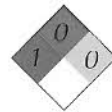


ANEXO 1

Material de divulgação técnica-comercial de produtor de agalmatolito.

MicroEX® W



Silicato de Alumínio Hidratado ($\text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$)
CAS Number: 1327-36-2

Aplicação

O agalmatolito MicroEX® W, um silicato de alumínio lamelar, foi desenvolvido a partir de uma criteriosa seleção de matérias-primas e rígido controle de qualidade, o que garante características homogêneas. Em função de sua elevada brancura, o MicroEX® W é indicado para a substituição parcial do carbonato de cálcio precipitado em formulações de tintas.

Tabela de Características e Propriedades

| Indicação | | Características principais do produto | | | | | | Propriedade de uso |
|------------|--|---------------------------------------|---------------|-----------------|----------------------------|--------------|-------------|--------------------|
| Produto | Aplicação | Distr. granulométrica homogênea | Boa dispersão | Inércia química | Resistência a abrasividade | Estabilidade | Micronizado | |
| MicroEX® W | Substituição parcial do carbonato de cálcio precipitado. | ● | ● | ● | ● | ● | ● | Brancura. |

Propriedades Físicas Típicas

Aspecto visual Pó fino
Cor Branca
Peso Específico (g/cm^3) $2,80 \pm 0,20$
Absorção de óleo ($\text{g}/100\text{g}$) 35 a 45
Umidade (% máxima) 1,0

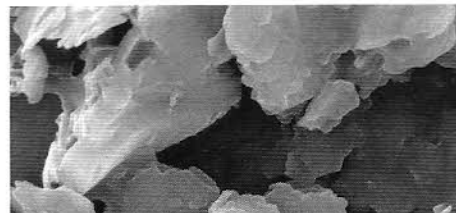
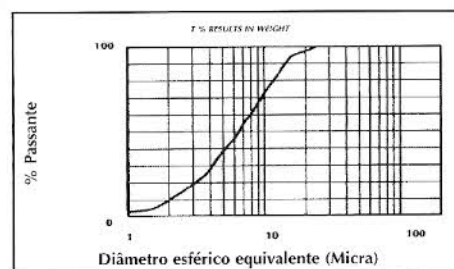


Imagem MEV da partícula 3.500 x

Análise Química Típica (% em óxidos)

SiO_2 (Dióxido de Silício) 47,6
 Al_2O_3 (Óxido de Alumínio) 36,7
 K_2O (Óxido de Potássio) 8,70
 TiO_2 (Dióxido de Titânio) 0,63
 Fe_2O_3 (Óxido de Ferro) 0,46
 Na_2O (Óxido de Sódio) 0,44
 MgO (Óxido de Magnésio) 0,10
 CaO (Óxido de Cálcio) 0,20
 MnO (Óxido de Manganês) 0,01

Distribuição Granulométrica a Laser



Todas as informações e recomendações contidas nesta publicação são baseadas em nossas pesquisas e são assumidas como corretas. Todo o cuidado é tomado na produção para garantir produtos conforme os dados aqui publicados. Entretanto, como os produtos são obtidos a partir de matérias-primas "in natura", reservamo-nos o direito de alterar as informações sem prévio aviso e orientamos que o usuário é o único responsável pela adequação do produto a qualquer aplicação. Diamante de Hommel: azul/saúde - risco leve, vermelho/fogo - sem risco, amarelo/reactividade - sem risco, branco/especial - não referenciado.



Fazenda Terra do Feijão, s/nº Pará de Minas MG Brasil
CEP 35660-970 Caixa Postal 66 Fone 37 3231-6177 Fax 37 3231-6198
www.lamil.com.br lamil@lamil.com.br

ANEXO 2

Boletim de análise da área superficial específica – Método BET – do filito A.

Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| | | | 00:32 | 705.69287 |
| 0.010622839 | 7.49589 | 0.5741 | 00:47 | |
| 0.031797546 | 22.43737 | 0.7003 | 00:49 | |
| 0.067977086 | 47.96634 | 0.7960 | 00:51 | |
| 0.079572186 | 56.14756 | 0.8223 | 00:53 | |
| 0.101904137 | 71.90502 | 0.8659 | 00:54 | |
| 0.120295562 | 84.88142 | 0.8991 | 00:56 | |
| 0.140246718 | 98.95860 | 0.9332 | 00:57 | |
| 0.160721831 | 113.40476 | 0.9678 | 00:59 | |
| 0.180223986 | 127.16477 | 0.9988 | 01:00 | |
| 0.200618880 | 141.55383 | 1.0262 | 01:02 | |
| 0.250984417 | 177.08925 | 1.0881 | 01:04 | |
| 0.300199224 | 211.81310 | 1.1620 | 01:05 | |
| 0.350574836 | 247.35437 | 1.2429 | 01:07 | |
| 0.400206942 | 282.37177 | 1.3261 | 01:08 | |
| 0.450279072 | 317.69766 | 1.4161 | 01:10 | |
| 0.500139170 | 352.87503 | 1.5123 | 01:11 | |
| 0.549908477 | 387.98602 | 1.6128 | 01:13 | |
| 0.600261806 | 423.51050 | 1.7204 | 01:14 | |
| 0.650404740 | 458.88385 | 1.8384 | 01:16 | |
| 0.700018946 | 493.88345 | 1.9723 | 01:18 | |
| 0.750172956 | 529.26587 | 2.1418 | 01:19 | |
| 0.799571911 | 564.11237 | 2.3641 | 01:21 | |
| 0.820709001 | 579.02203 | 2.4880 | 01:22 | |
| 0.850585379 | 600.09418 | 2.6956 | 01:24 | |
| 0.875211608 | 617.46191 | 2.9184 | 01:26 | |
| 0.899753552 | 634.76984 | 3.2199 | 01:28 | |
| 0.924716543 | 652.37445 | 3.6627 | 01:30 | |
| 0.948297552 | 669.00037 | 4.3429 | 01:33 | |
| 0.971289815 | 685.20697 | 5.5858 | 01:37 | |
| 0.981529286 | 692.41650 | 6.6128 | 01:41 | |
| 0.989925905 | 698.32220 | 8.0114 | 01:46 | |
| 0.994789659 | 701.73193 | 9.3454 | 01:52 | |
| 0.985802766 | 695.38196 | 8.5586 | 01:55 | |
| 0.978754870 | 690.39642 | 7.5975 | 01:59 | |
| 0.972024339 | 685.63495 | 6.7485 | 02:03 | |
| 0.952823207 | 672.07068 | 5.2203 | 02:09 | |
| 0.927808065 | 654.41309 | 4.2119 | 02:13 | |
| 0.888813892 | 626.89337 | 3.4322 | 02:18 | |
| 0.861678408 | 607.74817 | 3.1090 | 02:20 | |
| 0.834804757 | 588.78802 | 2.8750 | 02:22 | |

Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

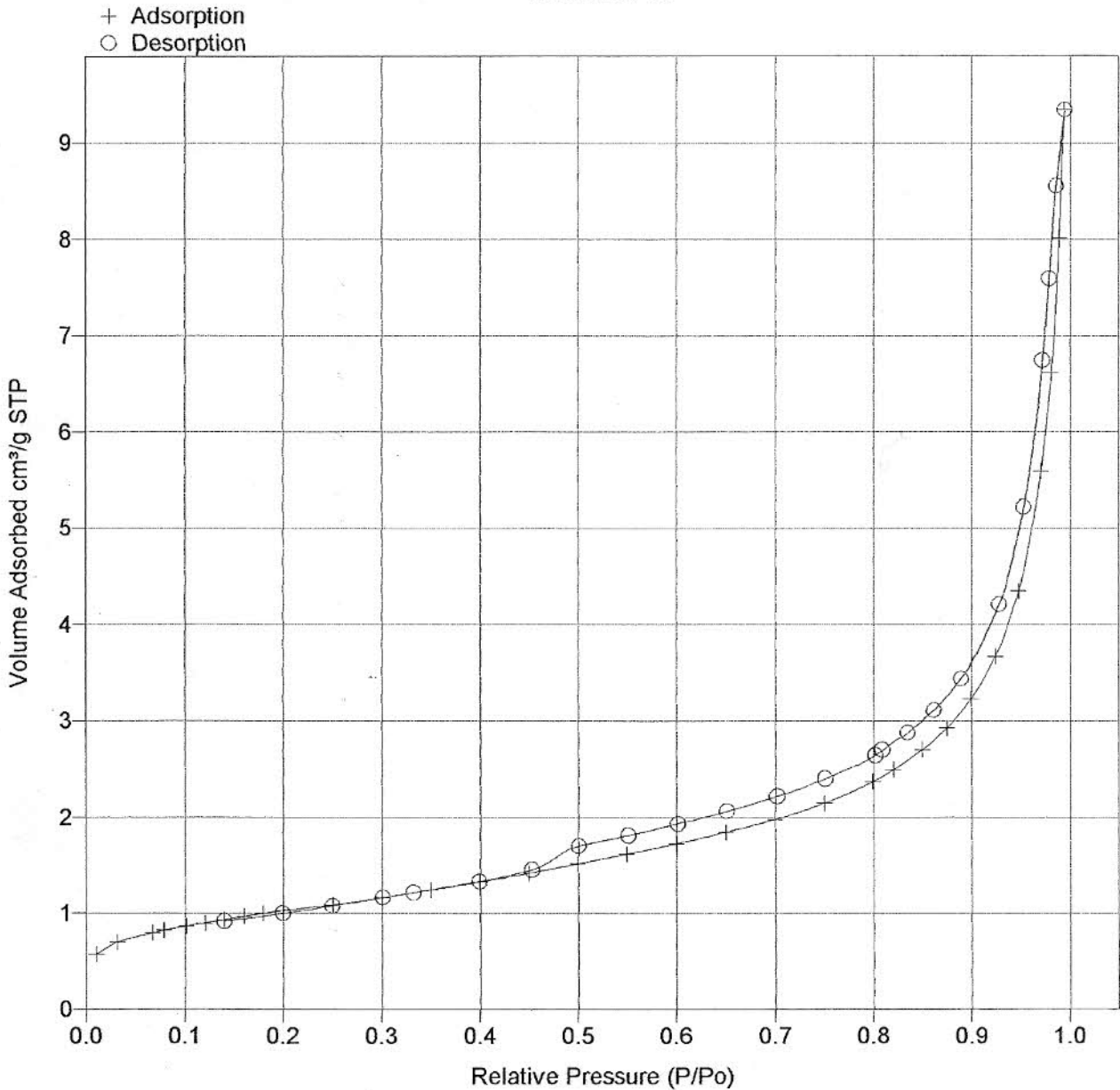
Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| 0.808659478 | 570.34198 | 2.6959 | 02:24 | |
| 0.801329378 | 565.16925 | 2.6410 | 02:25 | |
| 0.750201249 | 529.10376 | 2.3978 | 02:27 | |
| 0.701928022 | 495.05249 | 2.2144 | 02:29 | |
| 0.650423859 | 458.72556 | 2.0601 | 02:30 | |
| 0.601216007 | 424.01636 | 1.9314 | 02:32 | |
| | | | 02:34 | 705.25745 |
| 0.550750337 | 388.42078 | 1.8097 | 02:35 | |
| 0.500247124 | 352.80301 | 1.7016 | 02:36 | |
| 0.453002258 | 319.48322 | 1.4545 | 02:39 | |
| 0.399233081 | 281.56210 | 1.3325 | 02:40 | |
| 0.332290381 | 234.35027 | 1.2163 | 02:42 | |
| 0.300911004 | 212.21973 | 1.1645 | 02:44 | |
| 0.249973994 | 176.29602 | 1.0753 | 02:45 | |
| 0.199931817 | 141.00340 | 0.9991 | 02:47 | |
| 0.140045072 | 98.76783 | 0.9194 | 02:48 | |

Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Isotherm Plot



Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

 BET Surface Area Report

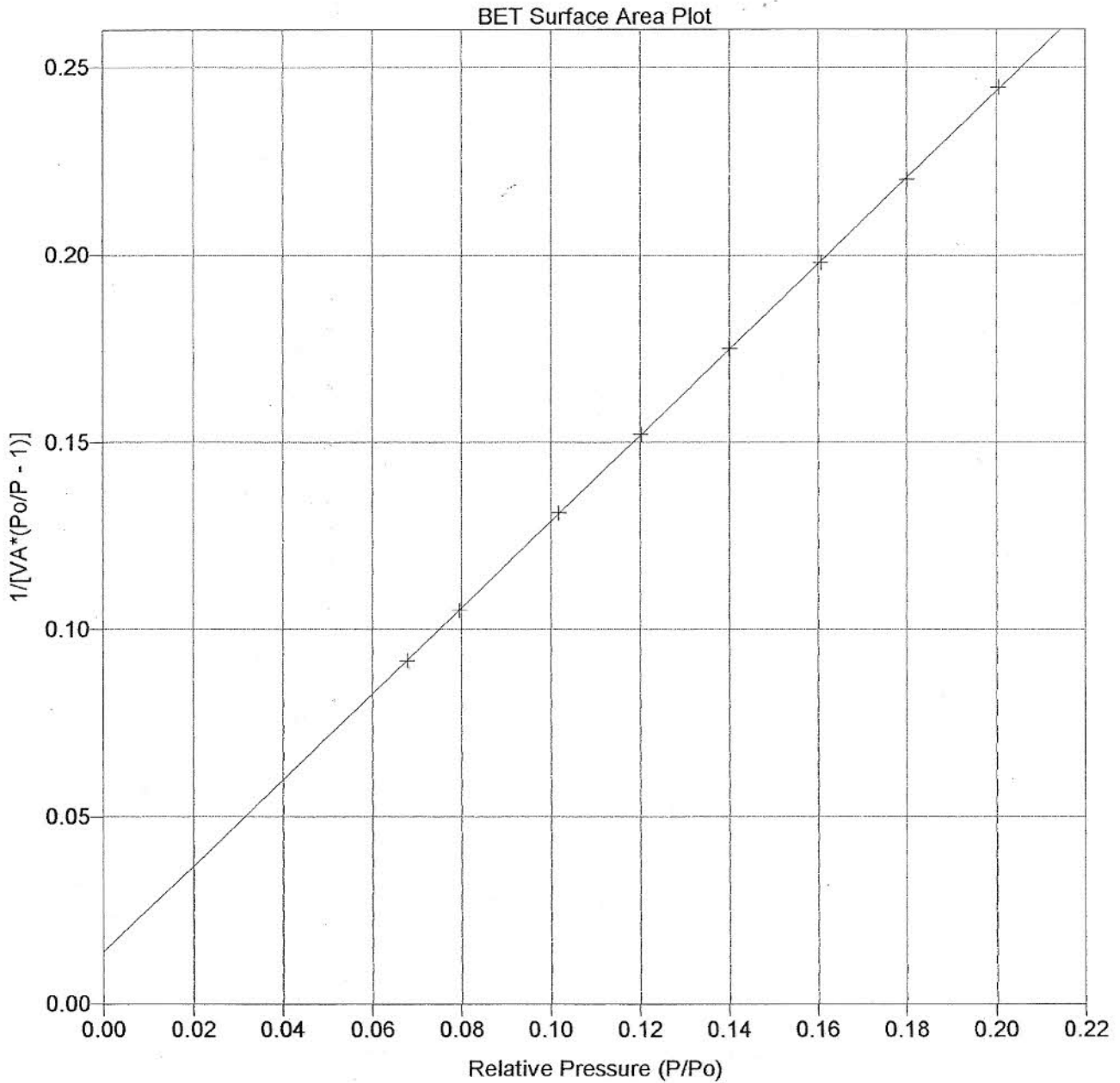
BET Surface Area: 3.7481 ± 0.0097 m²/g
 Slope: 1.147638 ± 0.002970
 Y-Intercept: 0.013805 ± 0.000412
 C: 84.132279
 VM: 0.860998 cm³/g STP
 Correlation Coefficient: 9.999799e-01

