



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/10/4044

Dated: 11-10-2023

Date of Test: 13-10-2023

To,

Resident Engineer
NESPAK

CPEC Package-1

Dualization & Improvement of Existing N - 50 from Yarik to Saggu Road Project (50 km)

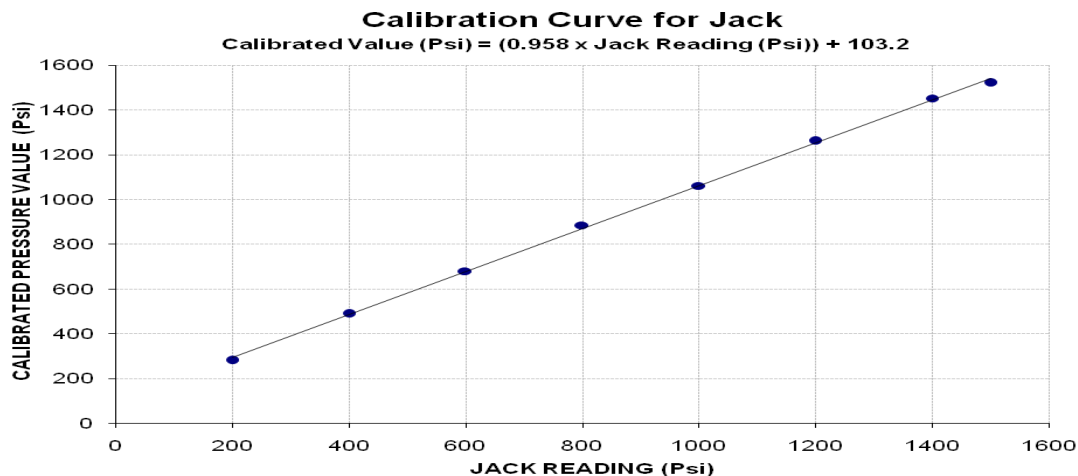
Subject: - CALIBRATION OF HYDRAULIC JACK WITH PRESSURE GAUGE
(MARK: TFL/10/4044) (Page # 1/3)

Reference to your Letter No. CPEC/YS/RE/AHJ/35, Dated: 02/10/2023 on the subject cited above. One Hydraulic Jack with Pressure Gauge No. EN - 837-1 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 5800 (Psi)
Calibrated Range : Zero - 1500 (Psi)

Jack Reading (Psi)	200	400	600	800	1000	1200	1400	1500
Calibrated Load (kg)	36200	63000	87400	113800	136400	162200	186800	195600
Calibrated Pressure (Psi)	281	490	679	885	1060	1261	1452	1520

The Ram Area for Calibration = 283.64 in²



I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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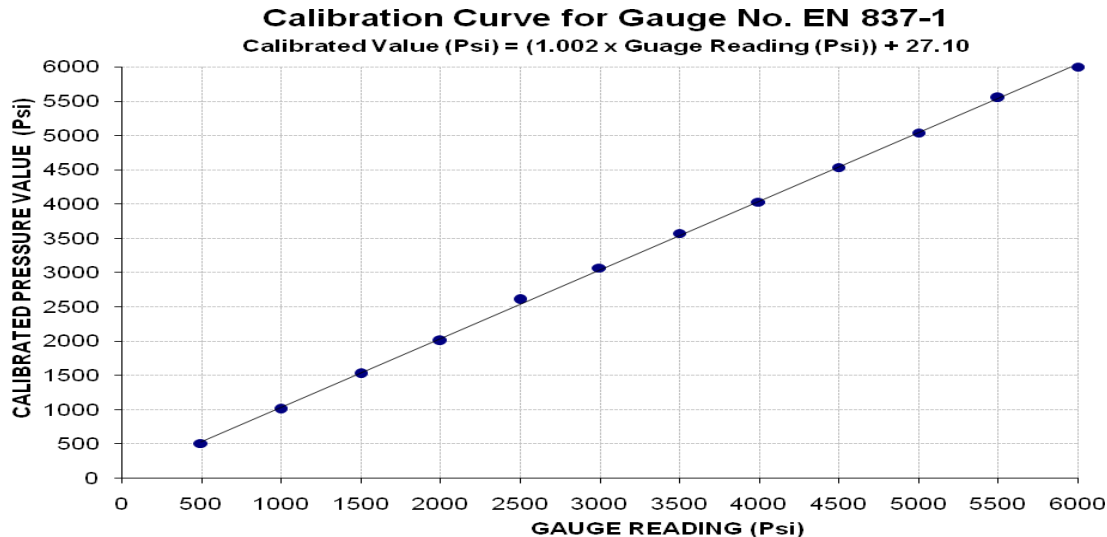
Subject: - **CALIBRATION OF PRESSURE GAUGE (MARK: TFL/10/4044)** (Page # 2/3)

