STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
RENARDET S.A ((M-4), Package-IIIA)
Construction of Faisalabad – Khanewal Motorway (M-4) Project Package-III, Shorkot-Dinpur, Section-3A (M/s GRC)

Reference # CED/TFL **34407** (Dr. M Rizwan Riaz) Dated: 21-12-2019
Reference of the request letter # RE/M-4/3A/2019/398 Dated: 18-12-2019

Tension Test Report (Page – 1/1)

Date of Test 13-01-2020
Gauge length 2 inches
Description Aluminum Section Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	------	(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	Aluminum Section	24.40x1.60	39.04	7.57	8.60	193.90	220.29	0.20	10.00	
2		24.40x1.60	39.04	7.50	8.75	192.11	224.13	0.20	10.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Deputy CRE
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project (RD: 59+700)

Reference # CED/TFL **34424** (Engr. Rehan) Dated: 03-01-2020
Reference of the request letter # LSM/DCRE/2020/1353 Dated: 03-01-2020

Tension Test Report (Page – 1/1)

Date of Test 13-01-2020
Gauge length 2 inches
Description Steel W- Beam & Steel Post Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	------	(cm)	(cm^2)	(kg)	(kg)	(kg/cm^2)	(kg/cm^2)	(in)		
1	Steel W- Beam	2.10x0.275	0.58	2200	2850	3810	4935	0.80	40.00	S # 1
2		2.10x0.275	0.58	2100	2900	3636	5022	0.80	40.00	
3	Steel W- Beam	1.98x0.275	0.54	2000	2700	3673	4959	0.70	35.00	S # 2
4		1.98x0.275	0.54	2100	2700	3857	4959	0.60	30.00	
5	Steel Post	2.40x0.710	1.70	6700	9400	3932	5516	0.70	35.00	S # 1
6		2.40x0.710	1.70	6000	8900	3521	5223	0.70	35.00	
7	Steel Post	2.40x0.710	1.70	6200	9100	3638	5340	0.70	35.00	S # 2
8		2.40x0.710	1.70	6600	9200	3873	5399	0.70	35.00	
Only Eight Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Construction of additional carriageway petro-sehwan (N-55) section 1 (64 km package 1-B) km 20+000 to 40+000
(HAhas-Sarwar & Co. Jv)(National Highway Authority)

Reference # CED/TFL **34434** (Dr. M Rizwan Riaz) Dated: 07-01-2020
Reference of the request letter # RE/N-55/ABM/2019/787 Dated: 01-01-2020

Tension Test Report

Date of Test 13-01-2020
Gauge length 2 inches
Description Aluminum Alloy Sign Plate Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	------	(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	Aluminum Alloy Sign Plate	14.80x3.00	44.40	9.77	12.27	220.05	276.35	0.30	15.00	
2		14.00x3.00	42.00	9.32	11.55	221.90	275.00	0.30	15.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Construction of additional carriageway petro-sehwan (N-55) section 1 (64 km package 1-B) km 20+000 to 40+000
(HAhas-Sarwar & Co. Jv)(National Highway Authority)

Reference # CED/TFL **34434** (Dr. M Rizwan Riaz) Dated: 07-01-2020
Reference of the request letter # RE/N-55/ABM/2019/787 Dated: 01-01-2020

Size Test Report (Page – 2/2)

Date of Test 13-01-2020
Gauge length -------
Description Aluminum Alloy Sign Plate Size Test

Sr. No.	Designation	Thickness	Remark
	-------	(mm)	
1	**Aluminum Alloy Sign Plate**	**3.00**	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Only One Sample for Test			

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Construction of additional carriageway petro-sehwan (N-55) section 1 (64 km package 1-A) km 00+000 to 20+000
(M/s AMCCL-Mishal & Sania (Jv))(National Highway Authority)

Reference # CED/TFL **34435** (Dr. M Rizwan Riaz) Dated: 07-01-2020
Reference of the request letter # RE/N-55/ABM/2019/786 Dated: 01-01-2020

Tension Test Report (Page – 1/1)

Date of Test 13-01-2020
Gauge length 2 inches
Description Aluminum Alloy Sign Plate Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	------	(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	**Aluminum Alloy Sign Plate**	**24.40x3.10**	**75.64**	**5.67**	**9.06**	**74.96**	**119.78**	**0.40**	**20.00**	
2		**24.50x3.10**	**75.95**	**5.32**	**9.27**	**70.05**	**122.05**	**0.40**	**20.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Construction of additional carriageway petro-sehwan (N-55) section 1 (64 km package 1-A) km 00+000 to 20+000
(M/s AMCCL-Mishal & Sania (Jv))(National Highway Authority)

Reference # CED/TFL **34435** (Dr. M Rizwan Riaz) Dated: 07-01-2020
Reference of the request letter # RE/N-55/ABM/2019/786 Dated: 01-01-2020

Size Test Report (Page – 2/2)

Date of Test 13-01-2020
Gauge length -------
Description Aluminum Alloy Sign Plate Size Test

Sr. No.	Designation	Thickness	Remark
	-------	(mm)	
1	**Aluminum Alloy Sign Plate**	**3.10**	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Only One Sample for Test			

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/01/34439 Dated: 07-01-2020

Dated of Test: 13-01-2020

To
SDO B&R
GE (Svcs) SIK
CA No. CEA-109/2019 – Improvement of Sewerage Sys for Sarwar Line to Nullah Bhed at SIK Cantt

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76]** (Page -1/3)

Reference to your letter No. CEA-109/2019/15/B&R, dated 06.01.2020 on the subject cited above. Three R.C.C. Pipes as received by us has been tested. The results are tabulated as under.

