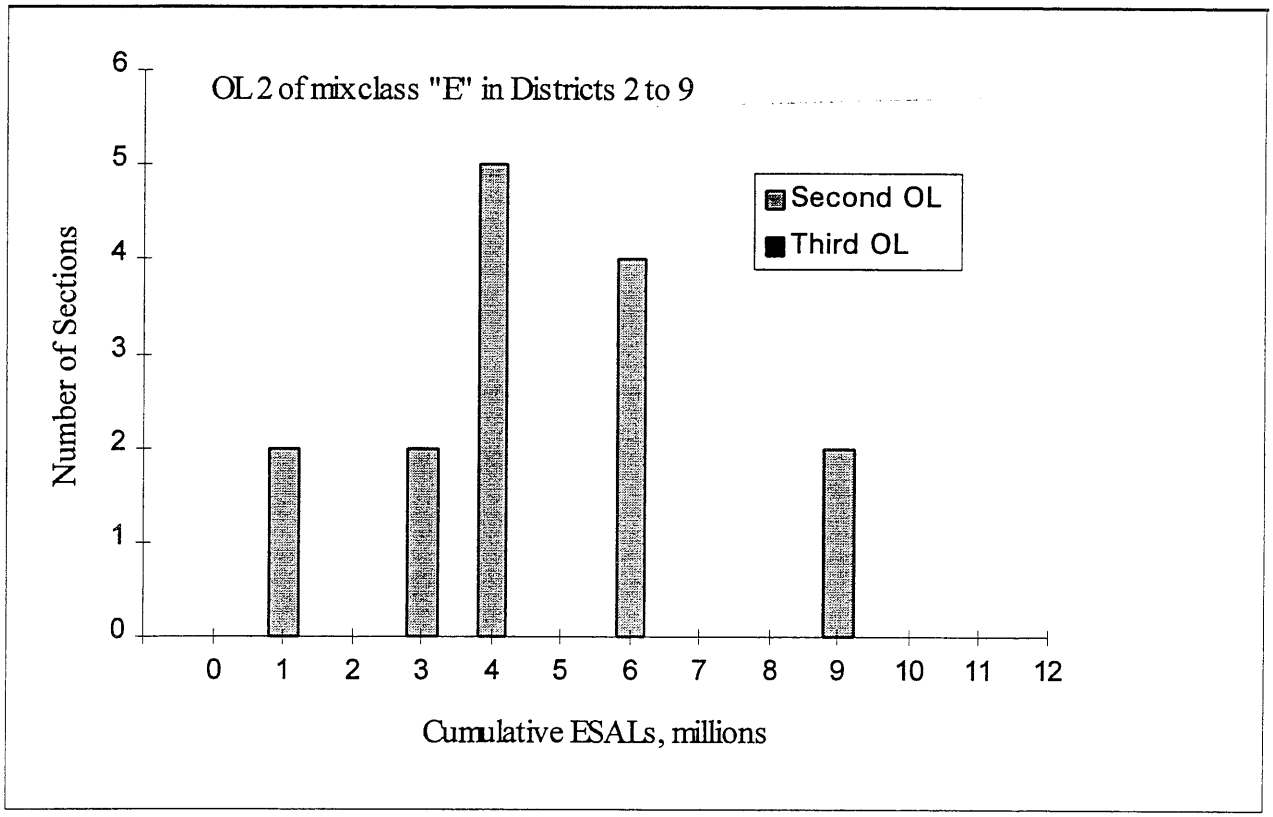

Figure 106. ESAL distribution for second overlays in districts 2 to 9 with mixture type "E".

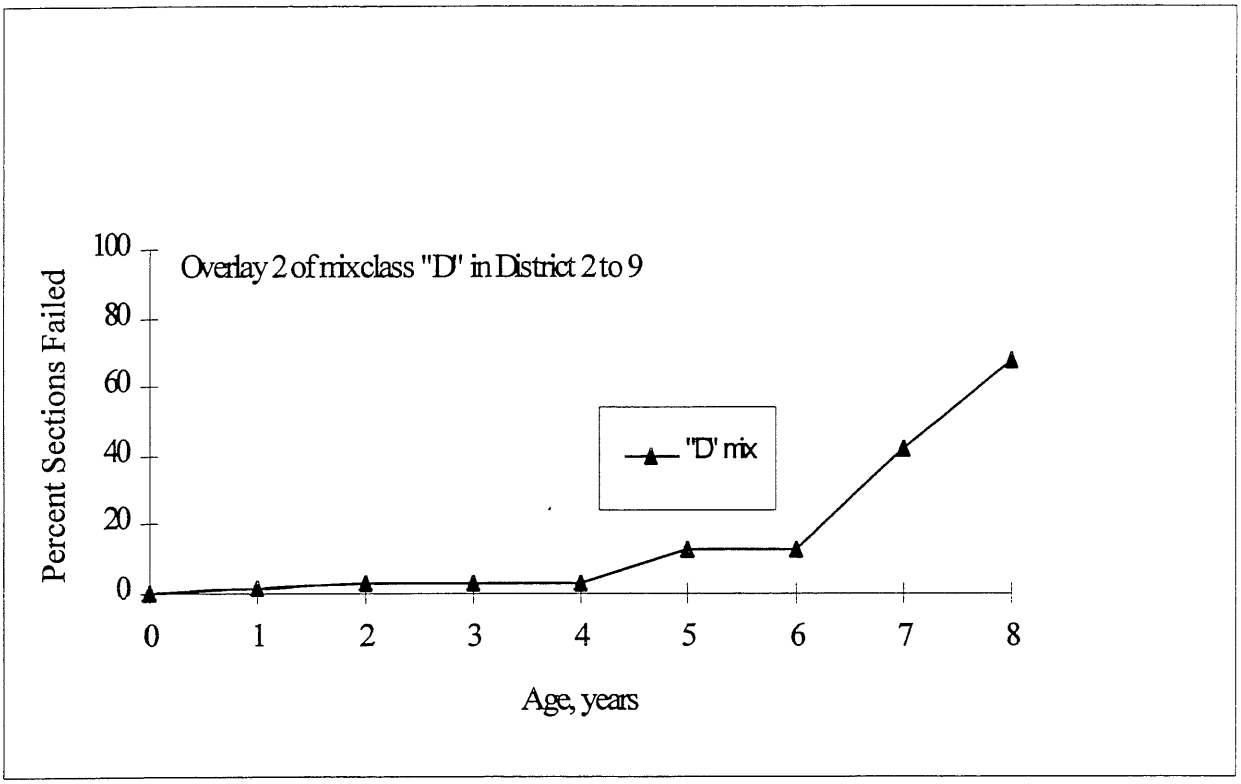

Figure 107. Age survival curves for second overlays in districts 2 to 9 with mixture type "D".

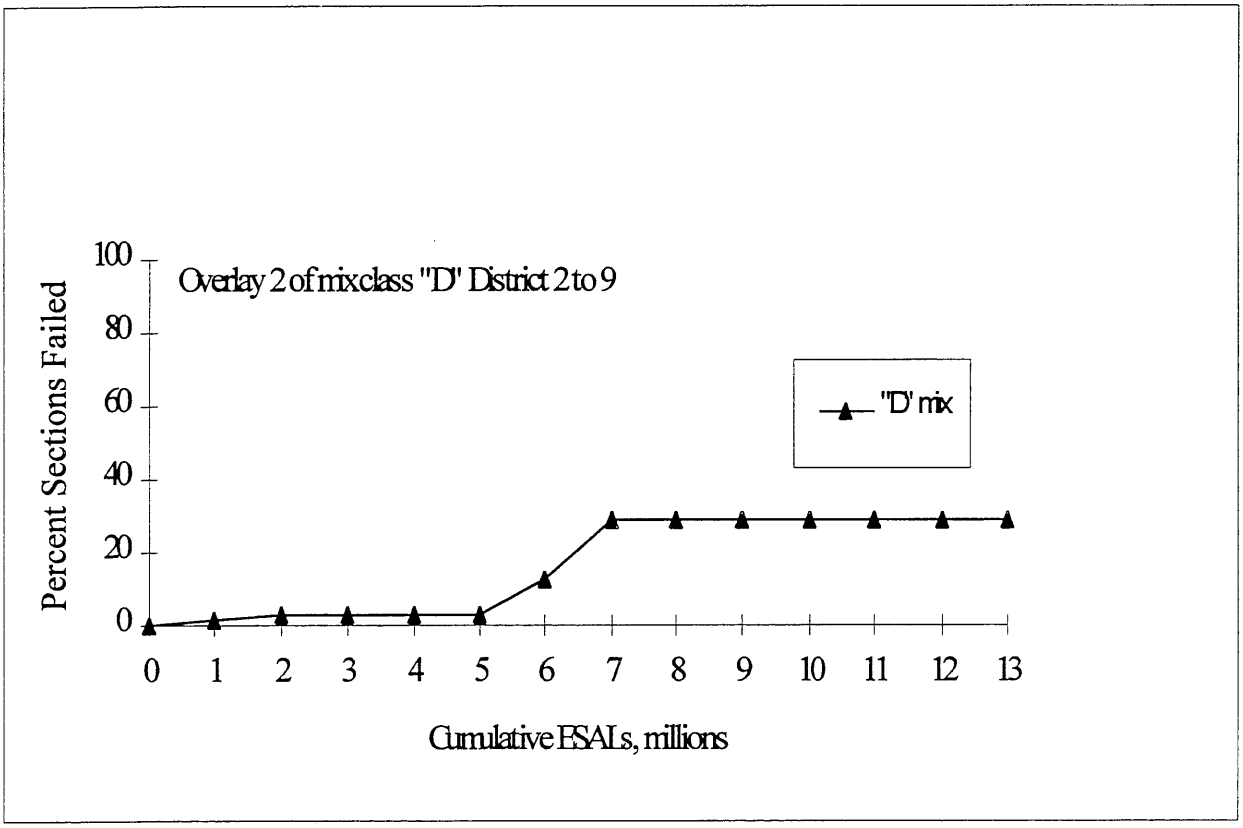

Figure 108. ESAL survival curves for second overlays in districts 2 to 9 with mixture type "D".

APPENDIX E
DEVELOPMENT OF 1994 SURVIVAL DATABASE

A BASIC computer program was written to merge two files that were retrieved from the IPFS database to produce the database that was used in the survival analysis (appendix E), The first file contains the rehabilitation history from construction year of original pavement to 1994 for each section in the IPFS database. The second one contains traffic history from construction year of original pavement to 1994 for the same sections in the rehabilitation file. Considerable effort was expended to examine the data in the above two files. Many sections were found to have unreasonable information so these were excluded from the survival analysis.

ROUTE (RTE), DIRECTION (DIR), BEGINNING, ENDING MILEPOSTS (BMP, EMP), and DISTRICT (DIST)

These section identification and milepost limit data were retrieved from the IPFS database. A total of 1468 sections are listed in the database. The IPFS database does not include all of the Interstate pavement sections in Illinois. For example, the Illinois Toll Roads are not included.

YEAR OF CONSTRUCTION (YEAR)

Year of original construction data were retrieved from the IPFS database. Some sections of I-55 have construction year of original pavement before construction year of first overlay, indicating a negative age. These sections were excluded from the survival analysis.

The original construction years in the IPFS database may be in many cases the year that the contract was 100 percent completed (including all work on guardrails, seeding, etc.). It is possible that in these cases, the pavements may actually have been opened to traffic as much as a year earlier. As a result, the current age and accumulated ESALs may be underestimated for these pavements. However, since the reported year of construction may be closer to the actual opening date for other sections, to arbitrarily add a year of age and traffic to all sections in the database would overestimate the age and traffic of some other pavements. This problem must be considered a potential source of error in the survival analysis for bare JRCP and bare CRCP.

D CRACKING (DC)

D cracking indicator for many sections is missing (DC = 0). These sections were excluded from the analysis. D cracking status is assumed valid for all other sections (DC = Y or DC = N)

PAVEMENT TYPE (TYPE)

The following pavement type labels were used for the pavement types identified in the IPFS database:

Label	IPFS Description
JRCP	JRCP
CRCP	CRCP
BRID	BRIDGE
HMAC	FULL-DEPTH ASPHALT

ORIGINAL PAVEMENT THICKNESS (THK0)

Original pavement thicknesses were retrieved from the IPFS database. Original thicknesses for JRCP, CRCP, and HMAC sections are assumed to be correct.

OVERLAY YEAR OF CONSTRUCTION, TYPE, AND THICKNESS (YEAR1, REH1, THK1, ETC.)

The construction years (YEAR), types (REH), and thicknesses (THK), and for first, second, and third overlays were retrieved from the IPFS database. The overlays are listed in chronological order: YEAR1, REH1, and THK1 are for the first overlay, YEAR2, REH2, THK2 are for the second overlay, YEAR3, REH3, and THK3 are for the third overlay. The rehabilitation type "3" represents a thin AC overlay (less than 4 inches), while the rehabilitation type "5" represents a thick AC overlay (4 inches or more).

ACCUMULATED ESALs FROM CONSTRUCTION TO FIRST OVERLAY (ECN)

Annual ESALs for each year from construction to 1994 were retrieved for each section from the IPFS database. The BASIC program (database.bas) was used to compute the accumulated ESALs from year of construction to year of first overlay, or to 1994 for sections without an overlay.

AGE OF ORIGINAL PAVEMENT AT YEAR OF FIRST OVERLAY OR IN 1994 (NCN)

The age of each section when first overlaid or in 1994 was computed by subtracting YEAR from YEAR1 for overlaid sections, and subtracting YEAR from 1994 for sections without overlays.

ACCUMULATED ESALs BETWEEN OVERLAYS (E1, E2, E3)

The computer program (database.bas) was used to calculate the accumulated ESALs from year of first overlay to year of second overlay, or to 1994 (E1) and from year of second overlay to year of third overlay, or to 1994 (E2) etc.

AGE OF OVERLAYS (N1, N2, N3)

The age of each overlaid section when overlaid for the second time or in 1994 (E1) was computed by subtracting YEAR1 from YEAR2. The age of each overlaid section when overlaid for the third time or in 1994 (E2) was computed by subtracting YEAR2 from

YEAR3. No analysis was made for third overlays.

Mixture Type (MIX)

This item includes the asphalt mixture type for AC overlaid sections. Overlays with unknown mixture type are indicated by NA (i.e., MIX = NA).

QUESTIONABLE SECTIONS(?)

An "x" appears in the last column in the database to indicate questionable sections that were excluded from the analysis. Reasons for exclusion include the following:

