

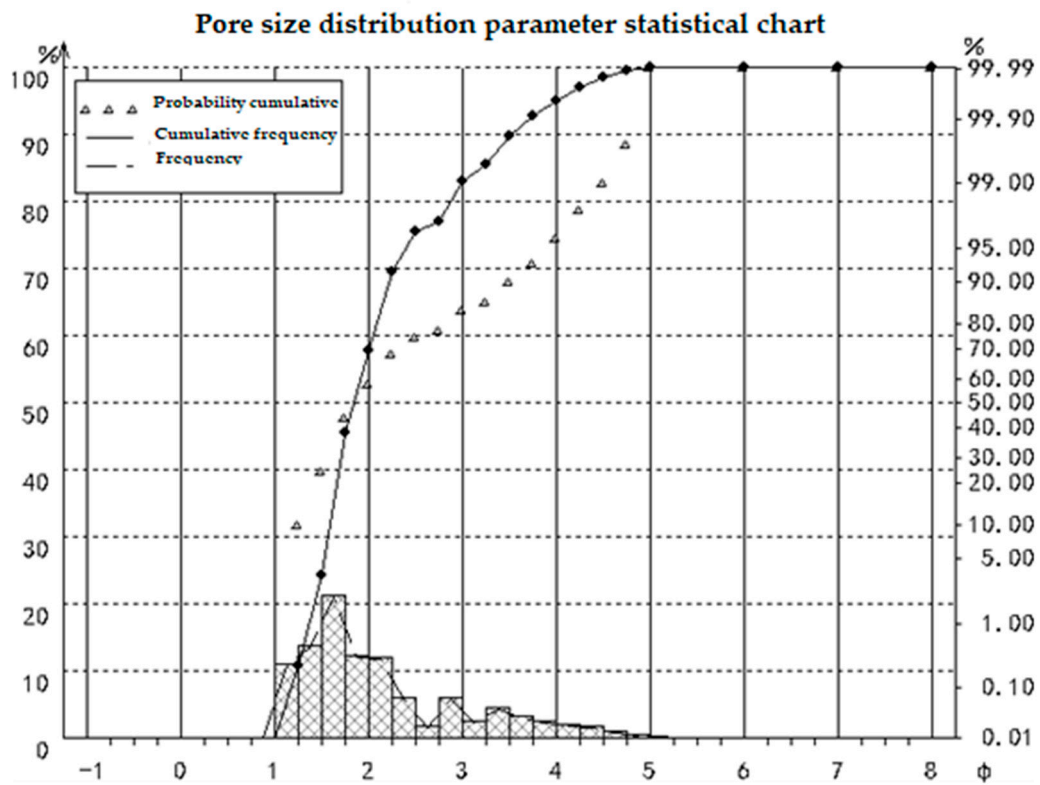
CISA-Particle Size Analysis Datas Reports

Test Date: 2022-10-11

Sample: 4-10MPa-1	Size, mm: 0.25-0.5	Number of particles: 396
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥2.0000	≤-1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
8	~ 0.5946	~ 0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
9	~ 0.5000	~ 1.00	4	13.81	13.81	0	0.00	0.00	0.00	0.00
10	~ 0.4204	~ 1.25	4	10.68	24.49	3	10.78	10.78	10.78	10.78
11	~ 0.3536	~ 1.50	12	21.13	45.63	5	13.72	24.49	13.72	24.49
12	~ 0.2973	~ 1.75	9	12.21	57.83	12	21.13	45.63	21.13	45.63
13	~ 0.2500	~ 2.00	10	8.98	66.82	9	12.21	57.83	12.21	57.83
14	~ 0.2102	~ 2.25	12	7.81	74.63	14	11.87	69.71	11.87	69.71
15	~ 0.1768	~ 2.50	4	1.89	76.51	10	5.92	75.63	5.92	75.63
16	~ 0.1487	~ 2.75	11	3.33	79.84	4	1.58	77.21	1.58	77.21
17	~ 0.1250	~ 3.00	18	4.16	84.00	23	5.98	83.20	5.98	83.20
18	~ 0.1051	~ 3.25	16	2.52	86.52	13	2.34	85.54	2.34	85.54
19	~ 0.0884	~ 3.50	34	3.82	90.34	36	4.31	89.84	4.31	89.84
20	~ 0.0743	~ 3.75	36	2.82	93.16	38	3.11	92.95	3.11	92.95
21	~ 0.0625	~ 4.00	35	1.96	95.12	40	2.26	95.21	2.26	95.21
22	~ 0.0526	~ 4.25	42	1.69	96.80	51	1.95	97.16	1.95	97.16
23	~ 0.0442	~ 4.50	56	1.60	98.40	57	1.51	98.67	1.51	98.67
24	~ 0.0372	~ 4.75	48	0.96	99.36	53	0.96	99.63	0.96	99.63
25	~ 0.0313	~ 5.00	45	0.64	100.00	28	0.37	100.00	0.37	100.00
26	~ 0.0156	~ 6.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
Value	1.02	1.12	1.23	1.35	1.51	1.84	2.47	3.09	3.51	3.98
Type and Content	$\Phi<-1$		$-1<\Phi<0$			$0<\Phi<1$			$1<\Phi<2$	
	0.00%		0.00%			0.00%			57.83%	
	$2<\Phi<3$		$3<\Phi<4$		$4<\Phi<5$		$5<\Phi<8$		$\Phi\geq8$	
	25.36%		12.01%		4.79%		0.00%		0.00%	
Moment Method	Mean M_z	2.12	Standard Deviation σ	0.87	Skewness SK	1.13	Kurtosis K	3.46		
Graphic Method		2.09		0.87		0.46		1.21		
		C Value: 0.4920				M Value: 0.2794				



