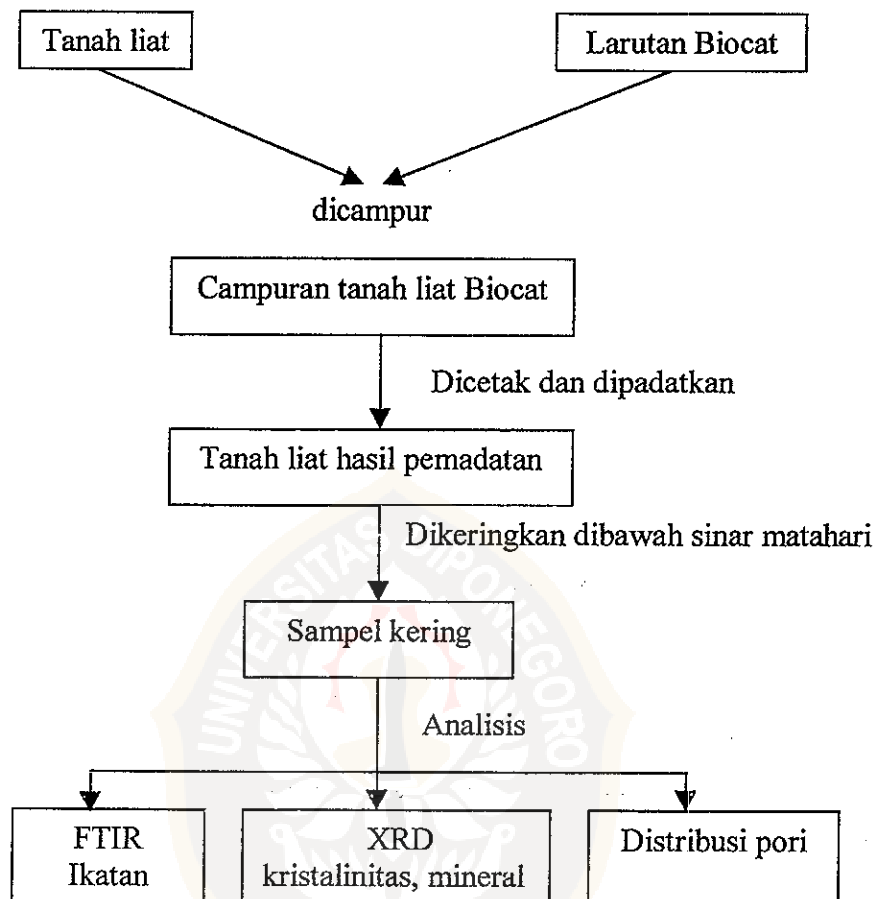


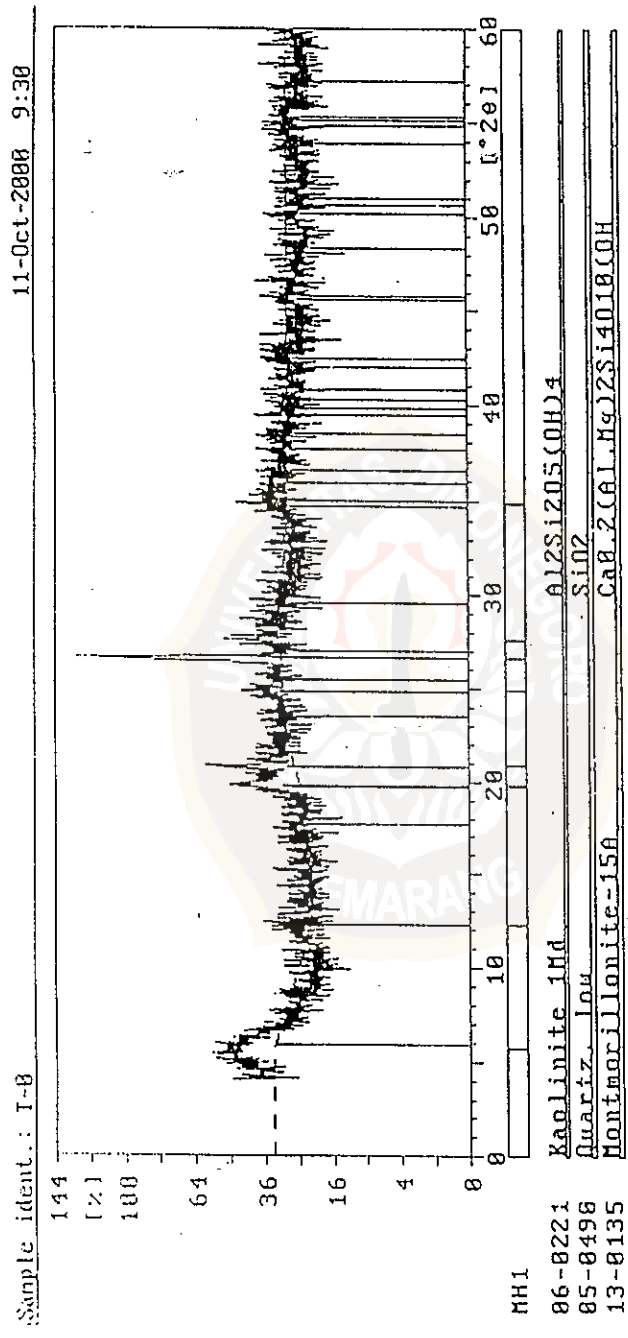
Lampiran 1.

DIAGRAM KERJA



Dilakukan hal yang sama untuk tanah liat tanpa aditif Biocat dengan pengeringan dibawah sinar matahari dan beraditif Biocat dengan pengeringan pada suhu kamar.

HASIL ANALISIS XRD



Spektra XRD tanah liat setelah pematangan, tanpa aditif Biocat dengan pengeringan dibawah sinar matahari.

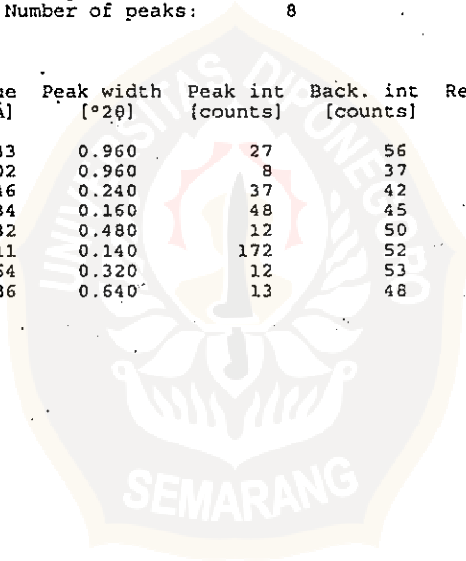
Sample identification: T-0
Data measured at: 10-Oct-2000 14:32:00

Diffractometer type: PW3710 BASED
Tube anode: Cu
Generator tension [kV]: 40
Generator current [mA]: 30
Wavelength Alpha1 [Å]: 1.54056
Wavelength Alpha2 [Å]: 1.54439
Intensity ratio (alpha2/alpha1): 0.500
Divergence slit: 1°
Receiving slit: 0.2
Monochromator used: NO