1. Original pavement types other than JRCP, CRCP, HMAC.

2. Accumulated ESALs from construction year to first overlay or 1994 (ECN) is missing or unreliable.

3. Rehabilitation history is unreliable.

4. The D cracking indicator is not available (DC = 0)

APPENDIX F

1994 SURVIVAL DATABASE

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
6	N	0.00	2.34	4	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	2.05	15	0	0	0	0	Bare	
6	N	2.34	5.84	4	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	1.91	12	0	0	0	0	Bare	
6	N	5.84	6.57	4	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	1.89	12	0	0	0	0	Bare	
6	N	6.57	9.73	4	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	1.66	9	0	0	0	0	Bare	
6	S	0.00	2.34	4	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	2.05	15	0	0	0	0	Bare	
6	S	2.34	5.84	4	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	1.91	12	0	0	0	0	Bare	
6	S	5.84	6.57	4	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	1.89	12	0	0	0	0	Bare	
6	S	6.57	9.73	4	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	1.66	9	0	0	0	0	Bare	
20	E	0.00	1.37	2	1962	Y	JRCP	10	0	0	0	0	0	0	0	0	0	4.28	32	0	0	0	0	Bare	
20	E	1.37	4.61	2	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	4.23	30	0	0	0	0	Bare	
20	E	4.61	7.15	2	1964	Y	JRCP	10	0	0	0	0	0	0	0	0	0	4.70	30	0	0	0	0	Bare	
20	E	7.15	9.50	2	1962	Y	JRCP	10	1992	3	3.25	0	0	0	0	0	0	5.49	30	0.52	2	0	0	NA	
20	E	9.50	12.78	2	1963	Y	JRCP	10	1992	3	3.25	0	0	0	0	0	0	8.22	29	1.36	2	0	0	NA	
20	W	0.00	1.37	2	1962	Y	JRCP	10	0	0	0	0	0	0	0	0	0	4.28	32	0	0	0	0	Bare	
20	W	1.37	4.61	2	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	4.23	30	0	0	0	0	Bare	
20	W	4.61	7.15	2	1964	Y	JRCP	10	0	0	0	0	0	0	0	0	0	4.70	30	0	0	0	0	Bare	
20	W	7.15	9.50	2	1962	Y	JRCP	10	1992	3	3.25	0	0	0	0	0	0	5.49	30	0.52	2	0	0	NA	
20	W	9.50	12.78	2	1963	Y	JRCP	10	1992	3	3.25	0	0	0	0	0	0	8.22	29	1.36	2	0	0	NA	
24	E	0.00	9.22	9	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.56	18	0	0	0	0	Bare	
24	E	9.22	15.69	9	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.57	19	0	0	0	0	Bare	
24	E	15.69	16.73	9	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.73	19	0	0	0	0	Bare	
24	E	16.73	23.89	9	1972	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.75	22	0	0	0	0	Bare	
24	E	23.89	28.33	9	1973	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.74	21	0	0	0	0	Bare	
24	E	28.33	31.39	9	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.73	20	0	0	0	0	Bare	
24	E	31.39	36.97	9	1973	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.79	21	0	0	0	0	Bare	
24	E	36.97	38.94	9	1973	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.89	21	0	0	0	0	Bare	
24	W	0.00	9.22	9	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.56	18	0	0	0	0	Bare	
24	W	9.22	15.69	9	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.57	19	0	0	0	0	Bare	
24	W	15.69	16.73	9	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.73	19	0	0	0	0	Bare	
24	W	16.73	23.89	9	1972	N	CRCP	8	0	0	0	0	0	0	0	0	0	8.75	22	0	0	0	0	Bare	
24	W	23.89	28.33	9	1973	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.74	21	0	0	0	0	Bare	
24	W	28.33	31.39	9	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.73	20	0	0	0	0	Bare	
24	W	31.39	36.97	9	1973	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.79	21	0	0	0	0	Bare	
24	W	36.97	38.94	9	1973	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.89	21	0	0	0	0	Bare	
34	E	0.00	3.12	4	1965	N	JRCP	10	0	0	0	0	0	0	0	0	0	7.72	29	0	0	0	0	Bare	
34	E	3.12	5.28	4	1971	N	CRCP	10	0	0	0	0	0	0	0	0	0	5.63	23	0	0	0	0	Bare	
34	E	5.28	12.48	4	1986	N	CRCP	9	0	0	0	0	0	0	0	0	0	2.75	8	0	0	0	0	Bare	
34	E	12.48	18.09	4	1986	N	CRCP	9	0	0	0	0	0	0	0	0	0	2.60	8	0	0	0	0	Bare	
34	W	0.00	3.12	4	1965	N	JRCP	10	0	0	0	0	0	0	0	0	0	7.72	29	0	0	0	0	Bare	
34	W	3.12	5.28	4	1971	N	CRCP	10	0	0	0	0	0	0	0	0	0	5.63	23	0	0	0	0	Bare	
34	W	5.28	12.48	4	1986	N	CRCP	9	0	0	0	0	0	0	0	0	0	2.75	8	0	0	0	0	Bare	
34	W	12.48	18.09	4	1986	N	CRCP	9	0	0	0	0	0	0	0	0	0	2.60	8	0	0	0	0	Bare	
39	N	0.00	2.58	3	1989	N	CRCP	10.75	0	0	0	0	0	0	0	0	0	2.96	5	0	0	0	0	Bare	
39	N	2.58	5.37	3	1990	N	CRCP	10	0	0	0	0	0	0	0	0	0	4.21	4	0	0	0	0	Bare	
39	N	5.37	9.75	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.52	2	0	0	0	0	Bare	
39	N	9.75	19.26	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.51	2	0	0	0	0	Bare	
39	N	19.26	33.76	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.68	2	0	0	0	0	Bare	
39	N	33.76	40.36	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.66	2	0	0	0	0	Bare	
39	N	40.36	52.12	3	1990	N	CRCP	10	0	0	0	0	0	0	0	0	0	3.33	4	0	0	0	0	Bare	
39	N	52.12	58.20	3	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.20	7	0	0	0	0	Bare	
39	N	58.20	66.84	3	1984	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.84	10	0	0	0	0	Bare	
39	N	66.84	76.56	3	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.58	9	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
39	N	76.56	86.42	2	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.74	9	0	0	0	0	Bare	
39	N	86.42	96.05	2	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.38	9	0	0	0	0	Bare	
39	N	96.05	102.24	2	1983	N	CRCP	10	0	0	0	0	0	0	0	0	0	9.88	11	0	0	0	0	Bare	
39	N	102.24	109.71	2	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	10.06	12	0	0	0	0	Bare	
39	N	109.71	115.61	2	1981	N	CRCP	10	0	0	0	0	0	0	0	0	0	10.23	13	0	0	0	0	Bare	
39	N	115.61	119.15	2	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	10.33	12	0	0	0	0	Bare	
39	N	119.15	121.54	2	1963	Y	JRCP	10	1991	3	3.3	0	0	0	0	0	0	6.71	28	5.09	3	0	0		X
39	N	121.54	122.40	2	1963	Y	JRCP	10	1991	3	3.3	0	0	0	0	0	0	6.71	28	5.08	3	0	0		X
39	S	0.00	2.58	3	1989	N	JRCP	10.75	0	0	0	0	0	0	0	0	0	2.96	5	0	0	0	0	Bare	
39	S	2.58	5.37	3	1990	N	CRCP	10	0	0	0	0	0	0	0	0	0	4.21	4	0	0	0	0	Bare	
39	S	5.37	9.75	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.52	2	0	0	0	0	Bare	
39	S	9.75	19.26	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.51	2	0	0	0	0	Bare	
39	S	19.26	33.76	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.68	2	0	0	0	0	Bare	
39	S	33.76	40.36	3	1992	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.66	2	0	0	0	0	Bare	
39	S	40.36	52.12	3	1990	N	CRCP	10	0	0	0	0	0	0	0	0	0	3.33	4	0	0	0	0	Bare	
39	S	52.12	58.20	3	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.20	7	0	0	0	0	Bare	
39	S	58.20	66.84	3	1984	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.84	10	0	0	0	0	Bare	
39	S	66.84	76.56	3	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.58	9	0	0	0	0	Bare	
39	S	76.56	86.42	2	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.74	9	0	0	0	0	Bare	
39	S	86.42	96.05	2	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.38	9	0	0	0	0	Bare	
39	S	96.05	102.24	2	1983	N	CRCP	10	0	0	0	0	0	0	0	0	0	9.88	11	0	0	0	0	Bare	
39	S	102.24	109.71	2	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	10.06	12	0	0	0	0	Bare	
39	S	109.71	115.61	2	1981	N	CRCP	10	0	0	0	0	0	0	0	0	0	10.23	13	0	0	0	0	Bare	
39	S	115.61	119.15	2	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	10.33	12	0	0	0	0	Bare	
39	S	119.15	121.54	2	1963	Y	JRCP	10	1991	3	3.25	0	0	0	0	0	0	6.71	28	5.09	3	0	0	NA	
39	S	121.54	122.40	2	1963	Y	JRCP	10	1991	3	3.25	0	0	0	0	0	0	6.71	28	5.08	3	0	0	NA	
50	E	14.25	19.48	7	1962	Y	JRCP	10	0	0	0	0	0	0	0	0	0	6.30	32	0	0	0	0	Bare	
50	E	19.48	21.53	7	1962	N	JRCP	10	1990	3	2.5	0	0	0	0	0	0	4.67	28	0.87	4	0	0	NA	
50	W	14.25	19.48	7	1962	Y	JRCP	10	0	0	0	0	0	0	0	0	0	6.30	32	0	0	0	0	Bare	
50	W	19.48	21.53	7	1962	N	JRCP	10	1990	3	2.5	0	0	0	0	0	0	4.67	28	0.87	4	0	0	NA	
51	N	0.00	0.56	5	1977	N	CRCP	8	0	0	0	0	0	0	0	0	0	2.05	17	0	0	0	0	Bare	
51	N	0.56	5.25	5	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	2.00	15	0	0	0	0	Bare	
51	S	0.00	0.56	5	1977	N	CRCP	8	0	0	0	0	0	0	0	0	0	2.05	17	0	0	0	0	Bare	
51	S	0.56	5.25	5	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	2.00	15	0	0	0	0	Bare	
53	N	0.00	0.33	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.74	22	0	0	0	0	Bare	
53	N	0.33	1.89	1	1964	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.97	27	7.59	3	0	0	NA	
53	N	1.89	3.90	1	1964	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.98	27	7.64	3	0	0	NA	
53	N	3.90	4.93	1	1966	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.48	25	7.66	3	0	0	NA	
53	N	4.93	5.99	1	1966	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.45	25	7.66	3	0	0	NA	
53	N	5.99	7.03	1	1970	N	JRCP	8	0	0	0	0	0	0	0	0	0	18.63	24	0	0	0	0	Bare	
53	N	7.03	7.83	1	1989	N	CRCP	10	0	0	0	0	0	0	0	0	0	11.92	5	0	0	0	0	Bare	
53	S	0.00	0.33	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.74	22	0	0	0	0	Bare	
53	S	0.33	1.89	1	1964	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.97	27	7.59	3	0	0	NA	
53	S	1.89	3.90	1	1964	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.98	27	7.64	3	0	0	NA	
53	S	3.90	4.93	1	1966	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.48	25	7.66	3	0	0	NA	
53	S	4.93	5.99	1	1966	N	JRCP	8	1991	5	6	0	0	0	0	0	0	11.45	25	7.66	3	0	0	NA	
53	S	5.99	7.03	1	1970	N	JRCP	8	0	0	0	0	0	0	0	0	0	18.63	24	0	0	0	0	Bare	
53	S	7.03	7.83	1	1989	N	CRCP	10	0	0	0	0	0	0	0	0	0	11.92	5	0	0	0	0	Bare	
55	N	0.00	0.99	8	1967	N	CRCP	7	0	0	0	0	0	0	0	0	0	54.35	27	0	0	0	0	Bare	
55	N	0.99	1.97	8	1967	N	CRCP	8	0	0	0	0	0	0	0	0	0	50.89	27	0	0	0	0	Bare	
55	N	1.97	2.32	8	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	53.20	31	0	0	0	0	Bare	
55	N	2.32	3.51	8	1963	N	JRCP	10	1993	3	3.25	0	0	0	0	0	0	47.46	30	3.42	1	0	0	NA	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
55	N	3.51	4.39	8	1962	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	30.01	28	13.1	4	0	0	Bare	
55	N	4.39	6.01	8	1962	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	22.65	28	4.79	4	0	0	Bare	
55	N	6.01	6.69	8	1962	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	20.79	28	4.84	4	0	0	Bare	
55	N	6.69	8.20	8	1962	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	20.64	28	4.84	4	0	0	Bare	
55	N	8.20	9.20	8	1962	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	14.90	24	10.45	8	0	0	Bare	
55	N	9.20	10.75	8	1961	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.79	25	13.74	8	0	0	Bare	
55	N	10.75	11.97	8	1961	N	JRCP	10	1984	3	3	0	0	0	0	0	0	14.70	23	17.56	10	0	0	Emix	
55	N	11.97	14.30	8	1960	N	JRCP	10	1984	3	3	0	0	0	0	0	0	16.03	24	16.95	10	0	0	Emix	
55	N	14.30	16.40	8	1960	N	JRCP	10	1984	3	3	0	0	0	0	0	0	16.38	24	16.46	10	0	0	Emix	
55	N	16.40	17.12	8	1975	N	CRCP	9	0	0	0	0	0	0	0	0	0	29.95	19	0	0	0	0	Bare	
55	N	17.12	20.01	8	1956	N	JRCP	10	1984	3	3	1993	3	3.25	0	0	0	13.33	28	14.31	9	1.86	1	NA	
55	N	20.01	20.84	8	1956	N	JRCP	10	1976	3	3	1984	3	3	1994	3	3.25	4.94	20	6.08	8	12.14	10	NA	
55	N	20.84	21.59	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.81	16	0	0	0	0	Bare	
55	N	21.59	22.18	8	1956	N	JRCP	10	1976	3	3	0	0	0	0	0	0	4.94	20	18.23	18	0	0	Dmix	
55	N	22.18	22.42	8	1956	N	JRCP	10	0	0	0	0	0	0	0	0	0	23.17	38	0	0	0	0	Bare	
55	N	22.42	22.74	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.81	16	0	0	0	0	Bare	
55	N	22.74	22.99	8	1956	N	JRCP	10	1978	3	3	1987	5	4.3	0	0	0	1.80	22	7.97	9	9	7		X
55	N	22.99	23.11	8	1956	N	JRCP	10	1978	3	3	1987	5	3.3	0	0	0	1.75	22	7.77	9	9.1	7		X
55	N	23.11	29.38	8	1956	N	JRCP	10	1978	3	3	1987	5	3.3	0	0	0	0.54	20	8.72	11	9.1	7		X
55	N	29.38	29.48	8	1956	N	JRCP	10	1987	3	3.25	0	0	0	0	0	0	9.27	31	9.07	7	0	0	Dmix	
55	N	29.48	29.64	8	1956	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.34	38	0	0	0	0	Bare	
55	N	29.64	29.90	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.51	16	0	0	0	0	Bare	
55	N	29.90	30.36	8	1956	N	JRCP	10	1978	3	3	1987	3	3.3	0	0	0	1.93	22	7.68	9	10	7		X
55	N	30.36	32.66	8	1956	N	JRCP	10	1978	3	3.3	1987	3	3.3	0	0	0	0.63	20	8.99	11	10	7		X
55	N	32.66	33.02	8	1956	N	JRCP	10	1987	3	3.25	0	0	0	0	0	0	9.61	31	10.36	7	0	0	Dmix	
55	N	33.02	33.23	8	1956	N	JRCP	10	0	0	0	0	0	0	0	0	0	19.97	38	0	0	0	0	Bare	
55	N	33.23	33.67	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	19.97	16	0	0	0	0	Bare	
55	N	33.67	39.13	8	1975	Y	CRCP	9	1991	3	3.25	0	0	0	0	0	0	14.36	16	4.37	3	0	0	Dmix	
55	N	39.13	43.21	6	1976	Y	CRCP	9	0	0	0	0	0	0	0	0	0	18.28	18	0	0	0	0	Bare	
55	N	43.21	50.38	6	1974	Y	CRCP	9	0	0	0	0	0	0	0	0	0	19.32	20	0	0	0	0	Bare	
55	N	50.38	53.58	6	1974	Y	CRCP	9	1987	3	3.25	0	0	0	0	0	0	9.08	13	10.13	7	0	0	Dmix	
55	N	53.58	56.06	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	15.35	18	3.69	2	0	0	Dmix	
55	N	56.06	60.13	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	16.02	18	3.69	2	0	0	Dmix	
55	N	60.13	61.08	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	16.15	18	2.85	2	0	0	Dmix	
55	N	61.08	63.18	6	1973	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	16.35	19	2.85	2	0	0	Dmix	
55	N	63.18	66.00	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Dmix	
55	N	66.00	70.91	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Bare	
55	N	70.91	71.13	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Bare	
55	N	71.13	71.49	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Bare	
55	N	71.49	77.11	6	1973	Y	CRCP	9	0	0	0	0	0	0	0	0	0	19.79	21	0	0	0	0	Bare	
55	N	77.11	81.30	6	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.83	22	0	0	0	0	Bare	
55	N	81.30	83.99	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	14.25	18	1.81	2	0	0	Dmix	
55	N	83.99	87.30	6	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	16.82	23	0	0	0	0	Bare	
55	N	87.30	89.27	6	1970	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.21	24	0	0	0	0	Bare	
55	N	89.27	91.50	6	1970	N	CRCP	8	0	0	0	0	0	0	0	0	0	18.93	24	0	0	0	0	Bare	
55	N	91.50	92.92	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	10.36	18	16.85	13	0	0	NA	
55	N	92.92	95.42	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	10.87	18	18.16	13	0	0	NA	
55	N	95.42	96.93	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	11.31	18	19.73	13	0	0	NA	
55	N	96.93	97.98	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	12.08	18	20.37	13	0	0	NA	
55	N	97.98	99.45	6	1963	Y	JRCP	10	1986	3	3.25	0	0	0	0	0	0	17.53	23	11.79	8	0	0	Dmix	
55	N	99.45	102.29	6	1963	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	17.63	25	7.97	6	0	0	Dmix	
55	N	102.29	105.61	6	1963	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	18.29	27	5.48	4	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
55	N	105.61	111.12	6	1977	Y	CRCP	9	0	0	0	0	0	0	0	0	0	18.06	17	0	0	0	0	Bare	
55	N	111.12	115.00	6	1979	Y	CRCP	9	1991	3	3.25	0	0	0	0	0	0	14.06	12	3.69	3	0	0	Dmix	
55	N	115.00	120.21	6	1979	Y	CRCP	9	1991	3	3.25	0	0	0	0	0	0	13.63	12	3.69	3	0	0	Dmix	
55	N	120.21	126.50	6	1979	Y	CRCP	9	1991	3	3.25	0	0	0	0	0	0	12.16	12	3.72	3	0	0	Dmix	
55	N	126.50	133.91	6	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.97	16	0	0	0	0	Bare	
55	N	133.91	138.01	6	1976	N	CRCP	9	0	0	0	0	0	0	0	0	0	13.86	18	0	0	0	0	Bare	
55	N	138.01	141.53	6	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	12.91	16	0	0	0	0	Bare	
55	N	141.53	145.24	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	12.69	16	0	0	0	0	Bare	
55	N	145.24	151.04	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	13.43	16	0	0	0	0	Bare	
55	N	151.04	156.42	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.31	16	0	0	0	0	Bare	
55	N	156.42	157.43	3	1967	Y	JRCP	10	1982	3	3	1992	3	3.25	0	0	0	10.98	15	9.13	10	2.07	2	NA	
55	N	157.43	159.36	3	1965	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	10.99	17	13.18	10	3.61	2	NA	
55	N	159.36	161.32	3	1965	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	13.77	17	15.27	10	3.94	2	Emix	
55	N	161.32	162.75	3	1964	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	15.17	18	16.46	10	4.27	2	Emix	
55	N	162.75	163.34	3	1964	Y	JRCP	10	1982	5	4.5	1991	3	3.25	0	0	0	13.12	18	13.36	9	6.3	3	Emix	
55	N	163.34	164.10	3	1964	Y	JRCP	10	1982	5	4	1991	3	3.25	0	0	0	11.08	18	10.21	9	6.92	3	Emix	
55	N	164.10	167.93	3	1964	Y	JRCP	10	1982	5	4	1993	3	1.5	0	0	0	10.39	18	11.55	11	1.35	1	Emix	
55	N	167.93	169.85	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	16.08	16	0	0	0	0	Bare	
55	N	169.85	173.54	3	1975	N	CRCP	9	0	0	0	0	0	0	0	0	0	15.78	19	0	0	0	0	Bare	
55	N	173.54	176.36	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	15.48	16	0	0	0	0	Bare	
55	N	176.36	180.77	3	1976	Y	CRCP	9	0	0	0	0	0	0	0	0	0	15.21	18	0	0	0	0	Bare	
55	N	180.77	185.13	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	14.95	16	0	0	0	0	Bare	
55	N	185.13	187.85	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	14.45	16	0	0	0	0	Bare	
55	N	187.85	194.97	3	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.67	15	0	0	0	0	Bare	
55	N	194.97	201.11	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	15.33	16	0	0	0	0	Bare	
55	N	201.11	204.69	3	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.18	15	0	0	0	0	Bare	
55	N	204.69	207.65	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.71	16	0	0	0	0	Bare	
55	N	207.65	211.54	3	1974	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.71	20	0	0	0	0	Bare	
55	N	211.54	215.55	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.73	16	0	0	0	0	Bare	
55	N	215.55	221.21	3	1981	N	CRCP	10	0	0	0	0	0	0	0	0	0	15.62	13	0	0	0	0	Bare	
55	N	221.21	226.63	3	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	16.64	15	0	0	0	0	Bare	
55	N	226.63	233.65	3	1956	N	JRCP	10	1978	5	5.25	1991	3	1.75	0	0	0	9.62	22	12.49	13	3.96	3	NA	
55	N	233.65	238.97	1	1957	N	JRCP	10	1974	5	4.5	1990	3	3.25	0	0	0	8.08	17	15.21	16	5.24	4	Dmix	
55	N	238.97	241.81	1	1937	0	JRCP	7	1952	3	3	1969	5	8	1990	3	3.3	0.00	15	5.72	17	19	21		X
55	N	241.81	242.31	1	1937	0	JRCP	7	1952	3	3	1969	5	8	1990	3	3.3	0.00	15	5.58	17	19	21		X
55	N	242.31	243.06	1	1961	N	JRCP	10	1969	3	3	1990	3	3.25	0	0	0	5.58	8	18.86	21	5.25	4	Dmix	
55	N	243.06	245.14	1	1937	0	JRCP	7	1952	3	3	1969	5	8	1990	3	3.3	0.00	15	5.58	17	19	21		X
55	N	245.14	246.25	1	1958	0	ACJR	11	1952	3	3	1969	3	3	1990	3	3.3	0.00	0	0	17	20	21		X
55	N	246.25	247.79	1	1937	0	JRCP	7	1969	5	8	1969	3	3.3	0	0	0	5.61	32	21.3	21	5.3	4		X
55	N	247.79	248.15	1	1957	N	JRCP	10	1969	3	3	1990	3	3.3	0	0	0	0.00	12	22	21	5.25	4		X
55	N	248.15	248.60	1	1957	N	JRCP	10	1969	3	3	1990	3	3.25	0	0	0	5.57	12	22.64	21	5.25	4	Dmix	
55	N	248.60	248.83	1	1933	0	JRCP	7	1969	5	8	1990	3	3.3	0	0	0	5.60	36	23.1	21	5.25	4		X
55	N	248.83	249.02	1	1957	N	JRCP	10	1969	3	3	1990	3	3.25	0	0	0	5.60	12	23.08	21	5.25	4	Dmix	
55	N	249.02	249.20	1	1933	0	JRCP	7	1969	5	8	1990	3	3.3	0	0	0	5.60	36	23.1	21	5.25	4		X
55	N	249.20	249.90	1	1963	N	JRCP	10	1969	3	3	1990	3	3.25	0	0	0	5.60	6	23.08	21	5.25	4	Dmix	
55	N	249.90	250.84	1	1933	0	JRCP	7	1968	5	9.8	1979	3	3	1990	3	3.3	4.94	35	8.07	11	16	11		X
55	N	250.84	251.52	1	1933	0	JRCP	7	1968	5	9.8	1976	3	3	1990	3	3.3	4.82	35	5.17	8	21	14		X
55	N	251.52	251.95	1	1957	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	30.49	33	7.49	4	0	0	Emix	
55	N	251.95	252.45	1	1957	N	JRCP	10	1976	5	4.75	1990	3	3.25	0	0	0	9.62	19	20.76	14	7.49	4	Emix	
55	N	252.45	252.86	1	1957	N	JRCP	10	1976	3	3	1990	3	3.25	0	0	0	9.62	19	20.76	14	7.49	4	Emix	
55	N	252.86	254.96	1	1957	N	JRCP	10	1976	5	4.75	0	0	0	0	0	0	9.60	19	28.3	18	0	0	Emix	
55	N	254.96	261.70	1	1958	N	JRCP	10	1976	5	4.75	0	0	0	0	0	0	10.35	18	28.79	18	0	0	Emix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
55	N	261.70	262.69	1	1957	N	JRCP	10	1976	5	4.75	1994	3	3.25	0	0	0	11.05	19	29.41	18	0	0	Emix	
55	N	262.69	263.08	1	1957	N	JRCP	10	1976	5	4.75	1994	3	3.25	0	0	0	11.05	19	29.41	18	0	0	Emix	
55	N	263.08	264.83	1	1933	N	JRCP	7	1968	5	10	1994	3	3.3	0	0	0	5.41	35	35.2	26	0	0		X
55	N	264.83	266.30	1	1933	0	JRCP	7	1968	5	10	0	0	0	0	0	0	5.41	35	35.2	26	0	0		X
55	N	266.30	266.74	1	1957	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	11.05	19	31.41	18	0	0	NA	
55	N	266.74	267.38	1	1957	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	10.12	19	30.78	18	0	0	NA	
55	N	267.38	268.63	1	1946	N	JRCP	10	1968	5	7	1976	3	3	0	0	0	4.35	22	4.85	8	30	18		X
55	N	268.63	269.39	1	1958	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.59	18	32.82	18	0	0	NA	
55	N	269.39	270.79	1	1959	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.44	17	35.49	18	0	0	NA	
55	N	270.79	271.18	1	1961	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.25	15	37.29	18	0	0	NA	
55	N	271.18	272.43	1	1959	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	10.26	17	39.7	18	0	0	NA	
55	N	272.43	273.49	1	1960	N	JRCP	10	1976	5	5	1992	3	2	0	0	0	9.84	16	34.94	16	6.15	2	NA	
55	N	273.49	276.81	1	1961	N	JRCP	10	1976	5	5	1992	3	2	0	0	0	11.44	15	36.77	16	6.17	2	NA	
55	N	276.81	277.38	1	1964	N	JRCP	10	1976	5	5	1992	3	2	0	0	0	11.37	12	35.41	16	6.19	2	NA	
55	N	277.38	278.26	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	20.95	18	33.24	12	0	0	Emix	
55	N	278.26	279.18	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	22.26	18	34.51	12	0	0	Emix	
55	N	279.18	279.86	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	18	35.79	12	0	0	Emix	
55	N	279.86	280.57	1	1965	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	17	35.79	12	0	0	Emix	
55	N	280.57	280.82	1	1965	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	17	35.79	12	0	0	Emix	
55	N	280.82	281.78	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	18	35.79	12	0	0	Emix	
55	N	281.78	283.26	1	1965	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	25.00	17	37.18	12	0	0	Emix	
55	N	283.26	286.31	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	29.50	18	44.74	12	0	0	Emix	
55	N	286.31	287.82	1	1964	N	CRCP	10	1982	3	3	1994	3	3.25	0	0	0	36.23	18	58.01	12	0	0	Emix	
55	N	287.82	288.95	1	1964	N	CRCP	10	1982	3	3	1994	3	3.25	0	0	0	40.38	18	63.14	12	0	0	Emix	
55	N	288.95	289.50	1	1964	N	CRCP	10	1982	3	3	1994	3	3.3	0	0	0	0.00	18	29.6	12	0	0		X
55	N	289.50	290.08	1	1964	N	CRCP	10	1994	3	3.25	0	0	0	0	0	0	29.63	30	0	0	0	0	Emix	
55	N	290.08	292.60	1	1964	N	CRCP	10	1994	3	3.25	0	0	0	0	0	0	29.63	30	0	0	0	0	Emix	
55	N	292.60	293.26	1	1967	N	CRCP	8	0	0	0	0	0	0	0	0	0	15.18	27	0	0	0	0	Bare	
55	S	0.00	0.99	8	1967	N	CRCP	7	0	0	0	0	0	0	0	0	0	54.35	27	0	0	0	0	Bare	
55	S	0.99	1.97	8	1967	N	CRCP	8	0	0	0	0	0	0	0	0	0	50.89	27	0	0	0	0	Bare	
55	S	1.97	3.51	8	1963	N	JRCP	10	1993	3	3.25	0	0	0	0	0	0	48.55	30	3.42	1	0	0	Emix	
55	S	3.51	4.39	8	1962	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	30.01	28	13.1	4	0	0	Bare	
55	S	4.39	6.01	8	1962	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	22.65	28	4.79	4	0	0	Bare	
55	S	6.01	6.69	8	1962	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	20.79	28	4.84	4	0	0	Bare	
55	S	6.69	8.20	8	1962	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	20.64	28	4.84	4	0	0	Bare	
55	S	8.20	9.20	8	1962	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	14.90	24	10.45	8	0	0	Bare	
55	S	9.20	10.61	8	1961	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.79	25	12.86	8	0	0	Bare	
55	S	10.61	10.75	8	1961	N	JRCP	10	1986	3	3	0	0	0	0	0	0	16.68	25	14.75	8	0	0	Bare	
55	S	10.75	11.07	8	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	31.43	33	0	0	0	0	Bare	
55	S	11.07	11.97	8	1961	N	JRCP	10	1984	3	3	0	0	0	0	0	0	14.70	23	17.56	10	0	0	Emix	
55	S	11.97	14.30	8	1960	N	JRCP	10	1984	3	3	0	0	0	0	0	0	16.03	24	16.95	10	0	0	Emix	
55	S	14.30	15.01	8	1960	N	JRCP	10	1984	3	3	0	0	0	0	0	0	16.38	24	16.46	10	0	0	Emix	
55	S	15.01	15.92	8	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	32.69	34	0	0	0	0	Bare	
55	S	15.92	16.40	8	1960	N	JRCP	10	1984	3	3	0	0	0	0	0	0	16.72	24	15.97	10	0	0	Emix	
55	S	16.40	16.72	8	1975	N	CRCP	9	1984	3	3	0	0	0	0	0	0	14.50	9	15.97	10	0	0	Emix	
55	S	16.72	17.12	8	1975	N	CRCP	9	0	0	0	0	0	0	0	0	0	29.95	19	0	0	0	0	Bare	
55	S	17.12	18.38	8	1956	N	JRCP	10	1984	3	3	1993	3	3.25	0	0	0	14.48	28	14.72	9	1.86	1	NA	
55	S	18.38	20.01	8	1956	N	JRCP	10	1984	3	3	1993	3	3.25	0	0	0	13.52	28	14.61	9	1.98	1	NA	
55	S	20.01	20.84	8	1956	N	JRCP	10	1976	3	3	1984	3	3	1994	3	3.3	4.94	20	6.08	8	12	10		X
55	S	20.84	21.59	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.81	16	0	0	0	0	Bare	
55	S	21.59	22.18	8	1956	N	JRCP	10	1976	3	3	1987	3	3.25	0	0	0	4.94	20	9.19	11	9.04	7	Dmix	
55	S	22.18	22.42	8	1956	N	JRCP	10	1987	5	4.25	0	0	0	0	0	0	14.13	31	9.04	7	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
55	S	22.42	22.74	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.81	16	0	0	0	0	Bare	
55	S	22.74	23.11	8	1956	N	JRCP	10	1978	3	3	1987	3	3.25	0	0	0	1.75	22	7.77	9	9.06	7	Dmix	
55	S	23.11	29.38	8	1956	N	JRCP	10	1976	3	3	1987	3	3.25	0	0	0	0.54	20	8.72	11	9.07	7	Dmix	
55	S	29.38	29.64	8	1956	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.34	38	0	0	0	0	Bare	
55	S	29.64	29.90	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	18.51	16	0	0	0	0	Bare	
55	S	29.90	30.36	8	1956	N	JRCP	10	1978	3	3	1987	3	3.3	0	0	0	1.93	22	7.68	9	10	7		X
55	S	30.36	32.66	8	1956	N	JRCP	10	1976	3	3.3	1987	3	3.3	0	0	0	0.63	20	8.99	11	10	7		X
55	S	32.66	33.23	8	1956	N	JRCP	10	1987	3	3.25	0	0	0	0	0	0	9.61	31	10.36	7	0	0	Dmix	
55	S	33.23	33.67	8	1978	N	JRCP	10	0	0	0	0	0	0	0	0	0	19.97	16	0	0	0	0	Bare	
55	S	33.67	39.13	8	1975	Y	CRCP	9	0	0	0	0	0	0	0	0	0	18.73	19	0	0	0	0	Bare	
55	S	39.13	43.21	6	1976	Y	CRCP	9	0	0	0	0	0	0	0	0	0	18.28	18	0	0	0	0	Bare	
55	S	43.21	50.38	6	1974	Y	CRCP	9	0	0	0	0	0	0	0	0	0	19.32	20	0	0	0	0	Bare	
55	S	50.38	53.58	6	1974	Y	CRCP	9	1987	3	3.25	0	0	0	0	0	0	9.08	13	10.13	7	0	0	Dmix	
55	S	53.58	56.06	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	15.35	18	3.69	2	0	0	Dmix	
55	S	56.06	57.33	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	15.72	18	3.69	2	0	0	Dmix	
55	S	57.33	60.13	6	1974	Y	CRCP	9	1987	3	3	1992	3	3.25	0	0	0	9.30	13	6.82	5	3.69	2	Dmix	
55	S	60.13	61.08	6	1974	Y	CRCP	9	1987	3	3	1992	3	3.25	0	0	0	10.11	13	6.04	5	2.85	2	Dmix	
55	S	61.08	62.71	6	1973	Y	CRCP	9	1987	3	3	1992	3	3.25	0	0	0	10.11	14	6.04	5	2.85	2	Dmix	
55	S	62.71	63.18	6	1973	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	16.35	19	2.85	2	0	0	Dmix	
55	S	63.18	66.00	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Dmix	
55	S	66.00	70.91	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Bare	
55	S	70.91	71.13	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Bare	
55	S	71.13	71.49	6	1973	Y	CRCP	9	1994	3	3.25	0	0	0	0	0	0	19.40	21	0	0	0	0	Bare	
55	S	71.49	77.11	6	1973	Y	CRCP	9	0	0	0	0	0	0	0	0	0	19.79	21	0	0	0	0	Bare	
55	S	77.11	81.30	6	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.83	22	0	0	0	0	Bare	
55	S	81.30	83.99	6	1974	Y	CRCP	9	1992	3	3.25	0	0	0	0	0	0	14.25	18	1.81	2	0	0	Dmix	
55	S	83.99	87.30	6	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	16.82	23	0	0	0	0	Bare	
55	S	87.30	89.27	6	1970	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.21	24	0	0	0	0	Bare	
55	S	89.27	91.50	6	1970	N	CRCP	8	0	0	0	0	0	0	0	0	0	18.93	24	0	0	0	0	Bare	
55	S	91.50	92.92	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	10.36	18	16.85	13	0	0	NA	
55	S	92.92	95.42	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	10.87	18	18.16	13	0	0	NA	
55	S	95.42	96.93	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	11.31	18	19.73	13	0	0	NA	
55	S	96.93	97.98	6	1963	Y	JRCP	10	1981	5	4.5	0	0	0	0	0	0	12.08	18	20.37	13	0	0	NA	
55	S	97.98	99.45	6	1963	Y	JRCP	10	1986	3	3.25	0	0	0	0	0	0	17.53	23	11.79	8	0	0	Dmix	
55	S	99.45	102.29	6	1963	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	17.63	25	7.97	6	0	0	Dmix	
55	S	102.29	105.61	6	1963	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	18.22	27	5.48	4	0	0	Dmix	
55	S	105.61	111.12	6	1977	Y	CRCP	9	0	0	0	0	0	0	0	0	0	18.06	17	0	0	0	0	Bare	
55	S	111.12	112.91	6	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	17.75	15	0	0	0	0	Bare	
55	S	112.91	115.00	6	1979	Y	CRCP	9	1984	3	3	0	0	0	0	0	0	6.25	5	11.5	10	0	0	Dmix	
55	S	115.00	120.21	6	1979	Y	CRCP	9	1991	3	3.25	0	0	0	0	0	0	13.63	12	3.69	3	0	0	Dmix	
55	S	120.21	126.50	6	1979	Y	CRCP	9	1991	3	3.25	0	0	0	0	0	0	12.16	12	3.72	3	0	0	Dmix	
55	S	126.50	133.91	6	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.97	16	0	0	0	0	Bare	
55	S	133.91	138.01	6	1976	N	CRCP	9	0	0	0	0	0	0	0	0	0	13.76	18	0	0	0	0	Bare	
55	S	138.01	141.53	6	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	12.91	16	0	0	0	0	Bare	
55	S	141.53	145.24	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	12.69	16	0	0	0	0	Bare	
55	S	145.24	151.04	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	13.43	16	0	0	0	0	Bare	
55	S	151.04	156.05	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	13.87	16	0	0	0	0	Bare	
55	S	156.05	156.42	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.76	16	0	0	0	0	Bare	
55	S	156.42	157.43	3	1967	Y	JRCP	10	1982	3	3	1992	3	3.25	0	0	0	10.98	15	9.13	10	2.07	2	NA	
55	S	157.43	159.41	3	1965	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	10.99	17	13.18	10	3.61	2	NA	
55	S	159.41	159.79	3	1965	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	10.99	17	13.18	10	3.61	2	Emix	
55	S	159.79	161.32	3	1965	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	13.77	17	15.56	10	4.27	2	Emix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
55	S	161.32	162.75	3	1964	Y	JRCP	10	1982	5	4.5	1992	3	3.25	0	0	0	15.17	18	16.46	10	4.27	2	Emix	
55	S	162.75	163.34	3	1964	Y	JRCP	10	1982	5	4.5	1991	3	3.25	0	0	0	13.12	18	13.36	9	6.3	3	Emix	
55	S	163.34	164.10	3	1964	Y	JRCP	10	1982	5	4	1991	3	3.25	0	0	0	11.08	18	10.21	9	6.92	3	Emix	
55	S	164.10	167.93	3	1964	Y	JRCP	10	1982	5	4	1993	3	1.5	0	0	0	10.39	18	11.55	11	1.35	1	Emix	
55	S	167.93	169.85	3	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	16.08	16	0	0	0	0	Bare	
55	S	169.85	173.54	3	1975	N	CRCP	9	0	0	0	0	0	0	0	0	0	15.78	19	0	0	0	0	Bare	
55	S	173.54	176.36	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	15.48	16	0	0	0	0	Bare	
55	S	176.36	180.77	3	1976	Y	CRCP	9	0	0	0	0	0	0	0	0	0	15.21	18	0	0	0	0	Bare	
55	S	180.77	185.13	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	14.95	16	0	0	0	0	Bare	
55	S	185.13	187.85	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	14.45	16	0	0	0	0	Bare	
55	S	187.85	194.97	3	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.67	15	0	0	0	0	Bare	
55	S	194.97	201.11	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	15.33	16	0	0	0	0	Bare	
55	S	201.11	204.69	3	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.18	15	0	0	0	0	Bare	
55	S	204.69	207.65	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.71	16	0	0	0	0	Bare	
55	S	207.65	211.54	3	1974	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.71	20	0	0	0	0	Bare	
55	S	211.54	215.55	3	1978	Y	CRCP	9	0	0	0	0	0	0	0	0	0	16.73	16	0	0	0	0	Bare	
55	S	215.55	221.21	3	1981	N	CRCP	10	0	0	0	0	0	0	0	0	0	15.62	13	0	0	0	0	Bare	
55	S	221.21	226.63	3	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	16.64	15	0	0	0	0	Bare	
55	S	226.63	233.65	3	1956	N	JRCP	10	1978	5	5.25	1991	3	1.75	0	0	0	9.62	22	12.49	13	3.96	3	NA	
55	S	233.65	238.97	1	1957	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.08	17	13.95	15	6.5	5	Bare	
55	S	238.97	245.14	1	1957	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.44	17	14.54	15	6.5	5	Bare	
55	S	245.14	246.25	1	1958	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.43	16	15.54	15	6.51	5	Bare	
55	S	246.25	247.70	1	1957	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.56	17	17.07	15	6.5	5	Bare	
55	S	247.70	251.52	1	1957	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.55	17	19.01	15	7.45	5	Bare	
55	S	251.52	254.96	1	1957	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.16	17	20.47	15	9.33	5	Bare	
55	S	254.96	261.30	1	1958	N	JRCP	10	1974	5	4.5	1989	3	3	0	0	0	8.71	16	21.1	15	9.33	5	Bare	
55	S	261.30	261.48	1	1958	N	JRCP	10	1974	5	4.5	1976	3	3	1989	3	3	9.33	16	1.71	2	20.08	13	Emix	
55	S	261.48	261.70	1	1958	N	JRCP	10	1968	5	10	1976	3	3.3	0	0	0	0.00	10	5.6	8	0	18		X
55	S	261.70	262.69	1	1933	N	JRCP	7	1968	5	10	1976	3	3	1994	3	3.3	5.41	35	5.64	8	29	18		X
55	S	262.69	263.08	1	1957	N	JRCP	10	1976	5	4.5	1994	3	3.25	0	0	0	11.05	19	29.41	18	0	0	Emix	
55	S	263.08	264.83	1	1957	N	JRCP	10	1976	5	4.5	1994	3	3.25	0	0	0	11.05	19	29.53	18	0	0	Emix	
55	S	264.83	266.30	1	1957	N	JRCP	10	1976	5	4.5	0	0	0	0	0	0	11.05	19	29.53	18	0	0	Emix	
55	S	266.30	266.74	1	1957	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	11.05	19	31.41	18	0	0	NA	
55	S	266.74	267.38	1	1957	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	10.12	19	30.78	18	0	0	NA	
55	S	267.38	268.63	1	1957	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.19	19	30.15	18	0	0	NA	
55	S	268.63	269.39	1	1958	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.59	18	32.82	18	0	0	NA	
55	S	269.39	270.79	1	1959	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.44	17	35.49	18	0	0	NA	
55	S	270.79	271.18	1	1961	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	9.25	15	37.29	18	0	0	NA	
55	S	271.18	272.43	1	1959	N	JRCP	10	1976	5	5.25	0	0	0	0	0	0	10.26	17	39.7	18	0	0	NA	
55	S	272.43	273.49	1	1960	N	JRCP	10	1976	5	5	1992	5	5.5	0	0	0	9.84	16	34.94	16	6.15	2	NA	
55	S	273.49	276.81	1	1961	N	JRCP	10	1976	5	5	1992	5	5.5	0	0	0	11.44	15	36.77	16	6.17	2	NA	
55	S	276.81	277.38	1	1964	N	JRCP	10	1976	5	5	1992	5	5.5	0	0	0	11.37	12	35.41	16	6.19	2	NA	
55	S	277.38	278.26	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	20.95	18	33.24	12	0	0	Emix	
55	S	278.26	279.18	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	22.26	18	34.51	12	0	0	Emix	
55	S	279.18	279.86	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	18	35.79	12	0	0	Emix	
55	S	279.86	280.82	1	1965	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	17	35.79	12	0	0	Emix	
55	S	280.82	281.78	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	23.02	18	35.79	12	0	0	Emix	
55	S	281.78	283.26	1	1965	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	25.00	17	37.18	12	0	0	Emix	
55	S	283.26	286.31	1	1964	N	CRCP	10	1982	3	3	1994	3	2	0	0	0	29.50	18	44.74	12	0	0	Emix	
55	S	286.31	287.82	1	1964	N	CRCP	10	1982	3	3	1994	3	3.25	0	0	0	36.23	18	58.01	12	0	0	Emix	
55	S	287.82	288.95	1	1964	N	CRCP	10	1982	3	3	1994	3	3.25	0	0	0	40.38	18	63.14	12	0	0	Emix	
55	S	288.95	289.50	1	1964	N	CRCP	10	1982	3	3	1994	3	3.3	0	0	0	0.00	18	29.6	12	0	0		X

