Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

Analysis Log

Relative Pressure	Pressure (mmHg)	Vol Adsorbed (cm³/g STP)	Elapsed Time (HR:MN)	Saturation Press.(mmHg)
			01:08	757.85815
0.001708816	1.29350	0.3042	02:39	
0.001824912	1.38100	0.3104	03:00	
0.002494406	1.88675	0.3397	03:36	
0.003816528	2.88600	0.3823	03:57	
0.004952208	3.74400	0.4089	04:13	
0.006445980	4.87250	0.4342	04:26	
			04:28	755.87781
0.008446687	6.38336	0.4589	04:38	
0.010162171	7.67838	0.4744	04:47	
0.024447952	18.47024	0.5361	04:53	
0.044522266	33.63280	0.5857	04:58	
0.060171569	45.44989	0.6153	05:03	
0.094271055	71.19926	0.6693	05:08	
0.130418357	98.49187	0.7180	05:12	
0.170444487	128.70908	0.7672	05:16	
0.210462837	158.91547	0.8173	05:20	
0.250585766	189.19202	0.8693	05:25	
0.293855857	221.84277	0.9255	05:29	
			05:31	754.90656
0.350714716	264.74585	1.0000	05:35	
0.400407684	302.24216	1.0663	05:40	
0.450429963	339.98666	1.1344	05:44	
0.500461589	377.73117	1.2037	05:49	
0.550385461	415.39474	1.2788	05:53	
0.600470737	453.17700	1.3614	05:57	
0.650323887	490.77585	1.4571	06:02	
0.700453902	528.58521	1.5696	06:06	
0.750209525	566.10303	1.7090	06:11	
0.771251386	581.95087	1.7796	06:16	
0.800797492	604.21991	1.8908	06:20	
0.825698669	622.97607	2.0000	06:25	
0.850496948	641.64600	2.1329	06:31	
			06:33	754.42090
0.875795154	660.63965	2.3002	06:39	
0.900069477	678.85638	2.5066	06:46	
0.920321974	694.03510	2.7348	06:53	
0.940102125	708.82532	3.0375	07:02	
0.951300159	717.14056	3.2692	07:11	
0.968575369	730.00433	3.7899	07:22	
0.980195183	738.55701	4.3601	07:36	

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

Analysis Log

Relative Pressure	Pressure (mmHg)	Vol Adsorbed (cm³/g STP)	Elapsed Time (HR:MN)	Saturation Press.(mmHg)
			07:38	753.44965
0.987230207	743.68304	4.8750	07:51	
0.991276845	746.59680	5.2574	08:03	
0.992327470	747.29828	5.3749	08:11	
0.993148460	747.83789	5.4897	08:18	
0.994644630	748.86322	5.7030	08:27	
0.998679703	751.77692	6.0229	08:38	
			08:40	752.74817
0.999233721	752.10065	6.5567	08:50	
0.994417257	748.42615	6.1421	08:57	
0.989087058	744.33051	5.7442	09:09	
0.982730372	739.46338	5.3172	09:21	
0.980873016	738.01721	5.2072	09:28	
0.970546212	730.17169	4.7131	09:39	
			09:41	752.31653
0.960673702	722.68750	4.3485	09:52	
0.950977484	715.35443	4.0616	10:02	
0.940617108	707.53027	3.8187	10:10	
0.931045057	700.29974	3.6255	10:18	
0.920675772	692.47021	3.4415	10:26	
0.910458478	684.75940	3.2872	10:33	
0.900694933	677.39410	3.1572	10:39	
0.890779878	669.91534	3.0371	10:45	
			10:47	752.04669
0.875589576	658.44354	2.8733	10:54	
0.860250972	646.87463	2.7316	11:00	
0.830307540	624.31976	2.5046	11:07	
0.800661657	601.99139	2.3244	11:14	
0.781448192	587.51947	2.2241	11:19	
0.760775999	571.95215	2.1287	11:24	
0.740763215	556.88684	2.0453	11:28	
0.720677081	541.76746	1.9693	11:32	
0.700760785	526.77216	1.8981	11:37	
0.680535270	511.55026	1.8323	11:41	
0.660746116	496.65744	1.7721	11:45	
0.640616638	481.50562	1.7166	11:50	
			11:52	751.61505
0.620881792	466.65610	1.6637	11:56	
0.600273249	451.15894	1.6123	12:00	
0.580367802	436.19073	1.5653	12:04	
0.560449497	421.21158	1.5210	12:09	