Reference to your Letter No. CPEC/YS/RE/AHJ/35, Dated: 02/10/2023 on the subject cited above. One Pressure Gauge No. EN 837-1 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 14500 (Psi)
Calibrated Range : Zero - 6000 (Psi)

Gauge Reading (Psi)	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000
Calibrated Load (kg)	7000	14000	21200	27900	36200	42700	49700	56100	63100	70100	77200	83500
Calibrated Pressure (Psi)	503	1006	1523	2004	2600	3067	3570	4030	4533	5036	5546	5998

The Ram Area for Calibration = 198 cm²



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Date of Test: 13-10-2023

To,

Resident Engineer

NESPAK

CPEC Package-1

Dualization & Improvement of Existing N - 50 from Yarik to Saggu Road Project (50 km)

Subject: - CALIBRATION OF DIAL GAUGES (MARK: TFL/10/4044) (Page # 3/3)

Reference to your Letter No. CPEC/YS/RE/AHJ/35, Dated: 02/10/2023 on the subject cited above. Three Dial Gauges as received by us have been calibrated on standard calibration device. The results are tabulated as under.

Total Range : Zero - 50 (mm)
Calibrated Range : Zero - 50 (mm)

Standard Reading	Dial Gauge Readings		
	Dial Gauge No. I (16F083307)	Dial Gauge No. II (16F083345)	Dial Gauge No. III (00305656)
400	394	393	393
800	794	793	793
1200	1194	1192	1190
1600	1595	1595	1590
2000	1997	1993	1990
2400	2387	2393	2389
2800	2797	2793	2788
3200	3199	3193	3188
3600	3999	3594	3590
4000	3998	3993	3990
4400	4399	4393	4388
4800	4799	4792	4790
5000	4999	4991	4988

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Ref: CED/TFL/10/4051

Dated: 11-10-2023

Dated of Test: 13-10-2023

To

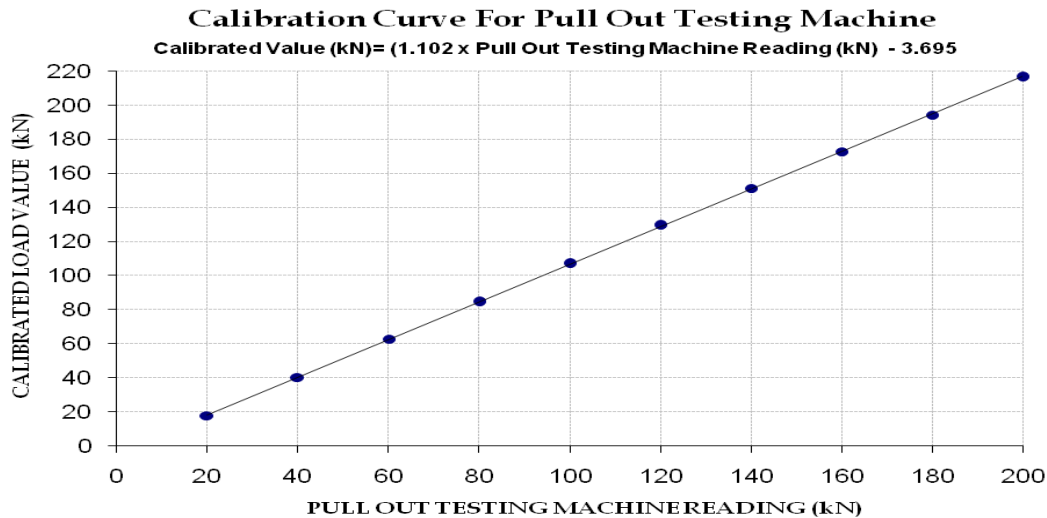
Managing Director
XPERT CCPL
Lahore

Subject: - CALIBRATION OF PULL OUT TESTING MACHINE (MARK: TFL/10/4051)