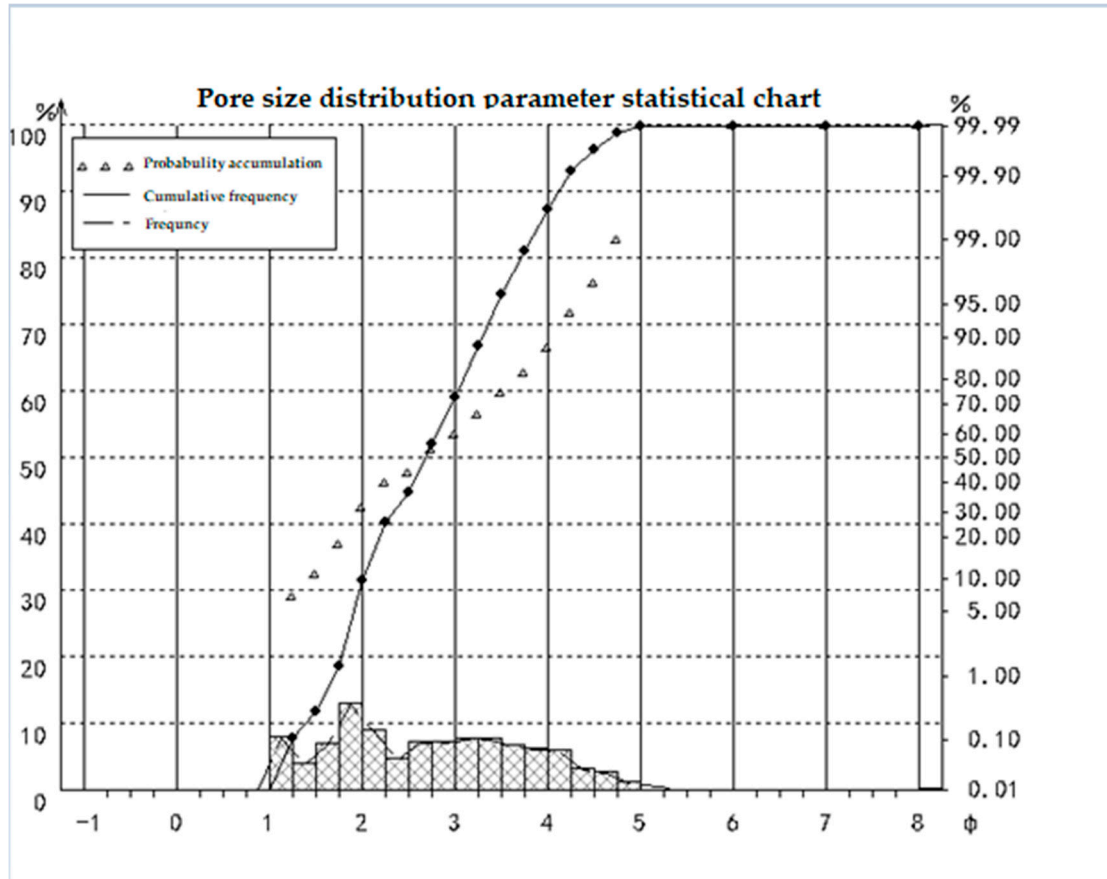
CISA-Particle Size Analysis Datas Reports