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

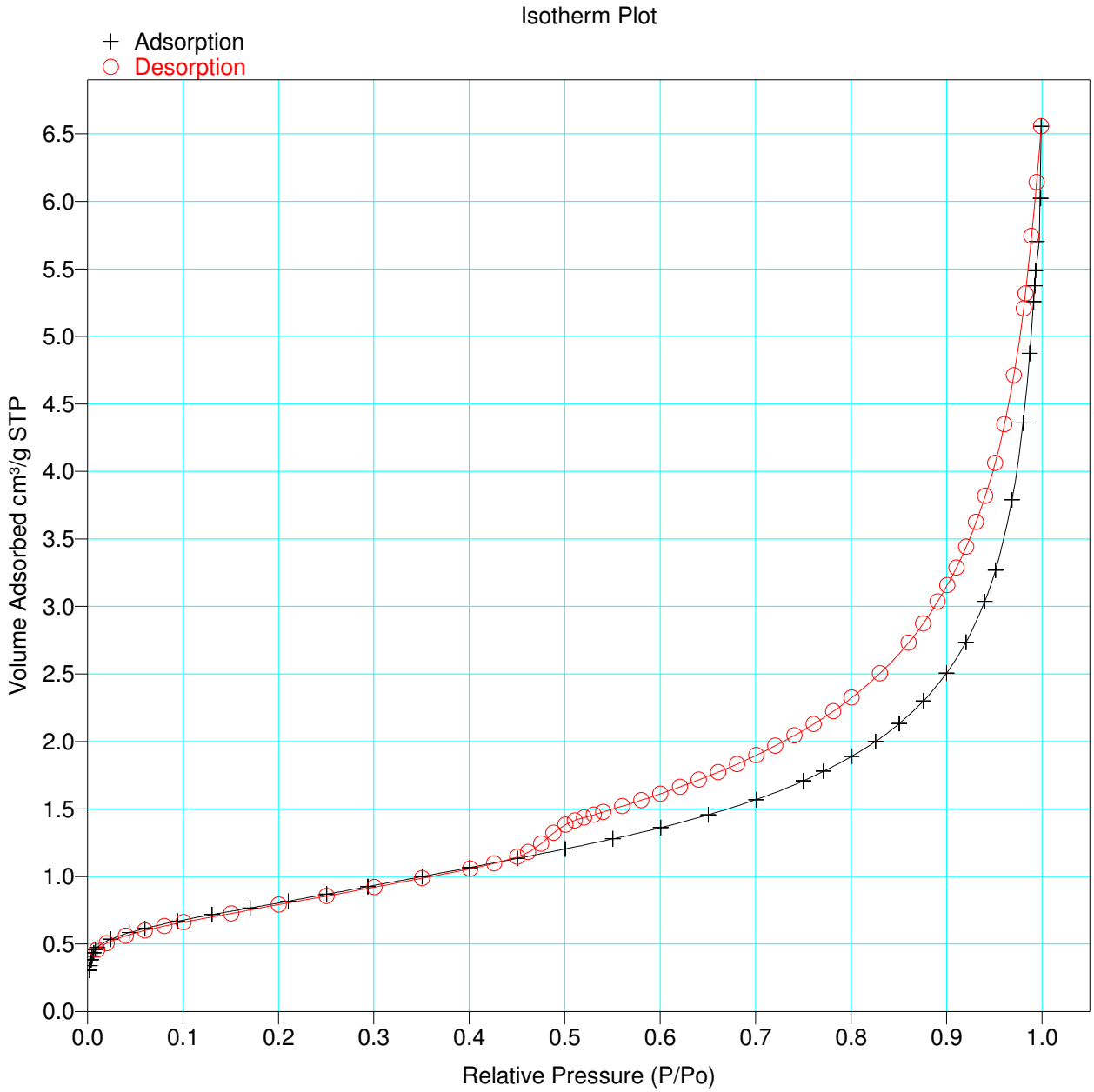
Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

Analysis Log

Relative Pressure	Pressure (mmHg)	Vol Adsorbed (cm³/g STP)	Elapsed Time (HR:MN)	Saturation Press.(mmHg)
0.540437065	406.16232	1.4787	12:14	
0.530473491	398.66742	1.4566	12:18	
0.520346531	391.04831	1.4361	12:23	
0.510604803	383.72067	1.4153	12:27	
0.500778594	376.32819	1.3830	12:32	
0.488426582	367.03638	1.3240	12:38	
0.475314908	357.17267	1.2436	12:45	
0.461755185	346.97437	1.1802	12:51	
0.450406521	338.43799	1.1456	12:57	
			12:59	751.39917
0.426034451	320.10800	1.0971	13:03	
0.401053181	301.32480	1.0570	13:07	
0.350724057	263.49936	0.9872	13:11	
0.300749665	225.94371	0.9210	13:15	
0.250450409	188.14523	0.8555	13:20	
0.200430824	150.56259	0.7925	13:24	
0.150550521	113.08784	0.7258	13:28	
0.100744950	75.67249	0.6620	13:32	
0.080590824	60.53150	0.6327	13:36	
0.060299116	45.28800	0.6006	13:41	
0.040328522	30.28732	0.5615	13:46	
0.020163289	15.14095	0.5055	13:58	
			14:05	750.85962
0.010290802	7.72695	0.4572	14:10	