Reference to your Letter No. MD/23/20, Dated: 11/10/2023 on the subject cited above. One Pull Out Testing Machine as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 250 (kN)
Calibrated Range : Zero - 200 (kN)

Hydraulic Jack Reading (kN)	20	40	60	80	100	120	140	160	180	200	
Calibrated Load	(kg)	1800	4100	6400	8600	10900	13200	15400	17600	19800	22050
	(kN)	18	40	63	84	107	129	151	173	194	216



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Ref: CED/TFL/10/4056

Dated: 12-10-2023

Dated: 13-10-2023

To

M/S China Gezhouba Group Company Limited, Pakistan
DESCON

Construction of Mohmand Dam Hydropower Project - Contract No. ICB MDHP-01,
Construction of Civil Works Including Design, Supply and Installation of Electrical and
Mechanical Works and Hydraulic Steel Structures.

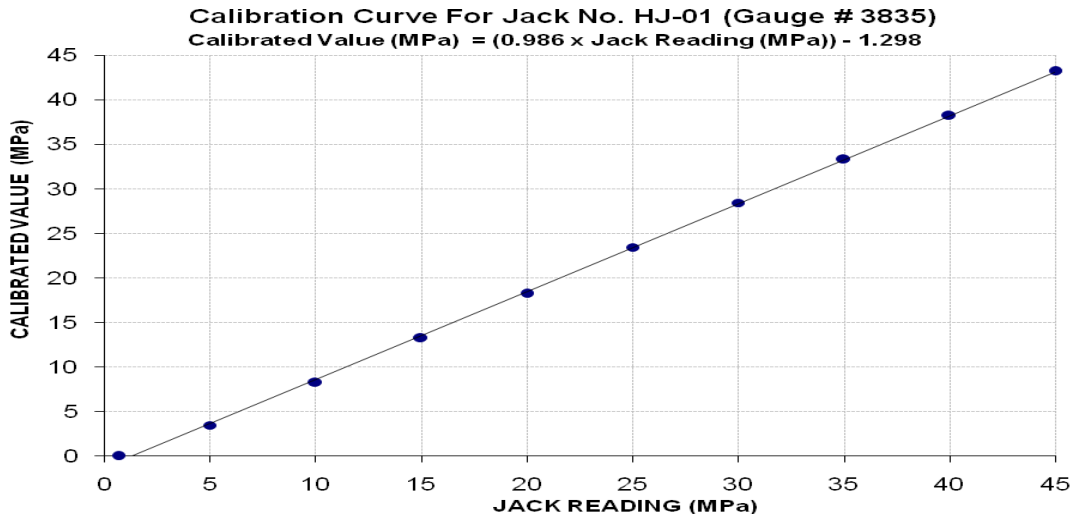
Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/4056) (Page -1/4)

Reference to your Letter No. MDSYS-238, dated: 11/10/2023 on the subject cited above.
One Hydraulic Jack (Jack No. HJ-01, Gauge No. 3835) 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)	0.7	5	10	15	20	25	30	35	40	45
Calibrated Load (kg)	0	10600	25000	40200	55400	71200	86400	101200	116000	131200
Calibrated Pressure (Mpa)	0	3.49	8.23	13.23	18.23	23.43	28.43	33.30	38.17	43.18

The Ram Area of Jack = 298 cm²



I/C Testing Laboratoires
UET Lahore, Pakistan.

