



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 Best Builders
 Lahore
 (Construction of New TCF Secondary School Building in Kohrian Village Lahore)

Reference # CED/TFL **3066** (Dr. M Kashif)
 Reference of the request letter # Nil

Dated: 07-04-2023
 Dated: 07-04-2023

Tension Test Report (Page -1/2)

Date of Test 12-04-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.381	3	0.377	0.11	0.112	3600	5300	72200	70900	106200	104400	1.10	13.8	Ambreli Steel
2	0.381	3	0.378	0.11	0.112	3600	5400	72200	70770	108200	106200	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

- 1- You can See your reports On Internet in the following web site
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University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

M/S Best Builders
 Lahore
 (Construction of New TCF Secondary School Building in Chak # 236 Faisalabad)

Reference # CED/TFL **3066** (Dr. M Kashif)
 Reference of the request letter # Nil

Dated: 07-04-2023
 Dated: 07-04-2023

Tension Test Report (Page -2/2)

Date of Test 12-04-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.380	3	0.377	0.11	0.112	3600	5300	72200	71030	106200	104600	1.20	15.0	Ambreli Steel
2	0.381	3	0.378	0.11	0.112	3600	5300	72200	70780	106200	104200	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
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To,

M/S High Q Constructions
Lahore
(Construction of High-Q Mall at 3-A, Gulberg II, Lahore)

Reference # CED/TFL **3068** (Dr. M Kashif)
Reference of the request letter # QC/HQ/CIVIL/69

Dated: 10-04-2023
Dated: 20-02-2023

Tension Test Report (Page -1/2)

Date of Test 12-04-2023
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.411	10	9.96	0.12	0.121	3800	5100	69812	69350	93696	93100	1.30	16.3	
2	0.412	10	9.97	0.12	0.121	3600	5000	66138	65580	91858	91100	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,

M/S High Q Constructions
Lahore
(Construction of High-Q Mall at 3-A, Gulberg II, Lahore)

Reference # CED/TFL **3068** (Dr. M Kashif)
Reference of the request letter # QC/HQ/CIVIL/86

Dated: 10-04-2023
Dated: 25-03-2023

Tension Test Report (Page -2/2)

Date of Test 12-04-2023
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.377	10	9.54	0.12	0.111	3700	4800	67975	73570	88184	95500	1.30	16.3	
2	0.376	10	9.53	0.12	0.111	3600	4800	66138	71710	88184	95700	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,

XEN

GE (Air) Lahore

“Construction of Swimming Pool in PAF Officers Colony at PAF Base Lahore”

Reference # CED/TFL **3069** (Dr. M Kashif)

Dated: 10-04-2023

Reference of the request letter # 6800/16/E6

Dated: 14-02-2023

Tension Test Report (Page -1/1)

Date of Test 12-04-2023

Gauge length 8 inches

Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (inch)		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.369	3/8	0.371	0.11	0.108	3300	5100	66200	67140	102200	103800	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test														
Bend Test														

I/C Testing Laboratories
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
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To,

M/S Sinaco Engineers (Pvt) Limited
 Lahore
 (Construction of National Foods Galaxy Project at FIEDMC, Sahiamnwala, Faisalabad)

Reference # CED/TFL **3070** (Dr. M Kashif)
 Reference of the request letter # 0157-2023

Dated: 10-04-2023
 Dated: 07-04-2023

Tension Test Report (Page -1/2)

Date of Test 12-04-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.374	3	0.374	0.11	0.110	3200	4900	64200	64230	98200	98400	1.20	15.0	Ittefaq Steel
2	0.371	3	0.373	0.11	0.109	3300	4800	66200	66740	96200	97100	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
M/S Muhammad Rafique Associates
Lahore

Reference # CED/TFL **3078** (Dr. M Kashif)
Reference of the request letter # Nil

Dated: 11-04-2023

Dated: 11-04-2023

Tension Test Report (Page -1/1)

Date of Test 12-04-2023
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.365	3	0.370	0.11	0.107	3500	4500	70200	71830	90200	92400	1.10	13.8	
2	0.365	3	0.370	0.11	0.107	3400	4500	68200	69800	90200	92400	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratories
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
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University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/04/3079

Dated: 11-04-2023

Dated of Test: 12-04-2023

To,

Project Manager
Niaz Arbaaz (Pvt) Ltd

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3079)** (Page -1/1)