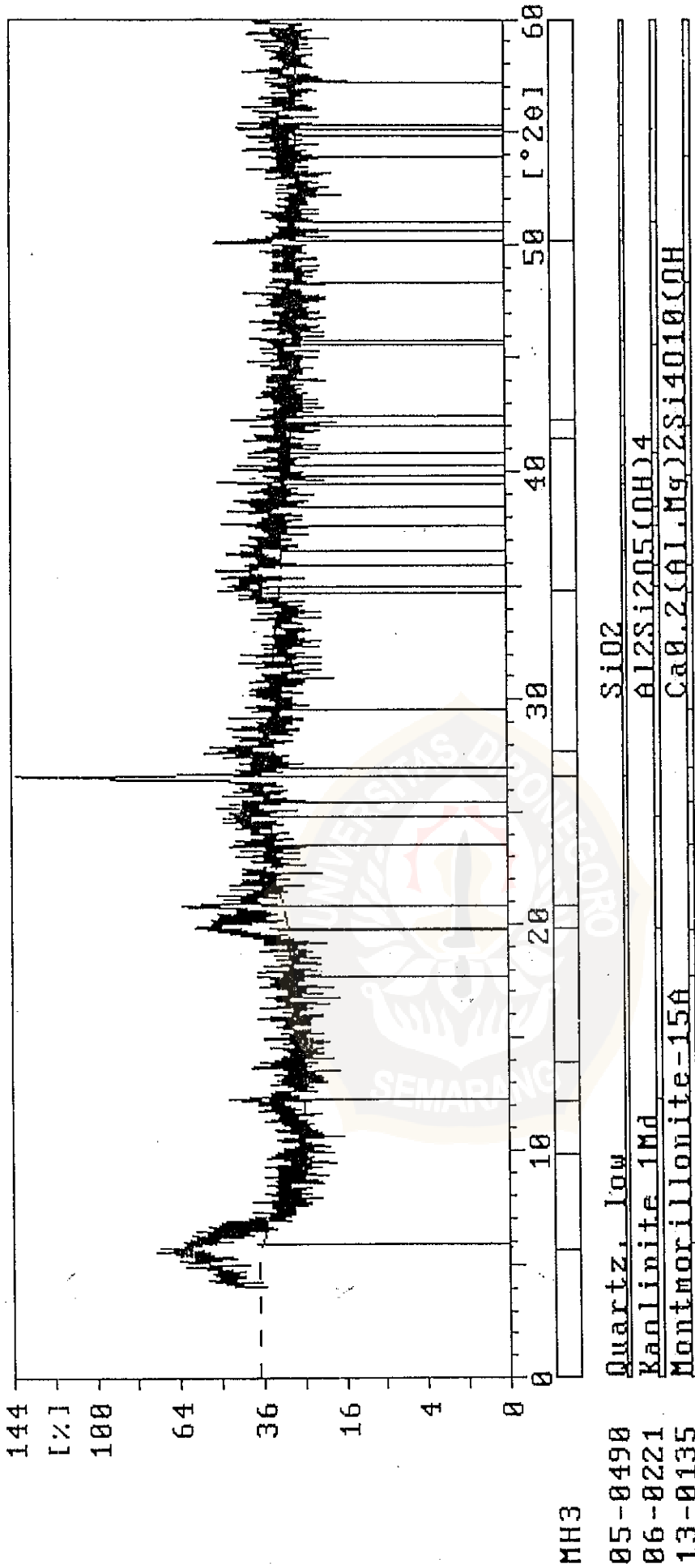
Start angle [°2θ]: 4.010
End angle [°2θ]: 59.950
Step size [°2θ]: 0.020
Maximum intensity: 171.6100
Time per step [s]: 0.100
Type of scan: CONTINUOUS

Minimum peak tip width: 0.00
Maximum peak tip width: 1.00
Peak base width: 2.00
Minimum significance: 0.75
Number of peaks: 8

Angle [°2θ]	d-value α1 [Å]	d-value α2 [Å]	Peak width [°2θ]	Peak int [counts]	Back. int [counts]	Rel. int [%]	Signif.
5.710	15.4648	15.5033	0.960	27	56	15.8	2.46
12.245	7.2222	7.2402	0.960	8	37	4.9	1.98
19.830	4.4735	4.4846	0.240	37	42	21.7	1.19
20.870	4.2529	4.2634	0.160	48	45	27.7	1.03
24.890	3.5744	3.5832	0.480	12	50	7.1	1.63
26.645	3.3428	3.3511	0.140	172	52	100.0	3.19
27.695	3.2184	3.2264	0.320	12	53	7.1	1.42
34.850	2.5723	2.5786	0.640	13	48	7.6	0.79



Sample ident.: T-B



Spektra XRD tanah liat setelah pemadatan, beraditif Biocat dengan pengeringan pada suhu kamar.