Test Date: 2022-10-14

Sample: 4-10MPa-2	Size, mm: 0.25-0.5	Number of particles: 1205
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥ 2.0000	≤ -1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
8	~ 0.5946	~ 0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
9	~ 0.5000	~ 1.00	3	7.96	7.96	0	0.00	0.00	0.00	0.00
10	~ 0.4204	~ 1.25	2	3.92	11.87	3	7.96	7.96	7.96	7.96
11	~ 0.3536	~ 1.50	5	6.87	18.74	2	3.92	11.87	3.92	11.87
12	~ 0.2973	~ 1.75	12	11.28	30.02	5	6.87	18.74	6.87	18.74
13	~ 0.2500	~ 2.00	11	7.33	37.35	14	12.77	31.52	12.77	31.52
14	~ 0.2102	~ 2.25	10	5.02	42.37	15	8.95	40.46	8.95	40.46
15	~ 0.1768	~ 2.50	19	6.35	48.72	11	4.51	44.97	4.51	44.97
16	~ 0.1487	~ 2.75	25	5.86	54.58	25	7.04	52.02	7.04	52.02
17	~ 0.1250	~ 3.00	50	8.10	62.68	38	7.14	59.16	7.14	59.16
18	~ 0.1051	~ 3.25	54	6.20	68.88	58	7.67	66.83	7.67	66.83
19	~ 0.0884	~ 3.50	78	6.41	75.29	88	7.74	74.57	7.74	74.57
20	~ 0.0743	~ 3.75	113	6.48	81.77	110	6.55	81.13	6.55	81.13
21	~ 0.0625	~ 4.00	128	5.24	87.01	150	6.19	87.31	6.19	87.31
22	~ 0.0526	~ 4.25	183	5.34	92.35	205	5.77	93.08	5.77	93.08
23	~ 0.0442	~ 4.50	163	3.38	95.72	165	3.18	96.27	3.18	96.27
24	~ 0.0372	~ 4.75	170	2.44	98.16	198	2.59	98.86	2.59	98.86
25	~ 0.0313	~ 5.00	179	1.84	100.00	118	1.14	100.00	1.14	100.00
26	~ 0.0156	~ 6.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ Value	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
	1.03	1.16	1.38	1.65	1.87	2.68	3.52	3.87	4.12	4.40
Type and Content	$\Phi<-1$		$-1<\Phi<0$			$0<\Phi<1$		$1<\Phi<2$		
	0.00%		0.00%			0.00%		31.52%		
	$2<\Phi<3$		$3<\Phi<4$		$4<\Phi<5$		$5<\Phi<8$		$\Phi\geq8$	
	27.65%		28.15%		12.69%		0.00%		0.00%	
Moment Method	Mean M_z	2.71	Standard Deviation σ	1.01	Skewness SK	0.17	Kurtosis K	1.98		
Graphic Method		2.73		1.05		0.07		0.81		
	C Value: 0.4892				M Value: 0.1562					



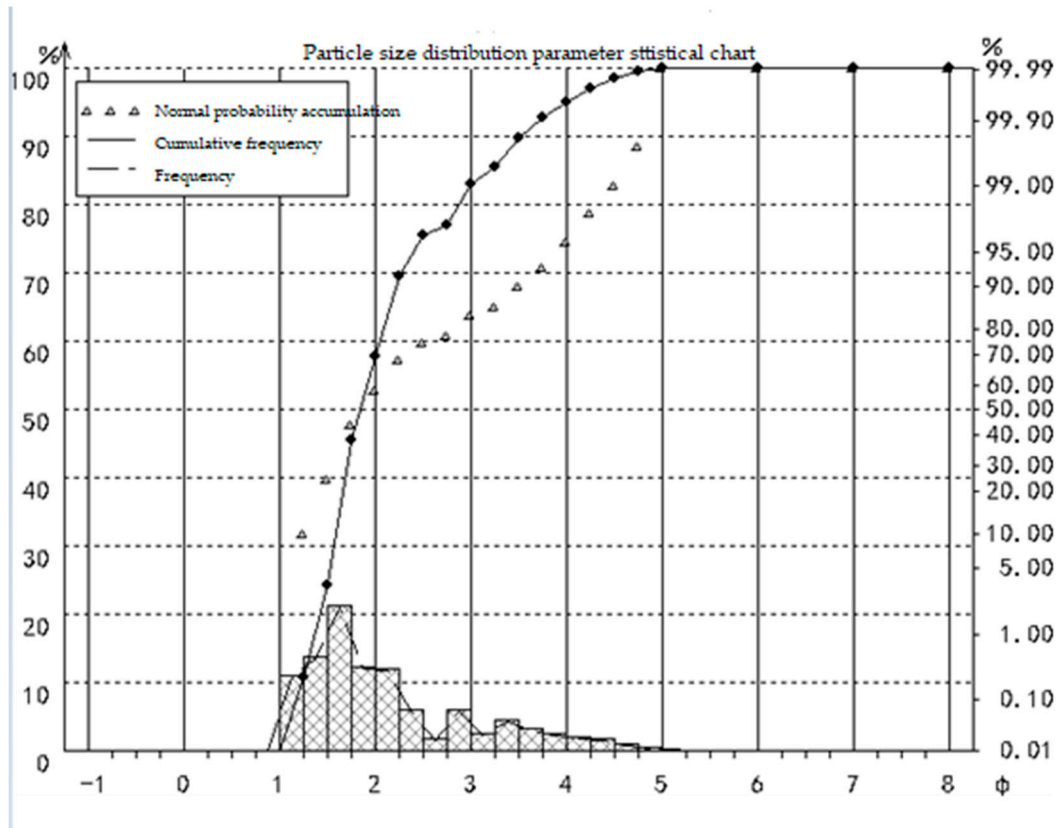
CISA-Particle Size Analysis Datas Reports

