

# CAPILLARY FLOW ANALYSIS

2022-06-28

Porous Measurement Int'l Group (CYIPMI)  
\*Analytical Services Division\*  
Email: info@cyi-pmi.com  
Website: www.cyi-pmi.com

Operator:  
Lot Number:  
Hardware Serial Number: CFP-1100AEXL  
Type of test: Wet Up/Dry Up  
Wet Parameter: D:\SCOTT\COTTON FIBER-S.TPF  
Dry Parameter: D:\SCOTT\COTTON FIBER-S.TPF  
Lohm Table: 20191104.cal  
Tortuosity Factor: .715

FLUID = Galwick  
SURFACE TENSION = 15.9 DYNES/CM

File = 2022-06-28\_TXANLIANG.CFT

SAMPLE ID = Cotton 100% 40x40/ 133x100

MEAN FLOW PORE PRESSURE = 1.107 PSI  
MEAN FLOW PORE DIAMETER = 5.9629 MICRONS  
BUBBLE POINT PRESSURE = 0.282 PSI  
BUBBLE POINT PORE DIAMETER = 23.4272 MICRONS

Filter flow% = 100 \* WET FLOW / DRY FLOW  
INCR FF% = Filter flow%(current) - Filter flow%(previous)  
PORE DISTRIBUTION = INCR FF% / (DIAMETER(previous)-DIAMETER(current))

## DIFFERENTIAL

PRESSURE DIAMETER WET FLOW DRY FLOW INCR FILTER PORE AVERAGE 1/2 DRY FLOW  
PSI MICRONS L/MIN L/MIN FF% FLOW% DIST DIAMETER L/MIN

0.2817	23.4272	0.01033	1.705	0.606	0.606	0.852			
0.3767	17.5185	0.15120	2.369	5.777	6.383	0.9778	20.4728	1.184	
0.5483	12.0338	0.63793	3.505	11.817	18.200	2.1545	14.7762	1.753	
0.7200	9.1646	1.42540	4.577	12.944	31.144	4.5113	10.5992	2.288	
0.8667	7.6137	2.19433	5.525	8.573	39.717	5.5279	8.3892	2.762	
0.9567	6.8974	2.68473	6.114	4.198	43.915	5.8603	7.2556	3.057	
1.0533	6.2644	3.23167	6.740	4.030	47.944	6.3656	6.5809	3.370	
1.1650	5.6640	3.87693	7.450	4.095	52.040	6.8204	5.9642	3.725	
1.3000	5.0758	4.64900	8.325	3.804	55.843	6.4667	5.3699	4.163	
1.3933	4.7358	5.25483	8.928	3.016	58.859	8.8696	4.9058	4.464	
1.5533	4.2480	6.25267	9.916	4.197	63.056	8.6047	4.4919	4.958	
1.7283	3.8179	7.32800	10.951	3.859	66.916	8.9726	4.0329	5.476	
1.9117	3.4517	8.51000	11.879	4.725	71.641	12.9053	3.6348	5.939	
2.0933	3.1522	9.73350	12.897	3.829	75.470	12.7823	3.3019	6.449	
2.3217	2.8421	11.10294	14.301	2.167	77.636	6.9887	2.9972	7.151	
2.5683	2.5692	12.31468	15.653	1.035	78.671	3.7898	2.7057	7.827	
2.7467	2.4024	13.33184	16.787	0.745	79.416	4.4688	2.4858	8.394	
2.8533	2.3126	14.04708	17.386	1.381	80.797	15.3717	2.3575	8.693	
3.0983	2.1297	15.38228	18.758	1.207	82.003	6.5983	2.2211	9.379	
3.3517	1.9687	16.99256	20.170	2.244	84.247	13.9408	2.0492	10.085	
3.6150	1.8253	18.44182	21.685	0.797	85.044	5.5566	1.8970	10.842	
3.8900	1.6963	20.15410	23.257	1.615	86.660	12.5190	1.7608	11.628	
4.1350	1.5958	21.61141	24.581	1.259	87.919	12.5285	1.6460	12.291	
4.3950	1.5014	23.25793	26.031	1.428	89.347	15.1297	1.5486	13.015	
4.6683	1.4135	24.94739	27.549	1.210	90.557	13.7637	1.4574	13.774	
4.9467	1.3339	26.65966	29.025	1.294	91.851	16.2673	1.3737	14.512	
5.2133	1.2657	28.51283	30.533	1.534	93.385	22.4790	1.2998	15.266	
5.4350	1.2141	29.88023	31.716	0.827	94.211	16.0109	1.2399	15.858	
5.5433	1.1904	30.61426	32.253	0.707	94.918	29.8045	1.2022	16.127	
5.7600	1.1456	31.95214	33.493	0.482	95.400	10.7645	1.1680	16.746	
5.8633	1.1254	32.66603	34.017	0.630	96.030	31.1900	1.1355	17.008	
6.1683	1.0697	34.28169	35.645	0.146	96.176	2.6260	1.0976	17.822	
6.4950	1.0159	36.11742	37.327	0.584	96.760	10.8552	1.0428	18.663	
6.8767	0.9596	38.09941	39.406	0.000	96.760	0.0000	0.9877	19.703	
7.2317	0.9124	39.98211	41.176	0.340	97.100	7.2227	0.9360	20.588	
7.6300	0.8648	41.99765	43.325	0.000	97.100	0.0000	0.8886	21.662	
8.0317	0.8216	43.96891	45.302	0.000	97.100	0.0000	0.8432	22.651	

