

Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)

LAHORE – 54890 (PAKISTAN)



Phone: 092-42-9929202 Cable: UNIVENGTECH Fax: 092-42-9922566

Ref.:-----

Date:-----

The Resident Engineer,
NESPAK,
Khanewal.

Subject: **Testing of Asphalt Concrete Cores**

Dear Sir,

It is with reference to your letter No. RE/HHU/KWL/SDG'S/147 dated 16-05-2025.
Please find below the results for the tests conducted on asphalt concrete cores provided to
this laboratory on 11-06-2025 through your representative.

BULK SPECIFIC GRAVITY OF COMPACTED ASPHALT (ASTM D2726):

Core	Mean Thickness (cm)	Mean Diameter (cm)	Bulk Specific Gravity
Scheme No. 1, L/S	6.333	10.000	2.399
Scheme No. 1, C/L	6.233	10.000	2.408
Scheme No. 1, R/S	6.030	10.000	2.403
Scheme No. 2, L/S	6.800	10.000	2.401
Scheme No. 2, C/L	5.697	10.000	2.412
Scheme No. 2, R/S	5.700	10.000	2.407
Scheme No. 3, L/S	5.500	10.000	2.408
Scheme No. 3, C/L	5.450	10.000	2.410
Scheme No. 3, R/S	6.500	10.000	2.413
Scheme No. 4, L/S	6.543	10.000	2.398
Scheme No. 4, C/L	5.333	10.000	2.409
Scheme No. 4, R/S	6.467	10.000	2.402
Scheme No. 5, L/S	6.417	10.000	2.392
Scheme No. 5, C/L	7.497	10.000	2.401
Scheme No. 5, R/S	6.000	10.000	2.407
Scheme No. 6, L/S	5.700	10.000	2.392
Scheme No. 6, C/L	5.410	10.000	2.417
Scheme No. 6, R/S	5.387	10.000	2.396
Scheme No. 7, L/S	5.300	10.000	2.391
Scheme No. 7, C/L	5.900	10.000	2.403

Scheme No. 7, R/S	5.400	10.000	2.410
Scheme No. 8, L/S	5.500	10.000	2.392
Scheme No. 8, C/L	5.600	10.000	2.392
Scheme No. 8, R/S	5.530	10.000	2.412
Scheme No. 9, L/S	5.250	10.000	2.397
Scheme No. 9, C/L	5.700	10.000	2.415
Scheme No. 9, R/S	5.500	10.000	2.406
Scheme No. 10, L/S	5.800	10.000	2.411
Scheme No. 10, C/L	5.720	10.000	2.417
Scheme No. 10, R/S	6.700	10.000	2.419

BITUMEN EXTRACTION TEST: (Cores)

Scheme No. 1, R/S

Bitumen Extraction Value (ASTM D-2172)								4.28%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	90.00	61.01	55.00	40.01	25.22	9.03	4.03	

Scheme No. 2, L/S

Bitumen Extraction Value (ASTM D-2172)								4.23%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	89.00	62.00	53.00	38.00	23.18	9.02	3.53	

Scheme No. 3, R/S

Bitumen Extraction Value (ASTM D-2172)								4.22%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	91.02	63.02	54.18	37.17	22.17	10.03	4.01	

Scheme No. 4, R/S

Bitumen Extraction Value (ASTM D-2172)								4.21%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	91.00	60.50	54.01	41.01	26.02	10.01	3.91	

Scheme No. 5, C/L

Bitumen Extraction Value (ASTM D-2172)								4.24%	
Gradation Analysis									
<i>Sieve No.</i>	1"	¾"	½"	3/8"	#4	#8	#50	#200	
<i>% Passing</i>	100	90.01	61.02	53.01	39.02	24.01	8.00	3.50	

Scheme No. 6, R/S

Bitumen Extraction Value (ASTM D-2172)								4.25%	
Gradation Analysis									
<i>Sieve No.</i>	1"	¾"	½"	3/8"	#4	#8	#50	#200	
<i>% Passing</i>	100	88.00	62.00	52.00	40.00	25.00	9.00	4.20	

Scheme No. 7, R/S

Bitumen Extraction Value (ASTM D-2172)								4.21%	
Gradation Analysis									
<i>Sieve No.</i>	1"	¾"	½"	3/8"	#4	#8	#50	#200	
<i>% Passing</i>	100	89.02	61.04	51.05	40.05	24.07	9.07	4.07	

Scheme No. 8, R/S

Bitumen Extraction Value (ASTM D-2172)								4.24%	
Gradation Analysis									
<i>Sieve No.</i>	1"	¾"	½"	3/8"	#4	#8	#50	#200	
<i>% Passing</i>	100	92.00	62.99	53.99	43.00	28.01	10.99	4.99	

Scheme No. 9, L/S

Bitumen Extraction Value (ASTM D-2172)								4.23%	
Gradation Analysis									
<i>Sieve No.</i>	1"	¾"	½"	3/8"	#4	#8	#50	#200	
<i>% Passing</i>	100	92.01	62.01	49.00	39.01	25.00	10.01	3.50	

Scheme No. 10, R/S

Bitumen Extraction Value (ASTM D-2172)								4.24%	
Gradation Analysis									
<i>Sieve No.</i>	1"	¾"	½"	3/8"	#4	#8	#50	#200	
<i>% Passing</i>	100	91.01	60.01	54.02	40.02	25.02	9.01	4.00	

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

Note:

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Date:-----

The Resident Engineer,
NESPAK,
Khanewal.