Reference to your Letter No. Nil, Dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No 1501, Gauge No. AES-1501) as received by us has been calibrated. The results are tabulated as under:

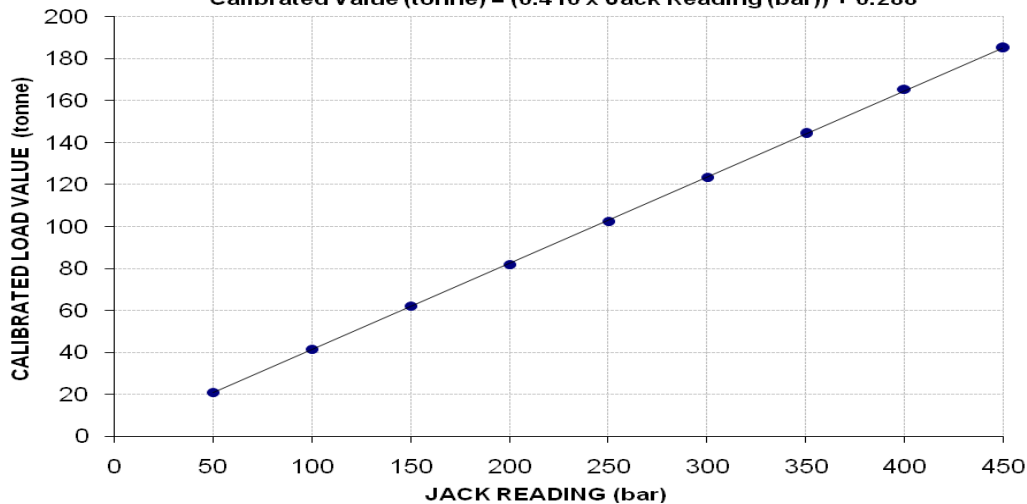
Total Range : Zero - 600 (bar)
Calibrated Range : Zero - 400 (bar)

Hydraulic Jack Reading (bar)	50	100	150	200	250	300	350	400	450	
Calibrated Load	(kg)	21000	41600	62200	82000	102400	123400	144200	165400	185000
	Tonne	21.00	41.60	62.20	82.00	102.40	123.40	144.20	165.40	185.00
Calibrated Pressure (bar)	51.71	102.44	153.17	201.93	252.17	303.88	355.10	407.31	455.58	

1 Tonne = 1000 kg, The Ram Area of Jack = 398.24 cm²

Calibration Curve For Jack No. AES 1501

Calibrated Value (tonne) = (0.410 × Jack Reading (bar)) + 0.288



I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
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Pakistan. Ph: 92-42-99029202

To,

M/S Riaz Construction Company
Lahore
(Construction of New TCF Secondary School Building in Anwar Tata Khanpur Bagga
Sher Muzaffargarh)

Reference # CED/TFL **3080** (Dr. M Kashif)
Reference of the request letter # Nil

Dated: 11-04-2023
Dated: 07-04-2023

Tension Test Report (Page -1/1)

Date of Test 12-04-2023
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.382	3	0.378	0.11	0.112	3500	5100	70200	68630	102200	100000	1.00	12.5	Ambrelli Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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

To,

Sub Divisional Officer
 Buildings Sub Division No. 15
 Lahore
 (Construction of Bachelor Accommodation and Judicial Rest House at Dharampura,
 District Lahore)

Reference # CED/TFL **3082** (Dr. M Kashif)
 Reference of the request letter # 3045

Dated: 11-04-2023
 Dated: 11-04-2023

Tension Test Report (Page -1/2)

Date of Test 12-04-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.385	3	0.380	0.11	0.113	3100	4600	62200	60320	92200	89600	1.60	20.0	
2	0.372	3	0.373	0.11	0.109	3300	4800	66200	66520	96200	96800	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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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/04/3083

Dated: 11-04-2023

Dated: 12-04-2023

To

M/S China Gezhouba Group Company Limited
CGGC Dasu Hydropower Project Management in Pakistan