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8.4350	0.7823	45.94688	47.409	0.000	97.100	0.0000	0.8019	23.704
8.8633	0.7445	48.09796	49.524	0.021	97.121	0.5467	0.7634	24.762
9.2700	0.7118	50.10814	51.559	0.065	97.186	2.0031	0.7281	25.779
9.7017	0.6801	52.15052	53.788	0.000	97.186	0.0000	0.6960	26.894
10.0567	0.6561	53.85205	55.532	0.000	97.186	0.0000	0.6681	27.766
10.2267	0.6452	54.68672	56.355	0.000	97.186	0.0000	0.6507	28.178
10.6433	0.6200	56.70495	58.315	0.053	97.239	2.0853	0.6326	29.157
10.9967	0.6000	58.37160	60.068	0.000	97.239	0.0000	0.6100	30.034
11.1467	0.5920	59.13782	60.812	0.007	97.247	0.9241	0.5960	30.406
11.5767	0.5700	61.17350	62.930	0.000	97.247	0.0000	0.5810	31.465
12.0083	0.5495	63.15952	65.035	0.000	97.247	0.0000	0.5597	32.517
12.4183	0.5314	65.15225	67.052	0.000	97.247	0.0000	0.5404	33.526
12.9133	0.5110	67.43215	69.403	0.000	97.247	0.0000	0.5212	34.702
13.4117	0.4920	69.68655	71.710	0.000	97.247	0.0000	0.5015	35.855
13.8767	0.4755	71.78127	73.858	0.000	97.247	0.0000	0.4838	36.929
14.3400	0.4601	73.89612	76.106	0.000	97.247	0.0000	0.4678	38.053
14.8633	0.4439	76.42829	78.583	0.011	97.258	0.6842	0.4520	39.292
15.3567	0.4297	78.70551	80.946	0.000	97.258	0.0000	0.4368	40.473

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# SUMMARY SHEET

**2022-06-28**

SAMPLE ID = Cotton 100% 40x40/ 133x100  
LOT NUMBER =

TORTUOSITY = 0.715

Operator:

Lot Number:

Hardware Serial Number: CFP-1100AEXL

Type of test: Wet Up/Dry Up

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MEAN FLOW PORE PRESSURE = 1.107 PSI