Subject: **Testing of Asphalt Concrete Cores**

Dear Sir,

It is with reference to your letter No. RE/HHU/KWL/SDG'S/148 dated 16-05-2025.
Please find below the results for the tests conducted on asphalt concrete cores provided to this laboratory on 11-06-2025 through your representative.

BULK SPECIFIC GRAVITY OF COMPACTED ASPHALT (ASTM D2726):

Core	Mean Thickness (cm)	Mean Diameter (cm)	Bulk Specific Gravity
Scheme No. 1, L/S	5.600	10.000	2.392
Scheme No. 1, C/L	5.750	10.000	2.410
Scheme No. 1, R/S	5.410	10.000	2.400
Scheme No. 2, L/S	6.290	10.000	2.394
Scheme No. 2, C/L	5.850	10.000	2.414
Scheme No. 2, R/S	6.500	10.000	2.401
Scheme No. 3, L/S	6.370	10.000	2.418
Scheme No. 3, C/L	6.200	10.000	2.416
Scheme No. 3, R/S	6.220	10.000	2.419
Scheme No. 4, L/S	6.900	10.000	2.419
Scheme No. 4, C/L	7.210	10.000	2.410
Scheme No. 4, R/S	6.320	10.000	2.412
Scheme No. 5, L/S	6.630	10.000	2.391
Scheme No. 5, C/L	5.720	10.000	2.400
Scheme No. 5, R/S	6.000	10.000	2.394
Scheme No. 6, L/S	6.300	10.000	2.401
Scheme No. 6, C/L	6.200	10.000	2.411
Scheme No. 6, R/S	6.220	10.000	2.404

BITUMEN EXTRACTION TEST: (Cores)**Scheme No. 1, R/S**

Bitumen Extraction Value (ASTM D-2172)								4.21%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	94.00	65.02	57.03	43.05	28.07	11.08	5.08	

Scheme No. 2, R/S

Bitumen Extraction Value (ASTM D-2172)								4.22%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	91.99	61.99	48.99	39.01	25.00	10.01	3.50	

Scheme No. 3, L/S

Bitumen Extraction Value (ASTM D-2172)								4.24%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	93.20	60.01	51.00	36.00	22.00	9.01	3.20	

Scheme No. 4, C/L

Bitumen Extraction Value (ASTM D-2172)								4.20%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	93.02	64.04	56.04	42.06	26.08	11.08	4.10	

Scheme No. 5, R/S

Bitumen Extraction Value (ASTM D-2172)								4.25%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	92.00	63.00	55.99	43.00	26.99	11.99	5.00	

Scheme No. 6, L/S

Bitumen Extraction Value (ASTM D-2172)								4.22%	
Gradation Analysis									
Sieve No.	1"	¾"	½"	3/8"	#4	#8	#50	#200	
% Passing	100	89.00	58.00	50.01	35.00	22.00	7.00	2.99	

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

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Date:-----

The Resident Engineer,
NESPAK,
Khanewal.

Subject: **Testing of Asphalt Concrete Cores**

Dear Sir,

It is with reference to your letter No. RE/HHU/KWL/SDG'S/174 dated 05-06-2025.
Please find below the results for the tests conducted on asphalt concrete cores provided to this laboratory on 11-06-2025 through your representative.

BULK SPECIFIC GRAVITY OF COMPACTED ASPHALT (ASTM D2726):

Core	Mean Thickness (cm)	Mean Diameter (cm)	Bulk Specific Gravity
Scheme No. 1, L/S	5.300	10.000	2.411
Scheme No. 1, C/L	5.350	10.000	2.419
Scheme No. 1, R/S	5.300	10.000	2.417
Scheme No. 2, L/S	6.410	10.000	2.418
Scheme No. 2, C/L	5.510	10.000	2.411
Scheme No. 2, R/S	5.350	10.000	2.418

BITUMEN EXTRACTION TEST: (Cores)

Scheme No. 1, C/L

<i>Bitumen Extraction Value (ASTM D-2172)</i>							4.23%	
<i>Gradation Analysis</i>								
Sieve No.	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	94.01	63.04	58.05	43.06	26.08	11.08	4.70

Scheme No. 2, R/S

Bitumen Extraction Value (ASTM D-2172)							4.24%	
Gradation Analysis								
<i>Sieve No.</i>	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200
<i>% Passing</i>	100	92.54	60.53	55.52	40.53	25.71	11.62	5.72