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Dated: 13-10-2023

To

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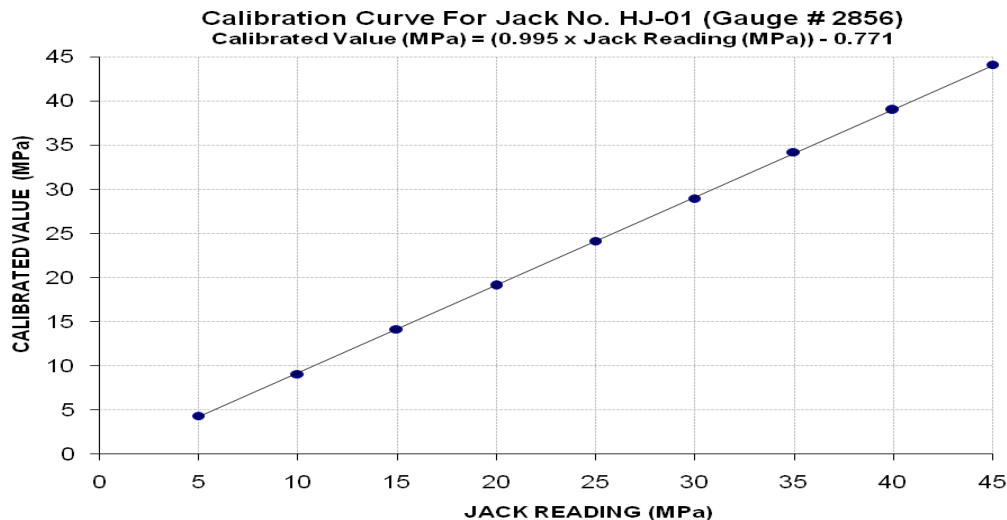
Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/4056) (Page -2/4)

Reference to your Letter No. MDSYS-238, dated: 11/10/2023 on the subject cited above. One Hydraulic Jack (Jack No. HJ-01, Gauge No. 2856) 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)	13200	27600	43000	58000	73400	88000	104000	118400	134000
Calibrated Pressure (Mpa)	4.34	9.08	14.15	19.09	24.16	28.96	34.23	38.96	44.10

The Ram Area of Jack = 298 cm²



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UET Lahore, Pakistan.

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Dated: 13-10-2023

To

M/S China Gezhouba Group Company Limited, Pakistan
DESCON

Construction of Mohmand Dam Hydropower Project - Contract No. ICB MDHP-01,
Construction of Civil Works Including Design, Supply and Installation of Electrical and
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Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/4056) (Page -1/4)

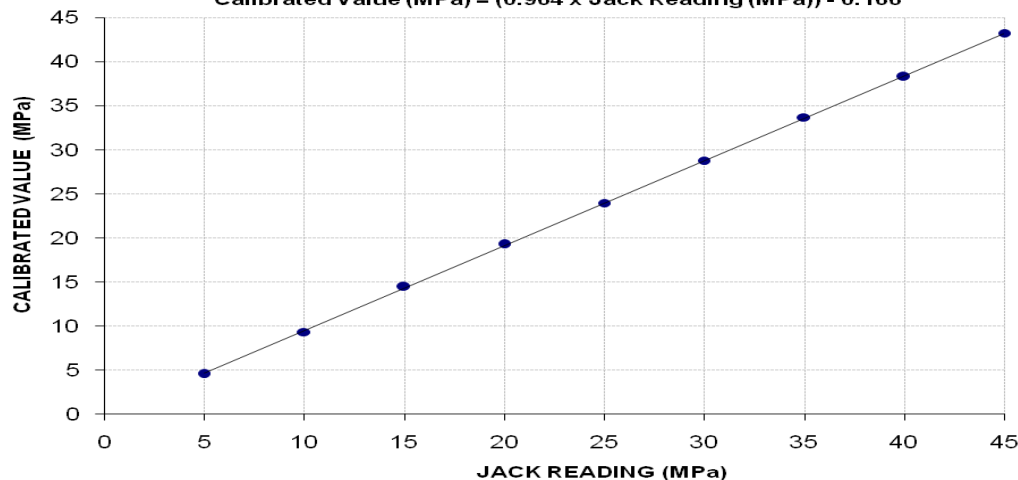
Reference to your Letter No. MDSYS-238, dated: 11/10/2023 on the subject cited above.
One Hydraulic Jack (Jack No. HJ-08, Gauge No. 1342) as received by us has been calibrated. The results are tabulated as under:

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)	9000	18400	28500	38000	47300	56700	66400	75500	85200
Calibrated Pressure (Mpa)	4.56	9.33	14.45	19.27	23.99	28.75	33.67	38.28	43.20