MEAN FLOW PORE DIAMETER = 5.9629 MICRONS

LARGEST DETECTED PORE DIAMETER = 23.4272 MICRONS

PRESSURE AT LARGEST PORE = 0.282 PSI

STANDARD DEVIATION OF AVG. PORE DIAMETER = 5.2124

BUBBLE POINT PRESSURE = 0.282 PSI

BUBBLE POINT PORE DIAMETER = 23.4272 MICRONS

MAXIMUM PORE SIZE DISTRIBUTION = 31.1900

DIAMETER AT MAXIMUM PORE SIZE DISTRIBUTION = 1.1254 MICRONS

10% Cumulative Filter Flow occurs at 15.8397 microns

25% Cumulative Filter Flow occurs at 10.5265 microns

75% Cumulative Filter Flow occurs at 3.1889 microns

90% Cumulative Filter Flow occurs at 1.4539 microns

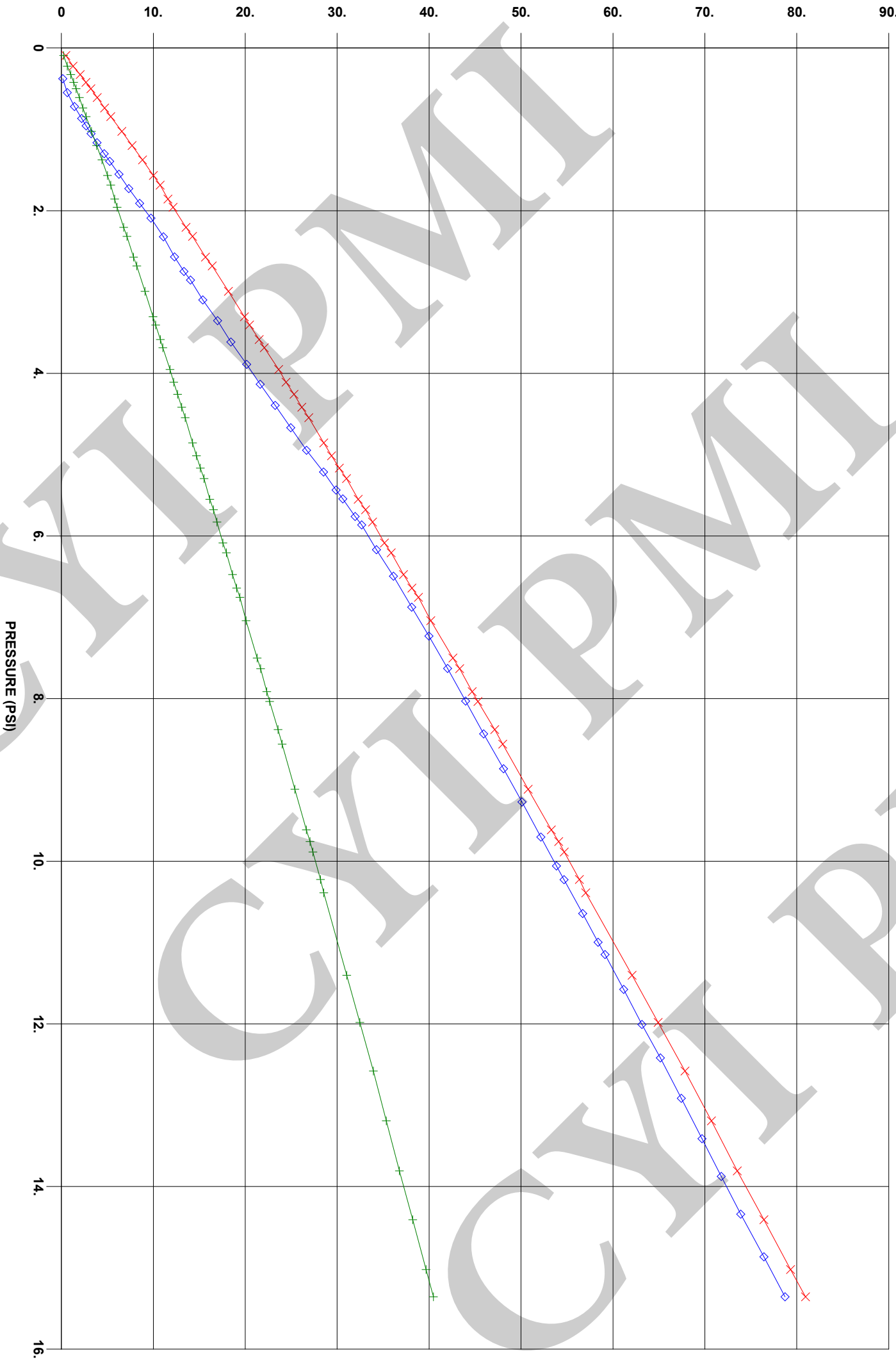
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FLOW RATE L/MIN

2022-06-28\_TXANLIANG: Cotton 100% 40x40/ 133x100- wet  
2022-06-28\_TXANLIANG: Cotton 100% 40x40/ 133x100- 1/2 dry

