



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/07/3678

Dated: 31-07-2023

Dated: 01-08-2023

To

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

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/07/3678)** (Page -1/2)

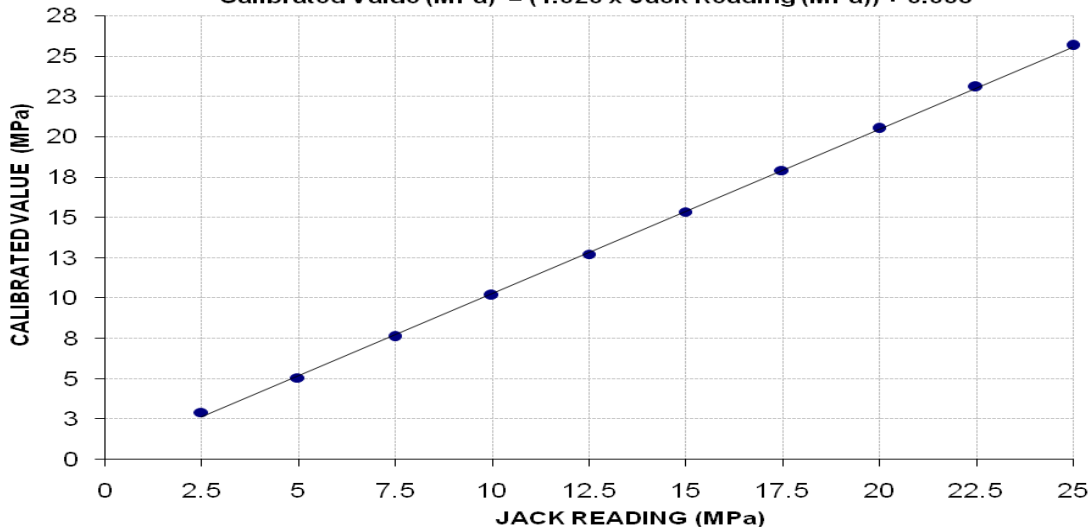
Reference to your Letter No. Nil, dated: 31/07/2023 on the subject cited above. One Hydraulic Jack (Jack No. 2218, Gauge No. 3809) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 25 (MPa)

Hydraulic Jack Reading (MPa)	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0
Calibrated Load (kg)	19400	33400	50200	67200	84000	101400	118400	135400	152400	169400
Calibrated Pressure (Mpa)	2.94	5.06	7.60	10.17	12.71	15.35	17.92	20.49	23.07	25.64

The Ram Area of Jack = 647.9 cm²

Calibration Curve For Jack No. 2218 (Gauge # 3809)
Calibrated Value (MPa) = (1.020 x Jack Reading (MPa)) + 0.068



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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Dated: 31-07-2023

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To

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

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/07/3678)** (Page -2/2)

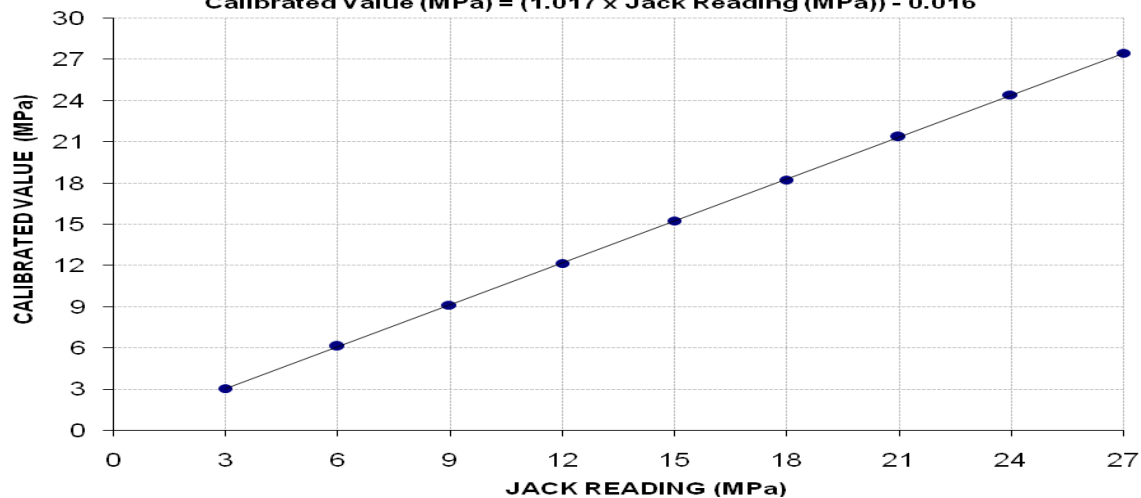
Reference to your Letter No. Nil, dated: 31/07/2023 on the subject cited above. One Hydraulic Jack (Jack No. 2218, Gauge No. 1476) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 27 (MPa)