Test Date: 2022-10-19

Sample: 4-10MPa-3	Size, mm: 0.25-0.5	Number of particles: 857
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥ 2.0000	≤ -1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	2	9.07	9.07	0	0.00	0.00	0.00	0.00
8	~ 0.5946	~ 0.75	1	3.58	12.65	0	0.00	0.00	0.00	0.00
9	~ 0.5000	~ 1.00	2	5.20	17.85	3	12.65	12.65	12.65	12.65
10	~ 0.4204	~ 1.25	7	12.25	30.10	2	5.20	17.85	5.20	17.85
11	~ 0.3536	~ 1.50	17	21.36	51.46	6	10.80	28.65	10.80	28.65
12	~ 0.2973	~ 1.75	14	12.11	63.57	18	22.81	51.46	22.81	51.46
13	~ 0.2500	~ 2.00	12	7.53	71.10	16	13.54	65.00	13.54	65.00
14	~ 0.2102	~ 2.25	11	4.79	75.89	12	7.10	72.10	7.10	72.10
15	~ 0.1768	~ 2.50	27	8.36	84.25	20	7.50	79.60	7.50	79.60
16	~ 0.1487	~ 2.75	14	2.90	87.15	20	5.57	85.17	5.57	85.17
17	~ 0.1250	~ 3.00	20	3.06	90.21	23	4.10	89.27	4.10	89.27
18	~ 0.1051	~ 3.25	22	2.29	92.50	19	2.27	91.54	2.27	91.54
19	~ 0.0884	~ 3.50	30	2.33	94.83	37	3.09	94.63	3.09	94.63
20	~ 0.0743	~ 3.75	26	1.42	96.24	28	1.57	96.20	1.57	96.20
21	~ 0.0625	~ 4.00	30	1.15	97.39	32	1.22	97.42	1.22	97.42
22	~ 0.0526	~ 4.25	40	1.11	98.50	43	1.17	98.59	1.17	98.59
23	~ 0.0442	~ 4.50	39	0.75	99.26	45	0.82	99.41	0.82	99.41
24	~ 0.0372	~ 4.75	32	0.44	99.70	33	0.41	99.82	0.41	99.82
25	~ 0.0313	~ 5.00	31	0.30	100.00	20	0.18	100.00	0.18	100.00
26	~ 0.0156	~ 6.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ Value	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
	0.77	0.85	0.95	1.16	1.42	1.73	2.35	2.70	3.08	3.56
Type and Content	$\Phi<-1$		$-1<\Phi<0$			$0<\Phi<1$		$1<\Phi<2$		
	0.00%		0.00%			12.65%		52.34%		
	$2<\Phi<3$		$3<\Phi<4$		$4<\Phi<5$		$5<\Phi<8$		$\Phi\geq8$	
	24.27%		8.16%		2.58%		0.00%		0.00%	
Moment Method	Mean M_z	1.93	Standard Deviation σ	0.81	Skewness SK	1.02	Kurtosis K	3.91		
Graphic Method		1.86		0.79		0.30		1.19		
	C Value: 0.5865				M Value: 0.3006					



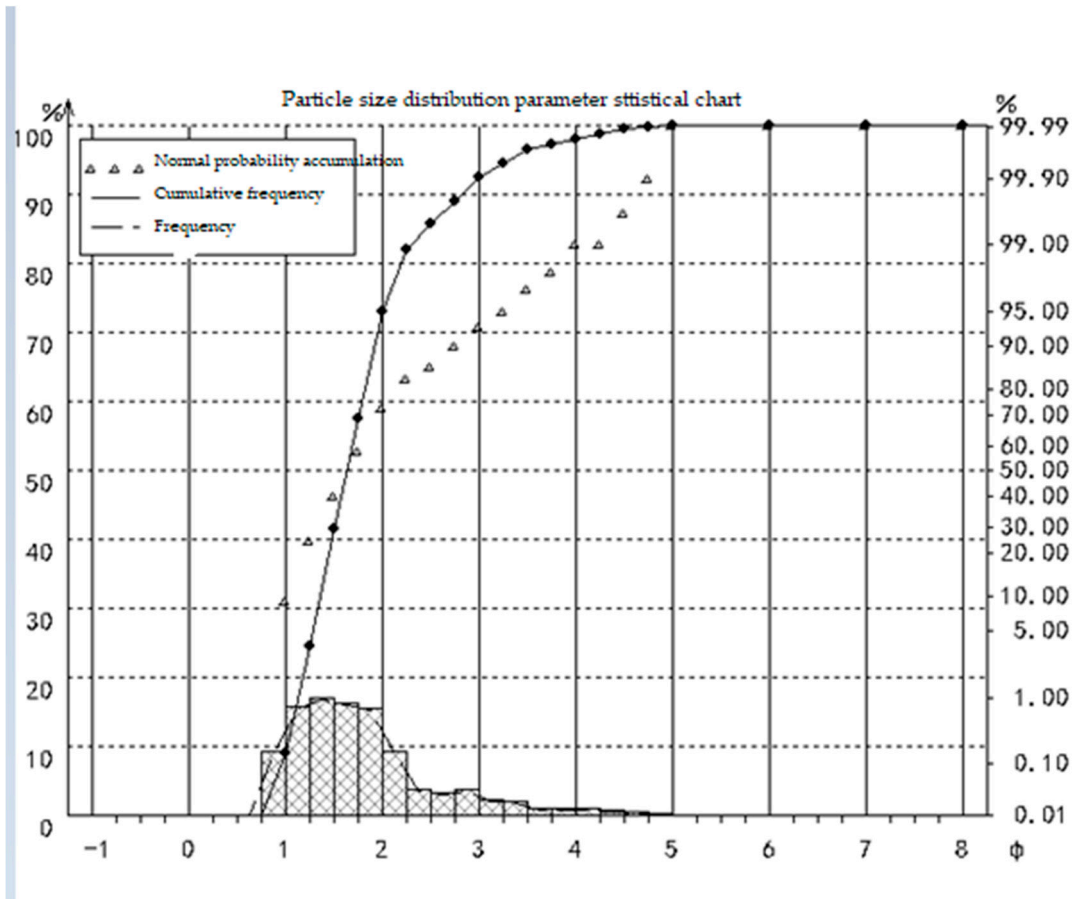
CISA-Particle Size Analysis Datas Reports

