

### SUMMARY OF DCP INVESTIGATION

DATA FILE :337A4, 1, 16; N=10  
 REGION :ROOIWAL  
 ROAD NUMBER :1932  
 DISTANCE : 2.0  
 POSITION : 

L	X	M	R
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 CONDITION : 

FAILED	OVERSTRESSED	SOUND
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RUT.	DEFORM.	PUMP.	CRACKS :	CROCK	LONG.	OTHER
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 DATE :88/05/24

#### PAVEMENT CHARACTERISTICS

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	223		0-112
BALANCE NUMBER (BN 100)	38	42	113-272
DIFFERENCE IN BN100	-4		273-344
BALANCE CURVE IS WHERE B =	38	A = 1108	345-464
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	4.97		465-800
ROAD CATEGORY	A		
TRAFFIC : LIGHT TRAFFIC			

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	90	95 P	CBR	UCS
1.5	0.5	2.3	217	1706
2.9	0.9	4.4	107	916
3.6	1.0	5.2	79	701
7.9	1.2	9.8	30	299
17.4	7.2	29.3	11	123

CATEGORY IV : WELL-BALANCED DEEP STRUCTURE (WBD)

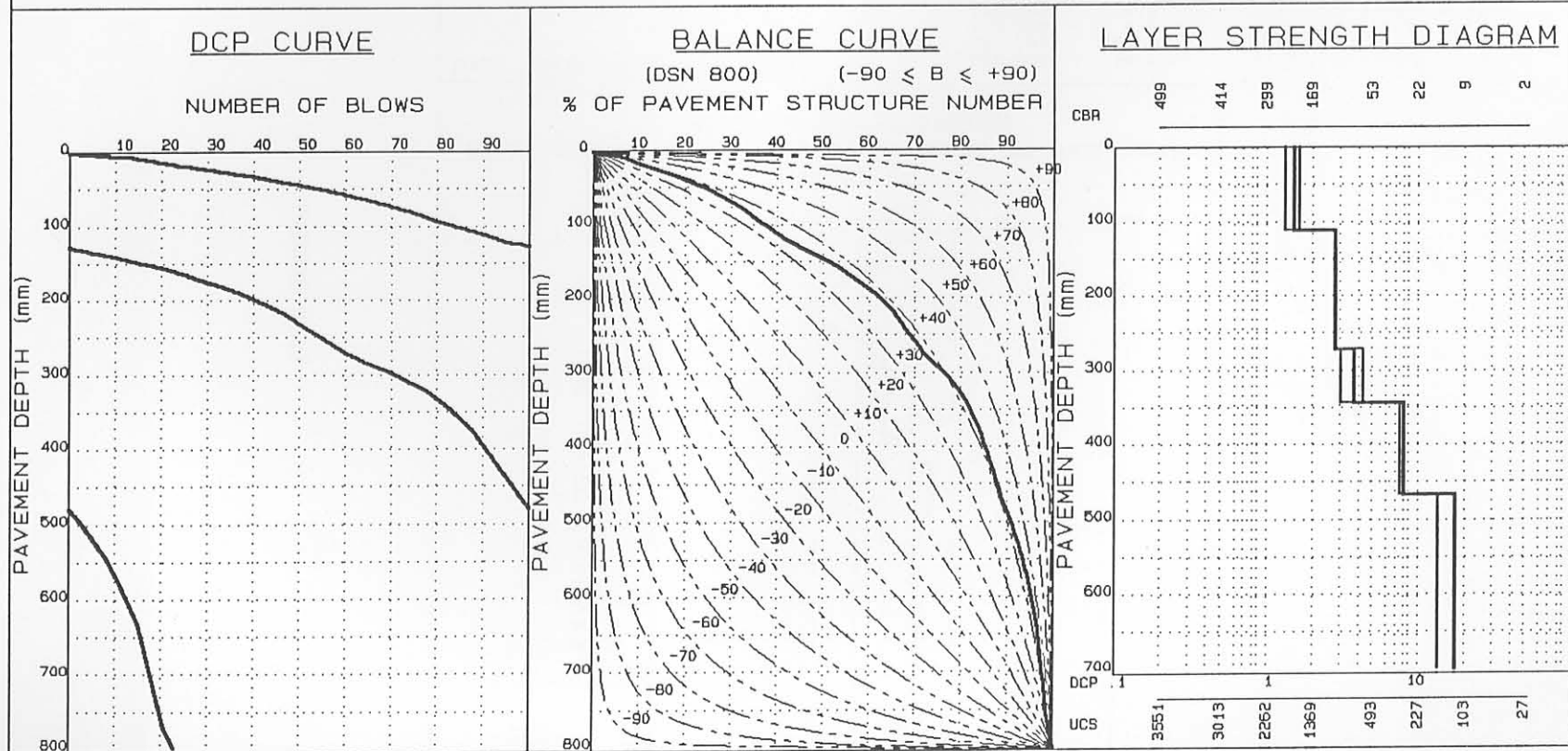


FIGURE E.34

### SUMMARY OF DCP INVESTIGATION

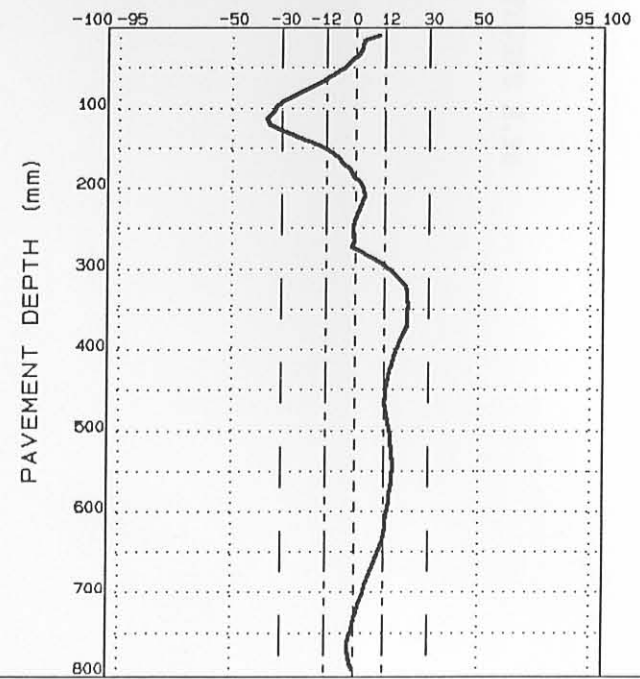
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	95P	CBR%	UCS (kPa)
0- 8	0.8	0.2		344	2560
9-112	1.6	0.4		210	1658
113-208	2.2	0.4		154	1262
209-272	3.9	0.3		72	646
273-344	3.6	1.0		79	701
345-464	7.9	1.2		30	299
465-536	8.1	0.6		29	290
537-768	20.4	6.1		9	103
769-800	16.9	3.4		11	123

DATA FILE: 337A4, 1, 16; N=10

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE (SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

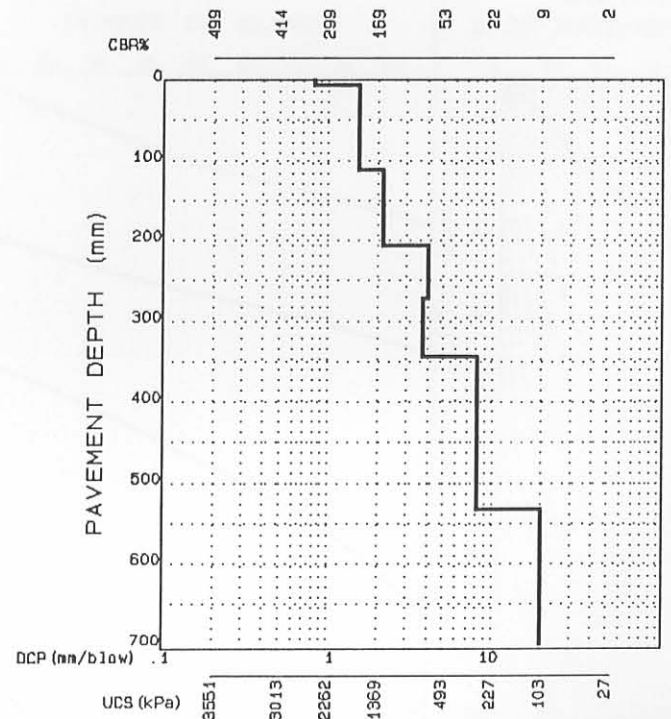


FIGURE E.35

ATT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE : 337A4, FINAL; N=48 000  
 REGION : Rooiwal TVL  
 ROAD NUMBER :  
 DISTANCE : 3.0  
 POSITION :  L  M  R  
 CONDITION :  FAULTED  OVERSTRESSED  SOUND  
 BKT.  DEFORM.  PUMP.  CRACKS :  BROCK.  LONG.  OTHER  
 DATE : 88/09/09

#### PAVEMENT CHARACTERISTICS

STRUCTURE NUMBER : 320  
 BALANCE NUMBER (BN 100) : 15 25  
 DIFFERENCE IN BN100 : -10  
 BALANCE CURVE IS WHERE B = 20 A = 3463  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : >10  
 ROAD CATEGORY : B  
 TRAFFIC : LIGHT TRAFFIC

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	90 P	CBR	UCS
2.4	0.4	2.9	132	1102
1.8	0.1	1.9	189	1511
1.8	0.2	2.0	188	1504
2.9	0.5	3.5	107	916
10.1	4.1	15.4	22	227

CATEGORY VI : POORLY BALANCED DEEP STRUCTURE (PBD)

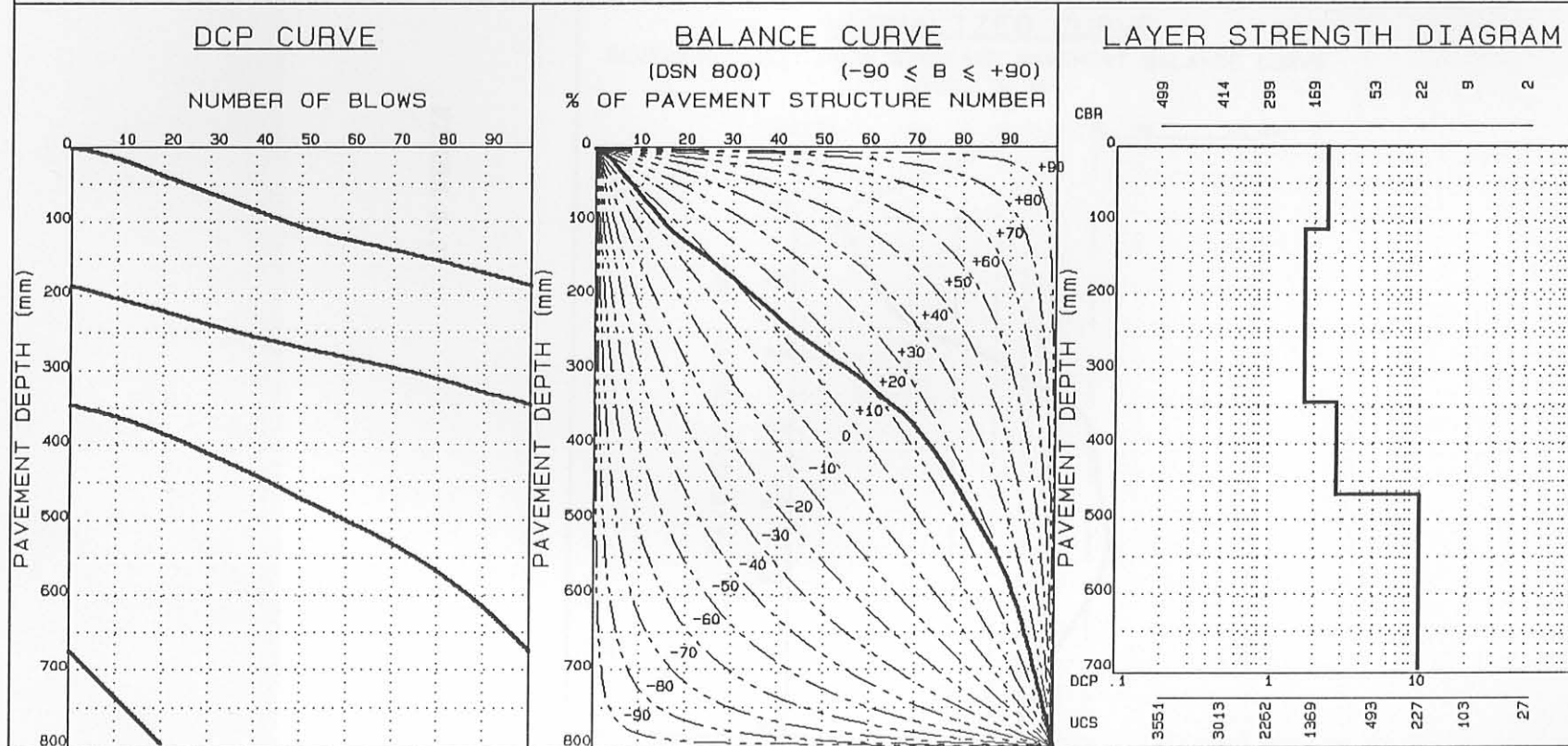


FIGURE E.36

### SUMMARY OF DCP INVESTIGATION

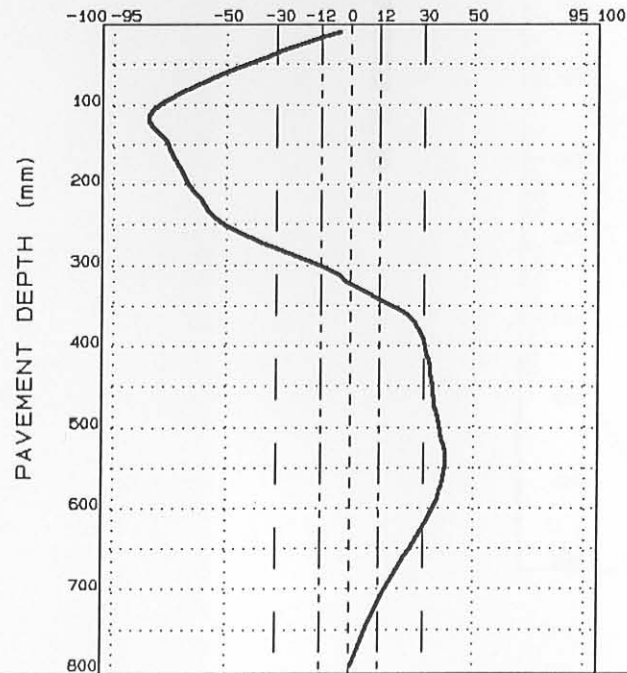
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	90P	CBR%	UCS (kPa)
0-112	2.4	0.4		132	1102
113-536	2.5	1.0		128	1072
537-800	11.7	3.0		18	190

DATA FILE: 337A4, FINAL; N=48 000

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

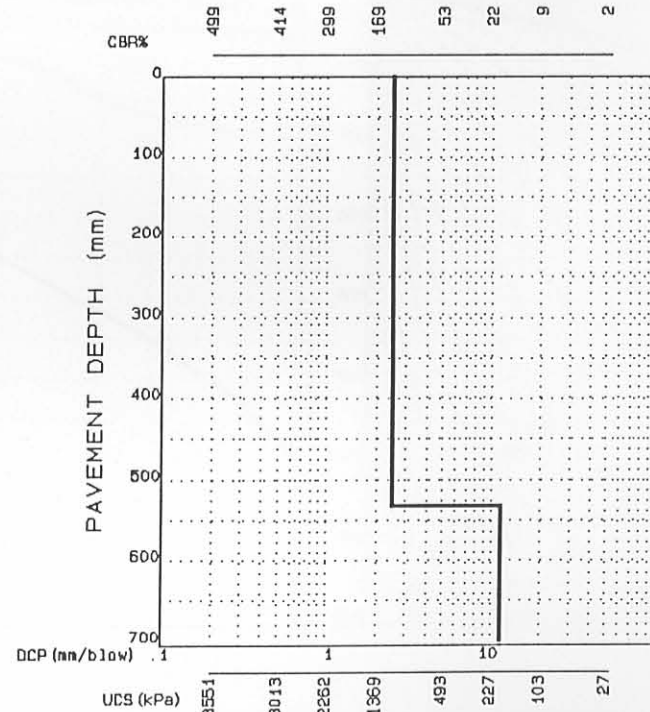


FIGURE E.37

### SUMMARY OF DCP INVESTIGATION

DATA FILE :306A4, 98, 178; N=10  
 REGION :BULTFONTEIN  
 ROAD NUMBER :P2212  
 DISTANCE : 12.6  
 POSITION : 

L	M	X	R
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 CONDITION : 

FAIRED	DVERSTRESSED	SOUND
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 DATE :86/03/06

#### PAVEMENT CHARACTERISTICS

STRUCTURE NUMBER : 424  
 BALANCE NUMBER (BN 100) : 57 47  
 DIFFERENCE IN BN100 : 10  
 BALANCE CURVE IS WHERE B = 42 A= 1711  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : >10  
 ROAD CATEGORY : C  
 TRAFFIC : LIGHT TRAFFIC

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
0.7	0.4	1.0	356	2638
2.5	0.4	2.8	130	1087
1.5	0.5	1.8	223	1748
5.1	1.4	6.3	51	477
3.6	0.4	4.0	79	701
8.7	3.0	11.2	26	263

CATEGORY II : AVERAGELY BALANCED SHALLOW STRUCTURE (ABS)

