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/09/5622 Dated: 04-09-2024

Dated of Test: 09-09-2024

To

Assistant Director (QCD)
WASA, LDA, Lahore
(M/s Universal Rcc Pipe Factory.)

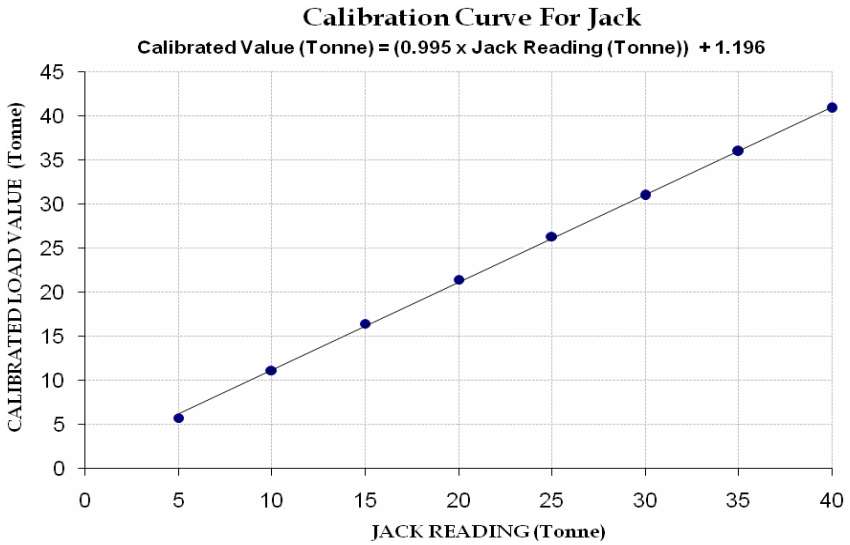
Subject: **- CALIBRATION OF HYDRAULIC JACK WITH GAUGE**
(MARK: TFL/09/5622)

Reference to your Letter No. QCD/1453-54, Dated: 02/09/2024 on the subject cited above. One Hydraulic Jack with Gauge as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 50 (Tonne)
Calibrated Range : Zero - 40 (Tonne)

Hydraulic Jack Reading (Tonne)		**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Calibrated Load	**(kg)**	**5750**	**11150**	**16400**	**21450**	**26300**	**30950**	**35950**	**40850**
	(Tonne)	**5.75**	**11.15**	**16.40**	**21.45**	**26.30**	**30.95**	**35.95**	**40.85**

1000 kg = 1 Tonne



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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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,

Resident Engineer
NESPAK
Development Internal Infrastructure of CBD Walton (Phase 2 & 3) & Flyover Connecting Bab-e-Pakistan to Walton.

Reference # CED/TFL **5626** (Dr. M Rizwan Riaz) Dated: 06-09-2024
Reference of the request letter # 4322/13/DAK/02/235 Dated: 09-05-2024

Tension Test Report (Page -1/1)

Date of Test 09-09-2024
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	0.378	3	0.376	0.11	0.111	3300	5100	66200	65430	102200	101200	1.20	15.0	Markhor Steel
2	0.379	3	0.376	0.11	0.111	3400	5200	68200	67360	104200	103100	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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,

Addle Dir (DHA Lab)
Defence Housing Authority
Multan
(Construction of Graveyard Sector-G. (M/s Sun Tech.)

Reference # CED/TFL **5628** (Dr. M Rizwan Riaz) Dated: 06-09-2024
Reference of the request letter # 701/13/Lab/DHA Dated: 22-08-2024

Tension Test Report (Page -1/1)

Date of Test 09-09-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (mm)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.364	9.5	9.37	0.110	0.107	3300	4900	66200	68030	98200	101100	1.20	15.0	
2	0.363	9.5	9.36	0.110	0.107	3200	4900	64200	66170	98200	101400	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
9.5mm Dia Bar Bend Test Through 180º 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
Lodhran
(Revamping of All DHQ/ 15-THQ Hospital in Punjab One at DHQ Hospital Lodhran.)