Hydraulic Jack Reading (MPa)	3	6	9	12	15	18	21	24	27
Calibrated Load (kg)	20200	40400	60200	80400	100800	120400	141200	161400	181400
Calibrated Pressure (Mpa)	3.06	6.12	9.11	12.17	15.26	18.22	21.37	24.43	27.46

The Ram Area of Jack = 647.9 cm²

Calibration Curve For Jack No. 2218 (Gauge # 1476)
Calibrated Value (MPa) = (1.017 × Jack Reading (MPa)) - 0.016



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To,

Assistant Resident Engineer
NESPAK
EPCM-PICIIP
Punjab Intermediate Cities Improvement Investment Program (PICIIP)
Consultancy Services for Engineering, Procurement and Construction Management
Rehabilitation / Improvement of Water Supply System Sahiwal – Lot 1

Reference # CED/TFL **3679** (Dr. M Rizwan Riaz)

Dated: 31-07-2023

Reference of the request letter # 3976/11/FA/01/Lot-1/01/399

Dated: 15-05-2023

Tension Test Report (Page – 1/2)

Date of Test 01-08-2023

Gauge length 2 inches

Description MS Pipe Steel Strip Tensile and Bend Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	8	20.00x5.00	100.00	3100	4800	304	471	0.60	30.00	
2	10	27.30x6.00	163.80	6000	8200	359	491	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile and Two Samples for Bend Test										
Bend Test										
Steel Strip taken from MS Pipe 8" Bend Test Through 180° is Satisfactory										
Steel Strip taken from MS Pipe 10" Bend Test Through 180° is Satisfactory										

I/C Testing Laboratories
UET Lahore, Pakistan.

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To,

Assistant Resident Engineer
NESPAK
EPCM-PICIIP
Punjab Intermediate Cities Improvement Investment Program (PICIIP)
Consultancy Services for Engineering, Procurement and Construction Management
Rehabilitation / Improvement of Water Supply System Sahiwal – Lot 1

Reference # CED/TFL **3679** (Dr. M Rizwan Riaz)
2023

Dated: 31-07-

Reference of the request letter # 3976/11/FA/01/Lot-1/01/399
2023

Dated: 15-05-

Thickness Test Report (Page – 2/2)

Date of Test 01-08-2023
Gauge length 2 inches
Description MS Pipe Thickness Test

Sr. No.	Designation	Thickness	Remarks
	(inch)	(mm)	
1	8	5.00	
2	10	6.00	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Only Two Samples for Test			

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
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To,

M/S S.A. Sheikh & Co
Lahore

Reference # CED/TFL **3681** (Dr. M Rizwan Riaz)
Reference of the request letter # SASheikh/WB/EQSS5/2

Dated: 31-07-2023

Dated: 31-07-2023

Tension Test Report (Page – 1/1)

Date of Test 01-08-2023
Gauge length 2 inches
Description Steel 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	Steel Strip	25.40x6.70	170.18	6300	9800	363	565	0.40	20.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only One Sample for Tensile and One Sample for Bend Test										
Bend Test										
Steel Strip Bend Test Through 180° is Satisfactory										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,

M/S S.A. Sheikh & Co
Lahore

Reference # CED/TFL **3682** (Dr. M Rizwan Riaz)
Reference of the request letter # SASheikh/WB/EQSS5/1

Dated: 31-07-2023

Dated: 31-07-2023

Tension Test Report (Page – 1/1)

Date of Test 01-08-2023
Gauge length 2 inches
Description Steel 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	Steel Strip	25.40x9.70	246.38	11000	16300	438	649	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only One Sample for Tensile and One Sample for Bend Test										
Bend Test										
Steel Strip Bend Test Through 180° is Satisfactory										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 M/S Amanah Noor Residence
 Wapda Town, Lahore

Reference # CED/TFL **3685** (Dr. M Rizwan Riaz)
 Reference of the request letter # Nil