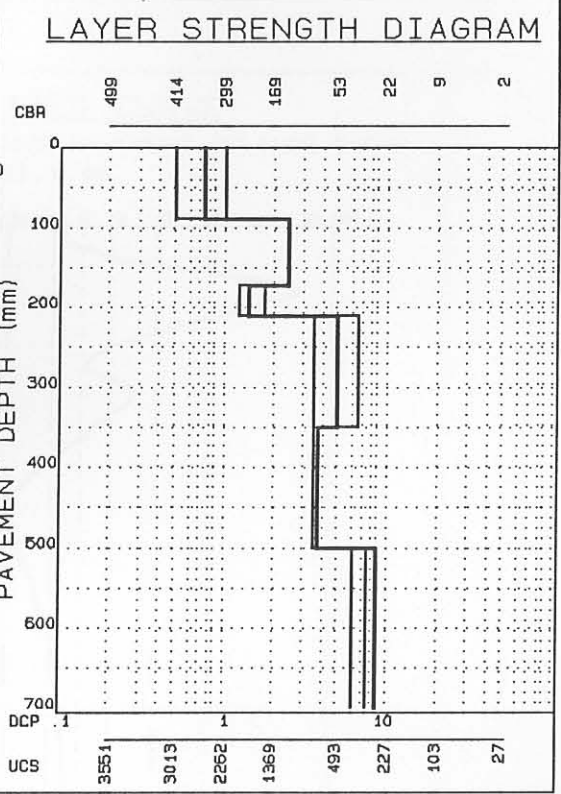
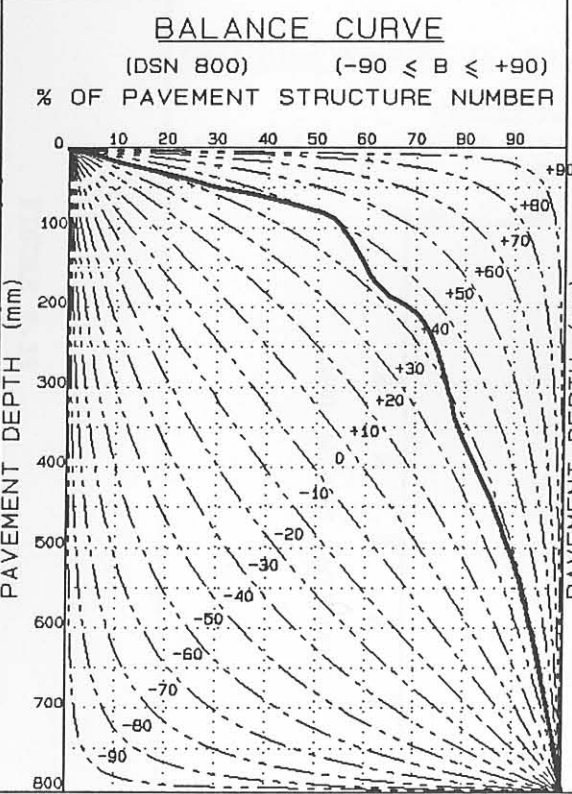
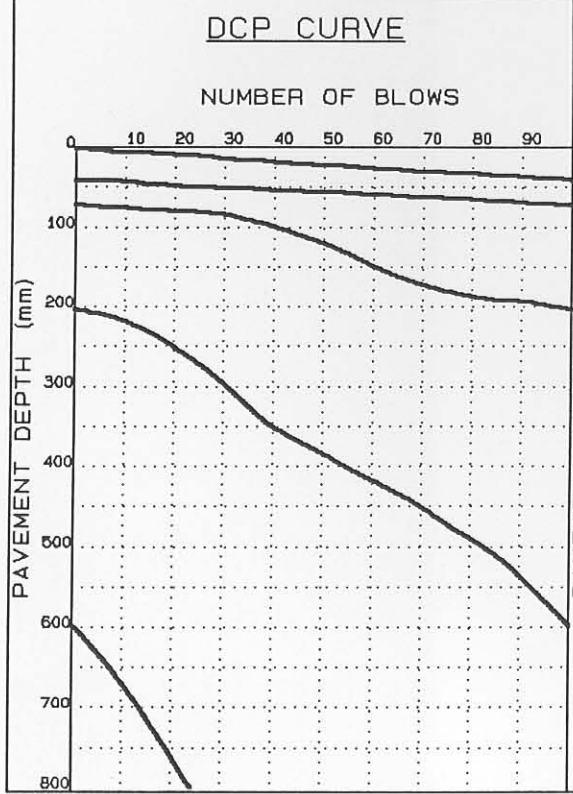


FIGURE E.38

### SUMMARY OF DCP INVESTIGATION

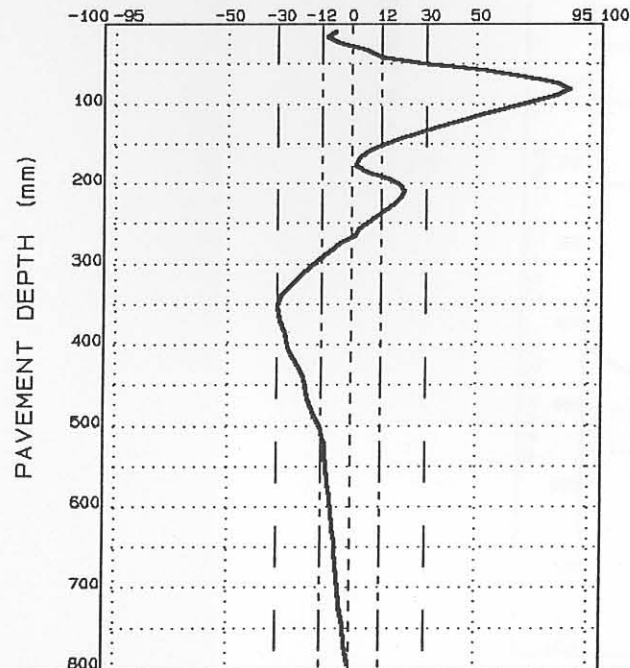
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	BDP	CBR%	UCS (kPa)
0- 16	0.6	0.2	0.8	378	2781
17- 80	0.7	0.3	0.9	372	2742
81-176	2.3	0.6	2.8	141	1167
177-208	1.3	0.4	1.7	241	1871
209-352	5.1	1.4	6.2	52	485
353-600	7.0	3.4	9.9	34	334

DATA FILE: 306A4, 9B, 17B; N=10

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

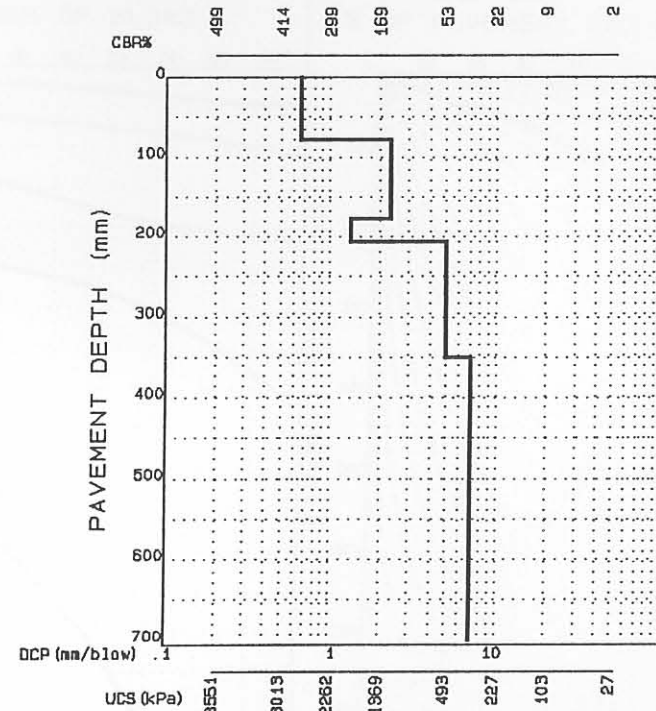


FIGURE E.39

ATT, CSIR, SA

SUMMARY OF DCP INVESTIGATION

DATA FILE :306A4,5CL,11CL; N=1 000 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212  
 DISTANCE : 12.6  
 POSITION : 

L	<input checked="" type="checkbox"/>	M		R
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 CONDITION : 

FAILED	OVERSTRESSED	SOUND
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RJT.	DEFORM.	PUMP.	CRACKS : CROCK	LONG.	OTHER
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 DATE :86/10/15

PAVEMENT CHARACTERISTICS

STRUCTURE NUMBER : 468  
 BALANCE NUMBER (BN 100) : 41 43  
 DIFFERENCE IN BN100 : -2  
 BALANCE CURVE IS WHERE B = 39 A= 1057  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : >10  
 ROAD CATEGORY : C  
 TRAFFIC : LIGHT TRAFFIC

AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
0.7	0.3	0.9	367	2710
1.4	0.3	1.7	235	1830
1.3	0.4	1.7	245	1899
2.3	1.1	3.2	142	1175
4.1	0.5	4.5	68	614
7.1	2.0	8.7	34	334

CATEGORY IV : WELL-BALANCED DEEP STRUCTURE (WBD)

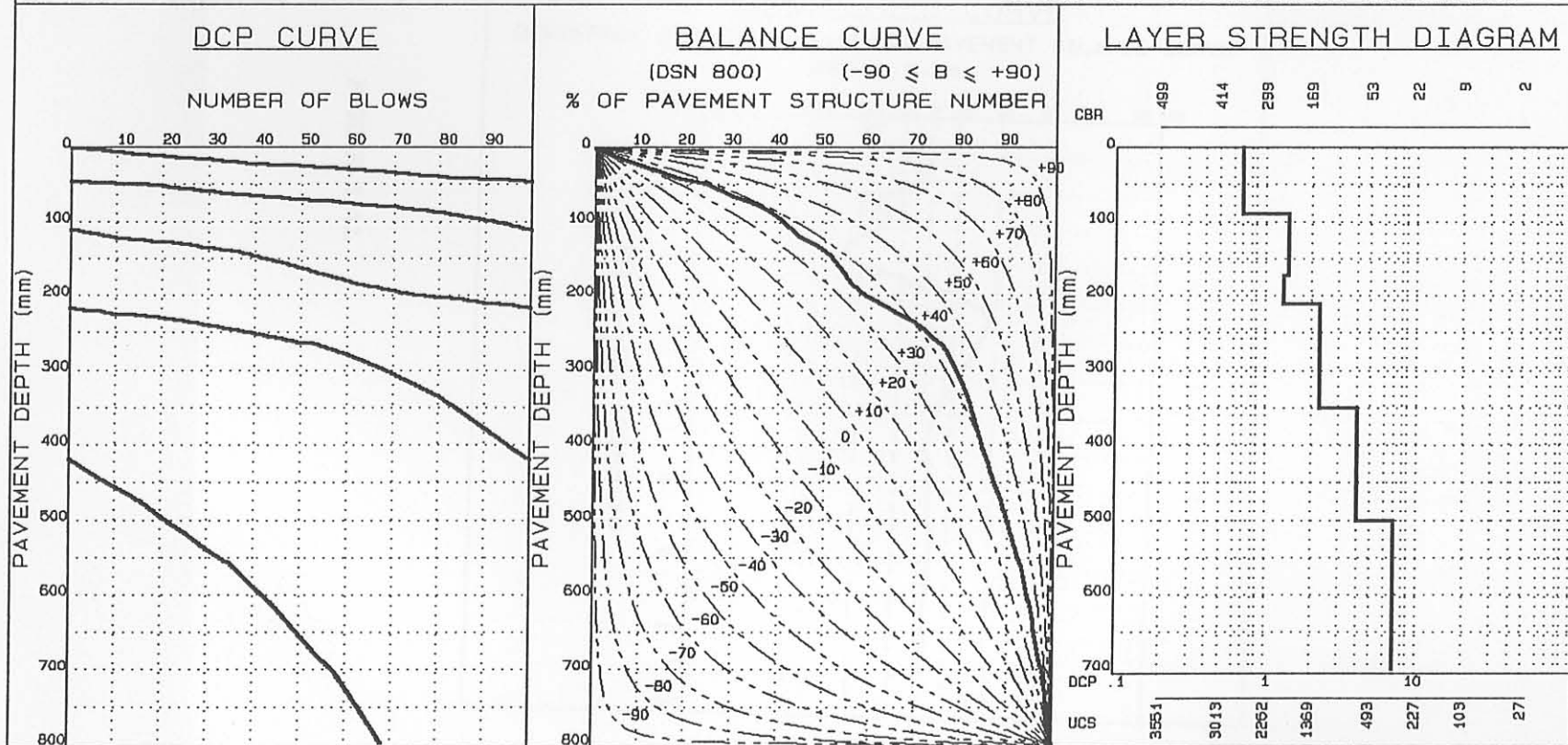


FIGURE E.40

### SUMMARY OF DCP INVESTIGATION

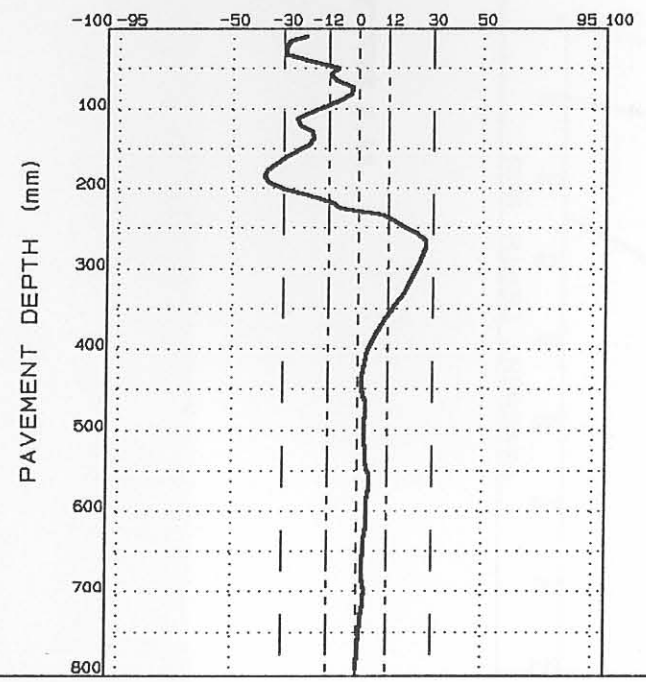
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	SDP	CBR%	UCS (kPa)
0- 32	0.6	0.1	0.7	392	2871
33- 72	0.6	0.2	0.8	384	2820
73-112	1.2	0.3	1.4	267	2048
113-136	1.1	0.3	1.4	277	2115
137-184	1.7	0.2	1.9	199	1581
185-264	1.1	0.3	1.4	275	2102
265-440	3.5	0.8	4.3	80	709
441-472	3.5	0.2	3.6	84	740
473-496	4.5	0.3	4.8	51	558
497-800	7.0	2.0	8.7	34	334

DATA FILE: 306A4, 5CL, 11CL; N=1 000 000

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE (SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

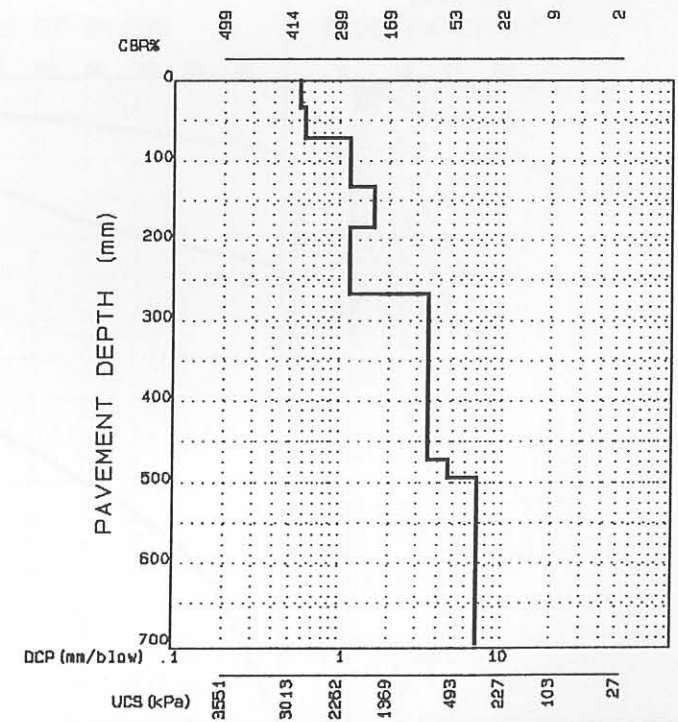


FIGURE E.41



ATT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :306A4, 2-5, 13-5; N=1 400 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212  
 DISTANCE : 12.6  
 POSITION : 

L	X	M		R
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 CONDITION : 

FAILED	OVERSTRESSED	BOUND
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RJT.	DEFORM.	PUMP.	CRACKS :	CROCK	LONG.	OTHER
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 DATE :86/10/10

#### PAVEMENT CHARACTERISTICS

STRUCTURE NUMBER : 300  
 BALANCE NUMBER (BN 100) : 35 37  
 DIFFERENCE IN BN100 : -2  
 BALANCE CURVE IS WHERE B = 33 A= 1235  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : >10  
 ROAD CATEGORY : C  
 TRAFFIC : LIGHT TRAFFIC

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
1.2	0.3	1.4	271	2075
1.8	0.7	2.4	188	1504
2.3	0.5	2.7	142	1175
4.6	2.4	6.6	59	542
4.9	0.7	5.6	54	501
10.8	5.3	15.2	20	209

CATEGORY IV : WELL-BALANCED DEEP STRUCTURE (WBD)

