

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:-----

Mr. Muhammad Khalid Zaman
Resident Engineer,
ECSP.

Subject: **Testing of Coarse Aggregate**
Model Cattle Market Shahpur Kanjra, Lahore

Dear Sir,

It is with reference to your letter No. ECSP/MCML/43 dated 01-01-2025.
Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 04-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	96.14	26.60	4.48	0.08

2. Percentage of Fines (ASTM D-1140) Wet Sieving

Material Finer than #200 Sieve (%)	0.26
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3. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.85
Specific Gravity (saturated surface dry condition)	2.86
Apparent Specific Gravity	2.88
Water Absorption (%)	0.42

4. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test (gm)	Weight of Fraction After Test (gm)	Percentage Passing Designated Sieve After Test	Weighted Percentage Loss
1/2" + 3/8"	1000.4	989.7	1.07	0.98
	Total = 0.98%			

5. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
B	16.20

6. Unit Weight (*Loose & Rodded*); (ASTM C 29/C 29M)

Loose Unit Weight (g/cm ³)	1.39
Rodded Unit Weight (g/cm ³)	1.54

7. Flakiness & Elongation Index (BS 812: Part 105)

Sieve Size		Individual Flakiness Index (%)	Weighted Flakiness Index (%)	Individual Elongation Index (%)	Weighted Elongation Index (%)
Passing (in.)	Retained (in.)				
1	3/4	0	0	9.96	0.39
3/4	1/2	6.32	4.40	9.84	6.85
1/2	3/8	5.34	1.18	11.59	2.56
3/8	1/4	3.60	0.16	12.61	0.56
		Flakiness Index = 5.74%		Elongation Index = 10.36%	

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

Best Regards,

Director
Transportation Engineering Laboratory

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. Muhammad Khalid Zaman
Resident Engineer, ECSP.

Subject: **Testing of Fine Aggregate**
Model Cattle Market Shahpur Kanjra, Lahore

Dear Sir,

It is with reference to your letter No. ECSP/MCML/44 dated 03-01-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 04-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.17	95.01	88.92	77.97	61.69	27.05	5.49	1.11

2. Percentage of Fines (ASTM D-1140) *Wet Sieving*

Material Finer than #200 Sieve (%)	2.69
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	2.45
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.68
Specific Gravity (SSD)	2.70
Apparent Specific Gravity	2.74
Water Absorption (%)	0.81

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

Best Regards,

Director
Transportation Engineering Laboratory

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

Ref.:-----

Date:-----

Mr. Muhammad Zaki
Resident Engineer, NESPAK.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Street (P.C.C), Sewerage/Drainage UC 79(B), 80, 100 & 104
Samanabad Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SAMANABAD/04/23 dated 25-01-2025.
Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 07-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	99.00	80.95	63.72	42.68	31.51	22.28

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	25.72

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

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Director
Transportation Engineering Laboratory

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. Muhammad Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**

Rehabilitation/Improvement of Roads Saeed Park, Maqbara More and Links Shahdara, UC 13, Ravi Zone MCL

Rehabilitation/Improvement of Roads Kashmir Park, Islam Pura, Faisal Park & Machis Factory, Shahdara, UC 08 Ravi Zone MCL

Rehabilitation/Improvement of Roads Siddiqia Colony, Khokhar Road WASA Colony & Khokhar Pind, UC 23 Ravi Zone MCL

Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/153 dated 06-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 07-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	76.82	54.45	28.20	15.51	6.39

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	27.06

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

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

Ref.:-----

Date:-----

Mr. M. Hassan Khan
Resident Engineer,
NESPAK.

Subject: **Testing of Base Course/WBM Material**

- Scheme # 16 Rehabilitation/Improvement/Patchwork on Link Road UC-42, 43, 44, 46, 47 Shalamar Zone Phase-II
- Scheme # 19 Rehabilitation/Improvement/Patchwork on Link Road UC-164, 165, 166, 167 Shalamar Zone Phase-II

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ(S-16 & 19)/04/24 dated 18-01-2025. Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	89.32	48.95	4.50	0	0	0	0	0

2. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.71
Specific Gravity (saturated surface dry condition)	2.73
Apparent Specific Gravity	2.77
Water Absorption (%)	0.74

3. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test. (gm)	Weight of Fraction After Test. (gm)	Percentage Passing Designated Sieve After Test.	Weighted Percentage Loss.
2" + 1 1/2"	5004.4	4985.1	0.39	0.33
	Total = 0.33%			

4. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
1	19.74

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

Best Regards,

Director
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Ref:-----

Date:-----

Mr. M. Hassan Khan
Resident Engineer, NESPAK.

