



**PDF**  
Complete

Your complimentary  
use period has ended.  
Thank you for using  
PDF Complete.

**micromeritics®**

**CS INSTRUMENT CORPORATION**

al: 825

Port: 2/1

Page 1

[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb  
Submitter: ruby  
File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14  
HP Analysis Time: 10/12/2008 13:01:20  
Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g  
Correction Type: None  
Show Neg. Int: No

### Summary Report

#### Penetrometer parameters

Penetrometer:	#s/n - (10) 5 Bulb, 1.131 Stem, Powder		
Pen. Constant:	22.065 $\mu\text{L/pF}$	Pen. Weight:	60.2800 g
Stem Volume:	1.1310 mL	Max. Head Pressure:	0.030682 MPa
Pen. Volume:	6.9000 mL	Assembly Weight:	136.0700 g

#### Hg Parameters

Adv. Contact Angle:	130.000 degrees	Rec. Contact Angle:	130.000 degrees
Hg Surface Tension:	485.000 dynes/cm	Hg Density:	13.5335 g/mL

#### User Parameters

Param 1:	0.000	Param 2:	0.000	Param 3:	0.000
----------	-------	----------	-------	----------	-------

#### Low Pressure:

Evacuation Pressure:	100 $\mu\text{mHg}$
Evacuation Time:	5 mins
Mercury Filling Pressure:	0.0042 MPa
Equilibration Time:	20 secs

#### High Pressure:

Equilibration Time:	60 secs
---------------------	---------

No Blank Correction

(From Pressure 0.0007 to 413.6854 MPa)

#### Intrusion Data Summary

Total Intrusion Volume =	0.2601 mL/g
Total Pore Area =	11.650 $\text{m}^2/\text{g}$
Median Pore Diameter (Volume) =	0.2704 $\mu\text{m}$
Median Pore Diameter (Area) =	0.0265 $\mu\text{m}$
Average Pore Diameter (4V/A) =	0.0893 $\mu\text{m}$
Apparent (skeletal) Density =	2.4882 g/mL
Porosity =	39.2944 %
Stem Volume Used =	51 %



[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb  
Submitter: ruby  
File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14  
HP Analysis Time: 10/12/2008 13:01:20  
Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g  
Correction Type: None  
Show Neg. Int: No