Reference # CED/TFL **5629** (Dr. M Rizwan Riaz) Dated: 06-09-2024
Reference of the request letter # 1482/LD Dated: 20-05-2024

Tension Test Report (Page -1/1)

Date of Test 09-09-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.396	3/8	0.385	0.11	0.117	3300	4700	66200	62430	94200	89000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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,

Project Engineer
Baig Construction Co.
Construction of Jinnah Square Mall, Raiwind Road, Lahore.

Reference # CED/TFL **5631** (Dr. M Rizwan Riaz) Dated: 06-09-2024
Reference of the request letter # ST/UET/05092024/3000 Dated: 05-09-2024

Tension Test Report (Page -1/1)

Date of Test 09-09-2024
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	0.372	3	0.373	0.11	0.109	4600	5200	92200	92750	104200	104900	0.60	7.5	
2	0.356	3	0.365	0.11	0.105	4200	4900	84200	88530	98200	103300	0.70	8.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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,

M/S Atlas Tower
Lahore

Reference # CED/TFL **5633** (Dr. M Rizwan Riaz) Dated: 06-09-2024
Reference of the request letter # 2024/09/05-1 Dated: 05-09-2024

Tension Test Report (Page -1/1)

Date of Test 09-09-2024
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	0.367	3	0.371	0.11	0.108	3300	4700	66200	67430	94200	96100	1.30	16.3	
2	0.363	3	0.368	0.11	0.107	3200	4600	64200	66170	92200	95200	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º 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/09/5634 Dated: 06-09-2024

Dated of Test: 09-09-2024

To

Resident Engineer
NESPAK
Construction of Flyover at 47/Pull Length 4400 rft in District Sargodha.

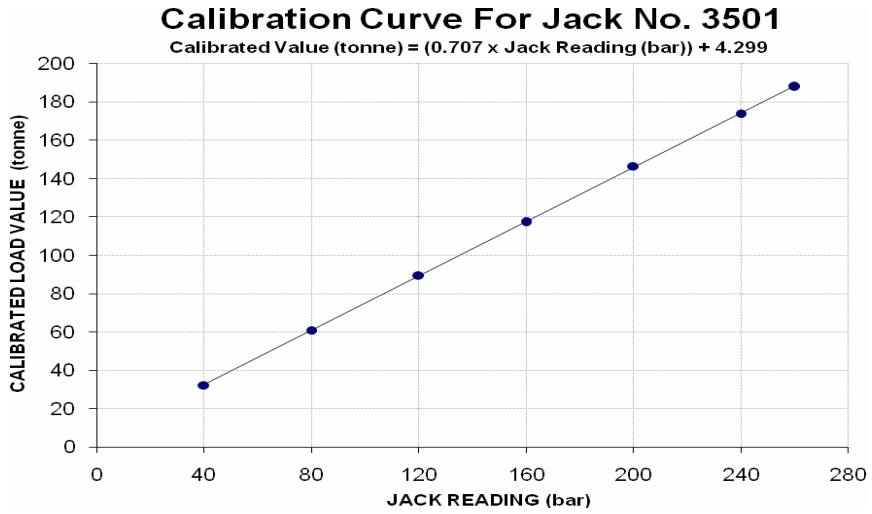
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/09/5634)** (Page -1/2)

Reference to your Letter No. 4376/JQK/24/6915, dated: 22/08/2024 on the subject cited above. One Hydraulic Jack (Jack No. 3501, Gauge No. AES-3501) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 260 (bar)

Hydraulic Jack Reading (bar)		**40**	**80**	**120**	**160**	**200**	**240**	**280**
Calibrated Load	**(kg)**	**32200**	**61000**	**89600**	**117200**	**146400**	**174000**	**187800**
	(tonne)	**32.20**	**61.00**	**89.60**	**117.20**	**146.40**	**174.00**	**187.80**
Calibrated Pressure (bar)		**47**	**88**	**130**	**169**	**212**	**252**	**272**

The Ram Area of Jack = 678.24 cm^2



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/09/5634 Dated: 06-09-2024

Dated of Test: 09-09-2024

To

Resident Engineer
NESPAK
Construction of Flyover at 47/Pull Length 4400 rft in District Sargodha.