Subject: **Testing of WBM Material**
Scheme # 13 Rehabilitation/Improvement of Road Nadia Ghee Mill Rasheedpura
Road Shalamar Zone Phase-II

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ(S-13)/04/26 dated 21-01-2025.
Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	92.19	40.32	5.18	0	0	0	0	0

2. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.69
Specific Gravity (saturated surface dry condition)	2.71
Apparent Specific Gravity	2.74
Water Absorption (%)	0.74

3. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test. (gm)	Weight of Fraction After Test. (gm)	Percentage Passing Designated Sieve After Test.	Weighted Percentage Loss.
2" + 1 1/2"	5010.4	4987.8	0.45	0.39
	Total = 0.39%			

4. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
1	21.03

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

Best Regards,

Director
Transportation Engineering Laboratory

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TEL UET

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Ref.:-----

Date:-----

Mr. M. Hassan Khan
Resident Engineer,
NESPAK.

Subject: **Testing of Sub-base Material**

- Scheme # 16 Rehabilitation/Improvement/Patchwork on Link Road UC-42, 43, 44, 46, 47 Shalamar Zone Phase-II
- Scheme # 19 Rehabilitation/Improvement/Patchwork on Link Road UC-164, 165, 166, 167 Shalamar Zone Phase-II

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ(S-16 & 19)/04/26 dated 18-01-2025. Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	99.03	82.12	63.85	50.07	40.49	33.78

2. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.67
Specific Gravity (saturated surface dry condition)	2.70
Apparent Specific Gravity	2.76
Water Absorption (%)	1.21

3. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test. (gm)	Weight of Fraction After Test. (gm)	Percentage Passing Designated Sieve After Test.	Weighted Percentage Loss.
1" + ¾"	1501.4	1479.3	1.47	0.52
	Total = 0.52%			

4. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
1	27.82

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

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Director
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Ref:-----

Date:-----

Mr. M. Hassan Khan
Resident Engineer,
NESPAK.

Subject: **Testing of Sand for Concrete/Mortar**

- Scheme # 16 Rehabilitation/Improvement/Patchwork on Link Road UC-42, 43, 44, 46, 47 Shalamar Zone Phase-II
- Scheme # 19 Rehabilitation/Improvement/Patchwork on Link Road UC-164, 165, 166, 167 Shalamar Zone Phase-II

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ (S-16 & 19)/04/21 dated 18-01-2025. Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	98.68	98.17	97.68	97.08	89.59	5.81	0.57

2. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	1.13
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3. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.65
Specific Gravity (SSD)	2.67
Apparent Specific Gravity	2.71
Water Absorption (%)	0.80

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

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Transportation Engineering Laboratory

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

Ref.:-----

Date:-----

Mr. M. Hassan Khan
Resident Engineer,
NESPAK.

Subject: **Testing of Sand for Concrete/Mortar**
Scheme # 13 Rehabilitation/Improvement of Road Nadia Ghee Mill Rasheedpura
Road Shalamar Zone Phase-II

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ (S-13)/04/21 dated 14-01-2025.
Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.75	99.21	98.91	98.44	91.37	6.99	0.91

2. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	1.05
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3. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.65
Specific Gravity (SSD)	2.67
Apparent Specific Gravity	2.70
Water Absorption (%)	0.75

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

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: Testing of Granular Sub-base Material

Rehabilitation/Improvement of Roads Qadafi Colony, Nabi Pura, Bangali Bagh, Sultan Pura, Hussain Park, Badami Bagh, UC 20 Ravi Zone MCL
Rehabilitation/Improvement of Roads Siddiq Pura, Hussain Park, Larex Colony, Alqudus Road, Sher Shah Wali Colony & Hanif Park, UC 19 Ravi Zone MCL
Rehabilitation/Improvement of Roads Masoom Shah Road, Karam Nagar, Nishat Park, Badar Colony, Ch. Colony & Khokhar Road, Badami Bagh, UC 21 Ravi Zone MCL
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage Sadaat Colony, Ali Pura, Sanatha Park, Main Park, Aleem Colony, Hanif Park & Muhammadia Colony, Siddiq Pura, Hussain Park, Larex Colony, Alqudus Road & Sher Shah Wali Colony, UC 18 & 19 Ravi Zone MCL
Rehabilitation/Improvement of Roads Qila Lachman Singh, Qila Muhammadi, Timber Market & Almadad Pak Colony, UC 15 & 16 Ravi Zone MCL

Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/149 dated 06-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	77.93	56.93	31.73	20.14	11.77

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	27.14

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

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Director
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Ref.:-----

Date:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Aggregate (Granular Sub-base)**
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/54 dated 06-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 11-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	98.75	81.14	64.38	42.87	32.92	24.87