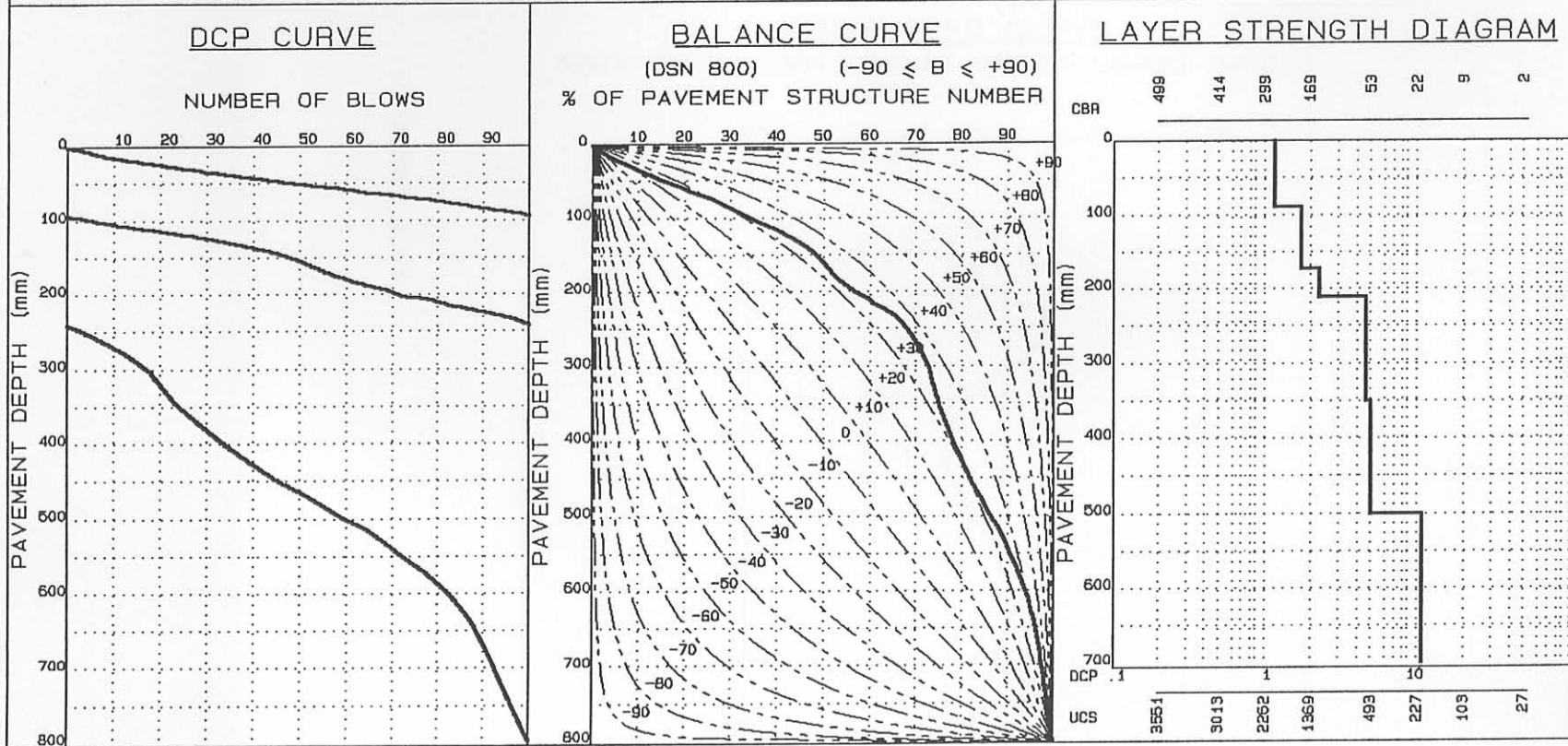


FIGURE E.42

### SUMMARY OF DCP INVESTIGATION

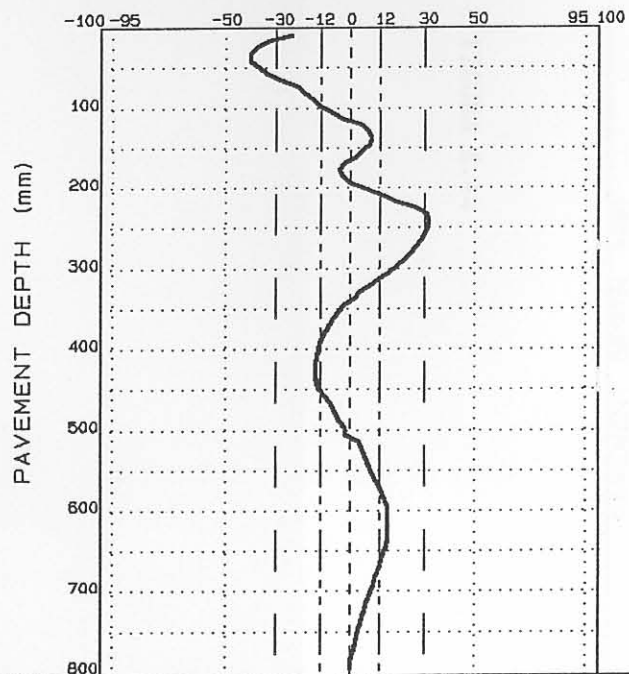
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	QOP	CBR%	UCS (kPa)
0-32	1.4	0.3	1.7	226	1768
33-136	1.1	0.2	1.3	281	2142
137-176	2.5	0.5	2.9	125	1050
177-240	2.0	0.5	2.4	172	1391
241-424	5.5	1.6	6.8	47	444
425-600	4.6	0.8	5.2	59	542
601-792	13.7	3.8	16.9	15	152
793-800	15.7	1.0	16.6	12	133

DATA FILE: 306A4, 2-5, 13-5; N=1 400 000

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

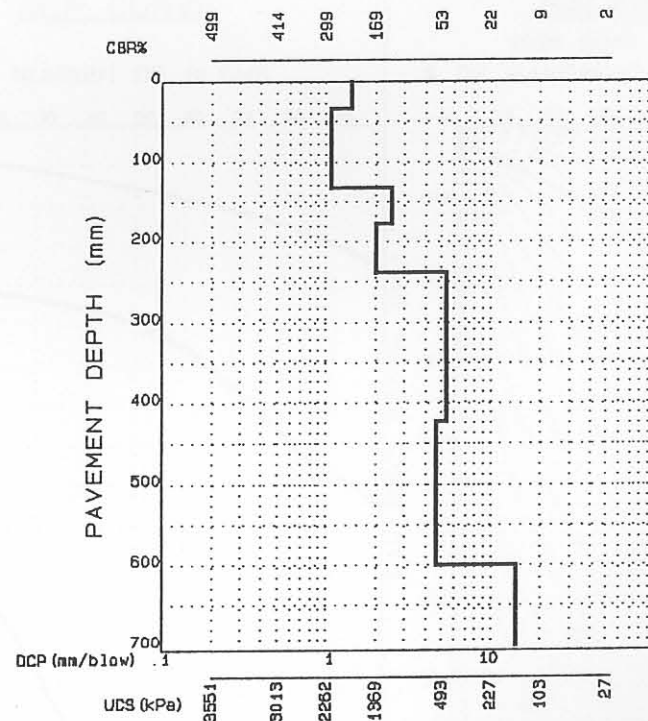


FIGURE E.43

RTT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :306A4, 2, 4, 6, 7, 7AD; N=2 450 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212  
 DISTANCE : 12.6  
 POSITION : 

X				M			R
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 CONDITION : 

FAILED	OVERSTRESSED	SOUND
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RUT.	DEFORM.	PUMP.	CRACKS :	CROCK	LONG.	OTHER
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 DATE :87/02/10

#### PAVEMENT CHARACTERISTICS

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	243		0-90
BALANCE NUMBER (BN 100)	27	32	91-170
			171-210
DIFFERENCE IN BN100	-5		211-350
			351-500
BALANCE CURVE IS WHERE B =	28	A= 1629	501-800
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	>10		
ROAD CATEGORY		C	
TRAFFIC : LIGHT TRAFFIC			

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
2.0	0.7	2.6	171	1383
2.8	0.8	3.4	112	953
2.2	1.0	3.0	150	1233
4.2	1.7	5.7	66	598
6.1	0.8	6.7	42	402
10.3	3.0	12.8	21	218

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

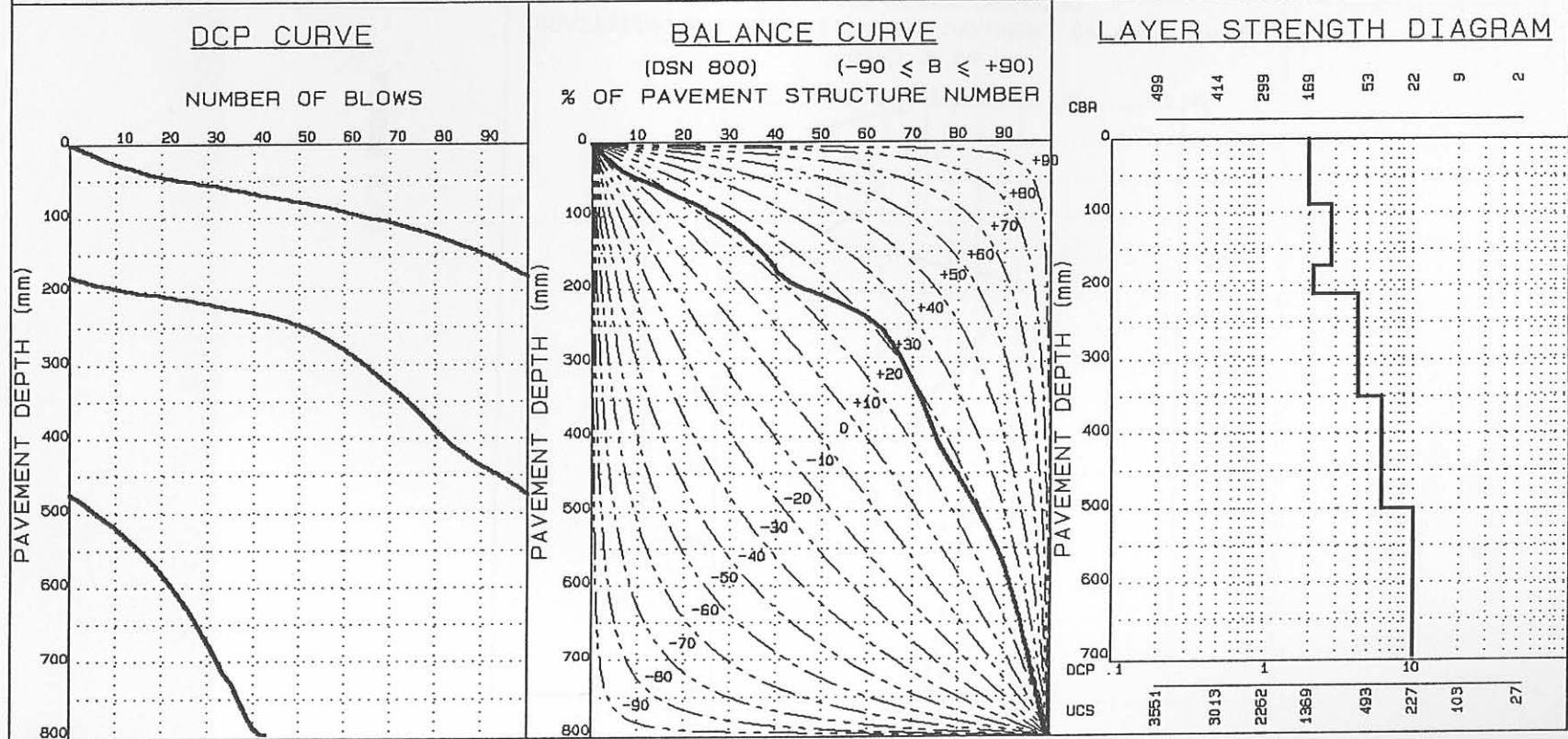


FIGURE E.44

### SUMMARY OF DCP INVESTIGATION

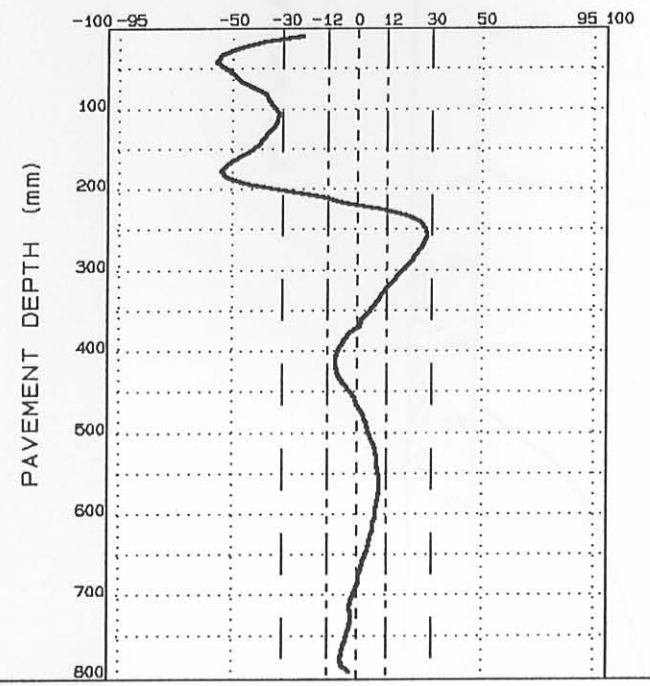
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	SDP	CBR%	UCS (kPa)
0- 40	2.7	0.5	3.1	118	998
41-104	1.5	0.2	1.7	219	1720
105-176	3.1	0.7	3.6	99	855
177-256	1.9	0.7	2.4	178	1433
257-408	6.0	0.9	6.7	42	402
409-560	6.8	0.5	6.2	44	419
561-775	11.2	2.5	13.3	19	200
777-800	12.4	1.7	13.8	17	181

DATA FILE: 306A4, 2, 4, 6, 7, 7AD; N=2 450 000

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

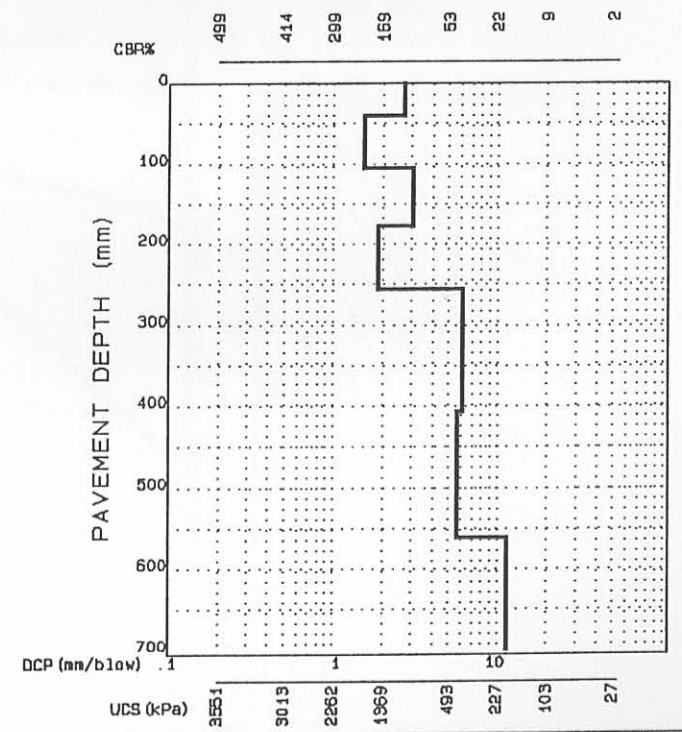


FIGURE E.45

RTT, CSIR, SA

SUMMARY OF DCP INVESTIGATION

DATA FILE :306A4, 8, 11CL, 15, 15AN; N=2 450  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212  
 DISTANCE : 12.6  
 POSITION :  L  M  R  
 CONDITION :  FALTED  OVERSTRESSED  SOUND  
 RUT.  DEFORM.  PUMP.  CRACKS :  CROCK  LONG.  OTHER  
 DATE :87/02/10

PAVEMENT CHARACTERISTICS

STRUCTURE NUMBER : 235  
 BALANCE NUMBER (BN 100) : 25 37  
 DIFFERENCE IN BN100 : -12  
 BALANCE CURVE IS WHERE B = 33 A= 2717  
 STRUCT. CAP. (E80 X 10<sup>B</sup>) : >10  
 ROAD CATEGORY : C  
 TRAFFIC : LIGHT TRAFFIC

AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
2.0	0.5	2.4	165	1341
1.9	0.4	2.3	173	1398
2.0	0.6	2.5	167	1355
3.9	1.9	5.6	72	646
5.7	1.1	6.6	45	427
14.8	5.7	19.6	13	143

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

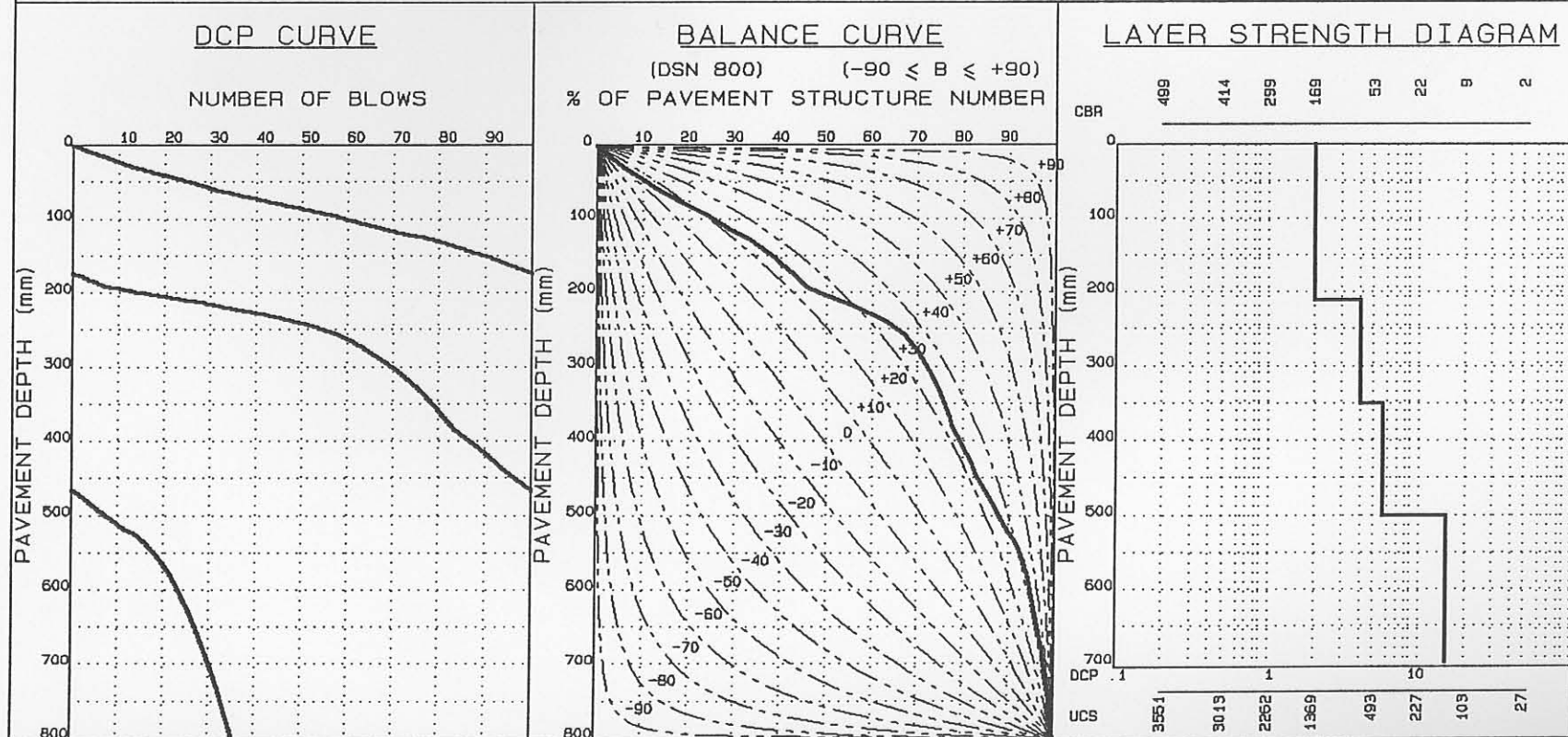


FIGURE E.46

SUMMARY OF DCP INVESTIGATION

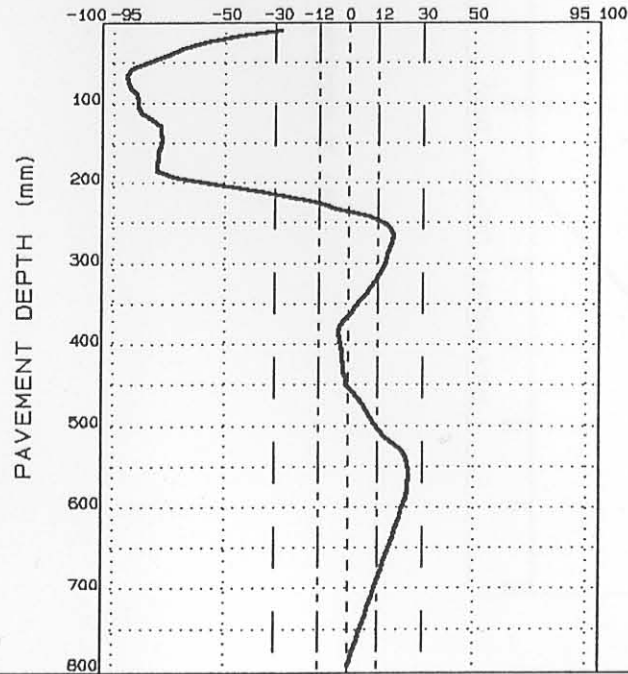
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	QOP	CBR%	UCS (kPa)
0- 64	2.3	0.3	2.6	143	1182
65-144	1.7	0.3	1.9	199	1581
145-184	2.4	0.3	2.6	133	1109
185-264	1.8	0.6	2.3	184	1476
265-384	5.9	1.5	7.1	43	410
385-560	5.3	0.8	6.0	49	460
561-800	17.1	3.8	20.2	11	123