Test Date: 2022-10-22

Sample: 4-10MPa-4	Size, mm: 0.25-0.5	Number of particles: 632
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥ 2.0000	≤ -1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
8	~ 0.5946	~ 0.75	3	12.93	12.93	0	0.00	0.00	0.00	0.00
9	~ 0.5000	~ 1.00	4	11.81	24.74	2	9.10	9.10	9.10	9.10
10	~ 0.4204	~ 1.25	9	18.58	43.32	5	15.64	24.74	15.64	24.74
11	~ 0.3536	~ 1.50	10	14.37	57.69	8	16.80	41.54	16.80	41.54
12	~ 0.2973	~ 1.75	14	14.53	72.22	11	16.14	57.69	16.14	57.69
13	~ 0.2500	~ 2.00	10	7.53	79.75	15	15.37	73.06	15.37	73.06
14	~ 0.2102	~ 2.25	9	4.91	84.65	13	9.06	82.11	9.06	82.11
15	~ 0.1768	~ 2.50	9	3.27	87.92	8	3.71	85.83	3.71	85.83
16	~ 0.1487	~ 2.75	14	3.38	91.30	10	3.18	89.01	3.18	89.01
17	~ 0.1250	~ 3.00	13	2.38	93.68	16	3.52	92.52	3.52	92.52
18	~ 0.1051	~ 3.25	13	1.66	95.35	14	2.12	94.64	2.12	94.64
19	~ 0.0884	~ 3.50	14	1.35	96.70	18	1.90	96.54	1.90	96.54
20	~ 0.0743	~ 3.75	10	0.66	97.36	12	0.82	97.36	0.82	97.36
21	~ 0.0625	~ 4.00	18	0.81	98.17	18	0.81	98.17	0.81	98.17
22	~ 0.0526	~ 4.25	24	0.78	98.95	25	0.81	98.98	0.81	98.98
23	~ 0.0442	~ 4.50	21	0.48	99.43	24	0.53	99.50	0.53	99.50
24	~ 0.0372	~ 4.75	18	0.29	99.73	25	0.36	99.86	0.36	99.86
25	~ 0.0313	~ 5.00	23	0.27	100.00	12	0.14	100.00	0.14	100.00
26	~ 0.0156	~ 6.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ Value	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
	0.78	0.89	1.01	1.11	1.25	1.63	2.05	2.38	2.82	3.30
Type and Content	$\Phi<-1$		$-1<\Phi<0$			$0<\Phi<1$		$1<\Phi<2$		
	0.00%		0.00%			9.10%		63.96%		
	$2<\Phi<3$		$3<\Phi<4$		$4<\Phi<5$		$5<\Phi<8$		$\Phi\geq8$	
	19.47%		5.65%		1.83%		0.00%		0.00%	
Moment Method	Mean M_z	1.77		Standard Deviation σ	0.73	Skewness SK	1.38	Kurtosis K	5.12	
Graphic Method		1.71			0.68		0.28		1.23	
	C Value: 0.5834				M Value: 0.3229					