**Tabular Report**

Pressure (MPa)	Pore Diameter ( $\mu\text{m}$ )	Cumulative Pore Volume (mL/g)	dV/dD Pore Volume (mL/g/ $\mu\text{m}$ )	dV/dlogD Pore Volume (mL/g)
0.0042	297.2692	0.0000	$0.000 \times 10^0$	$0.000 \times 10^0$
0.0090	138.0579	0.0031	$1.935 \times 10^{-5}$	$9.250 \times 10^{-3}$
0.0110	112.9933	0.0037	$2.375 \times 10^{-5}$	$6.841 \times 10^{-3}$
0.0129	96.8927	0.0041	$2.827 \times 10^{-5}$	$6.818 \times 10^{-3}$
0.0149	83.9506	0.0047	$4.058 \times 10^{-5}$	$8.434 \times 10^{-3}$
0.0171	72.8172	0.0053	$5.346 \times 10^{-5}$	$9.633 \times 10^{-3}$
0.0198	62.8843	0.0057	$4.758 \times 10^{-5}$	$7.421 \times 10^{-3}$
0.0230	54.2116	0.0063	$7.065 \times 10^{-5}$	$9.507 \times 10^{-3}$
0.0267	46.7789	0.0068	$5.653 \times 10^{-5}$	$6.560 \times 10^{-3}$
0.0314	39.7735	0.0075	$1.025 \times 10^{-4}$	$1.019 \times 10^{-2}$
0.0367	34.0026	0.0081	$1.062 \times 10^{-4}$	$8.999 \times 10^{-3}$
0.0426	29.2476	0.0086	$9.940 \times 10^{-5}$	$7.225 \times 10^{-3}$
0.0496	25.1451	0.0093	$1.750 \times 10^{-4}$	$1.093 \times 10^{-2}$
0.0578	21.5626	0.0101	$2.297 \times 10^{-4}$	$1.233 \times 10^{-2}$
0.0675	18.4673	0.0110	$2.941 \times 10^{-4}$	$1.353 \times 10^{-2}$
0.0788	15.8156	0.0118	$3.103 \times 10^{-4}$	$1.222 \times 10^{-2}$
0.0919	13.5628	0.0157	$1.710 \times 10^{-3}$	$5.771 \times 10^{-2}$
0.1074	11.6115	0.0175	$9.151 \times 10^{-4}$	$2.647 \times 10^{-2}$
0.1253	9.9520	0.0200	$1.498 \times 10^{-3}$	$3.711 \times 10^{-2}$
0.1469	8.4868	0.0227	$1.876 \times 10^{-3}$	$3.974 \times 10^{-2}$
0.1715	7.2713	0.0257	$2.448 \times 10^{-3}$	$4.433 \times 10^{-2}$
0.2000	6.2363	0.0285	$2.706 \times 10^{-3}$	$4.200 \times 10^{-2}$
0.2466	5.0577	0.0298	$1.126 \times 10^{-3}$	$1.459 \times 10^{-2}$
0.3177	3.9251	0.0353	$4.849 \times 10^{-3}$	$4.988 \times 10^{-2}$
0.4067	3.0661	0.0381	$3.284 \times 10^{-3}$	$2.630 \times 10^{-2}$
0.5213	2.3922	0.0479	$1.446 \times 10^{-2}$	$9.042 \times 10^{-2}$
0.6662	1.8718	0.0540	$1.172 \times 10^{-2}$	$5.722 \times 10^{-2}$
0.8534	1.4612	0.0623	$2.022 \times 10^{-2}$	$7.719 \times 10^{-2}$
1.0920	1.1420	0.0701	$2.447 \times 10^{-2}$	$7.297 \times 10^{-2}$
1.3940	0.8946	0.0784	$3.357 \times 10^{-2}$	$7.833 \times 10^{-2}$
1.7960	0.6943	0.0872	$4.380 \times 10^{-2}$	$7.970 \times 10^{-2}$
2.2784	0.5473	0.0960	$6.013 \times 10^{-2}$	$8.555 \times 10^{-2}$
2.9075	0.4289	0.1065	$8.907 \times 10^{-2}$	$9.961 \times 10^{-2}$
3.7175	0.3354	0.1185	$1.277 \times 10^{-1}$	$1.118 \times 10^{-1}$



[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb  
Submitter: ruby  
File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14  
HP Analysis Time: 10/12/2008 13:01:20  
Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g  
Correction Type: None  
Show Neg. Int: No