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	28.26

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. Muhammad Zaki
Resident Engineer, NESPAK.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Street (P.C.C), Sewerage/Drainage, UC 75, 76,
Samanabad Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SAMANABAD/04/21 dated 03-02-2025.
Please find below the results for the tests conducted on the aggregate sample provided to this
laboratory on 11-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	99.23	82.25	66.80	46.38	36.76	28.74

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	27.19

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

Best Regards,

Director
Transportation Engineering Laboratory

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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:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**

Rehabilitation/Improvement of Roads Dhairr, Rasool Park, Siraj Park, Paracha Colony, Qazi Park, Ghoray Shah, Jhalaran & Narowal Road, Shadhara, UC 11, 12, Ravi Zone, MCL

Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/165 dated 11-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 17-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	78.23	59.48	45.77	36.99	31.65

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	28.20

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

Best Regards,

Director
Transportation Engineering Laboratory

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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:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, UC 10, 11,
12, 13, 14, Ravi Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/185 dated 10-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 18-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	100	77.17	57.48	32.08	19.44	12.53

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	26.39

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

Best Regards,

Director
Transportation Engineering Laboratory

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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:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, UC 01, 02,
05, 10, Ravi Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/201 dated 22-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 24-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	100	79.54	60.34	37.84	26.99	20.16

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	27.28

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

Best Regards,

Director
Transportation Engineering Laboratory

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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:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**

Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, Khokhar Village & Jhuggian Jodha, UC 23 & 25, Ravi Zone, MCL
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, Kashmir Park, Machis Factory & Haji Kot Shahdara, UC 08 & 09, Ravi Zone, MCL
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, UC 04 & 05, Ravi Zone, MCL

Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/195 dated 22-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 24-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	97.85	79.92	64.30	49.96	39.47	32.48

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	28.02

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

Best Regards,

Director
Transportation Engineering Laboratory

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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:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, UC 29 & 30,
Ravi Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/218 dated 25-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 26-02-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	97.42	79.43	63.68	50.47	41.86	35.61

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	26.23

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

Best Regards,

Director
Transportation Engineering Laboratory

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Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**

Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, Jia Musa,
Gulshan Hayat Park, Chaman Colony & Shamas Abad, Shahdara, UC 03 & 04,
Ravi Zone, MCL

Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/213 dated 24-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 04-03-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	98.54	82.41	67.75	54.06	43.95	37.80

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	28.12

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

Best Regards,

Director
Transportation Engineering Laboratory

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Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Street Pavement, Sewerage/Drainage, UC 17, 18,
19, 20, 21, 22, Ravi Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/236 dated 03-03-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-03-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	96.07	70.03	47.19	31.01	23.79

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	28.14

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

Best Regards,

Director
Transportation Engineering Laboratory

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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:-----

Engr. Sheikh Maqbool Hassan
Resident Engineer, NESPAK,
MCL Nishtar Zone, Lahore.

Subject: **Testing of Aggregate (Granular Sub-base)**
Rehabilitation/Improvement of Streets (P.C.C), Sewerage/Drainage, UC-242,
Nishtar Zone, Lahore

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/NZ/04/223 dated 22-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 10-03-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	97.66	80.00	64.81	53.79	46.10	39.26

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	27.86

3. Flakiness & Elongation Index (BS 812: Part 105)

Sieve Size		Individual Flakiness Index (%)	Weighted Flakiness Index (%)	Individual Elongation Index (%)	Weighted Elongation Index (%)
Passing (in.)	Retained (in.)				
2	1 1/2	0	0	59.78	2.30
1 1/2	1	20.44	5.95	28.89	8.40
1	3/4	25.87	6.47	22.53	5.63
3/4	1/2	31.07	5.64	24.17	4.39
1/2	3/8	34.13	4.32	32.75	4.15
3/8	1/4	14.21	1.60	26.95	3.03
Flakiness Index = 23.98%			Elongation Index = 27.90%		

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

Best Regards,

Director
Transportation Engineering Laboratory

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TEL UET

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:-----

Engr. Sheikh Maqbool Hassan
Resident Engineer, NESPAK,
MCL Nishtar Zone, Lahore.