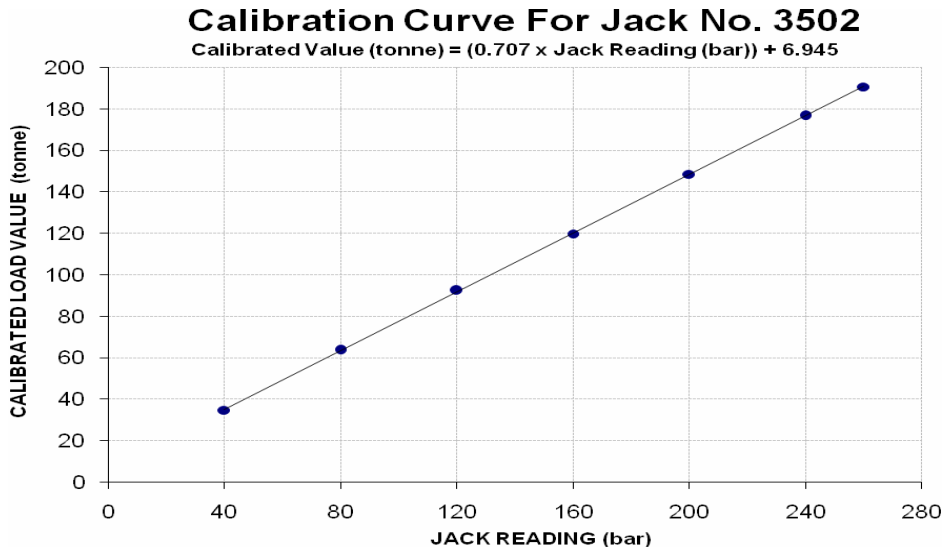
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/09/5634)** (Page -2/2)

Reference to your Letter No. 4376/JQK/24/6915, dated: 22/08/2024 on the subject cited above. One Hydraulic Jack (Jack No. 3502, Gauge No. AES-3502) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 260 (bar)

Hydraulic Jack Reading (bar)		40	80	120	160	200	240	280
Calibrated Load	(kg)	34800	63800	92500	119800	148600	176800	190800
	(tonne)	34.80	63.80	92.50	119.80	148.60	176.80	190.80
Calibrated Pressure (bar)		50	92	134	173	215	256	276

The Ram Area of Jack = 678.24 cm^2



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,

Raheel Ihtisham
Site Engineer
Residential House in Lahore.

Reference # CED/TFL **5637** (Dr. M Rizwan Riaz) Dated: 09-09-2024
Reference of the request letter # Nil Dated: 09-09-2024

Tension Test Report (Page -1/1)

Date of Test 09-09-2024
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	0.349	3	0.361	0.11	0.103	3200	4900	64200	68740	98200	105300	1.00	12.5	
2	0.361	3	0.368	0.11	0.106	3400	5000	68200	70550	100200	103800	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	`
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Dia Bar Bend Test Through 180º is Satisfactory														

Witness by Ghulam Nabi (Site Engineer)

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/09/5638 Dated: 09-09-2024

Dated of Test: 09-09-2024

To

Site Manager
Descon Engineering Limited
Mohmand Dam Hydro-Power Project.