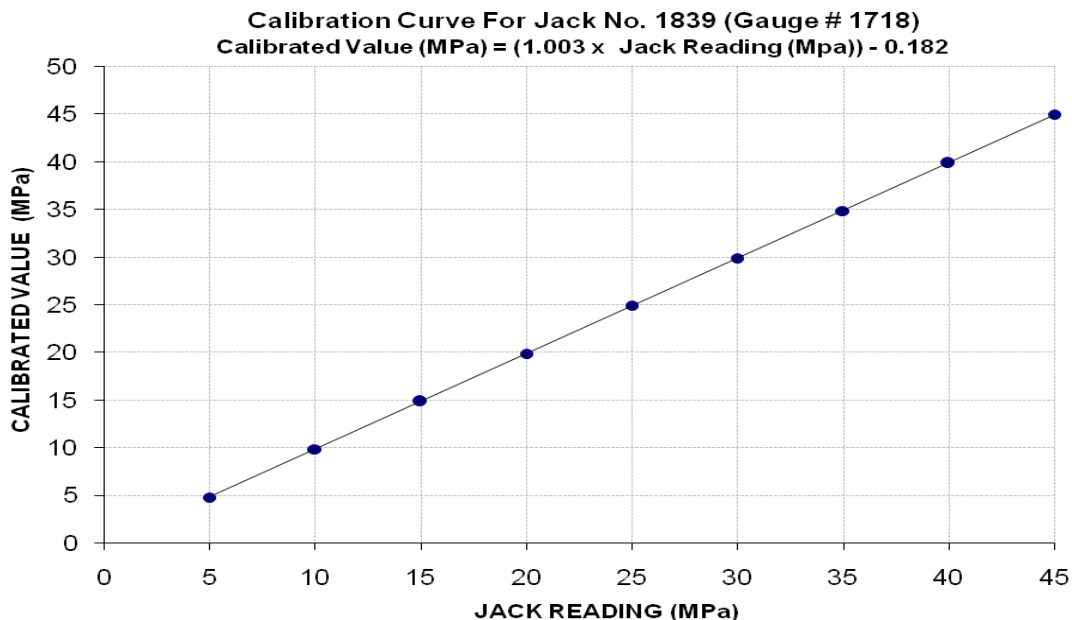
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3083)** (Page -1/6)

Reference to your Letter No. Nil, dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No. 1839, Gauge No. 1718) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 45 (MPa)

Hydraulic Jack Reading (MPa)	5	10	15	20	25	30	35	40	45
Calibrated Load (kg)	14600	30000	45200	60400	75800	90800	106000	121200	136800
Calibrated Pressure (Mpa)	4.80	9.87	14.88	19.88	24.95	29.88	34.88	39.89	45.02

The Ram Area of Jack = 298 cm²



I/C Testing Laboratoires
UET Lahore, Pakistan.

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Ref: CED/TFL/04/3083

Dated: 11-04-2023

Dated: 12-04-2023

To

M/S China Gezhouba Group Company Limited
CGGC Dasu Hydropower Project Management in Pakistan

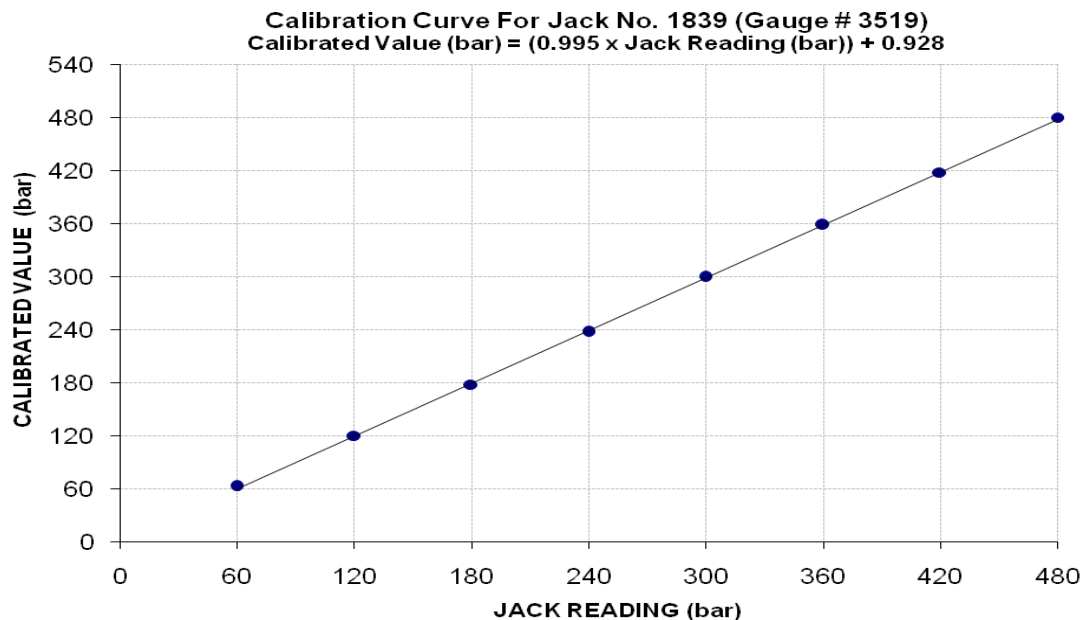
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3083)** (Page -2/6)