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
55	S	289.50	290.08	1	1964	N	CRCP	10	1994	3	3.25	0	0	0	0	0	0	29.63	30	0	0	0	0	Emix	
55	S	290.08	292.60	1	1964	N	CRCP	10	1994	3	3.25	0	0	0	0	0	0	29.63	30	0	0	0	0	Emix	
55	S	292.60	293.26	1	1967	N	CRCP	8	0	0	0	0	0	0	0	0	0	15.18	27	0	0	0	0	Bare	
57	N	0.00	0.51	9	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	7.75	82	0	0	0	0		X
57	N	0.51	3.72	9	1978	N	CRCP	8	0	0	0	0	0	0	0	0	0	7.80	16	0	0	0	0	Bare	
57	N	3.72	6.50	9	1969	Y	CRCP	7	1984	3	3	0	0	0	0	0	0	2.71	15	5.13	10	0	0		X
57	N	6.50	7.14	9	1969	Y	CRCP	7	1984	3	3	1988	3	3	0	0	0	2.71	15	2	4	3.1	6		X
57	N	7.14	7.90	9	1969	Y	CRCP	7	1984	3	3	1988	3	3	0	0	0	2.71	15	2	4	3.1	6		X
57	N	7.90	8.37	9	1969	Y	CRCP	7	1984	3	3	0	0	0	0	0	0	4.54	15	5.71	10	0	0	Dmix	
57	N	8.37	8.97	9	1969	Y	CRCP	7	1984	3	3	0	0	0	0	0	0	4.53	15	5.71	10	0	0	Dmix	
57	N	8.97	13.11	9	1987	0	HMAC	16	0	0	0	0	0	0	0	0	0	4.72	7	0	0	0	0	Bare	
57	N	13.11	17.68	9	1968	Y	CRCP	7	0	0	0	0	0	0	0	0	0	10.25	26	0	0	0	0	Bare	
57	N	17.68	18.21	9	1966	Y	CRCP	7	0	0	0	0	0	0	0	0	0	10.40	28	0	0	0	0	Bare	
57	N	18.21	20.77	9	1965	Y	JRCP	10	1989	3	3.25	0	0	0	0	0	0	7.52	24	2.84	5	0	0	Dmix	
57	N	20.77	22.01	9	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	10.49	32	0	0	0	0	Bare	
57	N	22.01	23.01	9	1961	N	JRCP	10	1981	3	3	0	0	0	0	0	0	3.44	20	7.05	13	0	0	NA	
57	N	23.01	23.98	9	1961	N	JRCP	10	1982	3	3	0	0	0	0	0	0	3.82	21	6.68	12	0	0	NA	
57	N	23.98	25.30	9	1961	Y	JRCP	10	1985	3	3	0	0	0	0	0	0	5.27	24	5.22	9	0	0	Dmix	
57	N	25.30	29.54	9	1961	Y	JRCP	10	1985	3	3	0	0	0	0	0	0	5.27	24	5.22	9	0	0	Dmix	
57	N	29.54	30.85	9	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	11.96	34	0	0	0	0	Bare	
57	N	30.85	35.20	9	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	11.96	34	0	0	0	0	Bare	
57	N	35.20	39.36	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	12.05	33	0	0	0	0	Bare	
57	N	39.36	43.28	9	1961	Y	JRCP	10	0	0	0	0	0	0	0	0	0	14.38	33	0	0	0	0	Bare	
57	N	43.28	44.73	9	1961	Y	JRCP	10	0	0	0	0	0	0	0	0	0	22.61	33	0	0	0	0	Bare	
57	N	44.73	47.28	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	N	47.28	49.63	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	N	49.63	50.87	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	N	50.87	51.47	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	N	51.47	52.03	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	N	52.03	53.11	9	1961	N	JRCP	10	1984	3	3	0	0	0	0	0	0	8.56	23	14.29	10	0	0	Dmix	
57	N	53.11	53.66	9	1961	N	JRCP	10	1984	3	3	0	0	0	0	0	0	8.62	23	14.29	10	0	0	Dmix	
57	N	53.66	54.33	9	1962	N	JRCP	10	1984	3	3	0	0	0	0	0	0	8.57	22	14.29	10	0	0	Dmix	
57	N	54.33	58.12	9	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.88	32	0	0	0	0	Bare	
57	N	58.12	62.47	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.90	30	0	0	0	0	Bare	
57	N	62.47	63.85	9	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.90	31	0	0	0	0	Bare	
57	N	63.85	65.63	9	1965	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.90	29	0	0	0	0	Bare	
57	N	65.63	66.75	9	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.86	31	0	0	0	0	Bare	
57	N	66.75	70.32	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.84	30	0	0	0	0	Bare	
57	N	70.32	72.88	9	1965	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.85	29	0	0	0	0	Bare	
57	N	72.88	74.30	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.86	30	0	0	0	0	Bare	
57	N	74.30	76.53	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.86	30	0	0	0	0	Bare	
57	N	76.53	78.19	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	20.68	30	0	0	0	0	Bare	
57	N	78.19	80.65	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	20.49	30	0	0	0	0	Bare	
57	N	80.65	87.51	7	1965	Y	JRCP	10	1989	3	3.25	0	0	0	0	0	0	13.82	24	6.75	5	0	0	Dmix	
57	N	87.51	90.90	7	1967	N	CRCP	7	0	0	0	0	0	0	0	0	0	20.29	27	0	0	0	0	Bare	
57	N	90.90	93.67	7	1969	Y	CRCP	8	1984	3	3	0	0	0	0	0	0	8.59	15	14.89	10	0	0	Dmix	
57	N	93.67	95.68	7	1969	Y	CRCP	8	1987	3	3.25	1994	3	3.25	0	0	0	14.61	18	13.3	7	0	0	Dmix	
57	N	95.68	96.70	7	1970	Y	CRCP	8	1987	3	3.25	1994	3	3.25	0	0	0	15.27	17	13.3	7	0	0	Dmix	
57	N	96.70	100.91	7	1970	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	14.12	19	5.21	5	0	0	Dmix	
57	N	100.91	103.72	7	1970	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	7.75	16	7.91	8	0	0	Dmix	
57	N	103.72	106.01	7	1969	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	7.76	17	7.91	8	0	0	Dmix	
57	N	106.01	108.00	7	1969	Y	CRCP	8	1984	3	3	1992	3	2	0	0	0	6.15	15	7.33	8	2.18	2	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
57	N	108.00	109.81	7	1969	Y	CRCP	8	1985	3	3	1992	3	2	0	0	0	6.94	16	6.55	7	2.18	2	NA	
57	N	109.81	115.49	7	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	15.30	24	0	0	0	0	Bare	
57	N	115.49	119.37	7	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	13.82	24	0	0	0	0	Bare	
57	N	119.37	128.06	7	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	13.55	24	0	0	0	0	Bare	
57	N	128.06	133.99	7	1970	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	8.81	19	4.74	5	0	0	Dmix	
57	N	133.99	142.45	7	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	13.48	23	0	0	0	0	Bare	
57	N	142.45	143.98	7	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	6.40	15	7.02	8	0	0	Dmix	
57	N	143.98	146.81	7	1971	Y	CRCP	8	1985	3	3	1994	3	1.5	0	0	0	5.75	14	7.68	9	0	0	Dmix	
57	N	146.81	148.29	7	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	6.40	15	7.02	8	0	0	Dmix	
57	N	148.29	150.28	7	1971	Y	CRCP	8	1984	3	3	1993	3	3.25	0	0	0	5.11	13	7.29	9	1.03	1	Dmix	
57	N	150.28	157.12	7	1962	N	JRCP	10	1991	3	3.25	0	0	0	0	0	0	20.29	29	5.5	3	0	0	Dmix	
57	N	157.12	162.07	7	1961	N	JRCP	10	1984	5	4.5	1992	3	1.5	0	0	0	19.57	23	17.64	8	5.47	2	Dmix	
57	N	162.07	164.17	7	1961	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	20.50	28	8.77	5	0	0	Dmix	
57	N	164.17	168.31	7	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.21	6	0	0	0	0	Bare	
57	N	168.31	171.89	7	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	14.93	30	0	0	0	0	Bare	
57	N	171.89	176.90	5	1964	Y	JRCP	10	0	0	0	0	0	0	0	0	0	14.73	30	0	0	0	0	Bare	
57	N	176.90	181.10	5	1964	N	JRCP	10	1984	3	3	0	0	0	0	0	0	6.53	20	7.38	10	0	0	Dmix	
57	N	181.10	183.80	5	1965	N	CRCP	8	1988	3	3.25	0	0	0	0	0	0	8.79	23	4.82	6	0	0	Dmix	
57	N	183.80	190.60	5	1966	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	10.19	24	3.4	4	0	0	Dmix	
57	N	190.60	194.47	5	1968	Y	CRCP	7	1980	5	4.75	1993	3	3.25	0	0	0	4.42	12	9.69	13	0.88	1	NA	
57	N	194.47	199.23	5	1968	Y	CRCP	7	1980	5	4.75	1993	3	3.25	0	0	0	4.42	12	9.69	13	0.88	1	NA	
57	N	199.23	211.94	5	1970	Y	CRCP	7	0	0	0	0	0	0	0	0	0	15.12	24	0	0	0	0	Bare	
57	N	211.94	219.49	5	1971	Y	CRCP	7	1991	3	3.25	0	0	0	0	0	0	13.30	20	4.43	3	0	0	Dmix	
57	N	219.49	224.14	5	1965	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.24	25	5.62	4	0	0	Dmix	
57	N	224.14	228.17	5	1964	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.24	26	5.62	4	0	0	Dmix	
57	N	228.17	233.57	5	1963	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.12	27	5.62	4	0	0	Dmix	
57	N	233.57	236.79	5	1965	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	8.31	22	8.38	7	0	0	Dmix	
57	N	236.79	237.71	5	1965	Y	JRCP	10	1987	3	3.25	1991	3	1.5	0	0	0	9.22	22	3.77	4	4.48	3	Emix	
57	N	237.71	243.16	5	1969	Y	CRCP	7	1985	3	3	1991	3	1.5	0	0	0	8.26	16	5.19	6	3.67	3	Dmix	
57	N	243.16	250.45	5	1969	Y	CRCP	7	1992	3	3.25	0	0	0	0	0	0	13.74	23	1.96	2	0	0	Dmix	
57	N	250.45	260.56	5	1971	N	CRCP	7	0	0	0	0	0	0	0	0	0	16.86	23	0	0	0	0	Bare	
57	N	260.56	270.76	3	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	14.98	23	0	0	0	0	Bare	
57	N	270.76	279.63	3	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	15.22	24	0	0	0	0	Bare	
57	N	279.63	281.27	3	1969	Y	CRCP	8	0	0	0	0	0	0	0	0	0	16.24	25	0	0	0	0	Bare	
57	N	281.27	285.45	3	1969	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	12.84	21	3.77	4	0	0	Dmix	
57	N	285.45	288.72	3	1969	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	11.75	19	5.3	6	0	0	Dmix	
57	N	288.72	289.16	3	1969	Y	CRCP	8	1980	3	2.63	1988	3	3.25	0	0	0	5.17	11	6.58	8	5.3	6	NA	
57	N	289.16	289.86	3	1969	Y	CRCP	8	1984	3	3	1988	3	3.25	0	0	0	8.24	15	3.5	4	5.3	6	NA	
57	N	289.86	293.39	3	1969	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	11.75	19	5.3	6	0	0	Dmix	
57	N	293.39	296.29	3	1968	N	CRCP	8	1987	3	3.25	0	0	0	0	0	0	11.00	19	6.08	7	0	0	NA	
57	N	296.29	298.21	3	1968	N	CRCP	8	0	0	0	0	0	0	0	0	0	17.15	26	0	0	0	0	Bare	
57	N	298.21	302.52	3	1966	N	CRCP	8	1988	3	3.25	0	0	0	0	0	0	11.83	22	5.32	6	0	0	NA	
57	N	302.52	307.01	3	1969	N	CRCP	8	1988	3	3.25	0	0	0	0	0	0	11.83	19	5.92	6	0	0	NA	
57	N	307.01	307.63	3	1963	N	JRCP	10	1988	3	3.25	0	0	0	0	0	0	11.62	25	6.17	6	0	0	NA	
57	N	307.63	308.07	3	1963	N	JRCP	10	1971	5	7	1984	5	7	1991	3	2.3	0.81	8	7.1	13	6.4	7		X
57	N	308.07	310.41	3	1958	0	HMAC	3	1971	5	7	1984	5	7	1991	3	2.3	0.81	13	7.1	13	6.4	7		X
57	N	310.41	310.62	3	1958	0	HMAC	3	1971	3	3	1991	3	2.3	0	0	0	1.69	13	13.5	20	3.2	3		X
57	N	310.62	312.29	3	1958	0	ACJR	12	1971	3	3	1986	3	3	0	0	0	1.64	13	8.99	15	7.9	8		X
57	N	312.29	313.89	3	1958	0	ACJR	12	1971	3	3	1986	3	3	1994	3	3.3	1.60	13	9.25	15	7.8	8		X
57	N	313.89	315.34	3	1961	N	JRCP	10	1984	3	3	1994	3	3.25	0	0	0	9.53	23	9.41	10	0	0	Dmix	
57	N	315.34	317.56	3	1964	N	JRCP	10	1984	3	3	1994	3	3.25	0	0	0	9.33	20	9.75	10	0	0	Dmix	
57	N	317.56	319.66	3	1966	N	CRCP	8	1986	3	3	1994	3	3.25	0	0	0	11.09	20	7.99	8	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
57	N	319.66	322.77	3	1966	N	CRCP	8	1978	5	4	1994	3	3.25	0	0	0	4.91	12	14.16	16	0	0	NA	
57	N	322.77	325.04	3	1966	N	CRCP	8	1986	3	3	1994	3	3.25	0	0	0	10.98	20	7.95	8	0	0	Dmix	
57	N	325.04	331.83	1	1968	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	15.10	22	4.11	4	0	0	Dmix	
57	N	331.83	337.83	1	1970	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	15.57	20	4.15	4	0	0	Dmix	
57	N	337.83	339.55	1	1968	N	CRCP	8	0	0	0	0	0	0	0	0	0	19.74	26	0	0	0	0	Bare	
57	N	339.55	340.21	1	1968	N	CRCP	8	1988	3	3	0	0	0	0	0	0	13.05	20	6.69	6	0	0	NA	
57	N	340.21	340.50	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	19.74	26	0	0	0	0	Bare	
57	N	340.50	341.58	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	22.44	25	0	0	0	0	Bare	
57	N	341.58	344.14	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	24.33	25	0	0	0	0	Bare	
57	N	344.14	345.46	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	22.10	26	0	0	0	0	Bare	
57	N	345.46	346.21	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	19.19	25	0	0	0	0	Bare	
57	N	346.21	347.48	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.34	23	0	0	0	0	Bare	
57	N	347.48	348.48	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.73	23	0	0	0	0	Bare	
57	N	348.48	349.64	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.97	23	0	0	0	0	Bare	
57	N	349.64	350.86	1	1970	N	CRCP	9	0	0	0	0	0	0	0	0	0	20.15	24	0	0	0	0	Bare	
57	N	350.86	353.25	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	22.64	25	0	0	0	0	Bare	
57	N	353.25	354.24	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	24.34	27	0	0	0	0	Bare	
57	N	354.24	355.09	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.34	27	0	0	0	0		X
57	N	355.09	356.18	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.34	27	0	0	0	0		X
57	N	356.18	357.34	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.34	27	0	0	0	0		X
57	N	357.34	358.48	1	1963	N	JRCP	10	1974	3	3.8	1990	3	3.3	0	0	0	0.00	11	2.2	16	5.4	4		X
57	S	0.00	0.51	9	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	7.75	82	0	0	0	0		X
57	S	0.51	3.72	9	1978	N	CRCP	8	0	0	0	0	0	0	0	0	0	7.80	16	0	0	0	0	Bare	
57	S	3.72	7.14	9	1969	Y	CRCP	7	1984	3	3	0	0	0	0	0	0	2.71	15	5.13	10	0	0		X
57	S	7.14	8.37	9	1969	Y	CRCP	7	1984	3	3	0	0	0	0	0	0	4.54	15	5.42	10	0	0	Dmix	
57	S	8.37	8.97	9	1969	Y	CRCP	7	1984	3	3	0	0	0	0	0	0	4.53	15	5.71	10	0	0	Dmix	
57	S	8.97	13.11	9	1987	0	HMAC	16	0	0	0	0	0	0	0	0	0	4.72	7	0	0	0	0	Bare	
57	S	13.11	17.68	9	1968	Y	CRCP	7	0	0	0	0	0	0	0	0	0	10.25	26	0	0	0	0	Bare	
57	S	17.68	18.21	9	1966	Y	CRCP	7	0	0	0	0	0	0	0	0	0	10.40	28	0	0	0	0	Bare	
57	S	18.21	20.77	9	1965	Y	JRCP	10	1989	3	3.25	0	0	0	0	0	0	7.52	24	2.84	5	0	0	Dmix	
57	S	20.77	22.01	9	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	10.49	32	0	0	0	0	Bare	
57	S	22.01	23.98	9	1961	N	JRCP	10	1982	3	3	0	0	0	0	0	0	3.82	21	6.68	12	0	0	NA	
57	S	23.98	25.30	9	1961	Y	JRCP	10	1985	3	3	0	0	0	0	0	0	5.27	24	5.22	9	0	0	Dmix	
57	S	25.30	29.54	9	1961	Y	JRCP	10	1985	3	3	0	0	0	0	0	0	5.27	24	5.22	9	0	0	Dmix	
57	S	29.54	30.85	9	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	11.96	34	0	0	0	0	Bare	
57	S	30.85	35.20	9	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	11.96	34	0	0	0	0	Bare	
57	S	35.20	39.36	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	12.05	33	0	0	0	0	Bare	
57	S	39.36	43.28	9	1961	Y	JRCP	10	0	0	0	0	0	0	0	0	0	14.38	33	0	0	0	0	Bare	
57	S	43.28	44.73	9	1961	Y	JRCP	10	0	0	0	0	0	0	0	0	0	22.61	33	0	0	0	0	Bare	
57	S	44.73	47.28	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	S	47.28	49.63	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	S	49.63	50.87	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	S	50.87	51.47	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	S	51.47	52.03	9	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.79	33	0	0	0	0	Bare	
57	S	52.03	53.11	9	1961	N	JRCP	10	1984	3	3	0	0	0	0	0	0	8.56	23	14.29	10	0	0	Dmix	
57	S	53.11	53.66	9	1961	N	JRCP	10	1984	3	3	0	0	0	0	0	0	8.62	23	14.29	10	0	0	Dmix	
57	S	53.66	54.33	9	1962	N	JRCP	10	1984	3	3	0	0	0	0	0	0	8.57	22	14.29	10	0	0	Dmix	
57	S	54.33	58.12	9	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.88	32	0	0	0	0	Bare	
57	S	58.12	62.47	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.90	30	0	0	0	0	Bare	
57	S	62.47	63.85	9	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.90	31	0	0	0	0	Bare	
57	S	63.85	65.63	9	1965	N	JRCP	10	0	0	0	0	0	0	0	0	0	22.90	29	0	0	0	0	Bare	
57	S	65.63	66.75	9	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.86	31	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
57	S	66.75	70.32	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.84	30	0	0	0	0	Bare	
57	S	70.32	72.88	9	1965	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.85	29	0	0	0	0	Bare	
57	S	72.88	74.30	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.86	30	0	0	0	0	Bare	
57	S	74.30	76.53	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	21.86	30	0	0	0	0	Bare	
57	S	76.53	78.19	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	20.68	30	0	0	0	0	Bare	
57	S	78.19	80.65	9	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	20.49	30	0	0	0	0	Bare	
57	S	80.65	87.51	7	1965	Y	JRCP	10	1989	3	3.25	0	0	0	0	0	0	13.82	24	6.75	5	0	0	Dmix	
57	S	87.51	90.90	7	1967	N	CRCP	7	0	0	0	0	0	0	0	0	0	20.29	27	0	0	0	0	Bare	
57	S	90.90	93.67	7	1969	Y	CRCP	8	1984	3	3	0	0	0	0	0	0	8.59	15	14.89	10	0	0	Dmix	
57	S	93.67	95.68	7	1969	Y	CRCP	8	1987	3	3.25	1994	3	3.25	0	0	0	14.61	18	13.3	7	0	0	Dmix	
57	S	95.68	96.70	7	1970	Y	CRCP	8	1987	3	3.25	1994	3	3.25	0	0	0	15.27	17	13.3	7	0	0	Dmix	
57	S	96.70	100.91	7	1970	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	14.12	19	5.21	5	0	0	Dmix	
57	S	100.91	103.72	7	1970	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	7.75	16	7.91	8	0	0	Dmix	
57	S	103.72	106.01	7	1969	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	7.76	17	7.91	8	0	0	Dmix	
57	S	106.01	108.00	7	1969	Y	CRCP	8	1984	3	3	1992	3	2	0	0	0	6.15	15	7.33	8	2.18	2	Dmix	
57	S	108.00	109.81	7	1969	Y	CRCP	8	1987	3	3.25	0	0	0	0	0	0	8.60	18	7.06	7	0	0	Dmix	
57	S	109.81	115.49	7	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	15.30	24	0	0	0	0	Bare	
57	S	115.49	119.37	7	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	13.82	24	0	0	0	0	Bare	
57	S	119.37	128.06	7	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	13.55	24	0	0	0	0	Bare	
57	S	128.06	133.99	7	1970	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	8.81	19	4.74	5	0	0	Dmix	
57	S	133.99	142.45	7	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	13.48	23	0	0	0	0	Bare	
57	S	142.45	143.98	7	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	6.40	15	7.02	8	0	0	Dmix	
57	S	143.98	150.28	7	1971	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	11.41	21	2.02	2	0	0	Dmix	
57	S	150.28	157.12	7	1962	N	JRCP	10	1991	3	3.25	0	0	0	0	0	0	20.29	29	5.5	3	0	0	Dmix	
57	S	157.12	162.07	7	1961	N	JRCP	10	1984	5	4.5	1992	3	1.5	0	0	0	19.57	23	17.64	8	5.47	2	Dmix	
57	S	162.07	164.17	7	1961	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	20.50	28	8.77	5	0	0	Dmix	
57	S	164.17	168.31	7	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.21	6	0	0	0	0	Bare	
57	S	168.31	171.89	7	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	14.93	30	0	0	0	0	Bare	
57	S	171.89	176.90	5	1964	Y	JRCP	10	0	0	0	0	0	0	0	0	0	14.73	30	0	0	0	0	Bare	
57	S	176.90	181.10	5	1964	N	JRCP	10	1984	3	3	0	0	0	0	0	0	6.53	20	7.38	10	0	0	Dmix	
57	S	181.10	183.80	5	1965	N	CRCP	8	1988	3	3.25	0	0	0	0	0	0	8.79	23	4.82	6	0	0	Dmix	
57	S	183.80	190.60	5	1966	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	10.19	24	3.4	4	0	0	Dmix	
57	S	190.60	194.47	5	1968	Y	CRCP	7	1980	5	4.75	1993	3	3.25	0	0	0	4.42	12	9.69	13	0.88	1	NA	
57	S	194.47	199.23	5	1968	Y	CRCP	7	1980	5	4.75	1993	3	3.25	0	0	0	4.42	12	9.69	13	0.88	1	NA	
57	S	199.23	211.94	5	1970	Y	CRCP	7	0	0	0	0	0	0	0	0	0	15.12	24	0	0	0	0	Bare	
57	S	211.94	219.49	5	1971	Y	CRCP	7	1991	3	3.25	0	0	0	0	0	0	13.30	20	4.43	3	0	0	Dmix	
57	S	219.49	224.14	5	1965	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.24	25	5.62	4	0	0	Dmix	
57	S	224.14	228.17	5	1964	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.24	26	5.62	4	0	0	Dmix	
57	S	228.17	228.45	5	1963	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.15	27	5.62	4	0	0	Dmix	
57	S	228.45	230.46	5	1963	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.06	27	5.62	4	0	0	Dmix	
57	S	230.46	232.47	5	1963	Y	CRCP	7	1990	3	3.25	0	0	0	0	0	0	11.06	27	5.62	4	0	0	Dmix	
57	S	232.47	233.57	5	1963	Y	JRCP	10	1990	3	3.25	0	0	0	0	0	0	11.06	27	5.62	4	0	0	Dmix	
57	S	233.57	236.79	5	1965	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	8.31	22	8.38	7	0	0	Dmix	
57	S	236.79	237.71	5	1965	Y	JRCP	10	1987	3	3.25	1991	3	1.5	0	0	0	9.22	22	3.77	4	4.48	3	Emix	
57	S	237.71	243.16	5	1969	Y	CRCP	7	1985	3	3	1991	3	1.5	0	0	0	8.26	16	5.19	6	3.67	3	Dmix	
57	S	243.16	250.45	5	1969	Y	CRCP	7	1992	3	3.25	0	0	0	0	0	0	13.74	23	1.96	2	0	0	Dmix	
57	S	250.45	260.56	5	1971	N	CRCP	7	0	0	0	0	0	0	0	0	0	16.86	23	0	0	0	0	Bare	
57	S	260.56	270.76	3	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	14.98	23	0	0	0	0	Bare	
57	S	270.76	279.63	3	1970	Y	CRCP	8	0	0	0	0	0	0	0	0	0	15.22	24	0	0	0	0	Bare	
57	S	279.63	281.27	3	1969	Y	CRCP	8	0	0	0	0	0	0	0	0	0	16.24	25	0	0	0	0	Bare	
57	S	281.27	281.32	3	1969	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	12.28	21	3.9	4	0	0	Dmix	
57	S	281.32	281.85	3	1969	Y	CRCP	8	1984	3	3	1990	3	3.25	0	0	0	7.27	15	5.01	6	3.9	4	NA	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
57	S	281.85	285.45	3	1969	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	12.84	21	3.77	4	0	0	Dmix	