Dated: 31-07-2023
 Dated: 31-07-2023

Tension Test Report (Page -1/1)

Date of Test 01-08-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend 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 (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.376	3	0.375	0.11	0.111	3400	4800	68200	67780	96200	95700	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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To,

Director Projects
 Sheekhoo Sugar Mills (Steel Division)
 Anwar Abad Kot Addu, Muzaffargarh

Reference # CED/TFL **3687** (Dr. Rizwan Azam)

Dated: 01-08-2023

Reference of the request letter # Nil

Dated: 31-07-2023

Tension Test Report (Page -1/2)

Date of Test 01-08-2023

Gauge length 8 inches

Description Deformed Steel Bar Tensile 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	Heat No.
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.372	3	0.373	0.11	0.109	3500	4900	70200	70510	98200	98800	1.00	12.5	473R
2	0.369	3	0.372	0.11	0.108	3400	4800	68200	69080	96200	97600	1.40	17.5	474R
3	0.375	3	0.375	0.11	0.110	3200	4700	64200	64020	94200	94100	1.30	16.3	475R
4	0.373	3	0.374	0.11	0.110	3400	4900	68200	68270	98200	98400	1.60	20.0	477R
5	0.373	3	0.374	0.11	0.110	3600	5000	72200	72340	100200	100500	1.40	17.5	478R
6	0.377	3	0.376	0.11	0.111	3400	4900	68200	67560	98200	97400	1.00	12.5	479R
7	0.375	3	0.375	0.11	0.110	3300	4800	66200	65980	96200	96000	1.40	17.5	480R
8	0.376	3	0.375	0.11	0.111	3600	5000	72200	71790	100200	99700	1.20	15.0	481R
9	0.373	3	0.373	0.11	0.110	3400	4900	68200	68430	98200	98700	1.50	18.8	482R
10	0.373	3	0.374	0.11	0.110	3400	4800	68200	68360	96200	96600	1.30	16.3	483R
11	0.365	3	0.370	0.11	0.107	3300	4700	66200	67800	94200	96600	1.50	18.8	484R
12	0.375	3	0.375	0.11	0.110	3400	4800	68200	68010	96200	96100	1.40	17.5	485R
13	0.375	3	0.375	0.11	0.110	3500	4800	70200	69940	96200	96000	1.10	13.8	487R

Note: only Thirteen samples for tensile test

Bend Test														

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To,

Director Projects
 Sheekhoo Sugar Mills (Steel Division)
 Anwar Abad Kot Addu, Muzaffargarh

Reference # CED/TFL **3687** (Dr. Rizwan Azam)

Dated: 01-08-2023

Reference of the request letter # Nil

Dated: 31-07-2023

Tension Test Report (Page -2/2)

Date of Test 01-08-2023

Gauge length 8 inches

Description Deformed Steel Bar Tensile 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	Heat No.
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.375	3	0.375	0.11	0.110	3500	4900	70200	69980	98200	98000	1.30	16.3	489R
2	0.373	3	0.374	0.11	0.110	3500	4900	70200	70370	98200	98600	1.40	17.5	492R
3	0.373	3	0.373	0.11	0.110	3400	4900	68200	68410	98200	98600	1.30	16.3	493R
4	0.371	3	0.373	0.11	0.109	3500	4900	70200	70720	98200	99100	1.40	17.5	494R
5	0.371	3	0.373	0.11	0.109	3400	4900	68200	68680	98200	99000	1.30	16.3	496R
6	0.367	3	0.371	0.11	0.108	3400	4700	68200	69390	94200	96000	1.40	17.5	497R
7	0.370	3	0.372	0.11	0.109	3300	5100	66200	66880	102200	103400	1.20	15.0	498R
8	0.370	3	0.372	0.11	0.109	3400	4800	68200	68910	96200	97300	1.30	16.3	500R
9	0.370	3	0.372	0.11	0.109	3500	4800	70200	70850	96200	97200	1.40	17.5	502R
10	0.372	3	0.373	0.11	0.109	3500	4900	70200	70580	98200	98800	1.40	17.5	503R
11	0.371	3	0.373	0.11	0.109	3400	4800	68200	68750	96200	97100	1.40	17.5	506R
12	0.374	3	0.374	0.11	0.110	3500	4900	70200	70140	98200	98200	1.20	15.0	507R

Note: only Twelve samples for tensile test

Bend Test														

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