Sr. No.	Nominal Size	Total Length	Loaded Length	External Diameter	Internal Diameter	Wall Thickness	Proof load	Ultimate Load	Proof Stress	Ultimate Stress
	(mm)	(m)	(m)	(mm)	(mm)	(mm)	(kg)	(kg)	N/m/mm	N/m/mm
1	228.6 (9″)		2.244	283.00	227.66	27.67	6800	9600	130.58	184.34
2	304.8 (12″)	2.356	2.223	408.00	305.80	51.10	11500	13400	165.95	193.37
3	381 (15″)	2.372	2.228	495.00	380.80	57.10	9200	12700	106.38	146.85

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
SDO B&R
GE (Svcs) SIK
CA No. CEA-109/2019 – Improvement of Sewerage Sys for Sarwar Line to Nullah Bhed at SIK Cantt

Reference # CED/TFL **34439** (Engr. M Rehan Ashraf) Dated: 07-01-2020
Reference of the request letter # CEA-109/2019/15/B&R Dated: 06-01-2020

Tension Test Report (Page -2/3)

Date of Test 13-01-2020
Gauge length 8 inches
Description Steel Bar (From RCC Pipe) Tensile Test

Sr. No.	Weight	Diameter/ Size (mm)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Pipe Diameter
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.167	------	0.250	------	0.049	1900	2300	------	85570	------	103600	0.80	10.0	9"
2	0.164	------	0.248	------	0.048	1900	2200	------	86670	------	100400	0.90	11.3	
3	0.161	------	0.245	------	0.047	1200	1600	------	55950	------	74600	1.60	20.0	12"
-	0.153	------	0.239	------	0.045	1700	2200	------	83300	------	107800	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile test														
Bend Test														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To
SDO B&R
GE (Svcs) SIK
CA No. CEA-109/2019 – Improvement of Sewerage Sys for Sarwar Line to Nullah Bhed at SIK Cantt

Reference # CED/TFL **34439** (Engr. M Rehan Ashraf) Dated: 07-01-2020
Reference of the request letter # CEA-109/2019/15/B&R Dated: 06-01-2020

Test Report (Page -3/3)

Date of Test 13-01-2020
Description RCC Pipe

Sr. No.	Nominal Size (mm)	No. Steel Bar in Length	No. Steel Ring	Remark
1	228.6 (9″)	6	20	
2	304.8 (12″)	6	24	
3	381 (15″)	6	21	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Note: only three Pipes for test				

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/01/34445 Dated: 08-01-2020

Dated: 13-01-2020

To,
Chief Resident Enginerr
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

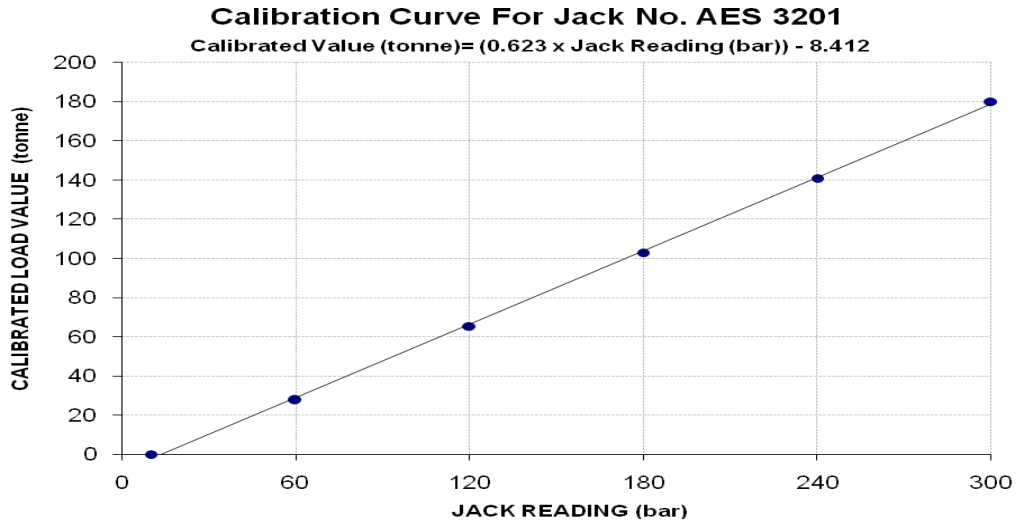
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/01/34445)** (Page -1/2)