57	S	285.45	289.86	3	1969	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	11.75	19	5.3	6	0	0	Dmix	
57	S	289.86	293.39	3	1969	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	11.75	19	5.3	6	0	0	Dmix	
57	S	293.39	296.29	3	1968	N	CRCP	8	1987	3	3.25	0	0	0	0	0	0	11.00	19	6.08	7	0	0	NA	
57	S	296.29	298.21	3	1952	N	JRCP	10	1968	5	4.5	1978	5	4.8	0	0	0	0.09	16	3.9	10	13	16		X
57	S	298.21	301.89	3	1952	N	JRCP	10	1966	5	4.5	1983	3	3	1992	3	3.3	0.00	14	7.38	17	7.9	9		X
57	S	301.89	302.52	3	1952	N	JRCP	10	1966	5	4.5	1983	3	3	0	0	0	0.00	14	7.38	17	9.8	11		X
57	S	302.52	303.14	3	1952	N	JRCP	10	1969	5	6	1983	3	3	1992	3	3.3	0.37	17	7.02	14	6.2	7		X
57	S	303.14	307.01	3	1968	0	HMAC	10.5	1969	5	6	1984	5	7	1990	3	3.25	0.37	1	7.92	15	5.32	6	Dmix	
57	S	307.01	307.63	3	1968	0	HMAC	10.5	1971	5	7	1984	5	7	1990	3	3.25	0.89	3	7.2	13	5.47	6	Dmix	
57	S	307.63	308.07	3	1968	0	HMAC	10.5	1971	5	7	1984	5	7	1991	3	2.25	0.81	3	7.1	13	6.35	7	Dmix	
57	S	308.07	310.41	3	1958	0	HMAC	3	1971	5	7	1984	5	7	1991	3	2.25	0.81	13	7.1	13	6.35	7	Dmix	
57	S	310.41	310.62	3	1958	0	HMAC	3	1971	3	3	1991	3	2.25	0	0	0	1.69	13	13.45	20	3.21	3	Dmix	
57	S	310.62	312.29	3	1958	0	ACJR	12	1971	3	3	1986	3	3	0	0	0	1.64	13	8.99	15	7.9	8		X
57	S	312.29	313.89	3	1958	0	ACJR	12	1971	3	3	1986	3	3	1994	3	3.3	1.60	13	9.25	15	7.8	8		X
57	S	313.89	315.34	3	1961	N	JRCP	10	1984	3	3	1994	3	3.25	0	0	0	9.53	23	9.41	10	0	0	Dmix	
57	S	315.34	317.56	3	1964	N	JRCP	10	1984	3	3	1994	3	3.25	0	0	0	9.33	20	9.75	10	0	0	Dmix	
57	S	317.56	319.66	3	1966	N	CRCP	8	1986	3	3	1994	3	3.25	0	0	0	11.09	20	7.99	8	0	0	Dmix	
57	S	319.66	322.77	3	1966	N	CRCP	8	1978	5	4	1994	3	3.25	0	0	0	4.91	12	14.16	16	0	0	NA	
57	S	322.77	325.04	3	1966	N	CRCP	8	1986	3	3	1994	3	3.25	0	0	0	10.98	20	7.95	8	0	0	Dmix	
57	S	325.04	331.83	1	1968	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	15.10	22	4.11	4	0	0	Dmix	
57	S	331.83	337.83	1	1970	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	15.57	20	4.15	4	0	0	Dmix	
57	S	337.83	339.55	1	1968	N	CRCP	8	0	0	0	0	0	0	0	0	0	19.74	26	0	0	0	0	Bare	
57	S	339.55	340.21	1	1968	N	CRCP	8	1988	3	3	0	0	0	0	0	0	13.05	20	6.69	6	0	0	NA	
57	S	340.21	340.50	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	19.74	26	0	0	0	0	Bare	
57	S	340.50	341.58	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	22.44	25	0	0	0	0	Bare	
57	S	341.58	344.14	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	24.33	25	0	0	0	0	Bare	
57	S	344.14	345.46	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	22.10	26	0	0	0	0	Bare	
57	S	345.46	346.21	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	19.19	25	0	0	0	0	Bare	
57	S	346.21	347.48	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.34	23	0	0	0	0	Bare	
57	S	347.48	348.48	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.73	23	0	0	0	0	Bare	
57	S	348.48	349.64	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.97	23	0	0	0	0	Bare	
57	S	349.64	350.86	1	1970	N	CRCP	9	0	0	0	0	0	0	0	0	0	20.15	24	0	0	0	0	Bare	
57	S	350.86	353.25	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	22.64	25	0	0	0	0	Bare	
57	S	353.25	354.24	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	24.34	27	0	0	0	0	Bare	
57	S	354.24	355.09	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.34	27	0	0	0	0		X
57	S	355.09	356.18	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.34	27	0	0	0	0		X
57	S	356.18	357.34	1	1967	N	CRCP	10	0	0	0	0	0	0	0	0	0	7.34	27	0	0	0	0		X
57	S	357.34	358.48	1	1963	0	JRCP	10	1974	3	3.8	1990	3	3.3	0	0	0	0.00	11	2.2	16	5.4	4		X
64	E	0.00	3.96	8	1962	0	JRCP	0.2	0	0	0	0	0	0	0	0	0	17.92	32	0	0	0	0		X
64	E	3.96	4.67	8	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	17.93	18	0	0	0	0	Bare	
64	E	4.67	6.72	8	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	18.07	19	0	0	0	0	Bare	
64	E	6.72	9.42	8	1974	N	CRCP	8	0	0	0	0	0	0	0	0	0	18.02	20	0	0	0	0	Bare	
64	E	9.42	11.50	8	1974	N	CRCP	8	0	0	0	0	0	0	0	0	0	20.87	20	0	0	0	0	Bare	
64	E	11.50	12.13	8	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	20.41	19	0	0	0	0	Bare	
64	E	12.13	13.63	8	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	19.42	19	0	0	0	0	Bare	
64	E	13.63	14.80	8	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	19.42	19	0	0	0	0	Bare	
64	E	14.80	18.19	8	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	17.45	20	0	0	0	0	Bare	
64	E	18.19	19.39	8	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	17.39	19	0	0	0	0	Bare	
64	E	19.39	23.13	8	1975	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	8.31	13	5.59	6	0	0	Dmix	
64	E	23.13	26.03	8	1975	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	8.59	13	6.26	6	0	0	Dmix	
64	E	26.03	28.14	8	1975	Y	CRCP	8	1988	3	3.25	1990	3	1.5	0	0	0	8.24	13	1.97	2	4.48	4	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
64	E	28.14	29.05	8	1972	Y	CRCP	8	1988	3	3.25	1990	3	1.5	0	0	0	7.90	16	2	2	4.65	4	Dmix	
64	E	29.05	36.58	8	1972	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	8.88	17	5.41	5	0	0	NA	
64	E	36.58	40.12	8	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	14.05	22	0	0	0	0	Bare	
64	E	40.12	40.96	8	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	14.05	22	0	0	0	0	Bare	
64	E	40.96	45.02	8	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.80	23	0	0	0	0	Bare	
64	E	45.02	49.50	8	1972	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	6.58	18	0	4	0	0	Dmix	
64	E	49.50	50.45	8	1974	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	6.58	15	0	5	0	0	Dmix	
64	E	50.45	54.34	8	1974	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	8.73	15	6.15	5	0	0	Dmix	
64	E	54.34	60.55	8	1973	Y	CRCP	8	1991	3	3.25	0	0	0	0	0	0	10.75	18	3.82	3	0	0	Dmix	
64	E	60.55	62.31	8	1973	Y	CRCP	8	1991	3	3.25	0	0	0	0	0	0	10.71	18	3.74	3	0	0	Dmix	
64	E	62.31	63.58	7	1973	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	9.25	16	5.9	5	0	0	Dmix	
64	E	63.58	67.81	7	1974	N	CRCP	8	1989	3	3.25	0	0	0	0	0	0	9.25	15	5.9	5	0	0	Dmix	
64	E	67.81	73.04	7	1973	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	10.30	17	4.85	4	0	0	Dmix	
64	E	73.04	78.72	7	1969	0	CRCP	0.2	0	0	0	0	0	0	0	0	0	21.06	25	0	0	0	0		X
64	E	78.72	82.30	7	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	10.67	22	0	0	0	0	Bare	
64	E	82.30	87.91	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.48	20	0	0	0	0	Bare	
64	E	87.91	90.89	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.48	20	0	0	0	0	Bare	
64	E	90.89	97.88	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.48	19	0	0	0	0	Bare	
64	E	97.88	103.13	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.41	20	0	0	0	0	Bare	
64	E	103.13	110.07	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.25	20	0	0	0	0	Bare	
64	E	110.07	116.03	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.18	19	0	0	0	0	Bare	
64	E	116.03	122.59	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.99	19	0	0	0	0	Bare	
64	E	122.59	129.12	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.99	19	0	0	0	0	Bare	
64	E	129.12	130.54	7	1968	Y	CRCP	8	1993	3	3.25	0	0	0	0	0	0	9.33	25	0.7	1	0	0	Dmix	
64	W	0.00	3.96	8	1962	0	CRCP	0.2	0	0	0	0	0	0	0	0	0	17.92	32	0	0	0	0		X
64	W	3.96	4.67	8	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	17.93	18	0	0	0	0	Bare	
64	W	4.67	6.72	8	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	18.07	19	0	0	0	0	Bare	
64	W	6.72	9.42	8	1974	N	CRCP	8	0	0	0	0	0	0	0	0	0	18.02	20	0	0	0	0	Bare	
64	W	9.42	11.50	8	1974	N	CRCP	8	0	0	0	0	0	0	0	0	0	20.87	20	0	0	0	0	Bare	
64	W	11.50	12.13	8	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	20.41	19	0	0	0	0	Bare	
64	W	12.13	13.63	8	1975	N	CRCP	8	0	0	0	0	0	0	0	0	0	19.42	19	0	0	0	0	Bare	
64	W	13.63	14.80	8	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	19.42	19	0	0	0	0	Bare	
64	W	14.80	18.19	8	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	17.45	20	0	0	0	0	Bare	
64	W	18.19	19.39	8	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	17.39	19	0	0	0	0	Bare	
64	W	19.39	23.13	8	1975	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	8.31	13	5.59	6	0	0	Dmix	
64	W	23.13	27.31	8	1975	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	8.36	13	6.45	6	0	0	Dmix	
64	W	27.31	28.14	8	1975	Y	CRCP	8	1988	3	3.25	1990	3	1.5	0	0	0	7.93	13	2	2	4.65	4	Dmix	
64	W	28.14	29.05	8	1972	Y	CRCP	8	1988	3	3.25	1990	3	1.5	0	0	0	7.90	16	2	2	4.65	4	Dmix	
64	W	29.05	36.58	8	1972	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	8.88	17	5.41	5	0	0	NA	
64	W	36.58	40.12	8	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	14.05	22	0	0	0	0	Bare	
64	W	40.12	40.96	8	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	14.05	22	0	0	0	0	Bare	
64	W	40.96	45.02	8	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.80	23	0	0	0	0	Bare	
64	W	45.02	49.50	8	1972	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	6.58	18	0	4	0	0	Dmix	
64	W	49.50	50.45	8	1974	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	6.58	15	0	5	0	0	Dmix	
64	W	50.45	54.34	8	1974	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	8.73	15	6.15	5	0	0	Dmix	
64	W	54.34	60.55	8	1973	Y	CRCP	8	1991	3	3.25	0	0	0	0	0	0	10.75	18	3.82	3	0	0	Dmix	
64	W	60.55	62.31	8	1973	Y	CRCP	8	1991	3	3.25	0	0	0	0	0	0	10.71	18	3.74	3	0	0	Dmix	
64	W	62.31	63.58	7	1973	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	9.25	16	5.9	5	0	0	Dmix	
64	W	63.58	67.81	7	1974	N	CRCP	8	1989	3	3.25	0	0	0	0	0	0	9.25	15	5.9	5	0	0	Dmix	
64	W	67.81	73.04	7	1973	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	10.30	17	4.85	4	0	0	Dmix	
64	W	73.04	78.72	7	1969	0	CRCP	0.2	0	0	0	0	0	0	0	0	0	21.06	25	0	0	0	0		X
64	W	78.72	82.30	7	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	10.67	22	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
64	W	82.30	87.91	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.48	20	0	0	0	0	Bare	
64	W	87.91	90.89	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.48	20	0	0	0	0	Bare	
64	W	90.89	97.88	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.48	19	0	0	0	0	Bare	
64	W	97.88	103.13	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.41	20	0	0	0	0	Bare	
64	W	103.13	110.07	7	1974	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.25	20	0	0	0	0	Bare	
64	W	110.07	116.03	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.18	19	0	0	0	0	Bare	
64	W	116.03	122.59	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.99	19	0	0	0	0	Bare	
64	W	122.59	129.12	7	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.99	19	0	0	0	0	Bare	
64	W	129.12	130.54	7	1968	Y	CRCP	8	1993	3	3.25	0	0	0	0	0	0	9.33	25	0.7	1	0	0	Dmix	
70	E	0.00	15.22	8	1965	0	CRCP	0.2	0	0	0	0	0	0	0	0	0	19.77	29	0	0	0	0		X
70	E	15.22	16.79	8	1965	N	JRCP	10	1981	3	3	1993	3	3.25	0	0	0	11.25	16	19.53	12	1.93	1	NA	
70	E	16.79	20.98	8	1966	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	21.03	22	11.17	6	0	0	NA	
70	E	20.98	24.32	8	1966	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	20.08	22	9.85	6	0	0	NA	
70	E	24.32	28.14	8	1965	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	19.91	23	10.8	6	0	0	NA	
70	E	28.14	31.03	8	1966	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	19.94	22	10.8	6	0	0	NA	
70	E	31.03	31.37	8	1966	N	CRCP	8	1988	3	3.25	0	0	0	0	0	0	19.35	22	10.8	6	0	0	NA	
70	E	31.37	32.32	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	NA	
70	E	32.32	35.20	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	E	35.20	35.47	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	E	35.47	36.32	8	1968	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.53	21	9.22	5	0	0	Dmix	
70	E	36.32	37.32	8	1968	Y	CRCP	8	1986	3	3	1990	3	3.25	0	0	0	16.18	18	6.02	4	7.55	4	NA	
70	E	37.32	38.68	8	1968	Y	CRCP	8	1987	3	3.25	1990	3	3.25	0	0	0	17.47	19	4.73	3	7.55	4	Dmix	
70	E	38.68	39.31	8	1968	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	22.20	22	7.55	4	0	0	Dmix	
70	E	39.31	39.72	8	1968	Y	CRCP	8	1987	3	3.25	1990	3	3.25	0	0	0	17.47	19	4.73	3	7.55	4	Dmix	
70	E	39.72	41.20	8	1968	Y	CRCP	8	1989	3	3.25	1990	3	3.25	0	0	0	20.53	21	1.67	1	7.55	4	Dmix	
70	E	41.20	42.67	8	1968	Y	CRCP	8	1989	3	3.25	1990	3	3.25	0	0	0	20.52	21	1.67	1	7.55	4	Dmix	
70	E	42.67	47.96	8	1968	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	19.83	21	9	5	0	0	NA	
70	E	47.96	51.59	8	1968	Y	CRCP	8	1984	3	3.25	1992	3	3.25	0	0	0	12.92	16	11.47	8	3.81	2	Dmix	
70	E	51.59	52.85	7	1967	N	CRCP	8	1984	3	3.25	1992	3	3.25	0	0	0	12.98	17	11.54	8	3.81	2	Dmix	
70	E	52.85	60.64	7	1967	N	CRCP	8	1984	3	3	1994	3	3.25	0	0	0	13.29	17	15.44	10	0	0	Dmix	
70	E	60.64	62.95	7	1965	N	CRCP	9	1980	5	6.13	0	0	0	0	0	0	9.41	15	19.7	14	0	0	NA	
70	E	62.95	63.29	7	1965	N	CRCP	9	0	0	0	0	0	0	0	0	0	28.47	29	0	0	0	0	Bare	
70	E	63.29	65.95	7	1965	N	JRCP	10	1970	5	5	1989	3	3.25	0	0	0	2.11	5	17.23	19	8.78	5	Dmix	
70	E	65.95	66.94	7	1965	N	JRCP	10	1970	5	5	1980	5	6.13	1989	3	3.25	2.11	5	6.86	10	10.37	9	NA	
70	E	66.94	68.26	7	1964	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.51	22	12.7	8	0	0	Dmix	
70	E	68.26	74.30	7	1964	N	CRCP	8	1982	3	3	0	0	0	0	0	0	10.79	18	17.41	12	0	0	Dmix	
70	E	74.30	76.44	7	1963	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.42	26	8.78	5	0	0	NA	
70	E	76.44	79.13	7	1963	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.42	26	8.78	5	0	0	Emix	
70	E	79.13	82.28	7	1963	Y	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.56	26	8.78	5	0	0	Emix	
70	E	82.28	90.62	7	1962	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.76	24	12.73	8	0	0	Dmix	
70	E	90.62	92.43	7	1961	N	JRCP	10	1984	5	4.5	1992	3	1.5	0	0	0	13.22	23	11.43	8	3.83	2	Dmix	
70	E	92.43	98.09	7	1960	0	JRCP	0.1	0	0	0	0	0	0	0	0	0	33.82	34	0	0	0	0		X
70	E	98.09	100.27	7	1961	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.73	28	8.63	5	0	0	Dmix	
70	E	100.27	106.02	7	1960	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.73	29	8.63	5	0	0	Dmix	
70	E	106.02	111.22	5	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	12.77	15	13.54	8	0	0	Dmix	
70	E	111.22	116.67	5	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	12.77	15	13.54	8	0	0	Dmix	
70	E	116.67	117.05	5	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	12.79	15	13.54	8	0	0	Dmix	
70	E	117.05	118.42	5	1971	Y	CRCP	8	1983	3	3	1990	3	3.25	0	0	0	8.79	12	10.12	7	7.42	4	NA	
70	E	118.42	119.21	5	1971	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	18.68	19	7.42	4	0	0	Dmix	
70	E	119.21	121.03	5	1971	Y	CRCP	8	1983	5	4	1990	3	3.25	0	0	0	9.17	12	8.73	7	6.4	4	NA	
70	E	121.03	121.50	5	1972	Y	CRCP	8	1983	5	4	1990	3	3.25	0	0	0	9.17	11	8.73	7	6.4	4	NA	
70	E	121.50	125.46	5	1972	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	17.91	18	6.4	4	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
70	E	125.46	126.44	5	1972	Y	CRCP	8	1987	3	3.25	0	0	0	0	0	0	13.77	15	10.54	7	0	0	Dmix	
70	E	126.44	129.34	5	1972	Y	CRCP	8	1987	3	3.25	0	0	0	0	0	0	13.77	15	10.54	7	0	0	Dmix	
70	E	129.34	131.89	5	1972	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	16.46	17	7.84	5	0	0	Dmix	
70	E	131.89	134.45	5	1971	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	16.46	18	7.84	5	0	0	Dmix	
70	E	134.45	136.72	5	1971	Y	CRCP	8	1985	3	3.25	0	0	0	0	0	0	11.47	14	12.84	9	0	0	NA	
70	E	136.72	141.22	5	1971	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	16.46	18	7.84	5	0	0	Dmix	
70	E	141.22	141.94	5	1971	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	16.46	18	7.84	5	0	0	Dmix	
70	E	141.94	146.92	5	1971	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	17.20	18	7.7	5	0	0	Dmix	
70	E	146.92	150.32	5	1969	Y	CRCP	8	1980	3	3	1994	3	3.25	0	0	0	7.90	11	18.52	14	0	0	NA	
70	E	150.32	155.80	5	1969	Y	CRCP	8	1980	3	3	1994	3	3.25	0	0	0	7.90	11	18.52	14	0	0	NA	
70	W	0.00	15.22	8	1965	0	CRCP	0.2	0	0	0	0	0	0	0	0	0	19.77	29	0	0	0	0		X
70	W	15.22	16.79	8	1965	N	JRCP	10	1981	3	3	1993	3	3.25	0	0	0	11.25	16	19.53	12	1.93	1	NA	
70	W	16.79	20.98	8	1966	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	21.03	22	11.17	6	0	0	NA	
70	W	20.98	24.32	8	1966	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	20.08	22	9.85	6	0	0	NA	
70	W	24.32	25.47	8	1965	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	19.91	23	10.8	6	0	0	NA	
70	W	25.47	28.14	8	1965	Y	CRCP	8	1986	3	3	1988	3	3.25	0	0	0	17.13	21	2.78	2	10.8	6	NA	
70	W	28.14	31.03	8	1966	Y	CRCP	8	1988	3	3.25	0	0	0	0	0	0	19.94	22	10.8	6	0	0	NA	
70	W	31.03	31.37	8	1966	N	CRCP	8	1988	3	3.25	0	0	0	0	0	0	19.35	22	10.8	6	0	0	NA	
70	W	31.37	32.32	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	NA	
70	W	32.32	32.99	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	W	32.99	33.54	8	1967	Y	CRCP	6	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	W	33.54	34.12	8	1967	Y	CRCP	7	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	W	34.12	35.20	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	W	35.20	35.47	8	1967	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.92	22	9.22	5	0	0	Dmix	
70	W	35.47	36.32	8	1968	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	20.53	21	9.22	5	0	0	Dmix	
70	W	36.32	37.32	8	1968	Y	CRCP	8	1986	3	3	1990	3	3.25	0	0	0	16.18	18	6.02	4	7.55	4	NA	
70	W	37.32	38.68	8	1968	Y	CRCP	8	1987	3	3.25	1990	3	3.25	0	0	0	17.47	19	4.73	3	7.55	4	Dmix	
70	W	38.68	39.72	8	1968	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	22.20	22	7.55	4	0	0	Dmix	
70	W	39.72	40.56	8	1968	Y	CRCP	7	1987	3	3.25	1989	3	3.25	1990	3	3.25	17.47	19	3.06	2	1.67	1	Dmix	
70	W	40.56	41.20	8	1968	Y	CRCP	7	1989	3	3.25	1990	3	3.25	0	0	0	20.53	21	1.67	1	7.55	4	Dmix	
70	W	41.20	42.67	8	1968	Y	CRCP	8	1989	3	3.25	1990	3	3.25	0	0	0	20.52	21	1.67	1	7.55	4	Dmix	
70	W	42.67	47.96	8	1968	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	19.83	21	9	5	0	0	NA	
70	W	47.96	51.59	8	1968	Y	CRCP	8	1984	3	3.25	1992	3	3.25	0	0	0	12.92	16	11.47	8	3.81	2	Dmix	
70	W	51.59	52.85	7	1967	N	CRCP	8	1984	3	3.25	1992	3	3.25	0	0	0	12.98	17	11.54	8	3.81	2	Dmix	
70	W	52.85	53.22	7	1967	N	CRCP	8	1981	3	2.5	1994	3	3.25	0	0	0	9.54	14	18.92	13	0	0	NA	
70	W	53.22	53.70	7	1967	N	CRCP	8	1981	3	2	1994	3	3.25	0	0	0	9.54	14	18.92	13	0	0	NA	
70	W	53.70	54.17	7	1967	N	CRCP	8	1981	3	1.5	1994	3	3.25	0	0	0	9.49	14	18.92	13	0	0	NA	
70	W	54.17	60.64	7	1967	N	CRCP	8	1984	3	3	1994	3	3.25	0	0	0	13.25	17	15.45	10	0	0	Dmix	
70	W	60.64	63.29	7	1965	N	CRCP	9	1980	5	6.13	0	0	0	0	0	0	9.26	15	19.5	14	0	0	NA	
70	W	63.29	65.95	7	1965	N	CRCP	9	1979	5	5.5	1985	3	3	0	0	0	8.05	14	6.24	6	13.83	9	NA	
70	W	65.95	66.94	7	1965	N	CRCP	9	1980	5	6.13	0	0	0	0	0	0	8.97	15	19.15	14	0	0	NA	
70	W	66.94	68.26	7	1964	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.51	22	12.7	8	0	0	NA	
70	W	68.26	74.30	7	1964	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.51	22	12.69	8	0	0	Dmix	
70	W	74.30	76.44	7	1963	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.42	26	8.78	5	0	0	NA	
70	W	76.44	79.13	7	1963	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.42	26	8.78	5	0	0	Emix	
70	W	79.13	82.28	7	1963	Y	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.56	26	8.78	5	0	0	Emix	
70	W	82.28	90.62	7	1962	N	JRCP	10	1986	3	3	0	0	0	0	0	0	15.76	24	12.73	8	0	0	Dmix	
70	W	90.62	92.43	7	1961	N	JRCP	10	1984	5	4.5	1992	3	1.5	0	0	0	13.22	23	11.43	8	3.83	2	Dmix	