Molecular Cross-section: 0.1620 nm²

| Relative Pressure | Vol Adsorbed (cm ³ /g STP) | 1/[VA*(Po/P - 1)] |
|-------------------|---------------------------------------|-------------------|
| 0.067977086 | 0.7960 | 0.091631 |
| 0.079572186 | 0.8223 | 0.105139 |
| 0.101904137 | 0.8659 | 0.131035 |
| 0.120295562 | 0.8991 | 0.152084 |
| 0.140246718 | 0.9332 | 0.174807 |
| 0.160721831 | 0.9678 | 0.197880 |
| 0.180223986 | 0.9988 | 0.220120 |
| 0.200618880 | 1.0262 | 0.244555 |

Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None



Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

t-Plot Report

Micropore Volume: 0.000039 cm³/g
 Micropore Area: 0.2196 m²/g
 External Surface Area: 3.5285 m²/g
 Slope: 0.228116 ± 0.005268
 Y-Intercept: 0.025520 ± 0.021439
 Correlation Coefficient: 9.98404e-01
 Thickness Range: 3.5000 to 5.0000 A

$$t = [13.9900 / (0.0340 - \log(P/P_0))] 0.5000$$

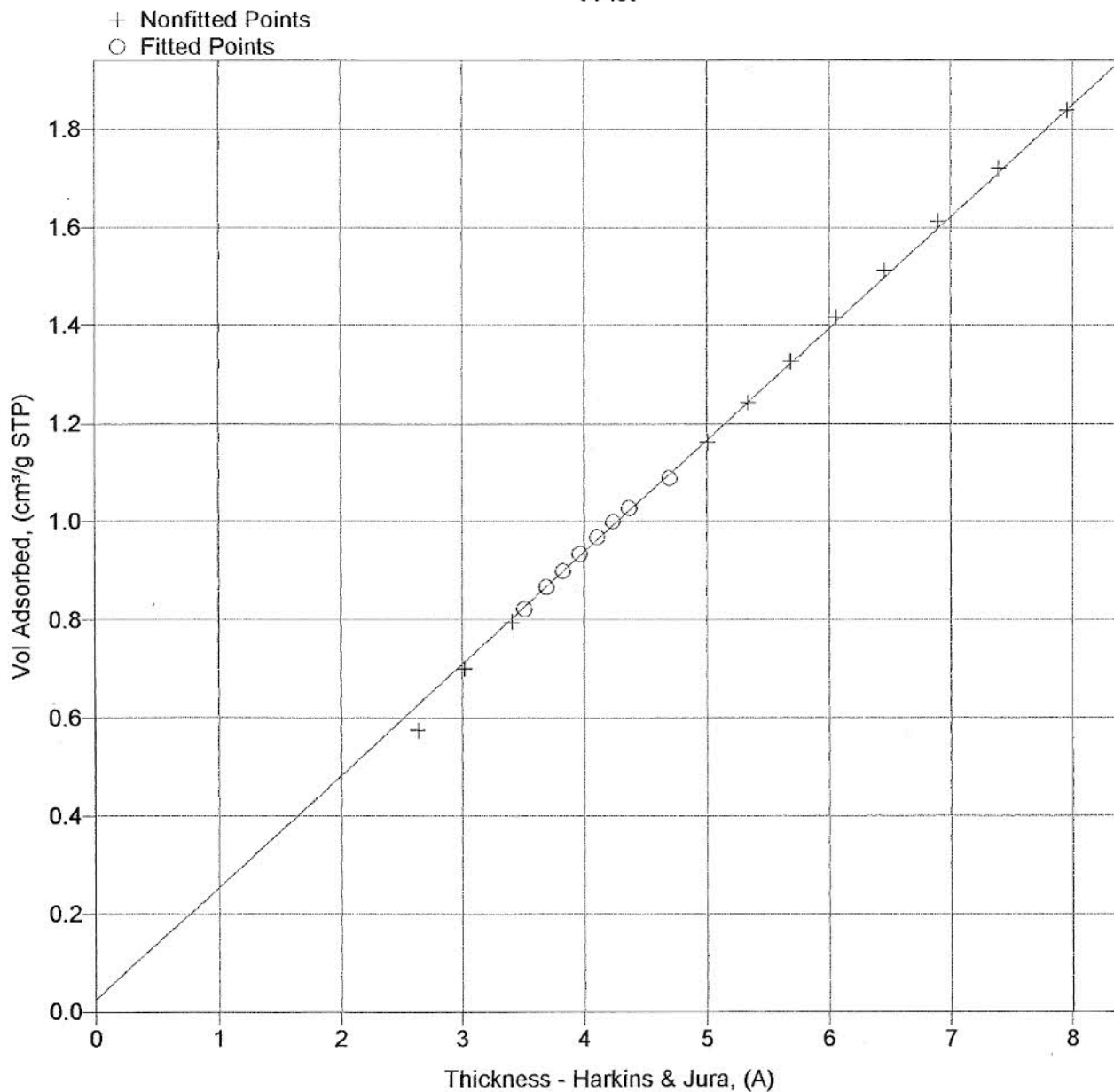
Surface Area Correction Factor: 1.00
 Density Conversion Factor: 0.001547
 Total Surface Area (by BET): 3.7481

| Relative Pressure | Statistical Thickness, (A) | Vol Adsorbed (cm ³ /g) |
|-------------------|----------------------------|-----------------------------------|
| 0.010622839 | 2.6397 | 0.5741 |
| 0.031797546 | 3.0223 | 0.7003 |
| 0.067977086 | 3.4121 | 0.7960 |
| 0.079572186 | 3.5136 | 0.8223 |
| 0.101904137 | 3.6930 | 0.8659 |
| 0.120295562 | 3.8299 | 0.8991 |
| 0.140246718 | 3.9712 | 0.9332 |
| 0.160721831 | 4.1107 | 0.9678 |
| 0.180223986 | 4.2400 | 0.9988 |
| 0.200618880 | 4.3728 | 1.0262 |
| 0.250984417 | 4.6962 | 1.0881 |
| 0.300199224 | 5.0135 | 1.1620 |
| 0.350574836 | 5.3476 | 1.2429 |
| 0.400206942 | 5.6926 | 1.3261 |
| 0.450279072 | 6.0635 | 1.4161 |
| 0.500139170 | 6.4632 | 1.5123 |
| 0.549908477 | 6.9016 | 1.6128 |
| 0.600261806 | 7.3974 | 1.7204 |
| 0.650404740 | 7.9596 | 1.8384 |

Sample: Alcidio A- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
 Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:40:33 Thermal Correction: No
 Sample Weight: 1.5184 g Smoothed Pressures: No
 Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

t-Plot



Sample: Alcidio A- Samuel
Operator:ACVC ACVC
Submitter:LMPSol ACVC
File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:40:33 Thermal Correction: No
Sample Weight: 1.5184 g Smoothed Pressures: No
Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Summary Report

Area

Single Point Surface Area at P/Po 0.20061888 : 3.5711 m²/g
BET Surface Area: 3.7481 m²/g

Volume

Single Point Total Pore Volume of pores less than
693.5789 A Diameter at P/Po 0.97128982: 0.008640 cm³/g

Pore Size

Average Pore Diameter (4V/A by BET): 92.2078 A

Sample: Alcidio A- Samuel
Operator:ACVC ACVC
Submitter:LMPSol ACVC
File Name: C:\ASAP2010\DATA\000-146.SMP

Started: 01/14/00 13:48:24 Analysis Adsorptive: N2
Completed: 01/14/00 16:36:22 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:40:33 Thermal Correction: No
Sample Weight: 1.5184 g Smoothed Pressures: No
Warm Freespace: 16.4857 cm³ Cold Freespace: 50.3895 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Options Report

Analysis Adsorptive: Nitrogen
Maximum manifold pressure: 925.00 mmHg
Non-ideality factor: 0.000066
Density conversion factor: 0.0015468
Therm. tran. hard-sphere diameter: 3.860 A
Molecular cross-sectional area: 0.162 nm²

Fast evacuation: Yes
Unrestricted evac from: 5.0 mmHg
Leak test: No
Leak test duration: 120 secs
Evacuation time: 0.1 hours
Backfill Gas: Analysis
Equilibration interval: 5 secs
Maximum volume increment: No
Target tolerance: 5.0 % or 5.0 mmHg
Min. equil. delay at P/Po >= 0.995: 600 secs

Free space group: Measured
Lower dewar after free space: No
Evacuation time: 0.1 hours
Leak test: No
Leak test duration: 180 secs

Low pressure dosing: No
Dose amount: 0.00 cm³/g STP
Minimum equilibration delay: 0.00 hours
Maximum equilibration delay: 999.00 hours

Po type: Measured
Temperature type: Entered
Temperature: 77.35 K
Measurement interval: 120 minutes

Inside diameter of sample tube: 9.530 mm

ANEXO 3

Boletim de análise da área superficial específica – Método BET – do filito B.

Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| | | | 00:32 | 706.74603 |
| 0.009982865 | 7.05417 | 1.1049 | 00:46 | |
| 0.031662077 | 22.37251 | 1.3501 | 00:49 | |
| 0.067915398 | 47.98806 | 1.5222 | 00:51 | |
| 0.079775960 | 56.36790 | 1.5698 | 00:52 | |
| 0.099804001 | 70.51758 | 1.6402 | 00:54 | |
| 0.120103032 | 84.85906 | 1.7074 | 00:55 | |
| 0.140269546 | 99.10539 | 1.7705 | 00:57 | |
| 0.159684540 | 112.82143 | 1.8306 | 00:58 | |
| 0.181548818 | 128.26607 | 1.8960 | 01:00 | |
| 0.200481082 | 141.64021 | 1.9457 | 01:01 | |
| 0.250303590 | 176.83568 | 2.0698 | 01:03 | |
| 0.300286772 | 212.14297 | 2.2163 | 01:05 | |
| 0.350275808 | 247.45567 | 2.3711 | 01:06 | |
| 0.400499808 | 282.93015 | 2.5351 | 01:08 | |
| 0.450903865 | 318.53012 | 2.7113 | 01:10 | |
| 0.501634205 | 354.35889 | 2.9009 | 01:12 | |
| 0.550646358 | 388.97223 | 3.0964 | 01:14 | |
| 0.600757128 | 424.35995 | 3.3203 | 01:16 | |
| 0.650456481 | 459.45538 | 3.5579 | 01:18 | |
| 0.701309924 | 495.36432 | 3.8529 | 01:20 | |
| 0.750535226 | 530.12787 | 4.2128 | 01:21 | |
| 0.799652686 | 564.80768 | 4.6969 | 01:23 | |
| 0.821521043 | 580.23981 | 4.9800 | 01:25 | |
| 0.850968651 | 601.02429 | 5.4454 | 01:27 | |
| 0.875515257 | 618.34637 | 5.9535 | 01:29 | |
| 0.900014057 | 635.62628 | 6.6513 | 01:32 | |
| 0.925039537 | 653.26910 | 7.6582 | 01:36 | |
| 0.948604131 | 669.87860 | 9.1813 | 01:40 | |
| 0.971142225 | 685.76166 | 11.8048 | 01:44 | |
| 0.981899656 | 693.31653 | 14.0037 | 01:49 | |
| 0.989545215 | 698.67334 | 16.3381 | 01:54 | |
| 0.994385072 | 702.04865 | 18.3959 | 01:59 | |
| 0.985605363 | 695.81683 | 17.2793 | 02:03 | |
| 0.979406647 | 691.40765 | 15.8907 | 02:07 | |
| 0.973700522 | 687.34662 | 14.5566 | 02:11 | |
| 0.958072938 | 676.26648 | 11.9239 | 02:17 | |
| 0.923434165 | 651.77740 | 8.8279 | 02:22 | |
| 0.897359652 | 633.35083 | 7.5837 | 02:25 | |
| 0.868060133 | 612.64215 | 6.6763 | 02:29 | |
| 0.854993654 | 603.41315 | 6.3617 | 02:30 | |

Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

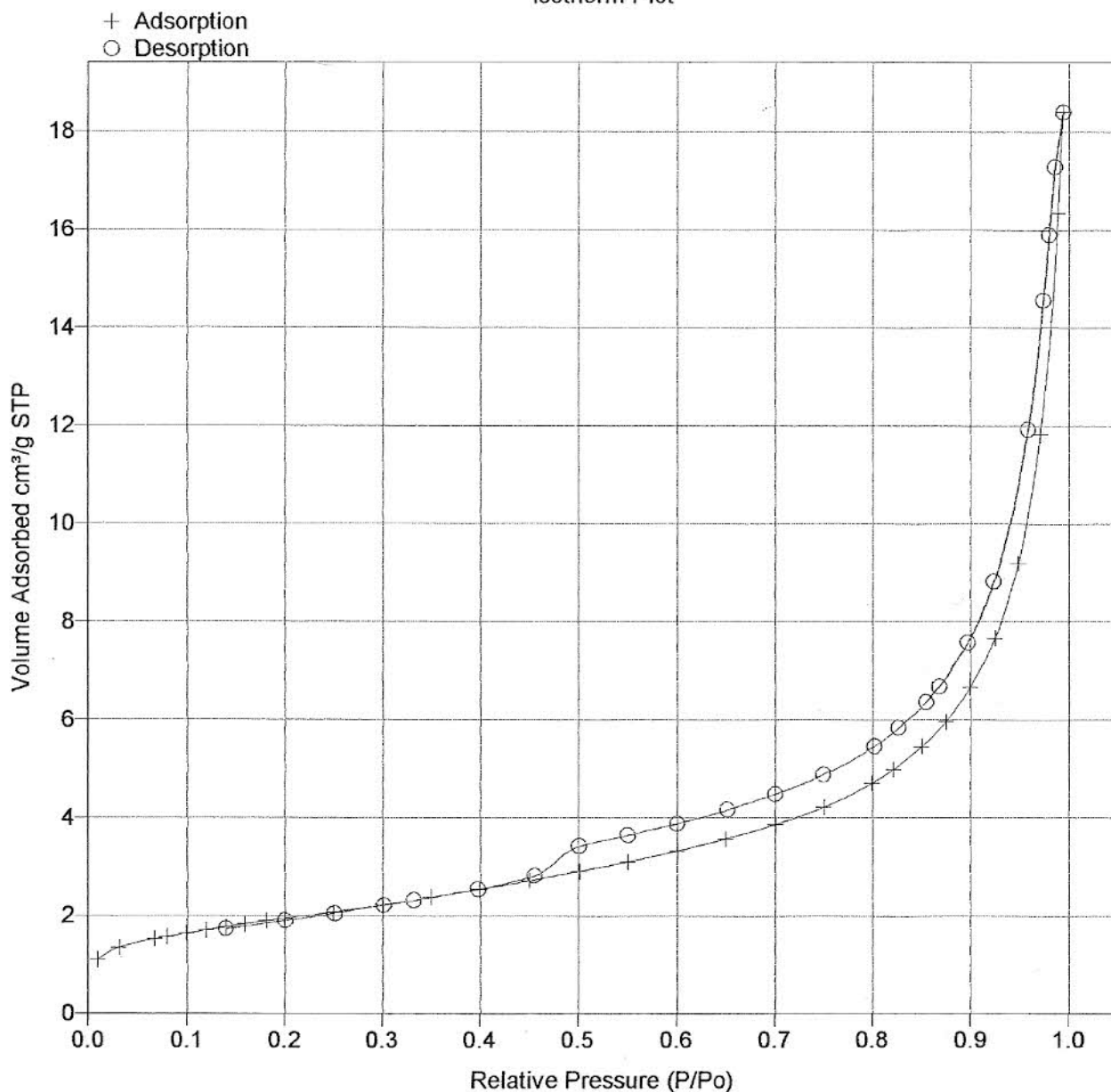
 Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| 0.826454029 | 583.25037 | 5.8271 | 02:33 | |
| | | | 02:35 | 705.70947 |
| 0.801862321 | 565.88184 | 5.4590 | 02:37 | |
| 0.749870960 | 529.19104 | 4.8874 | 02:39 | |
| 0.700627442 | 494.43942 | 4.4843 | 02:41 | |
| 0.651808881 | 459.98770 | 4.1655 | 02:44 | |
| 0.600300294 | 423.63760 | 3.8845 | 02:45 | |
| 0.550228180 | 388.30124 | 3.6414 | 02:47 | |
| 0.500899082 | 353.48923 | 3.4217 | 02:49 | |
| 0.455603552 | 321.52374 | 2.8151 | 02:52 | |
| 0.398072268 | 280.92337 | 2.5385 | 02:53 | |
| 0.331876283 | 234.20824 | 2.3142 | 02:55 | |
| 0.301305838 | 212.63438 | 2.2163 | 02:56 | |
| 0.250576851 | 176.83446 | 2.0454 | 02:57 | |
| 0.200199696 | 141.28282 | 1.8965 | 02:59 | |
| 0.140268174 | 98.98858 | 1.7377 | 03:00 | |

Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Isotherm Plot



Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

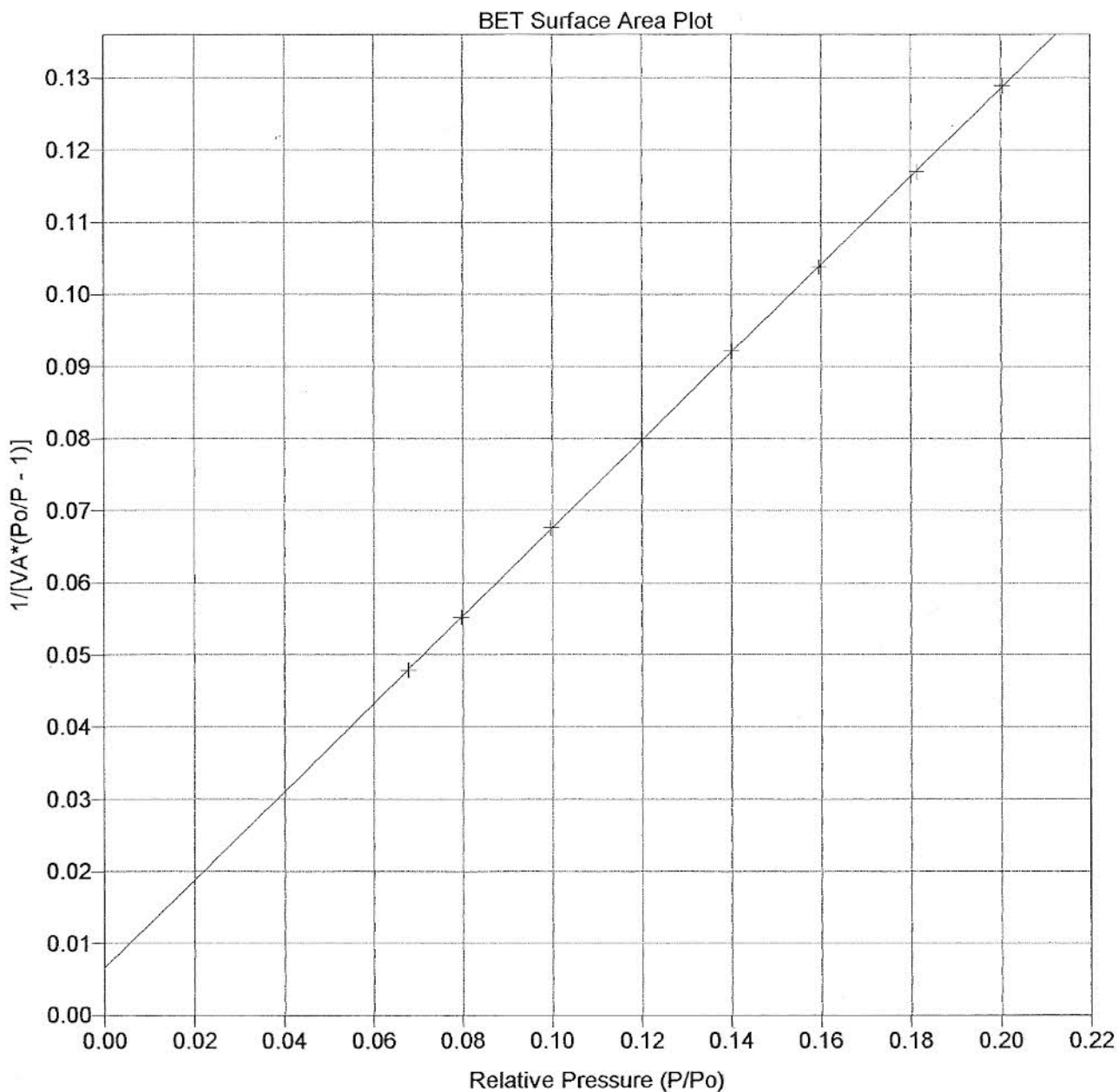
 BET Surface Area Report

BET Surface Area: 7.0715 ± 0.0145 m²/g
 Slope: 0.608930 ± 0.001250
 Y-Intercept: 0.006668 ± 0.000173
 C: 92.324976
 VM: 1.624436 cm³/g STP
 Correlation Coefficient: 9.999874e-01
 Molecular Cross-section: 0.1620 nm²

| Relative Pressure | Vol Adsorbed (cm ³ /g STP) | 1/[VA*(Po/P - 1)] |
|-------------------|---------------------------------------|-------------------|
| 0.067915398 | 1.5222 | 0.047868 |
| 0.079775960 | 1.5698 | 0.055225 |
| 0.099804001 | 1.6402 | 0.067597 |
| 0.120103032 | 1.7074 | 0.079945 |
| 0.140269546 | 1.7705 | 0.092150 |
| 0.159684540 | 1.8306 | 0.103809 |
| 0.181548818 | 1.8960 | 0.116994 |
| 0.200481082 | 1.9457 | 0.128876 |

Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPsol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None



Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

 t-Plot Report

Micropore Volume: 0.000096 cm³/g
 Micropore Area: 0.4224 m²/g
 External Surface Area: 6.6491 m²/g
 Slope: 0.429860 ± 0.005612
 Y-Intercept: 0.062373 ± 0.022822
 Correlation Coefficient: 9.99489e-01
 Thickness Range: 3.5000 to 5.0000 A

$$t = [13.9900 / (0.0340 - \log(P/P_0))] 0.5000$$

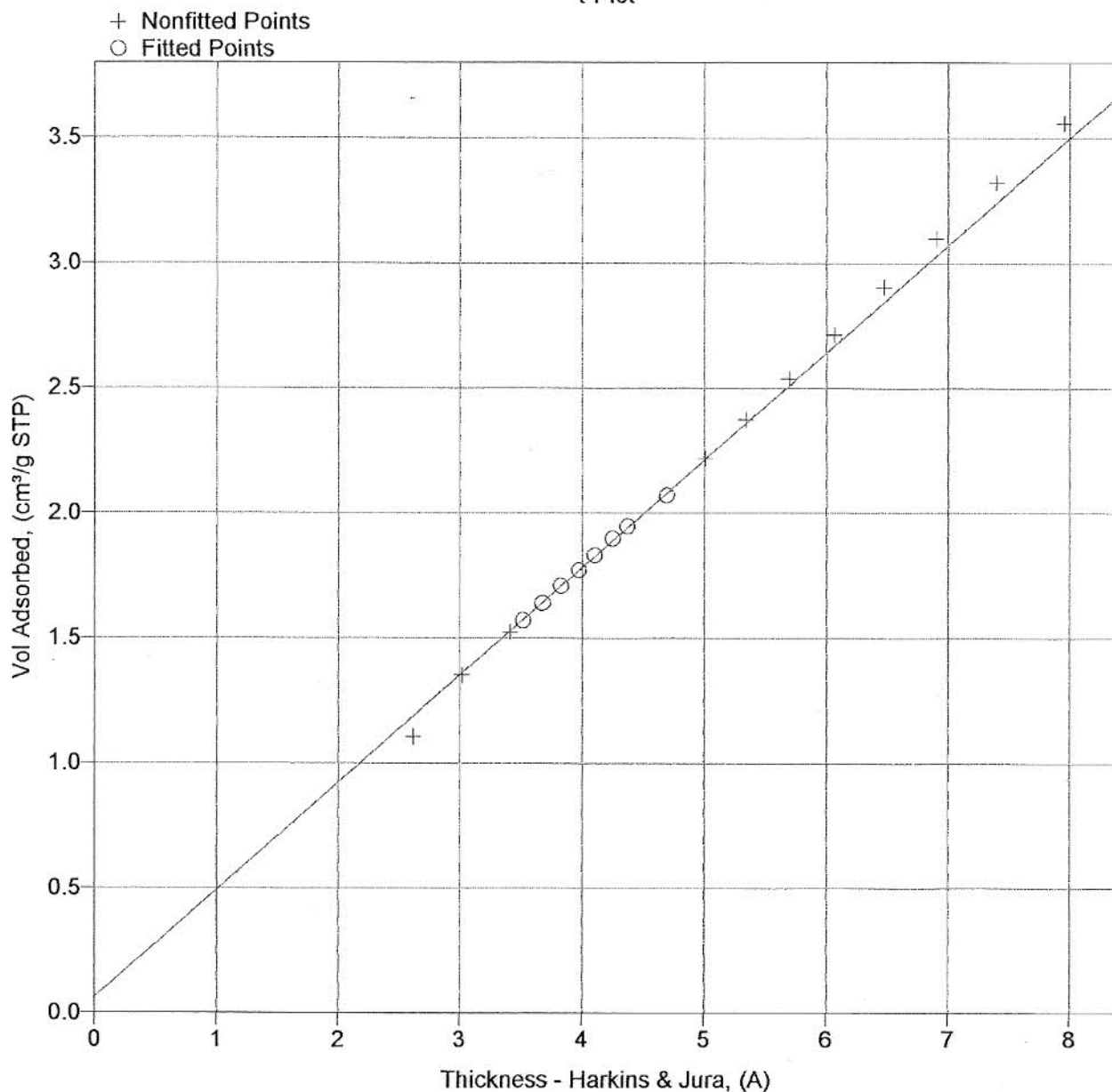
Surface Area Correction Factor: 1.00
 Density Conversion Factor: 0.001547
 Total Surface Area (by BET): 7.0715

| Relative Pressure | Statistical Thickness, (A) | Vol Adsorbed (cm ³ /g) |
|-------------------|----------------------------|-----------------------------------|
| 0.009982865 | 2.6221 | 1.1049 |
| 0.031662077 | 3.0205 | 1.3501 |
| 0.067915398 | 3.4115 | 1.5222 |
| 0.079775960 | 3.5153 | 1.5698 |
| 0.099804001 | 3.6768 | 1.6402 |
| 0.120103032 | 3.8285 | 1.7074 |
| 0.140269546 | 3.9713 | 1.7705 |
| 0.159684540 | 4.1037 | 1.8306 |
| 0.181548818 | 4.2487 | 1.8960 |
| 0.200481082 | 4.3719 | 1.9457 |
| 0.250303590 | 4.6918 | 2.0698 |
| 0.300286772 | 5.0141 | 2.2163 |
| 0.350275808 | 5.3456 | 2.3711 |
| 0.400499808 | 5.6947 | 2.5351 |
| 0.450903865 | 6.0683 | 2.7113 |
| 0.501634205 | 6.4757 | 2.9009 |
| 0.550646358 | 6.9085 | 3.0964 |
| 0.600757128 | 7.4026 | 3.3203 |
| 0.650456481 | 7.9603 | 3.5579 |

Sample: Alcidio B- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
 Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
 Report Time: 03/17/00 16:02:43 Thermal Correction: No
 Sample Weight: 1.0214 g Smoothed Pressures: No
 Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

t-Plot



Sample: Alcidio B- Samuel
Operator:ACVC ACVC
Submitter:LMPSol ACVC
File Name: C:\ASAP2010\DATA\000-145.SMP

Started: 01/14/00 10:08:31 Analysis Adsorptive: N2
Completed: 01/14/00 13:08:43 Analysis Bath: 77.35 K
Report Time: 03/17/00 16:02:43 Thermal Correction: No
Sample Weight: 1.0214 g Smoothed Pressures: No
Warm Freespace: 16.2908 cm³ Cold Freespace: 49.9088 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Summary Report

Area

Single Point Surface Area at P/Po 0.20048108 : 6.7719 m²/g
BET Surface Area: 7.0715 m²/g

Volume

Single Point Total Pore Volume of pores less than
690.1153 A Diameter at P/Po 0.97114222: 0.018260 cm³/g

Pore Size

Average Pore Diameter (4V/A by BET): 103.2856 A

ANEXO 4

Boletim de análise da área superficial específica – Método BET – do filito C.