Reference to your Letter No. Nil, dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No. 1839, Gauge No. 3519) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 600 (bar)
Calibrated Range : Zero - 480 (bar)

Hydraulic Jack Reading (bar)	60	120	180	240	300	360	420	480
Calibrated Load (kg)	19200	36600	54100	72200	91100	109100	127100	146000
Calibrated Pressure (bar)	63.19	120.45	178.04	237.61	299.80	359.04	418.28	480.48

The Ram Area of Jack = 298 cm²



I/C Testing Laboratoires
UET Lahore, Pakistan.

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Ref: CED/TFL/04/3083

Dated: 11-04-2023

Dated: 12-04-2023

To

M/S China Gezhouba Group Company Limited
CGGC Dasu Hydropower Project Management in Pakistan

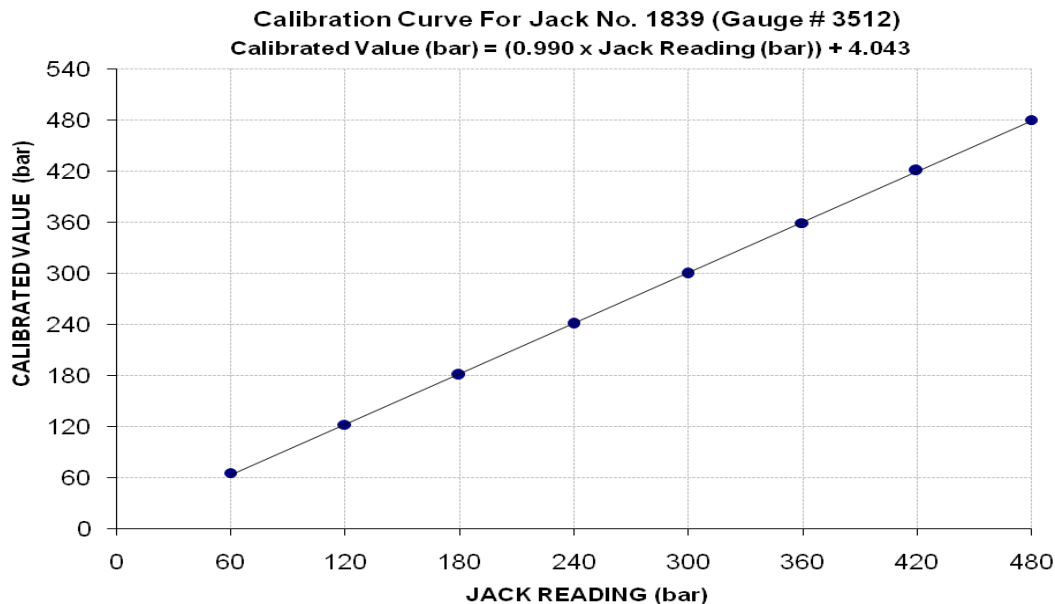
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3083)** (Page -3/6)

Reference to your Letter No. Nil, dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No. 1839, Gauge No. 3512) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 600 (bar)
Calibrated Range : Zero - 480 (bar)

Hydraulic Jack Reading (bar)	60	120	180	240	300	360	420	480
Calibrated Load (kg)	20000	37200	55000	73200	91200	109200	128000	146000
Calibrated Pressure (bar)	65.82	122.42	181.00	240.90	300.13	359.37	421.24	480.48

The Ram Area of Jack = 298 cm²



I/C Testing Laboratories
UET Lahore, Pakistan.