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP



Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

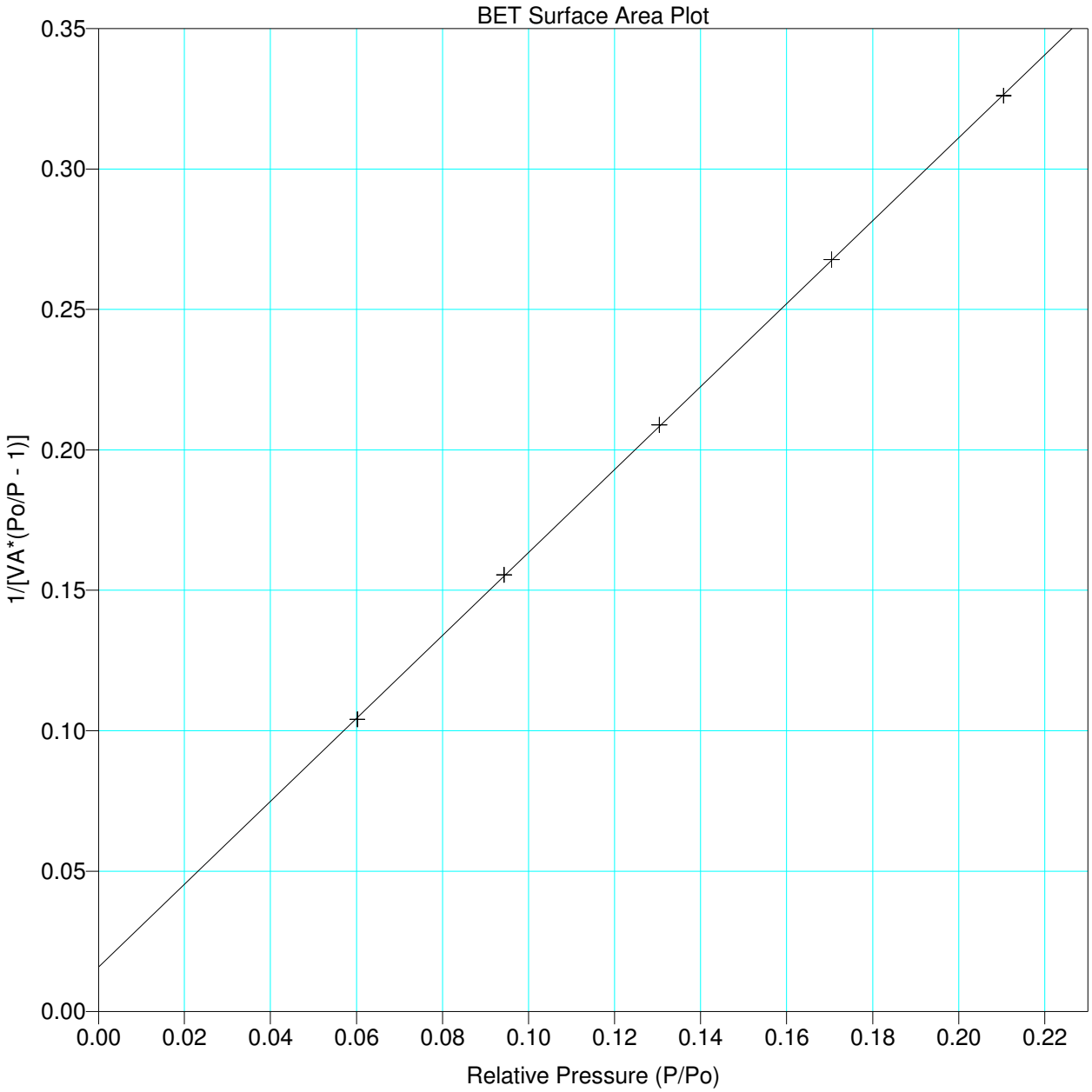
BET Surface Area Report

BET Surface Area:	2.9165	± 0.0102	m²/g
Slope:	1.476774	± 0.005160	
Y-Intercept:	0.015847	± 0.000740	
C:	94.187000		
VM:	0.669962	cm³/g STP	
Correlation Coefficient:	9.999817e-01		
Molecular Cross-section:	0.1620	nm²	

Relative Pressure	Vol Adsorbed (cm³/g STP)	1/ [VA*(Po/P - 1)]
0.060171569	0.6153	0.104056
0.094271055	0.6693	0.155517
0.130418357	0.7180	0.208880
0.170444487	0.7672	0.267818
0.210462837	0.8173	0.326155