**Tabular Report**

Pressure (MPa)	Pore Diameter ( $\mu\text{m}$ )	Cumulative Pore Volume (mL/g)	dV/dD Pore Volume (mL/g/ $\mu\text{m}$ )	dV/dlogD Pore Volume (mL/g)
4.7490	0.2626	0.1317	$1.817 \times 10^{-1}$	$1.245 \times 10^{-1}$
6.0588	0.2058	0.1462	$2.559 \times 10^{-1}$	$1.373 \times 10^{-1}$
7.7333	0.1613	0.1625	$3.636 \times 10^{-1}$	$1.529 \times 10^{-1}$
9.8740	0.1263	0.1784	$4.571 \times 10^{-1}$	$1.506 \times 10^{-1}$
12.6048	0.0989	0.1929	$5.277 \times 10^{-1}$	$1.362 \times 10^{-1}$
16.0873	0.0775	0.2054	$5.846 \times 10^{-1}$	$1.182 \times 10^{-1}$
20.5243	0.0608	0.2157	$6.140 \times 10^{-1}$	$9.727 \times 10^{-2}$
26.1824	0.0476	0.2247	$6.851 \times 10^{-1}$	$8.507 \times 10^{-2}$
33.4380	0.0373	0.2326	$7.705 \times 10^{-1}$	$7.495 \times 10^{-2}$
42.6677	0.0292	0.2391	$7.958 \times 10^{-1}$	$6.064 \times 10^{-2}$
54.4524	0.0229	0.2442	$8.079 \times 10^{-1}$	$4.825 \times 10^{-2}$
69.4843	0.0179	0.2483	$8.336 \times 10^{-1}$	$3.901 \times 10^{-2}$
88.6825	0.0141	0.2517	$8.786 \times 10^{-1}$	$3.222 \times 10^{-2}$
113.1720	0.0110	0.2546	$9.607 \times 10^{-1}$	$2.760 \times 10^{-2}$
144.4262	0.0086	0.2570	$9.746 \times 10^{-1}$	$2.194 \times 10^{-2}$
184.3283	0.0068	0.2589	$1.058 \times 10^0$	$1.867 \times 10^{-2}$
219.9808	0.0057	0.2601	$1.107 \times 10^0$	$1.580 \times 10^{-2}$
187.0335	0.0067	0.2607	$-5.351 \times 10^{-1}$	$-7.584 \times 10^{-3}$
147.7522	0.0084	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
116.6482	0.0107	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
92.0954	0.0135	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
72.7153	0.0171	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
57.4002	0.0217	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
45.3304	0.0275	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
35.7717	0.0349	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
28.2455	0.0441	0.2607	$0.000 \times 10^0$	$0.000 \times 10^0$
22.2913	0.0559	0.2596	$8.756 \times 10^{-2}$	$1.004 \times 10^{-2}$
17.6640	0.0706	0.2584	$8.824 \times 10^{-2}$	$1.280 \times 10^{-2}$
13.9430	0.0894	0.2566	$9.225 \times 10^{-2}$	$1.692 \times 10^{-2}$
10.9152	0.1142	0.2545	$8.677 \times 10^{-2}$	$2.025 \times 10^{-2}$
8.6773	0.1437	0.2514	$1.043 \times 10^{-1}$	$3.083 \times 10^{-2}$
6.8419	0.1823	0.2479	$9.093 \times 10^{-2}$	$3.397 \times 10^{-2}$
5.4167	0.2302	0.2436	$8.863 \times 10^{-2}$	$4.190 \times 10^{-2}$
4.2757	0.2917	0.2387	$8.013 \times 10^{-2}$	$4.792 \times 10^{-2}$



[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb

Submitter: ruby

File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14

HP Analysis Time: 10/12/2008 13:01:20

Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g

Correction Type: None

Show Neg. Int: No

### Tabular Report

Pressure (MPa)	Pore Diameter ( $\mu\text{m}$ )	Cumulative Pore Volume (mL/g)	dV/dD Pore Volume (mL/g/ $\mu\text{m}$ )	dV/dlogD Pore Volume (mL/g)
3.3742	0.3696	0.2336	$6.558 \times 10^{-2}$	$4.969 \times 10^{-2}$
2.6618	0.4685	0.2283	$5.315 \times 10^{-2}$	$5.104 \times 10^{-2}$
2.1087	0.5914	0.2231	$4.247 \times 10^{-2}$	$5.159 \times 10^{-2}$
1.6602	0.7511	0.2178	$3.341 \times 10^{-2}$	$5.140 \times 10^{-2}$
1.3157	0.9478	0.2124	$2.722 \times 10^{-2}$	$5.301 \times 10^{-2}$
1.0413	1.1976	0.2072	$2.106 \times 10^{-2}$	$5.178 \times 10^{-2}$
0.8248	1.5118	0.2021	$1.613 \times 10^{-2}$	$5.010 \times 10^{-2}$
0.6483	1.9235	0.1975	$1.115 \times 10^{-2}$	$4.390 \times 10^{-2}$
0.5187	2.4043	0.1932	$9.073 \times 10^{-3}$	$4.502 \times 10^{-2}$
0.4112	3.0329	0.1891	$6.454 \times 10^{-3}$	$4.022 \times 10^{-2}$
0.3219	3.8740	0.1855	$4.232 \times 10^{-3}$	$3.349 \times 10^{-2}$
0.2520	4.9486	0.1823	$3.032 \times 10^{-3}$	$3.065 \times 10^{-2}$
0.3091	4.0341	0.1820	$-3.057 \times 10^{-4}$	$-3.151 \times 10^{-3}$
0.3921	3.1801	0.1820	$0.000 \times 10^0$	$0.000 \times 10^0$
0.4960	2.5142	0.1822	$2.641 \times 10^{-4}$	$1.723 \times 10^{-3}$
0.6377	1.9554	0.1824	$4.109 \times 10^{-4}$	$2.103 \times 10^{-3}$
0.8087	1.5419	0.1829	$1.131 \times 10^{-3}$	$4.532 \times 10^{-3}$
1.0237	1.2181	0.1835	$1.919 \times 10^{-3}$	$6.069 \times 10^{-3}$
1.2976	0.9610	0.1844	$3.501 \times 10^{-3}$	$8.741 \times 10^{-3}$
1.6445	0.7583	0.1856	$5.810 \times 10^{-3}$	$1.145 \times 10^{-2}$
2.0911	0.5963	0.1874	$1.105 \times 10^{-2}$	$1.716 \times 10^{-2}$
2.6503	0.4705	0.1899	$2.019 \times 10^{-2}$	$2.469 \times 10^{-2}$
3.3607	0.3711	0.1934	$3.530 \times 10^{-2}$	$3.405 \times 10^{-2}$
4.2515	0.2933	0.1976	$5.378 \times 10^{-2}$	$4.095 \times 10^{-2}$
5.3823	0.2317	0.2027	$8.268 \times 10^{-2}$	$4.974 \times 10^{-2}$
6.8282	0.1826	0.2082	$1.124 \times 10^{-1}$	$5.335 \times 10^{-2}$
8.6496	0.1442	0.2141	$1.524 \times 10^{-1}$	$5.707 \times 10^{-2}$
10.9583	0.1138	0.2199	$1.921 \times 10^{-1}$	$5.678 \times 10^{-2}$
13.8858	0.0898	0.2258	$2.465 \times 10^{-1}$	$5.751 \times 10^{-2}$
17.5859	0.0709	0.2312	$2.858 \times 10^{-1}$	$5.263 \times 10^{-2}$
22.2812	0.0560	0.2364	$3.477 \times 10^{-1}$	$5.056 \times 10^{-2}$
28.2142	0.0442	0.2413	$4.179 \times 10^{-1}$	$4.796 \times 10^{-2}$
35.7480	0.0349	0.2456	$4.558 \times 10^{-1}$	$4.130 \times 10^{-2}$
45.2876	0.0275	0.2491	$4.810 \times 10^{-1}$	$3.441 \times 10^{-2}$



