# **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 Executive Engineer, Highway Division, Hafizabad.

Subject: <u>Rehabilitation/Widening of Road from Kot Harra to Jalalpur Bhattian</u> (Length = 41.09 km) in District Hafizabad (Group-I Kot Harra to Vanike Tarrar km 0.00 to 14.70 km) & (Section-II Vanike Tarrar to Jalalpur Bhattian km 14.70 to 41.10, Length = 26.30 km in District Hafizabad) Construction of Bypass at Rasool Pur Tarar Length = 3.82 km in District Hafizabad

Dear Sir,

It is with reference to your letter No. 2614/MCB dated 18-11-2024. Please find below the results for the tests conducted on asphalt concrete cores provided to this laboratory on 14-02-2025 through your representative.

## BULK SPECIFIC GRAVITY OF COMPACTED ASPHALT (ASTM D2726):

Core	Mean Thickness	Mean Diameter	Bulk
	(cm)	(cm)	Specific Gravity
RD 1047+00, R/S (AWC), TP1	6,383	9.600	2.389
RD 1047+00, R/S (ABC), TP1	6.970	9.600	2.404
RD 780+00, L/S (AWC), TP2	6.120	9.600	2.389
RD 780+00, L/S (ABC), TP2	7.947	9.600	2.406
RD 512+00, R/S (AWC), TP3	6.300	9.600	2.392
RD 512+00, R/S (ABC), TP3	7.167	9.600	2.403
RD 50+00, R/S (AWC), TP4	5.327	9.600	2.395
RD 50+00, R/S (ABC), TP4	6.773	9.600	2.418
RD 80+00, L/S (AWC), TP5	7.417	9.600	2.410
RD 80+00, L/S (ABC), TP5	6.377	9.600	2.454

#### **BITUMEN EXTRACTION TEST: (Cores)**

#### RD 1047+00, R/S (AWC), TP1

Bitumen Extraction Value (ASTM D-	-2172)	4.21%					
Gradation Analysis							
Sieve No.	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	74.99	61.99	41.98	27.99	9.00	3.98



### RD 1047+00, R/S (ABC), TP1

Bitumen Extraction Value (ASTM D-2172)3.72%								
Gradation Analysis								
Sieve No.	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	78.99	62.00	51.00	37.00	23.17	10.01	4.00

### RD 780+00, L/S (AWC), TP2

Bitumen Extraction Value (ASTM)	D-2172)				4.2	23%	
Gradation Analysis							
Sieve No.	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	73.99	63.01	41.02	30.00	8.03	3.14
RD 780+00, L/S (ABC), TP2							

### RD 780+00, L/S (ABC), TP2

Bitumen Extraction Value (	ASTM I	D-2172)				3.1	74%	
Gradation Analysis								
Sieve No.	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	77.99	61.00	52.00	38.01	21.00	9.01	5.02

# RD 512+00, R/S (AWC), TP3

Bitumen Extraction Value (ASTM I	D-2172)	4.25%					
Gradation Analysis							
Sieve No.	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	71.01	60.02	45.01	27.01	10.02	5.03

# RD 512+00, R/S (ABC), TP3

Bitumen Extraction	ion Value (ASTM D-2172)						3.1	71%	
Gradation Analysis									
Sieve No.	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	98.01	80.01	62.16	54.00	34.00	24.00	8.01	3.01

#### RD 50+00, R/S (AWC), TP4

Bitumen Extraction Value (ASTM D-	-2172)	2172) 4.24%					
Gradation Analysis							
Sieve No.	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	78.99	58.99	39.98	29.99	7.00	3.01

#### RD 50+00, R/S (ABC), TP4

Bitumen Extraction	ı Value (	ASTM I	D-2172)			74%			
Gradation Analysis									
Sieve No.	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200
% Passing	100	95.00	75.00	60.99	52.00	37.00	24.00	12.00	2.99

#### RD 80+00, L/S (AWC), TP5

Bitumen Extraction Value	(ASTM L	<b>)-</b> 2172)				4.2	24%	
Gradation Analysis								
Sieve No.		<sup>3</sup> /4"	1/2"	3/8"	#4	#8	#50	#200
% Passing		100	80.01	58.00	42.00	33.01	12.00	4.99
Bitumen Extraction Value	S (ASTM L	<b>D-2172)</b>				3.'	75%	
Gradation Analysis		,						
Sieve No.	1"	3/, "	1/2"	3/8"	#4	#8	#50	
	1		12	210		10	1150	#200

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

Best Regards,

Director Transportation Engineering Laborato

#### Note:

1. This test report is based solely on the particular sample(s) supplied by the client and should not be reproduced in parts.

2. Sampling has not been performed by Transportation Engineering Laboratory (TEL), UET and TEL-UET does not accept the responsibility that the sample(s) supplied is/are truly representative sample(s) of any batch or stock or entire project.

3. While TEL-UET agrees to take every reasonable precaution to ensure validity of its test results, it assumes no liability thereof beyond the amount of the fee charged for the analysis or test.

4. The party shall assume full responsibility for the ethical use of the results in the test reports and the TEL-UET shall be held free from any and all claims which may result from the use of such data by client or others.

5. This test report shall not be reproduced wholly or in parts unless negotiated.