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP



Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

BJH Adsorption Pore Distribution Report

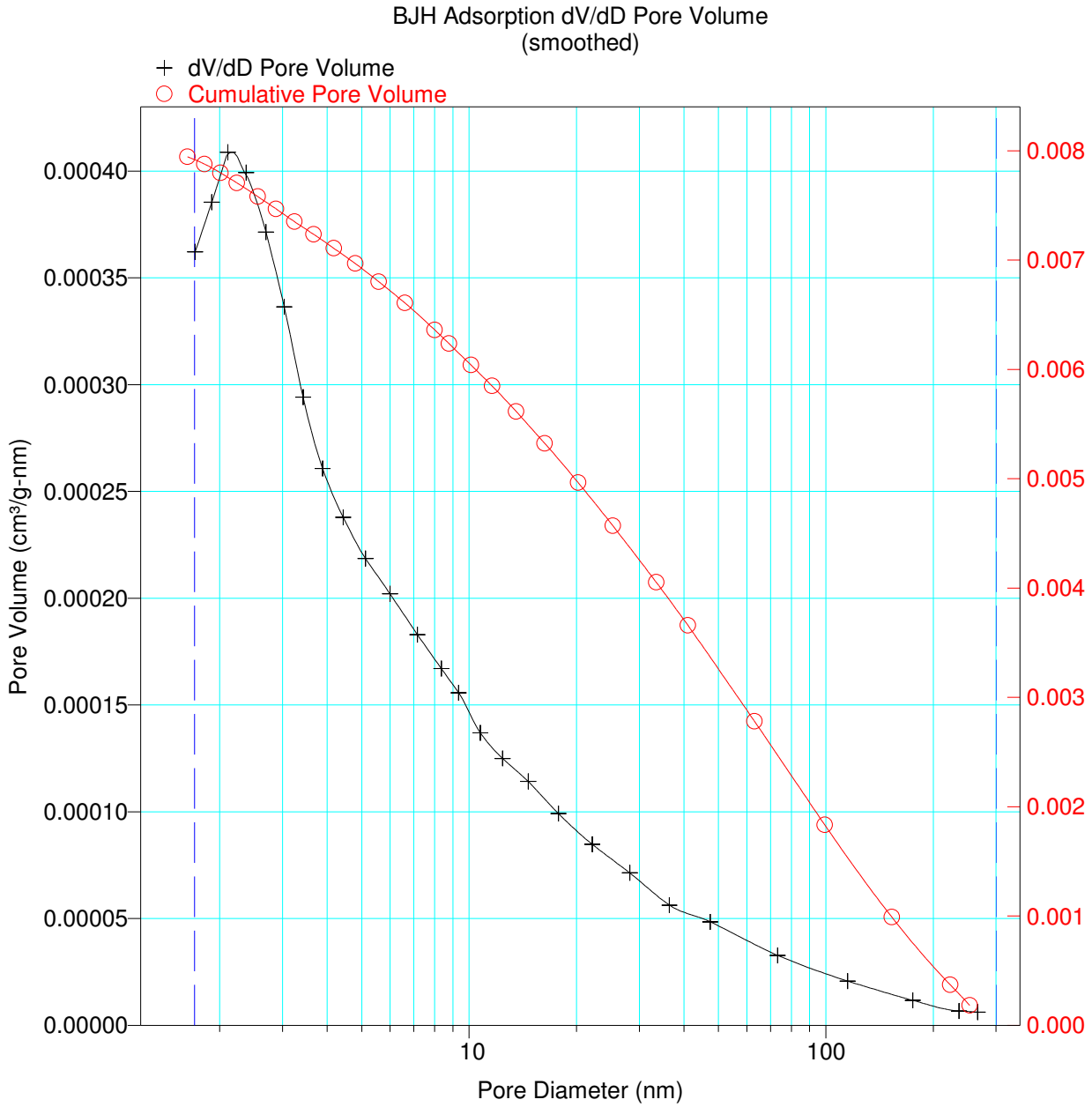
t = 3.5400 x [-5.0000 / ln(P/Po)]0.3330

Diameter Range: 1.7000 to 300.0000 nm
Adsorbate Property Factor: 0.953000 nm
Density Conversion Factor: 0.001547
Fraction of Pores Open at Both Ends: 0.000