Subject: **Testing of Aggregate (PCC Crush)**
Rehabilitation/Improvement of Streets (P.C.C), Sewerage/Drainage, UC-242,
Nishtar Zone, Lahore

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/NZ/04/227 dated 22-02-2025.
Please find below the results for the tests conducted on the aggregate sample provided to this
laboratory on 10-03-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	94.56	28.69	0	0

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
B	16.28

3. Flakiness & Elongation Index (BS 812: Part 105)

Sieve Size		Individual Flakiness Index (%)	Weighted Flakiness Index (%)	Individual Elongation Index (%)	Weighted Elongation Index (%)
Passing (in.)	Retained (in.)				
1	3/4	50.10	2.72	83.30	4.53
3/4	1/2	5.59	3.68	7.13	4.69
1/2	3/8	5.39	1.54	12.83	3.68
Flakiness Index = 7.94%			Elongation Index = 12.90%		

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

Best Regards,

Director
Transportation Engineering Laboratory

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TEL UET

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:-----

Mr. Abid Azim
Resident Engineer, NESPAK,
Ravi Zone.

Subject: **Testing of Granular Sub-base Material**
Rehabilitation/Improvement of Roads, Aziz Colony, Lajpat Road, Wandala Road
and Link Roads, Shahdara, UC 06, Ravi Zone, MCL
Source: Sargodha Quarry

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/181 dated 19-02-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 13-03-2025 through your representative.

1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	98.71	79.84	63.11	53.02	45.56	39.46

2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value (%)
A	27.53

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

Best Regards,

Director
Transportation Engineering Laboratory

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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 Assistant Director Technical,
Anti-Corruption Establishment,
Region, Bahawalpur.

Subject: **Material Testing Report Regarding Enquiry No. 1634/2025**

Dear Sir,

It is with reference to your letter No. ACE-BR-ADT/BWP. No. 1006 dated 26-03-2025.
Please find below the results for the tests conducted on the samples of coarse aggregate
provided to this laboratory through your representative.

Base Course (RD 22+00)

Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	90.96	41.94	15.05	7.20	4.81	3.24	2.89	2.77

Base Course (RD 2+00)

Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	89.82	42.26	15.67	7.73	5.32	3.82	3.47	3.33

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

Best Regards,

Director
Transportation Engineering Laboratory

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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 Assistant Director Technical,
Anti-Corruption Establishment,
Region, Bahawalpur.

Subject: **Material Testing Report Regarding Enquiry No. 1633/2025**

Dear Sir,

It is with reference to your letter No. ACE-BR-ADT/BWP. No. 1007 dated 26-03-2025.
Please find below the results for the tests conducted on the cores of asphalt concrete and
samples of coarse aggregate provided to this laboratory through your representative.

BITUMEN EXTRACTION TEST: (Cores)

RD 244+00 (AWC)

Bitumen Extraction Value (ASTM D-2172)							4.29%
Gradation Analysis							
Sieve No.	¾"	½"	3/8"	#4	#8	#50	#200
% Passing	100	86.98	65.89	43.24	29.73	14.84	0.33

RD 244+00 (ABC)

Bitumen Extraction Value (ASTM D-2172)									3.92%
Gradation Analysis									
Sieve No.	1 ½"	1"	¾"	½"	3/8"	#4	#8	#50	#200
% Passing	100	97.30	82.49	78.39	59.90	41.36	32.40	10.75	1.76

RD 290+00 (AWC)

Bitumen Extraction Value (ASTM D-2172)							4.33%
Gradation Analysis							
Sieve No.	¾"	½"	3/8"	#4	#8	#50	#200
% Passing	100	86.87	66.42	44.52	30.94	15.29	0.81

RD 244+00 (ABC)

Bitumen Extraction Value (ASTM D-2172)									3.94%
Gradation Analysis									
Sieve No.	1 ½"	1"	¾"	½"	3/8"	#4	#8	#50	#200
% Passing	100	95.53	81.36	75.87	56.27	39.05	29.80	10.07	0.91

Testing on Coarse Aggregates

Base Course (RD 76+00)

Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	61.29	26.68	14.46	11.07	9.27	7.64	6.61	5.84

Base Course (RD 245+00)

Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	#4
%age Passing	100	100	60.65	25.33	12.96	9.71	7.88	6.32	5.32

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

Best Regards,

Director
Transportation Engineering Laboratory

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.

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 Assistant Director Technical,
Anti-Corruption Establishment,
Region, Bahawalpur.

Subject: **Material Testing Report Regarding Enquiry No. 1315/2025**

Dear Sir,

It is with reference to your letter No. ACE-BR-ADT/BWP. No. 1008 dated 26-03-2025.
Please find below the results for the tests conducted on the samples of coarse aggregate
provided to this laboratory through your representative.

Base (RD 57+00)

Sieve Analysis (ASTM C-136)

Sieve Size	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	91.04	38.95	12.50	4.33	2.41	2.15	1.96	1.87

Sub-base (RD 57+00)

Sieve Analysis (ASTM C-136)

Sieve Size	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	72.18	47.69	37.27	30.42	22.87

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

Best Regards,

Director
Transportation Engineering Laboratory

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