ATT-56/95-Part III, RANDOM TEST SITE SELECTION
Crack Sealing Operations

1.0   SCOPE

This method describes the procedures for determining random locations of test sites of :

a)   routed cracks before placing the sealer, and
b)   the sealed rout.

2.0   EQUIPMENT

Random number tables or calculator capable of generating random numbers.

Data Sheet: Crack Sealing Data Sheet, MAT 6-8/95

3.0   PROCEDURE

One lot is one day of production of at least 1500 linear metres of crack. If the day's production is less than 1500 linear metres, it shall be added to the production of subsequent days until a minimum of 1500 linear metres is obtained for the Lot. If the last day's production is less than 1500 linear metres of crack, it shall be added to the previous Lot.

Two randomly selected sites of at least 1 metre in length are required for each sublot. The first test site of a sublot is used to determine the percentage of rout length which missed the crack, and for rout length and width measurements, before placing the crack sealer. After the rout has been filled, the second test site of the sublot is tested and the results are used to determine the lot percentage of sites which are under filled.

The length of a sublot varies as follows:

- 250 linear metres of crack for the first 6 sublots, or
- 500 linear metres of crack, for sublot number 7 to the end of the lot.

The last section of the lot is not tested, if the section is less than 500 metres (partial sublot).

At the start of the day, calculate the location of enough sites to be tested during the day. Determine the location of each site in each sublot as follows:

1.   Use the calculator to generate a random number. Record the number in line "B" for the unfilled rout cross-section measurements or line "P" if testing the sealed rout, as shown in Figure 1.

If random number tables are supplied:

a)   Randomly select a table, e.g. shuffle the tables, then pick one. Figure 2 shows a typical example of a random number table.

b)   From the selected table, randomly select one or more rows (depending on the number of sites to be tested).

Each selected row should only be used once per project unless there are insufficient rows of data in all of the supplied tables to complete testing the project.

c)   Transfer to line "B" (for the unfilled rout cross-section measurements) or line "R" (if testing the filled rout) the random number which corresponds to the site number.

2.   For the first six (6) sites in the Lot, multiply each random number (line "B" or "P") by 250 m (Sublot Length, line "A"). For sites number 7 to the last site in the Lot, multiply each random number by 500 m.

Record the result as Distance from Start of Sublot in line "C" for the unfilled rout cross-section measurements or line "Q" if testing the filled rout. The site distance from the beginning of the lot may also be calculated on the following line.

CRACK SEALING DATA SHEET

Alberta Transportation and Utilities

PROJECT __74:06__ FROM __Here__ TO __There__ LOT NO. __5__
CONTRACT NO. __6248/96__ DATE SEALED __April 28, 1995__ LOT LENGTH __5137__ m

LENGTH OF CRACK MISSED BY ROUT

SITE NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13
A. SUBLOT LENGTH	m	250	250	250	250	250	250	500	500	500	500	500	500	500
B. RANDOM NUMBER		0.115	0.662	0.241	0.564	0.985	0.790	0.391	0.876	0.448	0.026	0.802	0.373	0.130
C. DIST. FROM	SUBLOT (A,B)	29	166	60	141	246	198	196	438	224	13	401	186	65
START OF	LOT m	29	416	560	891	1246	1448	1696	2438	2724	3013	3901	4186	4565
D. LENGTH OF SITE	cm	100	100	100	100	100	100	100	100	100	100	100	100	100
E. LENGTH MISSED	cm	5	12	3	7	9	11	4	10	8	6	10	3	7

FILLED ROUT DEPTH MEASUREMENTS

SITE NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13
P. RANDOM NUMBER		0.688	0.311	0.432	0.957	0.613	0.854	0.130	0.195	0.578	0.268	0.166	0.634	0.601
Q. DIST. FROM	SUBLOT (A,P)	172	78	108	239	153	213	65	98	289	134	83	317	300
START OF	LOT m	172	328	608	989	1153	1463	1565	2098	2789	3134	3583	4317	4800
R. NUMBER OF UNDERFILL READINGS PER SITE		1	0	2	0	1	1	0	2	1	1	0	1	2