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm³/g)	Cumulative Pore Volume (cm³/g)	Smoothed dV/dD Pore Volume (cm³/g-nm)	Smoothed dV/dlog(D) Pore Volume (cm³/g-nm)
283.1- 253.1	266.4	0.000184	0.000184	6.2002e-06	3.6138e-03
253.1- 223.0	236.1	0.000189	0.000373	6.7623e-06	3.4717e-03
223.0- 153.0	175.2	0.000618	0.000991	1.1751e-05	4.1399e-03
153.0- 99.3	115.0	0.000843	0.001834	2.0797e-05	4.7543e-03
99.3- 63.1	73.3	0.000948	0.002782	3.2792e-05	4.7607e-03
63.1- 41.0	47.4	0.000878	0.003660	4.8514e-05	4.5807e-03
41.0- 33.5	36.4	0.000392	0.004053	5.6313e-05	4.3389e-03
33.5- 25.3	28.2	0.000518	0.004571	7.1453e-05	4.1580e-03
25.3- 20.2	22.2	0.000394	0.004965	8.4772e-05	3.9449e-03
20.2- 16.3	17.8	0.000359	0.005324	9.9132e-05	3.7181e-03
16.3- 13.5	14.6	0.000292	0.005616	1.1422e-04	3.5599e-03
13.5- 11.6	12.4	0.000233	0.005849	1.2499e-04	3.3374e-03
11.6- 10.1	10.8	0.000191	0.006040	1.3694e-04	3.1919e-03
10.1- 8.8	9.3	0.000196	0.006236	1.5575e-04	3.1486e-03
8.8- 8.0	8.4	0.000125	0.006361	1.6708e-04	3.0818e-03
8.0- 6.6	7.2	0.000246	0.006607	1.8297e-04	2.7832e-03
6.6- 5.6	6.0	0.000196	0.006803	2.0210e-04	2.5957e-03
5.6- 4.8	5.1	0.000166	0.006969	2.1861e-04	2.4146e-03
4.8- 4.2	4.4	0.000140	0.007109	2.3790e-04	2.2868e-03
4.2- 3.7	3.9	0.000127	0.007236	2.6079e-04	2.2021e-03
3.7- 3.2	3.4	0.000116	0.007352	2.9417e-04	2.1949e-03
3.2- 2.9	3.0	0.000116	0.007468	3.3646e-04	2.2271e-03
2.9- 2.6	2.7	0.000113	0.007581	3.7141e-04	2.1863e-03
2.6- 2.2	2.4	0.000125	0.007706	3.9925e-04	2.0532e-03
2.2- 2.0	2.1	0.000091	0.007797	4.0884e-04	1.8920e-03
2.0- 1.8	1.9	0.000080	0.007877	3.8541e-04	1.6089e-03
1.8- 1.6	1.7	0.000067	0.007945	3.6216e-04	1.3542e-03

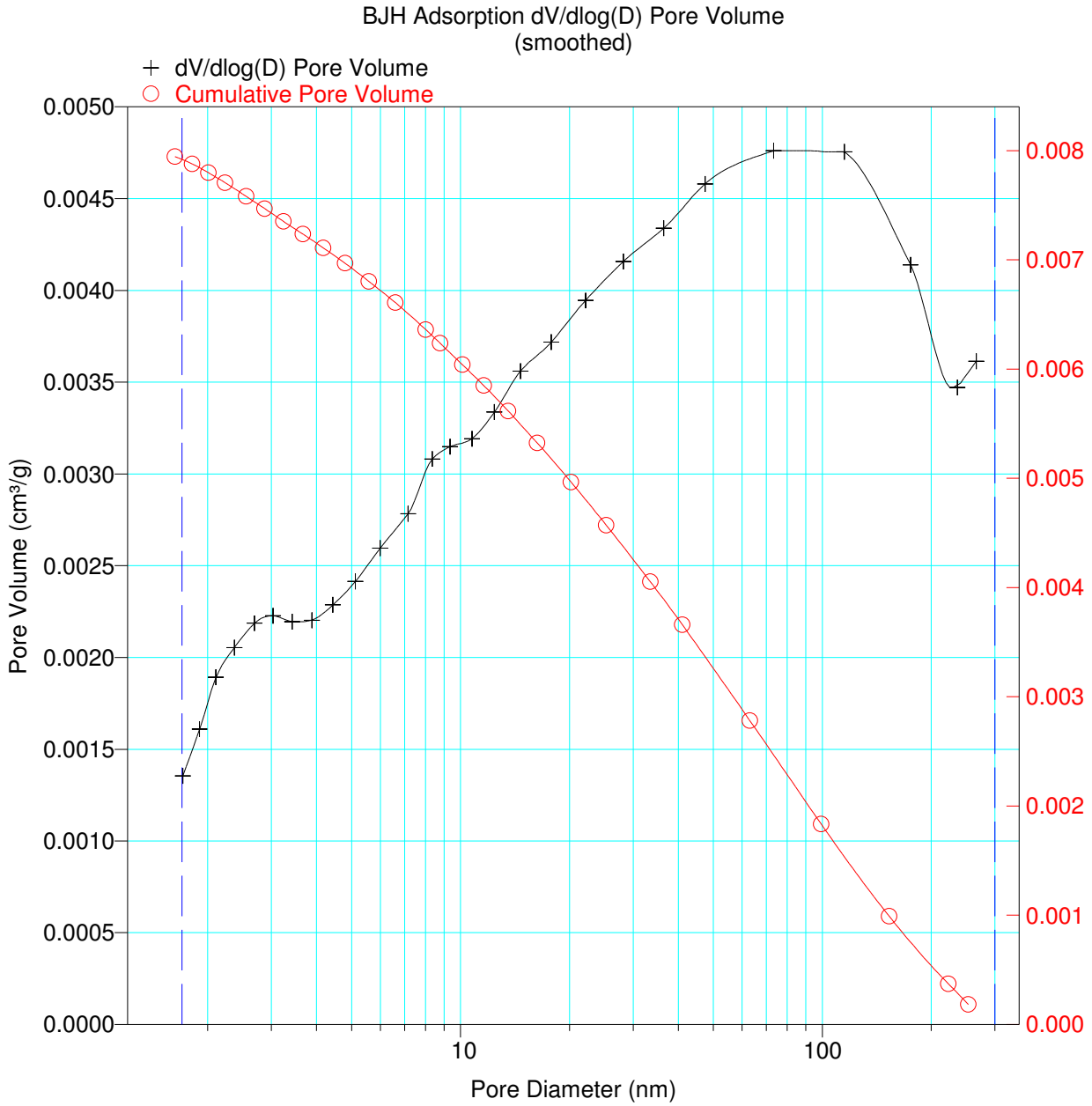
Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP



Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP



Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

BJH Desorption Pore Distribution Report

t = 3.5400 x [-5.0000 / ln(P/Po)]0.3330

Diameter Range: 1.7000 to 300.0000 nm
Adsorbate Property Factor: 0.953000 nm
Density Conversion Factor: 0.001547
Fraction of Pores Open at Both Ends: 0.000

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm³/g)	Cumulative Pore Volume (cm³/g)	Smoothed dV/dD Pore Volume (cm³/g-nm)	Smoothed dV/dlog(D) Pore Volume (cm³/g-nm)
347.0- 178.8	213.6	0.000641	0.000641	5.8917e-06	2.4259e-03
178.8- 113.8	132.3	0.000698	0.001340	1.5646e-05	4.0984e-03
113.8- 102.9	107.8	0.000181	0.001521	1.7920e-05	4.2452e-03
102.9- 67.3	77.8	0.000825	0.002345	3.0875e-05	4.7873e-03
67.3- 50.7	56.7	0.000616	0.002962	4.4440e-05	5.1909e-03
50.7- 40.9	44.7	0.000490	0.003452	5.5013e-05	5.1790e-03
40.9- 33.9	36.7	0.000419	0.003871	6.6721e-05	5.2071e-03
33.9- 29.3	31.2	0.000336	0.004207	7.9850e-05	5.3842e-03
29.3- 25.5	27.1	0.000323	0.004531	9.1220e-05	5.3621e-03
25.5- 22.7	23.9	0.000273	0.004803	1.0077e-04	5.2603e-03
22.7- 20.5	21.5	0.000231	0.005035	1.1173e-04	5.2695e-03
20.5- 18.7	19.5	0.000215	0.005250	1.2355e-04	5.3066e-03
18.7- 16.4	17.4	0.000296	0.005546	1.3898e-04	5.2508e-03
16.4- 14.6	15.4	0.000258	0.005803	1.5105e-04	5.0873e-03
14.6- 12.1	13.1	0.000417	0.006220	1.7458e-04	4.8481e-03
12.1- 10.3	11.0	0.000333	0.006553	1.9718e-04	4.6592e-03
10.3- 9.3	9.8	0.000186	0.006739	2.0981e-04	4.5168e-03
9.3- 8.5	8.9	0.000177	0.006917	2.2282e-04	4.3747e-03
8.5- 7.9	8.2	0.000155	0.007072	2.3675e-04	4.2799e-03
7.9- 7.3	7.5	0.000142	0.007214	2.5352e-04	4.2412e-03
7.3- 6.8	7.0	0.000134	0.007348	2.6907e-04	4.1880e-03
6.8- 6.3	6.5	0.000124	0.007472	2.8040e-04	4.0723e-03
6.3- 5.9	6.1	0.000114	0.007585	2.9067e-04	3.9583e-03
5.9- 5.6	5.7	0.000103	0.007689	3.0321e-04	3.8793e-03
5.6- 5.2	5.4	0.000100	0.007789	3.1661e-04	3.8197e-03
5.2- 4.9	5.1	0.000096	0.007885	3.2906e-04	3.7433e-03
4.9- 4.7	4.8	0.000088	0.007973	3.3821e-04	3.6421e-03
4.7- 4.4	4.5	0.000083	0.008056	3.5328e-04	3.6079e-03
4.4- 4.2	4.3	0.000078	0.008134	4.0954e-04	3.9693e-03
4.2- 4.1	4.2	0.000043	0.008177	5.0390e-04	4.7766e-03
4.1- 4.0	4.1	0.000038	0.008215	6.6412e-04	6.1148e-03
4.0- 3.9	4.0	0.000040	0.008255	8.2893e-04	7.4599e-03