Sample identification: T-B

Data measured at: 10-Oct-2000 14:44:00

Diffractometer type: PW3710 BASED

Tube anode: Cu

Generator tension [kV]: 40

Generator current [mA]: 30

Wavelength Alpha1 [Å]: 1.54056

Wavelength Alpha2 [Å]: 1.54439

Intensity ratio (alpha2/alpha1): 0.500

Divergence slit: 1°

Receiving slit: 0.2

Monochromator used: NO

Start angle [°2θ]: 4.010

End angle [°2θ]: 59.950

Step size [°2θ]: 0.020

Maximum intensity: 158.7600

Time per step [s]: 0.100

Type of scan: CONTINUOUS

Minimum peak tip width: 0.00

Maximum peak tip width: 1.00

Peak base width: 2.00

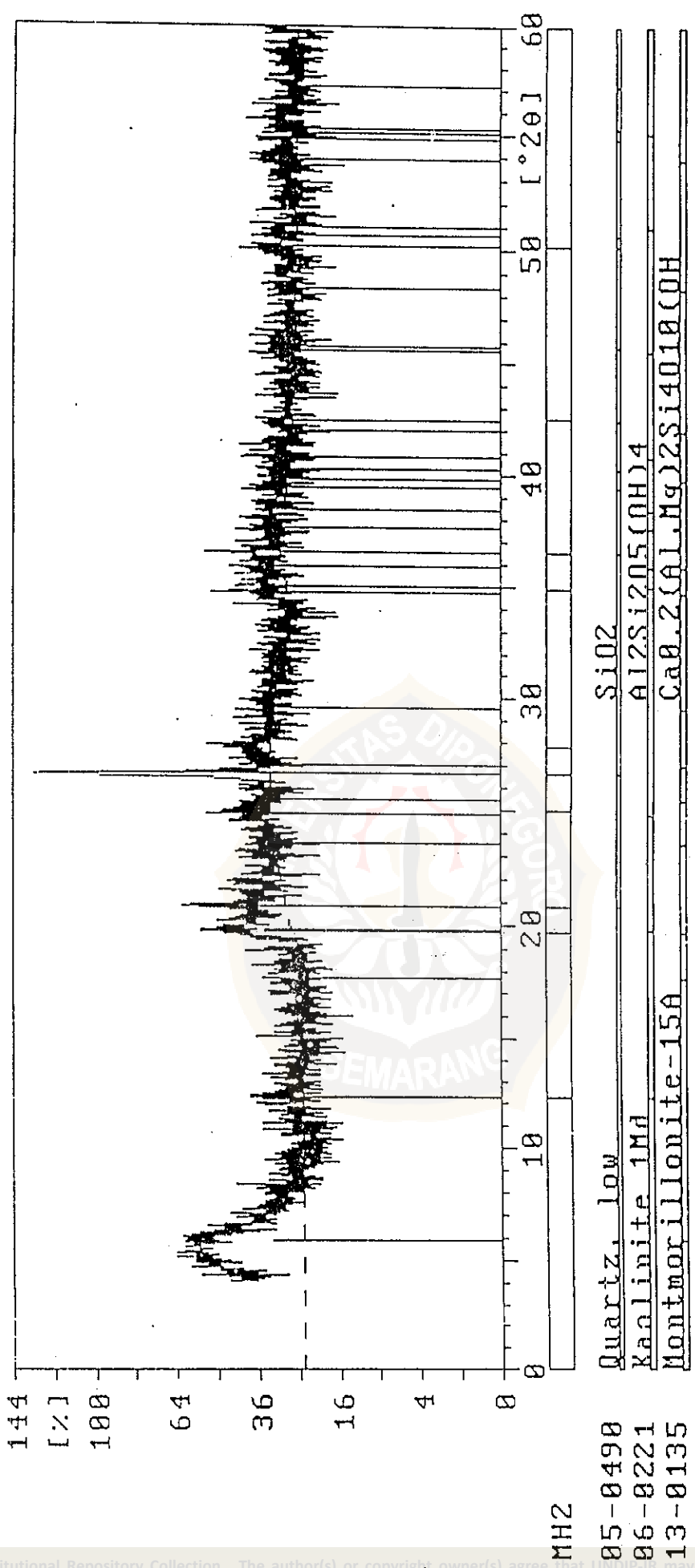
Minimum significance: 0.75

Number of peaks: 12

Angle [°2θ]	d-value α1 [Å]	d-value α2 [Å]	Peak width [°2θ]	Peak int [counts]	Back. int [counts]	Rel. int [I]	Signif.
5.620	15.7123	15.7513	0.400	37	59	23.4	1.05
9.840	8.9813	9.0036	0.280	4	41	2.3	0.92
12.205	7.2458	7.2638	0.480	18	40	12.1	2.01
13.910	6.3612	6.3770	0.400	7	40	4.3	0.96
19.810	4.4780	4.4891	0.400	37	45	23.4	1.73
20.830	4.2610	4.2715	0.160	46	48	29.1	1.01
26.610	3.3471	3.3554	0.140	159	56	100.0	1.07
27.730	3.2144	3.2224	0.450	9	55	5.7	0.88
34.825	2.5740	2.5804	0.640	12	49	7.7	0.80
41.440	2.1772	2.1826	0.400	6	44	3.0	0.78
42.320	2.1339	2.1392	0.060	18	44	11.1	0.86
50.125	1.8184	1.8229	0.080	37	41	22.4	0.86

Sample ident.: T-2

11-Oct-2000 9:31



Spektra XRD tanah liat setelah pemadatan, beraditif Biocat dengan pengeringan dibawah sinar matahari.

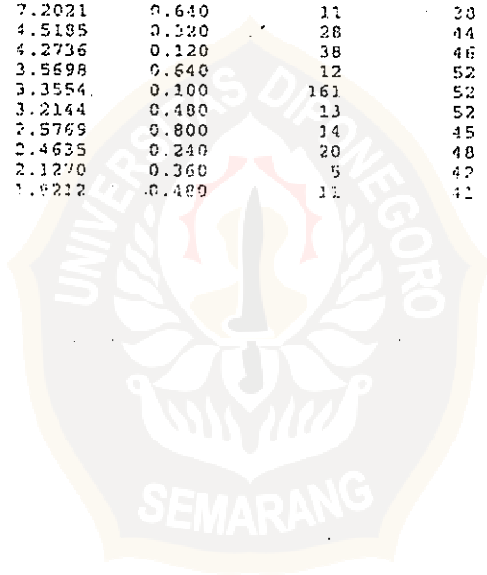
Sample identification: T-2
Data measured at: 10-Oct-2000 14:38:00

Diffractometer type: PW3710 BASED
Tube anode: Cu
Generator tension [kV]: 40
Generator current [mA]: 30
Wavelength Alpha1 [Å]: 1.54056
Wavelength Alpha2 [Å]: 1.54439
Intensity ratio (alpha2/alpha1): 0.500
Divergence slit: 1°
Receiving slit: 0.2
Monochromator used: NO

Start angle [°2θ]: 4.010
End angle [°2θ]: 59.950
Step size [°2θ]: 0.020
Maximum intensity: 161.2900
Time per step [s]: 0.100
Type of scan: CONTINUOUS

Minimum peak tip width: 0.00
Maximum peak tip width: 1.00
Peak base width: 2.00
Minimum significance: 0.75
Number of peaks: 10

Angle [°2θ]	d-value 01 [Å]	d-value 02 [Å]	Peak width [°2θ]	Peak int [counts]	Back. int [counts]	Rel. int [%]	Signif.
12.330	7.1982	7.2021	0.640	11	23	6.8	0.77
19.695	4.5373	4.5195	0.320	28	44	17.4	0.95
20.820	4.3630	4.2736	0.120	38	46	23.8	1.39
24.985	3.5610	3.5698	0.640	12	52	7.5	0.94
26.610	3.3471	3.3554	0.100	161	52	100.0	2.03
27.890	3.2065	3.2144	0.480	13	52	8.0	0.78
34.875	2.5705	2.5769	0.800	14	45	9.0	1.48
36.535	2.4574	2.4635	0.240	20	48	12.6	0.84
42.575	2.1217	2.1270	0.360	5	47	2.3	1.05
50.175	1.8167	1.8212	0.480	11	41	6.5	0.81



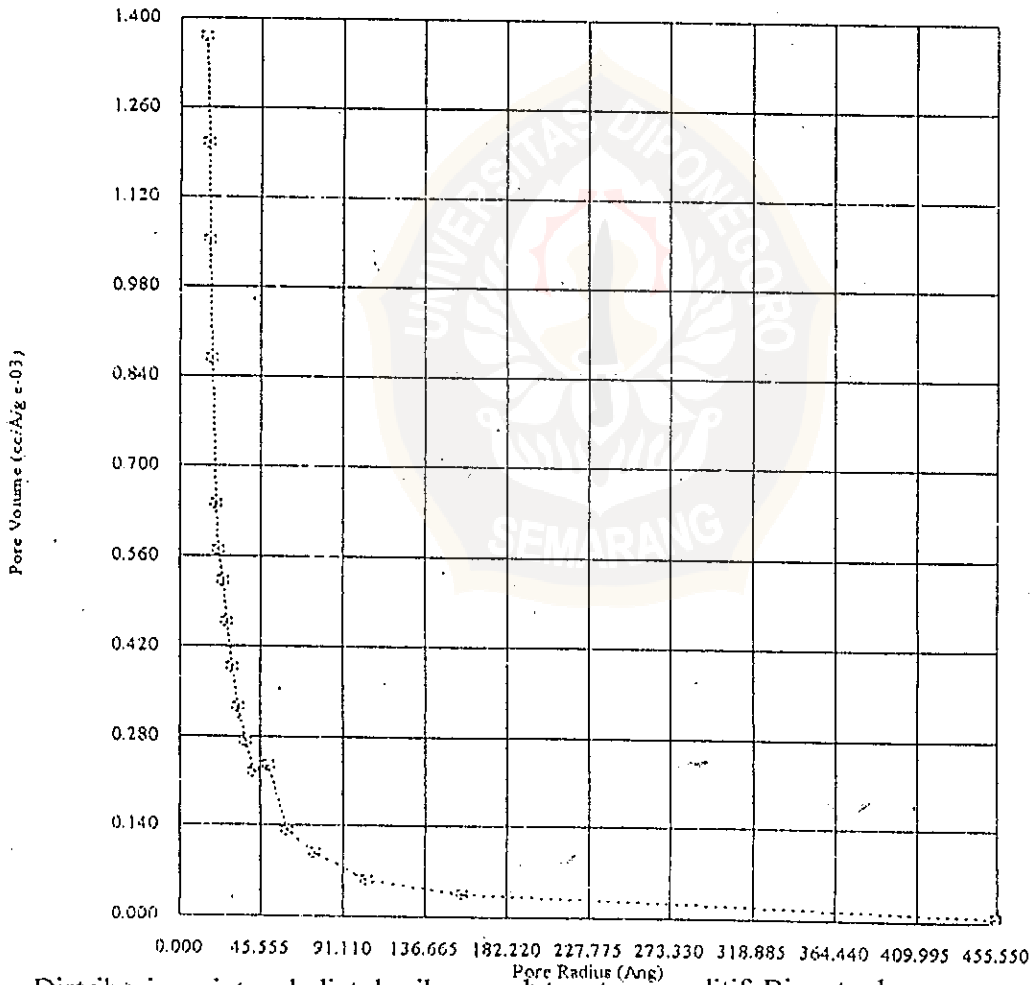
Lampiran 3.