70	W	92.43	98.09	7	1960	0	JRCP	0.1	0	0	0	0	0	0	0	0	0	33.82	34	0	0	0	0		X
70	W	98.09	100.27	7	1961	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.73	28	8.63	5	0	0	Dmix	
70	W	100.27	106.02	7	1960	N	JRCP	10	1989	3	3.25	0	0	0	0	0	0	19.73	29	8.63	5	0	0	Dmix	
70	W	106.02	106.71	5	1971	Y	CRCP	8	1983	5	4	1986	3	1.5	0	0	0	8.77	12	4	3	13.54	8	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
70	W	106.71	110.53	5	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	12.77	15	13.54	8	0	0	Dmix	
70	W	110.53	111.22	5	1971	Y	CRCP	8	1987	3	3.25	0	0	0	0	0	0	14.22	16	12.1	7	0	0	Dmix	
70	W	111.22	114.97	5	1971	Y	CRCP	8	1987	3	3.25	0	0	0	0	0	0	14.22	16	12.1	7	0	0	Dmix	
70	W	114.97	116.19	5	1971	Y	CRCP	8	1986	3	3.25	0	0	0	0	0	0	12.77	15	13.54	8	0	0	Dmix	
70	W	116.19	116.67	5	1971	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	18.89	19	7.42	4	0	0	Dmix	
70	W	116.67	119.96	5	1971	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	18.49	19	6.91	4	0	0	Dmix	
70	W	119.96	121.03	5	1971	Y	CRCP	8	1983	5	4	1990	3	3.25	0	0	0	9.17	12	8.73	7	6.4	4	NA	
70	W	121.03	123.77	5	1972	Y	CRCP	8	1983	5	4	1990	3	3.25	0	0	0	9.17	11	8.73	7	6.4	4	NA	
70	W	123.77	125.57	5	1972	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	17.91	18	6.4	4	0	0	Dmix	
70	W	125.57	126.44	5	1972	Y	CRCP	8	1983	5	4	1990	3	3.25	0	0	0	9.17	11	8.73	7	6.4	4	NA	
70	W	126.44	129.34	5	1972	Y	CRCP	8	1983	5	4	1990	3	3.25	0	0	0	9.17	11	8.73	7	6.4	4	NA	
70	W	129.34	131.89	5	1972	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	16.46	17	7.84	5	0	0	Dmix	
70	W	131.89	134.45	5	1971	Y	CRCP	8	1989	3	3.25	0	0	0	0	0	0	16.46	18	7.84	5	0	0	Dmix	
70	W	134.45	136.72	5	1971	Y	CRCP	8	1985	3	3.25	0	0	0	0	0	0	11.47	14	12.84	9	0	0	NA	
70	W	136.72	141.22	5	1971	Y	CRCP	8	1985	3	3.25	0	0	0	0	0	0	11.47	14	12.84	9	0	0	NA	
70	W	141.22	141.94	5	1971	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	16.46	18	7.84	5	0	0	Dmix	
70	W	141.94	146.92	5	1971	Y	CRCP	8	1989	3	3	0	0	0	0	0	0	17.20	18	7.7	5	0	0	Dmix	
70	W	146.92	150.32	5	1969	Y	CRCP	8	1980	3	3	1994	3	3.25	0	0	0	7.90	11	18.52	14	0	0	NA	
70	W	150.32	155.80	5	1969	Y	CRCP	8	1980	3	3	1994	3	3.25	0	0	0	7.90	11	18.52	14	0	0	NA	
72	E	1.50	4.04	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.71	3	0	0	0	0	Bare	
72	E	4.04	11.16	6	1989	N	CRCP	9	0	0	0	0	0	0	0	0	0	0.88	5	0	0	0	0	Bare	
72	E	11.16	19.97	6	1990	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.82	4	0	0	0	0	Bare	
72	E	19.97	25.35	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.79	3	0	0	0	0	Bare	
72	E	25.35	30.73	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.79	3	0	0	0	0	Bare	
72	E	30.73	35.24	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.68	3	0	0	0	0	Bare	
72	E	35.24	41.75	6	1990	0	HMAC	15	0	0	0	0	0	0	0	0	0	1.16	4	0	0	0	0	Bare	
72	E	41.75	42.39	6	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	1.16	82	0	0	0	0		X
72	E	42.39	45.82	6	1990	0	HMAC	15	0	0	0	0	0	0	0	0	0	1.16	4	0	0	0	0	Bare	
72	E	45.82	51.53	6	1986	N	CRCP	8	0	0	0	0	0	0	0	0	0	1.62	8	0	0	0	0	Bare	
72	E	51.53	59.87	6	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	2.85	15	0	0	0	0	Bare	
72	E	59.87	63.73	6	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	3.26	15	0	0	0	0	Bare	
72	E	63.73	68.07	6	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	3.36	17	0	0	0	0	Bare	
72	E	68.07	74.78	6	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	4.88	17	0	0	0	0	Bare	
72	E	74.78	81.39	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	4.52	18	0	0	0	0	Bare	
72	E	81.39	91.66	6	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	4.54	17	0	0	0	0	Bare	
72	E	91.66	94.99	6	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.10	22	0	0	0	0	Bare	
72	E	94.99	96.86	6	1967	N	CRCP	8	1993	3	3.25	0	0	0	0	0	0	6.71	26	0.67	1	0	0	Bare	
72	E	96.86	103.00	6	1961	0	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	33	0	0	0	0		X
72	E	103.00	108.60	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	E	108.60	114.64	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	E	114.64	124.24	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	E	124.24	132.16	5	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	E	132.16	134.46	5	1977	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	E	134.46	140.63	5	1977	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	E	140.63	143.16	5	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	19	0	0	0	0	Bare	
72	E	143.16	144.96	5	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	19	0	0	0	0	Bare	
72	E	144.96	151.49	5	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	E	151.49	156.51	5	1977	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	0.00	15	0	2	0	0	Dmix	
72	E	156.51	161.15	5	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	E	161.15	165.96	5	1977	Y	CRCP	8	1993	3	3.25	0	0	0	0	0	0	0.00	16	0	1	0	0	Dmix	
72	E	165.96	170.75	5	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	32	0	0	0	0	Bare	
72	E	170.75	175.95	5	1970	Y	CRCP	7	1984	5	4.25	1994	3	3.25	0	0	0	0.00	14	0	10	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
72	E	175.95	176.83	5	1970	Y	CRCP	7	1984	3	3	1994	3	3.25	0	0	0	0.00	14	0	10	0	0	Dmix	
72	E	176.83	181.34	5	1970	Y	CRCP	7	1984	3	3	1994	3	3.25	0	0	0	0.00	14	0	10	0	0	Dmix	
72	W	1.50	4.04	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	3	0	0	0	0	Bare	
72	W	4.04	11.16	6	1989	N	CRCP	9	0	0	0	0	0	0	0	0	0	0.00	5	0	0	0	0	Bare	
72	W	11.16	19.97	6	1990	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	4	0	0	0	0	Bare	
72	W	19.97	25.35	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	3	0	0	0	0	Bare	
72	W	25.35	30.73	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	3	0	0	0	0	Bare	
72	W	30.73	35.24	6	1991	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	3	0	0	0	0	Bare	
72	W	35.24	41.75	6	1990	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	4	0	0	0	0	Bare	
72	W	41.75	42.39	6	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	0.00	82	0	0	0	0		X
72	W	42.39	45.82	6	1990	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.00	4	0	0	0	0	Bare	
72	W	45.82	51.53	6	1986	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	8	0	0	0	0	Bare	
72	W	51.53	59.87	6	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	15	0	0	0	0	Bare	
72	W	59.87	63.73	6	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	15	0	0	0	0	Bare	
72	W	63.73	68.07	6	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	W	68.07	74.78	6	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	W	74.78	81.39	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	W	81.39	91.66	6	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	W	91.66	94.99	6	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	22	0	0	0	0	Bare	
72	W	94.99	96.86	6	1967	N	CRCP	7	1993	3	3.25	0	0	0	0	0	0	0.00	26	0	1	0	0	Bare	
72	W	96.86	103.00	6	1961	0	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	33	0	0	0	0		X
72	W	103.00	108.60	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	W	108.60	114.64	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	W	114.64	124.24	6	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	W	124.24	132.16	5	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	W	132.16	134.46	5	1977	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	W	134.46	140.63	5	1977	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	W	140.63	143.16	5	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	19	0	0	0	0	Bare	
72	W	143.16	144.96	5	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	19	0	0	0	0	Bare	
72	W	144.96	151.49	5	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	17	0	0	0	0	Bare	
72	W	151.49	156.51	5	1977	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	0.00	15	0	2	0	0	Dmix	
72	W	156.51	161.15	5	1976	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	18	0	0	0	0	Bare	
72	W	161.15	165.96	5	1977	Y	CRCP	8	1993	3	3.25	0	0	0	0	0	0	0.00	16	0	1	0	0	Dmix	
72	W	165.96	170.75	5	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	32	0	0	0	0	Bare	
72	W	170.75	175.95	5	1970	Y	CRCP	7	1984	5	4.25	1994	3	3.25	0	0	0	0.00	14	0	10	0	0	Dmix	
72	W	175.95	176.83	5	1970	Y	CRCP	7	1984	3	3	1994	3	3.25	0	0	0	0.00	14	0	10	0	0	Dmix	
72	W	176.83	181.34	5	1970	Y	CRCP	7	1984	3	3	1994	3	3.25	0	0	0	0.00	14	0	10	0	0	Dmix	
74	E	0.00	0.46	2	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	0.00	82	0	0	0	0		X
74	E	0.46	0.84	2	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	0.00	19	0	0	0	0	Bare	
74	E	0.84	1.55	2	1976	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	0.00	16	7.28	2	0	0	Emix	
74	E	1.55	3.86	2	1973	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	5.94	19	0.71	2	0	0	Emix	
74	E	3.86	4.50	2	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	8.53	30	0	0	0	0	Bare	
74	E	4.50	5.03	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	10.50	31	0	0	0	0	Bare	
74	E	5.03	7.85	2	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	16.88	32	0	0	0	0	Bare	
74	E	7.85	9.14	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	16.88	31	0	0	0	0	Bare	
74	E	9.14	12.48	2	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	8.63	23	8.25	8	0	0	NA	
74	E	12.48	12.93	2	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	8.63	23	8.25	8	0	0	NA	
74	E	12.93	13.42	2	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	8.63	23	8.25	8	0	0	NA	
74	E	13.42	14.41	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	16.88	31	0	0	0	0	Bare	
74	E	14.41	31.65	2	1968	N	CRCP	7	0	0	0	0	0	0	0	0	0	15.58	26	0	0	0	0	Bare	
74	E	31.65	36.31	4	1968	N	CRCP	7	1989	3	3.25	0	0	0	0	0	0	11.33	21	4.37	5	0	0	Dmix	
74	E	36.31	41.50	4	1968	N	CRCP	7	1989	3	3.25	0	0	0	0	0	0	11.34	21	4.37	5	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
74	E	41.50	45.15	4	1967	N	CRCP	7	1989	3	3.25	0	0	0	0	0	0	11.34	22	4.37	5	0	0	Dmix	
74	E	45.15	47.93	4	1966	Y	JRCP	10	1982	5	5	0	0	0	0	0	0	6.02	16	10.01	12	0	0	NA	
74	E	47.93	51.28	4	1964	Y	JRCP	10	1982	5	5	1993	3	3.25	0	0	0	6.07	18	9.09	11	0.94	1	NA	
74	E	51.28	53.79	4	1964	Y	JRCP	10	1982	5	5	1993	3	1.5	0	0	0	6.05	18	9.09	11	0.94	1	NA	
74	E	53.79	61.73	4	1970	Y	CRCP	8	1983	3	3	1991	5	4.75	0	0	0	6.34	13	6.47	8	2.78	3	NA	
74	E	61.73	70.54	4	1970	Y	CRCP	8	1983	3	3	1994	3	3.25	0	0	0	6.35	13	9.25	11	0	0	NA	
74	E	70.54	74.08	4	1970	Y	CRCP	7	1988	3	3.25	0	0	0	0	0	0	10.24	18	5.98	6	0	0	Dmix	
74	E	74.08	81.82	4	1970	Y	CRCP	7	1988	3	3.25	0	0	0	0	0	0	10.27	18	5.98	6	0	0	Dmix	
74	E	81.82	85.81	4	1964	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	7.63	20	9.07	10	0	0	NA	
74	E	85.81	86.44	4	1965	Y	JRCP	10	0	0	0	0	0	0	0	0	0	16.70	29	0	0	0	0	Bare	
74	E	86.44	87.55	4	1965	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	6.68	19	8.51	10	0	0	Dmix	
74	E	87.55	88.26	4	1965	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	5.72	19	8	10	0	0	Dmix	
74	E	88.26	91.22	4	1965	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	6.25	19	8.05	10	0	0	Dmix	
74	E	91.22	91.53	4	1964	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	7.24	20	8.11	10	0	0	Dmix	
74	E	91.53	92.57	4	1964	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	9.86	23	6.79	7	0	0	NA	
74	E	92.57	92.80	4	1960	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	10.65	27	6.79	7	0	0	NA	
74	E	92.80	93.46	4	1959	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	11.56	28	6.79	7	0	0	NA	
74	E	93.46	94.07	4	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	19.22	82	0	0	0	0		X
74	E	94.07	95.28	4	1960	N	JRCP	10	1984	5	4.63	1994	3	1.5	0	0	0	10.70	24	8.29	10	0	0	NA	
74	E	95.28	95.94	4	1961	Y	JRCP	10	1984	5	4.63	1994	3	1.5	0	0	0	10.53	23	8.25	10	0	0	NA	
74	E	95.94	97.36	4	1962	Y	JRCP	10	1984	5	4.63	1994	3	1.5	0	0	0	10.53	22	8.24	10	0	0	NA	
74	E	97.36	98.09	4	1962	Y	JRCP	10	1984	5	5	1993	3	3.25	0	0	0	10.29	22	5.56	9	0.6	1	Bare	
74	E	98.09	99.59	4	1962	Y	JRCP	10	1981	5	5	1993	3	3.25	0	0	0	9.39	19	8.71	12	0.6	1	Bare	
74	E	99.59	100.67	4	1962	Y	JRCP	10	1981	5	5	1993	3	3.25	0	0	0	10.07	19	10.76	12	0.6	1	Bare	
74	E	100.67	101.83	4	1962	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	11.87	22	10.76	10	0	0	NA	
74	E	101.83	102.55	4	1962	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	9.86	22	10.4	10	0	0	NA	
74	E	102.55	109.37	4	1962	N	JRCP	10	1984	3	3	0	0	0	0	0	0	9.14	22	9.63	10	0	0	NA	
74	E	109.37	115.09	4	1967	Y	CRCP	7	1980	5	4.5	1994	3	3.25	0	0	0	5.38	13	12.08	14	0	0	NA	
74	E	115.09	120.34	3	1966	Y	CRCP	7	1980	5	4.5	1994	3	3.25	0	0	0	5.25	14	11.69	14	0	0	NA	
74	E	120.34	125.17	3	1967	Y	CRCP	7	1982	5	5.13	0	0	0	0	0	0	6.34	15	10.59	12	0	0	NA	
74	E	125.17	127.82	3	1964	Y	JRCP	10	1982	5	5.38	0	0	0	0	0	0	6.34	18	10.09	12	0	0	NA	
74	E	127.82	133.42	3	1912	0	JRCP	0.2	0	0	0	0	0	0	0	0	0	22.08	82	0	0	0	0		X
74	E	133.42	135.79	3	1967	Y	JRCP	10	1992	3	3.25	1992	3	3.25	0	0	0	13.91	25	0	0	2.11	2	Dmix	
74	E	135.79	136.45	3	1967	Y	JRCP	10	1984	3	3	1992	3	3.25	1992	3	3.25	6.02	17	6.48	8	0	0	Dmix	
74	E	136.45	139.24	3	1972	Y	CRCP	7	1986	3	3.25	1992	3	3.25	0	0	0	7.33	14	5.17	6	2.25	2	Dmix	
74	E	139.24	141.49	3	1972	Y	CRCP	7	1984	3	3	1986	3	3.25	1992	3	3.25	6.02	12	1.31	2	5.17	6	Dmix	
74	E	141.49	141.99	3	1972	Y	CRCP	7	1987	3	3.25	0	0	0	0	0	0	7.98	15	6.93	7	0	0	Dmix	
74	E	141.99	145.33	3	1972	Y	CRCP	7	1987	3	3.25	0	0	0	0	0	0	7.98	15	6.93	7	0	0	Dmix	
74	E	145.33	150.35	3	1972	N	CRCP	8	0	0	0	0	0	0	0	0	0	14.79	22	0	0	0	0	Bare	
74	E	150.35	154.99	3	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	15.05	22	0	0	0	0	Bare	
74	E	154.99	160.22	3	1972	Y	CRCP	8	1985	3	3	1993	3	3.25	0	0	0	6.94	13	7.27	8	1.23	1	NA	
74	E	160.22	163.07	5	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	16.20	23	0	0	0	0	Bare	
74	E	163.07	166.86	5	1971	Y	CRCP	7	1984	3	3	1991	5	5	0	0	0	6.10	13	5.82	7	4.27	3	NA	
74	E	166.86	171.48	5	1971	Y	CRCP	7	0	0	0	0	0	0	0	0	0	16.68	23	0	0	0	0	Bare	
74	E	171.48	174.69	5	1968	Y	CRCP	7	1981	5	5.13	0	0	0	0	0	0	5.28	13	12.44	13	0	0	NA	
74	E	174.69	178.48	5	1967	Y	CRCP	7	1981	5	5.13	0	0	0	0	0	0	5.30	14	12.45	13	0	0	NA	
74	E	178.48	179.74	5	1965	Y	JRCP	10	1992	5	5.75	0	0	0	0	0	0	16.64	27	3.01	2	0	0	Emix	
74	E	179.74	180.02	5	1957	N	JRCP	10	1992	5	5.75	0	0	0	0	0	0	19.44	35	2.77	2	0	0	Emix	
74	E	180.02	180.96	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	E	180.96	181.55	5	1992	0	HMAC	17	0	0	0	0	0	0	0	0	0	4.03	2	0	0	0	0	Bare	
74	E	181.55	182.16	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	E	182.16	182.83	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
74	E	182.83	183.28	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	E	183.28	184.14	5	1992	0	HMAC	17	0	0	0	0	0	0	0	0	0	22.39	2	0	0	0	0		X
74	E	184.14	185.94	5	1960	Y	JRCP	10	1979	3	3.63	1991	3	2	0	0	0	6.49	19	11.5	12	4.41	3	NA	
74	E	185.94	189.42	5	1960	Y	JRCP	10	1979	3	3.63	1992	3	2.25	0	0	0	6.27	19	12.51	13	2.49	2	NA	
74	E	189.42	194.48	5	1959	Y	JRCP	10	1979	3	3.63	1992	3	2.25	0	0	0	6.23	20	12.5	13	2.49	2	NA	
74	E	194.48	197.76	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	14.21	28	6.85	6	0	0	Dmix	
74	E	197.76	200.26	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	13.98	28	6.85	6	0	0	Dmix	
74	E	200.26	205.94	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	14.01	28	6.85	6	0	0	Dmix	
74	E	205.94	208.41	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	14.06	28	6.85	6	0	0	Dmix	
74	E	208.41	210.39	5	1960	Y	JRCP	10	1984	3	3.25	0	0	0	0	0	0	10.05	24	10.64	10	0	0	Dmix	
74	E	210.39	214.88	5	1965	Y	JRCP	10	1993	3	3.25	0	0	0	0	0	0	18.89	28	1.28	1	0	0	Dmix	
74	E	214.88	219.80	5	1964	Y	JRCP	10	1993	3	3.25	0	0	0	0	0	0	18.94	29	1.28	1	0	0	Dmix	
74	E	219.80	220.08	5	1961	Y	JRCP	10	1993	3	3.25	0	0	0	0	0	0	18.81	32	1.28	1	0	0	Dmix	
74	W	0.00	0.46	2	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	0.00	82	0	0	0	0		X
74	W	0.46	0.84	2	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	8.15	19	0	0	0	0	Bare	
74	W	0.84	1.55	2	1976	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	6.57	16	0.71	2	0	0	Emix	
74	W	1.55	3.86	2	1973	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	5.94	19	0.71	2	0	0	Emix	
74	W	3.86	4.50	2	1964	N	JRCP	10	0	0	0	0	0	0	0	0	0	8.53	30	0	0	0	0	Bare	
74	W	4.50	5.03	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	10.50	31	0	0	0	0	Bare	
74	W	5.03	7.85	2	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	16.88	32	0	0	0	0	Bare	
74	W	7.85	9.14	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	16.88	31	0	0	0	0	Bare	
74	W	9.14	12.48	2	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	8.63	23	8.25	8	0	0	NA	
74	W	12.48	12.93	2	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	8.63	23	8.25	8	0	0	NA	
74	W	12.93	13.42	2	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	8.63	23	8.25	8	0	0	NA	
74	W	13.42	14.41	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	16.88	31	0	0	0	0	Bare	
74	W	14.41	31.65	2	1968	N	CRCP	7	0	0	0	0	0	0	0	0	0	15.58	26	0	0	0	0	Bare	
74	W	31.65	36.31	4	1968	N	CRCP	7	1989	3	3.25	0	0	0	0	0	0	11.33	21	4.37	5	0	0	NA	
74	W	36.31	41.50	4	1968	N	CRCP	7	1989	3	3.25	0	0	0	0	0	0	11.34	21	4.37	5	0	0	NA	
74	W	41.50	45.15	4	1967	N	CRCP	7	1989	3	3.25	0	0	0	0	0	0	11.34	22	4.37	5	0	0	NA	
74	W	45.15	47.93	4	1966	Y	JRCP	10	1982	5	5	0	0	0	0	0	0	6.02	16	10.01	12	0	0	NA	
74	W	47.93	51.28	4	1964	Y	JRCP	10	1982	5	5	1993	3	3.25	0	0	0	6.07	18	9.09	11	0.94	1	NA	
74	W	51.28	53.79	4	1964	Y	JRCP	10	1982	5	5	1993	3	1.5	0	0	0	6.05	18	9.09	11	0.94	1	NA	
74	W	53.79	59.29	4	1970	Y	CRCP	8	1983	3	3	0	0	0	0	0	0	6.34	13	9.25	11	0	0	NA	
74	W	59.29	59.78	4	1970	Y	CRCP	8	1981	3	2	0	0	0	0	0	0	4.91	11	10.67	13	0	0	NA	
74	W	59.78	60.27	4	1970	Y	CRCP	8	1981	3	2.5	0	0	0	0	0	0	4.91	11	10.67	13	0	0	NA	
74	W	60.27	60.76	4	1970	Y	CRCP	8	1981	3	3	0	0	0	0	0	0	4.91	11	10.67	13	0	0	Bare	
74	W	60.76	61.73	4	1970	Y	CRCP	8	1983	3	3	0	0	0	0	0	0	6.32	13	9.25	11	0	0	NA	
74	W	61.73	64.96	4	1970	Y	CRCP	8	1983	3	3	1994	3	3.25	0	0	0	6.32	13	9.25	11	0	0	NA	
74	W	64.96	66.40	4	1970	Y	CRCP	8	1983	3	3	1994	3	3.25	0	0	0	6.33	13	9.25	11	0	0	NA	
74	W	66.40	70.54	4	1970	Y	CRCP	8	1983	3	3	1994	3	3.25	0	0	0	6.36	13	9.25	11	0	0	NA	
74	W	70.54	74.08	4	1970	Y	CRCP	7	1988	3	3.25	0	0	0	0	0	0	10.24	18	5.98	6	0	0	Dmix	
74	W	74.08	81.82	4	1970	Y	CRCP	7	1988	3	3.25	0	0	0	0	0	0	10.27	18	5.98	6	0	0	Dmix	
74	W	81.82	85.81	4	1964	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	7.63	20	9.07	10	0	0	NA	
74	W	85.81	86.58	4	1965	Y	JRCP	10	0	0	0	0	0	0	0	0	0	16.68	29	0	0	0	0	Bare	
74	W	86.58	87.55	4	1965	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	6.68	19	8.51	10	0	0	Dmix	
74	W	87.55	88.26	4	1965	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	5.72	19	8	10	0	0	Dmix	
74	W	88.26	91.22	4	1965	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	6.25	19	8.05	10	0	0	Dmix	
74	W	91.22	91.53	4	1964	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	7.24	20	8.11	10	0	0	Dmix	
74	W	91.53	92.57	4	1964	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	9.86	23	6.79	7	0	0	NA	
74	W	92.57	92.80	4	1960	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	10.65	27	6.79	7	0	0	NA	
74	W	92.80	93.46	4	1959	Y	JRCP	10	1987	3	3.25	0	0	0	0	0	0	11.56	28	6.79	7	0	0	NA	
74	W	93.46	94.07	4	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	19.22	82	0	0	0	0		X