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

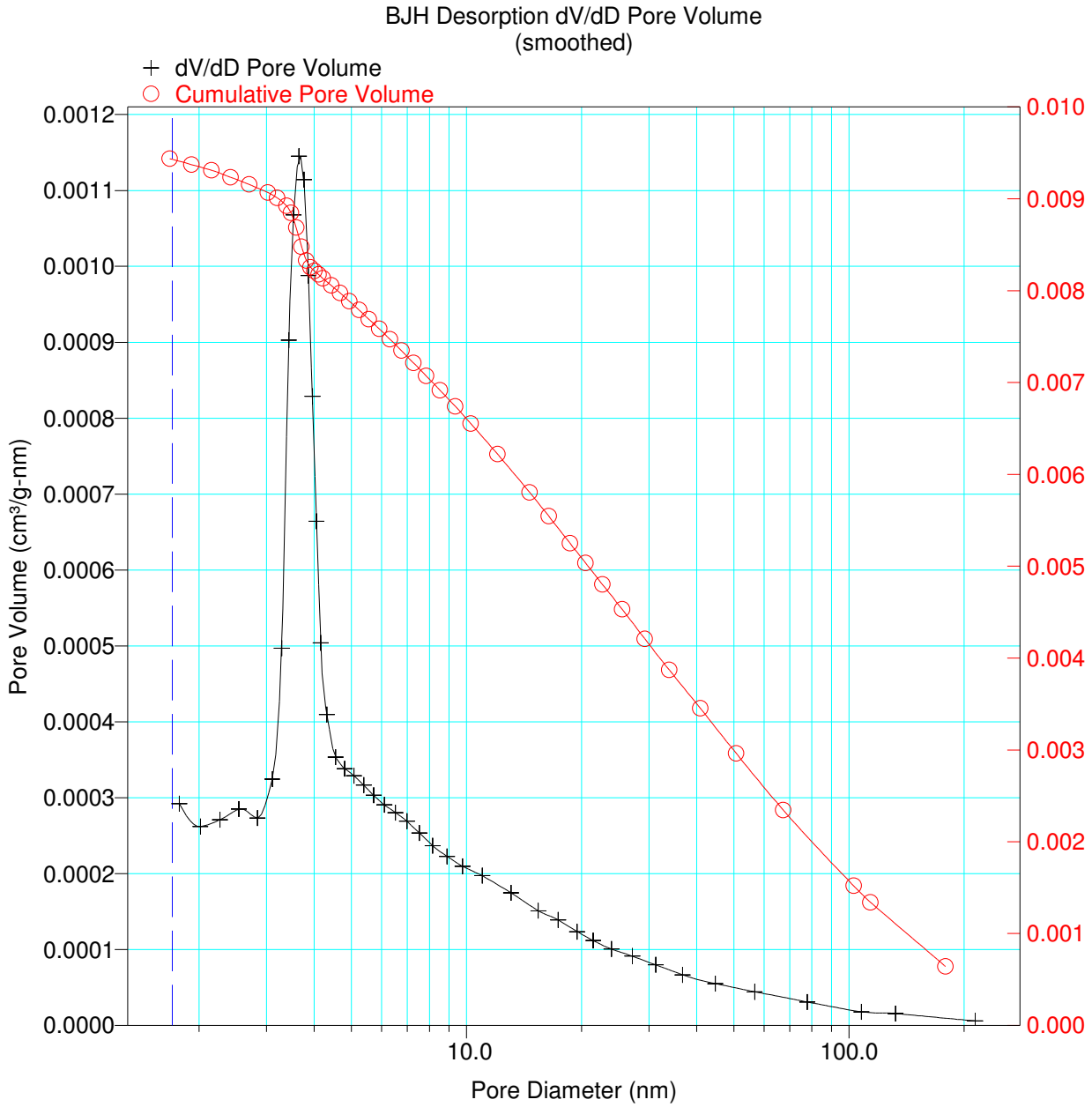
Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

BJH Desorption Pore Distribution Report

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm³/g)	Cumulative Pore Volume (cm³/g)	Smoothed dV/dD Pore Volume (cm³/g-nm)	Smoothed dV/dlog(D) Pore Volume (cm³/g-nm)
3.9- 3.8	3.9	0.000074	0.008330	9.8793e-04	8.6840e-03
3.8- 3.7	3.8	0.000148	0.008478	1.1144e-03	9.5046e-03
3.7- 3.6	3.6	0.000211	0.008689	1.1451e-03	9.5127e-03
3.6- 3.5	3.5	0.000159	0.008848	1.0677e-03	8.5503e-03
3.5- 3.4	3.4	0.000077	0.008924	9.0301e-04	7.0364e-03
3.4- 3.2	3.3	0.000086	0.009010	4.9696e-04	3.6608e-03
3.2- 3.0	3.1	0.000059	0.009069	3.2447e-04	2.2601e-03
3.0- 2.7	2.8	0.000087	0.009156	2.7318e-04	1.7000e-03
2.7- 2.4	2.5	0.000079	0.009236	2.8520e-04	1.5871e-03
2.4- 2.2	2.3	0.000075	0.009311	2.7105e-04	1.3450e-03
2.2- 1.9	2.0	0.000062	0.009373	2.6200e-04	1.1529e-03
1.9- 1.7	1.8	0.000064	0.009437	2.9199e-04	1.1275e-03

