



**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/12/37486

Dated: 07-12-2021

Dated: 08-12-2021

To  
**M/S China Gezhouba Group Co., Limited**  
**CGGC Dasu Hydropower Project Management in Pakistan**

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/12/37486)** (Page -1/4)

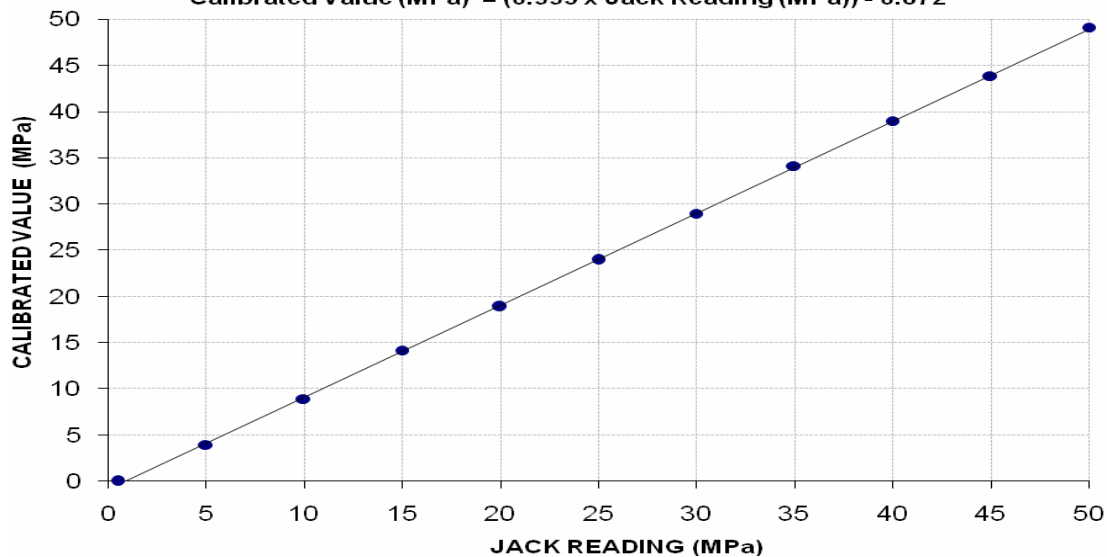
Reference to your Letter No. Nil, dated: 07/12/2021 on the subject cited above. One Hydraulic Jack (Jack No. 1801, Gauge No. 1281) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 60 (MPa)**  
**Calibrated Range : Zero - 50 (MPa)**

Hydraulic Jack Reading (MPa)	0.1	5	10	15	20	25	30	35	40	45	50
Calibrated Load (Kg)	0	12000	27000	43000	57400	72800	88000	103600	118400	133200	149200
Calibrated Pressure (Mpa)	0	3.95	8.89	14.15	18.89	23.96	28.96	34.09	38.96	43.84	49.10

The Ram Area of Jack = 298 cm<sup>2</sup>

**Calibration Curve For Jack No. 1801 (Gauge # 1281)**  
**Calibrated Value (MPa) = (0.995 x Jack Reading (MPa)) - 0.872**



**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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To  
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CGGC Dasu Hydropower Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/12/37486) (Page -2/4)

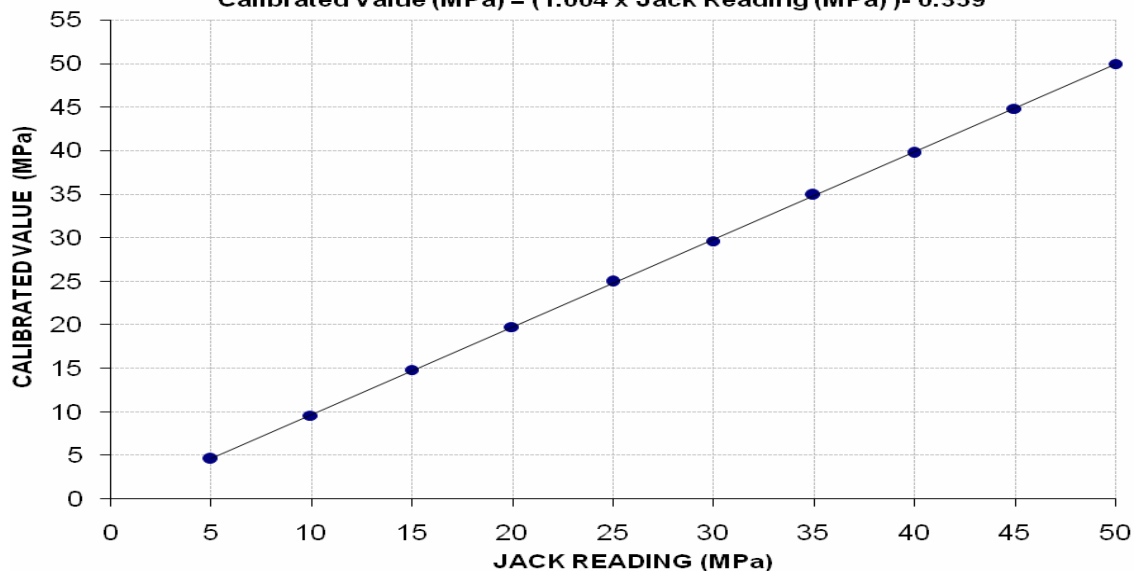
Reference to your Letter No. Nil, dated: 02/11/2021 on the subject cited above. One Hydraulic Jack (Jack No. 1809, Gauge No. 3419) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 60 (MPa)**  
**Calibrated Range : Zero - 50 (MPa)**