USP/Escola Politecnica

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 1

Sample: Alcidio C- Samuel
 Operator:ACVC ACVC
 Submitter:LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| | | | 00:33 | 698.15472 |
| 0.010031984 | 7.00411 | 0.8003 | 00:49 | |
| 0.032713661 | 22.84009 | 0.9638 | 00:52 | |
| 0.066575450 | 46.48187 | 1.0787 | 00:53 | |
| 0.080104156 | 55.92762 | 1.1171 | 00:55 | |
| 0.099809966 | 69.68609 | 1.1655 | 00:56 | |
| 0.119628024 | 83.52316 | 1.2110 | 00:58 | |
| 0.140286312 | 97.94678 | 1.2573 | 00:59 | |
| 0.159724499 | 111.51882 | 1.2999 | 01:01 | |
| 0.179671112 | 125.44570 | 1.3416 | 01:02 | |
| 0.200075031 | 139.69221 | 1.3791 | 01:04 | |
| 0.250817908 | 175.12157 | 1.4681 | 01:06 | |
| 0.300445978 | 209.77242 | 1.5695 | 01:07 | |
| 0.350501906 | 244.72264 | 1.6794 | 01:09 | |
| 0.400432518 | 279.58508 | 1.7919 | 01:10 | |
| 0.450410015 | 314.48105 | 1.9018 | 01:12 | |
| 0.499750274 | 348.93237 | 2.0179 | 01:14 | |
| 0.549814448 | 383.88864 | 2.1443 | 01:15 | |
| 0.599833871 | 418.81467 | 2.2691 | 01:17 | |
| 0.649293207 | 453.34991 | 2.4107 | 01:19 | |
| 0.700203612 | 488.89761 | 2.5796 | 01:20 | |
| 0.749961278 | 523.64166 | 2.7836 | 01:22 | |
| 0.799687371 | 558.36395 | 3.0544 | 01:24 | |
| 0.821470725 | 573.57605 | 3.2094 | 01:26 | |
| 0.850454689 | 593.81598 | 3.4512 | 01:28 | |
| 0.873840378 | 610.14716 | 3.7396 | 01:30 | |
| 0.901094773 | 629.17975 | 4.1097 | 01:32 | |
| 0.922963717 | 644.45215 | 4.5792 | 01:34 | |
| 0.947541693 | 661.61896 | 5.4009 | 01:38 | |
| 0.970108043 | 677.38281 | 6.8866 | 01:43 | |
| 0.981394098 | 685.26898 | 8.2009 | 01:47 | |
| 0.988142101 | 689.98651 | 9.7269 | 01:51 | |
| 0.992644347 | 693.13739 | 11.1205 | 01:56 | |
| 0.984758036 | 687.63623 | 10.3690 | 02:00 | |
| 0.979108954 | 683.69720 | 9.4073 | 02:04 | |
| 0.972752234 | 679.26398 | 8.4921 | 02:08 | |
| 0.955956407 | 667.54382 | 6.7647 | 02:14 | |
| 0.919861729 | 642.34552 | 5.1167 | 02:19 | |
| 0.892499760 | 623.24359 | 4.4752 | 02:23 | |
| 0.863593501 | 603.06171 | 4.0287 | 02:26 | |
| 0.836022206 | 583.81061 | 3.7132 | 02:28 | |

Sample: Alcidio C- Samuel
 Operator:ACVC ACVC
 Submitter:LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

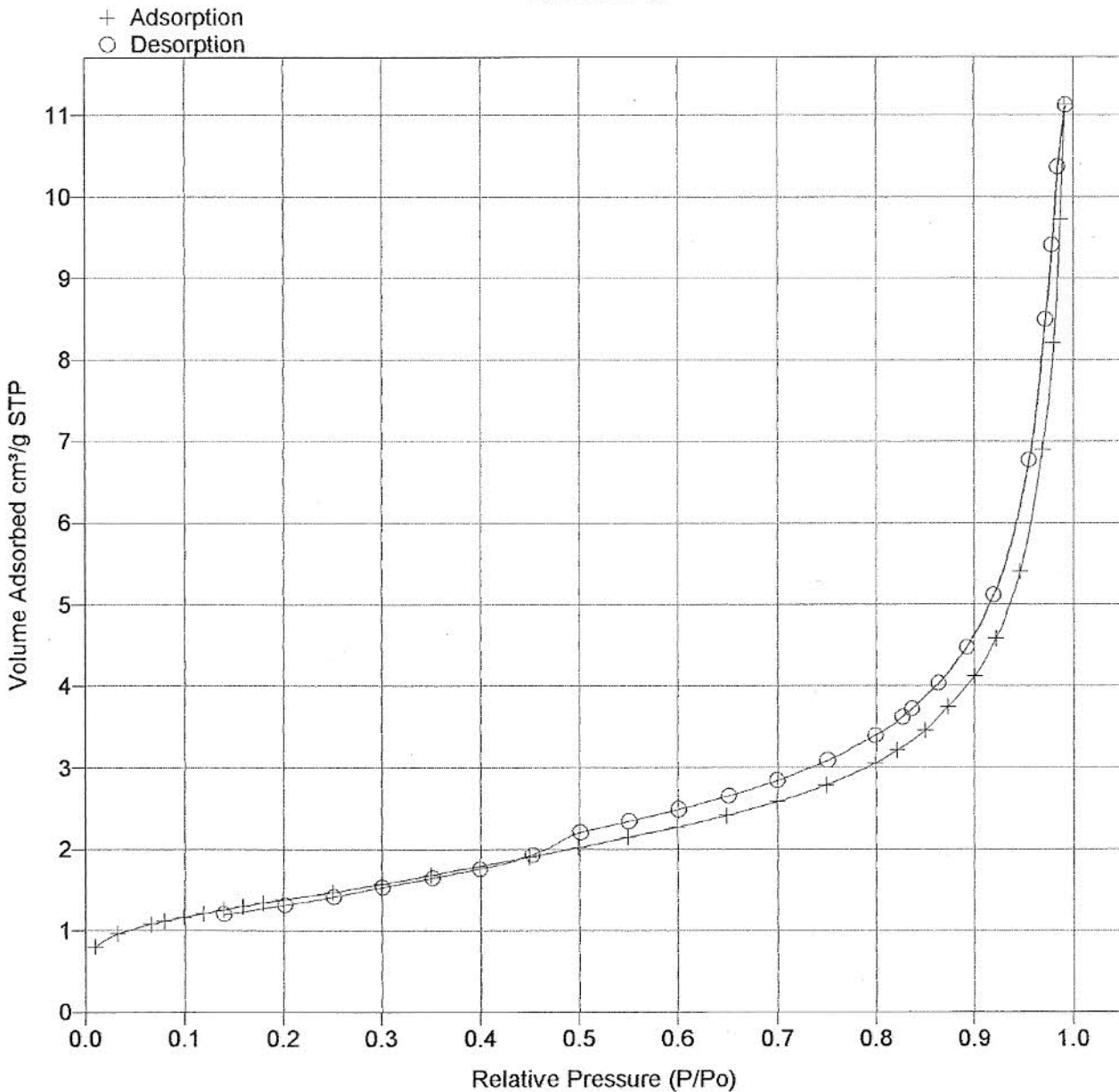
 Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| 0.826752881 | 577.34003 | 3.6144 | 02:30 | |
| 0.798869566 | 557.86963 | 3.3942 | 02:31 | |
| 0.750612597 | 524.17279 | 3.0884 | 02:33 | |
| | | | 02:35 | 698.32953 |
| 0.699864291 | 488.73590 | 2.8426 | 02:36 | |
| 0.650935709 | 454.56763 | 2.6553 | 02:38 | |
| 0.600756671 | 419.52612 | 2.4907 | 02:40 | |
| 0.550491237 | 384.42429 | 2.3427 | 02:41 | |
| 0.501185166 | 349.99240 | 2.2067 | 02:43 | |
| 0.453056921 | 316.38303 | 1.9307 | 02:45 | |
| 0.399443042 | 278.94287 | 1.7574 | 02:47 | |
| 0.351913082 | 245.75130 | 1.6458 | 02:48 | |
| 0.300955186 | 210.16589 | 1.5291 | 02:50 | |
| 0.251322911 | 175.50621 | 1.4140 | 02:52 | |
| 0.202260889 | 141.24475 | 1.3126 | 02:53 | |
| 0.140326394 | 97.99406 | 1.1989 | 02:55 | |

Sample: Alcidio C- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Isotherm Plot



Sample: Alcidio C- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

 BET Surface Area Report

BET Surface Area: 5.0098 ± 0.0114 m²/g
 Slope: 0.859852 ± 0.001957
 Y-Intercept: 0.009092 ± 0.000270
 C: 95.568906
 VM: 1.150821 cm³/g STP
 Correlation Coefficient: 9.999845e-01

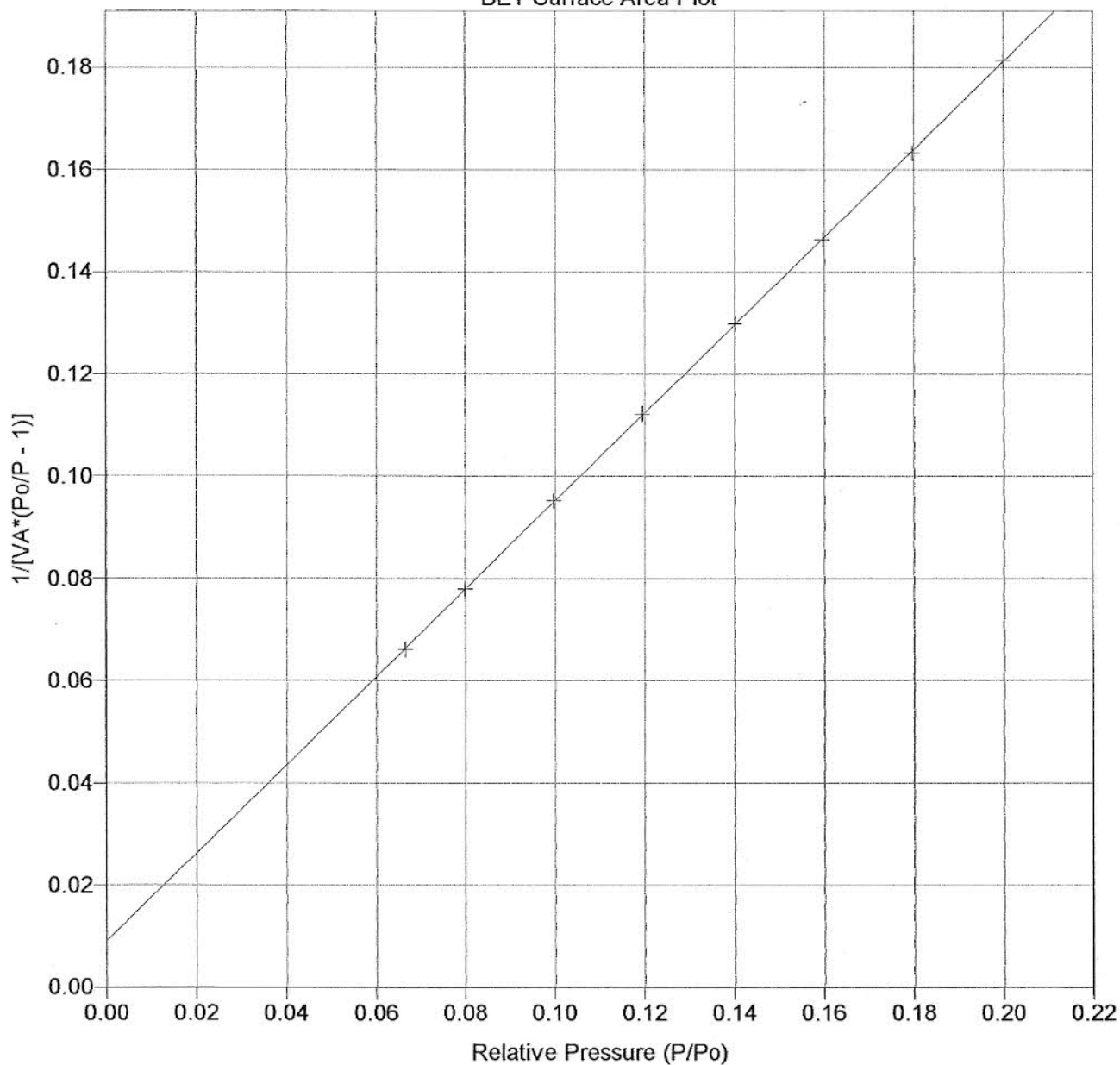
Molecular Cross-section: 0.1620 nm²

| Relative Pressure | Vol Adsorbed (cm ³ /g STP) | 1/[VA*(Po/P - 1)] |
|-------------------|---------------------------------------|-------------------|
| 0.066575450 | 1.0787 | 0.066121 |
| 0.080104156 | 1.1171 | 0.077951 |
| 0.099809966 | 1.1655 | 0.095135 |
| 0.119628024 | 1.2110 | 0.112205 |
| 0.140286312 | 1.2573 | 0.129780 |
| 0.159724499 | 1.2999 | 0.146233 |
| 0.179671112 | 1.3416 | 0.163252 |
| 0.200075031 | 1.3791 | 0.181359 |

Sample: Alcidio C- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

BET Surface Area Plot



Sample: Alcidio C- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

t-Plot Report

Micropore Volume: 0.000090 cm³/g
 Micropore Area: 0.3424 m²/g
 External Surface Area: 4.6673 m²/g
 Slope: 0.301741 ± 0.004104
 Y-Intercept: 0.058049 ± 0.016683
 Correlation Coefficient: 9.99446e-01
 Thickness Range: 3.5000 to 5.0000 A

$$t = [13.9900 / (0.0340 - \log(P/P_0))] 0.5000$$

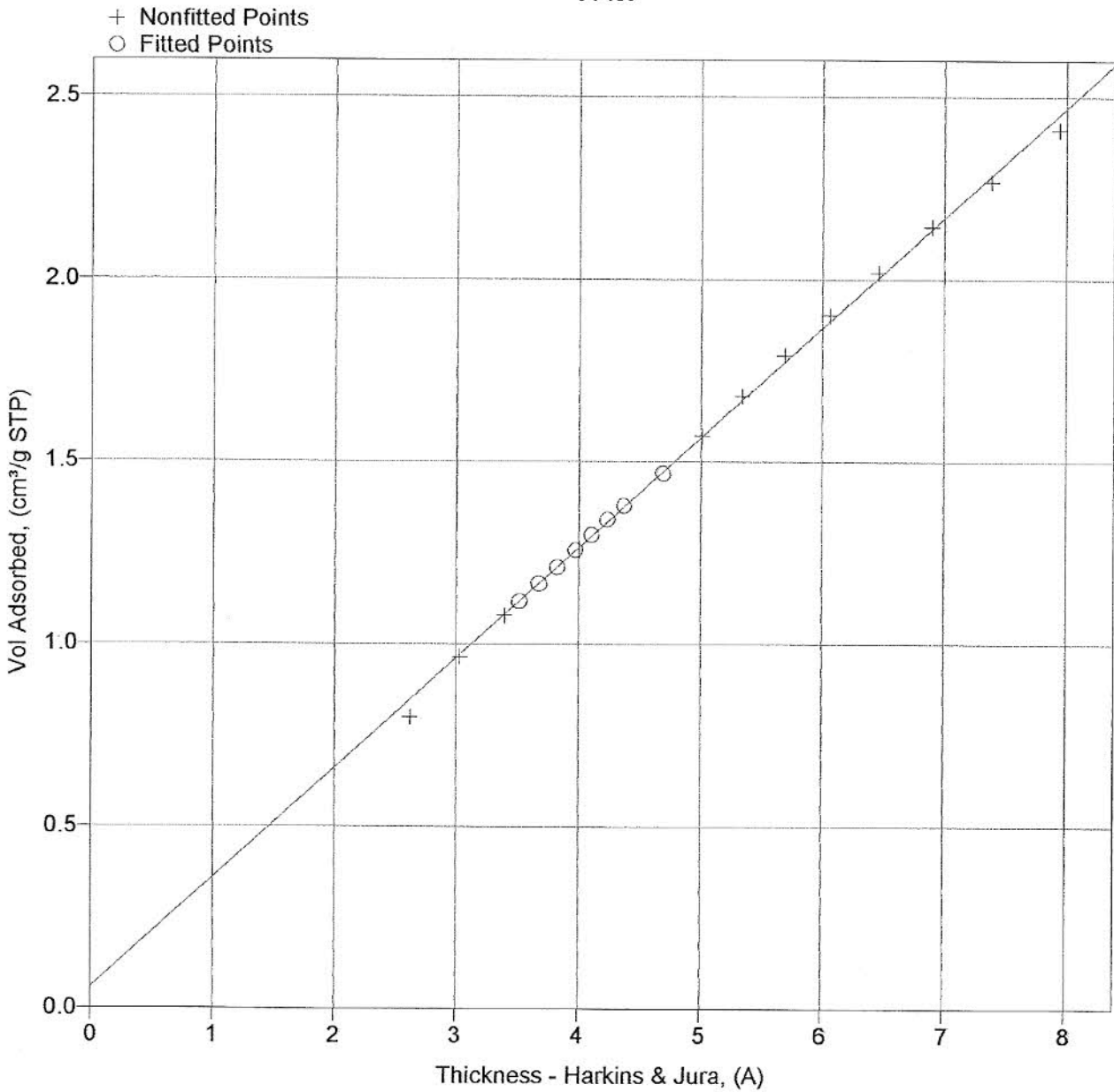
Surface Area Correction Factor: 1.00
 Density Conversion Factor: 0.001547
 Total Surface Area (by BET): 5.0098

| Relative Pressure | Statistical Thickness, (A) | Vol Adsorbed (cm ³ /g) |
|-------------------|----------------------------|-----------------------------------|
| 0.010031984 | 2.6235 | 0.8003 |
| 0.032713661 | 3.0345 | 0.9638 |
| 0.066575450 | 3.3993 | 1.0787 |
| 0.080104156 | 3.5181 | 1.1171 |
| 0.099809966 | 3.6768 | 1.1655 |
| 0.119628024 | 3.8251 | 1.2110 |
| 0.140286312 | 3.9715 | 1.2573 |
| 0.159724499 | 4.1040 | 1.2999 |
| 0.179671112 | 4.2364 | 1.3416 |
| 0.200075031 | 4.3693 | 1.3791 |
| 0.250817908 | 4.6951 | 1.4681 |
| 0.300445978 | 5.0151 | 1.5695 |
| 0.350501906 | 5.3471 | 1.6794 |
| 0.400432518 | 5.6942 | 1.7919 |
| 0.450410015 | 6.0645 | 1.9018 |
| 0.499750274 | 6.4599 | 2.0179 |
| 0.549814448 | 6.9007 | 2.1443 |
| 0.599833871 | 7.3929 | 2.2691 |
| 0.649293207 | 7.9463 | 2.4107 |