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- 1- You can See your reports On Internet in the following web site
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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/04/3083

Dated: 11-04-2023

Dated: 12-04-2023

To

M/S China Gezhouba Group Company Limited
CGGC Dasu Hydropower Project Management in Pakistan

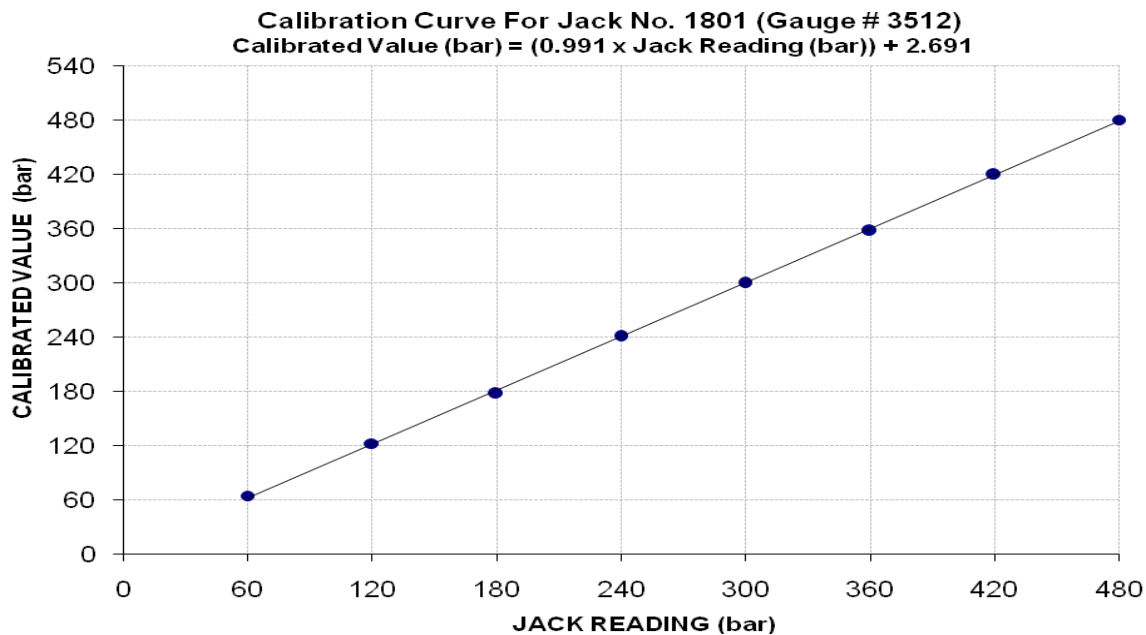
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3083)** (Page -4/6)

Reference to your Letter No. Nil, dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No. 1801, Gauge No. 3512) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 600 (bar)
Calibrated Range : Zero - 480 (bar)

Hydraulic Jack Reading (bar)	60	120	180	240	300	360	420	480
Calibrated Load (kg)	19600	37200	54000	73200	91200	108700	127600	146000
Calibrated Pressure (bar)	64.50	122.42	177.71	240.90	300.13	357.73	419.92	480.48

The Ram Area of Jack = 298 cm²



I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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To

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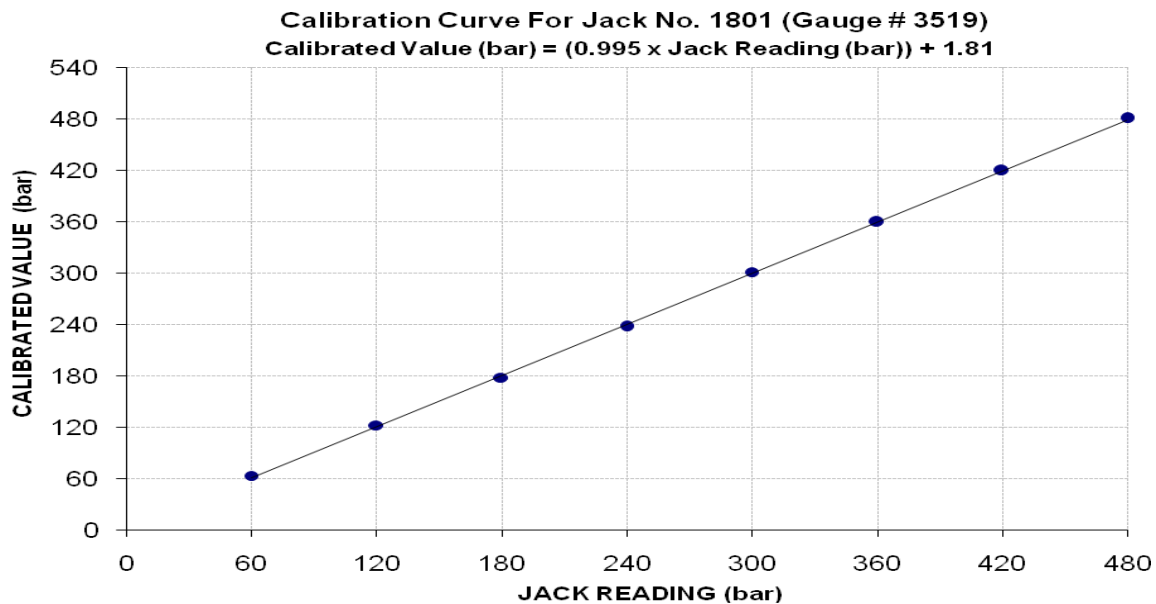
Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3083)** (Page -5/6)