HASIL ANALISIS DISTRIBUSI PORI

Quantachrome Corporation
NOVA Data Analysis Package Ver. 2.00
File Name = lem21-9.dat

User ID	= Rudi	User Setup	= 5
Sample ID	= Lempung	Sample Cell Number	= 4
Sample Weight	= 0.5669 g	Sample Volume	= 0.5669 cc
Sample Density	= 1.0000 g/cc		
Po Type	= User	Po	= 750.61 mm Hg
Adsorbate	= N2	Bath Temperature	= 77.40 deg K
Adsorption Tolerance	= 0.1000 mm Hg	Desorption Tolerance	= 0.1000 mm Hg
Adsorption Equil Time	= 60 sec	Desorption Equil Time	= 60 sec
Adsorption Dwell Time	= 180 sec	Desorption Dwell Time	= 180 sec
Analysis Start Time	= Fri Jan 04 12:12:58 1980	Analysis End Time	= Fri Jan 04 14:23:24 1980

DVR (Adsorption)



Distribusi pori tanah liat hasil pemedatan tanpa aditif Biocat, dengan pengeringan dibawah sinar matahari.

Quantachrome Corporation
NOVA Data Analysis Package Ver. 2.00
File Name = lem21-9.dat

User ID	= Rudi	User Setup	= 5
Sample ID	= Lempung	Sample Cell Number	= 4
Sample Weight	= 0.5669 g	Sample Volume	= 0.5669 cc
Sample Density	= 1.0000 g/cc		
Pc Type	= User	Po	= 750.61 mm Hg
Adsorbate	= N2	Bath Temperature	= 77.40 deg K
Adsorption Tolerance	= 0.1000 mm Hg	Desorption Tolerance	= 0.1000 mm Hg
Adsorption Equil Time	= 60 sec	Desorption Equil Time	= 60 sec
Adsorption Dwell Time	= 180 sec	Desorption Dwell Time	= 180 sec
Analysis Start Time	= Fri Jan 04 12:12:58 1980	Analysis End Time	= Fri Jan 04 14:23:24 1980

Pore Radius (Ang)	DVR (Adsorption)	
	Pore Area (sq m/kg e-03)	Pore Volume (cc/kg e-03)
455.504861	0.264583	0.006026
157.798497	4.351029	0.034329
104.486740	10.826302	0.056560
75.743742	25.802521	0.097719
59.845057	44.059404	0.131837
49.982853	94.121597	0.235223
42.253188	106.246434	0.224463
37.153647	146.416960	0.271996
33.095036	196.746436	0.325567
29.681533	260.444738	0.386520
26.834599	340.125447	0.456356
24.299629	428.464598	0.520577
22.092150	515.384390	0.569297
20.278247	631.458708	0.640244
18.725941	926.498739	0.867478
17.367456	1210.215603	1.050918
16.180635	1488.568346	1.204299
15.076218	1817.245406	1.369859

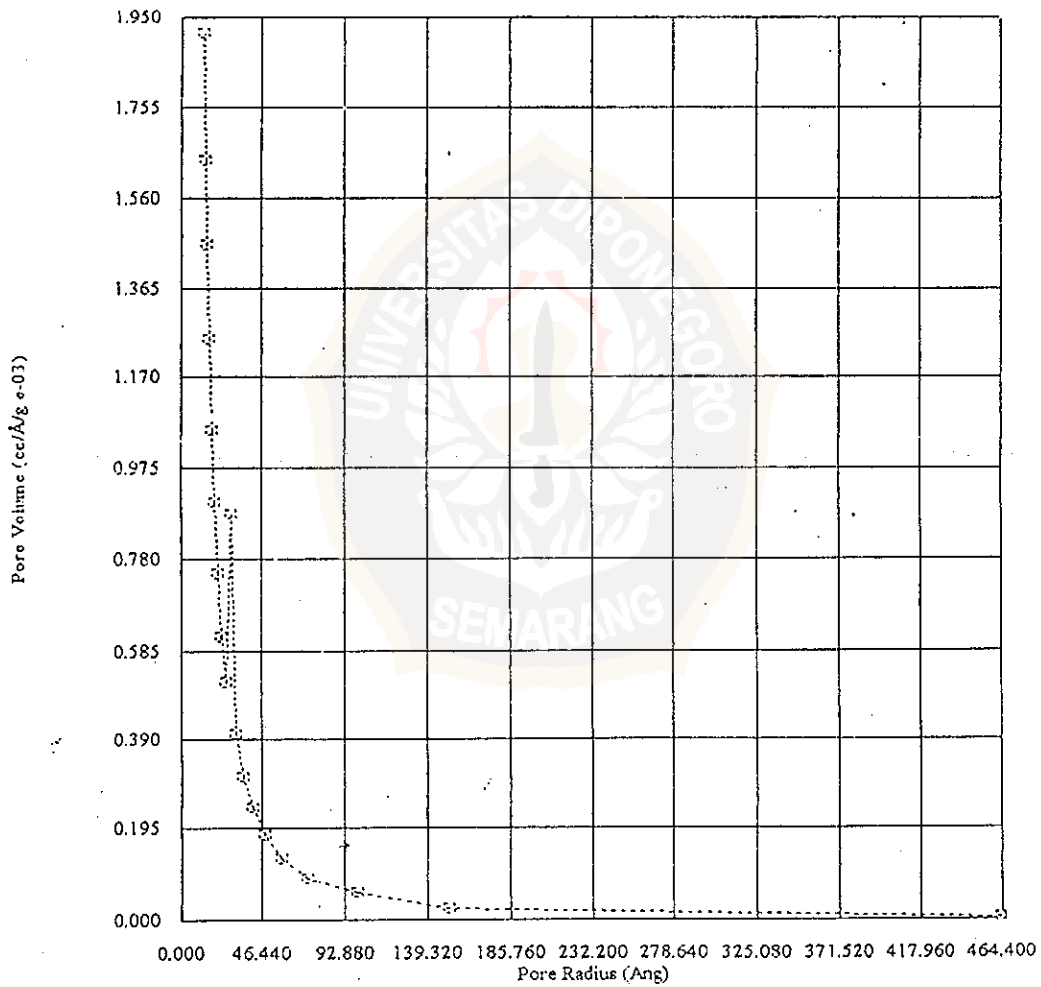
Total Pore Volume is 47.432868 e-03 cc/g for all pores less than 692.561492 Angstrom.