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
74	W	94.07	95.28	4	1960	N	JRCP	10	1984	5	4.63	1994	3	1.5	0	0	0	10.70	24	8.29	10	0	0	NA	
74	W	95.28	95.94	4	1961	Y	JRCP	10	1984	5	4.63	1994	3	1.5	0	0	0	10.53	23	8.25	10	0	0	NA	
74	W	95.94	97.36	4	1962	Y	JRCP	10	1984	5	4.63	1994	3	1.5	0	0	0	10.53	22	8.24	10	0	0	NA	
74	W	97.36	98.09	4	1962	Y	JRCP	10	1984	5	5	1993	3	3.25	0	0	0	10.29	22	5.56	9	0.6	1	Bare	
74	W	98.09	99.59	4	1962	Y	JRCP	10	1981	5	5	1993	3	3.25	0	0	0	9.39	19	8.71	12	0.6	1	Bare	
74	W	99.59	100.67	4	1962	Y	JRCP	10	1981	5	5	1993	3	3.25	0	0	0	10.07	19	10.76	12	0.6	1	Bare	
74	W	100.67	101.83	4	1962	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	11.87	22	10.76	10	0	0	NA	
74	W	101.83	102.55	4	1962	Y	JRCP	10	1984	3	3	0	0	0	0	0	0	9.86	22	10.4	10	0	0	NA	
74	W	102.55	109.37	4	1962	N	JRCP	10	1984	3	3	0	0	0	0	0	0	9.14	22	9.63	10	0	0	NA	
74	W	109.37	115.09	4	1967	Y	CRCP	7	1980	5	4.5	1994	3	3.25	0	0	0	5.38	13	12.08	14	0	0	NA	
74	W	115.09	120.34	3	1966	Y	CRCP	7	1980	5	4.5	1994	3	3.25	0	0	0	5.25	14	11.69	14	0	0	NA	
74	W	120.34	125.17	3	1967	Y	CRCP	7	1982	5	5.13	0	0	0	0	0	0	6.34	15	10.59	12	0	0	NA	
74	W	125.17	127.82	3	1964	Y	JRCP	10	1982	5	5.38	0	0	0	0	0	0	6.34	18	10.09	12	0	0	NA	
74	W	127.82	133.42	3	1912	0	JRCP	0.2	0	0	0	0	0	0	0	0	0	22.08	82	0	0	0	0		X
74	W	133.42	135.79	3	1967	Y	JRCP	10	1992	3	3.25	0	0	0	0	0	0	13.91	25	2.11	2	0	0	Dmix	
74	W	135.79	136.45	3	1967	Y	JRCP	10	1984	3	3	1992	3	3.25	0	0	0	6.02	17	6.48	8	2.25	2	Dmix	
74	W	136.45	141.49	3	1972	Y	CRCP	7	1986	3	3.25	0	0	0	0	0	0	7.33	14	7.42	8	0	0	Dmix	
74	W	141.49	145.33	3	1972	Y	CRCP	7	1987	3	3.25	0	0	0	0	0	0	7.98	15	6.93	7	0	0	Dmix	
74	W	145.33	150.35	3	1972	N	CRCP	8	0	0	0	0	0	0	0	0	0	14.79	22	0	0	0	0	Bare	
74	W	150.35	154.99	3	1972	Y	CRCP	8	0	0	0	0	0	0	0	0	0	15.05	22	0	0	0	0	Bare	
74	W	154.99	160.22	3	1972	Y	CRCP	8	1985	3	3	1993	3	3.25	0	0	0	6.94	13	7.27	8	1.23	1	NA	
74	W	160.22	163.07	5	1971	Y	CRCP	8	0	0	0	0	0	0	0	0	0	16.20	23	0	0	0	0	Bare	
74	W	163.07	166.86	5	1971	Y	CRCP	7	1984	3	3	1991	5	5	0	0	0	6.10	13	5.82	7	4.27	3	NA	
74	W	166.86	171.48	5	1971	Y	CRCP	7	0	0	0	0	0	0	0	0	0	16.68	23	0	0	0	0	Bare	
74	W	171.48	174.69	5	1968	Y	CRCP	7	1981	5	5.13	0	0	0	0	0	0	5.28	13	12.44	13	0	0	NA	
74	W	174.69	178.48	5	1967	Y	CRCP	7	1981	5	5.13	0	0	0	0	0	0	5.30	14	12.45	13	0	0	NA	
74	W	178.48	179.74	5	1965	Y	JRCP	10	1992	5	5.75	0	0	0	0	0	0	16.64	27	3.01	2	0	0	Emix	
74	W	179.74	180.02	5	1957	N	JRCP	10	1992	5	5.75	0	0	0	0	0	0	19.44	35	2.77	2	0	0	Emix	
74	W	180.02	180.96	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	W	180.96	181.55	5	1992	0	HMAC	17	0	0	0	0	0	0	0	0	0	4.03	2	0	0	0	0	Bare	
74	W	181.55	182.16	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	W	182.16	182.83	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	W	182.83	183.28	5	1991	0	HMAC	17	0	0	0	0	0	0	0	0	0	5.20	3	0	0	0	0	Bare	
74	W	183.28	184.14	5	1992	0	HMAC	17	0	0	0	0	0	0	0	0	0	22.39	2	0	0	0	0		X
74	W	184.14	185.94	5	1960	Y	JRCP	10	1979	3	3.63	1991	3	2	0	0	0	6.49	19	11.5	12	4.41	3	NA	
74	W	185.94	189.42	5	1960	Y	JRCP	10	1979	3	3.63	1992	3	2.25	0	0	0	6.27	19	12.51	13	2.49	2	NA	
74	W	189.42	194.48	5	1959	Y	JRCP	10	1979	3	3.63	1992	3	2.25	0	0	0	6.23	20	12.5	13	2.49	2	NA	
74	W	194.48	197.76	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	14.21	28	6.85	6	0	0	Dmix	
74	W	197.76	200.26	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	13.98	28	6.85	6	0	0	Dmix	
74	W	200.26	205.94	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	14.01	28	6.85	6	0	0	Dmix	
74	W	205.94	208.41	5	1960	Y	JRCP	10	1988	3	3.25	0	0	0	0	0	0	14.06	28	6.85	6	0	0	Dmix	
74	W	208.41	210.39	5	1960	Y	JRCP	10	1984	3	3.25	0	0	0	0	0	0	10.05	24	10.64	10	0	0	Dmix	
74	W	210.39	214.88	5	1965	Y	JRCP	10	1993	3	3.25	0	0	0	0	0	0	18.89	28	1.28	1	0	0	Dmix	
74	W	214.88	219.80	5	1964	Y	JRCP	10	1993	3	3.25	0	0	0	0	0	0	18.94	29	1.28	1	0	0	Dmix	
74	W	219.80	220.08	5	1961	Y	JRCP	10	1993	3	3.25	0	0	0	0	0	0	18.81	32	1.28	1	0	0	Dmix	
80	E	0.00	5.23	2	1966	N	CRCP	8	0	0	0	0	0	0	0	0	0	21.74	28	0	0	0	0	Bare	
80	E	5.23	9.68	2	1966	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	15.22	24	5.82	4	0	0	NA	
80	E	9.68	10.68	2	1963	N	JRCP	10	1986	3	3.25	0	0	0	0	0	0	12.18	23	10.16	8	0	0	NA	
80	E	10.68	12.48	2	1963	Y	JRCP	10	1986	3	3.25	0	0	0	0	0	0	13.96	23	9.95	8	0	0	NA	
80	E	12.48	14.47	2	1963	Y	JRCP	10	1986	3	3.25	1994	3	3.25	0	0	0	13.96	23	9.95	8	0	0	NA	
80	E	14.47	18.82	2	1962	Y	JRCP	10	1986	3	3.25	0	0	0	0	0	0	13.96	24	9.95	8	0	0	NA	
80	E	18.82	19.77	2	1962	N	JRCP	10	1986	3	3	0	0	0	0	0	0	13.95	24	9.95	8	0	0	NA	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
80	E	19.77	25.52	2	1962	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	13.95	24	9.95	8	0	0	NA	
80	E	25.52	27.10	2	1962	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	13.94	24	9.95	8	0	0	NA	
80	E	27.10	29.36	2	1962	Y	JRCP	10	1970	3	3	1989	3	3	0	0	0	0.00	8	0	19	0	5		X
80	E	29.36	31.07	2	1962	Y	JRCP	10	1989	3	3	0	0	0	0	0	0	17.42	27	6.59	5	0	0	Dmix	
80	E	31.07	32.58	2	1963	Y	JRCP	10	1987	5	4.5	0	0	0	0	0	0	14.96	24	9.05	7	0	0	Dmix	
80	E	32.58	35.90	2	1963	Y	JRCP	10	1987	3	3	0	0	0	0	0	0	15.14	24	9.05	7	0	0	Dmix	
80	E	35.90	40.93	2	1964	Y	JRCP	10	1984	5	4	1994	3	3.25	0	0	0	12.14	20	11.95	10	0	0	NA	
80	E	40.93	45.42	2	1964	Y	JRCP	10	1984	5	4	1994	3	3.25	0	0	0	12.53	20	12.04	10	0	0	NA	
80	E	45.42	50.51	2	1964	Y	JRCP	10	1984	5	4	1994	3	3.25	0	0	0	12.92	20	12.41	10	0	0	NA	
80	E	50.51	55.46	2	1964	Y	JRCP	10	1983	5	4	1994	3	3.25	0	0	0	11.92	19	13.41	11	0	0	Dmix	
80	E	55.46	60.00	2	1963	Y	JRCP	10	1985	3	3	1992	3	3.62	0	0	0	14.54	22	8.77	7	3.37	2	Dmix	
80	E	60.00	64.01	2	1963	Y	JRCP	10	1986	3	3	1992	3	3.62	0	0	0	16.12	23	8.37	6	4.12	2	Dmix	
80	E	64.01	64.83	2	1963	Y	JRCP	10	1985	3	3	1992	3	3.62	0	0	0	14.96	22	9.53	7	4.12	2	NA	
80	E	64.83	69.38	2	1963	Y	JRCP	10	1985	3	3	1992	3	3.62	0	0	0	14.96	22	9.53	7	4.12	2	NA	
80	E	69.38	74.57	2	1961	Y	JRCP	10	1986	3	3	1992	3	3.62	0	0	0	17.66	25	8.59	6	4.12	2	NA	
80	E	74.57	76.95	3	1962	Y	JRCP	10	1983	5	4	1991	3	2.25	0	0	0	14.13	21	12.88	8	5.6	3	Dmix	
80	E	76.95	77.98	3	1962	Y	JRCP	10	1983	5	4	1990	3	3.25	0	0	0	14.16	21	10.82	7	7.32	4	Dmix	
80	E	77.98	79.31	3	1962	Y	JRCP	10	1983	5	4	1986	3	3.25	1990	3	3.25	14.26	21	4.17	3	6.13	4	Dmix	
80	E	79.31	83.34	3	1962	Y	JRCP	10	1983	5	4	1990	3	3.25	0	0	0	14.62	21	11.09	7	7.98	4	Dmix	
80	E	83.34	88.81	3	1962	Y	JRCP	10	1975	3	3	1986	3	3.25	0	0	0	6.82	13	12.2	11	14.95	8	NA	
80	E	88.81	90.00	3	1962	Y	JRCP	10	1984	3	3.13	1992	3	1.5	0	0	0	16.33	22	13.59	8	4.06	2	Dmix	
80	E	90.00	92.52	3	1961	Y	JRCP	10	1984	3	3.13	1992	3	1.5	0	0	0	16.22	23	13.73	8	3.9	2	Dmix	
80	E	92.52	93.88	3	1961	Y	JRCP	10	1984	3	3.13	1992	3	1.5	0	0	0	16.40	23	13.45	8	4.23	2	Dmix	
80	E	93.88	98.66	3	1961	Y	JRCP	10	1984	3	3.13	1991	3	3.25	0	0	0	16.68	23	11.55	7	6.21	3	Dmix	
80	E	98.66	105.35	3	1961	Y	JRCP	10	1984	3	3.13	1991	3	2.25	0	0	0	16.65	23	11.56	7	6.21	3	Dmix	
80	E	105.35	111.66	3	1993	N	CRCP	11.5	0	0	0	0	0	0	0	0	0	4.37	1	0	0	0	0	Bare	
80	E	111.66	115.01	3	1960	Y	JRCP	10	1981	3	3.88	0	0	0	0	0	0	12.50	21	20.92	13	0	0	NA	
80	E	115.01	122.54	3	1961	Y	JRCP	10	1980	3	3.25	1989	3	3.25	0	0	0	11.51	19	11.48	9	9.91	5	Emix	
80	E	122.54	125.37	1	1961	N	JRCP	10	1982	5	4.5	1991	3	3.25	0	0	0	13.36	21	12.81	9	6.33	3	Emix	
80	E	125.37	126.63	1	1961	N	JRCP	10	1982	5	4.5	1993	3	3.25	0	0	0	12.45	21	17.14	11	2.22	1	Emix	
80	E	126.63	131.50	1	1967	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	26.68	25	4.21	2	0	0	NA	
80	E	131.50	132.64	1	1969	Y	JRCP	10	1983	3	3	1992	3	3.25	0	0	0	11.32	14	16.85	9	4	2	NA	
80	E	132.64	133.65	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	32.57	25	0	0	0	0	Bare	
80	E	133.65	137.65	1	1969	N	CRCP	8	1987	5	4	0	0	0	0	0	0	18.54	18	14.66	7	0	0	Emix	
80	E	137.65	143.79	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	33.19	26	0	0	0	0	Bare	
80	E	143.79	148.39	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	33.72	26	0	0	0	0	Bare	
80	E	148.39	149.76	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	33.72	26	0	0	0	0	Bare	
80	E	149.76	151.12	1	1967	N	CRCP	9	0	0	0	0	0	0	0	0	0	32.54	27	0	0	0	0	Bare	
80	E	151.12	152.33	1	1967	N	CRCP	9	0	0	0	0	0	0	0	0	0	35.58	27	0	0	0	0	Bare	
80	E	152.33	154.38	1	1967	N	CRCP	9	0	0	0	0	0	0	0	0	0	35.99	27	0	0	0	0	Bare	
80	E	154.38	160.33	1	1912	0	CRCP	0.3	0	0	0	0	0	0	0	0	0	37.26	82	0	0	0	0		X
80	E	160.33	163.46	1	1955	N	JRCP	10	1967	3	3	1979	3	1.5	1993	3	3.3	13.68	12	22.8	12	79	14		X
80	W	0.00	5.23	2	1966	N	CRCP	8	0	0	0	0	0	0	0	0	0	21.74	28	0	0	0	0	Bare	
80	W	5.23	9.68	2	1966	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	15.22	24	5.82	4	0	0	NA	
80	W	9.68	10.68	2	1963	N	JRCP	10	1986	3	3.25	0	0	0	0	0	0	12.18	23	10.16	8	0	0	NA	
80	W	10.68	14.47	2	1963	Y	JRCP	10	1986	3	3.25	1993	3	3.25	0	0	0	13.96	23	8.59	7	1.36	1	NA	
80	W	14.47	18.82	2	1962	Y	JRCP	10	1986	3	3.25	0	0	0	0	0	0	13.96	24	9.95	8	0	0	NA	
80	W	18.82	19.77	2	1962	N	JRCP	10	1986	3	3	0	0	0	0	0	0	13.95	24	9.95	8	0	0	NA	
80	W	19.77	22.15	2	1962	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	13.94	24	9.95	8	0	0	NA	
80	W	22.15	25.52	2	1962	Y	JRCP	10	1986	5	4.5	0	0	0	0	0	0	13.96	24	9.95	8	0	0	NA	
80	W	25.52	27.10	2	1962	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	13.94	24	9.95	8	0	0	NA	
80	W	27.10	29.36	2	1962	Y	JRCP	10	1970	3	3	1989	3	3	0	0	0	0.00	8	0	19	0	5		X