DATA FILE: 306A4, 8, 11CL, 15, 15AN; N=2 450

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % . mm



LAYER STRENGTH DIAGRAM (REDEFINED)

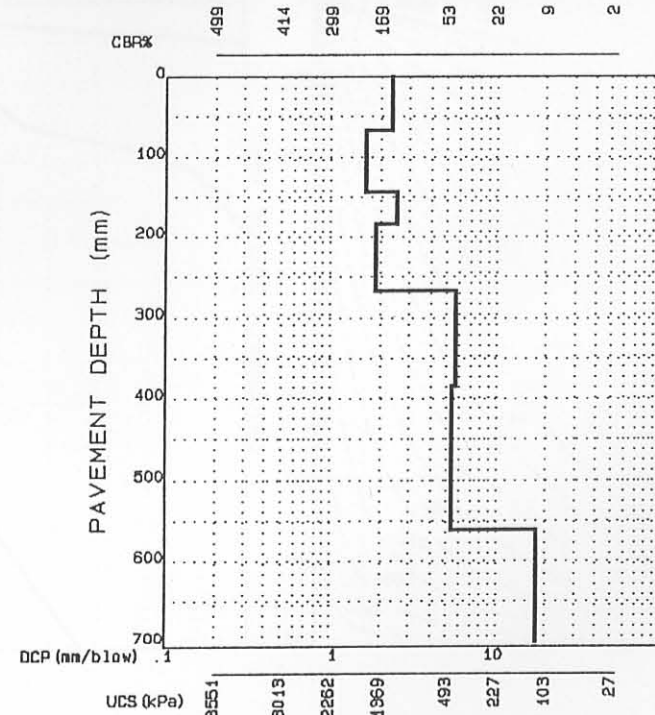


FIGURE E.47

RTT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :307A4, 57B, 65B; N=10  
 REGION :BULTFONTEIN  
 ROAD NUMBER :P2212  
 DISTANCE : 12.6  
 POSITION : 

L			M	X		R
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 CONDITION : 

<del>FALSED</del>	OVERSTRESSED	SOUND
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RUT.	DEFORM.	PUMP.	CRACKS	CROCK	LONG.	OTHER
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 DATE :860306

#### PAVEMENT CHARACTERISTICS

	<u>DATA</u>	<u>B/CURVE</u>	<u>FROM - TO</u>
STRUCTURE NUMBER	: 266		0- 64
BALANCE NUMBER (BN 100)	: 54	47	65-152
DIFFERENCE IN BN100	: 7		153-192
BALANCE CURVE IS WHERE B =	42	A= 2986	193-408
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	: >10		409-800
ROAD CATEGORY	: C		
TRAFFIC : LIGHT TRAFFIC			

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
0.9	0.3	1.2	314	2362
4.3	1.6	5.6	64	582
2.2	0.6	2.7	153	1254
7.5	1.4	8.7	31	307
9.0	1.7	10.4	25	254

CATEGORY II : AVERAGELY BALANCED SHALLOW STRUCTURE (ABS)

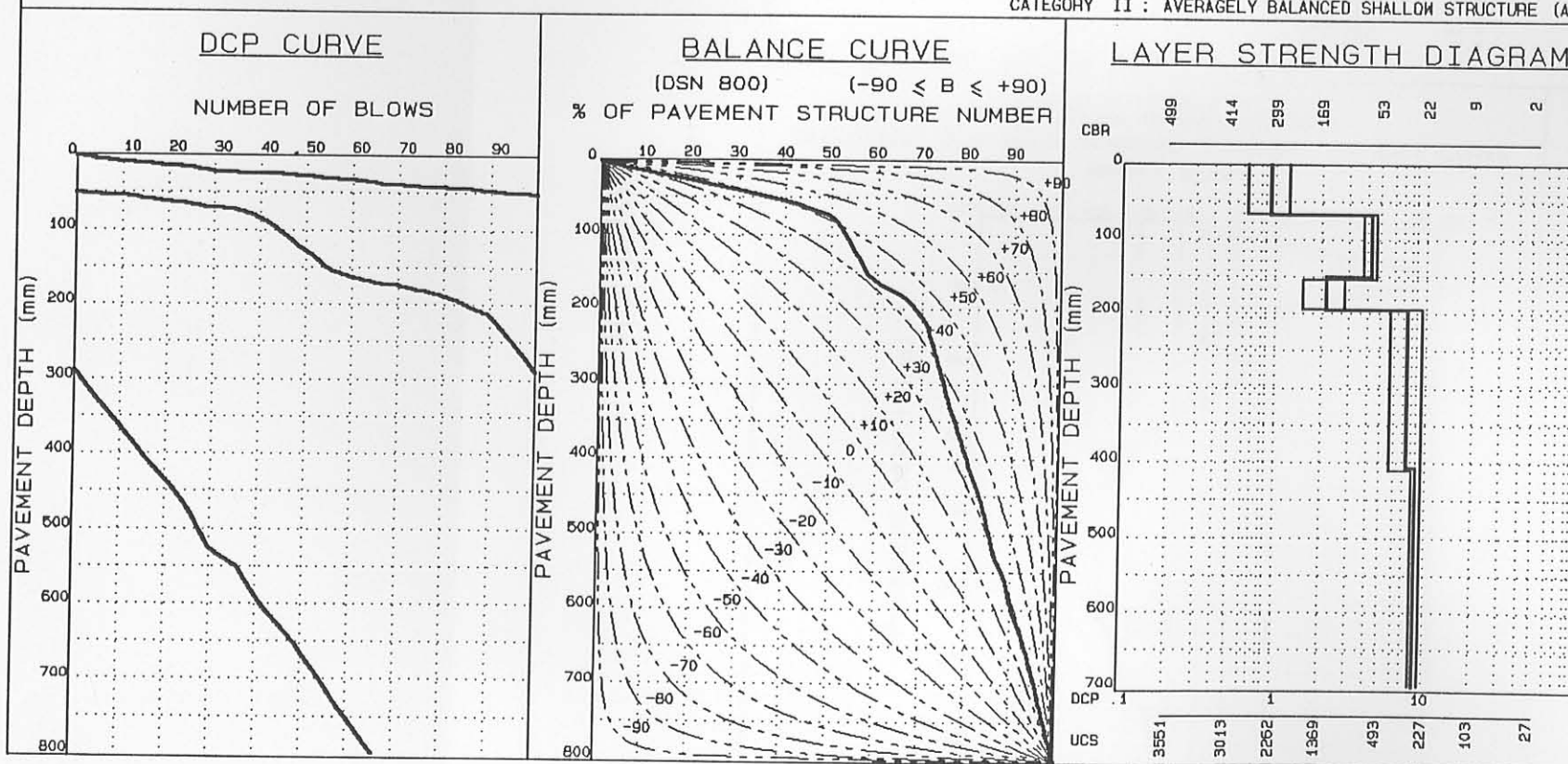


FIGURE E.48

### SUMMARY OF DCP INVESTIGATION

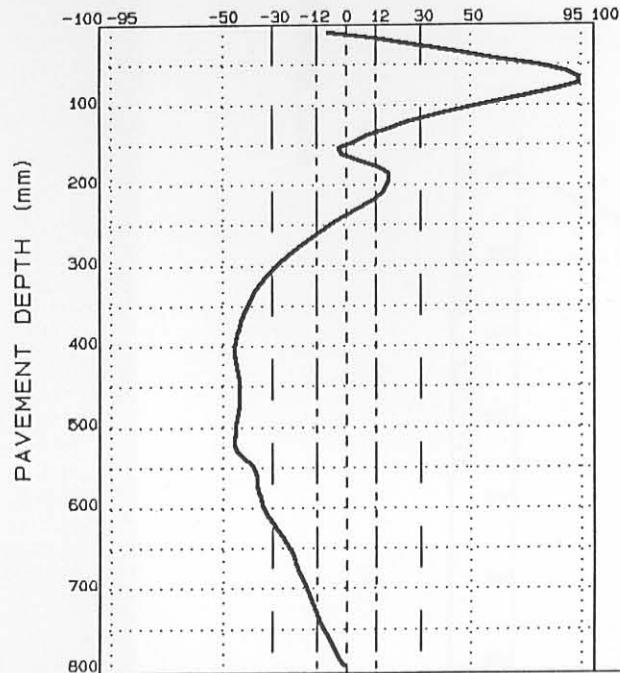
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	SDP	CBR%	UCS (kPa)
0-8	1.0	0.3	1.3	292	2216
9-64	0.9	0.3	1.2	317	2382
65-152	4.3	1.6	5.6	64	582
153-192	2.2	0.6	2.7	153	1254
193-408	7.5	1.4	8.7	31	307
409-464	7.0	0.6	7.4	35	342
465-512	10.7	0.7	11.4	20	209
513-800	9.1	1.6	10.4	25	254

DATA FILE: 307A4, 57B, 65B; N=10

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

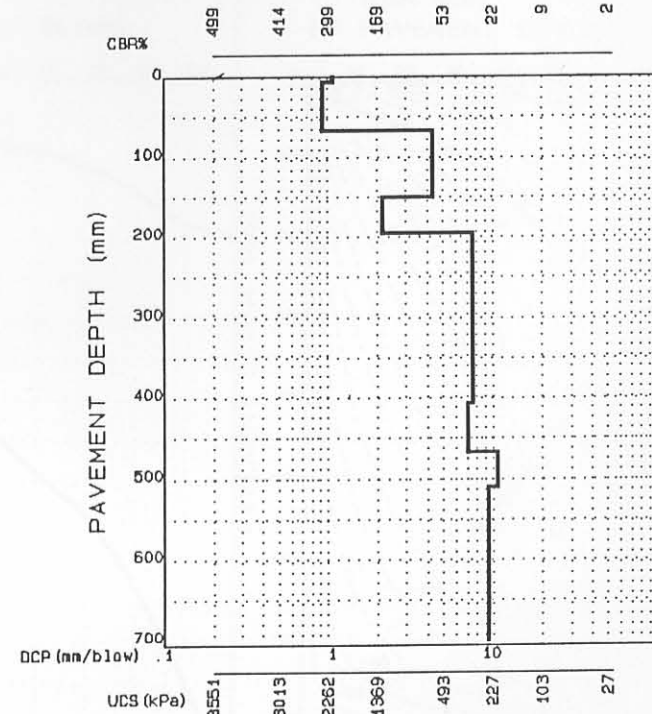


FIGURE E.49



RTT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :307A4, 13C, 5C; N=1 000 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212 (N=980 000)  
 DISTANCE : 12.6  
 POSITION : 

L				X			R
---	--	--	--	---	--	--	---

  
 CONDITION : 

FAILED	DVERSTRESSED	BOUND
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RUT.	DEFORM.	PUMP.	CRACKS	CROCK.	LONG.	OTHER
------	---------	-------	--------	--------	-------	-------

  
 DATE :86/06/06

#### PAVEMENT CHARACTERISTICS

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	194		0- 64
BALANCE NUMBER (BN 100)	34	33	65-152
DIFFERENCE IN BN100	1		153-192
BALANCE CURVE IS WHERE B =	29	A= 836	193-408
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	6.51		409-800
ROAD CATEGORY		C	
TRAFFIC : LIGHT TRAFFIC			

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
1.7	0.5	2.1	195	1553
2.6	1.0	3.6	119	1005
3.5	1.2	4.6	83	732
5.7	2.2	7.6	45	427
10.0	3.1	12.6	22	227

CATEGORY IV : WELL-BALANCED DEEP STRUCTURE (WBD)

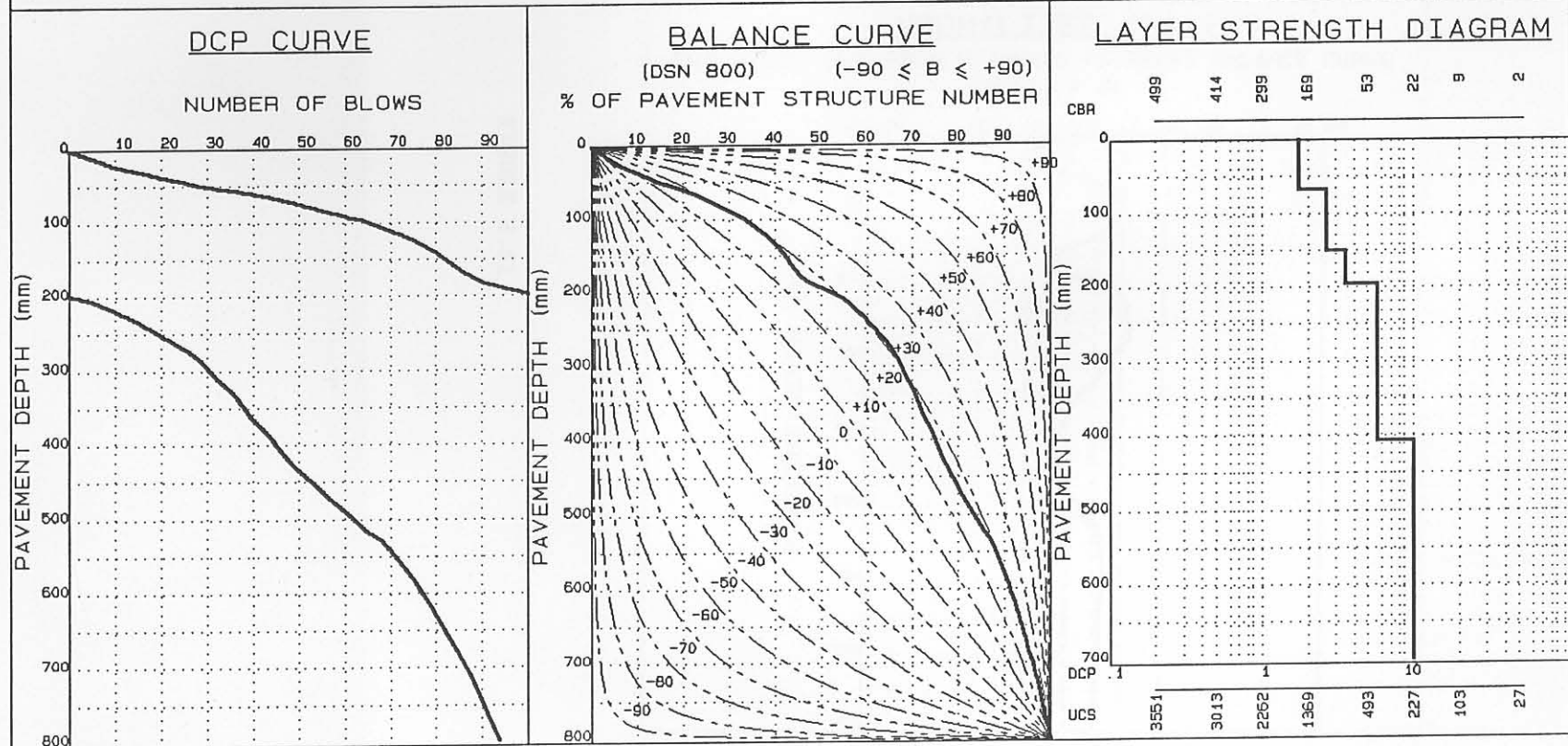


FIGURE E.50

### SUMMARY OF DCP INVESTIGATION

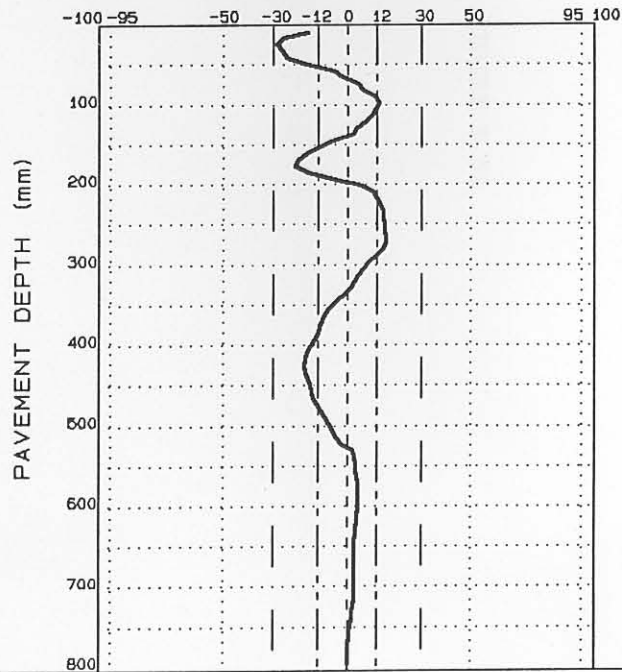
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	BDP	CBR%	UCS (kPa)
0- 24	2.3	0.1	2.4	143	1182
25- 96	1.5	0.3	1.7	219	1720
97-176	3.5	0.9	4.2	83	732
177-264	2.9	0.8	3.6	105	908
265-424	7.1	1.2	8.1	34	334
425-576	6.8	1.4	8.0	36	351
577-672	11.0	0.5	11.4	19	200
673-704	11.0	0.0	11.0	19	200
705-800	14.1	0.9	14.9	14	152

DATA FILE: 307A4, 13C, 5C; N=1 000 000

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % . mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

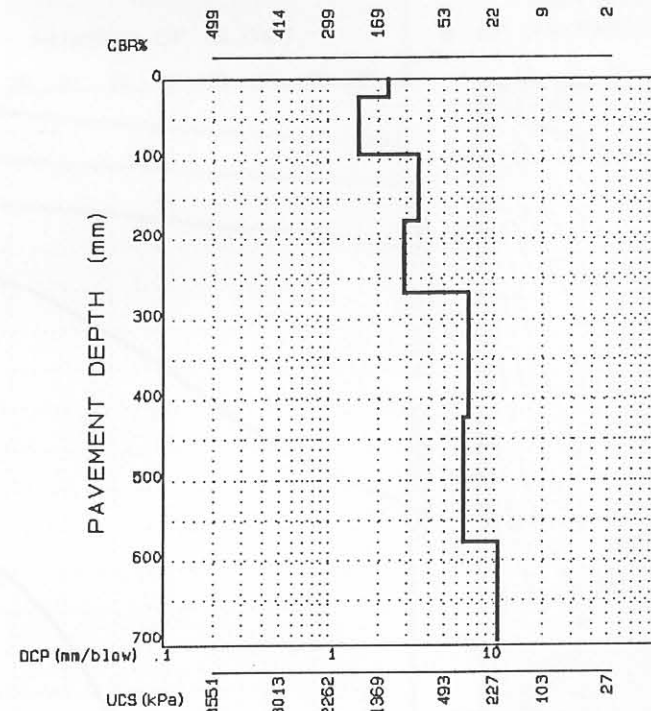


FIGURE E.51

RTT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :307A4, 20,60; N=2 450 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212  
 DISTANCE : 12.6  
 POSITION : 