Average pore radius is 17.721440 Angstrom.

Quantachrome Corporation
NOVA Data Analysis Package Ver. 2.00
File Name = t-liat.dat

User ID	= Niswati	User Setup	= 6
Sample ID	= Tanah liat t'ib	Sample Cell Number	= 2
Sample Weight	= 0.4856 g	Sample Volume	= 0.1016 cc
Sample Density	= 4.7785 g/cc		
Po Type	= User	Po	= 750.38 mm Hg
Adsorbate	= N2	Bath Temperature	= 77.40 deg K
Adsorption Tolerance	= 0.1000 mm Hg	Desorption Tolerance	= 0.0000 mm Hg
Adsorption Equil Time	= 60 sec	Desorption Equil Time	= 0 sec
Adsorption Dwell Time	= 180 sec	Desorption Dwell Time	= 0 sec
Analysis Start Time	= Fri Jan 04 12:43:35 1980	Analysis End Time	= Fri Jan 04 14:38:05 1980

DVR (Adsorption)



Distribusi pori tanah liat hasil pemedatan beraditif Biocat, dengan pengeringan pada suhu kamar.

Quantachrome Corporation
NOVA Data Analysis Package Ver. 2.00
File Name = t-lit.dat

User ID	= Niswati	User Setup	= 6
Sample ID	= Tanah liat	Sample Cell Number	= 2
Sample Weight	= 0.4856 g	Sample Volume	= 0.1016 cc
Sample Density	= 4.7785 g/cc		
Po Type	= User	Po	= 750.38 mm Hg
Adsorbate	= N2	Bath Temperature	= 77.40 deg K
Adsorption Tolerance	= 0.1000 mm Hg	Desorption Tolerance	= 0.0000 mm Hg
Adsorption Equil Time	= 60 sec	Desorption Equil Time	= 0 sec
Adsorption Dwell Time	= 180 sec	Desorption Dwell Time	= 0 sec
Analysis Start Time	= Fri Jan 04 12:43:35 1980	Analysis End Time	= Fri Jan 04 14:38:05 1980

Pore Radius (Ang)	DVR (Adsorption)	
	Pore Area (sq m/Å/g e-03)	Pore Volume (cc/Å/g e-03)
464.350776	0.154441	0.003586
151.938001	2.915723	0.022150
100.140967	11.359637	0.056378
72.206475	24.171189	0.087266
57.985247	45.407372	0.131648
48.366755	74.283255	0.179642
41.475025	114.908178	0.238291
36.180159	170.285459	0.308048
31.932572	251.819565	0.402062
28.790872	606.766120	0.873466
26.182723	395.446408	0.517693
23.713199	518.661260	0.614956
21.640509	693.034987	0.749881
19.834777	907.224457	0.899730
18.312300	1150.745696	1.053640
16.944723	1478.365329	1.252525
15.714908	1857.686663	1.459669
14.639353	2241.696669	1.640849
13.649473	2808.121886	1.916469

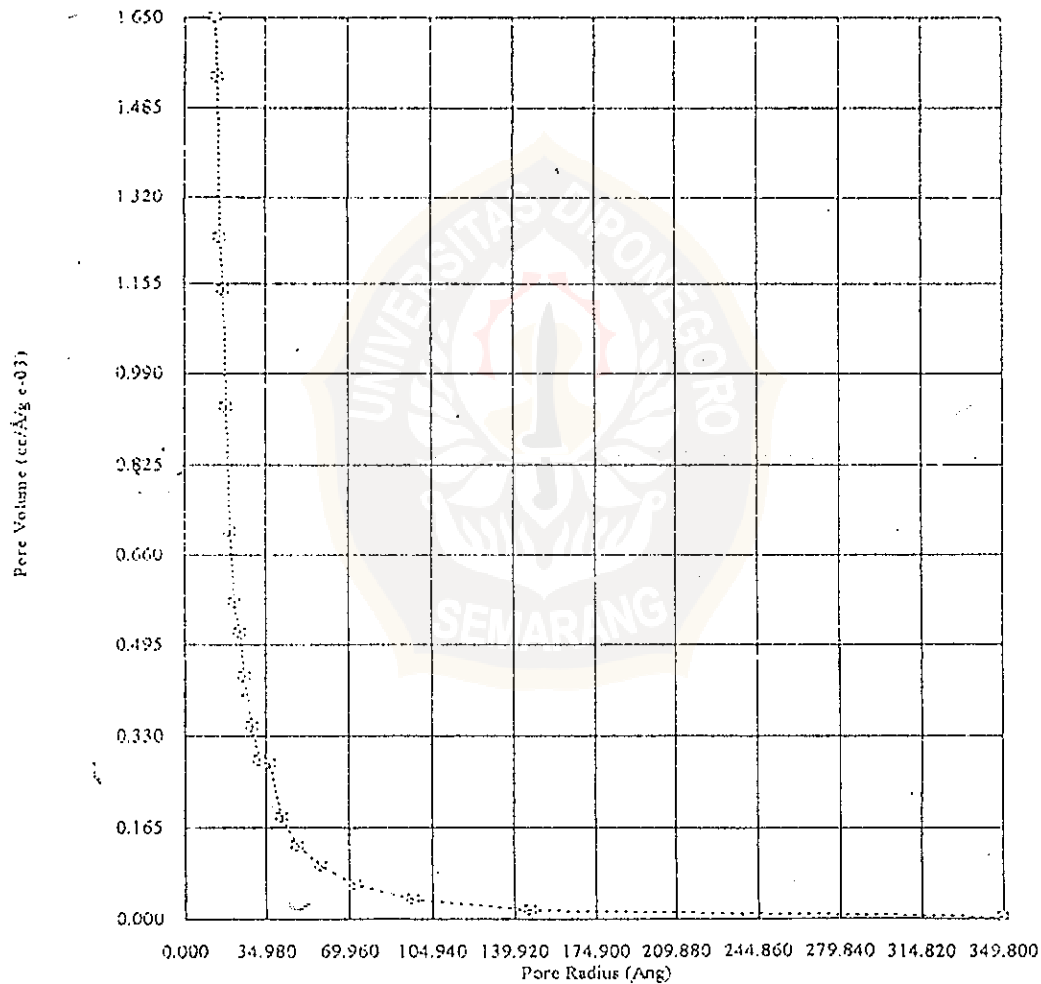
Total Pore Volume is 49.643260 e-03 cc/g for all pores less than 718.828322 Angstrom.

Average pore radius is 16.066199 Angstrom.

Quantachrome Corporation
NOVA Data Analysis Package Ver. 2.00
File Name = t-liatt2.dat

User ID	= Naswati	User Setup	= 6
Sample ID	= Tanah liat T2	Sample Cell Number	= 4
Sample Weight	= 0.6580 g	Sample Volume	= 0.0103 cc
Sample Density	= 63.8651 g/cc		
Po Type	= User	Po	= 752.34 mm Hg
Adsorbate	= N2	Bath Temperature	= 77.40 deg K
Adsorption Tolerance	= 0.1000 mm Hg	Desorption Tolerance	= 0.0000 mm Hg
Adsorption Equil Time	= 60 sec	Desorption Equil Time	= 0 sec
Adsorption Dwell Time	= 180 sec	Desorption Dwell Time	= 0 sec
Analysis Start Time	= Fri Jan 04 11:08:20 1980	Analysis End Time	= Fri Jan 04 13:07:29 1980

DVR (Adsorption)



Distribusi pori tanah liat hasil pemedatan beraditif Biocat, dengan pengeringan dibawah sinar matahari.