**PDF**  
Complete

Your complimentary  
use period has ended.  
Thank you for using  
PDF Complete.

**micromeritics®**

**CS INSTRUMENT CORPORATION**

al: 825

Port: 2/1

Page 5

[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb

Submitter: ruby

File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14

HP Analysis Time: 10/12/2008 13:01:20

Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g

Correction Type: None

Show Neg. Int: No

### Tabular Report

Pressure (MPa)	Pore Diameter ( $\mu\text{m}$ )	Cumulative Pore Volume (mL/g)	dV/dD Pore Volume (mL/g/ $\mu\text{m}$ )	dV/dlogD Pore Volume (mL/g)
57.3702	0.0217	0.2518	$4.633 \times 10^{-1}$	$2.616 \times 10^{-2}$
72.6606	0.0172	0.2541	$4.919 \times 10^{-1}$	$2.193 \times 10^{-2}$
92.0524	0.0135	0.2557	$4.487 \times 10^{-1}$	$1.579 \times 10^{-2}$
116.6103	0.0107	0.2567	$3.424 \times 10^{-1}$	$9.512 \times 10^{-3}$
147.7117	0.0084	0.2571	$1.981 \times 10^{-1}$	$4.343 \times 10^{-3}$
187.1223	0.0067	0.2574	$1.630 \times 10^{-1}$	$2.822 \times 10^{-3}$
219.9717	0.0057	0.2574	$0.000 \times 10^0$	$0.000 \times 10^0$



**PDF**  
Complete

Your complimentary  
use period has ended.  
Thank you for using  
PDF Complete.