MAT 6 - 8 / 95

FIGURE 1

RANDOM NUMBER TABLE

No.	1	2	3	4	5	6	7	8	9	10	11	12	13
1	0.092	0.724	0.210	0.575	0.047	0.346	0.691	0.750	0.849	0.592	0.927	0.346	0.363
2	0.366	0.489	0.819	0.617	0.931	0.906	0.541	0.344	0.159	0.992	0.316	0.923	0.083
3	0.289	0.091	0.784	0.463	0.710	0.083	0.095	0.651	0.599	0.103	0.727	0.721	0.134
4	0.380	0.023	0.884	0.065	0.639	0.737	0.566	0.869	0.161	0.250	0.892	0.836	0.968
5	0.592	0.200	0.638	0.783	0.743	0.116	0.566	0.386	0.762	0.424	0.441	0.417	0.217
6	0.853	0.699	0.737	0.991	0.124	0.352	0.487	0.890	0.012	0.376	0.034	0.855	0.592
7	0.006	0.656	0.178	0.816	0.429	0.034	0.735	0.167	0.284	0.567	0.596	0.815	0.498
8	0.273	0.192	0.789	0.234	0.734	0.498	0.924	0.176	0.641	0.635	0.040	0.553	0.407
9	0.740	0.387	0.016	0.431	0.922	0.047	0.721	0.833	0.744	0.391	0.720	0.172	0.174
10	0.021	0.154	0.607	0.778	0.435	0.431	0.632	0.463	0.389	0.443	0.826	0.742	0.777
11	0.134	0.117	0.758	0.061	0.243	0.812	0.941	0.660	0.848	0.940	0.363	0.289	0.198
12	0.966	0.800	0.352	0.175	0.583	0.117	0.334	0.129	0.456	0.676	0.532	0.977	0.927
13	0.724	0.609	0.741	0.898	0.507	0.612	0.579	0.793	0.168	0.567	0.787	0.552	0.714
14	0.618	0.599	0.279	0.755	0.889	0.403	0.385	0.114	0.912	0.605	0.090	0.579	0.570
15	0.253	0.938	0.243	0.514	0.345	0.185	0.484	0.476	0.551	0.351	0.851	0.036	0.024
16	0.038	0.552	0.910	0.370	0.326	0.243	0.465	0.163	0.549	0.197	0.403	0.073	0.502
17	0.762	0.504	0.177	0.994	0.737	0.780	0.743	0.167	0.109	0.597	0.148	0.519	0.800
18	0.151	0.768	0.070	0.944	0.397	0.625	0.364	0.141	0.280	0.806	0.901	0.117	0.171
19	0.504	0.350	0.864	0.429	0.431	0.158	0.327	0.038	0.485	0.149	0.247	0.462	0.566
20	0.376	0.327	0.331	0.029	0.383	0.834	0.281	0.126	0.153	0.622	0.798	0.553	0.792
21	0.770	0.698	0.810	0.485	0.425	0.503	0.022	0.415	0.490	0.780	0.910	0.402	0.951
22	0.965	0.900	0.022	0.339	0.016	0.095	0.825	0.144	0.667	0.823	0.981	0.769	0.605
23	0.806	0.873	0.131	0.311	0.526	0.121	0.512	0.676	0.274	0.541	0.679	0.282	0.238
24	0.821	0.020	0.732	0.378	0.074	0.677	0.135	0.415	0.404	0.444	0.165	0.485	0.568
25	0.801	0.325	0.019	0.711	0.651	0.855	0.661	0.986	0.295	0.344	0.028	0.679	0.544
26	0.212	0.447	0.863	0.603	0.174	0.451	0.113	0.324	0.381	0.286	0.062	0.009	0.445
27	0.393	0.330	0.114	0.711	0.616	0.322	0.709	0.420	0.757	0.207	0.268	0.648	0.520
28	0.931	0.450	0.816	0.570	0.453	0.202	0.173	0.681	0.405	0.968	0.596	0.965	0.867
29	0.966	0.617	0.237	0.664	0.412	0.037	0.808	0.338	0.601	0.853	0.766	0.493	0.844
30	0.573	0.558	0.200	0.988	0.362	0.593	0.627	0.966	0.247	0.103	0.978	0.313	0.794
31	0.702	0.774	0.060	0.908	0.506	0.267	0.629	0.996	0.507	0.335	0.709	0.487	0.738
32	0.486	0.667	0.773	0.791	0.997	0.233	0.716	0.413	0.054	0.580	0.698	0.733	0.953
33	0.339	0.156	0.097	0.425	0.718	0.825	0.996	0.104	0.935	0.480	0.551	0.453	0.869
34	0.690	0.915	0.839	0.898	0.062	0.748	0.577	0.347	0.747	0.625	0.766	0.755	0.580
35	0.272	0.383	0.362	0.051	0.277	0.914	0.777	0.051	0.107	0.518	0.408	0.985	0.998
36	0.657	0.869	0.476	0.044	0.255	0.723	0.163	0.052	0.411	0.644	0.267	0.882	0.927
37	0.937	0.350	0.737	0.867	0.810	0.608	0.632	0.701	0.567	0.740	0.162	0.272	0.405
38	0.165	0.052	0.131	0.018	0.594	0.768	0.834	0.278	0.775	0.472	0.160	0.524	0.836
39	0.969	0.574	0.515	0.334	0.455	0.770	0.402	0.753	0.352	0.364	0.373	0.936	0.359
40	0.058	0.707	0.467	0.849	0.444	0.140	0.791	0.463	0.961	0.961	0.748	0.627	0.238
41	0.564	0.493	0.204	0.988	0.239	0.453	0.961	0.811	0.324	0.552	0.492	0.333	0.203
42	0.036	0.823	0.558	0.799	0.902	0.103	0.902	0.158	0.443	0.696	0.456	0.994	0.212
43	0.412	0.876	0.697	0.399	0.894	0.933	0.579	0.074	0.377	0.932	0.629	0.315	0.788
44	0.083	0.408	0.687	0.752	0.721	0.896	0.953	0.444	0.111	0.106	0.348	0.179	0.999
45	0.386	0.888	0.837	0.718	0.625	0.705	0.745	0.138	0.399	0.304	0.357	0.774	0.574
46	0.270	0.647	0.679	0.686	0.087	0.648	0.572	0.632	0.083	0.781	0.206	0.746	0.278
47	0.220	0.388	0.565	0.258	0.958	0.572	0.171	0.010	0.117	0.729	0.297	0.181	0.750
48	0.721	0.580	0.128	0.080	0.261	0.013	0.561	0.169	0.716	0.346	0.139	0.661	0.479
49	0.792	0.717	0.489	0.840	0.989	0.986	0.306	0.472	0.465	0.100	0.280	0.137	0.467
50	0.078	0.680	0.788	0.635	0.049	0.899	0.777	0.406	0.585	0.607	0.991	0.661	0.296

FIGURE 2