Sample: Alcidio C- Samuel
 Operator: ACVC ACVC
 Submitter: LMPSol ACVC
 File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
 Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:41:16 Thermal Correction: No
 Sample Weight: 1.5847 g Smoothed Pressures: No
 Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

t-Plot



Sample: Alcidio C- Samuel
Operator:ACVC ACVC
Submitter:LMPSol ACVC
File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:41:16 Thermal Correction: No
Sample Weight: 1.5847 g Smoothed Pressures: No
Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Summary Report

Area

Single Point Surface Area at P/Po 0.20007503 : 4.8024 m²/g
BET Surface Area: 5.0098 m²/g

Volume

Single Point Total Pore Volume of pores less than
666.7988 A Diameter at P/Po 0.97010804: 0.010652 cm³/g

Pore Size

Average Pore Diameter (4V/A by BET): 85.0515 A

Sample: Alcidio C- Samuel
Operator: ACVC ACVC
Submitter: LMPSol ACVC
File Name: C:\ASAP2010\DATA\000-147.SMP

Started: 01/17/00 14:14:15 Analysis Adsorptive: N2
Completed: 01/17/00 17:09:10 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:41:16 Thermal Correction: No
Sample Weight: 1.5847 g Smoothed Pressures: No
Warm Freespace: 16.8280 cm³ Cold Freespace: 52.1499 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Options Report

Analysis Adsorptive: Nitrogen
Maximum manifold pressure: 925.00 mmHg
Non-ideality factor: 0.000066
Density conversion factor: 0.0015468
Therm. tran. hard-sphere diameter: 3.860 A
Molecular cross-sectional area: 0.162 nm²

Fast evacuation: Yes
Unrestricted evac from: 5.0 mmHg
Leak test: No
Leak test duration: 120 secs
Evacuation time: 0.1 hours
Backfill Gas: Analysis
Equilibration interval: 5 secs
Maximum volume increment: No
Target tolerance: 5.0 % or 5.0 mmHg
Min. equil. delay at P/Po >= 0.995: 600 secs

Free space group: Measured
Lower dewar after free space: No
Evacuation time: 0.1 hours
Leak test: No
Leak test duration: 180 secs

Low pressure dosing: No
Dose amount: 0.00 cm³/g STP
Minimum equilibration delay: 0.00 hours
Maximum equilibration delay: 999.00 hours

Po type: Measured
Temperature type: Entered
Temperature: 77.35 K
Measurement interval: 120 minutes

Inside diameter of sample tube: 9.530 mm

ANEXO 5

**Boletim de análise da área superficial específica – Método BET – do caulim da
Mineração Horii**

Sample: Caulim Horii
 Operator: ACVC ACVC
 Submitter: ACVC-GOI ACVC
 File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
 Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:51:02 Thermal Correction: No
 Sample Weight: 0.4927 g Smoothed Pressures: No
 Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

 BET Surface Area Report

BET Surface Area: 7.128 ± 0.02893 m²/g
 Slope: 0.604124 ± 0.002455
 Y-Intercept: 0.006558 ± 0.000340
 C: 93.124329
 VM: 1.637515 cm³/g STP
 Correlation Coefficient: 9.999505e-01

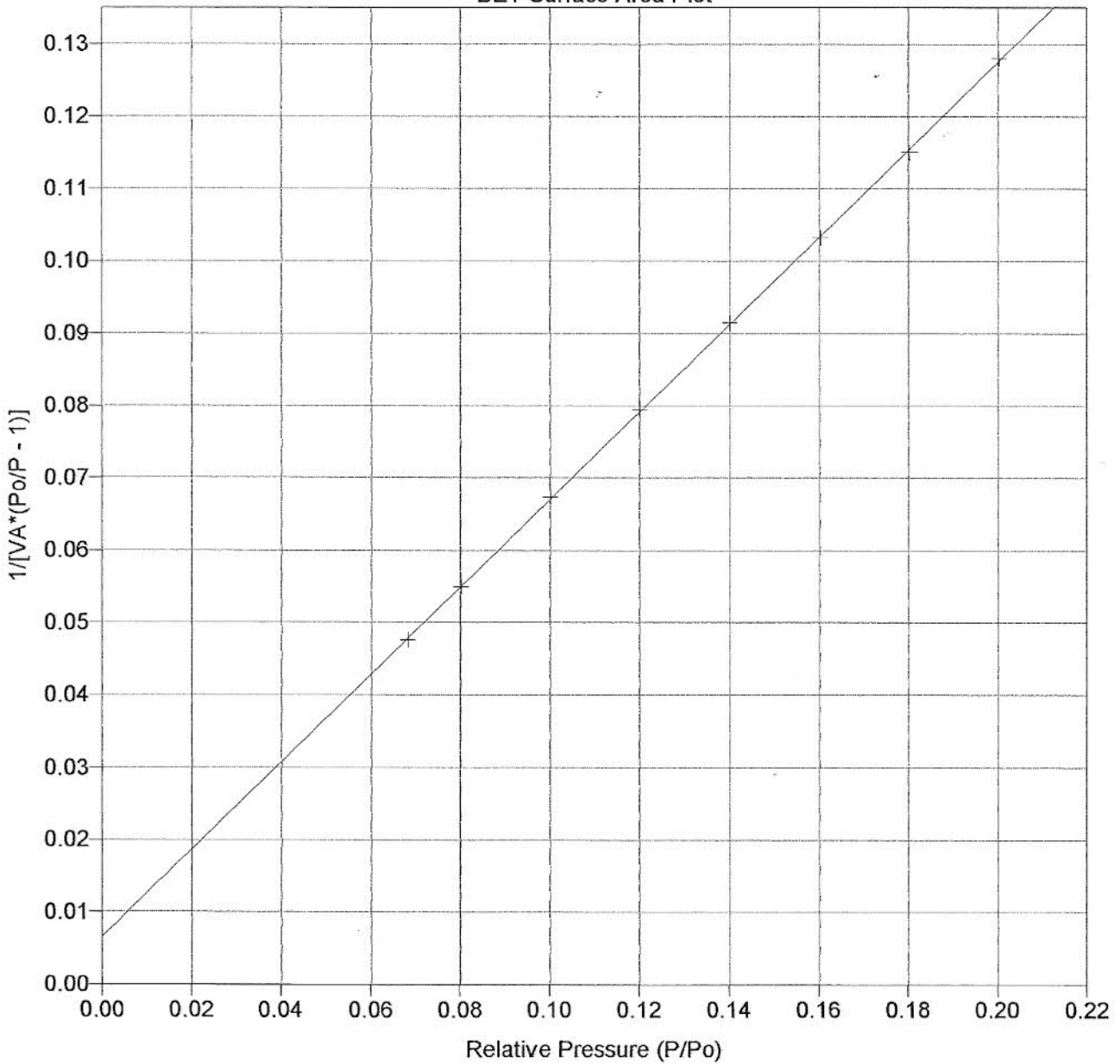
Molecular Cross-section: 0.1620 nm²

| Relative Pressure | Vol Adsorbed (cm ³ /g STP) | 1/[VA*(Po/P - 1)] |
|-------------------|---------------------------------------|-------------------|
| 0.068385313 | 1.5422 | 0.047596 |
| 0.080251977 | 1.5857 | 0.055027 |
| 0.100270222 | 1.6539 | 0.067383 |
| 0.120267645 | 1.7199 | 0.079488 |
| 0.140283117 | 1.7843 | 0.091451 |
| 0.160324804 | 1.8503 | 0.103191 |
| 0.180358337 | 1.9123 | 0.115067 |
| 0.200437326 | 1.9594 | 0.127937 |

Sample: Caulim Horii
Operator: ACVC ACVC
Submitter: ACVC-GOI ACVC
File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:51:02 Thermal Correction: No
Sample Weight: 0.4927 g Smoothed Pressures: No
Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

BET Surface Area Plot



Sample: Caulim Horii
 Operator:ACVC ACVC
 Submitter:ACVC-GQI ACVC
 File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
 Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:51:02 Thermal Correction: No
 Sample Weight: 0.4927 g Smoothed Pressures: No
 Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

 t-Plot Report

Micropore Volume: 0.000084 cm³/g
 Micropore Area: 0.3895 m²/g
 External Surface Area: 6.7390 m²/g
 Slope: 0.435671 ± 0.006391
 Y-Intercept: 0.054234 ± 0.025995
 Correlation Coefficient: 9.99355e-01
 Thickness Range: 3.5000 to 5.0000 A

$$t = [13.9900 / (0.0340 - \log(P/P_0))] 0.5000$$

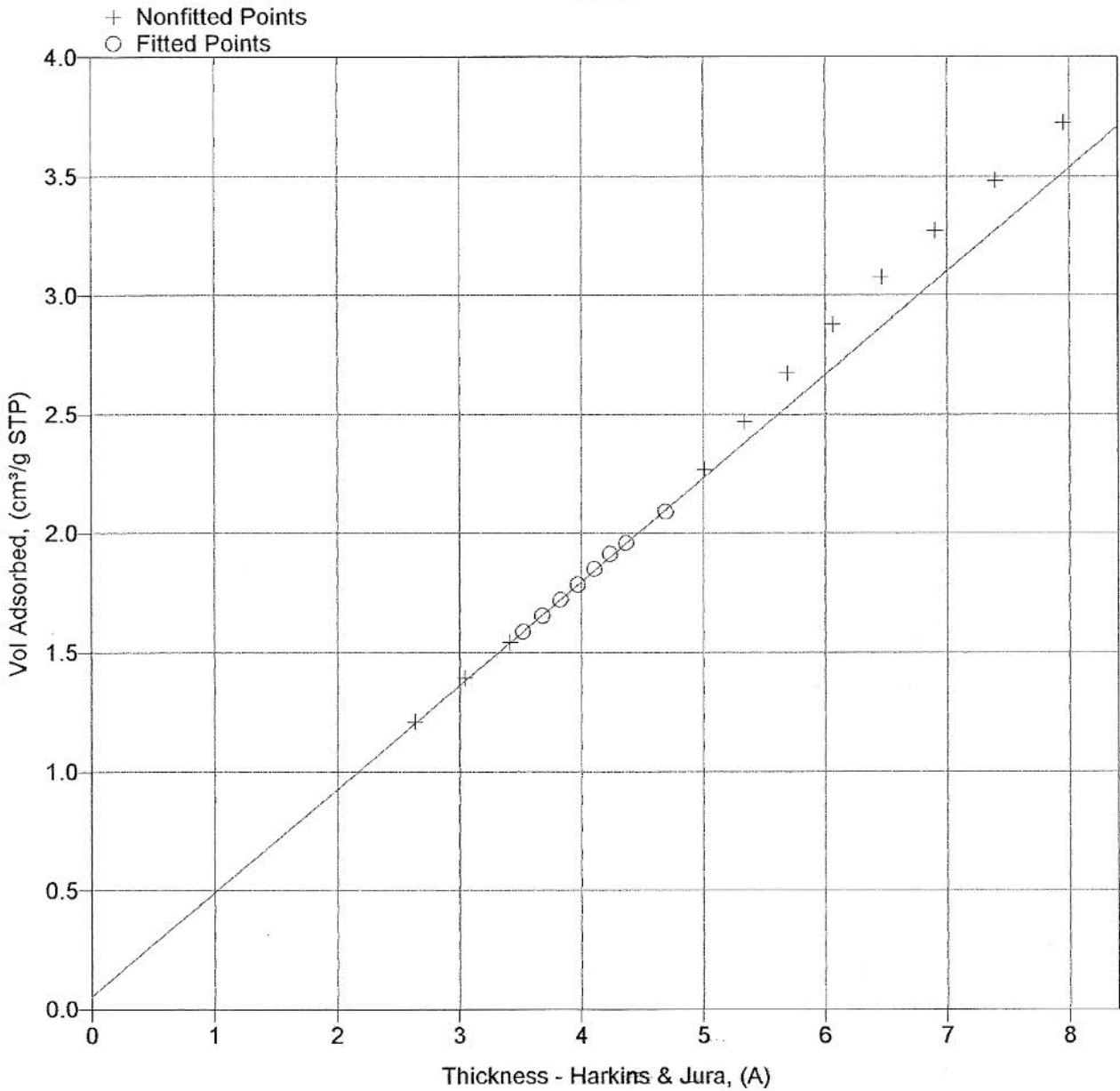
Surface Area Correction Factor: 1.00
 Density Conversion Factor: 0.001547
 Total Surface Area (by BET): 7.1284

| Relative Pressure | Statistical Thickness, (A) | Vol Adsorbed (cm ³ /g) |
|-------------------|----------------------------|-----------------------------------|
| 0.010606586 | 2.6393 | 1.2094 |
| 0.033650893 | 3.0469 | 1.3930 |
| 0.068385313 | 3.4158 | 1.5422 |
| 0.080251977 | 3.5193 | 1.5857 |
| 0.100270222 | 3.6804 | 1.6539 |
| 0.120267645 | 3.8297 | 1.7199 |
| 0.140283117 | 3.9714 | 1.7843 |
| 0.160324804 | 4.1080 | 1.8503 |
| 0.180358337 | 4.2409 | 1.9123 |
| 0.200437326 | 4.3717 | 1.9594 |
| 0.250124970 | 4.6907 | 2.0891 |
| 0.300288858 | 5.0141 | 2.2669 |
| 0.350375670 | 5.3462 | 2.4670 |
| 0.400402663 | 5.6940 | 2.6739 |
| 0.450301505 | 6.0636 | 2.8785 |
| 0.500371515 | 6.4651 | 3.0765 |
| 0.550277835 | 6.9050 | 3.2727 |
| 0.600199539 | 7.3967 | 3.4829 |
| 0.650128163 | 7.9563 | 3.7260 |

Sample: Caulim Horii
 Operator: ACVC ACVC
 Submitter: ACVC-GOI ACVC
 File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
 Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:51:02 Thermal Correction: No
 Sample Weight: 0.4927 g Smoothed Pressures: No
 Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

t-Plot



Sample: Caulim Horii
Operator:ACVC ACVC
Submitter:ACVC-GQI ACVC
File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:51:02 Thermal Correction: No
Sample Weight: 0.4927 g Smoothed Pressures: No
Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Options Report

Analysis Adsorptive: Nitrogen
Maximum manifold pressure: 925.00 mmHg
Non-ideality factor: 0.000066
Density conversion factor: 0.0015468
Therm. tran. hard-sphere diameter: 3.860 A
Molecular cross-sectional area: 0.162 nm²