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
Completed: 03.06.2020 22:07:45 Analysis Bath: 77.28 K
Report Time: 25.06.2020 9:22:16 Thermal Correction: No
Sample Weight: 3.1913 g Smoothed Pressures: No
Warm Freespace: 15.5423 cm³ Cold Freespace: 46.6953 cm³
MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP



Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
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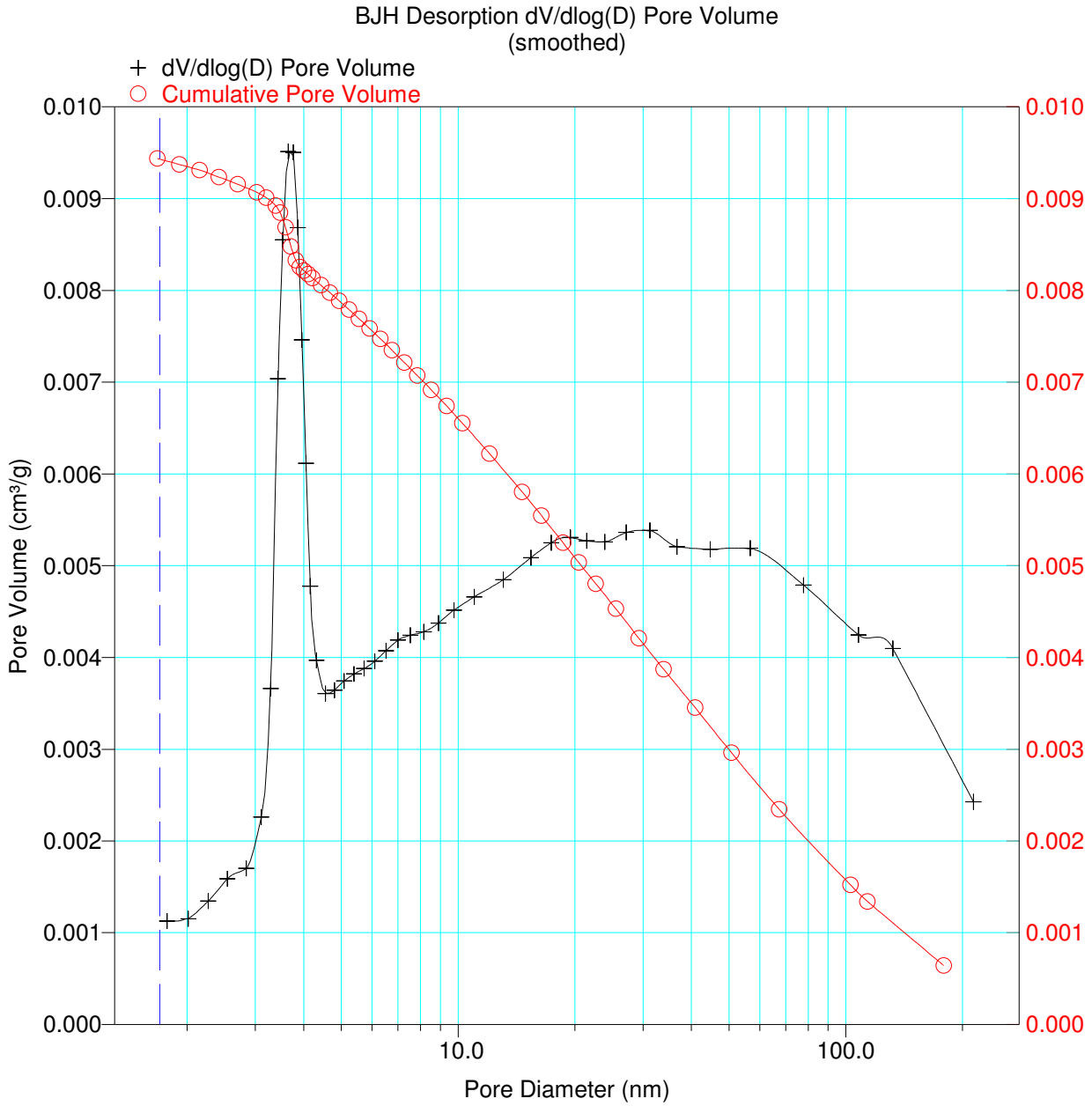

Sample Id: Brenna Sandstein (2020) [6872]
Operator Id: A. Zimathies / BAM 6.3
Submitter Id: Sarah Nagel / BAM 8.2
File Name: C:\...\DATA-853\BRE-1126.SMP

Started: 03.06.2020 7:59:03 Analysis Adsorptive: N2
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MEASURED
Equil. Interval: 20 secs Low Pressure Dose: 0.10 cm³/g STP

Summary Report

Area

Single Point Surface Area at P/Po 0.21046284 :	2.8091	m²/g
BET Surface Area:	2.9165	m²/g