**micromeritics®**

**CS INSTRUMENT CORPORATION**

al: 825

Port: 2/1

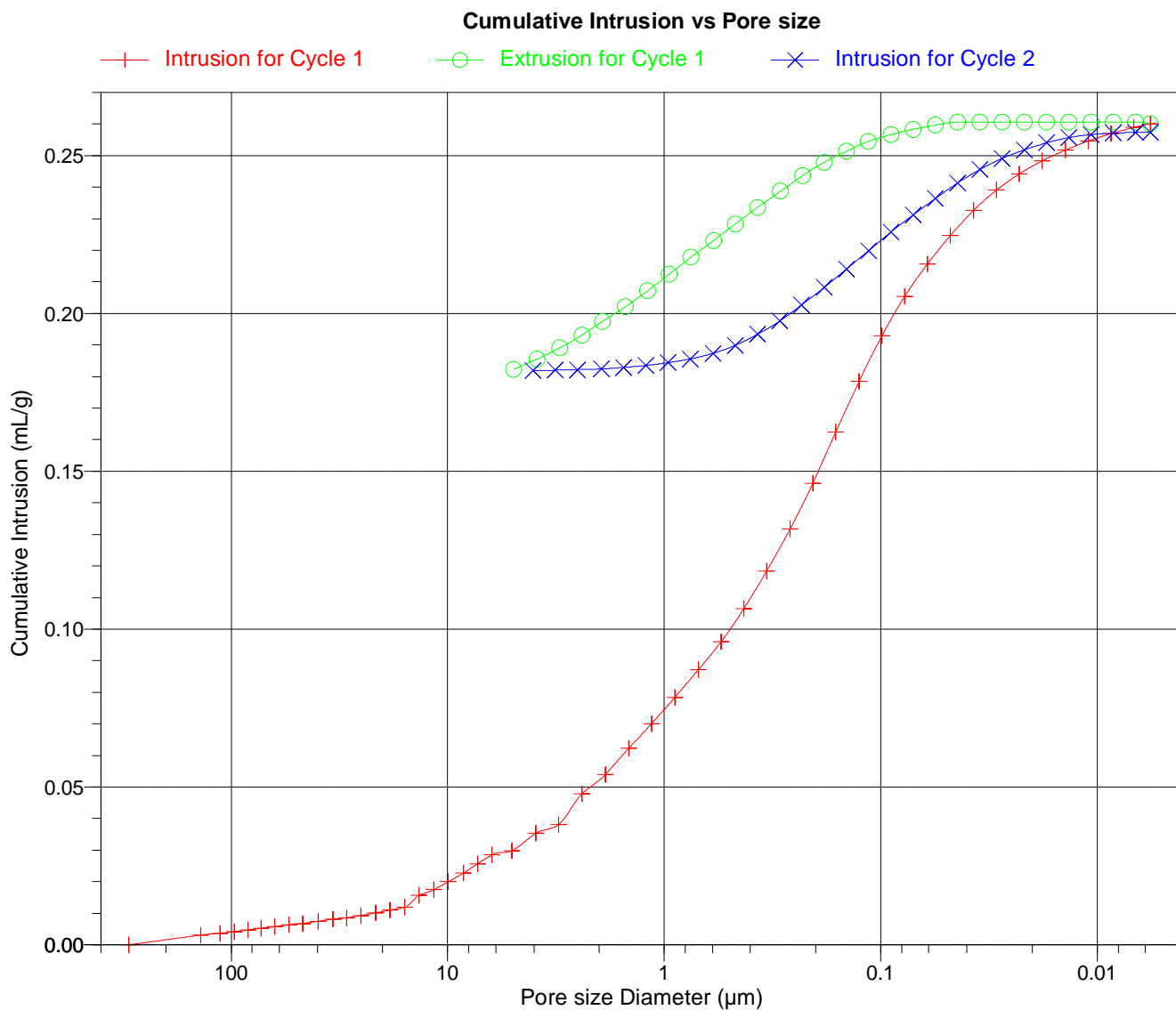
Page 6

[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb  
Submitter: ruby  
File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14  
HP Analysis Time: 10/12/2008 13:01:20  
Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g  
Correction Type: None  
Show Neg. Int: No





**PDF**  
Complete

Your complimentary  
use period has ended.  
Thank you for using  
PDF Complete.