Fast evacuation: Yes
Unrestricted evac from: 5.0 mmHg
Leak test: No
Leak test duration: 120 secs
Evacuation time: 0.1 hours
Backfill Gas: Analysis
Equilibration interval: 5 secs
Maximum volume increment: No
Target tolerance: 5.0 % or 5.0 mmHg
Min. equil. delay at P/Po >= 0.995: 600 secs

Free space group: Measured
Lower dewar after free space: No
Evacuation time: 0.1 hours
Leak test: No
Leak test duration: 180 secs

Low pressure dosing: No
Dose amount: 0.00 cm³/g STP
Minimum equilibration delay: 0.00 hours
Maximum equilibration delay: 999.00 hours

Po type: Measured
Temperature type: Entered
Temperature: 77.35 K
Measurement interval: 120 minutes

Inside diameter of sample tube: 9.530 mm

Sample: Caulim Horii
Operator:ACVC ACVC
Submitter:ACVC-GQI ACVC
File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:51:02 Thermal Correction: No
Sample Weight: 0.4927 g Smoothed Pressures: No
Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

Summary Report

Area

Single Point Surface Area at P/Po 0.20043733 : 6.8201 m²/g
BET Surface Area: 7.1284 m²/g

Volume

Single Point Total Pore Volume of pores less than
664.9979 A Diameter at P/Po 0.97002509: 0.021838 cm³/g

Pore Size

Average Pore Diameter (4V/A by BET): 122.5430 A

Sample: Caulim Horii
 Operator: ACVC ACVC
 Submitter: ACVC-GQI ACVC
 File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
 Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:51:02 Thermal Correction: No
 Sample Weight: 0.4927 g Smoothed Pressures: No
 Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| | | | 00:34 | 710.13177 |
| 0.010606586 | 7.53207 | 1.2094 | 00:43 | |
| 0.033650893 | 23.89657 | 1.3930 | 00:45 | |
| 0.068385313 | 48.56258 | 1.5422 | 00:46 | |
| 0.080251977 | 56.98948 | 1.5857 | 00:47 | |
| 0.100270222 | 71.20507 | 1.6539 | 00:48 | |
| 0.120267645 | 85.40588 | 1.7199 | 00:50 | |
| 0.140283117 | 99.61950 | 1.7843 | 00:51 | |
| 0.160324804 | 113.85174 | 1.8503 | 00:53 | |
| 0.180358337 | 128.07819 | 1.9123 | 00:54 | |
| 0.200437326 | 142.33691 | 1.9594 | 00:55 | |
| 0.250124970 | 177.62169 | 2.0891 | 00:56 | |
| 0.300288858 | 213.24466 | 2.2669 | 00:58 | |
| 0.350375670 | 248.81290 | 2.4670 | 00:59 | |
| 0.400402663 | 284.33865 | 2.6739 | 01:00 | |
| 0.450301505 | 319.77341 | 2.8785 | 01:02 | |
| 0.500371515 | 355.32971 | 3.0765 | 01:03 | |
| 0.550277835 | 390.76978 | 3.2727 | 01:04 | |
| 0.600199539 | 426.22076 | 3.4829 | 01:06 | |
| 0.650128163 | 461.67667 | 3.7260 | 01:07 | |
| 0.700198431 | 497.23315 | 4.0174 | 01:08 | |
| 0.750008573 | 532.60492 | 4.3962 | 01:10 | |
| 0.799902345 | 568.03607 | 4.9134 | 01:11 | |
| 0.820674857 | 582.78729 | 5.2008 | 01:13 | |
| 0.850319546 | 603.83893 | 5.7011 | 01:14 | |
| 0.874855595 | 621.26276 | 6.2636 | 01:16 | |
| 0.899807466 | 638.98187 | 7.0557 | 01:18 | |
| 0.924202300 | 656.30542 | 8.2373 | 01:20 | |
| 0.948015260 | 673.21576 | 10.2658 | 01:23 | |
| 0.970025095 | 688.84564 | 14.1185 | 01:28 | |
| 0.980693091 | 696.42133 | 17.7681 | 01:32 | |
| 0.988409856 | 701.90125 | 22.6684 | 01:38 | |
| 0.992765926 | 704.99463 | 27.0082 | 01:43 | |
| 0.984379962 | 699.03949 | 24.7277 | 01:46 | |
| 0.978600748 | 694.93549 | 21.7907 | 01:51 | |
| 0.972502920 | 690.60522 | 19.0245 | 01:55 | |
| 0.954699862 | 677.96271 | 13.9055 | 02:01 | |
| 0.925934088 | 657.53522 | 10.1922 | 02:05 | |
| 0.892672233 | 633.91492 | 8.1678 | 02:08 | |
| 0.861754036 | 611.95892 | 7.0838 | 02:11 | |
| 0.834086433 | 592.31128 | 6.4159 | 02:13 | |

Sample: Caulim Horii
Operator:ACVC ACVC
Submitter:ACVC-GOI ACVC
File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:51:02 Thermal Correction: No
Sample Weight: 0.4927 g Smoothed Pressures: No
Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
Equil. Interval: 5 secs Low Pressure Dose: None

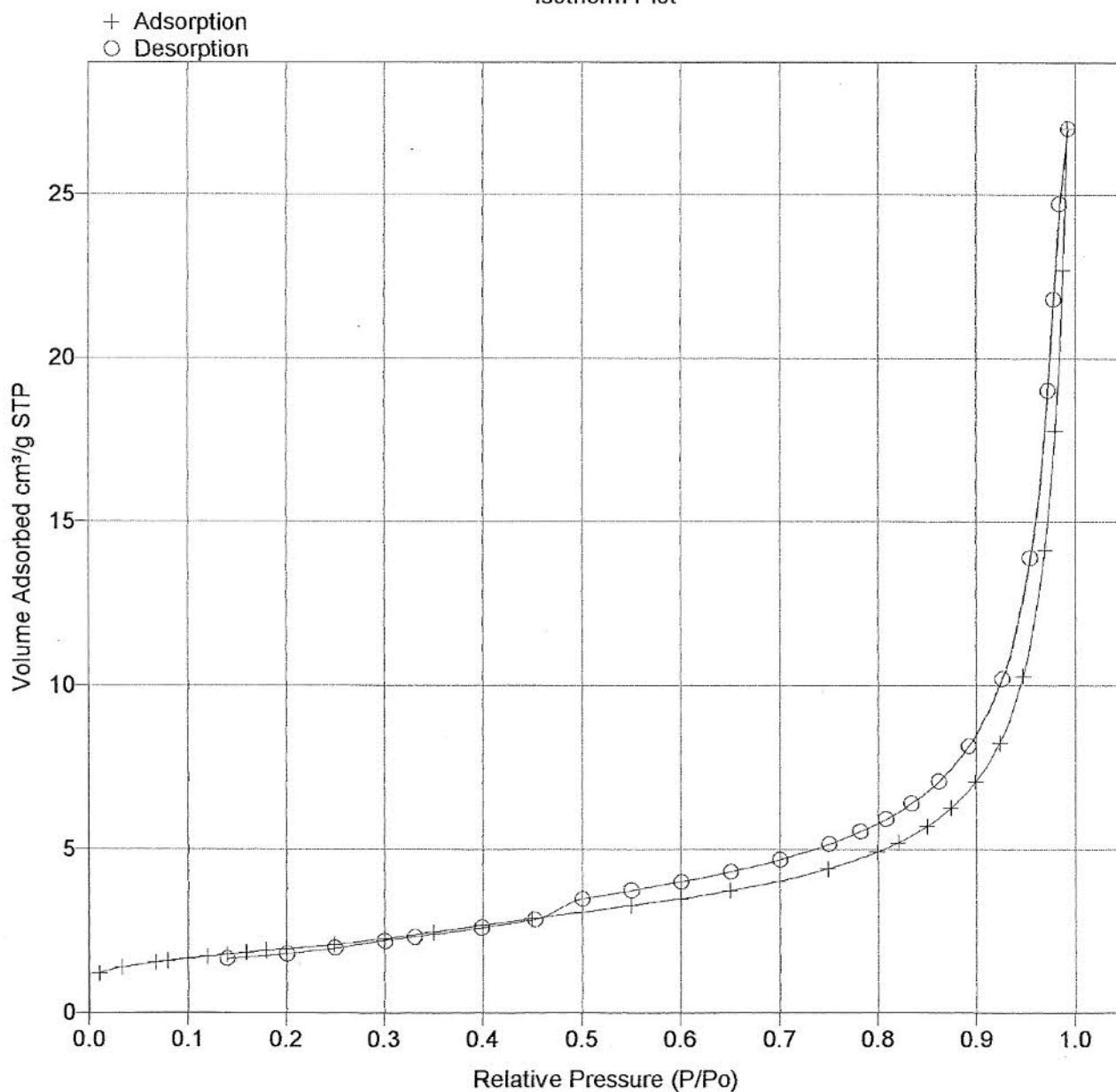
Analysis Log

| Relative Pressure | Pressure (mmHg) | Vol Adsorbed (cm ³ /g STP) | Elapsed Time (HR:MN) | Saturation Press. (mmHg) |
|-------------------|-----------------|---------------------------------------|----------------------|--------------------------|
| 0.807962733 | 573.76001 | 5.9314 | 02:14 | |
| 0.782274881 | 555.51825 | 5.5503 | 02:16 | |
| 0.750500116 | 532.95398 | 5.1652 | 02:17 | |
| 0.700303160 | 497.30753 | 4.6877 | 02:19 | |
| 0.650460614 | 461.91275 | 4.3165 | 02:20 | |
| 0.600515058 | 426.44482 | 4.0116 | 02:22 | |
| 0.550509940 | 390.93460 | 3.7400 | 02:23 | |
| 0.500343109 | 355.30954 | 3.4905 | 02:25 | |
| 0.452974607 | 321.67166 | 2.8650 | 02:26 | |
| 0.399532987 | 283.72107 | 2.6078 | 02:28 | |
| 0.331103077 | 235.12682 | 2.3262 | 02:29 | |
| 0.300516859 | 213.40657 | 2.2052 | 02:30 | |
| 0.250505101 | 177.89163 | 1.9877 | 02:31 | |
| 0.201105988 | 142.81175 | 1.8075 | 02:33 | |
| 0.140807514 | 99.99189 | 1.6563 | 02:34 | |

Sample: Caulim Horii
 Operator:ACVC ACVC
 Submitter:ACVC-GQI ACVC
 File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
 Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:51:02 Thermal Correction: No
 Sample Weight: 0.4927 g Smoothed Pressures: No
 Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

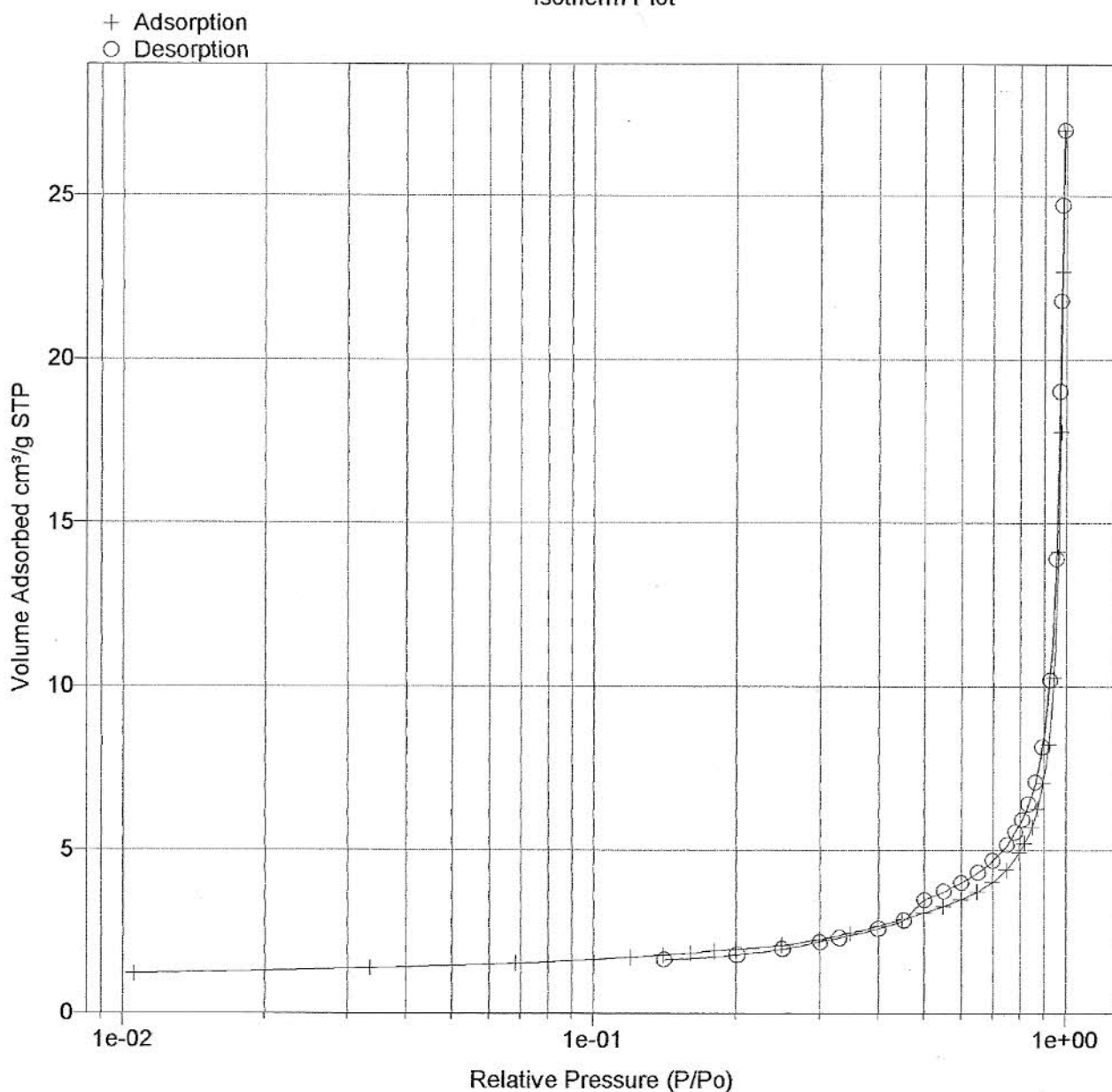
Isotherm Plot



Sample: Caulim Horii
 Operator:ACVC ACVC
 Submitter:ACVC-GQI ACVC
 File Name: C:\ASAP2010\DATA\000-043.SMP

Started: 05/30/98 08:46:16 Analysis Adsorptive: N2
 Completed: 05/30/98 11:20:24 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:51:02 Thermal Correction: No
 Sample Weight: 0.4927 g Smoothed Pressures: No
 Warm Freespace: 16.5865 cm³ Cold Freespace: 49.4401 cm³
 Equil. Interval: 5 secs Low Pressure Dose: None

Isotherm Plot



ANEXO 6

Boletim de análise da área superficial específica – Método BET – de talco utilizado pela
Cerâmica Windlin.

BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 1

Sample:Padrao SiAl Talco Magnesiano Windlin
 Operator:ACVC ACVC
 Submitter:ACVC-GOI ACVC
 File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01 Analysis Adsorptive: N2
 Completed: 05/26/98 21:44:39 Analysis Bath: 77.35 K
 Report Time: 03/15/00 16:48:38 Thermal Correction: No
 Sample Weight: 0.3233 g Smoothed Pressures: No
 Warm Freespace: 17.5362 cm³ Cold Freespace: 54.3060 cm³
 Equil. Interval: 10 secs Low Pressure Dose: None

BJH Desorption Pore Distribution Report

$$t = 3.5400 \times [-5.0000 / \ln(P/P_0)]^{0.3330}$$

Diameter Range: 17.0000 to 3000.0000 A
 Adsorbate Property Factor: 9.530000 A
 Density Conversion Factor: 0.001547
 Fraction of Pores Open at Both Ends: 0.000

| Pore Diameter Range (A) | Average Diameter (A) | Incremental Pore Volume (cm ³ /g) | Cumulative Pore Volume (cm ³ /g) | Incremental Pore Area (m ² /g) | Cumulative Pore Area (m ² /g) |
|-------------------------|----------------------|--|---|---|--|
| 3545.7- 894.6 | 1046.9 | 0.003531 | 0.003531 | 0.135 | 0.135 |
| 894.6- 488.7 | 579.6 | 0.002007 | 0.005538 | 0.139 | 0.273 |
| 488.7- 296.2 | 346.5 | 0.001249 | 0.006788 | 0.144 | 0.418 |
| 296.2- 213.7 | 241.4 | 0.000651 | 0.007438 | 0.108 | 0.525 |
| 213.7- 168.1 | 185.3 | 0.000437 | 0.007875 | 0.094 | 0.620 |
| 168.1- 138.6 | 150.4 | 0.000349 | 0.008224 | 0.093 | 0.713 |
| 138.6- 117.7 | 126.4 | 0.000261 | 0.008485 | 0.083 | 0.795 |
| 117.7- 102.2 | 108.8 | 0.000208 | 0.008694 | 0.077 | 0.872 |
| 102.2- 90.1 | 95.3 | 0.000166 | 0.008859 | 0.069 | 0.941 |
| 90.1- 78.9 | 83.7 | 0.000189 | 0.009048 | 0.090 | 1.032 |
| 78.9- 64.7 | 70.3 | 0.000219 | 0.009267 | 0.125 | 1.156 |
| 64.7- 54.5 | 58.7 | 0.000166 | 0.009433 | 0.113 | 1.270 |
| 54.5- 46.7 | 50.0 | 0.000153 | 0.009586 | 0.122 | 1.392 |
| 46.7- 40.5 | 43.1 | 0.000119 | 0.009705 | 0.110 | 1.502 |
| 40.5- 33.6 | 36.3 | 0.000203 | 0.009907 | 0.223 | 1.725 |
| 33.6- 29.6 | 31.3 | 0.000186 | 0.010093 | 0.238 | 1.963 |
| 29.6- 26.1 | 27.6 | 0.000079 | 0.010173 | 0.115 | 2.077 |
| 26.1- 23.1 | 24.4 | 0.000092 | 0.010264 | 0.150 | 2.228 |
| 23.1- 20.3 | 21.5 | 0.000274 | 0.010539 | 0.510 | 2.738 |
| 20.3- 17.8 | 18.9 | 0.000241 | 0.010780 | 0.510 | 3.248 |

BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 2

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GOI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

Smoothed Pressures: No

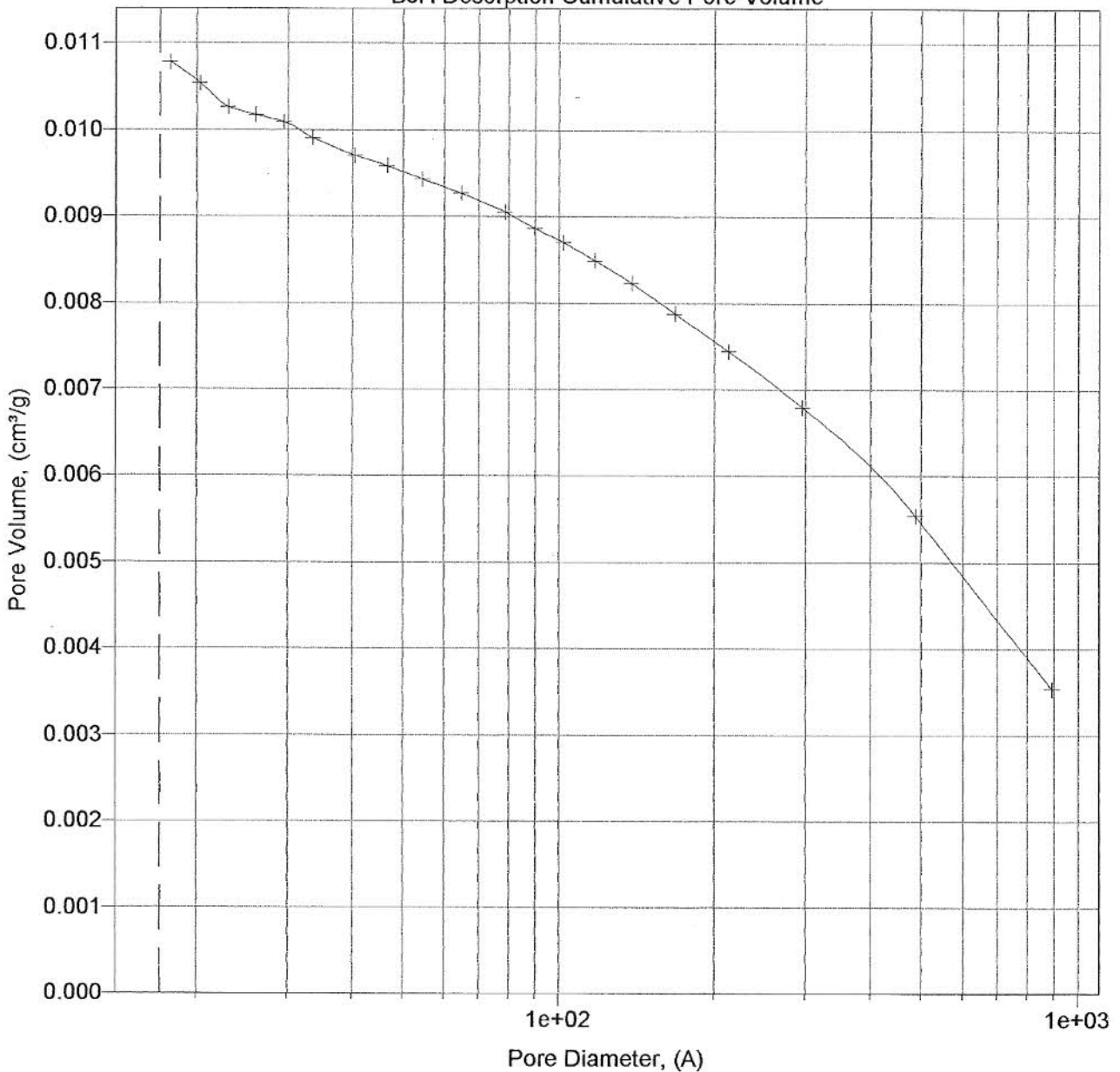
Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None

BJH Desorption Cumulative Pore Volume



BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 3

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GQI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

Smoothed Pressures: No

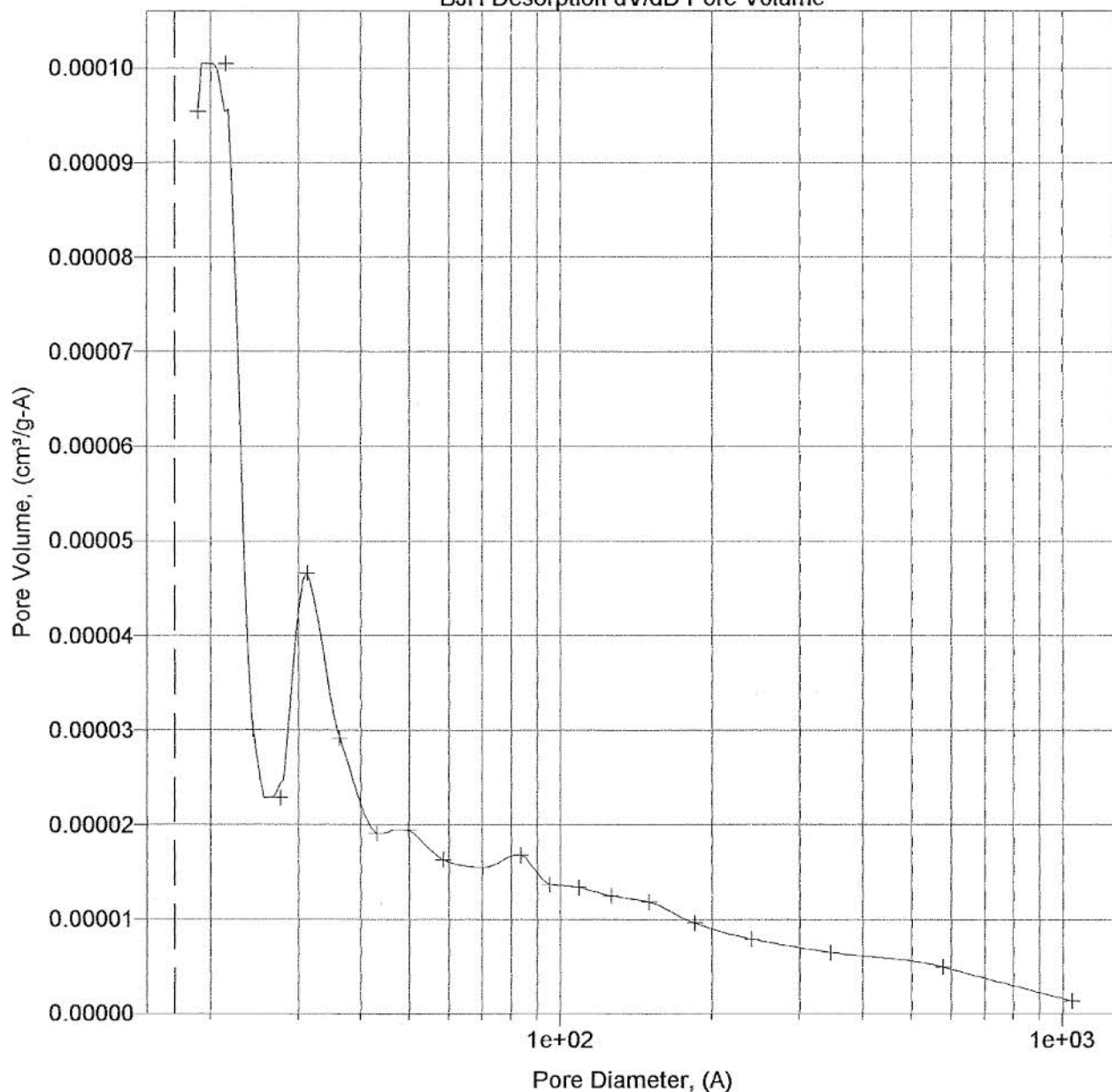
Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None

BJH Desorption dV/dD Pore Volume



BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 4

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GQI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

Smoothed Pressures: No

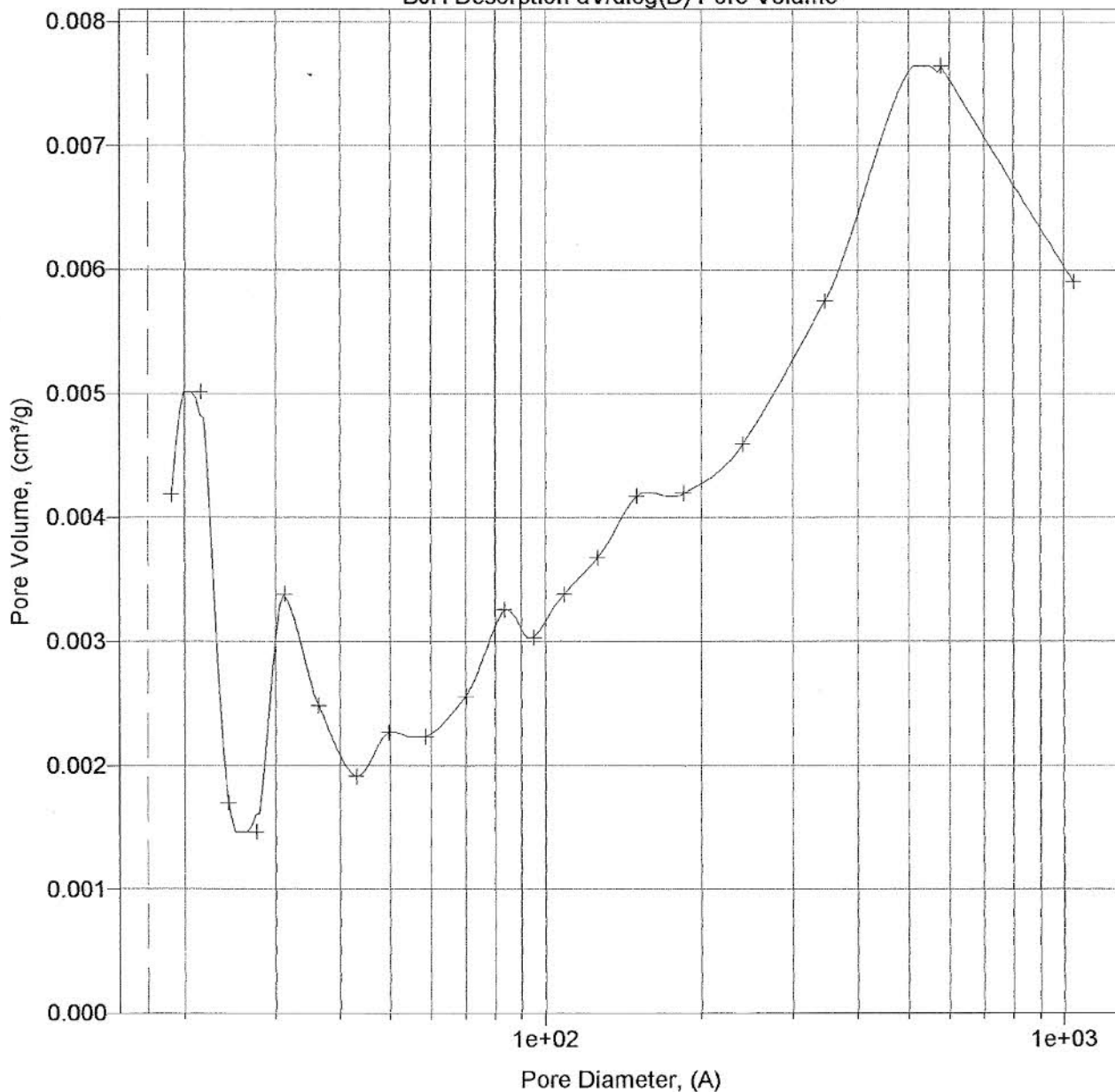
Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None

BJH Desorption dV/dlog(D) Pore Volume



BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 5

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GOI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