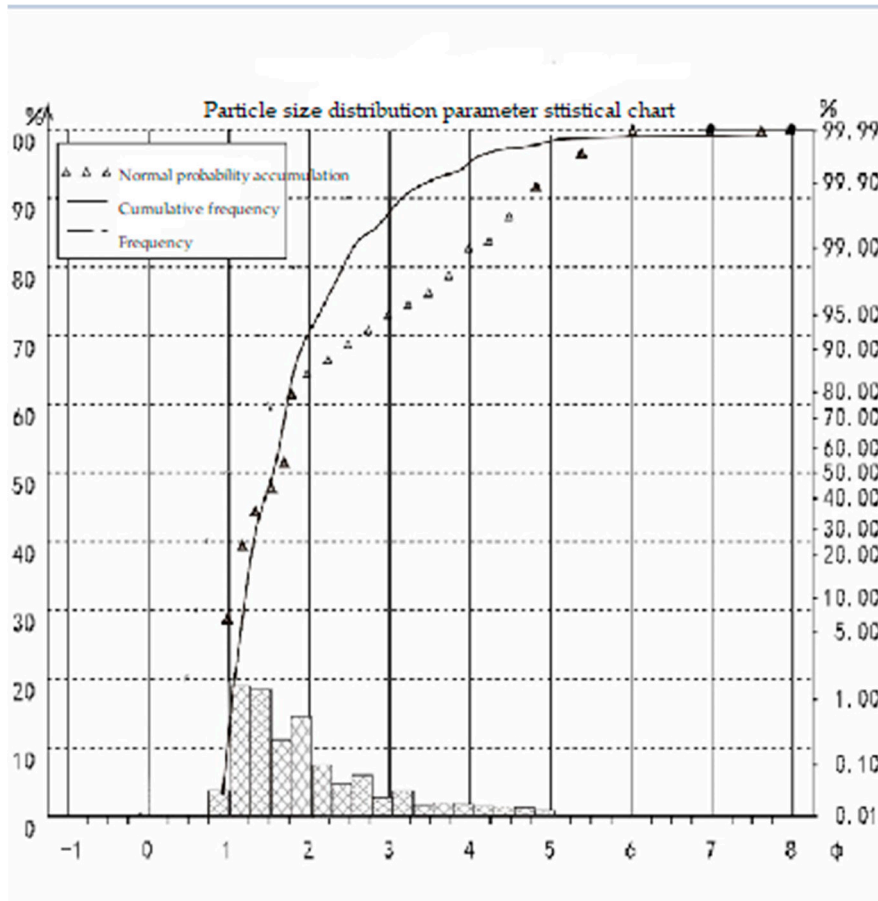
CISA-Particle Size Analysis Datas Reports

Test Date: 2022-11-03

Sample: 4-30MPa	Size, mm: 0.25-0.5	Number of particles: 2355
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥ 2.0000	≤ -1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
8	~ 0.5946	~ 0.75	8	1.46	1.00	1	3.72	3.72	3.72	3.72
9	~ 0.5000	~ 1.00	13	2.37	3.37	6	18.85	22.57	18.85	22.57
10	~ 0.4204	~ 1.25	10	1.82	5.20	9	18.46	41.03	18.46	41.03
11	~ 0.3536	~ 1.50	9	1.64	6.84	8	11.25	52.28	11.25	52.28
12	~ 0.2973	~ 1.75	20	3.65	10.49	15	14.42	66.69	14.42	66.69
13	~ 0.2500	~ 2.00	10	1.82	12.31	11	7.34	74.04	7.34	74.04
14	~ 0.2102	~ 2.25	16	2.92	15.23	11	4.70	78.73	4.70	78.73
15	~ 0.1768	~ 2.50	19	3.47	18.70	18	5.89	84.62	5.89	84.62
16	~ 0.1487	~ 2.75	18	3.28	21.99	12	2.54	87.16	2.54	87.16
17	~ 0.1250	~ 3.00	28	5.11	27.09	25	3.51	90.67	3.51	90.67
18	~ 0.1051	~ 3.25	37	6.75	33.85	17	1.61	92.28	1.61	92.28
19	~ 0.0884	~ 3.50	36	6.57	40.42	28	1.82	94.10	1.82	94.10
20	~ 0.0743	~ 3.75	44	8.03	48.45	31	1.37	95.47	1.37	95.47
21	~ 0.0625	~ 4.00	43	7.85	56.29	45	1.41	96.87	1.41	96.87
22	~ 0.0526	~ 4.25	55	10.04	66.33	49	1.00	97.88	1.00	97.88
23	~ 0.0442	~ 4.50	67	12.23	78.55	45	0.64	98.51	0.64	98.51
24	~ 0.0372	~ 4.75	54	9.85	88.41	63	0.61	99.13	0.61	99.13
25	~ 0.0313	~ 5.00	61	11.13	99.54	71	0.47	99.59	0.47	99.59
26	~ 0.0156	~ 6.00	0	0.00	100	0	0.21	100.00	0.23	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.19	100.00	0.21	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.20	100.00	0.17	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ Value	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
	0.67	0.86	0.94	1.02	1.13	1.58	1.83	2.5	3.15	3.71
Type and Content	$\Phi<-1$		$-1<\Phi<0$			$0<\Phi<1$		$1<\Phi<2$		
	0.00%		0.00%			3.8%		59.09%		
	$2<\Phi<3$		$3<\Phi<4$		$4<\Phi<5$		$5<\Phi<8$		$\Phi\geq8$	
	20.53%		8.43%		8.15%		0.00%		0.00%	
Moment Method	Mean M_z	1.19	Standard Deviation σ	0.90	Skewness SK	1.46	Kurtosis K	4.97		
Graphic Method		1.11		0.83		0.42		1.17		
	C Value: 0.9545				M Value: 0.5178					