L	X	M		R
---	---	---	--	---

  
 CONDITION : 

FALTED	OVERSTRESSED	SOUND
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~~POI.~~ ~~DEFORM.~~ ~~PUMP.~~ ~~CRACKS~~ : ~~BROCK~~ ~~LONG.~~ ~~OTHER~~  
 DATE :87/08/28

#### PAVEMENT CHARACTERISTICS

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	442		0 - 64
BALANCE NUMBER (BN 100)	34	41	65-102
DIFFERENCE IN BN100	-7		153-192
			193-408
			409-800
BALANCE CURVE IS WHERE B =	37	A = 1984	
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	>10		
ROAD CATEGORY	C		
TRAFFIC	LIGHT TRAFFIC		

#### AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
1.2	0.4	1.6	261	2007
0.7	0.2	0.9	361	2671
1.0	0.3	1.3	296	2242
3.5	1.2	4.5	83	732
6.6	3.2	9.3	37	359

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

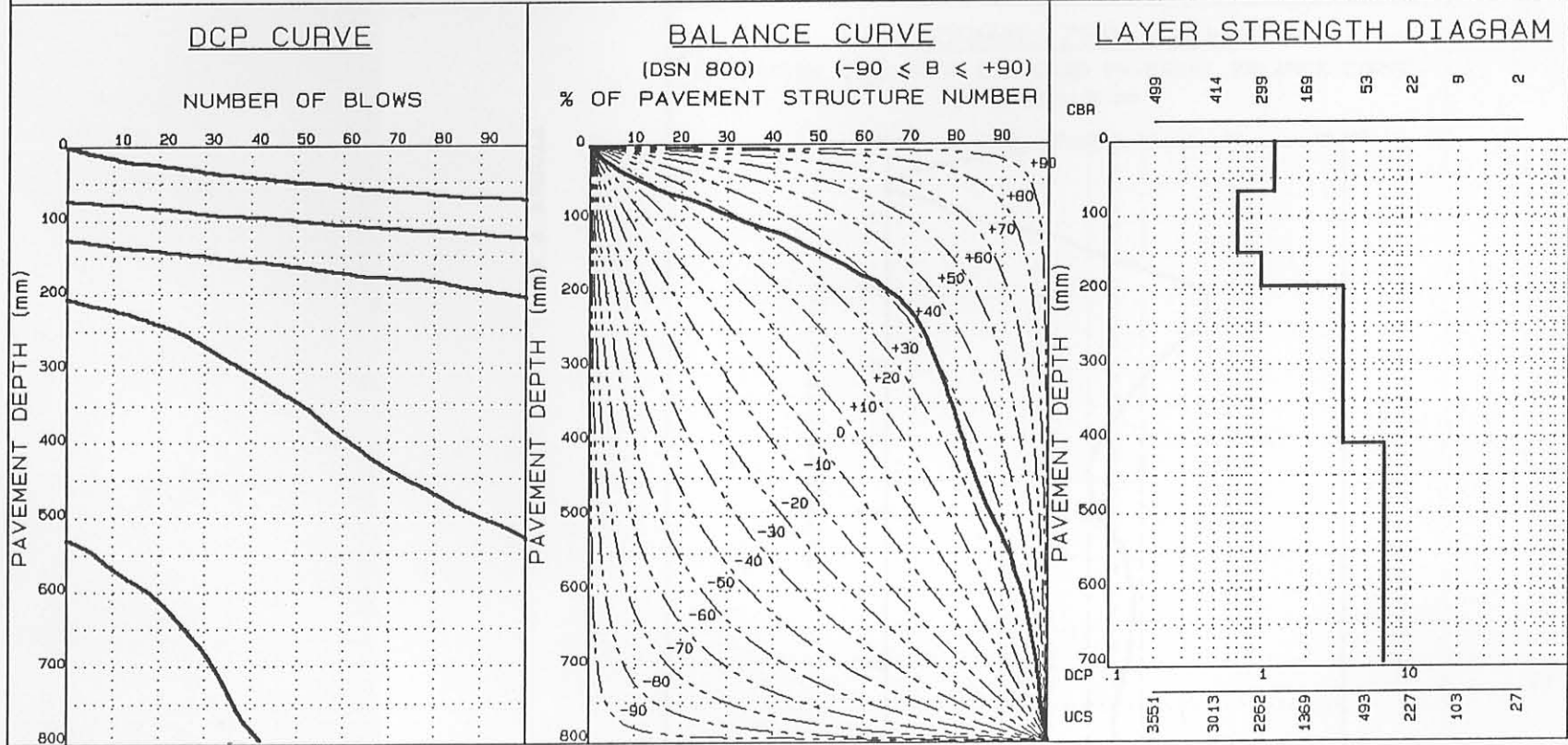


FIGURE E.52

### SUMMARY OF DCP INVESTIGATION

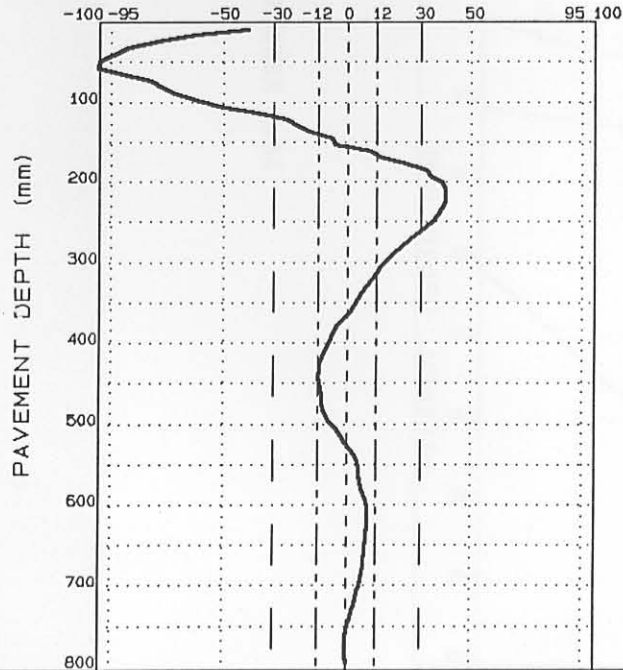
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	SDP	CBR%	UCS (kPa)
0- 56	1.3	0.4	1.6	249	1926
57-216	0.9	0.4	1.2	322	2415
217-440	3.9	1.0	4.7	73	654
441-608	3.9	0.9	4.7	72	646
609-768	9.5	2.3	11.5	23	236
769-800	8.6	1.1	9.5	27	272

DATA FILE: 307A4, 2D, 6D; N=2 450 000

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

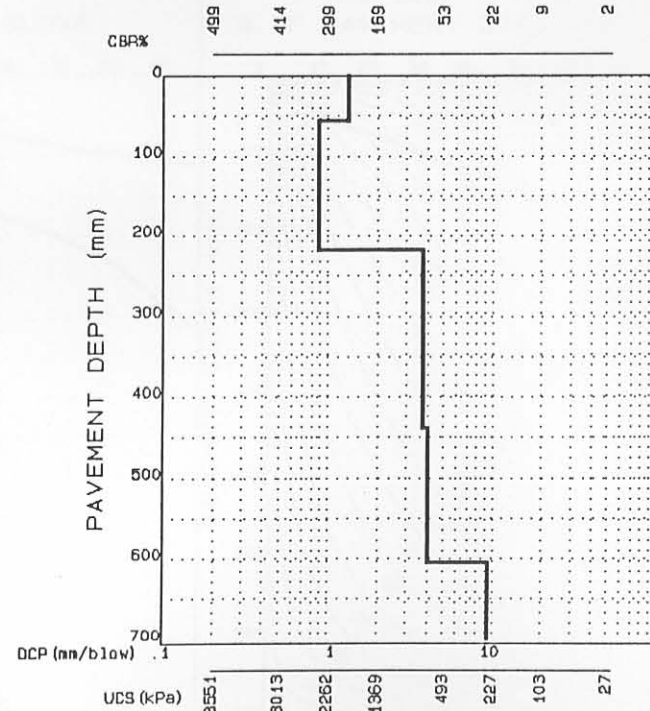


FIGURE E.53

ATT, CSIR, SA

SUMMARY OF DCP INVESTIGATION

DATA FILE :307A4, BN, 10N; N=2 450 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212-307  
 DISTANCE : 12.6  
 POSITION : 

L	X	M	R
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 CONDITION : 

FAKED	DVERSTRESSED	SOUND
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~~POI. DEFORM.~~ ~~PUMP.~~ ~~CRACKS~~ ~~BROCK.~~ ~~LONG.~~ ~~OTHER~~  
 DATE :87/08/28

PAVEMENT CHARACTERISTICS

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	263		0 - 64
BALANCE NUMBER (BN 100)	32	42	65-162
DIFFERENCE IN BN100	-10		153-192
BALANCE CURVE IS WHERE B =	38	A= 1724	193-408
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	8.85		409-800
ROAD CATEGORY	C		
TRAFFIC	LIGHT TRAFFIC		

AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
1.7	0.3	2.0	192	1532
1.0	0.2	1.2	303	2289
1.9	0.4	2.2	175	1419
4.7	1.0	5.6	58	534
11.4	5.6	16.0	18	190

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

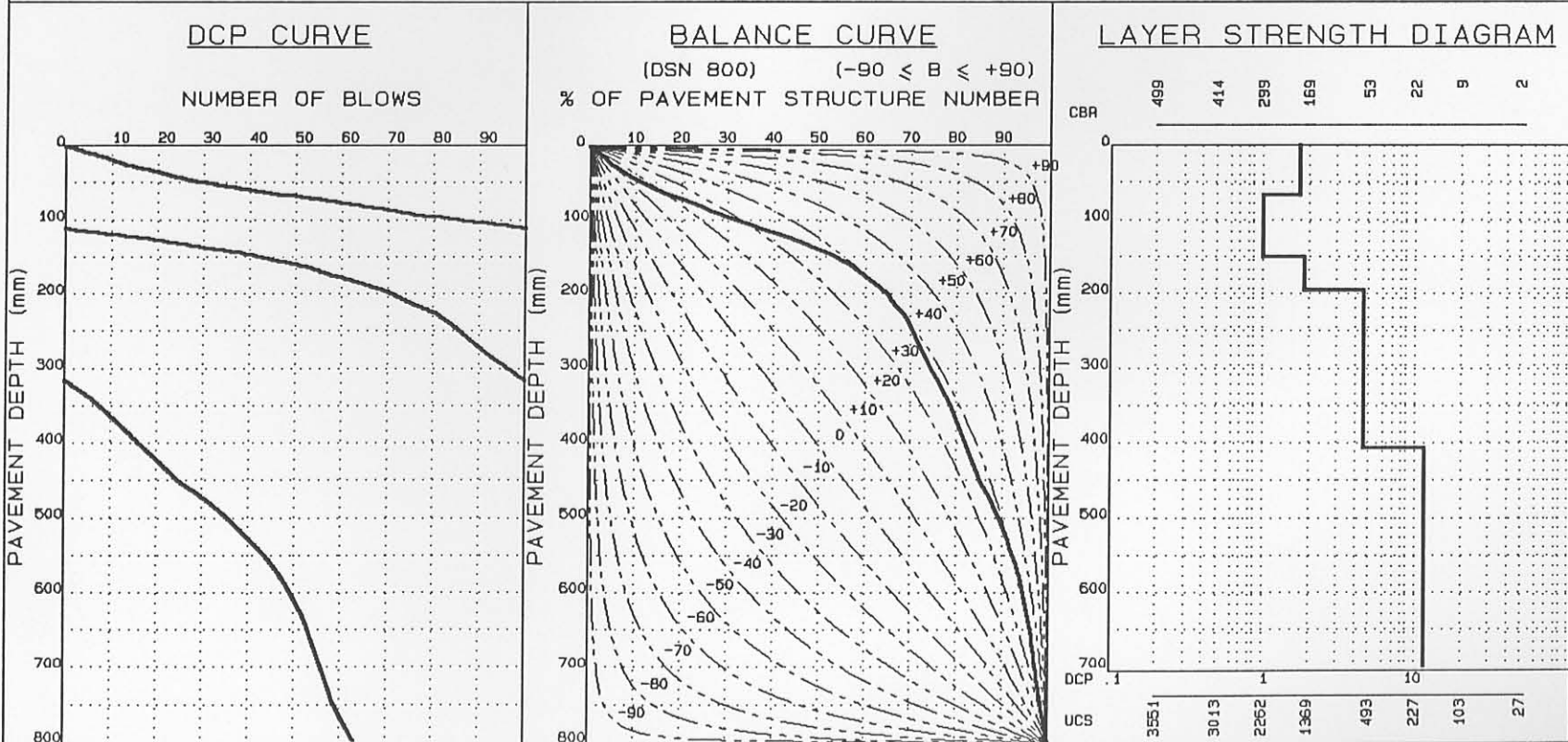


FIGURE E.54

SUMMARY OF DCP INVESTIGATION

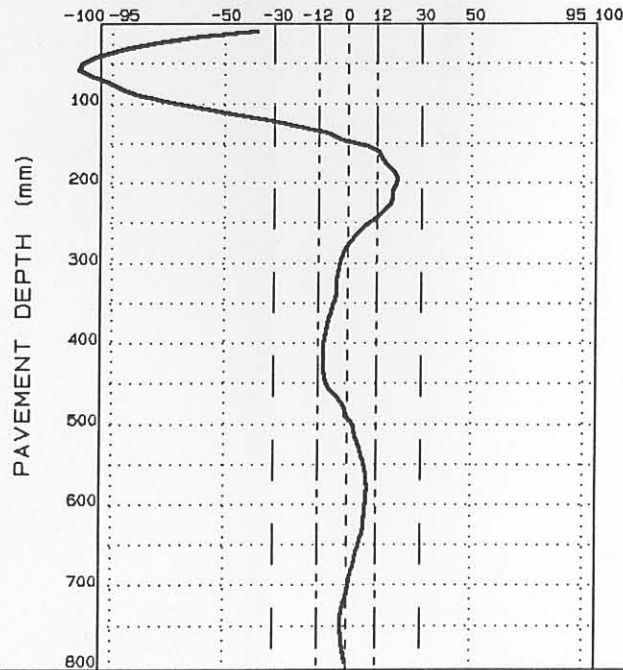
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	SDP	CBR%	UCS (kPa)
0- 56	1.8	0.3	2.1	186	1490
57-192	1.3	0.5	1.7	250	1933
193-408	4.7	1.0	5.6	58	534
409-576	6.0	1.2	7.0	42	402
577-744	16.3	3.9	19.6	12	133
745-800	12.7	2.4	14.7	16	172

DATA FILE: 307A4, 8N, 10N; N=2 450 000

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



LAYER STRENGTH DIAGRAM (REDEFINED)

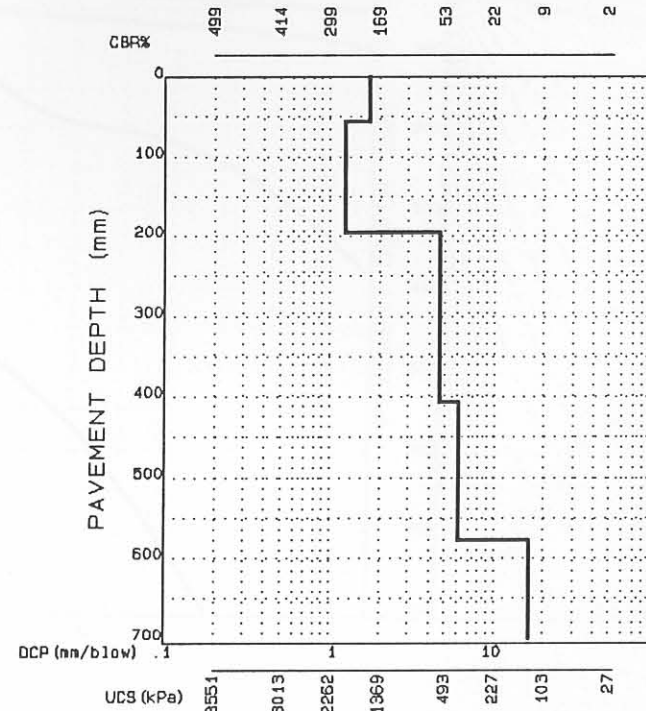


FIGURE E.55

SUMMARY OF DCP INVESTIGATION

DATA FILE :30BA4, B1B, B9B; N=10  
 REGION :BULTFONTEIN  
 ROAD NUMBER :P2212  
 DISTANCE : 12.6  
 POSITION : 

L			M	X		R
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 CONDITION : 

FAIRED	OVERSTRESSED	SOUND
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RUT.	DEFORM.	PUMP.	CRACKS :	CROCK	LONG.	OTHER
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 DATE :860324

PAVEMENT CHARACTERISTICS

DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER : 367		0 - 80
BALANCE NUMBER (BN 100) : 55	43	81-184
DIFFERENCE IN BN100 : 12		185-208
BALANCE CURVE IS WHERE B = 39	A = 1709	209-400
STRUCT. CAP. (E80 X 10 <sup>6</sup> ) : >10		401-800
ROAD CATEGORY : C		
TRAFFIC : LIGHT TRAFFIC		

AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	B0 P	CBR	UCS
0.8	0.4	1.1	341	2540
3.4	1.0	4.3	86	755
1.4	0.4	1.7	233	1817
4.8	1.7	6.2	56	518
7.2	1.8	8.7	33	325