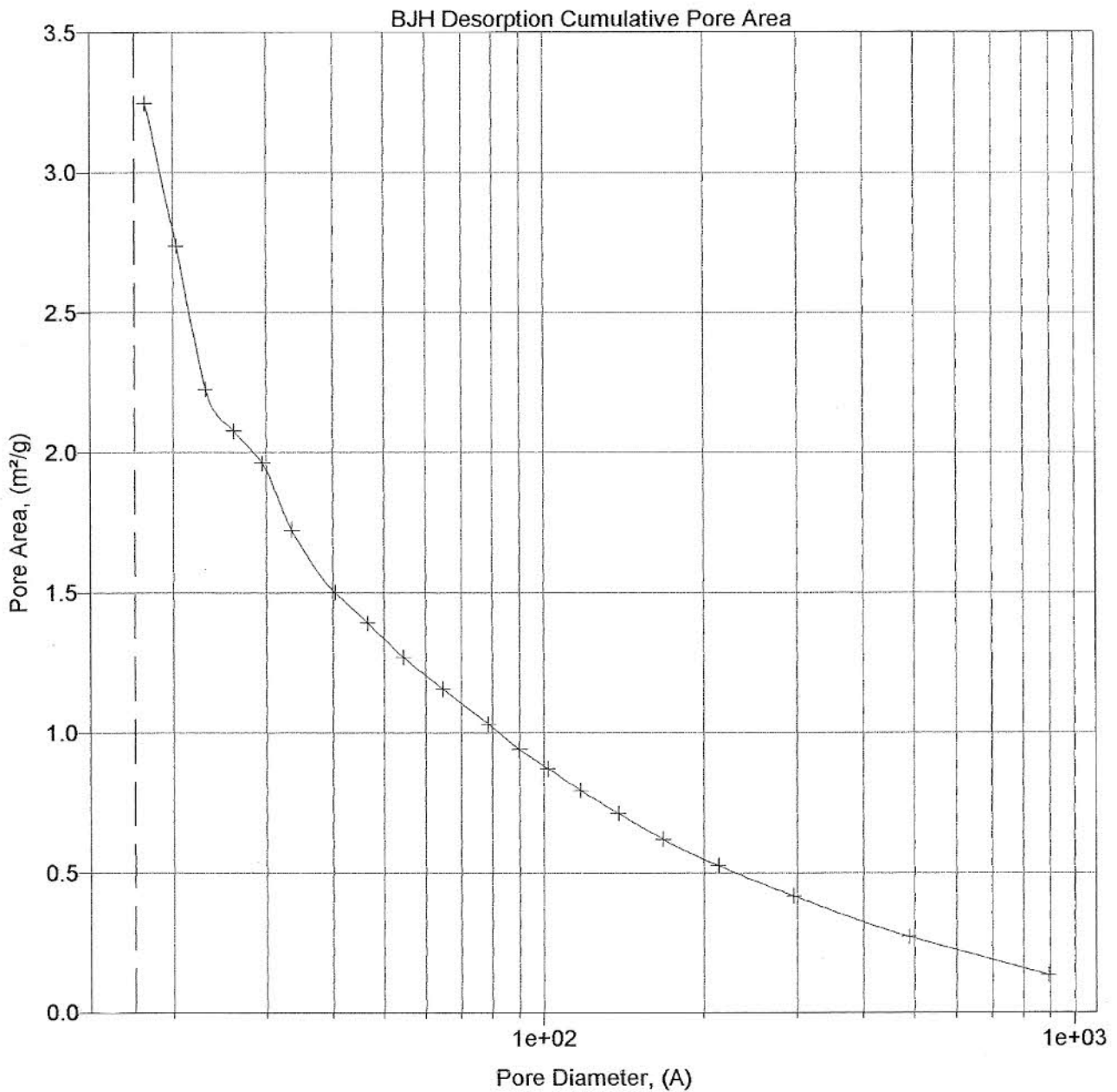
Smoothed Pressures: No

Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None



BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 6

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GOI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

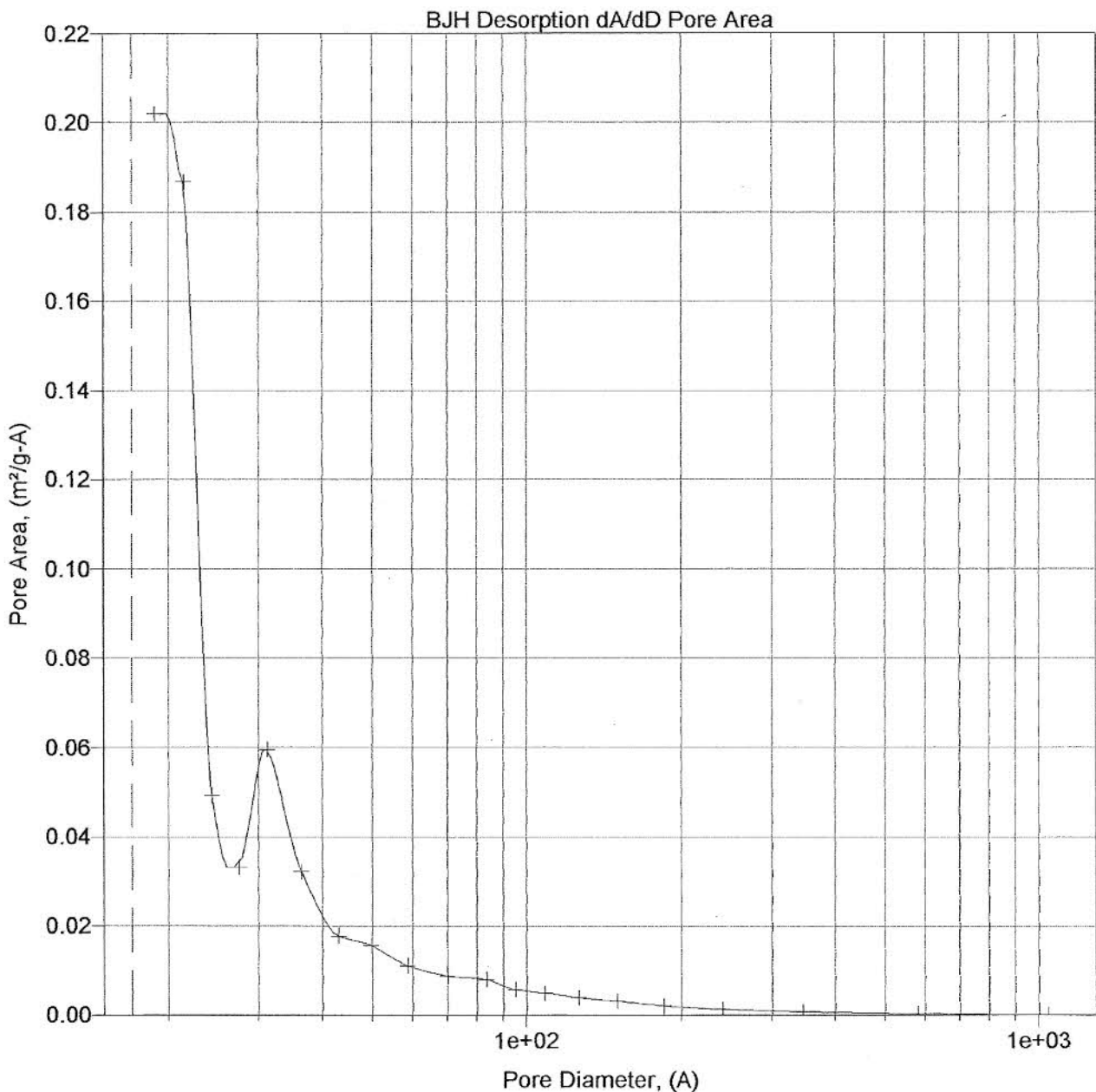
Smoothed Pressures: No

Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None



BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 7

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GQI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

Smoothed Pressures: No

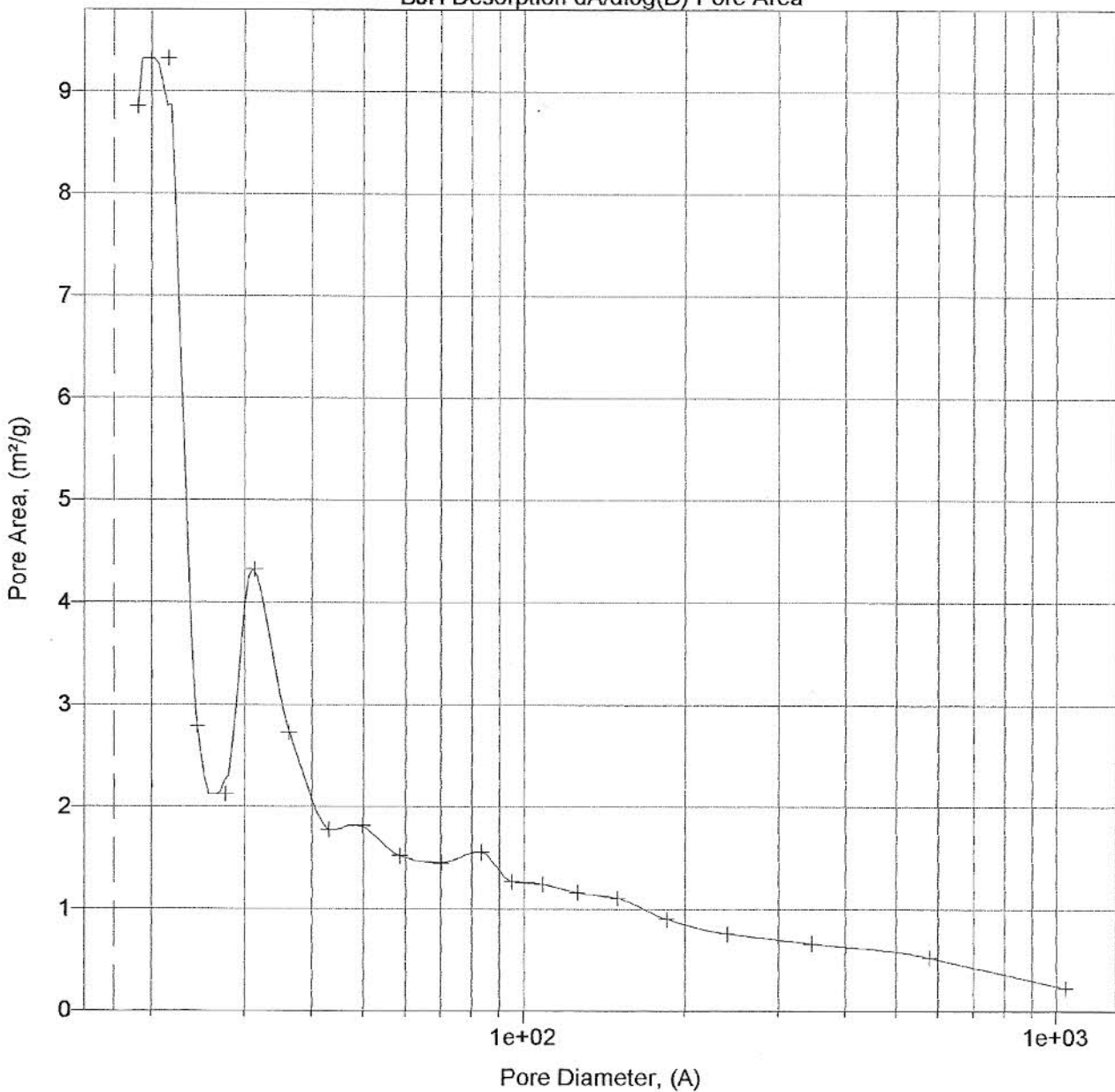
Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None

BJH Desorption dA/dlog(D) Pore Area



BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 8

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GOI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01 Analysis Adsorptive: N2
Completed: 05/26/98 21:44:39 Analysis Bath: 77.35 K
Report Time: 03/15/00 16:48:38 Thermal Correction: No
Sample Weight: 0.3233 g Smoothed Pressures: No
Warm Freespace: 17.5362 cm³ Cold Freespace: 54.3060 cm³
Equil. Interval: 10 secs Low Pressure Dose: None

Options Report

Analysis Adsorptive: Nitrogen
Maximum manifold pressure: 925.00 mmHg
Non-ideality factor: 0.000066
Density conversion factor: 0.0015468
Therm. tran. hard-sphere diameter: 3.860 A
Molecular cross-sectional area: 0.162 nm²

Fast evacuation: Yes
Unrestricted evac from: 5.0 mmHg
Leak test: No
Leak test duration: 120 secs
Evacuation time: 0.1 hours
Backfill Gas: Analysis
Equilibration interval: 10 secs
Maximum volume increment: No
Target tolerance: 5.0 % or 5.0 mmHg
Min. equil. delay at P/Po >= 0.995: 600 secs

Free space group: Measured
Lower dewar after free space: Yes
Evacuation time: 0.5 hours
Leak test: Yes
Leak test duration: 180 secs

Low pressure dosing: No
Dose amount: 0.00 cm³/g STP
Minimum equilibration delay: 0.00 hours
Maximum equilibration delay: 999.00 hours

Po type: Measured
Temperature type: Entered
Temperature: 77.35 K
Measurement interval: 120 minutes

Inside diameter of sample tube: 9.530 mm

BJH Desorption Reports

ASAP 2010 V3.00 G

Unit 1

Serial # 1038

Page 9

Sample:Padrao SiAl Talco Magnesiano Windlin

Operator:ACVC ACVC

Submitter:ACVC-GQI ACVC

File Name: C:\ASAP2010\DATA\000-035.SMP

Started: 05/26/98 17:36:01

Analysis Adsorptive: N2

Completed: 05/26/98 21:44:39

Analysis Bath: 77.35 K

Report Time: 03/15/00 16:48:38

Thermal Correction: No

Sample Weight: 0.3233 g

Smoothed Pressures: No

Warm Freespace: 17.5362 cm³

Cold Freespace: 54.3060 cm³

Equil. Interval: 10 secs

Low Pressure Dose: None

Summary Report

Area

| | | |
|--|--------|-------------------|
| Single Point Surface Area at P/Po 0.20035800 : | 2.4362 | m ² /g |
| BJH Desorption Cumulative Surface Area of pores between 17.000000 and 3000.000000 A Diameter: | 3.2477 | m ² /g |

Volume

| | | |
|---|----------|--------------------|
| Single Point Total Pore Volume of pores less than 763.7398 A Diameter at P/Po 0.97398670: | 0.006143 | cm ³ /g |
| BJH Desorption Cumulative Pore Volume of pores between 17.000000 and 3000.000000 A Diameter: | 0.010780 | cm ³ /g |

Pore Size

| | | |
|---|----------|---|
| Average Pore Diameter (4V/A by SINGLE POINT): | 100.8552 | A |
| BJH Desorption Average Pore Diameter (4V/A): | 132.7687 | A |

ANEXO 7

Resultado de teste de estabilidade térmica e estática a 175°C comparativo entre filito e
carbonato de cálcio



ESTABILIDADE TÉRMICA ESTÁTICA À 175°C FORMULAÇÃO – BOLA PROMOCIONAL

| | FILITO | CALCITA |
|----------|--------|---------|
| Original | | |
| 05' | | |
| 10' | | |
| 15' | | |
| 20' | | |
| 25' | | |
| 30' | | |
| 35' | | |
| 40' | | |
| 45' | | |
| 50' | | |
| 55' | | |
| 60' | | |

Referente ao plano de teste E – 605.

OPP QUÍMICA – Centro Técnico de Serviços
Rua Guairanga, 1674 – Vila Independência – São Paulo – SP – CEP 04220-020
Fone (11) 69140322 – Fax (11) 2746238

ANEXO 8

Resultado de teste de estabilidade térmica e estática a 180°C comparativo entre filito e carbonato de cálcio natural



ESTABILIDADE TÉRMICA ESTÁTICA À 180°C

| FORMULAÇÃO: BOLAS PROMOCIONAIS | | |
|--------------------------------|------------------|-----------------|
| | CALCITA # 400 | FILITO # 325 |
| Original | | |
| 05' | | |
| 10' | | |
| 15' | | |
| 20' | | |
| 25' | | |
| 30' | | |
| 35' | | |
| 40' | | |
| 45' | | |
| 50' | | |
| 55' | | |
| 60' | | |

Referente ao plano de teste E-605