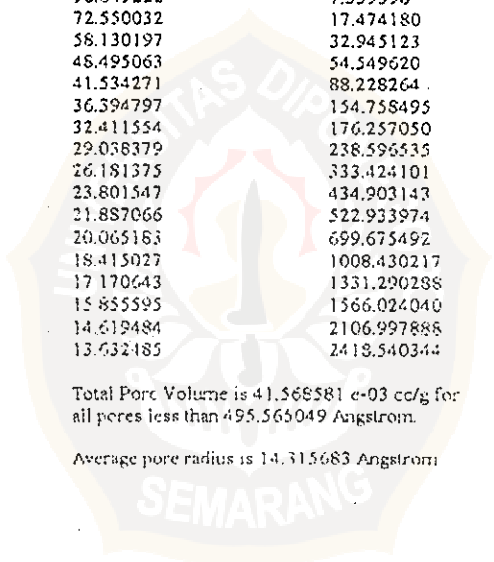
Contractor: Ge Corporation
 NOVA Data Analysis Package Ver 1.00
 File Name = t-inat2.dat

User ID	= Niswati	User Setup	= 5
Sample ID	= Tanah Inat T2	Sample Cell Number	= 4
Sample Weight	= 0.6559 g	Sample Volume	= 0.0101 cc
Sample Density	= 62.5681 g/cc		
Po Type	= User	Po	= 752.34 mm Hg
Absorbate	= N2	Bath Temperature	= 77.40 deg K
Adsorption Tolerance	= 0.1000 mm Hg	Desorption Tolerance	= 0.0000 mm Hg
Adsorption Equil Time	= 60 sec	Desorption Equil Time	= 0 sec
Adsorption Dwell Time	= 180 sec	Desorption Dwell Time	= 0 sec
Analysis Start Time	= Fri Jan 04 11:08:20 1980	Analysis End Time	= Fri Jan 04 13:07:29 1980

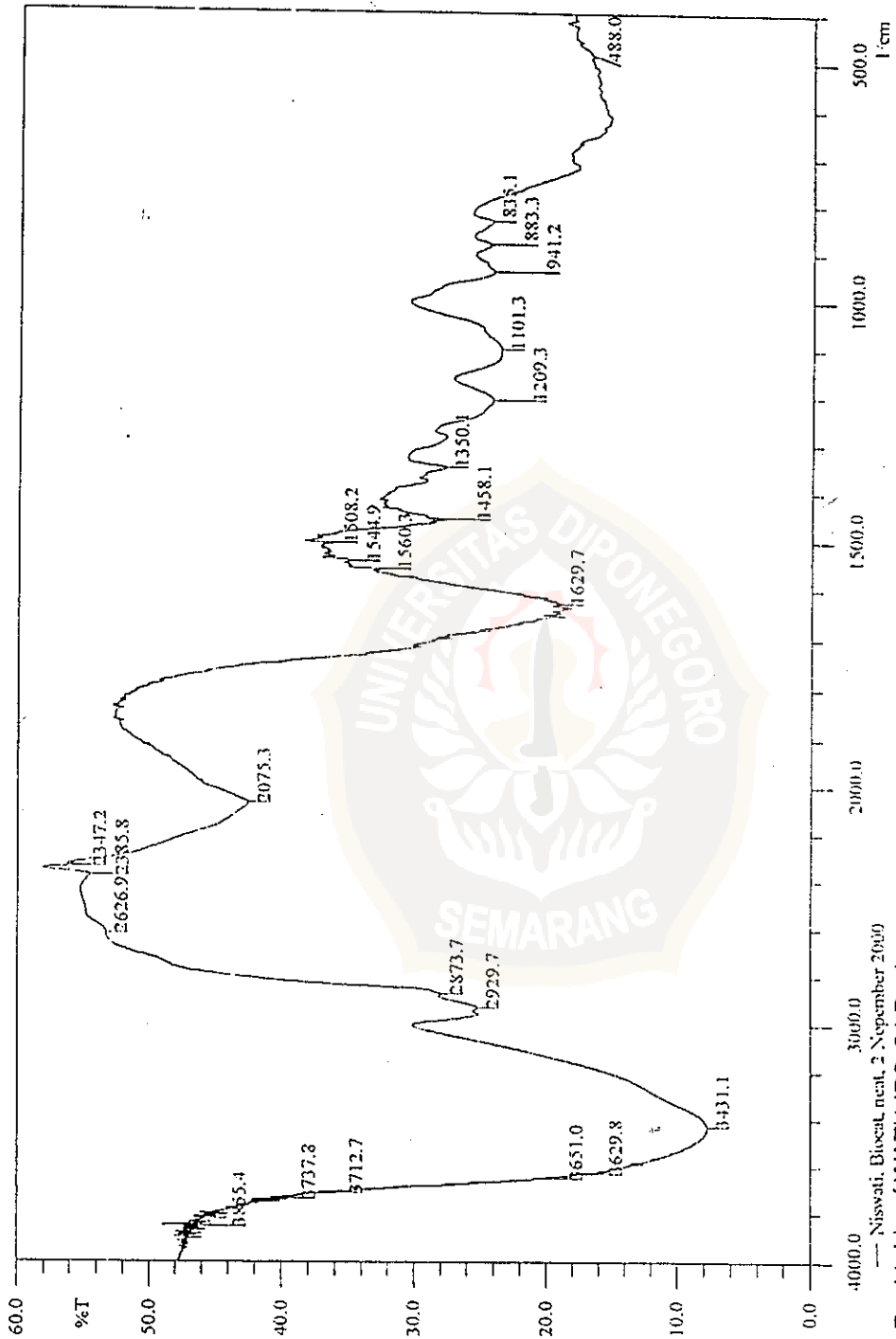
Pore Radius (Ang)	DVR (Adsorption)	
	Pore Area (sq m/kg e-03)	Pore Volume (cc/kg e-03)
349.751397	0.166332	0.002909
146.876249	2.134688	0.015677
96.849222	7.359596	0.035639
72.550032	17.474180	0.063388
58.130197	32.945123	0.095755
45.495063	54.549620	0.132269
41.534271	88.228264	0.183225
36.594797	154.758495	0.281620
32.411554	176.257050	0.285638
29.038379	238.596535	0.346423
26.181375	333.424101	0.436475
23.801547	434.903143	0.517568
21.887066	522.933974	0.572275
20.065163	699.675492	0.701956
18.415027	1008.430217	0.928513
17.170643	1331.290288	1.142956
15.855595	1566.024040	1.241512
14.619484	2106.997888	1.540161
13.632485	2418.540344	1.648536

Total Pore Volume is 41.568581 e-03 cc/g for all pores less than 495.565049 Angstrom.