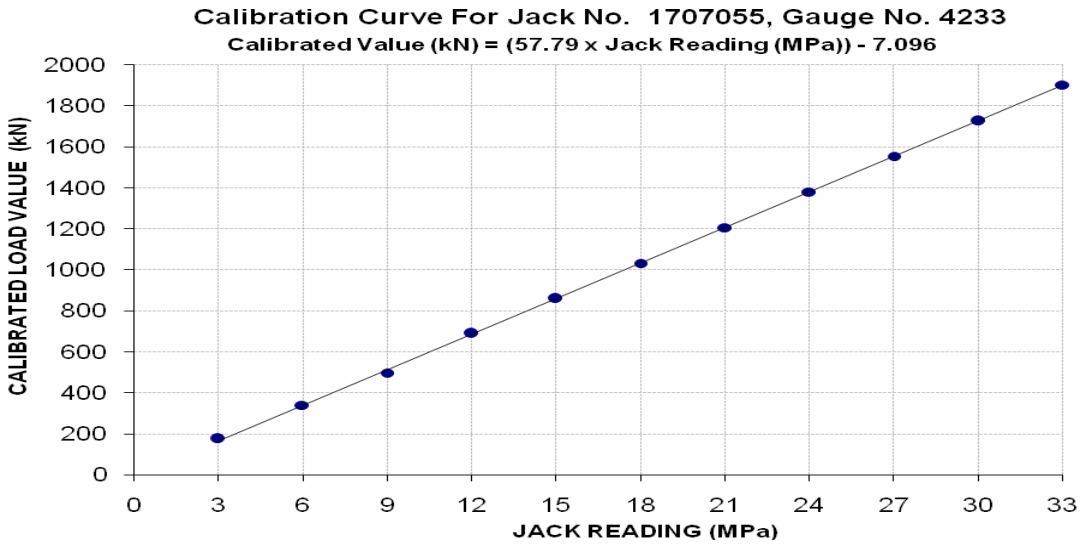
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/09/5638)** (Page -1/3)

Reference to your Letter No. MDHP-DEL-LABT-00000, dated: 09/09/2024 on the subject cited above. One Hydraulic Jack (Jack No. 1707055, Gauge No. 4233) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 50 (MPa)
Calibrated Range : Zero - 33 (MPa)

Hydraulic Jack Reading (MPa)		**3**	**6**	**9**	**12**	**15**	**18**	**21**	**24**	**27**	**30**	**33**
Calibrated Load	**(kg)**	**18000**	**34600**	**50800**	**70400**	**87600**	**105200**	**123000**	**140800**	**158400**	**176000**	**194000**
	(kN)	**177**	**339**	**498**	**690**	**859**	**1032**	**1206**	**1381**	**1553**	**1726**	**1903**
Calibrated Pressure (Mpa)		**3**	**6**	**9**	**12**	**15**	**18**	**21**	**24**	**27**	**30**	**33**

The Ram Area of Jack = 577 cm^2



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STRUCTURAL ENGINEERING DIVISION

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

Ref: CED/TFL/09/5638 Dated: 09-09-2024

Dated of Test: 09-09-2024

To

Site Manager
Descon Engineering Limited
Mohmand Dam Hydro-Power Project.

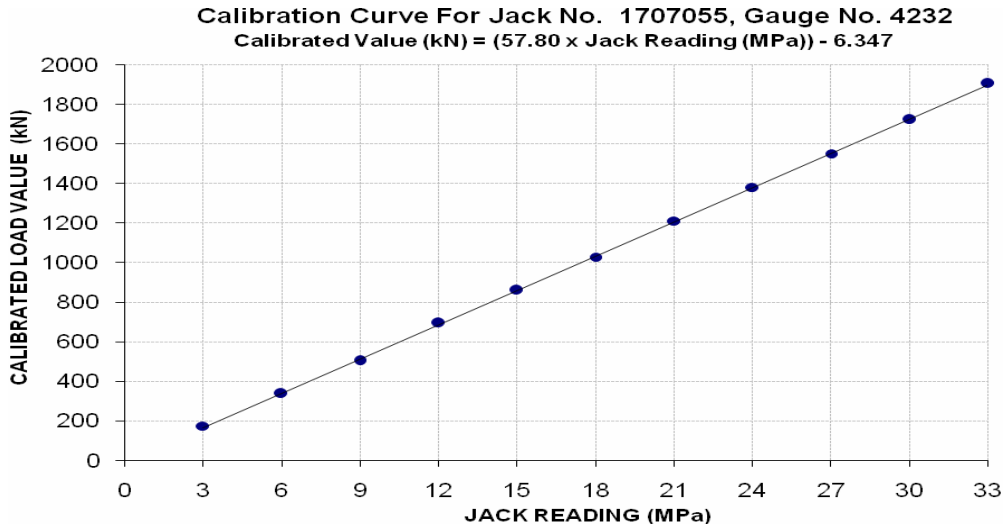
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/09/5638)** (Page -2/3)