**micromeritics®**

**CS INSTRUMENT CORPORATION**

al: 825

Port: 2/1

Page 7

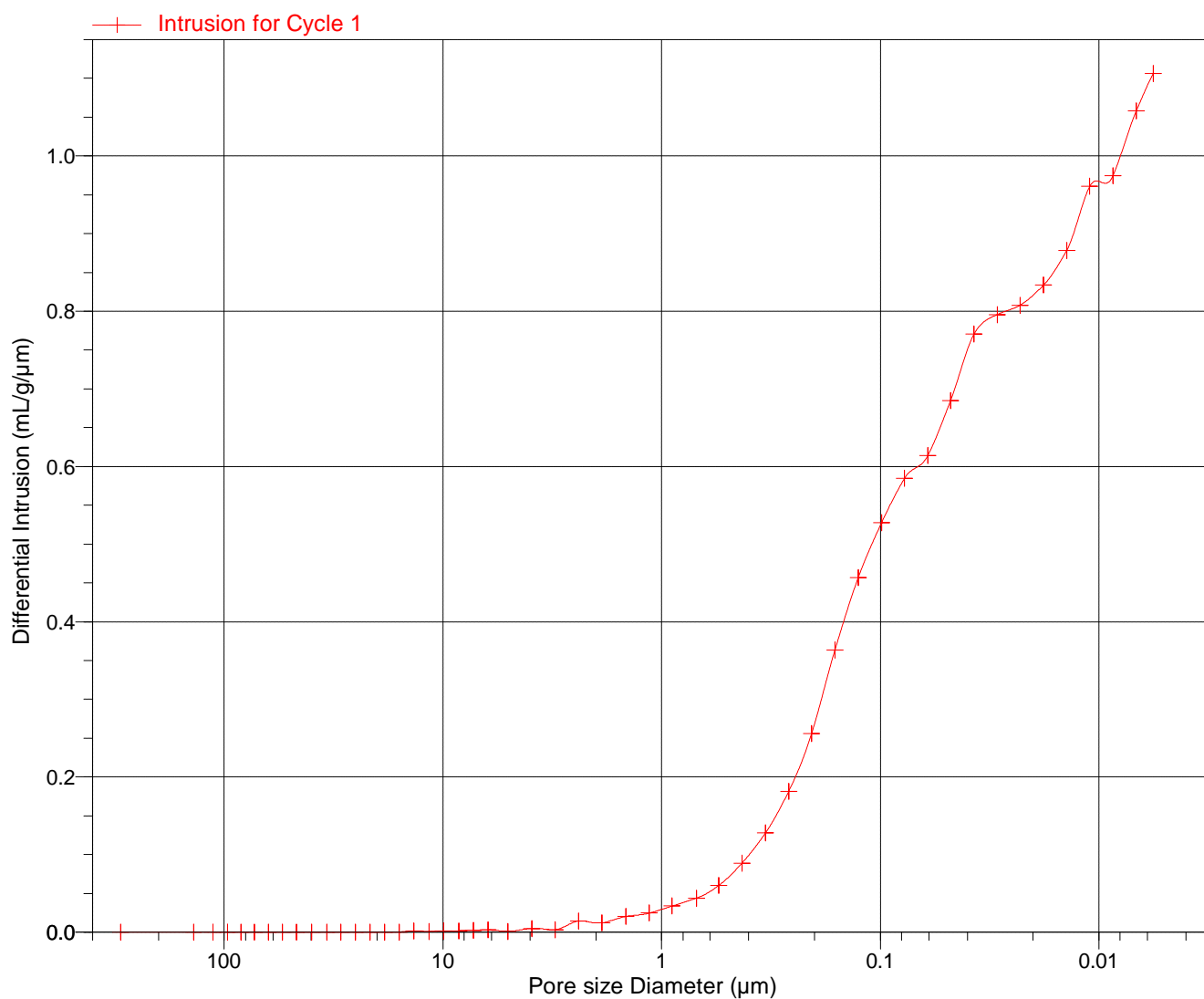
[Click Here to upgrade to  
Unlimited Pages and Expanded Features](#)

Operator: seb  
Submitter: ruby  
File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14  
HP Analysis Time: 10/12/2008 13:01:20  
Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g  
Correction Type: None  
Show Neg. Int: No

### Differential Intrusion vs Pore size



Sample ID: V2  
Operator: seb  
Submitter: ruby  
File: C:\9500\DATA\000-152.SMP

LP Analysis Time: 09/12/2008 16:38:14  
HP Analysis Time: 10/12/2008 13:01:20  
Report Time: 12/12/2008 15:48:59

Sample Weight: 2.2100 g  
Correction Type: None  
Show Neg. Int: No

## Log Differential Intrusion vs Pore size