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
80	W	29.36	31.07	2	1962	Y	JRCP	10	1989	3	3	0	0	0	0	0	0	17.42	27	6.59	5	0	0	Dmix	
80	W	31.07	32.58	2	1963	Y	JRCP	10	1987	5	4.5	0	0	0	0	0	0	14.96	24	9.05	7	0	0	Dmix	
80	W	32.58	35.90	2	1963	Y	JRCP	10	1987	3	3	0	0	0	0	0	0	15.14	24	9.05	7	0	0	Dmix	
80	W	35.90	40.93	2	1964	Y	JRCP	10	1984	5	4	1994	3	3.25	0	0	0	12.14	20	11.95	10	0	0	NA	
80	W	40.93	45.42	2	1964	Y	JRCP	10	1984	5	4	1994	3	3.25	0	0	0	12.53	20	12.04	10	0	0	NA	
80	W	45.42	50.51	2	1964	Y	JRCP	10	1984	5	4	1994	3	3.25	0	0	0	12.92	20	12.41	10	0	0	NA	
80	W	50.51	53.97	2	1964	Y	JRCP	10	1983	5	4	1994	3	3.25	0	0	0	11.92	19	13.41	11	0	0	Dmix	
80	W	53.97	55.46	2	1964	Y	JRCP	10	1983	5	4	1994	3	3.25	0	0	0	11.92	19	13.41	11	0	0	Dmix	
80	W	55.46	60.00	2	1963	Y	JRCP	10	1985	3	3	1992	3	3.62	0	0	0	14.54	22	8.77	7	3.37	2	Dmix	
80	W	60.00	64.01	2	1963	Y	JRCP	10	1986	3	3	1992	3	3.62	0	0	0	16.12	23	8.37	6	4.12	2	Dmix	
80	W	64.01	64.83	2	1963	Y	JRCP	10	1985	3	3	1992	3	3.62	0	0	0	14.96	22	9.53	7	4.12	2	NA	
80	W	64.83	69.38	2	1963	Y	JRCP	10	1985	3	3	1992	3	3.62	0	0	0	14.96	22	9.53	7	4.12	2	NA	
80	W	69.38	74.57	2	1961	Y	JRCP	10	1986	3	3	1992	3	3.62	0	0	0	17.66	25	8.59	6	4.12	2	NA	
80	W	74.57	76.95	3	1962	Y	JRCP	10	1983	5	4	1991	3	2.25	0	0	0	14.13	21	12.88	8	5.6	3	Dmix	
80	W	76.95	77.98	3	1962	Y	JRCP	10	1983	5	4	1990	3	3.25	0	0	0	14.16	21	10.82	7	7.32	4	Dmix	
80	W	77.98	79.31	3	1962	Y	JRCP	10	1983	5	4	1986	3	3.25	1990	3	3.25	14.26	21	4.17	3	6.13	4	Dmix	
80	W	79.31	83.34	3	1962	Y	JRCP	10	1983	5	4	1990	3	3.25	0	0	0	14.62	21	11.09	7	7.98	4	Dmix	
80	W	83.34	88.81	3	1962	N	HMAC	12	1975	3	3	1986	3	3.25	0	0	0	6.82	13	12.2	11	14.95	8	NA	
80	W	88.81	90.00	3	1962	Y	JRCP	10	1984	3	3.13	1992	3	1.5	0	0	0	16.33	22	13.59	8	4.06	2	Dmix	
80	W	90.00	92.52	3	1961	Y	JRCP	10	1984	3	3.13	1992	3	1.5	0	0	0	16.22	23	13.73	8	3.9	2	Dmix	
80	W	92.52	93.88	3	1961	Y	JRCP	10	1984	3	3.13	1992	3	1.5	0	0	0	16.40	23	13.45	8	4.23	2	Dmix	
80	W	93.88	98.66	3	1961	Y	JRCP	10	1984	3	3.13	1991	3	3.25	0	0	0	16.68	23	11.55	7	6.21	3	Dmix	
80	W	98.66	105.35	3	1961	Y	JRCP	10	1984	3	3.13	1991	3	2.25	0	0	0	16.65	23	11.56	7	6.21	3	Dmix	
80	W	105.35	111.66	3	1993	N	CRCP	11.5	0	0	0	0	0	0	0	0	0	4.37	1	0	0	0	0	Bare	
80	W	111.66	115.01	3	1960	Y	JRCP	10	1981	3	3.88	0	0	0	0	0	0	12.50	21	20.92	13	0	0	NA	
80	W	115.01	122.54	3	1961	Y	JRCP	10	1980	3	3.25	1989	3	3.25	0	0	0	11.51	19	11.48	9	9.91	5	Emix	
80	W	122.54	125.37	1	1961	N	JRCP	10	1982	5	4.5	1991	3	3.25	0	0	0	13.36	21	12.81	9	6.33	3	Emix	
80	W	125.37	126.63	1	1961	N	JRCP	10	1982	5	4.5	1993	3	3.25	0	0	0	12.45	21	17.14	11	2.22	1	Emix	
80	W	126.63	131.50	1	1967	Y	CRCP	8	1992	3	3.25	0	0	0	0	0	0	26.68	25	4.21	2	0	0	NA	
80	W	131.50	132.64	1	1969	Y	JRCP	10	1983	3	3	1992	3	3.25	0	0	0	11.32	14	16.85	9	4	2	NA	
80	W	132.64	133.65	1	1969	N	CRCP	9	0	0	0	0	0	0	0	0	0	32.57	25	0	0	0	0	Bare	
80	W	133.65	137.65	1	1969	N	CRCP	8	1988	3	3.75	0	0	0	0	0	0	20.82	19	12.39	6	0	0	Emix	
80	W	137.65	143.79	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	33.19	26	0	0	0	0	Bare	
80	W	143.79	148.39	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	33.72	26	0	0	0	0	Bare	
80	W	148.39	149.76	1	1968	N	CRCP	9	0	0	0	0	0	0	0	0	0	33.72	26	0	0	0	0	Bare	
80	W	149.76	151.12	1	1967	N	CRCP	9	0	0	0	0	0	0	0	0	0	32.54	27	0	0	0	0	Bare	
80	W	151.12	152.33	1	1967	N	CRCP	9	0	0	0	0	0	0	0	0	0	35.58	27	0	0	0	0	Bare	
80	W	152.33	154.38	1	1967	N	CRCP	9	0	0	0	0	0	0	0	0	0	35.99	27	0	0	0	0	Bare	
80	W	154.38	160.33	1	1912	0	CRCP	0.3	0	0	0	0	0	0	0	0	0	37.26	82	0	0	0	0		X
80	W	160.33	161.01	1	1955	N	JRCP	10	1967	3	3	1979	3	1.5	1993	3	3.25	13.83	12	19.63	12	74.1	14	Emix	
80	W	161.01	161.32	1	1955	N	JRCP	10	1967	3	3	1979	3	1.5	1989	3	1.5	13.83	12	29.57	12	56.97	10	Emix	
80	W	161.32	161.71	1	1955	N	JRCP	10	1967	3	3	1979	3	1.5	1989	3	1.5	13.68	12	29.36	12	56.8	10	Emix	
80	W	161.71	163.46	1	1955	N	JRCP	10	1967	3	3	1979	3	1.5	1993	3	3.3	0.00	12	0	12	47	14		X
88	E	0.00	5.10	2	1978	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.85	16	0	0	0	0	Bare	
88	E	5.10	13.35	2	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.88	17	0	0	0	0	Bare	
88	E	13.35	18.80	2	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	6.87	18	0	0	0	0	Bare	
88	E	18.80	25.10	2	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	6.72	18	0	0	0	0	Bare	
88	E	25.10	36.10	2	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.79	19	0	0	0	0	Bare	
88	E	36.10	43.70	2	1974	Y	JRCP	14	0	0	0	0	0	0	0	0	0	7.00	20	0	0	0	0	Bare	
88	W	0.00	5.10	2	1978	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.85	16	0	0	0	0	Bare	
88	W	5.10	13.35	2	1977	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.88	17	0	0	0	0	Bare	
88	W	13.35	18.80	2	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	6.87	18	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
88	W	18.80	25.10	2	1976	N	CRCP	8	0	0	0	0	0	0	0	0	0	6.72	18	0	0	0	0	Bare	
88	W	25.10	36.10	2	1975	Y	CRCP	8	0	0	0	0	0	0	0	0	0	6.79	19	0	0	0	0	Bare	
88	W	36.10	43.70	2	1974	0	JRCP	14	0	0	0	0	0	0	0	0	0	7.00	20	0	0	0	0	Bare	
90	E	0.00	2.54	2	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	15.59	34	0	0	0	0	Bare	
90	E	2.54	78.85	1	1912	0	JRCP	0.3	0	0	0	0	0	0	0	0	0	12.01	82	0	0	0	0		X
90	E	78.85	80.39	1	1960	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	4.00	11	10.03	15	8.08	8	Emix	
90	E	80.39	81.91	1	1960	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	5.03	11	12.01	15	9.72	8	Emix	
90	E	81.91	83.37	1	1960	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	5.16	11	14.1	15	10.06	8	Emix	
90	E	83.37	84.97	1	1961	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	5.20	10	17.43	15	10.66	8	Emix	
90	W	0.00	2.54	2	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	15.59	34	0	0	0	0	Bare	
90	W	2.54	78.85	1	1912	0	JRCP	0.3	0	0	0	0	0	0	0	0	0	12.01	82	0	0	0	0		X
90	W	78.85	80.39	1	1960	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	4.00	11	10.03	15	8.08	8	Emix	
90	W	80.39	81.91	1	1960	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	5.03	11	12.01	15	9.72	8	Emix	
90	W	81.91	83.37	1	1960	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	5.16	11	14.1	15	10.06	8	Emix	
90	W	83.37	84.97	1	1961	N	JRCP	10	1971	3	3	1986	3	2	1994	3	3.25	5.20	10	17.43	15	10.66	8	Emix	
94	E	28.46	30.11	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	17.03	14	0	0	0	0	Bare	
94	E	30.11	32.90	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	20.06	14	0	0	0	0	Bare	
94	E	32.90	35.77	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	22.26	14	0	0	0	0	Bare	
94	E	35.77	37.81	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	22.46	14	0	0	0	0	Bare	
94	E	37.81	41.20	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	27.26	14	0	0	0	0	Bare	
94	E	41.20	42.95	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	26.68	14	0	0	0	0	Bare	
94	E	42.95	45.62	1	1994	N	CRCP	12	0	0	0	0	0	0	0	0	0	6.11	0	0	0	0	0	Bare	
94	E	45.62	47.09	1	1993	N	CRCP	12	0	0	0	0	0	0	0	0	0	6.21	1	0	0	0	0	Bare	
94	E	47.09	48.93	1	1993	N	CRCP	12	0	0	0	0	0	0	0	0	0	7.82	1	0	0	0	0	Bare	
94	E	48.93	50.64	1	1993	N	CRCP	12	0	0	0	0	0	0	0	0	0	8.88	1	0	0	0	0	Bare	
94	E	50.64	50.98	1	1960	N	JRCP	10	1971	3	3	1980	3	3	1986	3	3	0.00	11	1.22	9	9.42	6	Emix	
94	E	50.98	51.32	1	1960	N	JRCP	10	1971	3	3	1980	3	3	1986	3	3	0.00	11	1.22	9	9.42	6	Emix	
94	E	51.32	51.96	1	1988	N	CRCP	13	0	0	0	0	0	0	0	0	0	28.02	6	0	0	0	0	Bare	
94	E	51.96	52.43	1	1988	N	CRCP	13	0	0	0	0	0	0	0	0	0	28.02	6	0	0	0	0	Bare	
94	E	52.43	54.37	1	1988	N	BRID	0.1	0	0	0	0	0	0	0	0	0	46.94	6	0	0	0	0		X
94	E	54.37	55.23	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	46.9	19	0	0		X
94	E	55.23	55.73	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	E	55.73	56.40	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	E	56.40	56.87	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	E	56.87	57.25	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	E	57.25	58.00	1	1962	N	CRCP	8	1975	3	3	1988	3	3	0	0	0	33.16	13	41.9	13	29	6		X
94	E	58.00	58.76	1	1963	N	CRCP	8	1975	3	3	1988	3	3.3	0	0	0	33.16	12	63.1	15	20	4		X
94	E	58.76	59.03	1	1963	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	12	63.16	15	20.43	4	NA	
94	E	59.03	59.53	1	1963	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	12	63.16	15	20.43	4	Dmix	
94	E	59.53	59.84	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	13	63.16	15	20.43	4	Dmix	
94	E	59.84	60.85	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	13	63.16	15	20.43	4	Dmix	
94	E	60.85	61.88	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	13	62.15	15	20.61	4	Dmix	
94	E	61.88	62.93	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	29.85	13	55.07	15	18.7	4	Dmix	
94	E	62.93	64.28	1	1962	N	JRCP	10	1974	5	5.5	1989	3	2	1990	3	3.25	24.39	12	47.49	15	3.77	1	Emix	
94	E	64.28	65.90	1	1962	N	JRCP	10	1974	5	5.5	1989	3	2	0	0	0	24.39	12	47.49	15	20.3	5	Emix	
94	E	65.90	68.41	1	1956	N	JRCP	10	1964	3	3	1974	5	5.5	1989	3	2	5.09	8	19.3	10	47.59	15	Emix	
94	E	68.41	68.68	1	1960	N	JRCP	10	1964	3	3	1974	5	5.5	1989	3	2	5.09	4	19.3	10	47.59	15	Emix	
94	E	68.68	68.90	1	1959	N	JRCP	10	1964	3	3	1974	5	5.5	1989	3	2	5.09	5	19.3	10	47.59	15	Emix	
94	E	68.90	69.80	1	1952	N	JRCP	10	1984	3	3	1989	3	1.5	0	0	0	52.57	32	19.4	5	20.31	5	NA	
94	E	69.80	70.79	1	1993	N	CRCP	12.5	0	0	0	0	0	0	0	0	0	8.52	1	0	0	0	0	Bare	
94	E	70.79	72.54	1	1951	N	JRCP	10	1984	3	3	1989	3	1.5	0	0	0	48.07	33	20.18	5	19.93	5	NA	
94	E	74.08	75.42	1	1956	N	JRCP	10	0	0	0	0	0	0	0	0	0	26.72	38	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
94	N	54.37	56.40	1	1971	N	CRCP	10	0	0	0	1990	3	3	0	0	0	70.00	19	19.84	4	0	0	NA	
94	N	56.40	56.87	1	1971	N	CRCP	10	0	0	0	1990	3	3	0	0	0	70.00	19	19.84	4	0	0	NA	
94	N	56.87	59.03	1	1971	N	CRCP	10	0	0	0	1990	3	3	0	0	0	70.00	19	19.84	4	0	0	NA	
94	R	43.47	47.09	1	1992	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.19	2	0	0	0	0		X
94	R	47.09	50.64	1	1992	N	CRCP	9	0	0	0	0	0	0	0	0	0	12.33	2	0	0	0	0		X
94	S	54.37	56.40	1	1971	N	CRCP	10	0	0	0	1990	3	3	0	0	0	70.00	19	19.84	4	0	0	NA	
94	S	56.40	56.87	1	1971	N	CRCP	10	0	0	0	1990	3	3	0	0	0	70.00	19	19.84	4	0	0	NA	
94	S	56.87	59.03	1	1971	N	CRCP	10	0	0	0	1990	3	3	0	0	0	70.00	19	19.84	4	0	0	NA	
94	W	28.46	30.11	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	30.11	32.90	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	32.90	35.77	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	35.77	37.81	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	37.81	41.20	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	41.20	43.92	1	1980	N	CRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	43.92	44.90	1	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	44.90	46.31	1	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	46.31	46.71	1	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	46.71	47.88	1	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	47.88	48.29	1	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	48.29	48.88	1	1960	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	48.88	49.51	1	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	49.51	50.25	1	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	50.25	50.64	1	1961	N	JRCP	10	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0		X
94	W	50.64	50.98	1	1960	N	JRCP	10	1971	3	3	1990	3	3	1990	3	3	0.00	11	1.22	9	22	10		X
94	W	50.98	51.32	1	1960	N	JRCP	10	1971	3	3	1980	3	3	1990	3	3	0.00	11	1.22	9	22	10		X
94	W	51.32	51.96	1	1989	N	CRCP	13	0	0	0	0	0	0	0	0	0	24.54	5	0	0	0	0	Bare	
94	W	51.96	52.43	1	1989	N	CRCP	13	0	0	0	0	0	0	0	0	0	24.54	5	0	0	0	0	Bare	
94	W	52.43	54.37	1	1989	0	BRID	0.1	0	0	0	0	0	0	0	0	0	46.94	5	0	0	0	0		X
94	W	54.37	55.23	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	46.9	19	0	0		X
94	W	55.23	55.73	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	W	55.73	56.12	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	W	56.12	56.40	1	1963	N	CRCP	8	1975	3	3	1988	3	3	0	0	0	0.00	12	17.5	13	29	6		X
94	W	56.40	56.87	1	1963	N	CRCP	8	1975	3	3	1988	3	3	0	0	0	0.00	12	17.5	13	29	6		X
94	W	56.87	57.15	1	1963	N	CRCP	8	1975	3	3	1988	3	3	0	0	0	0.00	12	17.5	13	29	6		X
94	W	57.15	57.25	1	1963	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	12	47	19	0	0		X
94	W	57.25	57.55	1	1962	N	CRCP	8	1975	3	3	0	0	0	0	0	0	0.00	13	47	19	0	0		X
94	W	57.55	58.00	1	1962	N	CRCP	8	1975	3	3	1987	3	3	0	0	0	33.16	13	37	12	34	7		X
94	W	58.00	58.36	1	1963	N	CRCP	8	1975	3	3	1987	3	3	1990	3	3.3	33.16	12	48.4	12	15	3		X
94	W	58.36	58.76	1	1963	N	CRCP	8	1975	3	3	1990	3	3.3	0	0	0	33.16	12	63.1	15	20	4		X
94	W	58.76	59.03	1	1963	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	12	63.16	15	20.43	4	NA	
94	W	59.03	59.53	1	1963	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	12	63.16	15	20.43	4	Dmix	
94	W	59.53	59.84	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	13	63.16	15	20.43	4	Dmix	
94	W	59.84	60.85	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	13	63.16	15	20.43	4	Dmix	
94	W	60.85	61.88	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	33.16	13	62.15	15	20.61	4	Dmix	
94	W	61.88	62.93	1	1962	N	JRCP	10	1975	3	3	1990	3	3.25	0	0	0	29.85	13	55.07	15	18.7	4	NA	
94	W	62.93	64.28	1	1962	N	JRCP	10	1974	5	5.5	1989	3	2	1990	3	3.25	24.39	12	47.49	15	3.77	1	Emix	
94	W	64.28	65.90	1	1962	N	JRCP	10	1974	5	5.5	1989	3	2	0	0	0	24.39	12	47.49	15	20.3	5	Emix	
94	W	65.90	68.41	1	1956	N	JRCP	10	1964	3	3	1974	5	5.5	1989	3	2	5.09	8	19.3	10	47.59	15	Emix	
94	W	68.41	68.68	1	1960	N	JRCP	10	1964	3	3	1974	5	5.5	1989	3	2	5.09	4	19.3	10	47.59	15	Emix	
94	W	68.68	68.90	1	1959	N	JRCP	10	1964	3	3	1974	5	5.5	1989	3	2	5.09	5	19.3	10	47.59	15	Emix	
94	W	68.90	69.80	1	1952	N	JRCP	10	1984	3	3	1989	3	1.5	0	0	0	52.57	32	19.4	5	20.31	5	NA	
94	W	69.80	70.79	1	1992	N	CRCP	12.5	0	0	0	0	0	0	0	0	0	12.58	2	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
94	W	70.79	72.54	1	1951	N	JRCP	10	1984	3	3	1989	3	1.5	0	0	0	48.07	33	20.18	5	19.93	5	NA	
94	W	72.54	74.08	1	1951	N	JRCP	10	1984	3	3	1989	3	1.5	0	0	0	0.00	33	7.16	5	20	5		X
94	W	74.08	75.42	1	1956	N	JRCP	10	0	0	0	0	0	0	0	0	0	26.72	38	0	0	0	0	Bare	
155	N	0.00	0.85	6	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	1.40	16	0	0	0	0	Bare	
155	N	0.85	8.92	6	1990	0	HMAC	14.75	0	0	0	0	0	0	0	0	0	1.40	4	0	0	0	0	Bare	
155	N	8.92	11.20	6	1992	0	HMAC	14.75	0	0	0	0	0	0	0	0	0	0.87	2	0	0	0	0	Bare	
155	N	11.20	14.26	4	1992	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.84	2	0	0	0	0	Bare	
155	N	14.26	17.26	4	1992	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.87	2	0	0	0	0	Bare	
155	N	17.26	20.35	4	1972	N	CRCP	8	1993	3	3	0	0	0	0	0	0	4.41	21	0.31	1	0	0	NA	
155	N	20.35	21.18	4	1992	0	HMAC	15.75	0	0	0	0	0	0	0	0	0	0.85	2	0	0	0	0	Bare	
155	N	21.18	23.14	4	1933	N	JRCP	9	1964	3	3	1992	3	3	0	0	0	0.14	31	6.12	28	0.6	2		X
155	N	23.14	23.65	4	1992	0	HMAC	15.75	0	0	0	0	0	0	0	0	0	1.23	2	0	0	0	0	Bare	
155	N	23.65	23.96	4	1933	N	JRCP	9	1964	3	3	1992	3	3	0	0	0	0.14	31	6.82	28	0.9	2		X
155	N	23.96	24.42	4	1933	N	JRCP	9	1964	3	3	1991	3	3	0	0	0	0.14	31	6.44	27	1.2	3		X
155	N	24.42	26.55	4	1991	0	HMAC	16.75	0	0	0	0	0	0	0	0	0	1.57	3	0	0	0	0	Bare	
155	N	26.55	27.29	4	1933	N	JRCP	9	1970	3	3	1992	3	3	0	0	0	0.93	37	5.71	22	0.9	2		X
155	N	27.29	27.56	4	1992	0	HMAC	16.75	0	0	0	0	0	0	0	0	0	1.23	2	0	0	0	0	Bare	
155	N	27.56	28.34	4	1933	N	JRCP	9	1970	3	3	1992	3	3	0	0	0	0.93	37	5.71	22	0.9	2		X
155	N	28.34	28.61	4	1992	0	HMAC	16.75	0	0	0	0	0	0	0	0	0	1.23	2	0	0	0	0	Bare	
155	N	28.61	29.12	4	1933	N	JRCP	9	1970	3	3	1992	3	3	0	0	0	0.96	37	5.62	22	0.9	2		X
155	N	29.12	30.42	4	1962	N	JRCP	10	1992	3	3	0	0	0	0	0	0	6.29	30	0.86	2	0	0	Dmix	
155	N	30.42	31.82	4	1989	N	CRCP	10.25	0	0	0	0	0	0	0	0	0	2.16	5	0	0	0	0	Bare	
155	S	0.00	0.85	6	1978	N	CRCP	9	0	0	0	0	0	0	0	0	0	1.40	16	0	0	0	0		X
155	S	0.85	8.17	6	1990	0	HMAC	14.75	0	0	0	0	0	0	0	0	0	1.40	4	0	0	0	0	Bare	
155	S	8.17	11.20	6	1992	0	HMAC	14.75	0	0	0	0	0	0	0	0	0	0.87	2	0	0	0	0	Bare	
155	S	11.20	14.26	4	1992	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.84	2	0	0	0	0	Bare	
155	S	14.26	17.26	4	1992	0	HMAC	15	0	0	0	0	0	0	0	0	0	0.87	2	0	0	0	0	Bare	
155	S	17.26	20.90	4	1972	N	CRCP	8	1993	3	3	0	0	0	0	0	0	4.41	21	0.31	1	0	0	NA	
155	S	20.90	23.90	4	1992	0	HMAC	15.75	0	0	0	0	0	0	0	0	0	1.03	2	0	0	0	0	Bare	
155	S	23.90	26.55	4	1991	0	HMAC	16.75	0	0	0	0	0	0	0	0	0	1.57	3	0	0	0	0	Bare	
155	S	26.55	29.22	4	1992	0	HMAC	16.75	0	0	0	0	0	0	0	0	0	1.23	2	0	0	0	0	Bare	
155	S	29.22	30.42	4	1962	N	JRCP	10	1992	3	3	0	0	0	0	0	0	6.00	30	0.86	2	0	0	Dmix	
155	S	30.42	31.82	4	1989	N	CRCP	10.25	0	0	0	0	0	0	0	0	0	2.16	5	0	0	0	0	Bare	
172	N	0.00	1.80	6	1989	N	CRCP	9	0	0	0	0	0	0	0	0	0	0.92	5	0	0	0	0	Bare	
172	N	1.80	9.52	6	1983	N	CRCP	9	0	0	0	0	0	0	0	0	0	0.92	11	0	0	0	0	Bare	
172	N	9.52	14.42	6	1978	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.90	16	0	0	0	0	Bare	
172	N	14.42	19.10	6	1978	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.76	16	0	0	0	0	Bare	
172	S	0.00	1.80	6	1989	N	CRCP	9	0	0	0	0	0	0	0	0	0	0.92	5	0	0	0	0	Bare	
172	S	1.80	9.52	6	1983	N	CRCP	9	0	0	0	0	0	0	0	0	0	0.92	11	0	0	0	0	Bare	
172	S	9.52	14.42	6	1978	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.90	16	0	0	0	0	Bare	
172	S	14.42	19.10	6	1978	N	CRCP	8	0	0	0	0	0	0	0	0	0	0.76	16	0	0	0	0	Bare	
180	E	0.00	6.30	2	1968	N	CRCP	7	0	0	0	0	0	0	0	0	0	5.48	26	0	0	0	0	Bare	
180	E	6.30	9.49	2	1968	N	CRCP	7	1986	3	3	0	0	0	0	0	0	3.22	18	1.57	8	0	0	Dmix	
180	E	9.49	11.50	2	1969	0	HMAC	16	1989	3	1.5	0	0	0	0	0	0	3.03	20	1.07	5	0	0	Dmix	
180	E	11.50	12.08	2	1969	0	BRID	2	0	0	0	0	0	0	0	0	0	3.02	25	0	0	0	0		X
180	E	12.08	13.53	2	1969	Y	CRCP	7	1989	3	3.25	0	0	0	0	0	0	1.75	20	1.44	5	0	0	Dmix	
180	W	0.00	5.43	2	1968	N	CRCP	7	1984	5	4.5	0	0	0	0	0	0	3.03	16	2.59	10	0	0	Dmix	
180	W	5.43	6.30	2	1968	N	CRCP	7	0	0	0	0	0	0	0	0	0	5.20	26	0	0	0	0	Bare	
180	W	6.30	9.49	2	1968	N	CRCP	7	1986	3	3	0	0	0	0	0	0	3.22	18	1.57	8	0	0	Dmix	
180	W	9.49	11.50	2	1969	0	HMAC	16	1989	3	1.5	0	0	0	0	0	0	3.03	20	1.07	5	0	0	Dmix	
180	W	11.50	12.08	2	1969	0	BRID	2	0	0	0	0	0	0	0	0	0	3.20	25	0	0	0	0		X
180	W	12.08	13.53	2	1969	Y	CRCP	7	1989	3	3.25	0	0	0	0	0	0	1.75	20	1.44	5	0	0	Dmix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
190	E	0.34	0.92	1	0	10	0	0	0	0	0	0	0	0	0	0	0	0.00	34	0	0	0	0		X
190	E	0.92	2.28	1	0	10	0	0	0	0	0	0	0	0	0	0	0	4.24	34	0	0	0	0		X
190	W	0.34	0.92	1	0	10	0	0	0	0	0	0	0	0	0	0	0	0.00	34	0	0	0	0		X
190	W	0.92	2.28	1	0	10	0	0	0	0	0	0	0	0	0	0	0	4.24	34	0	0	0	0		X
255	N	0.00	3.00	8	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.00	8	0	0	0	0		X
255	N	3.00	7.36	8	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	4.34	9	0	0	0	0	Bare	
255	N	7.36	9.01	8	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	4.44	9	0	0	0	0	Bare	
255	N	9.01	11.09	8	1984	N	CRCP	9.5	0	0	0	0	0	0	0	0	0	5.13	10	0	0	0	0	Bare	
255	N	11.09	13.51	8	1986	N	CRCP	9.25	0	0	0	0	0	0	0	0	0	4.64	8	0	0	0	0	Bare	
255	N	13.51	16.57	8	1985	N	CRCP	9.5	0	0	0	0	0	0	0	0	0	6.27	9	0	0	0	0	Bare	
255	N	16.57	17.25	8	1982	N	CRCP	9	0	0	0	0	0	0	0	0	0	8.57	12	0	0	0	0	Bare	
255	N	17.25	19.21	8	1982	N	CRCP	9	0	0	0	0	0	0	0	0	0	8.57	12	0	0	0	0	Bare	
255	N	19.21	20.60	8	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	8.23	12	0	0	0	0	Bare	
255	N	20.60	22.74	8	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.60	7	0	0	0	0	Bare	
255	N	22.74	23.82	8	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.01	7	0	0	0	0	Bare	
255	N	23.82	25.41	8	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.01	7	0	0	0	0	Bare	
255	N	25.41	25.98	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.47	6	0	0	0	0	Bare	
255	N	25.98	27.17	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.70	6	0	0	0	0	Bare	
255	N	27.17	29.22	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.70	6	0	0	0	0	Bare	
255	N	29.22	30.98	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.38	6	0	0	0	0	Bare	
255	S	0.00	3.00	8	1986	0	BRID	0.1	0	0	0	0	0	0	0	0	0	0.00	8	0	0	0	0		X
255	S	3.00	7.36	8	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	4.34	9	0	0	0	0	Bare	
255	S	7.36	9.01	8	1985	N	CRCP	10	0	0	0	0	0	0	0	0	0	4.44	9	0	0	0	0	Bare	
255	S	9.01	11.09	8	1984	N	CRCP	9.5	0	0	0	0	0	0	0	0	0	5.13	10	0	0	0	0	Bare	
255	S	11.09	13.51	8	1986	N	CRCP	9.25	0	0	0	0	0	0	0	0	0	4.64	8	0	0	0	0	Bare	
255	S	13.51	16.57	8	1985	N	CRCP	9.5	0	0	0	0	0	0	0	0	0	6.27	9	0	0	0	0	Bare	
255	S	16.57	17.25	8	1982	N	CRCP	9	0	0	0	0	0	0	0	0	0	8.57	12	0	0	0	0	Bare	
255	S	17.25	19.21	8	1982	N	CRCP	9	0	0	0	0	0	0	0	0	0	8.57	12	0	0	0	0	Bare	
255	S	19.21	20.60	8	1982	N	CRCP	10	0	0	0	0	0	0	0	0	0	8.23	12	0	0	0	0	Bare	
255	S	20.60	22.74	8	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.60	7	0	0	0	0	Bare	
255	S	22.74	23.82	8	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.01	7	0	0	0	0	Bare	
255	S	23.82	25.41	8	1987	N	CRCP	10	0	0	0	0	0	0	0	0	0	6.01	7	0	0	0	0	Bare	
255	S	25.41	25.98	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.47	6	0	0	0	0	Bare	
255	S	25.98	27.17	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.70	6	0	0	0	0	Bare	
255	S	27.17	29.22	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.70	6	0	0	0	0	Bare	
255	S	29.22	30.98	8	1988	N	CRCP	10	0	0	0	0	0	0	0	0	0	2.38	6	0	0	0	0	Bare	
270	E	0.47	1.81	8	1965	Y	JRCP	10	0	0	0	0	0	0	0	0	0	36.02	29	0	0	0	0	Bare	
270	E	1.81	3.82	8	1964	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	21.45	22	14.12	8	0	0	NA	
270	E	3.82	4.81	8	1962	N	JRCP	10	1986	3	3	0	0	0	0	0	0	21.42	24	14	8	0	0	NA	
270	E	4.81	5.54	8	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	21.30	23	14	8	0	0	NA	
270	E	5.54	5.93	8	1963	N	JRCP	10	1983	5	4	0	0	0	0	0	0	16.27	20	18.33	11	0	0	NA	
270	E	5.93	6.29	8	1963	N	JRCP	10	1983	5	4	1994	5	4	0	0	0	15.42	20	18.2	11	0	0	NA	
270	E	6.29	8.08	8	1964	N	JRCP	10	1983	5	4	1994	5	4	0	0	0	15.42	19	17.15	11	0	0	NA	
270	E	8.08	10.64	8	1964	N	JRCP	10	1980	3	3.63	1991	3	2.25	0	0	0	11.66	16	15.77	11	3.41	3	NA	
270	E	10.64	12.37	8	1965	Y	JRCP	10	1980	3	3.63	1991	3	2.25	0	0	0	11.32	15	15.22	11	3.28	3	NA	
270	E	12.37	14.11	8	1965	Y	JRCP	10	1983	3	3	1991	3	2.25	0	0	0	14.98	18	12.23	8	3.69	3	NA	
270	E	14.11	15.22	8	1965	N	JRCP	10	1983	3	3	1991	3	2.25	0	0	0	15.07	18	12.05	8	3.69	3	NA	
270	W	0.47	1.81	8	1965	Y	JRCP	10	0	0	0	0	0	0	0	0	0	36.02	29	0	0	0	0	Bare	
270	W	1.81	3.82	8	1964	Y	JRCP	10	1986	3	3	0	0	0	0	0	0	21.45	22	14.12	8	0	0	NA	
270	W	3.82	4.81	8	1962	N	JRCP	10	1986	3	3	0	0	0	0	0	0	21.42	24	14	8	0	0	NA	
270	W	4.81	5.54	8	1963	N	JRCP	10	1986	3	3	0	0	0	0	0	0	21.30	23	14	8	0	0	NA	
270	W	5.54	5.93	8	1963	N	JRCP	10	1983	5	4	0	0	0	0	0	0	16.27	20	18.33	11	0	0	NA	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
270	W	5.93	6.29	8	1963	N	JRCP	10	1983	5	4	1994	5	4	0	0	0	15.42	20	18.2	11	0	0	NA	
270	W	6.29	8.08	8	1964	N	JRCP	10	1983	5	4	1994	5	4	0	0	0	15.42	19	17.15	11	0	0	NA	
270	W	8.08	10.64	8	1964	N	JRCP	10	1980	3	3.63	1991	3	2.25	0	0	0	11.66	16	15.77	11	3.41	3	NA	
270	W	10.64	12.37	8	1965	Y	JRCP	10	1980	3	3.63	1991	3	2.25	0	0	0	11.32	15	15.22	11	3.28	3	NA	
270	W	12.37	14.11	8	1965	Y	JRCP	10	1983	3	3	1991	3	2.25	0	0	0	14.98	18	12.23	8	3.69	3	NA	
270	W	14.11	15.22	8	1965	N	JRCP	10	1983	3	3	1991	3	2.25	0	0	0	15.07	18	12.05	8	3.69	3	NA	
280	E	0.00	9.25	2	1912	0	JRCP	0.2	0	0	0	0	0	0	0	0	0	0.00	82	0	0	0	0		X
280	E	9.25	10.60	2	1973	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.89	17	4.39	4	0	0	Dmix	
280	E	10.60	11.64	2	1968	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.34	22	4.4	4	0	0	Dmix	
280	E	11.64	14.67	2	1969	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.34	21	4.4	4	0	0	Dmix	
280	E	14.67	17.71	2	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	17.16	32	0	0	0	0	Bare	
280	E	17.71	18.41	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	17.08	31	0	0	0	0	Bare	
280	W	0.00	9.25	2	1912	0	JRCP	0.2	0	0	0	0	0	0	0	0	0	0.00	82	0	0	0	0		X
280	W	9.25	10.60	2	1973	N	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.89	17	4.39	4	0	0	Dmix	
280	W	10.60	11.64	2	1968	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.34	22	4.4	4	0	0	Dmix	
280	W	11.64	14.67	2	1969	Y	CRCP	8	1990	3	3.25	0	0	0	0	0	0	11.34	21	4.4	4	0	0	Dmix	
280	W	14.67	17.71	2	1962	N	JRCP	10	0	0	0	0	0	0	0	0	0	17.16	32	0	0	0	0	Bare	
280	W	17.71	18.41	2	1963	N	JRCP	10	0	0	0	0	0	0	0	0	0	17.08	31	0	0	0	0	Bare	
290	E	0.00	0.46	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	22	0	0	0	0	Bare	
290	E	0.46	1.43	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	23	0	0	0	0	Bare	
290	E	1.43	2.38	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	23	0	0	0	0	Bare	
290	E	2.38	4.52	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	23	0	0	0	0	Bare	
290	E	4.52	6.13	1	1973	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.08	21	0	0	0	0	Bare	
290	E	6.13	6.21	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.70	22	0	0	0	0	Bare	
290	E	6.21	6.67	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.70	22	0	0	0	0	Bare	
290	E	6.67	7.44	1	1972	N	CRCP	9	1986	3	3.3	0	0	0	0	0	0	0.00	14	18.7	8	0	0		X
290	E	7.44	8.99	1	1971	N	CRCP	9	1986	3	3.3	0	0	0	0	0	0	0.00	15	16.3	8	0	0		X
290	E	8.99	10.16	1	1971	N	CRCP	9	1988	3	3.3	0	0	0	0	0	0	2.57	17	13.8	6	0	0		X
290	E	10.16	11.09	1	1971	N	CRCP	8	1988	3	3.3	0	0	0	0	0	0	2.66	17	13.8	6	0	0		X
290	E	11.09	13.16	1	1986	N	CRCP	12	0	0	0	0	0	0	0	0	0	16.27	8	0	0	0	0	Bare	
290	E	13.16	14.37	1	1987	N	CRCP	12	0	0	0	0	0	0	0	0	0	16.27	7	0	0	0	0	Bare	
290	E	14.37	16.29	1	1987	N	CRCP	12	0	0	0	0	0	0	0	0	0	18.14	7	0	0	0	0	Bare	
290	E	16.29	17.55	1	1958	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	7.32	10	22.68	19	21.5	7	NA	
290	E	17.55	18.00	1	1955	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	13	22.68	19	21.68	7	NA	
290	E	18.00	18.71	1	1955	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	13	22.68	19	20.29	7	NA	
290	E	18.71	19.30	1	1954	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	14	22.68	19	20.29	7	NA	
290	E	19.30	19.98	1	1954	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	14	22.68	19	20.29	7	NA	
290	E	19.98	20.97	1	1960	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	6.16	8	22.68	19	19.55	7	NA	
290	E	20.97	21.50	1	1960	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	8	20.85	18	21.38	8	NA	
290	E	21.50	22.06	1	1961	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	7	20.85	18	21.31	8	NA	
290	E	22.06	22.58	1	1961	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	7	20.85	18	21.31	8	NA	
290	E	22.58	23.07	1	1961	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	7	20.85	18	21.31	8	NA	
290	E	23.07	23.58	1	1960	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	6.16	8	20.85	18	21.31	8	NA	
290	E	23.58	24.07	1	1960	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	6.16	8	20.85	18	21.31	8	NA	
290	E	24.07	24.61	1	1955	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	13	20.85	18	21.31	8	NA	
290	E	24.61	25.03	1	1955	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	13	20.85	18	19.65	8	NA	
290	E	25.03	26.21	1	1986	N	CRCP	11.25	0	0	0	0	0	0	0	0	0	21.43	8	0	0	0	0	Bare	
290	E	26.21	26.69	1	1956	N	JRCP	10	1968	3	3	0	0	0	0	0	0	8.42	12	40.49	26	0	0	Bare	
290	E	26.69	27.01	1	1956	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	12	20.85	18	19.65	8	Emix	
290	E	27.01	27.69	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	8.42	12	20.85	18	19.65	8	Emix	
290	E	27.69	28.20	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	8.42	12	20.85	18	19.65	8	Emix	
290	E	28.20	28.70	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	8.42	12	20.85	18	19.65	8	Emix	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
290	E	28.70	29.20	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	9.85	12	21.15	18	19.11	8	Emix	
290	E	29.20	29.78	1	1956	N	JRCP	10	1968	3	3	1986	5	5.8	0	0	0	0.00	12	0	18	17	8		X
290	E	29.78	30.17	1	1955	N	CRCP	7	1968	3	3	0	0	0	0	0	0	0.00	13	0	26	0	0		X
290	E	30.17	30.41	1	1955	N	CRCP	7	0	0	0	0	0	0	0	0	0	0.00	39	0	0	0	0		X
290	W	0.00	0.46	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	22	0	0	0	0	Bare	
290	W	0.46	1.43	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	23	0	0	0	0	Bare	
290	W	1.43	2.38	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	23	0	0	0	0	Bare	
290	W	2.38	4.52	1	1971	N	CRCP	9	0	0	0	0	0	0	0	0	0	14.90	23	0	0	0	0	Bare	
290	W	4.52	6.13	1	1973	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.08	21	0	0	0	0	Bare	
290	W	6.13	6.67	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	18.70	22	0	0	0	0	Bare	
290	W	6.67	7.44	1	1972	N	CRCP	8	1986	3	3.3	0	0	0	0	0	0	0.00	14	18.7	8	0	0		X
290	W	7.44	8.99	1	1971	N	CRCP	9	1986	3	3.3	0	0	0	0	0	0	0.00	15	16.3	8	0	0		X
290	W	8.99	10.16	1	1971	N	CRCP	9	1988	3	3.3	0	0	0	0	0	0	2.57	17	13.8	6	0	0		X
290	W	10.16	11.09	1	1971	N	CRCP	8	1988	3	3.3	0	0	0	0	0	0	2.66	17	13.8	6	0	0		X
290	W	11.09	13.16	1	1986	N	CRCP	12	0	0	0	0	0	0	0	0	0	16.27	8	0	0	0	0	Bare	
290	W	13.16	14.37	1	1987	N	CRCP	12	0	0	0	0	0	0	0	0	0	16.27	7	0	0	0	0	Bare	
290	W	14.37	16.29	1	1987	N	CRCP	12	0	0	0	0	0	0	0	0	0	18.14	7	0	0	0	0	Bare	
290	W	16.29	17.55	1	1958	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	7.32	10	22.68	19	21.5	7	NA	
290	W	17.55	18.00	1	1955	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	13	22.68	19	21.68	7	NA	
290	W	18.00	18.71	1	1955	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	13	22.68	19	20.29	7	NA	
290	W	18.71	19.30	1	1954	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	14	22.68	19	20.29	7	NA	
290	W	19.30	19.98	1	1954	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	8.42	14	22.68	19	20.29	7	NA	
290	W	19.98	20.97	1	1960	N	JRCP	10	1968	3	3	1987	5	5.25	0	0	0	6.16	8	22.68	19	19.55	7	NA	
290	W	20.97	21.50	1	1960	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	8	20.85	18	21.38	8	NA	
290	W	21.50	22.06	1	1961	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	7	20.85	18	21.31	8	NA	
290	W	22.06	22.58	1	1961	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	7	20.85	18	21.31	8	NA	
290	W	22.58	23.07	1	1961	N	JRCP	10	1968	3	3	1986	5	5.25	0	0	0	6.16	7	20.85	18	21.31	8	NA	
290	W	23.07	23.58	1	1960	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	6.16	8	20.85	18	21.31	8	NA	
290	W	23.58	24.07	1	1960	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	6.16	8	20.85	18	21.31	8	NA	
290	W	24.07	24.61	1	1955	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	13	20.85	18	21.31	8	NA	
290	W	24.61	25.03	1	1955	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	13	20.85	18	19.65	8	NA	
290	W	25.03	26.21	1	1986	N	CRCP	11.25	0	0	0	0	0	0	0	0	0	21.43	8	0	0	0	0	Bare	
290	W	26.21	26.69	1	1956	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	12	20.85	18	19.65	8	NA	
290	W	26.69	27.01	1	1956	N	JRCP	10	1968	3	3	1986	5	5.5	0	0	0	8.42	12	20.85	18	19.65	8	NA	
290	W	27.01	27.69	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	8.42	12	20.85	18	19.65	8	NA	
290	W	27.69	28.20	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	8.42	12	20.85	18	19.65	8	NA	
290	W	28.20	28.70	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	8.42	12	20.85	18	19.65	8	NA	
290	W	28.70	29.20	1	1956	N	JRCP	10	1968	3	3	1986	5	5.75	0	0	0	9.85	12	21.15	18	19.11	8	NA	
290	W	29.20	29.78	1	1956	N	JRCP	10	1968	3	3	1986	5	5.8	0	0	0	0.00	12	0	18	17	8		X
290	W	29.78	30.17	1	1955	N	CRCP	7	1968	3	3	0	0	0	0	0	0	0.00	13	0	26	0	0		X
290	W	30.17	32.20	1	1955	N	CRCP	7	0	0	0	0	0	0	0	0	0	0.00	39	0	0	0	0		X
355	N	32.20	33.50	1	1975	N	CRCP	9	1989	3	3.25	0	0	0	0	0	0	6.20	14	3.38	5	0	0	NA	
355	N	33.50	34.00	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.76	22	0	0	0	0	Bare	
355	S	32.20	33.50	1	1975	N	CRCP	9	1989	3	3.25	0	0	0	0	0	0	6.20	14	3.38	5	0	0	NA	
355	S	33.50	34.00	1	1972	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.76	22	0	0	0	0	Bare	
394	N	0.00	3.95	1	1955	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	8.98	35	5.03	4	0	0	NA	
394	N	3.95	6.65	1	1956	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	7.10	34	5.03	4	0	0	NA	
394	S	0.00	3.95	1	1955	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	8.98	35	5.03	4	0	0	NA	
394	S	3.95	6.65	1	1956	N	JRCP	10	1990	3	3.25	0	0	0	0	0	0	7.10	34	5.03	4	0	0	NA	
474	E	0.00	0.59	4	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.01	15	0	0	0	0	Bare	
474	E	0.59	6.15	4	1981	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.09	13	0	0	0	0	Bare	
474	E	6.15	8.19	4	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	10.13	15	0	0	0	0	Bare	