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

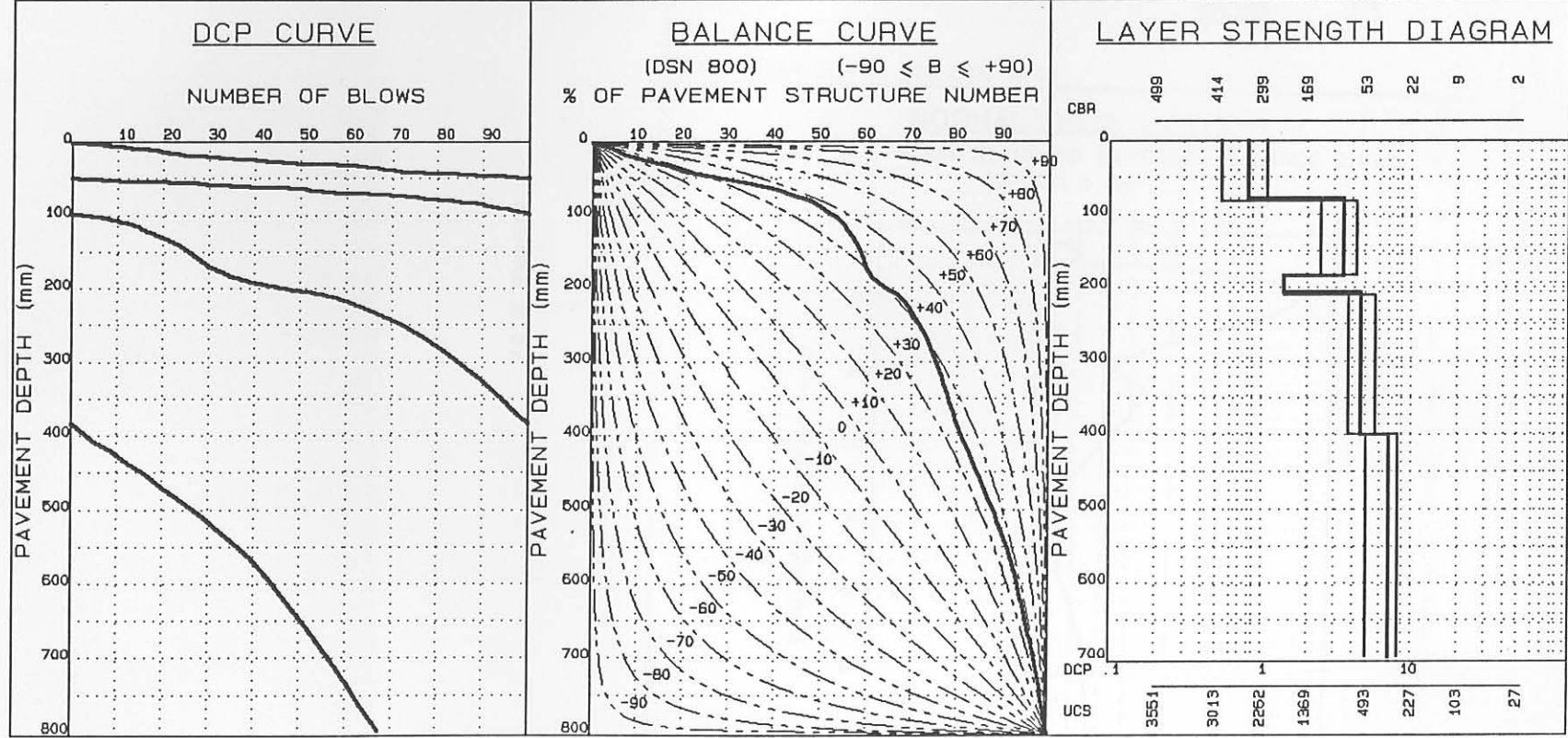


FIGURE E.56

### SUMMARY OF DCP INVESTIGATION

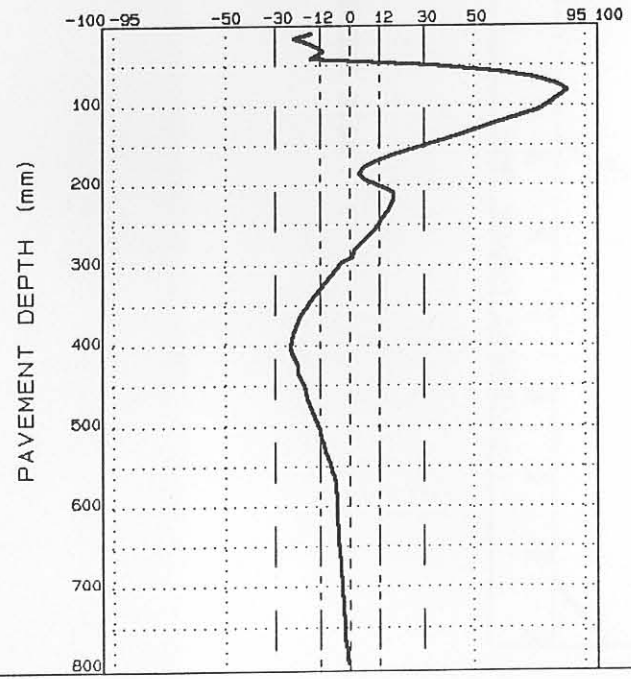
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	SDP	CBR%	UCS (kPa)
0 - 16	0.8	0.3	1.1	331	2474
17 - 80	0.8	0.4	1.1	343	2553
81 - 184	3.4	1.0	4.3	86	755
185 - 216	1.5	0.4	1.8	219	1720
217 - 400	4.9	1.6	6.3	54	501
401 - 800	7.2	1.8	8.7	33	325

DATA FILE: 308A4, 81B, 89B; N=10

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

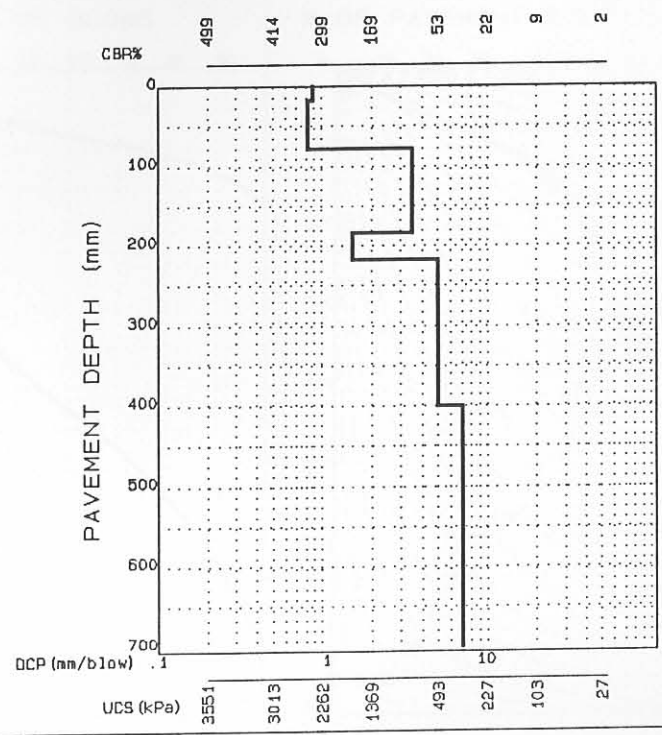


FIGURE E.57



RTT, CSIR, SA

SUMMARY OF DCP INVESTIGATION

PAVEMENT CHARACTERISTICS

DATA FILE :30BA4, 5CL, 11CL; N=1 000 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :2212  
 DISTANCE : 12.0  
 POSITION : 

L	X	M	R
---	---	---	---

  
 CONDITION : 

FAILED	DVE	BYPRESSED	SOUND
--------	-----	-----------	-------

  
~~DEFORM.~~ ~~PUMP.~~ ~~CRACKS :~~ ~~SHOCK~~ ~~LONG.~~ ~~OTHER~~  
 DATE :87/11/13

STRUCTURE NUMBER : 211  
 BALANCE NUMBER (BN 100) : 35 31  
 DIFFERENCE IN BN100 : 4  
 BALANCE CURVE IS WHERE B = 27 A= 1311  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : 4.09  
 ROAD CATEGORY : C  
 TRAFFIC : LIGHT TRAFFIC

AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
1.5	0.3	1.7	223	1748
1.8	0.5	2.2	189	1511
3.1	1.4	4.3	97	840
3.6	0.3	3.8	80	709
6.3	2.3	8.2	40	365
8.2	2.4	10.2	28	281

CATEGORY IV : WELL-BALANCED DEEP STRUCTURE (WBD)

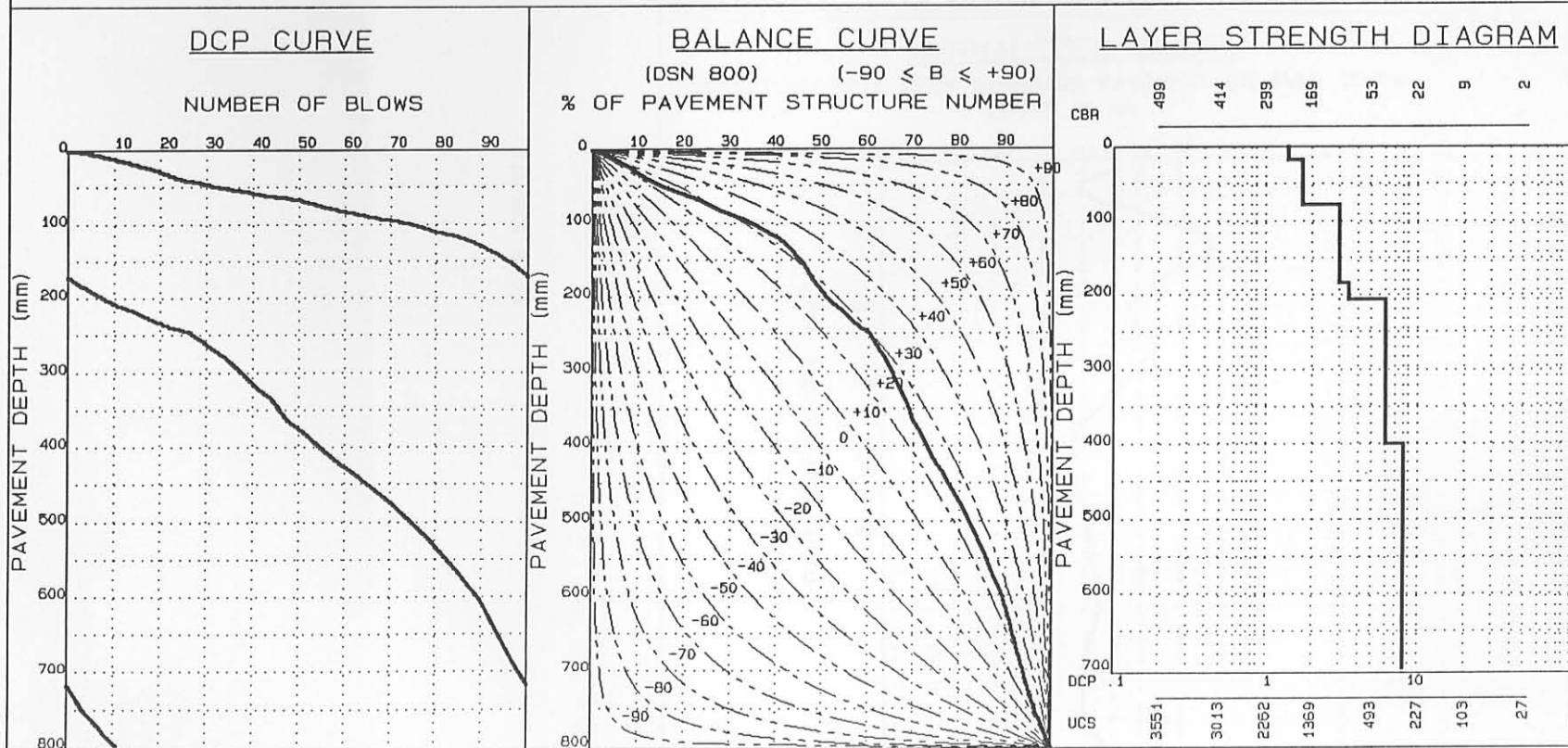


FIGURE E.58

SUMMARY OF DCP INVESTIGATION

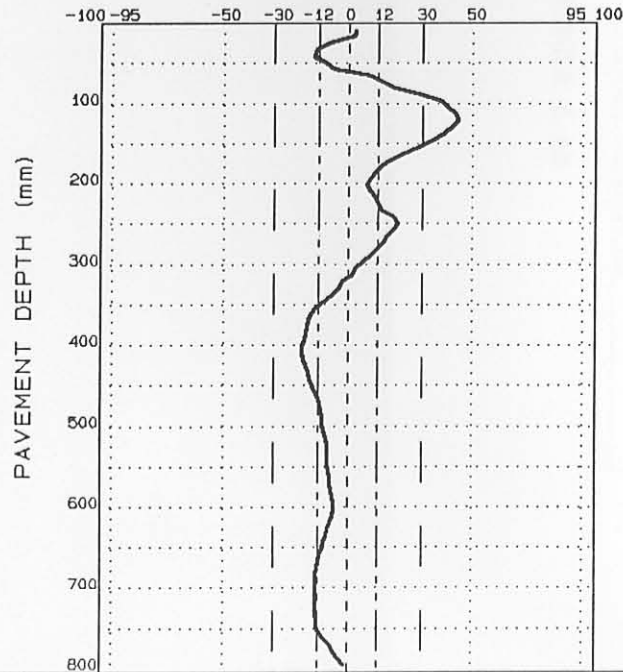
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	BOP	CBR%	UCS (kPa)
0- 8	1.2	0.2	1.4	257	1980
9- 40	2.1	0.3	2.4	160	1305
41-120	1.6	0.4	1.8	211	1665
121-200	4.0	0.9	4.7	71	638
201-248	3.0	0.5	3.4	102	878
249-408	7.1	1.6	8.4	34	334
409-600	6.3	1.1	7.3	39	376
601-704	11.3	1.0	12.2	19	200
705-800	8.7	1.4	9.9	26	263

DATA FILE: 308A4, 5CL, 11CL; N=1 000 000

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



LAYER STRENGTH DIAGRAM (REDEFINED)

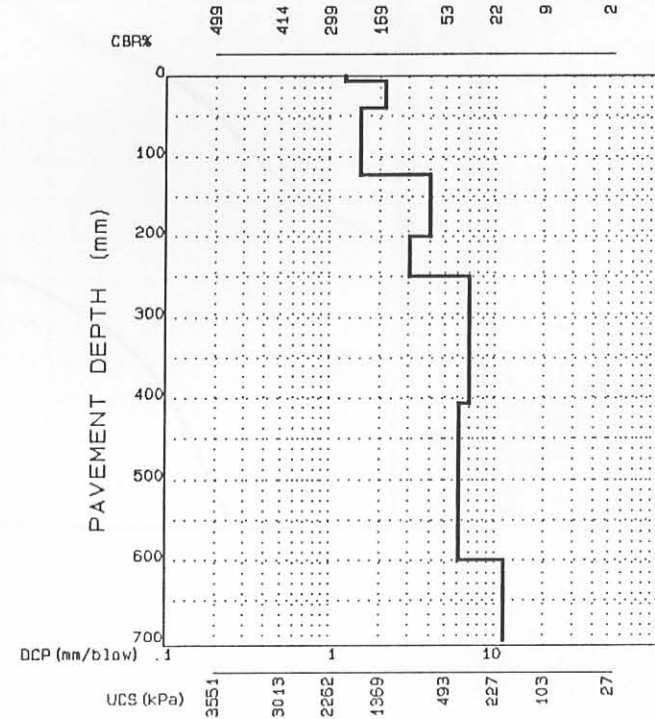


FIGURE E.59

DIVISION OF ROADS AND TRANSPORT TECHNOLOGY  
SUMMARY OF DCP INVESTIGATION

ATT, CSIR, SA

DATA FILE :30BA4, BB,8C; N=2 460 000  
 REGION :BULTFONTEIN TVL  
 ROAD NUMBER :P2212  
 DISTANCE : 12.0  
 POSITION : 

L	X		M		R
---	---	--	---	--	---

  
 CONDITION : 

FAILED	OVERSTRESSED	SOUND
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~~POK.~~ ~~DEFORM.~~ ~~PUMP.~~ ~~CRACKS :~~ ~~CRACK~~ ~~LONG.~~ ~~OTHER~~  
 DATE :88/09/14

PAVEMENT CHARACTERISTICS

DATA B/CURVE  
 STRUCTURE NUMBER : 267  
 BALANCE NUMBER (BN 100) : 37 31  
 DIFFERENCE IN BN100 : 6  
 BALANCE CURVE IS WHERE B = 27 A = 2304  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : 9.33  
 ROAD CATEGORY : B  
 TRAFFIC : LIGHT TRAFFIC

AVERAGE EQUIVALENT STRENGTH

FROM - TO	AV. PENETRATION	SD	90 P	CBR	UCS
0- 16	1.3	0.4	1.7	252	1946
17- 80	1.2	0.4	1.7	257	1980
81-184	3.2	0.6	3.9	94	817
185-208	3.2	0.2	3.5	94	817
209-400	5.3	1.5	7.2	49	460
401-800	7.6	4.3	13.1	31	307