Average pore radius is 14.315683 Angstrom



HASIL ANALISIS FTIR

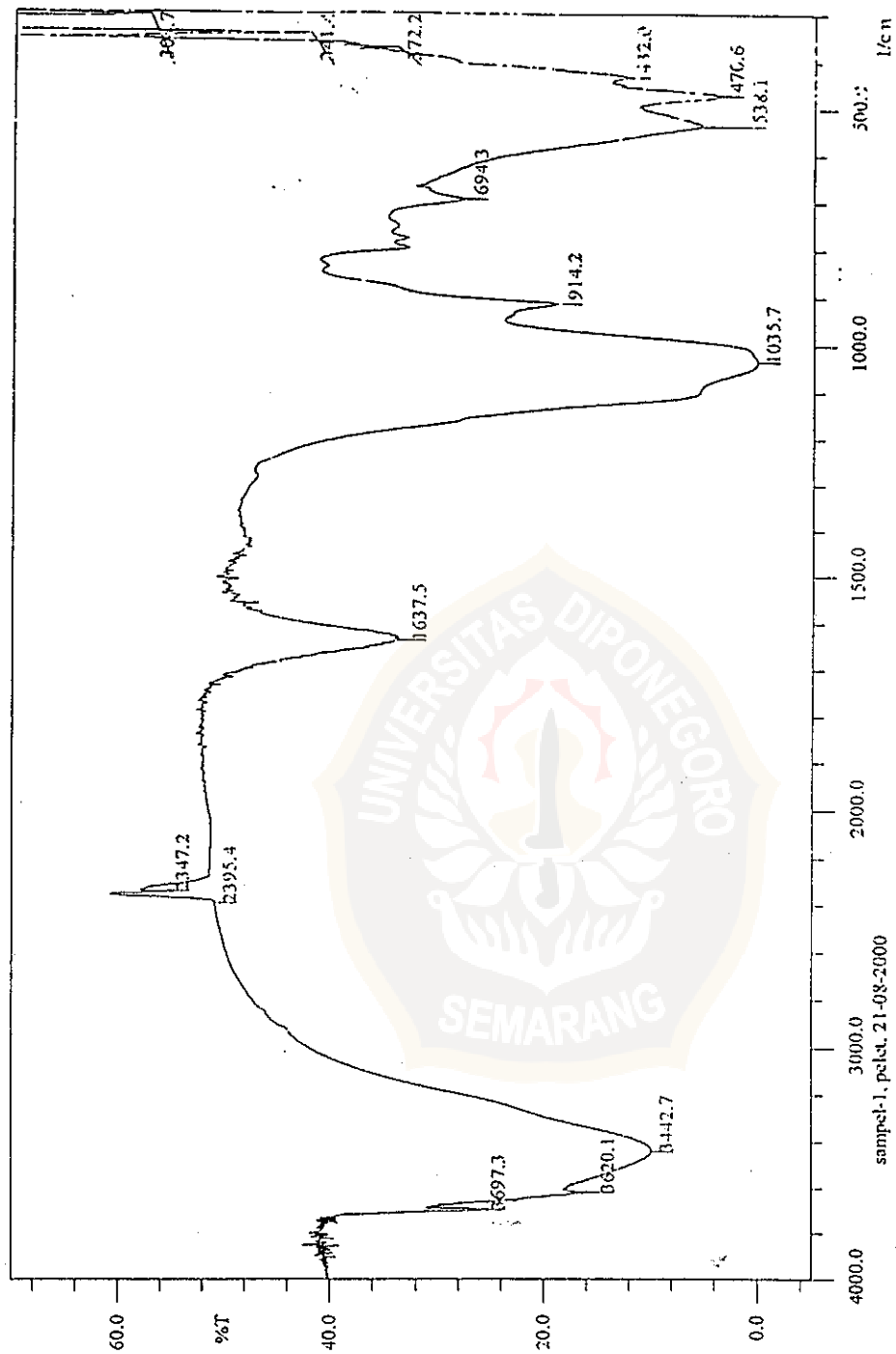


— Niswati, Biocat, neat, 2 September 2009
Peaktable of WAT1.IRS, 24 Peaks
Threshold: 80, Noise: 1, No Range Selection

Spektra FTIR Biocat

Nr.	Pos. (1/cm)	Inten. (%T)
1	488.0	16.343
2	835.1	24.245
3	883.3	24.334
4	941.2	24.126
5	1101.3	23.574
6	1209.3	24.218
7	1350.1	27.699
8	1458.1	27.570
9	1508.2	36.066
10	1544.9	35.082
11	1560.3	32.002
12	1629.7	18.878
13	2075.3	42.522
14	2347.2	54.975
15	2385.8	54.530
16	2626.9	53.315
17	2873.7	27.928
18	2929.7	25.183
19	3431.1	7.758
20	3629.8	15.767
21	3651.0	18.822
22	3712.7	35.548
23	3737.8	39.094
24	3855.4	44.269