The Ram Area of Jack = 193.4 cm²

Calibration Curve For Jack No. HJ-08 (Gauge # 1342)
Calibrated Value (MPa) = (0.964 × Jack Reading (MPa)) - 0.166



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Ref: CED/TFL/10/4056

Dated: 12-10-2023

Dated: 13-10-2023

To

M/S China Gezhouba Group Company Limited, Pakistan
DESCON

Construction of Mohmand Dam Hydropower Project - Contract No. ICB MDHP-01,
Construction of Civil Works Including Design, Supply and Installation of Electrical and
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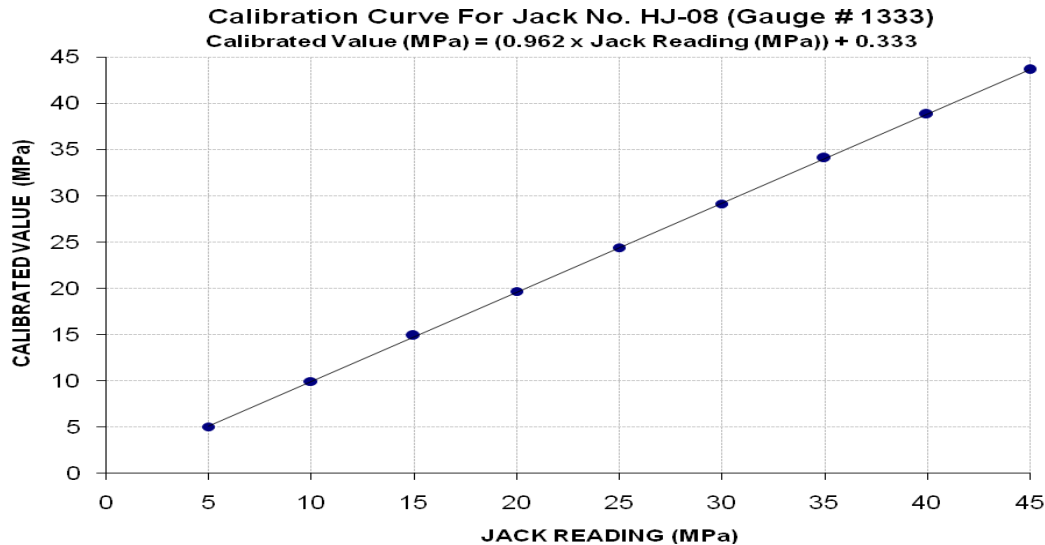
Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/4056) (Page -4/4)

Reference to your Letter No. MDSYS-238, dated: 11/10/2023 on the subject cited above.
One Hydraulic Jack (Jack No. HJ-01, Gauge No. 1333) 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)	9900	19600	29400	38800	48100	57400	67200	76500	86000
Calibrated Pressure (Mpa)	5.02	9.94	14.91	19.67	24.39	29.11	34.08	38.79	43.61

The Ram Area of Jack = 193.4 cm²



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To,
M/S S.A Sheikh & Co.
Lahore

Reference # CED/TFL **4063** (Dr. M Rizwan Riaz)
Reference of the request letter # SASheikh/AB/LN/1

Dated: 13-10-2023
Dated: 13-10-2023

Tension Test Report (Page -1/1)

Date of Test 13-10-2023
Gauge length 8 inches
Description Plain Steel Bar Tensile Test

Sr. No.	Weight (kg/m)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (MPa) Actual	Ultimate Stress (MPa) Actual	Elongation (inch)	% Elongation	Remarks
		Nominal (mm)	Actual (mm)	Nominal	Actual							
1	6.224	32	31.77	-----	792.8	51000	76200	631	943	0.70	8.8	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test												
Bend Test												

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Aftab Ahmed
 Lahore

Reference # CED/TFL **4065** (Dr. M Rizwan Riaz)
 Reference of the request letter # Nil

Dated: 13-10-2023
 Dated: 13-10-2023

Tension Test Report (Page -1/1)

Date of Test 13-10-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test

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	0.096	3/16	0.190	-----	0.028	1140	1240	-----	88610	-----	96400	1.00	12.5	
2	0.097	3/16	0.191	-----	0.029	1090	1160	-----	83910	-----	89300	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/16" Dia Bar Bend Test Through 180° is Satisfactory														

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