Hydraulic Jack Reading (MPa)	5	10	15	20	25	30	35	40	45	50
Calibrated Load (Kg)	14000	29200	45000	60000	75800	90000	106000	120700	136100	151700
Calibrated Pressure (Mpa)	4.61	9.61	14.81	19.75	24.95	29.62	34.88	39.72	44.79	49.92

The Ram Area of Jack = 298 cm<sup>2</sup>

**Calibration Curve For Jack No. 1809 (Gauge # 3419)**  
**Calibrated Value (MPa) = (1.004 x Jack Reading (MPa)) - 0.359**



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To  
M/S China Gezhouba Group Co., Limited  
CGGC Dasu Hydropower Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/12/37486) (Page -3/4)

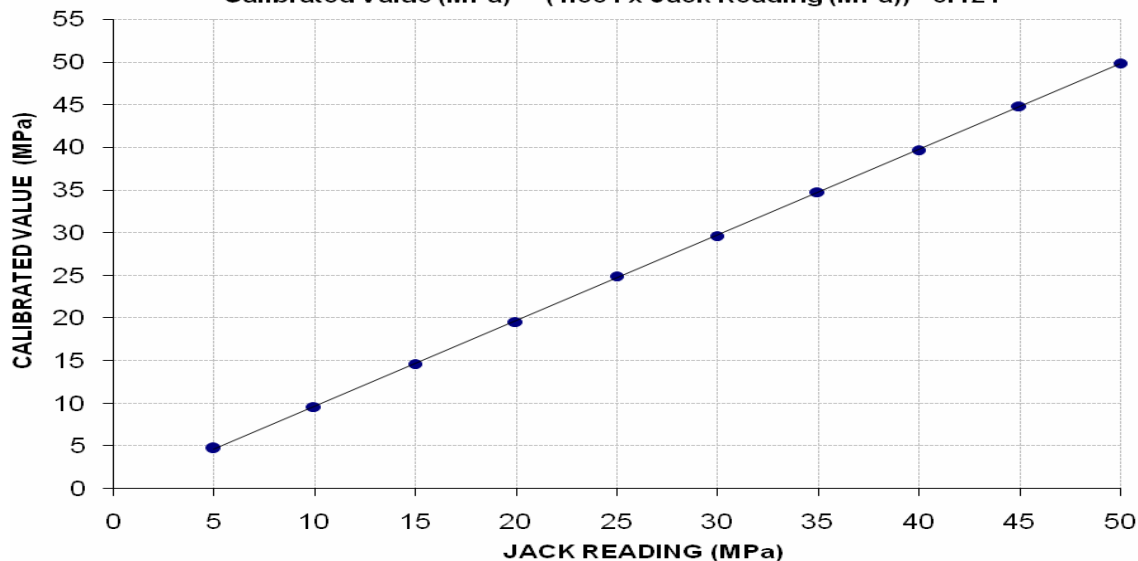
Reference to your Letter No. Nil, dated: 07/12/2021 on the subject cited above. One Hydraulic Jack (Jack No. 1719, Gauge No. 3419) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 60 (MPa)**  
**Calibrated Range : Zero - 50 (MPa)**

Hydraulic Jack Reading (MPa)	5	10	15	20	25	30	35	40	45	50
Calibrated Load (Kg)	9200	18600	28400	38000	48400	57600	67600	77200	87200	97000
Calibrated Pressure (Mpa)	4.73	9.56	14.60	19.53	24.88	29.61	34.75	39.68	44.82	49.86