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

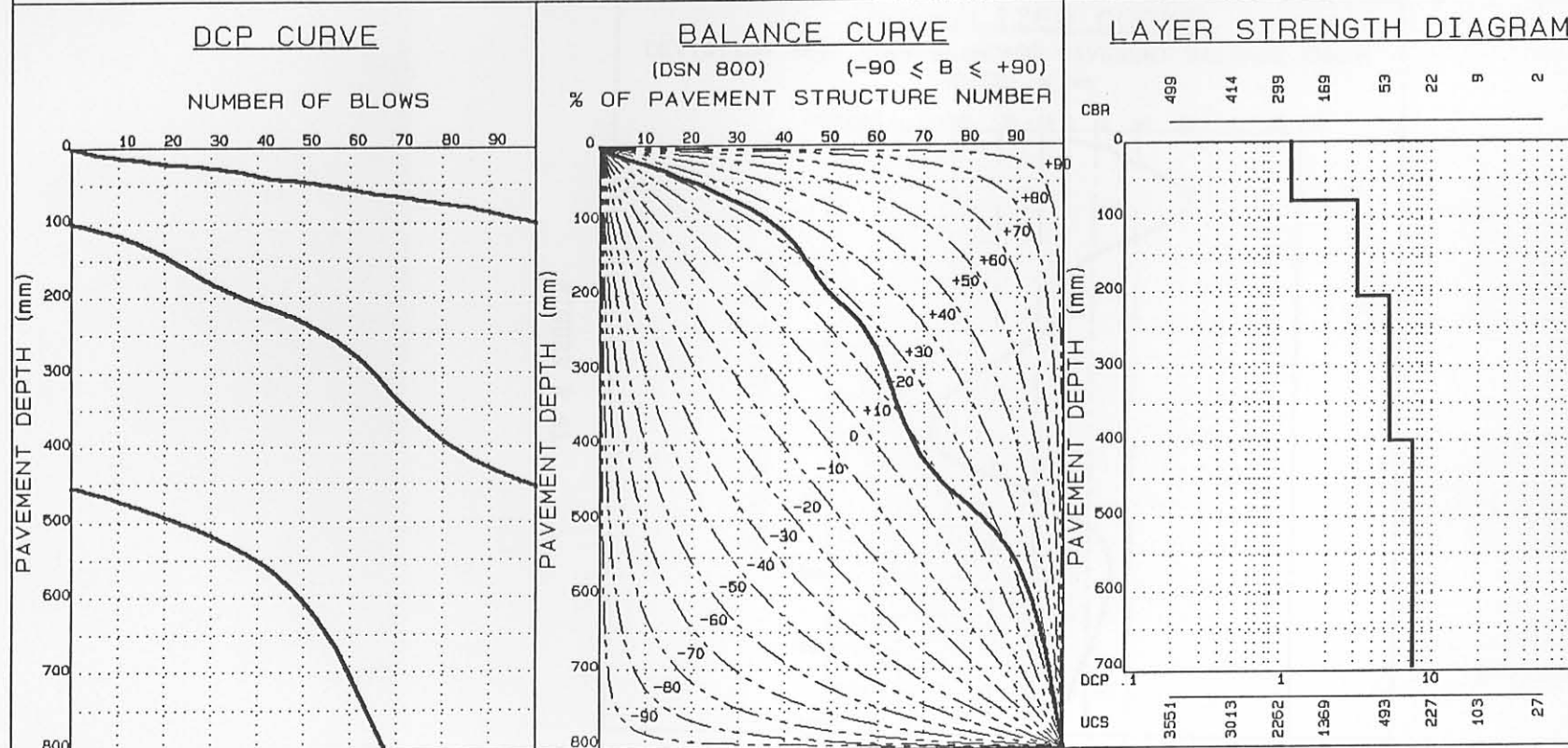


FIGURE E.60

DIVISION OF ROADS AND TRANSPORT TECHNOLOGY  
SUMMARY OF DCP INVESTIGATION

RTT, CSIR, SA

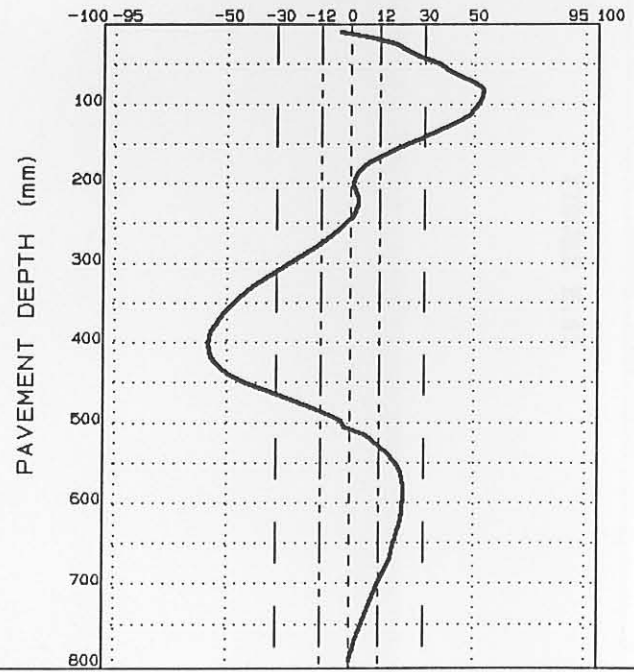
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	90P	CBR%	UCS (kPa)
0- 8	1.6	0.1		208	1644
9- 80	1.2	0.4		262	2014
81-200	3.2	0.6		94	817
201-224	2.7	0.2		113	961
225-400	5.5	1.4		47	444
401-584	3.4	1.1		66	755
585-800	11.1	2.6		19	200

DATA FILE: 308A4, 8B, 8C; N=2 460 000

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



LAYER STRENGTH DIAGRAM (REDEFINED)

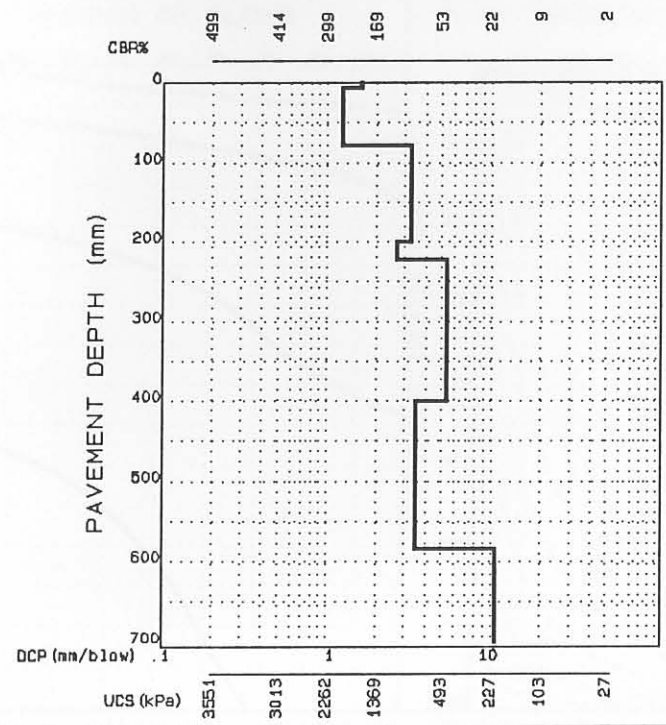


FIGURE E.61

DIVISION OF ROADS AND TRANSPORT TECHNOLOGY  
SUMMARY OF DCP INVESTIGATION

ATT, CSIR, SA

DATA FILE :30BA4,10C; N=2 460 000  
 REGION :BULTFONTEIN TVL  
 ROAD NUMBER :P2212  
 DISTANCE : 12.0  
 POSITION :  L  M  R  
 CONDITION :  FALTED  OVERSTRESSED  SOUND  
 PRT.  DEFORM.  PUMP.  CRACKS :  CROSS  LONG.  OTHER  
 DATE :88/09/14

PAVEMENT CHARACTERISTICS  
 DATA B/CURVE  
 STRUCTURE NUMBER : 369  
 BALANCE NUMBER (BN 100) : 43 40  
 DIFFERENCE IN BN100 : 3  
 BALANCE CURVE IS WHERE B = 36 A= 1218  
 STRUCT. CAP. (E80 X 10<sup>6</sup>) : 28.95  
 ROAD CATEGORY : B  
 TRAFFIC : LIGHT TRAFFIC

AVERAGE EQUIVALENT STRENGTH

FROM - TO	AV. PENETRATION	SD	90 P	CBR	UCS
0- 16	0.7	0.2	1.0	372	2742
17- 80	0.7	0.2	0.9	373	2749
81-184	2.0	0.9	3.1	171	1383
185-208	1.4	0.2	1.7	228	1782
209-400	3.7	1.4	5.6	77	685
401-800	6.7	3.2	10.8	37	359

CATEGORY IV : WELL-BALANCED DEEP STRUCTURE (WBD)

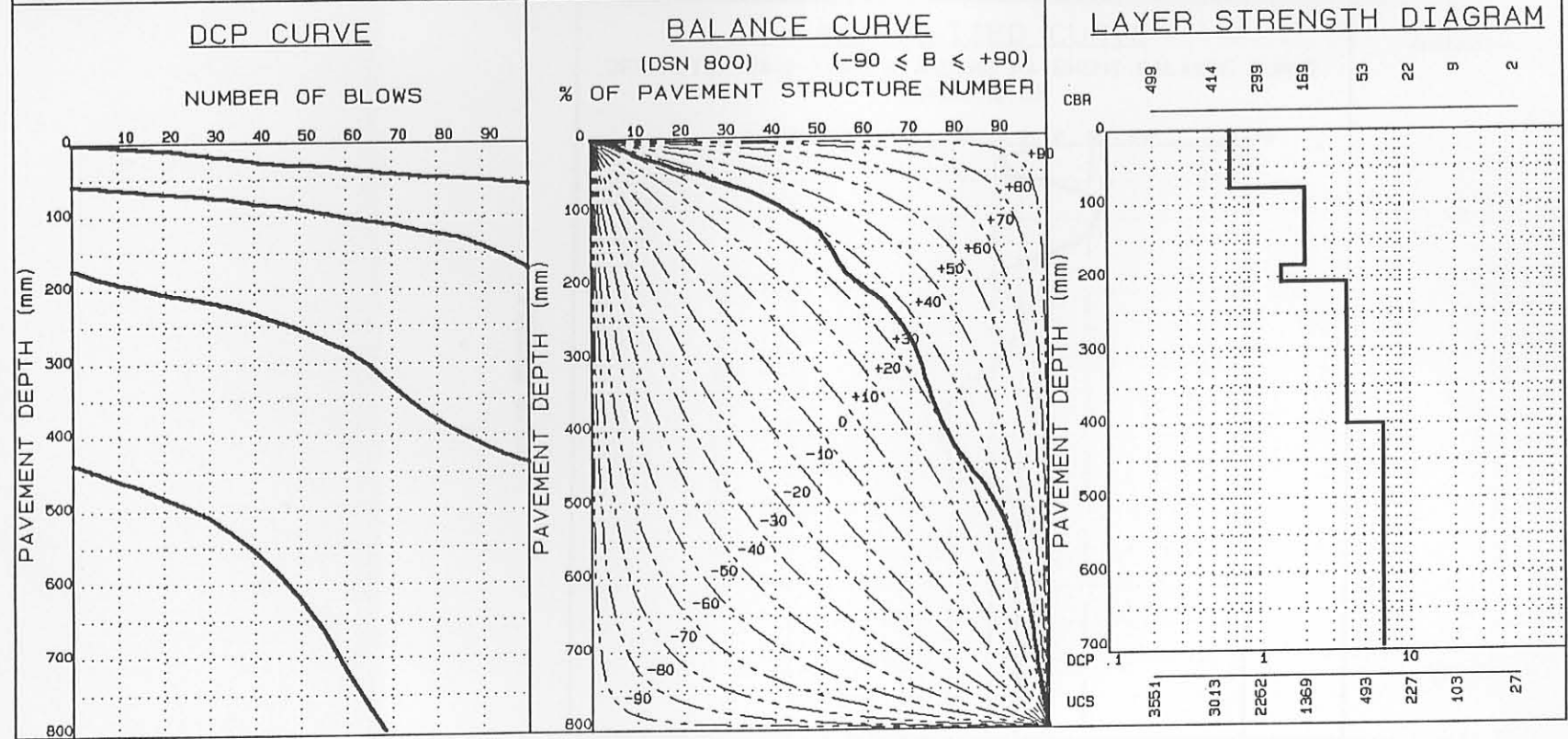


FIGURE E.62

DIVISION OF ROADS AND TRANSPORT TECHNOLOGY  
SUMMARY OF DCP INVESTIGATION

RTT, CSIR, SA

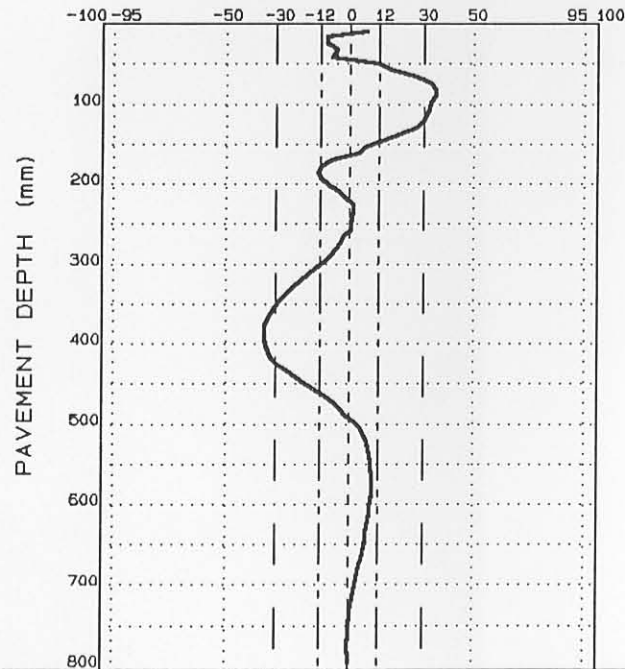
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	90P	CBR%	UCS (kPa)
0- 8	0.4	0.1		431	3121
9- 16	0.9	0.0		320	2402
17- 88	0.7	0.2		368	2716
89-184	2.1	0.9		161	1312
185-224	1.4	0.2		235	1830
225-384	4.0	1.3		70	630
385-576	3.5	1.2		85	748
577-768	9.2	1.6		24	245
769-800	9.2	0.0		24	245

DATA FILE: 308A4, 10C; N=2 460 000

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



LAYER STRENGTH DIAGRAM (REDEFINED)

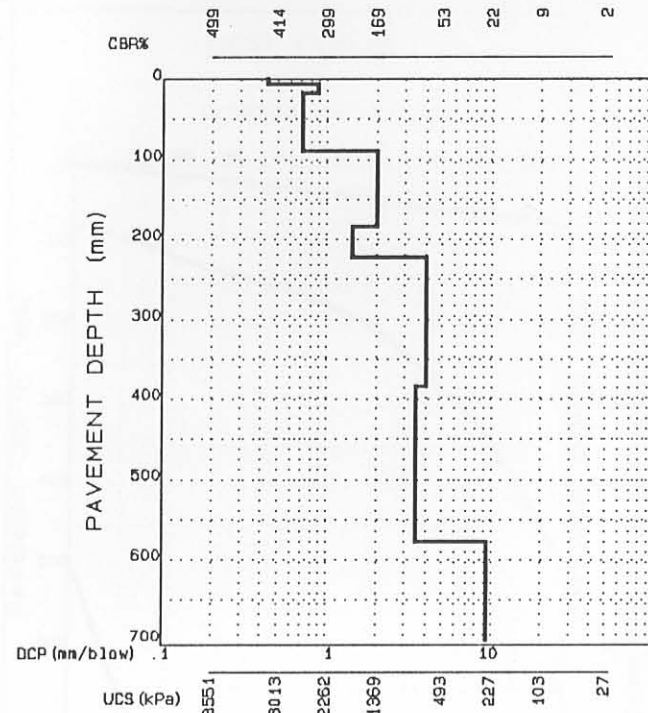


FIGURE E.63

SUMMARY OF DCP INVESTIGATION

DATA FILE :309A4, 105C, 105A, 113; N=10  
 REGION :BULTFONTEIN  
 ROAD NUMBER :P2212  
 DISTANCE : 12.6  
 POSITION : 

L		M	X	R
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 CONDITION : 

FAIRED	OVERSTRESSED	SOUND
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RUT.	DEFORM.	PUMP.	CRACKS : CROCK	LONG.	OTHER
------	---------	-------	----------------	-------	-------

  
 DATE :860307

PAVEMENT CHARACTERISTICS

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	219		0- 64
BALANCE NUMBER (BN 100)	52	52	65-120
DIFFERENCE IN BN100	0		121-192
BALANCE CURVE IS WHERE B =	46	A= 946	193-456
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	9.95		457-800
ROAD CATEGORY		C	
TRAFFIC	LIGHT TRAFFIC		

AVERAGE EQUIVALENT STRENGTH

AV. PENETRATION	SD	BO P	CBR	UCS
1.1	0.2	1.3	277	2115
2.1	0.4	2.4	169	1298
2.6	0.6	3.1	120	1013
9.6	2.2	11.4	23	236
20.4	3.9	23.7	9	103

CATEGORY I : WELL-BALANCED SHALLOW STRUCTURE (WBS)

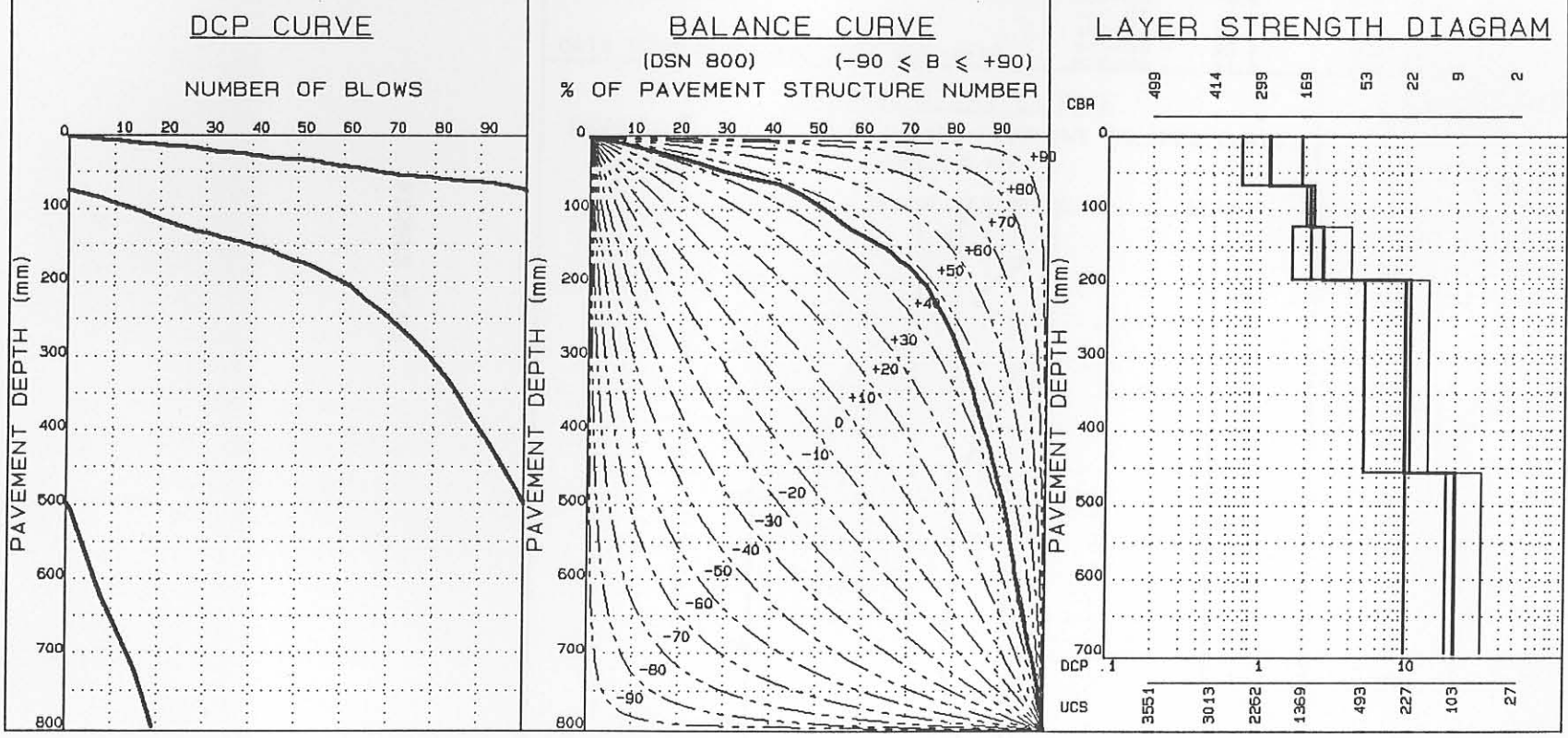


FIGURE E.64

### SUMMARY OF DCP INVESTIGATION

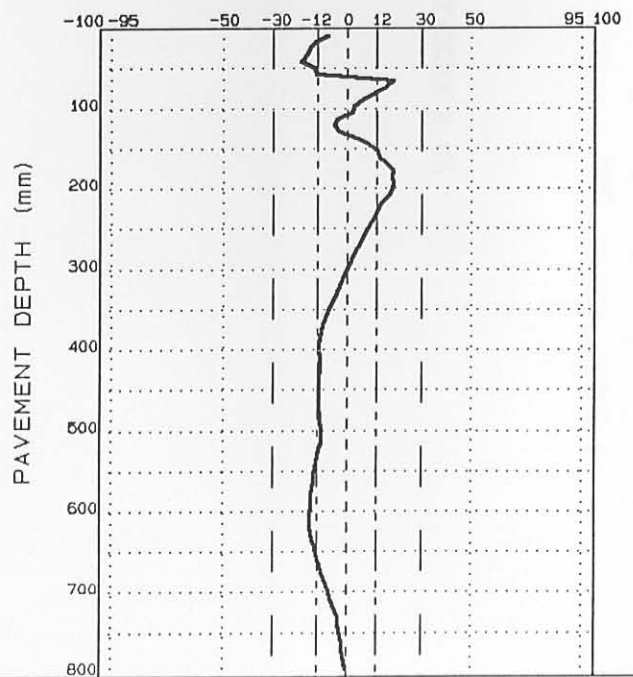
#### AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	QOP	CBR%	UCS (kPa)
0- 40	1.1	0.2	1.3	287	2182
41- 64	1.2	0.2	1.3	262	2014
65-120	2.1	0.4	2.4	159	1298
121-192	2.6	0.6	3.1	120	1013
193-400	9.1	2.1	10.8	25	254
401-416	9.9	0.8	10.5	22	227
417-455	12.0	1.0	12.8	17	181
457-504	12.2	0.5	12.6	17	181
505-608	22.7	2.5	24.8	7	83
609-800	21.3	1.9	22.8	8	93