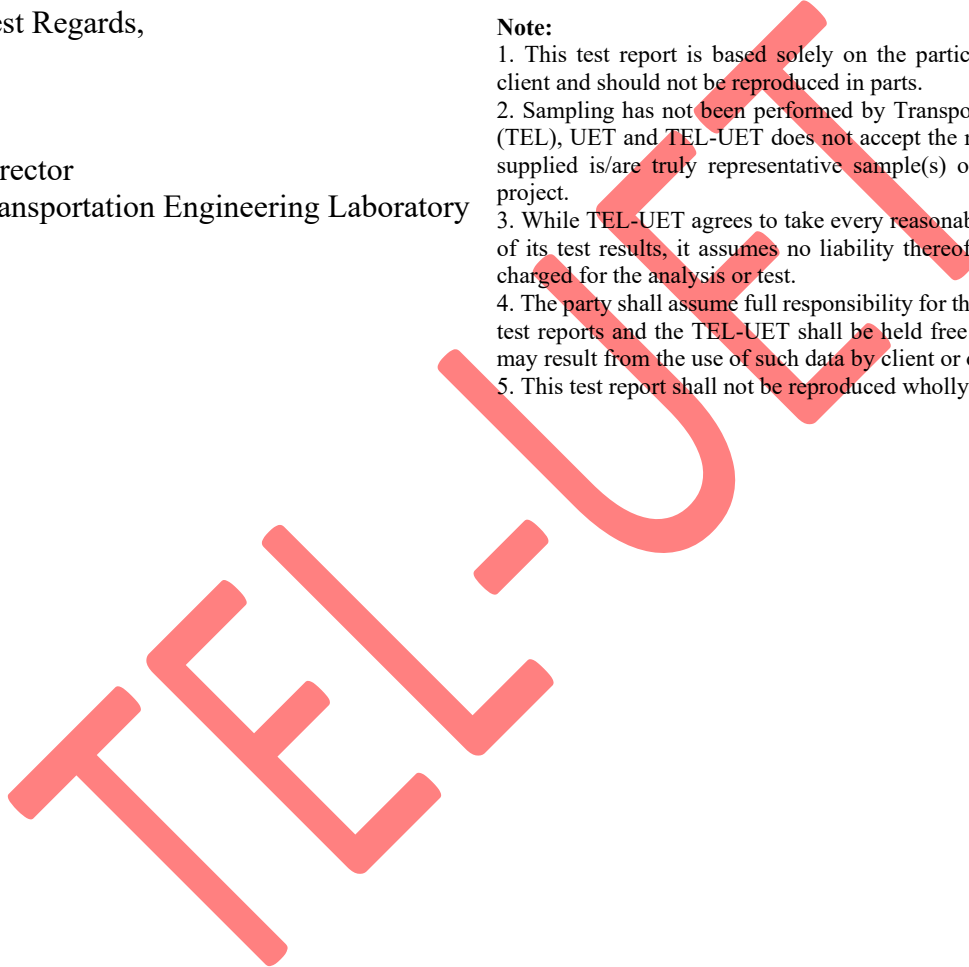
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Date:-----

The Resident Engineer,
NESPAK,
Khanewal.

Subject: **Testing of Asphalt Concrete Cores and Chunks (AWC)**
Restoration/Improvement of Road from Kabirwala Jhang Road up to
District Boundary Khanewal, Length = 47.00 km
(Taken Length = 40.00 km), Tehsil Kabirwala, District Khanewal

Dear Sir,

It is with reference to your letter No. RE/HHU/KWL/RES/24 dated 09-06-2025.
Please find below the results for the tests conducted on asphalt concrete cores and chunks
provided to this laboratory on 11-06-2025 through your representative.

BULK SPECIFIC GRAVITY OF COMPACTED ASPHALT (ASTM D2726):

Core	Mean Thickness (cm)	Mean Diameter (cm)	Bulk Specific Gravity
RD 106+00, L/S	5.350	10.000	2.391
RD 106+00, C/L	5.700	10.000	2.411
RD 106+00, R/S	6.100	10.000	2.401
RD 446+00, L/S	5.440	10.000	2.403
RD 446+00, C/L	5.500	10.000	2.412
RD 446+00, R/S	5.930	10.000	2.409
RD 800+00, L/S	5.700	10.000	2.389
RD 800+00, C/L	5.500	10.000	2.399
RD 800+00, R/S	5.610	10.000	2.391

BITUMEN EXTRACTION TEST: (Chunks)

RD 260+00

Bitumen Extraction Value (ASTM D-2172)							4.23%	
Gradation Analysis								
Sieve No.	3/4"	1/2"	3/8"	#4	#8	#50	#200	
% Passing	100	78.00	67.00	49.01	29.01	9.20	4.03	

RD 668+00

Bitumen Extraction Value (ASTM D-2172)							4.23%	
Gradation Analysis								
<i>Sieve No.</i>	$\frac{3}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{8}$ "	#4	#8	#50	#200	
<i>% Passing</i>	100	80.00	63.01	48.01	28.01	9.01	3.51	

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

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