Reference to your Letter No. MDHP-DEL-LABT-00000, dated: 09/09/2024 on the subject cited above. One Hydraulic Jack (Jack No. 1707055, Gauge No. 4232) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 50 (MPa)
Calibrated Range : Zero - 33 (MPa)

Hydraulic Jack Reading (MPa)		3	6	9	12	15	18	21	24	27	30	33
Calibrated Load	(kg)	17800	34400	51400	70800	87800	104800	123600	141000	158200	175800	194400
	(kN)	175	337	504	694	861	1028	1212	1383	1551	1724	1906
Calibrated Pressure (Mpa)		3	6	9	12	15	18	21	24	27	30	33

The Ram Area of Jack = 577 cm^2



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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/09/5638 Dated: 09-09-2024

Dated of Test: 09-09-2024

To

Site Manager
Descon Engineering Limited
Mohmand Dam Hydro-Power Project.

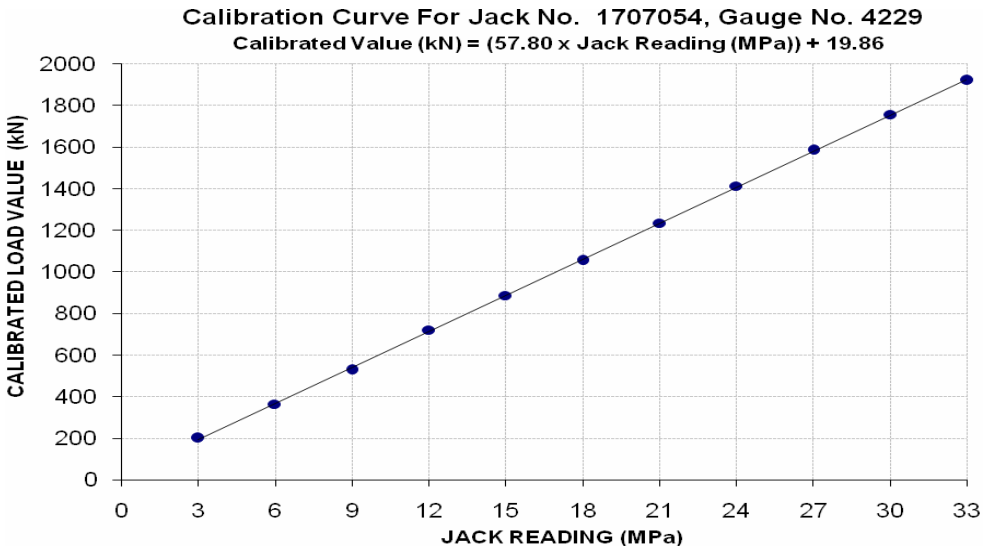
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/09/5638)** (Page -3/3)

Reference to your Letter No. MDHP-DEL-LABT-00000, dated: 09/09/2024 on the subject cited above. One Hydraulic Jack (Jack No. 1707054, Gauge No. 4229) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 50 (MPa)
Calibrated Range : Zero - 33 (MPa)

Hydraulic Jack Reading (MPa)		3	6	9	12	15	18	21	24	27	30	33
Calibrated Load	(kg)	20400	37200	53800	73400	90400	107600	126000	144000	161600	179200	195800
	(kN)	200	365	528	720	887	1055	1236	1412	1585	1757	1920
Calibrated Pressure (Mpa)		3	6	9	12	15	18	21	24	27	30	33

The Ram Area of Jack = 577 cm^2



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