DATA FILE: 309A4, 105C, 105A, 113; N=10

#### NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE (SPBC), % . mm



#### LAYER STRENGTH DIAGRAM (REDEFINED)

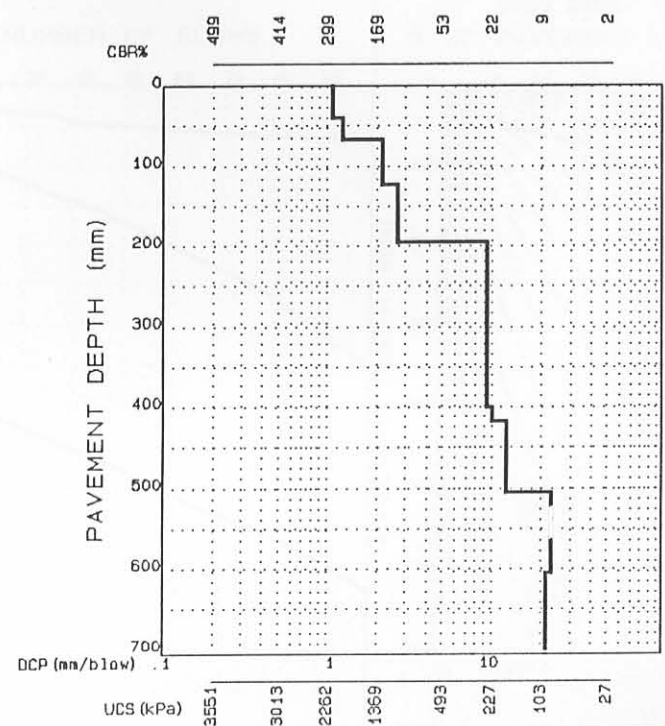


FIGURE E.65



RTT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :309A4,C; N=19 000  
 REGION :BULTFONTEIN  
 ROAD NUMBER :P2212  
 DISTANCE : 12.0  
 POSITION : 

L	X	M		R
---	---	---	--	---

  
 CONDITION : 

FAILED	DIVERGENT	RESSESSED	SOUND
--------	-----------	-----------	-------

  
 DATE :88/05/16

**PAVEMENT CHARACTERISTICS**

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	320		0- 40
BALANCE NUMBER (BN 100)	38	29	41- 64
DIFFERENCE IN BN100	9		65-120
BALANCE CURVE IS WHERE B =	25	A= 2484	121-192
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	>10		193-456
ROAD CATEGORY	A		457-800
TRAFFIC	LIGHT TRAFFIC		

**AVERAGE EQUIVALENT STRENGTH**

AV. PENETRATION	SD	95 P	CBR	UCS
1.5	0.7	2.6	224	1755
0.7	0.6	1.7	360	2664
1.8	0.7	3.0	184	1476
2.6	0.3	3.2	119	1005
3.3	0.8	4.6	89	779
6.2	3.6	12.1	40	385

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

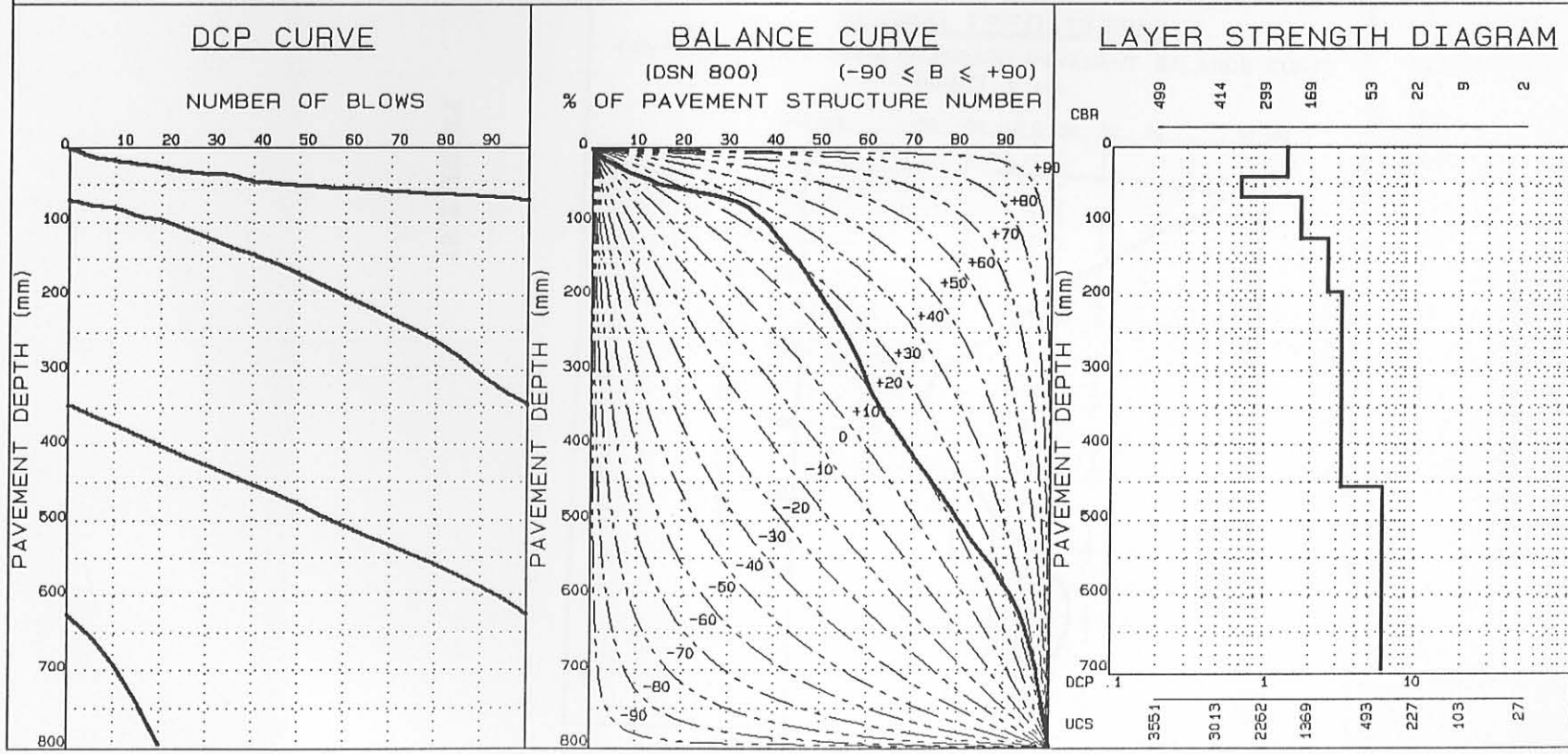


FIGURE E.66

SUMMARY OF DCP INVESTIGATION

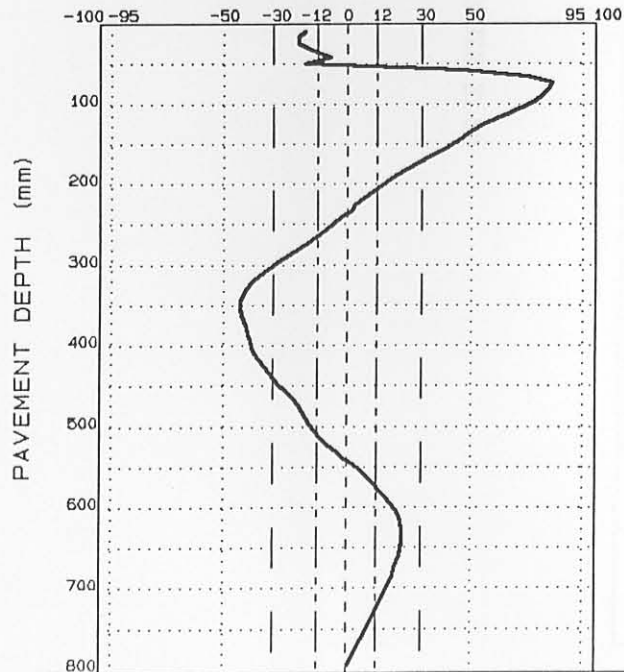
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	95P	CBR%	UCS (kPa)
0- 24	1.7	0.8		198	1574
25- 72	0.9	0.6		326	2441
73-352	3.1	1.0		95	825
353-624	2.9	0.4		108	923
625-800	9.3	2.3		24	245

DATA FILE: 309A4, C; N=19 000

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



LAYER STRENGTH DIAGRAM (REDEFINED)

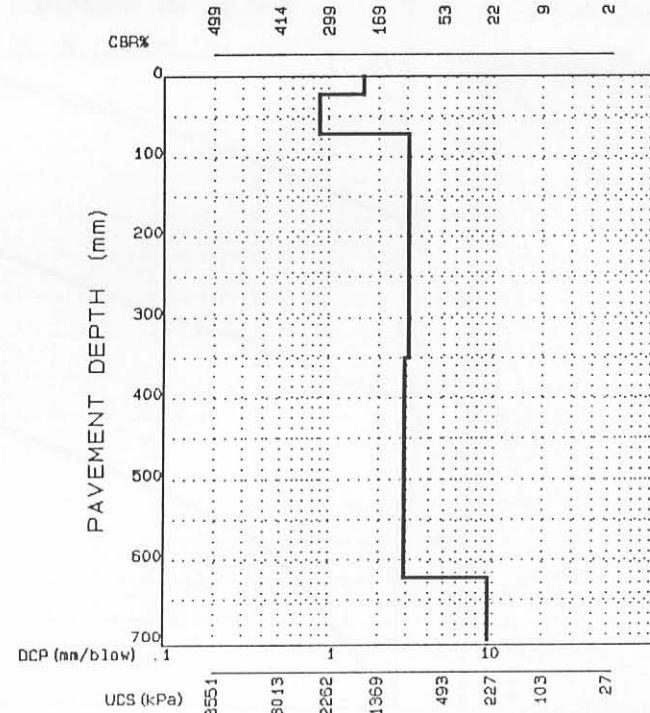


FIGURE E.67

RTT, CSIR, SA

### SUMMARY OF DCP INVESTIGATION

DATA FILE :309A4, FINAL; N=46 000  
 REGION :BULTFONTEIN TVL  
 ROAD NUMBER :P2212  
 DISTANCE : 12.0  
 POSITION : 

L	X		M			R
---	---	--	---	--	--	---

  
 CONDITION : 

FAKED	DVERSTRESSED	SOUND
-------	--------------	-------

POI.	DEFORM.	PUMP.	CRACKS	BROCK	LONG.	OTHER
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 DATE :88/09/13

**PAVEMENT CHARACTERISTICS**

	DATA	B/CURVE	FROM - TO
STRUCTURE NUMBER	300		0- 40
BALANCE NUMBER (BN 100)	19	19	41- 64
DIFFERENCE IN BN100	0		65-120
BALANCE CURVE IS WHERE B =	12	A= 2327	121-192
STRUCT. CAP. (E80 X 10 <sup>6</sup> )	>10		193-456
ROAD CATEGORY	B		457-800
TRAFFIC	: LIGHT TRAFFIC		

**AVERAGE EQUIVALENT STRENGTH**

AV. PENETRATION	SD	90 P	CBR	UCS
2.0	0.1	2.1	171	1383
1.9	0.1	2.0	178	1433
2.0	0.2	2.2	171	1383
2.5	0.1	2.6	130	1087
2.3	0.2	2.6	139	1153
5.6	2.6	8.9	46	435

CATEGORY V : AVERAGELY BALANCED DEEP STRUCTURE (ABD)

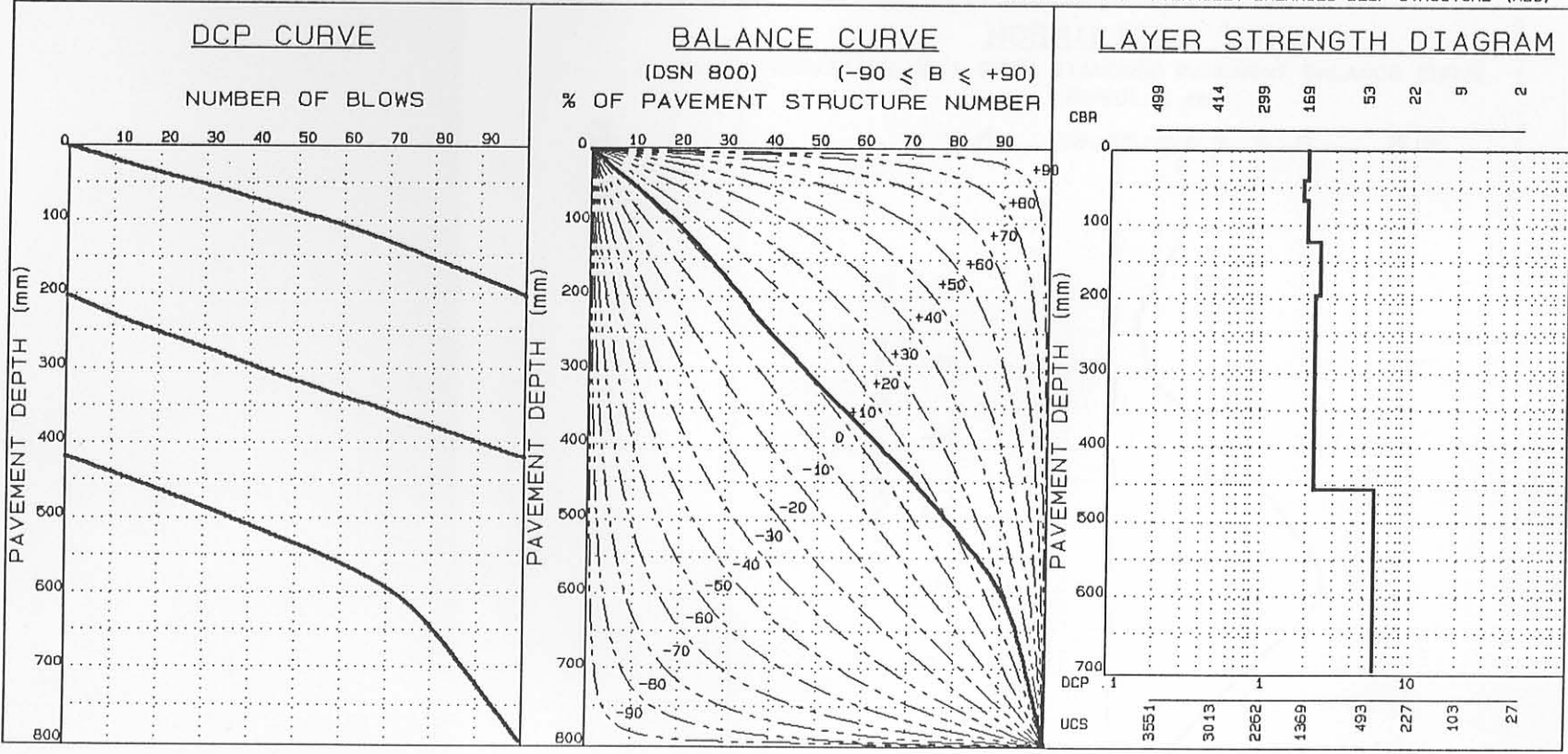


FIGURE E.68

SUMMARY OF DCP INVESTIGATION

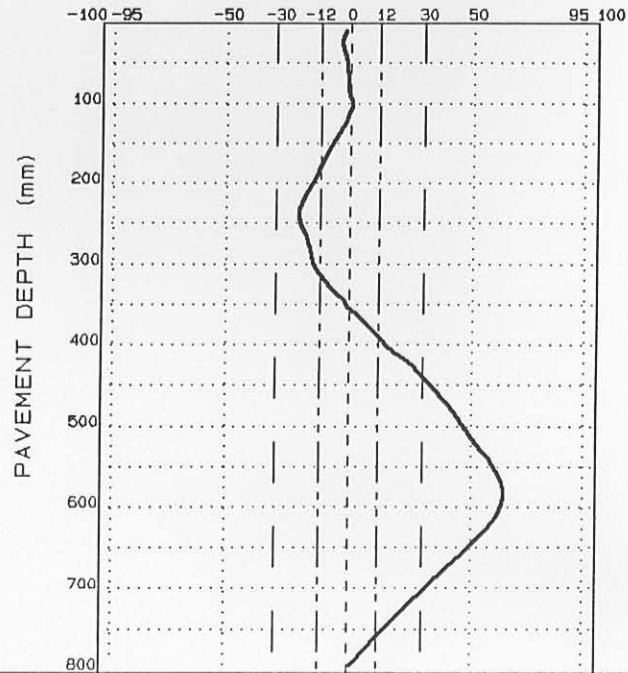
AVERAGE EQUIVALENT STRENGTH (REDEFINED)

FROM - TO (mm)	AV. PENETRATION (mm/blow)	SD	90P	CBR%	UCS (kPa)
0-24	2.0	0.1		165	1341
25-104	1.9	0.1		177	1426
105-240	2.5	0.2		127	1065
241-584	2.4	0.3		134	1116
585-800	7.4	1.4		32	316

DATA FILE: 309A4, FINAL; N=46 000

NORMALIZED CURVE

DEVIATION ( $A_i$ ) FROM STANDARD PAVEMENT BALANCE CURVE  
(SPBC), % .mm



LAYER STRENGTH DIAGRAM (REDEFINED)