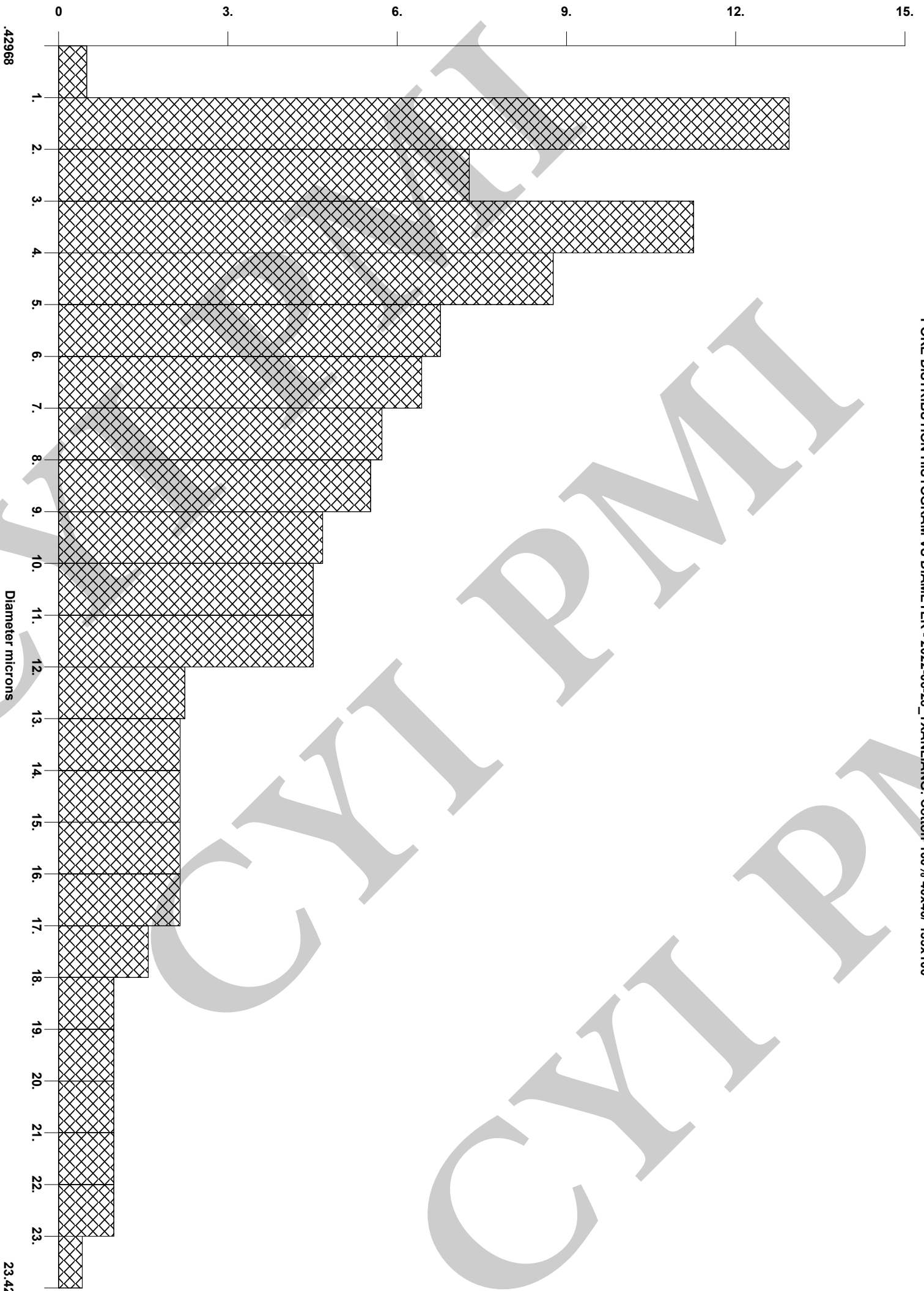
2022-06-28\_TXANLIANG: Cotton 100% 40x40/ 133x100- dry

FLOW RATE VS PRESSURE



PRESSURE (PSI)

PORE SIZE DISTRIBUTION



PORE DISTRIBUTION HISTOGRAM VS DIAMETER - 2022-06-28\_TXANLIANG: Cotton 100% 40x40/ 133x100

Diameter microns

.42968

23.42719