sampel-1, pekt. 21-08-2000

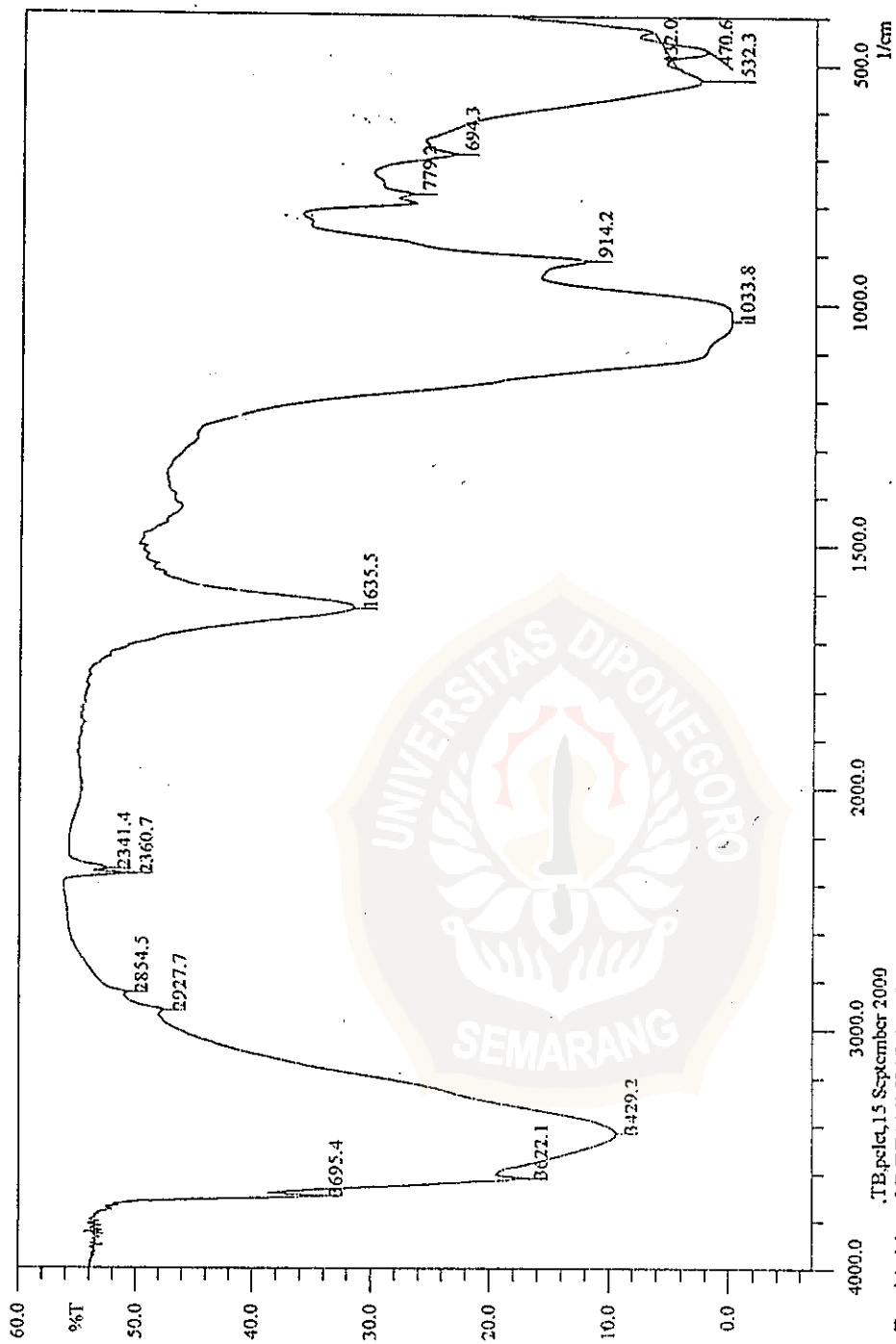
Peaktble of RUDY.IRS, 15 Peaks

Threshhold: 80, Noise: 2, No Range Selection

Spektra tanah liat hasil pematatan, tanpa aditif Biocat dengan pengeringan dibawah sinar matahari.

Nr.	Pos. (1/cm)	Inten. (%T)
1	304.7	57.286
2	341.4	42.137
3	372.2	34.011
4	432.0	12.370
5	470.6	3.715
6	538.1	5.419
7	694.3	27.666
8	914.2	18.826
9	1035.7	0.253
10	1637.5	33.250
11	2347.2	55.370
12	2395.4	50.876
13	3442.7	9.911
14	3620.1	15.459
15	3697.3	25.745



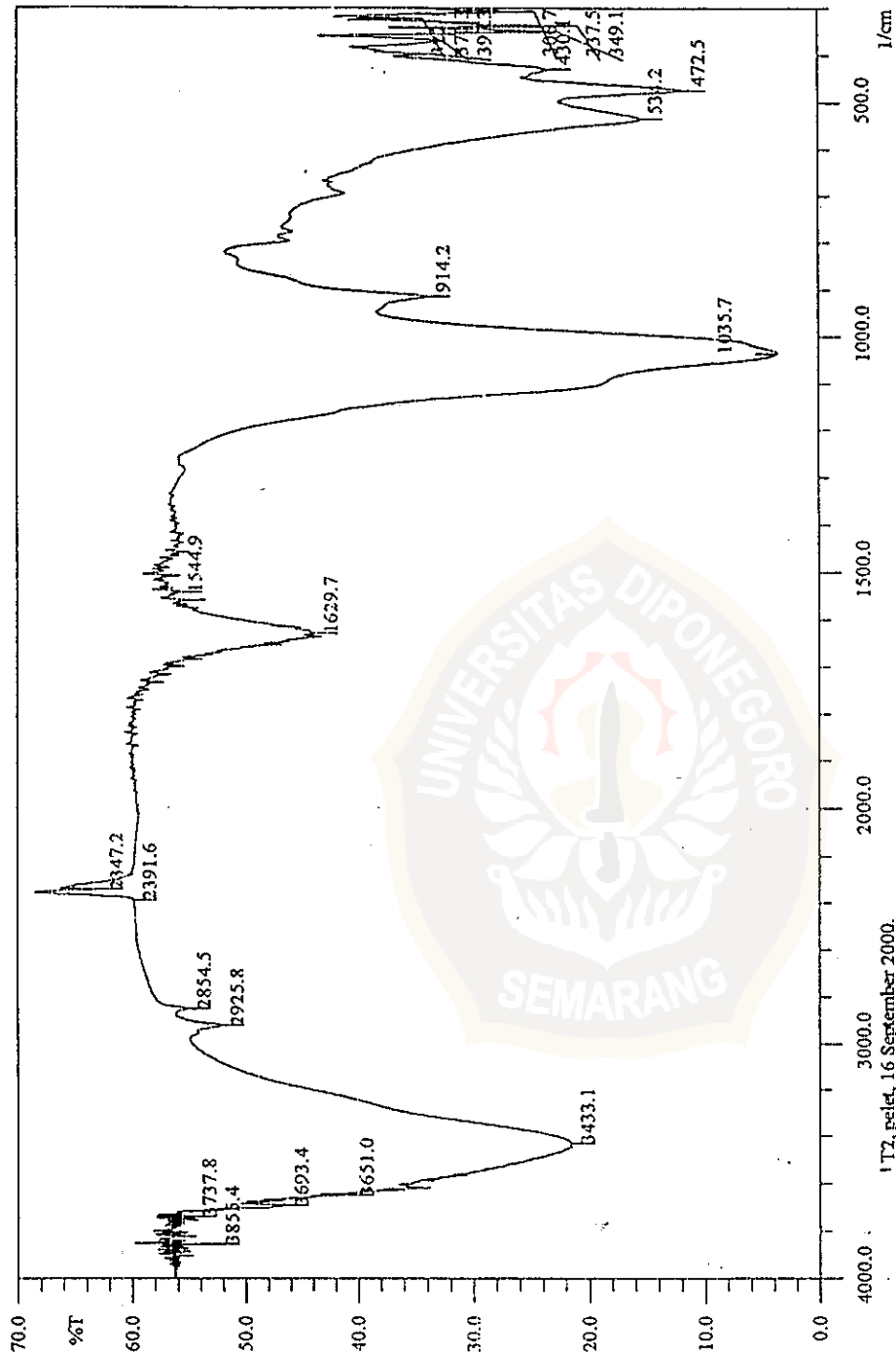


.TB.pct,15 September 2009
 Peaktable of DEFAULT.IRS, 15 Peaks
 Threshold: 80, Noise: 2, No Range Selection

Spektra tanah liat hasil pematatan, beraditif Biocat dengan pengeringan pada suhu kamar.

Nr.	Pos. (1/cm)	Inten. (%T)
1	432.0	6.591
2	470.6	1.993
3	532.3	2.534
4	694.3	23.205
5	779.2	26.755
6	914.2	11.955
7	1033.8	0.064
8	1635.5	31.534
9	2341.4	52.412
10	2360.7	51.023
11	2854.5	50.843
12	2927.7	47.628
13	3429.2	9.426
14	3622.1	17.024
15	3695.4	34.256





1T2, pellet, 16 September 2000.

Peaktable of T2RUDY.IRS, 22 Peaks

Threshold: 80, Noise: 2, No Range Selection

Spektra tanah liat hasil pemadatan beraditif Biocat dengan pengeringan dibawah sinar matahari.

Nr.	Pos. (1/cm)	Inten. (%T)
1	306.7	24.519
2	322.1	34.187
3	337.5	20.825
4	349.1	22.579
5	370.3	32.481
6	397.3	33.755
7	430.1	23.358
8	472.5	11.735
9	534.2	15.453
10	914.2	33.843
11	1035.7	3.537
12	1544.9	55.777
13	1629.7	43.718
14	2347.2	62.716
15	2391.6	59.823
16	2854.5	55.031
17	2925.8	52.070
18	3433.1	21.542
19	3651.0	40.661
20	3693.4	46.458
21	3737.8	54.597
22	3855.4	53.759