The Ram Area of Jack = 190.80 cm<sup>2</sup>

**Calibration Curve For Jack No. 1719 (Gauge # 3419)**  
**Calibrated Value (MPa) = (1.004 x Jack Reading (MPa)) - 0.424**



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Dated: 07-12-2021

Dated: 08-12-2021

To  
M/S China Gezhouba Group Co., Limited  
CGGC Dasu Hydropower Project Management in Pakistan

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/12/37486) (Page -4/4)

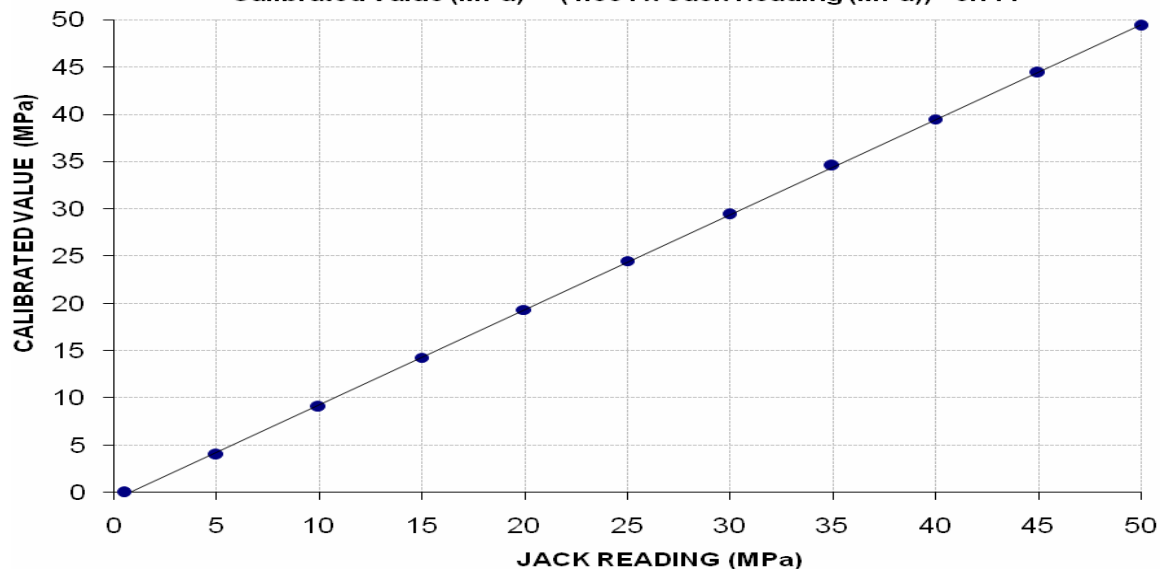
Reference to your Letter No. Nil, dated: 07/11/2021 on the subject cited above. One Hydraulic Jack (Jack No. 19174, Gauge No. 1281) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 60 (MPa)**  
**Calibrated Range : Zero - 50 (MPa)**

Hydraulic Jack Reading (MPa)	0.10	5	10	15	20	25	30	35	40	45	50
Calibrated Load (Kg)	0	1950	4400	6950	9400	11900	14300	16800	19200	21600	24000
Calibrated Pressure (Mpa)	0	4.01	9.04	14.29	19.32	24.46	29.39	34.53	39.47	44.40	49.33

The Ram Area of Jack = 47.71 cm<sup>2</sup>

**Calibration Curve For Jack No. 19174 (Gauge # 1281)**  
**Calibrated Value (MPa) = (1.004 x Jack Reading (MPa)) - 0.777**



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To,  
 Resident Engineer  
 NESPAK  
 Infrastructure Development of Quaid-e-Azam Business Park on Motorway M-2, District  
 Sheikhupura

Reference # CED/TFL **37488** (Dr. Usman Akmal)  
 Reference of the request letter # 4163/11/MY/01/86

Dated: 07-12-2021  
 Dated: 06-12-2021

**Tension Test Report** (Page -1/1)

Date of Test 08-12-2021  
 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 <sup>2</sup> )		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	4.193	10	1.253	1.27	1.232	38000	53800	66000	67960	93400	96300	1.60	20.0	Faizan Steel
2	4.081	10	1.236	1.27	1.200	39000	55000	67700	71660	95500	101100	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Dia Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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To,  
 Site Administrator  
 Bismillah Housing Society – II  
 Mustafa abad

Reference # CED/TFL **37491** (Dr. M Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 08-12-2021  
 Dated: 08-12-2021

**Tension Test Report** (Page -1/1)

Date of Test 08-12-2021  
 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 <sup>2</sup> )		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	0.306	3	0.338	0.11	0.090	2600	4300	52100	63790	86200	105500	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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