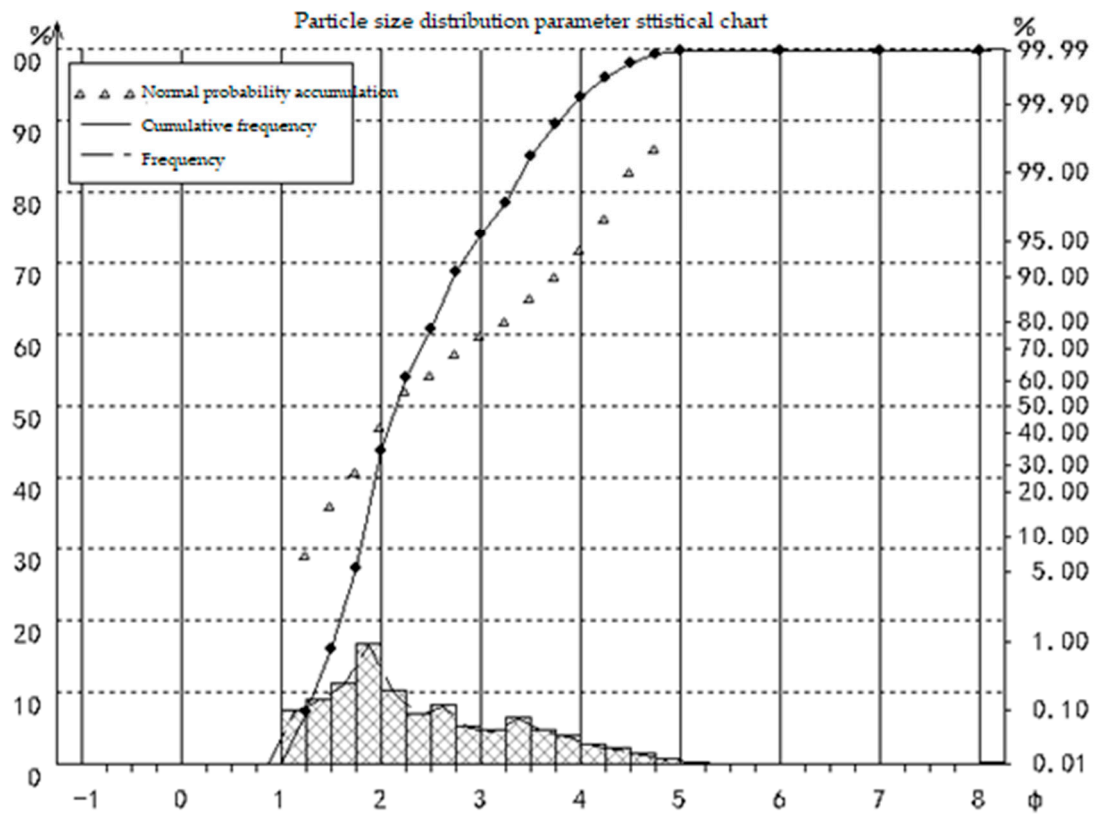
CISA-Particle Size Analysis Datas Reports

Test Date: 2022-11-05

Sample: 4-50MPa	Size, mm: 0.25-0.5	Number of particles: 1550
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥ 2.0000	≤ -1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
8	~ 0.5946	~ 0.75	1	2.89	2.89	0	0.00	0.00	0.00	0.00
9	~ 0.5000	~ 1.00	3	6.40	9.29	0	0.00	0.00	0.00	0.00
10	~ 0.4204	~ 1.25	4	6.94	16.23	3	7.33	7.33	7.33	7.33
11	~ 0.3536	~ 1.50	9	10.23	26.46	5	8.90	16.23	8.90	16.23
12	~ 0.2973	~ 1.75	19	15.48	41.94	10	11.20	27.43	11.20	27.43
13	~ 0.2500	~ 2.00	17	9.84	51.78	21	16.53	43.96	16.53	43.96
14	~ 0.2102	~ 2.25	16	6.79	58.57	19	10.16	54.13	10.16	54.13
15	~ 0.1768	~ 2.50	21	6.09	64.66	18	6.76	60.88	6.76	60.88
16	~ 0.1487	~ 2.75	35	7.22	71.88	33	8.00	68.89	8.00	68.89
17	~ 0.1250	~ 3.00	29	4.13	76.01	30	5.13	74.02	5.13	74.02
18	~ 0.1051	~ 3.25	44	4.40	80.41	40	4.66	78.68	4.66	78.68
19	~ 0.0884	~ 3.50	72	5.30	85.71	80	6.33	85.01	6.33	85.01
20	~ 0.0743	~ 3.75	80	4.15	89.85	86	4.63	89.63	4.63	89.63
21	~ 0.0625	~ 4.00	92	3.37	93.22	103	3.77	93.40	3.77	93.40
22	~ 0.0526	~ 4.25	103	2.65	95.88	109	2.73	96.13	2.73	96.13
23	~ 0.0442	~ 4.50	101	1.84	97.72	120	2.04	98.17	2.04	98.17
24	~ 0.0372	~ 4.75	100	1.30	99.02	113	1.30	99.46	1.30	99.46
25	~ 0.0313	~ 5.00	106	0.98	100.00	62	0.54	100.00	0.54	100.00
26	~ 0.0156	~ 6.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ Value	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
	1.03	1.17	1.33	1.49	1.70	2.15	3.05	3.46	3.77	4.15
Type and Content	$\Phi < -1$		$-1 < \Phi < 0$			$0 < \Phi < 1$		$1 < \Phi < 2$		
	0.00%		0.00%			0.00%		43.96%		
	$2 < \Phi < 3$		$3 < \Phi < 4$		$4 < \Phi < 5$		$5 < \Phi < 8$		$\Phi \geq 8$	
	30.06%		19.38%		6.60%		0.00%		0.00%	
Moment Method	Mean M_z	2.39	Standard Deviation σ	0.92	Skewness SK	0.65	Kurtosis K	2.52		
Graphic Method		2.37		0.94		0.34		0.90		
	C Value: 0.4883				M Value: 0.2255					