RTE	DIR	BMP	EMP	DIST	YEAR	DC	TYPE	THK0	YEAR1	REH1	THK1	YEAR2	REH2	THK2	YEAR3	REH3	THK3	ECN	NCN	E1	N1	E2	N2	MIX	?
474	E	8.19	8.83	4	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	10.13	82	0	0	0	0		X
474	E	8.83	9.14	4	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	9.77	15	0	0	0	0	Bare	
474	E	9.14	11.23	4	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.62	15	0	0	0	0	Bare	
474	E	11.23	16.19	4	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	9.62	15	0	0	0	0	Bare	
474	W	0.00	0.59	4	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.01	15	0	0	0	0	Bare	
474	W	0.59	6.15	4	1981	N	CRCP	9	0	0	0	0	0	0	0	0	0	9.09	13	0	0	0	0	Bare	
474	W	6.15	8.19	4	1979	N	CRCP	9	0	0	0	0	0	0	0	0	0	10.13	15	0	0	0	0		X
474	W	8.19	8.83	4	1912	0	BRID	0.1	0	0	0	0	0	0	0	0	0	10.13	82	0	0	0	0		X
474	W	8.83	9.14	4	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	9.77	15	0	0	0	0	Bare	
474	W	9.14	11.23	4	1979	Y	CRCP	8	0	0	0	0	0	0	0	0	0	9.62	15	0	0	0	0	Bare	
474	W	11.23	16.19	4	1979	Y	CRCP	9	0	0	0	0	0	0	0	0	0	9.62	15	0	0	0	0	Bare	