Reference to your Letter No. Nil, dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No. 1801, Gauge No. 3519) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 600 (bar)
Calibrated Range : Zero - 480 (bar)

Hydraulic Jack Reading (bar)	60	120	180	240	300	360	420	480
Calibrated Load (kg)	19400	37200	54200	72200	91600	109400	127600	146200
Calibrated Pressure (bar)	63.84	122.42	178.37	237.61	301.45	360.03	419.92	481.14

The Ram Area of Jack = 298 cm²



I/C Testing Laboratoires
UET Lahore, Pakistan.

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Dated: 12-04-2023

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CGGC Dasu Hydropower Project Management in Pakistan

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/3083)** (Page -6/6)

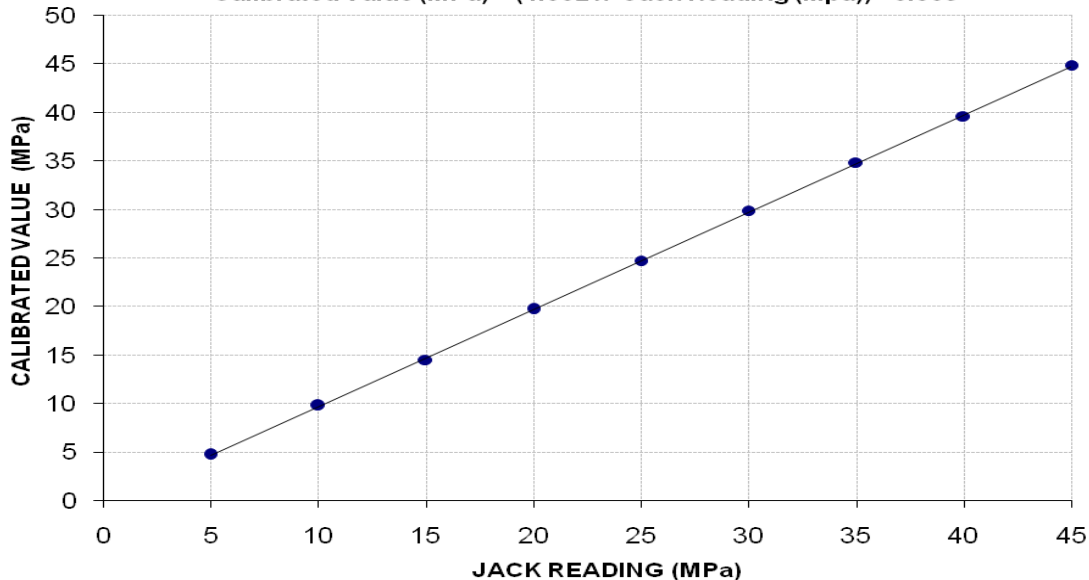
Reference to your Letter No. Nil, dated: 11/04/2023 on the subject cited above. One Hydraulic Jack (Jack No. 1801, Gauge No. 1718) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 45 (MPa)

Hydraulic Jack Reading (MPa)	5	10	15	20	25	30	35	40	45
Calibrated Load (kg)	14400	29800	44200	60000	75200	90800	106000	120400	136400
Calibrated Pressure (Mpa)	4.74	9.81	14.55	19.75	24.75	29.88	34.88	39.62	44.89

The Ram Area of Jack = 298 cm²

Calibration Curve For Jack No. 1801 (Gauge # 1718)
Calibrated Value (MPa) = (1.002 x Jack Reading (MPa)) - 0.309



I/C Testing Laboratories
UET Lahore, Pakistan.

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