CISA-Particle Size Analysis Datas Reports

Test Date: 2022-11-07

Sample: 4-70MPa	Size, mm: 0.25-0.5	Number of particles: 2409
	Depth,m:	Name: Volcaniclastic Rock

No.	Particle Size		Thin Section Determination			Correction			Matrix Correction	
	D Value (mm)	Φ Value	Number	Frequency %	Cumulative Frequency %	Number	Frequency %	Cumulative Frequency %	Frequency %	Cumulative Frequency %
1	≥ 2.0000	≤ -1.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
2	~ 1.6818	~ -0.75	0	0.00	0.00	0	0.00	0.00	0.00	0.00
3	~ 1.4142	~ -0.50	0	0.00	0.00	0	0.00	0.00	0.00	0.00
4	~ 1.1892	~ -0.25	0	0.00	0.00	0	0.00	0.00	0.00	0.00
5	~ 1.0000	~ -0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	~ 0.8409	~ 0.25	1	6.52	6.52	0	0.00	0.00	0.00	0.00
7	~ 0.7071	~ 0.50	0	0.00	6.52	1	6.52	6.52	6.52	6.52
8	~ 0.5946	~ 0.75	0	0.00	6.52	0	0.00	6.52	0.00	6.52
9	~ 0.5000	~ 1.00	6	14.02	20.55	0	0.00	6.52	0.00	6.52
10	~ 0.4204	~ 1.25	5	7.69	28.24	5	12.08	18.60	12.08	18.60
11	~ 0.3536	~ 1.50	7	7.69	35.93	6	9.63	28.24	9.63	28.24
12	~ 0.2973	~ 1.75	8	6.62	42.55	7	7.69	35.93	7.69	35.93
13	~ 0.2500	~ 2.00	8	4.54	47.08	8	6.62	42.55	6.62	42.55
14	~ 0.2102	~ 2.25	22	8.56	55.64	12	6.38	48.93	6.38	48.93
15	~ 0.1768	~ 2.50	22	6.14	61.79	22	7.94	56.87	7.94	56.87
16	~ 0.1487	~ 2.75	32	6.37	68.16	35	8.57	65.44	8.57	65.44
17	~ 0.1250	~ 3.00	32	4.45	72.61	31	5.16	70.61	5.16	70.61
18	~ 0.1051	~ 3.25	48	4.77	77.38	47	5.29	75.89	5.29	75.89
19	~ 0.0884	~ 3.50	70	4.97	82.35	71	5.47	81.36	5.47	81.36
20	~ 0.0743	~ 3.75	82	4.06	86.41	94	4.88	86.24	4.88	86.24
21	~ 0.0625	~ 4.00	107	3.80	90.22	114	4.07	90.31	4.07	90.31
22	~ 0.0526	~ 4.25	141	3.58	93.80	163	4.01	94.31	4.01	94.31
23	~ 0.0442	~ 4.50	139	2.49	96.29	156	2.57	96.89	2.57	96.89
24	~ 0.0372	~ 4.75	173	2.18	98.47	203	2.30	99.19	2.30	99.19
25	~ 0.0313	~ 5.00	168	1.53	100.00	96	0.81	100.00	0.81	100.00
26	~ 0.0156	~ 6.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
27	~ 0.0078	~ 7.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
28	~ 0.0039	~ 8.00	0	0.00	100.00	0	0.00	100.00	0.00	100.00
29	< 0.0039	> 8.00	Matrix Content			0.00			0.00	100.00

Φ Value	1%	5%	10%	16%	25%	50%	75%	84%	90%	95%
	0.29	0.44	1.07	1.20	1.42	2.28	3.21	3.64	3.98	4.32
Type and Content	$\Phi<-1$		$-1<\Phi<0$			$0<\Phi<1$		$1<\Phi<2$		
	0.00%		0.00%			6.52%		36.02%		
	$2<\Phi<3$		$3<\Phi<4$		$4<\Phi<5$		$5<\Phi<8$		$\Phi\geq8$	
	28.06%		19.70%		9.69%		0.00%		0.00%	
Moment Method	Mean M_z	2.35	Standard Deviation σ	1.13	Skewness SK	0.23	Kurtosis K	2.22		
Graphic Method		2.37		1.20		0.08		0.89		
	C Value: 0.8189			M Value: 0.2054						