Reference to your Letter No. 352/CRE/QAT/SMP/2020, Dated: 08/01/2020 on the subject cited above. One Hydraulic Jack (Jack No 3201, Gauge No. AES-3201) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 300 (bar)

Hydraulic Jack Reading (bar)		10	60	120	180	240	300
Calibrated Load	(kg)	0	27600	65400	103000	140800	180000
	Tonne	0	27.60	65.40	103.00	140.80	180.00
Calibrated Pressure (bar)		0	44.96	106.53	167.77	229.34	293.19

1 Tonne = 1000 kg, The Ram Area of Jack = 602.09 cm^2



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/01/34445 Dated: 08-01-2020

Dated: 13-01-2020

To,
Chief Resident Enginerr
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

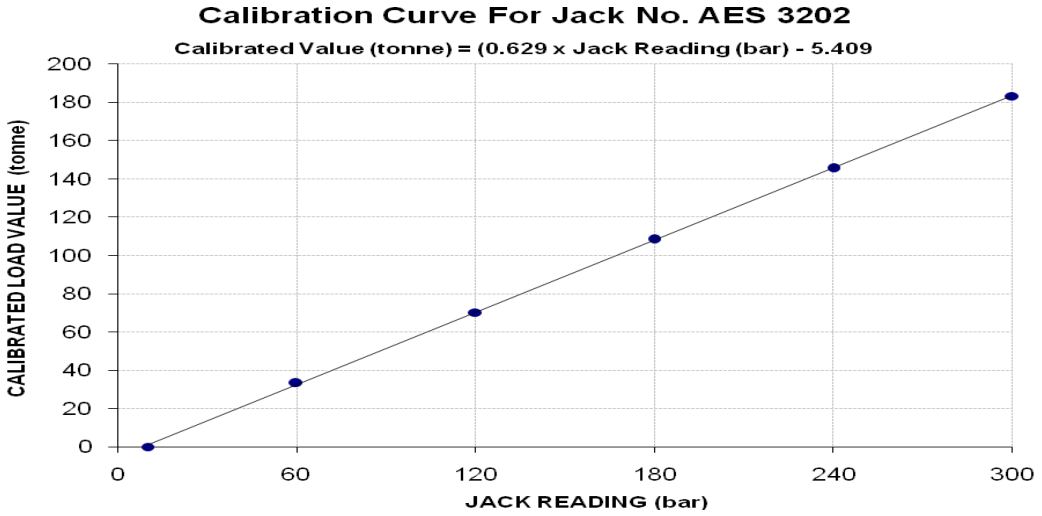
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/01/34445)** (Page -2/2)

Reference to your Letter No. 352/CRE/QAT/SMP/2020, Dated: 08/01/2020 on the subject cited above. One Hydraulic Jack (Jack No 3202, Gauge No. AES-3202) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 300 (bar)

Hydraulic Jack Reading (bar)		10	60	120	180	240	300
Calibrated Load	(kg)	0	33200	70200	108400	145400	183200
	Tonne	0	33.20	70.20	108.40	145.40	183.20
Calibrated Pressure (bar)		0	54.08	114.34	176.56	236.83	298.40

1 Tonne = 1000 kg, The Ram Area of Jack = 602.09 cm^2



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
M/S Shaheen & Sons
Gilgit Pakistan

Reference # CED/TFL 34456 (Engr. Rehan) Dated: 10-01-2020
Reference of the request letter # Nil Dated: 09-01-2020

Tension Test Report (Page – 1/1)

Date of Test 13-01-2019
Gauge length 2 inches
Description MS Pipe Structure Steel Strip Tensile Test as per ASTM A-36

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
		(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	MS ERW Pipe Dia 10"*4mm	29.10x4.0	116.40	4500	5800	379.25	488.81	0.90	45.00	
2	MS ERW Pipe Dia 10"*4mm	29.10x4.0	116.40	4400	5800	370.82	488.81	0.90	45.00	
3	MS ERW Pipe Dia 10"*4mm	29.15x4.0	116.60	4700	5800	395.43	487.98	0.90	45.00	
4	MS ERW Pipe Dia 10"*4mm	28.60x4.0	114.40	4600	5700	394.46	488.78	0.90	45.00	
5	MS ERW Pipe Dia 10"*4mm	29.00x4.0	116.00	4600	5800	389.02	490.50	0.90	45.00	
Only Five Samples for Tensile Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
M/S Moaz Steel
Lahore
(CGGC-DESCON JV Muhammad Dam Hydro Power Project)
Reference # CED/TFL **34463-66** (Dr. Waseem Abbass) Dated: 13-01-2020
Reference of the request letter # MZ/CGGC-DES/MD/UET/007 Dated: 13-01-2020

Tension Test Report (Page -1/1)

Date of Test 10-01-2020
Gauge length 8 inches
Description Rock Bolt Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight	Diameter/ size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (mm)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	4.172	32	1.250	1.27	1.226	43200	54200	75000	77650	94100	97500	1.70	21.3	Mughal Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test														
Bend Test														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples