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Procedure

(1) The following samples were selected for analysis

578
583
653
657
665
684
701

(2) A portion of each sample (5-10g) was placed in a 500 ml beaker with about 200 ml of DI water and ultrasonically cleaned to disperse the sample.

(3) The sample was then wet sieved thru a NO 230 brass standard sieve. This sieve has 63 µm (.063 mm) openings. The product (the less the 63 µm fraction and water) was captured in a glass beaker. The > 63 µm fraction was washed into another glass beaker.

(4) The glass beakers were placed in a drying oven at ~60°C and dried overnight to remove or evaporate the water.

(5) The > 63 µm fraction was removed from the glass beaker and placed in plastic vials labeled as follows.

578-FF-R
583-FF-R
653-FF-R
657-FF-R
665-FF-R
684-FF-R
701-FF-R

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(6) A portion of the < 63 µm fine fraction in each beaker was transferred to plastic vials labeled as follows.

578-FF
583-FF
653-FF
657-FF
665-FF
684-FF
701-FF

These samples will be analyzed by XRD to determine the mineralogy of the fine fraction.

(7) The remaining < 63 µm fine fraction remained in the beakers. About 200 ml of sodium hexametaphosphate working solution was added to the beaker. The beaker was then placed in an ultrasonic cleaner for about 10 min.

(8) Transfer solution in beakers to 50 ml centrifuge tubes and centrifuge at 1300 rpm for 2 min. Decant supernatant into a glass beaker. This is the < 2 µm clay fraction.

(9) Vacuum filter portion of the supernatant through 0.45 membrane filters and transfer the particles caught on the filter to a glass slide. Make 4 separate glass slide samples.

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(10) For each sample

(a) Allow one glass slide sample to air dry; these samples were labeled:

578-AD 665-AD
583-AD 684-AD
653-AD 701-AD
657-AD

(b) Place one glass slide in a dessicator containing ethylene glycol (lot no 943042). Place dessicator in oven at 60°C for at least 1 hour. These samples were labeled:

578-GLY 665-GLY
583-GLY 684-GLY
653-GLY 701-GLY
657-GLY

(c) Place one glass slide in furnace at 400°C for at least 30 min. Labeled these samples:

578-400C 665-400C
583-400C 684-400C
653-400C 701-400C
657-400C

(d) Place one glass slide in furnace at 550°C for at least 30 min. Labeled these samples:

578-550C 665-550C
583-550C 684-550C
653-550C 701-550C
657-550C

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(11) Deliver samples to Div 18 for XRD analysis.

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(12) The results of the XRD analyses are shown on the following pages. For each sample, the XRD patterns for the fine fraction and the clay analysis is shown. The 4 clay sample analysis (air dried, glycolated, 400C, and 550°C) are combined in one XRD pattern figure, which allows differences results from the different treatments to be evaluated.

Note - reference patterns for quartz, dehydrobiotite, montmorillonite, calcite, dolomite, muscovite, & kaolinite are shown in the fine fraction pattern if they are present.

All the fine fraction patterns contain peaks for feldspars (albite, sanidine, etc...). Reference patterns for feldspars are not included. The most intense peaks for feldspars occur between about 20° + 30° 2 theta.

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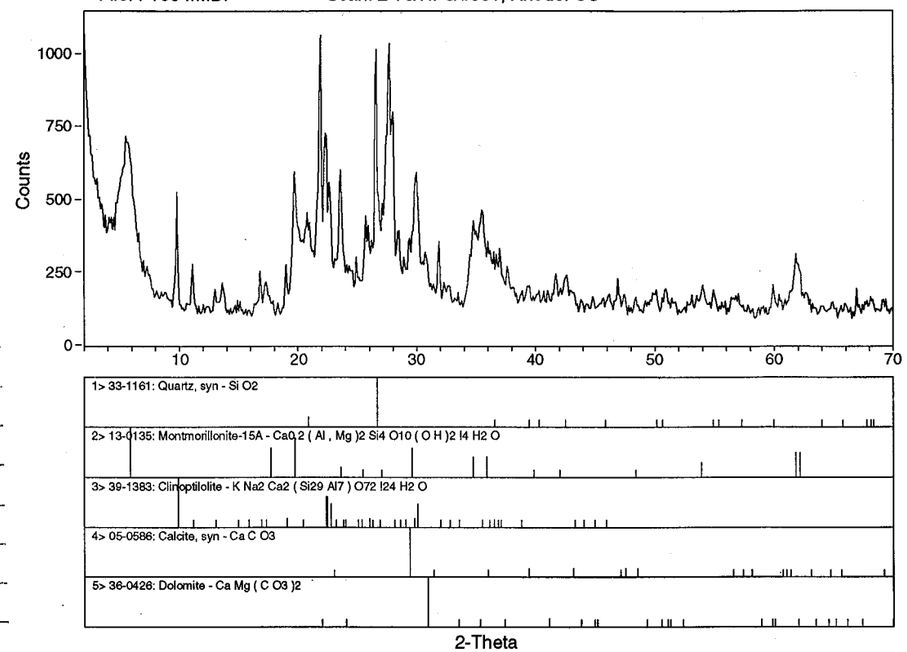
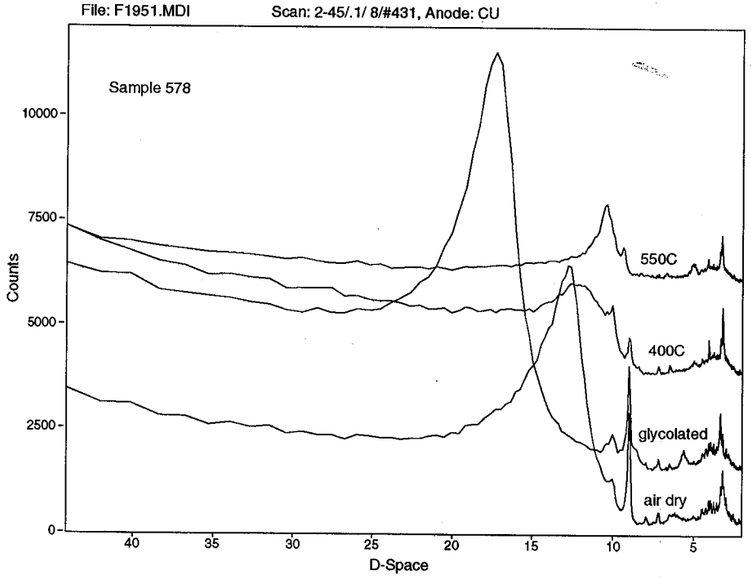
Sample 578

ID: 578-FF
File: F1964.MDI Scan: 2-70/.1/ 5/#681, Anode: CU



ID: 578-AD
File: F1951.MDI Scan: 2-45/.1/ 8/#431, Anode: CU



Behavior of most intense peaks fits montmorillonite or smectite-mica/smectite-illite.

Sharp peak at 9A is clinoptilolite.

Weak peak at ~10A is either muscovite or illite.

Weak peak at 7A may be kaolinite

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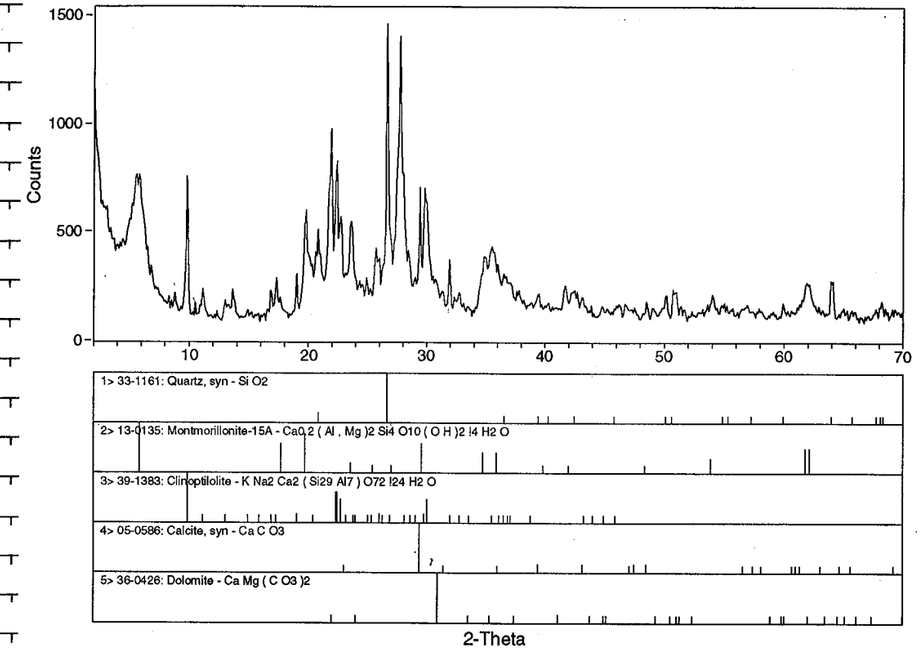
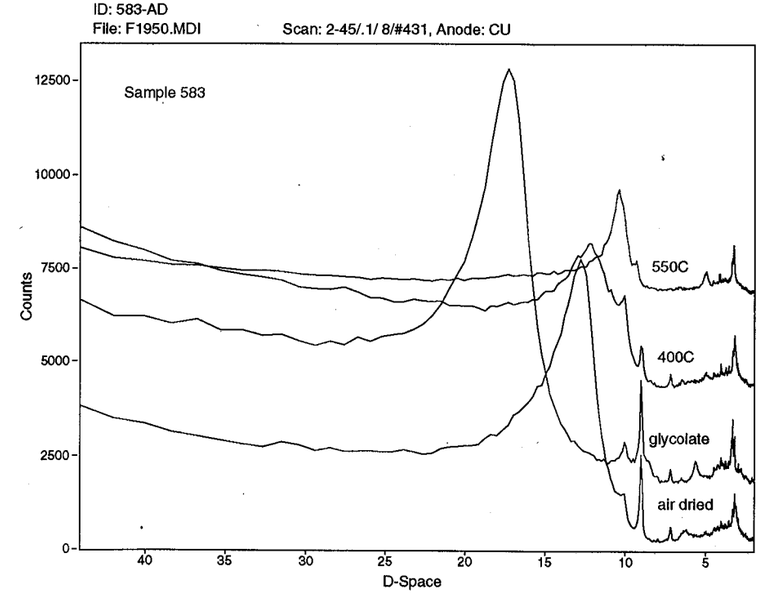
Sample 583

ID: 583FF
File: F1965.MDI Scan: 2-70/.1/ 5/#681, Anode: CU



ID: 583-AD
File: F1950.MDI Scan: 2-45/.1/ 8/#431, Anode: CU



Most intense peaks fit behavior of montmorillonite or smectite/mica or smectite/illite

Sharp peak at 9A is clinoptilolite

Weak peaks at 10A fit either muscovite or illite.

Weak peak at 7A are kaolinite

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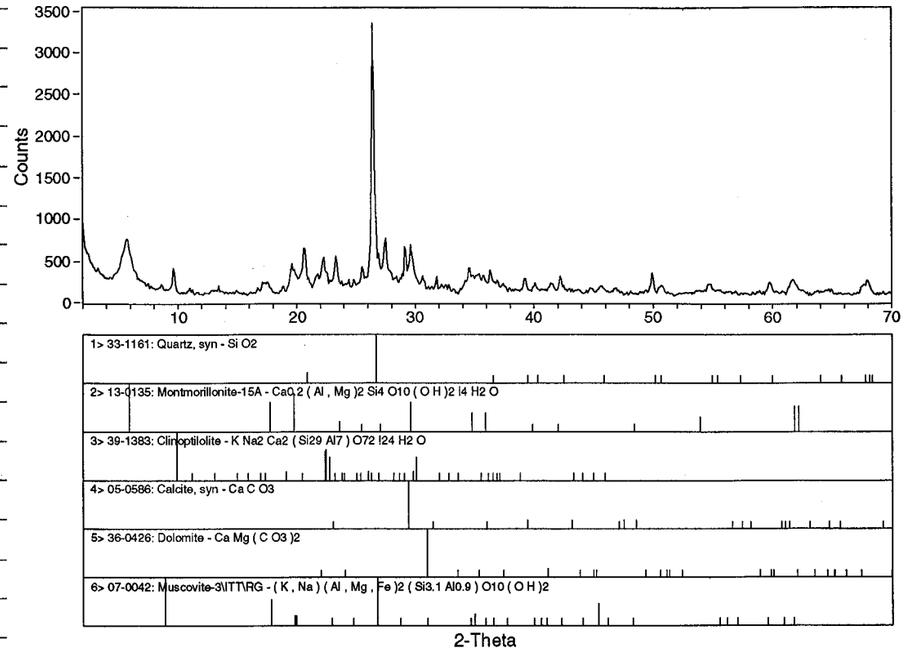
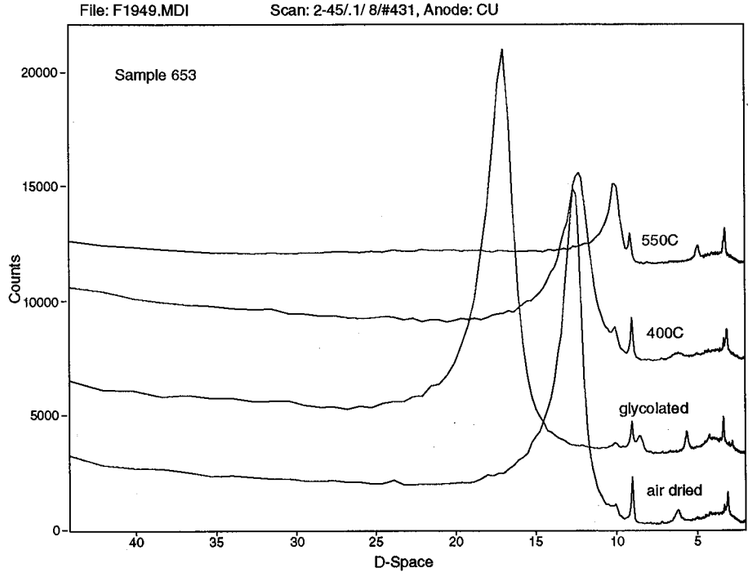
From Page No. Sample 653

ID: 653-FF
File: F1966.MDI Scan: 2-70/.1/ 5/#681, Anode: CU



ID: 653-AD
File: F1949.MDI Scan: 2-45/.1/ 8/#431, Anode: CU



Same interpretation as previous 2 patterns.

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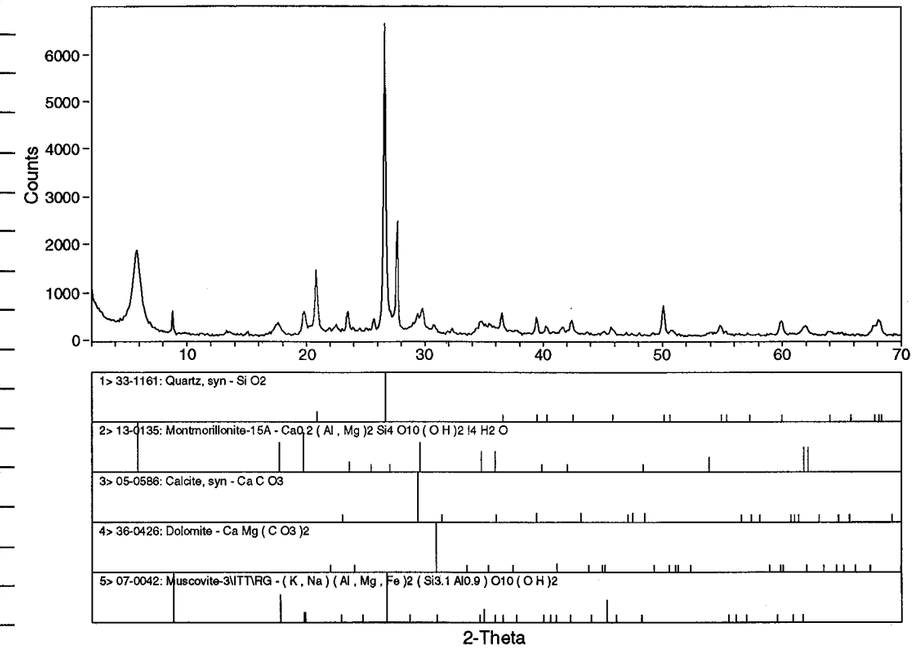
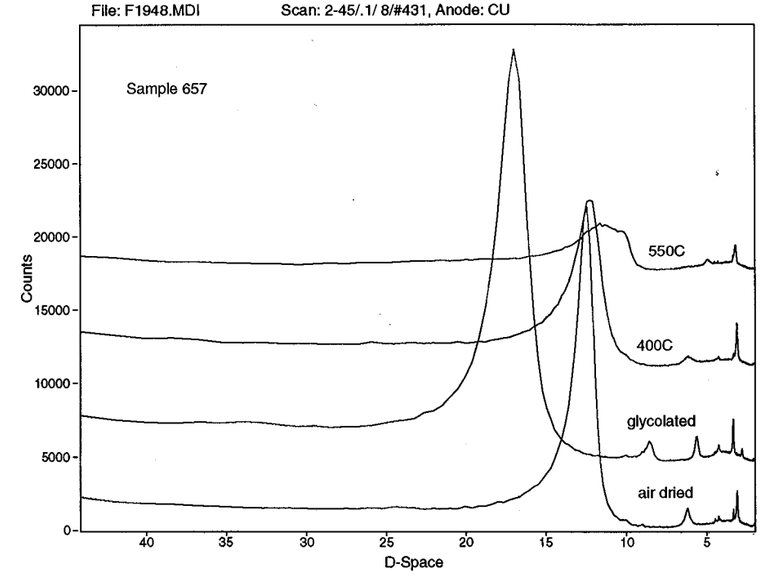
From Page No. Sample 657

ID: 657-FF
File: F1967.MDI Scan: 2-70/.1/ 5/#681, Anode: CU



ID: 657-AD
File: F1948.MDI Scan: 2-45/.1/ 8/#431, Anode: CU



Most intense peaks fit between of montmorillonite or smectite, illite & smectite-mica

Clinoptilolite is not present in the patterns.

Sharp peak at about 9 2theta in the above pattern is muscovite or illite.

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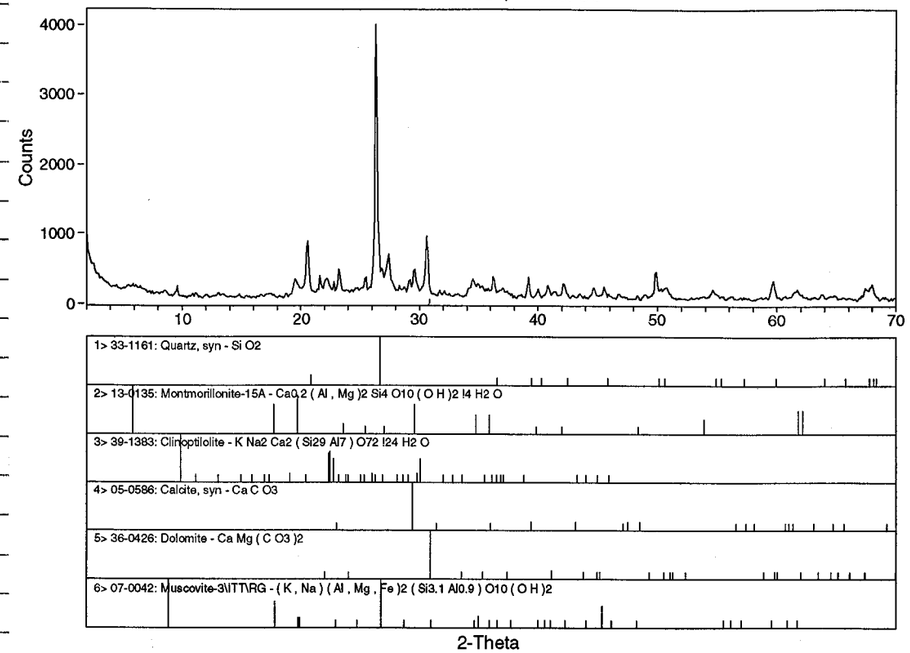
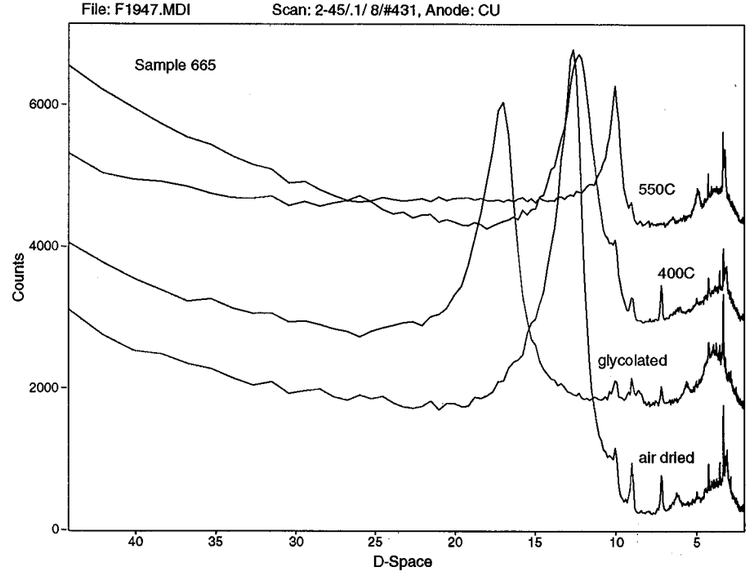
From Page No. Sample 665

ID: 665-FF
File: F1968.MDI Scan: 2-70/.1/ 5/#681, Anode: CU



ID: 665-AD
File: F1947.MDI Scan: 2-45/.1/ 8/#431, Anode: CU



Intense peaks fit behavior of montmorillonite or smectite-mica or smectite-illite

Sharp peak at 9A in air dry sample is clinoptilolite.

Peaks at about 10A are either muscovite or illite

Peaks at 7A are indicative of kaolinite

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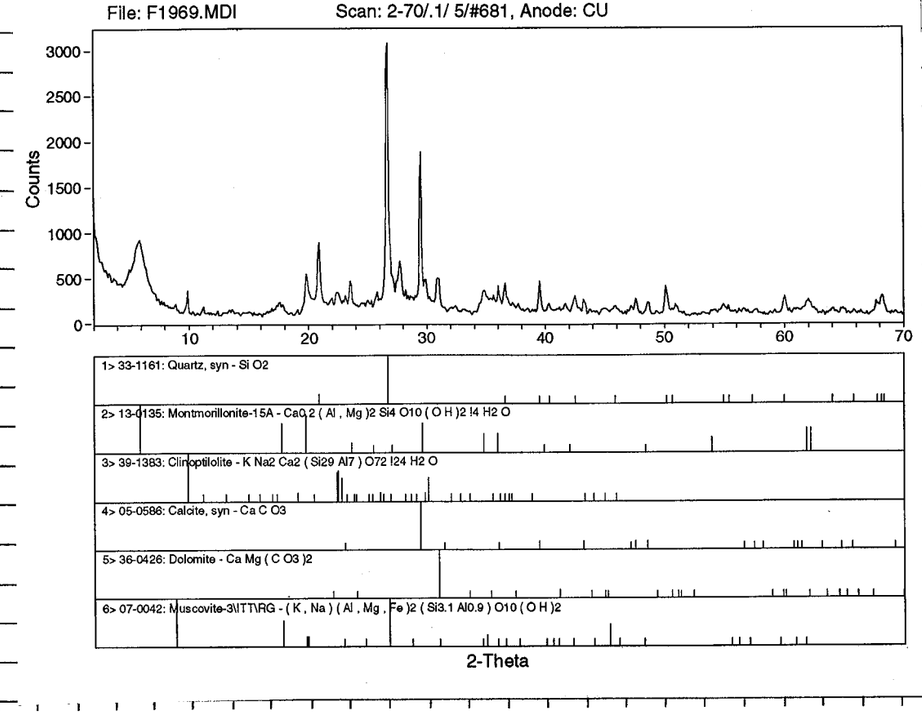
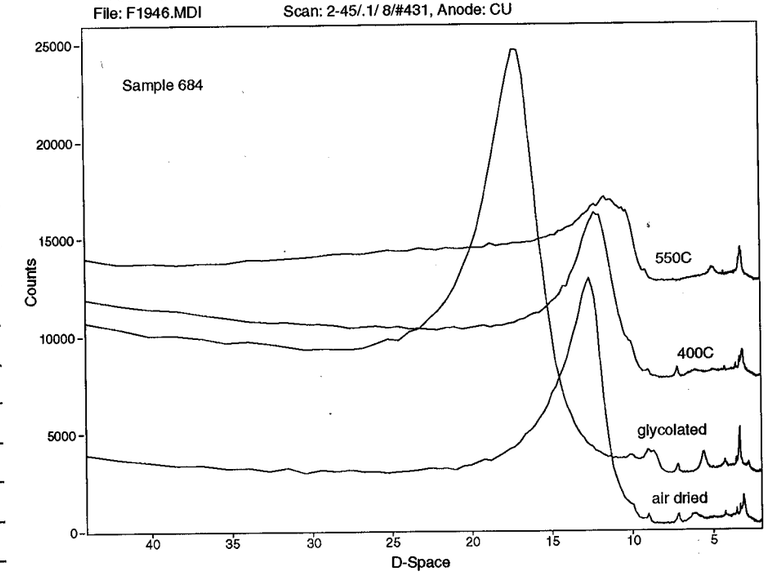
From Page No. Sample 684.

ID: 684-FF
File: F1969.MDI Scan: 2-70/.1/ 5/#681, Anode: CU



ID: 684-AD
File: F1946.MDI Scan: 2-45/.1/ 8/#431, Anode: CU



Most intense peaks fit montmorillonite or smectite-mica or smectite-illite.

Clinoptilolite shows up best in the fine fraction pattern above.

Weak peaks at 7A are indicative of kaolinite.

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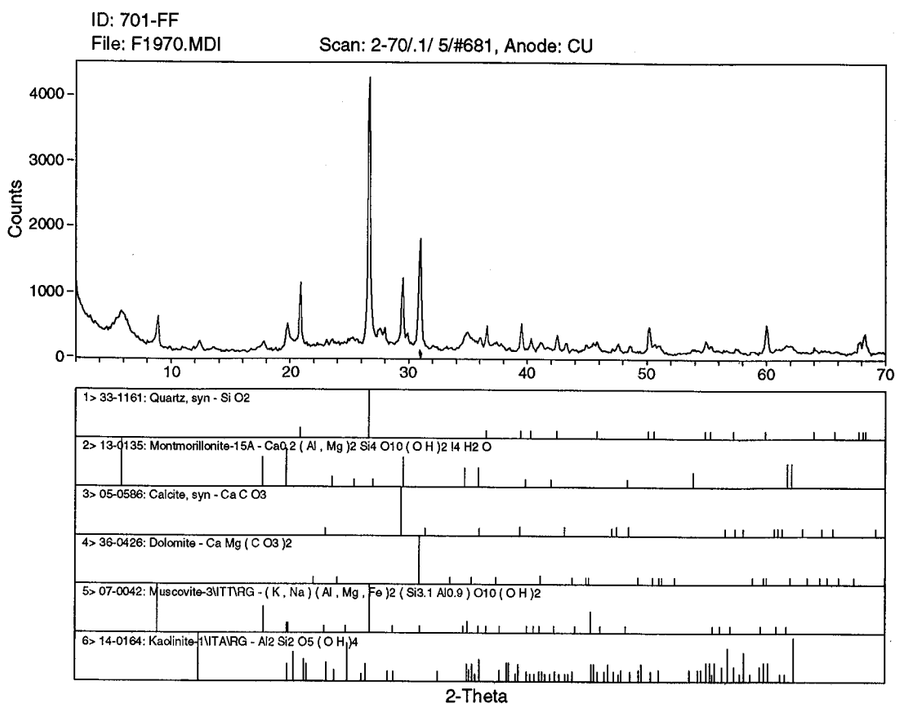

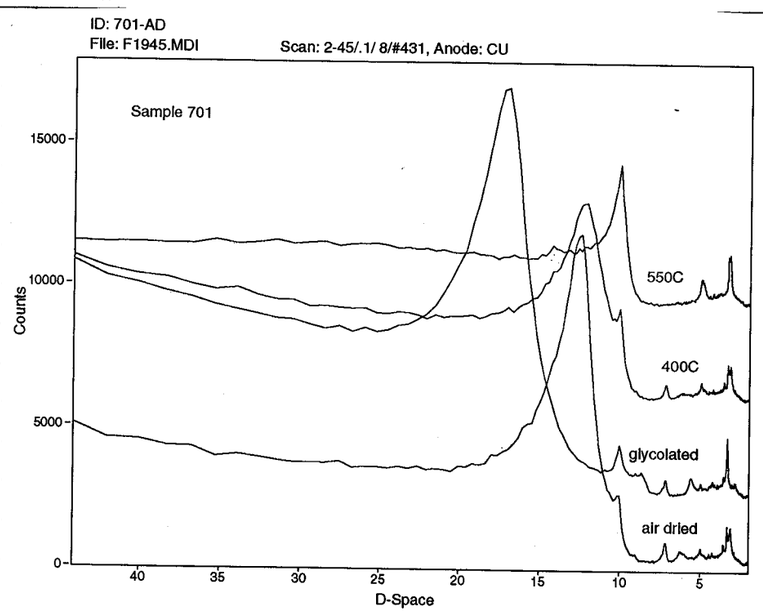

Most intense peaks are montmorillonite or smectite-illite or smectite-mica

Peak at 10A are illite or muscovite

Weak peaks at 7A are indicative of kaolinite

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(13) General observations concerning XRD analyses of fine fraction + clay fraction.

(a) Montmorillonite is the dominant clay and is present in all the samples analyzed.

(b) Kaolinite and either illite or muscovite are minor components of the clay fraction in most samples.

(c) Clinoptilolite, if present, shows up in the clay analyses.

(d) In comparison to quartz, the amount of feldspar in the fine fraction generally decreases with depth in the borehole.

(e) Calcite + dolomite occur only deeper in the borehole.

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SEM/EDS analyses of thin sections.

Thin sections of samples 584, 657, 664, and 684 were characterized by SEM/EDS analysis in Div 18.

The purpose of the analysis was to characterize further the fine matrix material within the alluvium samples.

Following are backscattered electron photos and EDS analyses taken on components of the matrix material.

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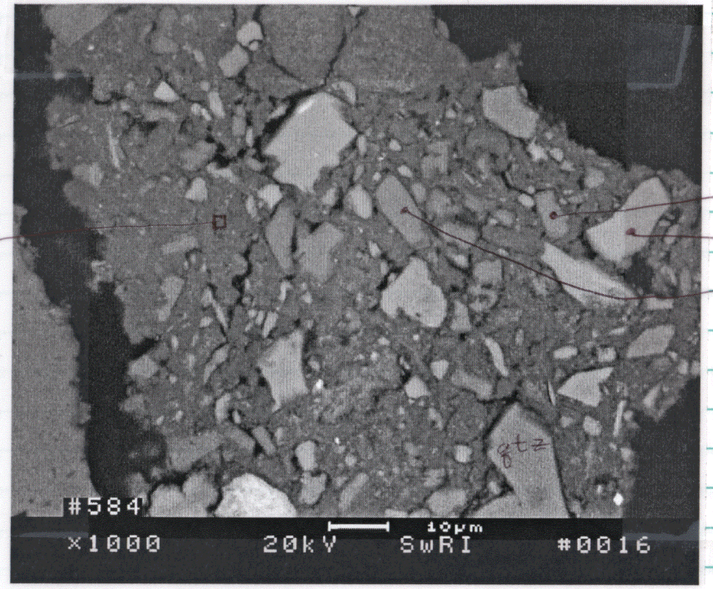
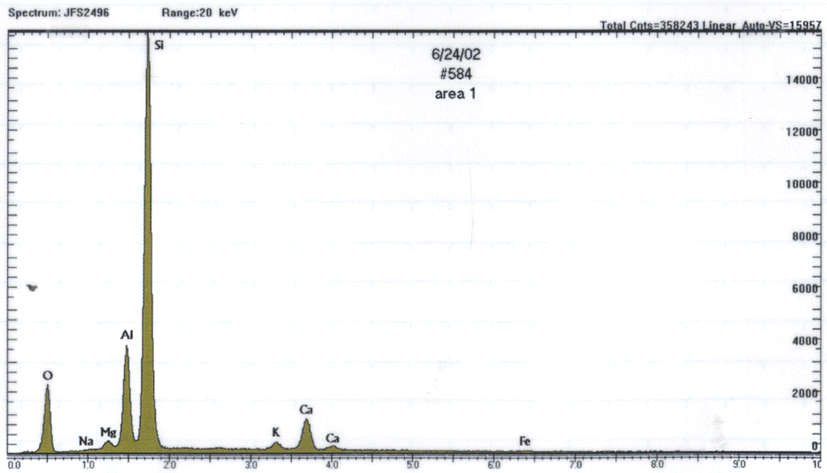
Sample 584 (S4516.jpg)





Ca-rich, Al-silicate with K, Mg, + Na

Feldspar or zeolite

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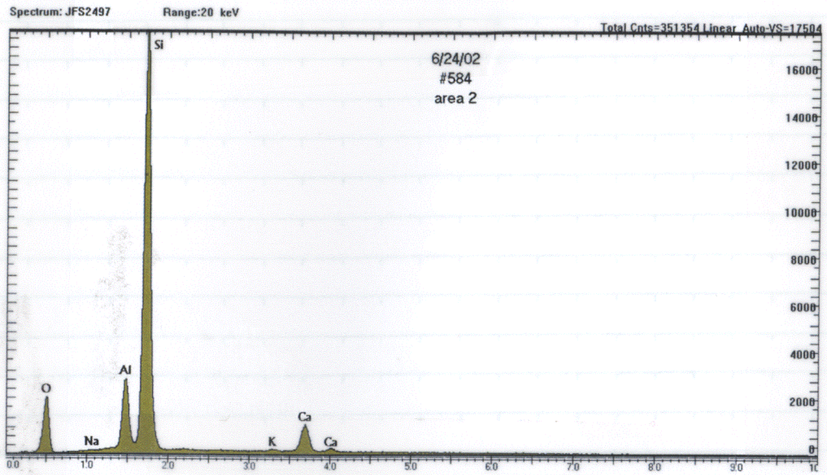
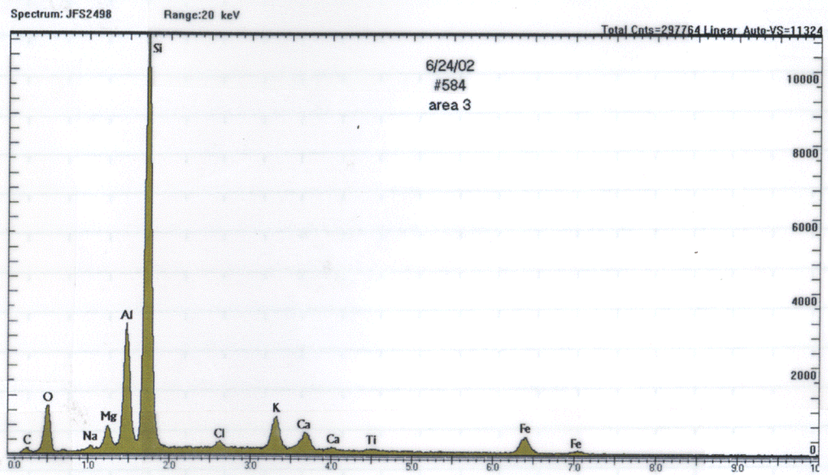
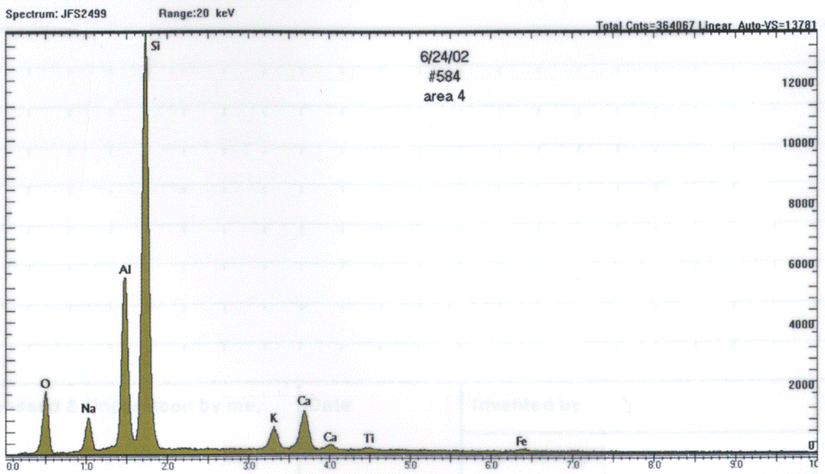


Ca, Al-silicate with minor K+Na.

Zeolite or feldspar



Area enclosing of fine matrix.



Ca, Na, K - Al silicate.

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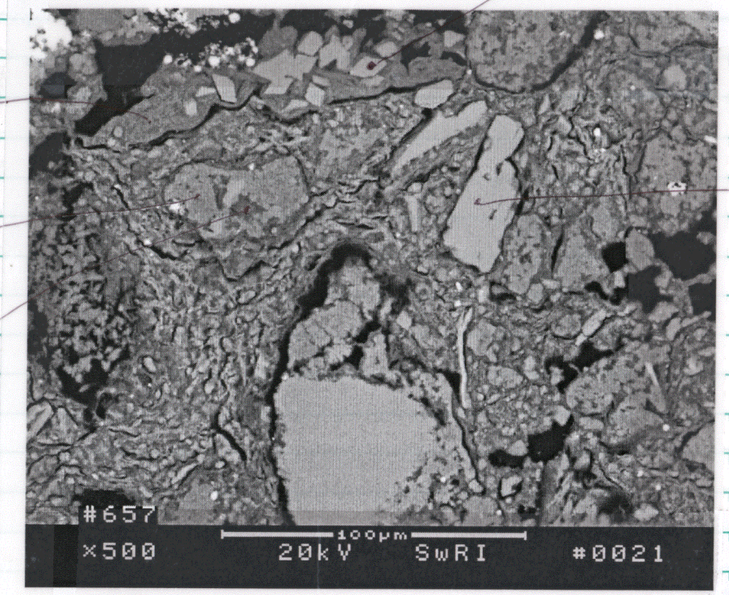
Sample 657

(S4518.JPG)



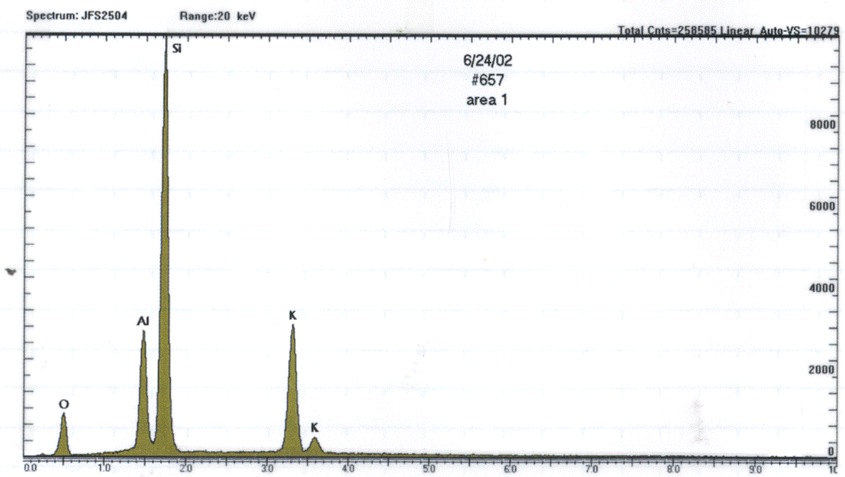
Area 1

Area 2

Area 3

Area 4

Area 5



K, Al silicate

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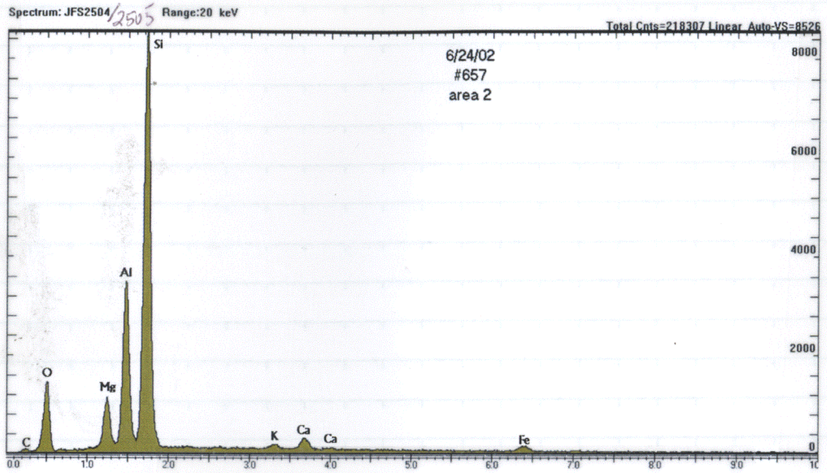
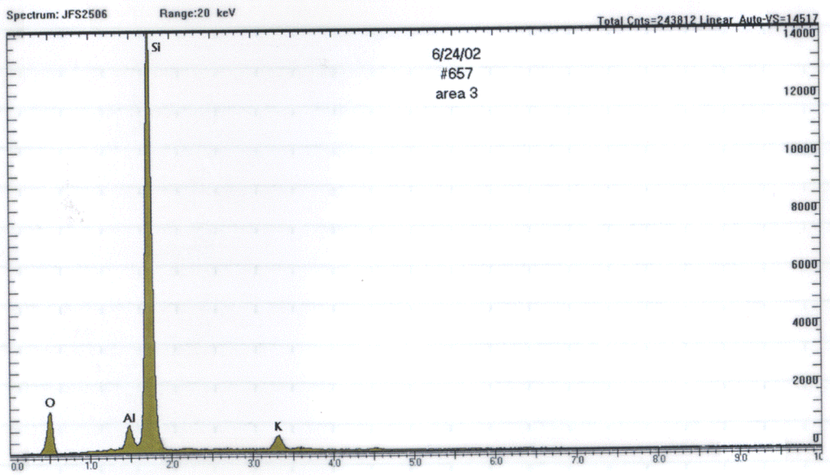


Fine matrix material.

Presence of C, Mg, & Ca may indicate dolomite



K, Al-silicate

Likely a replaced quartz.

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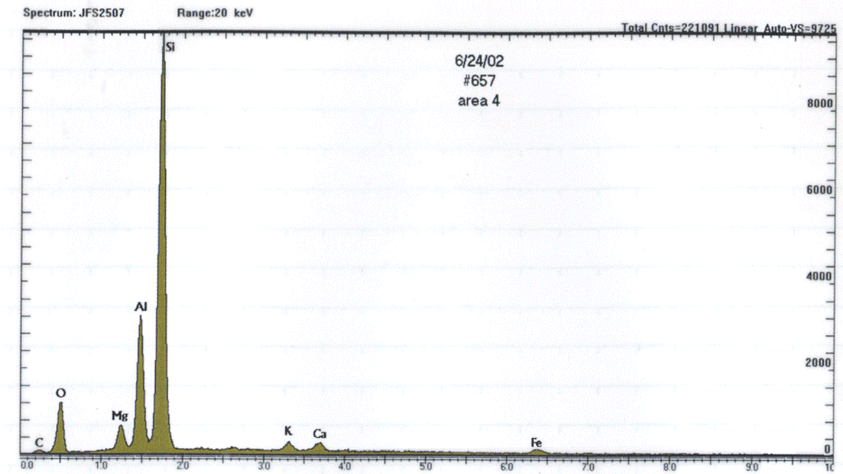
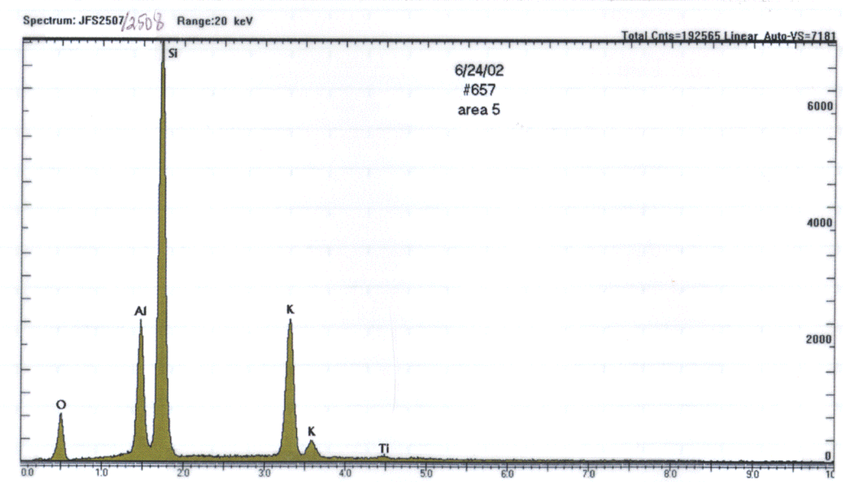


Fine matrix material.



K, Al-silicate

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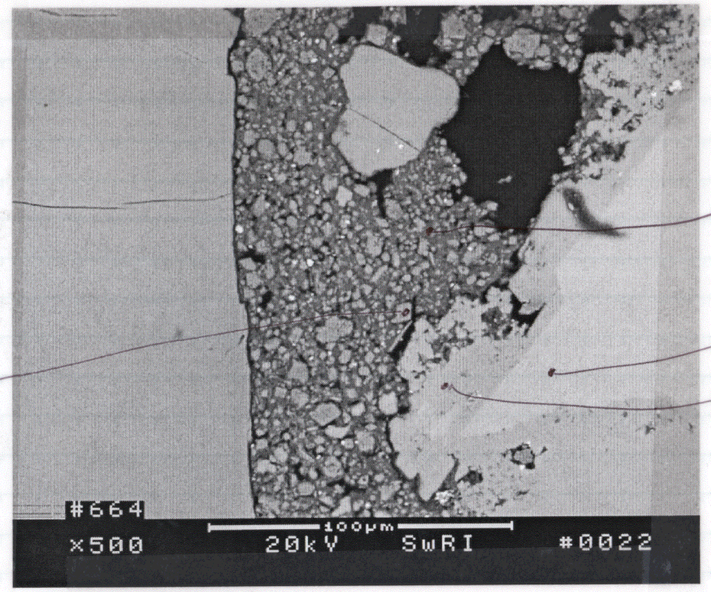
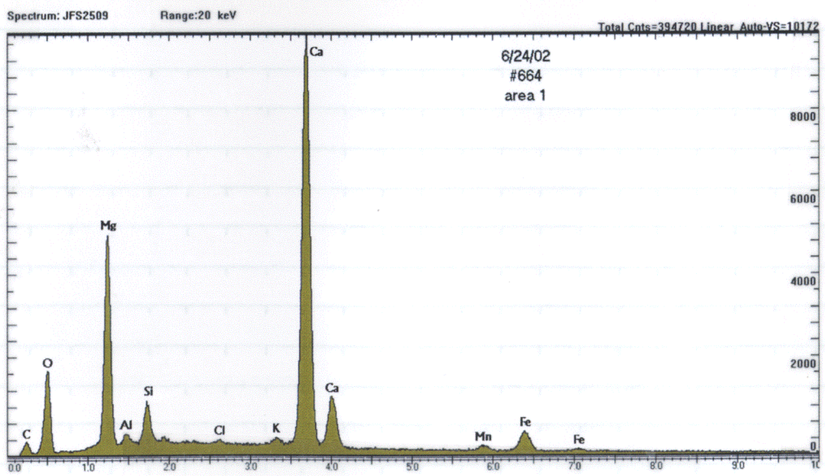
Sample 664 (S4519.jpg)



Area 1
Area 2
Area 3
Area 4



Ca, Mg carbonate (dolomite).

Presence of minor Al + Si may indicate sulfide replacement.

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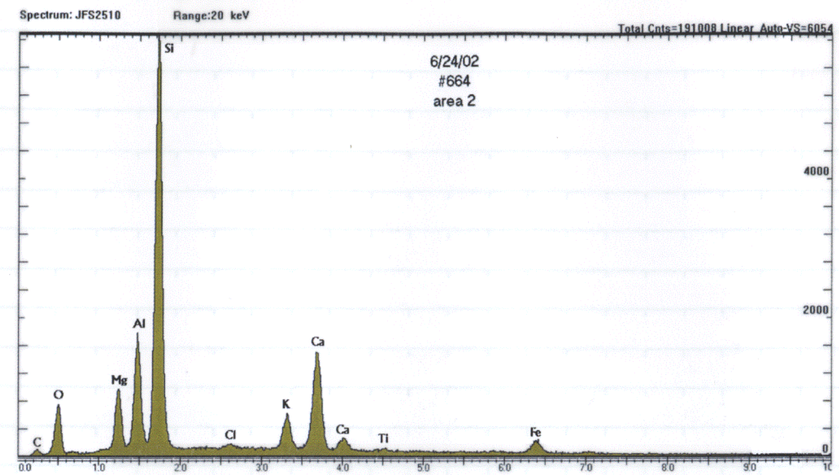
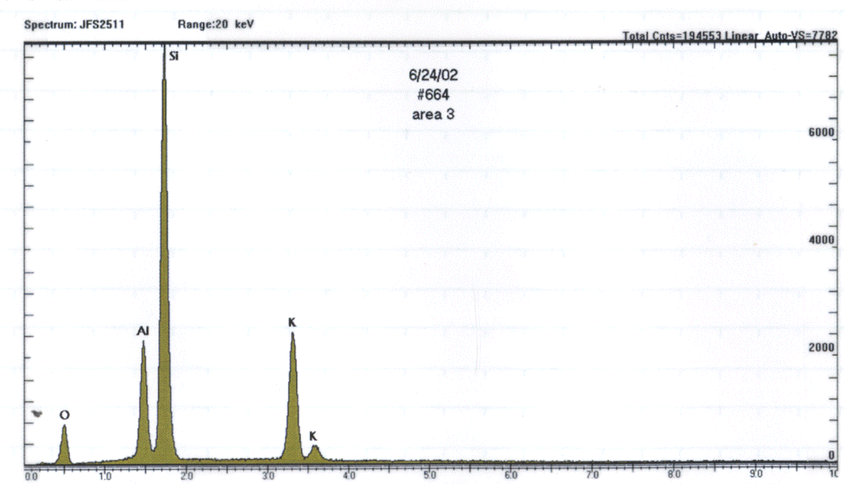


Fine matrix material.

Mixture of dolomite + silicates



K, Al silicate

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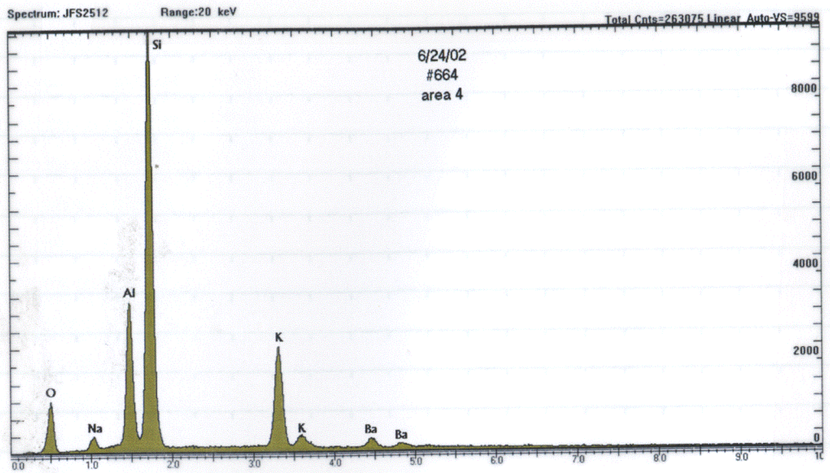
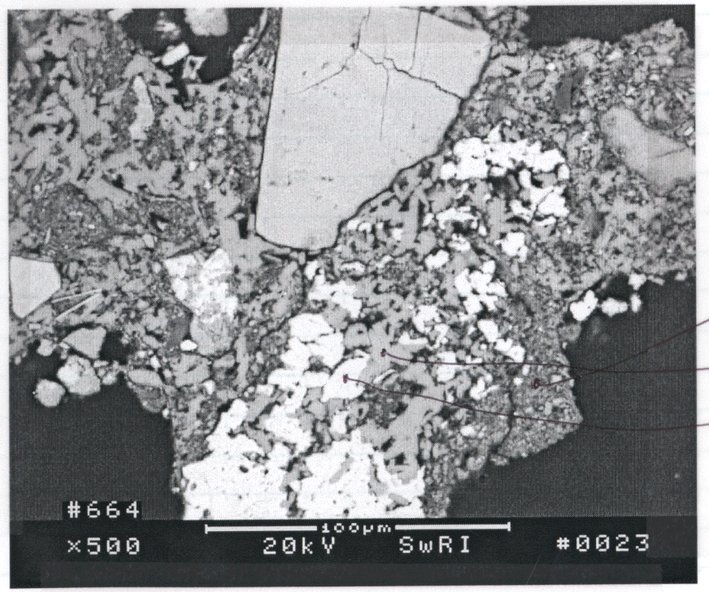


K, Na, Ba, Al-silicate.

Likely a Ba-bearing Feldspar.

Sample 664 (S4520.jpg)



Area 7

Area 6

Area 5

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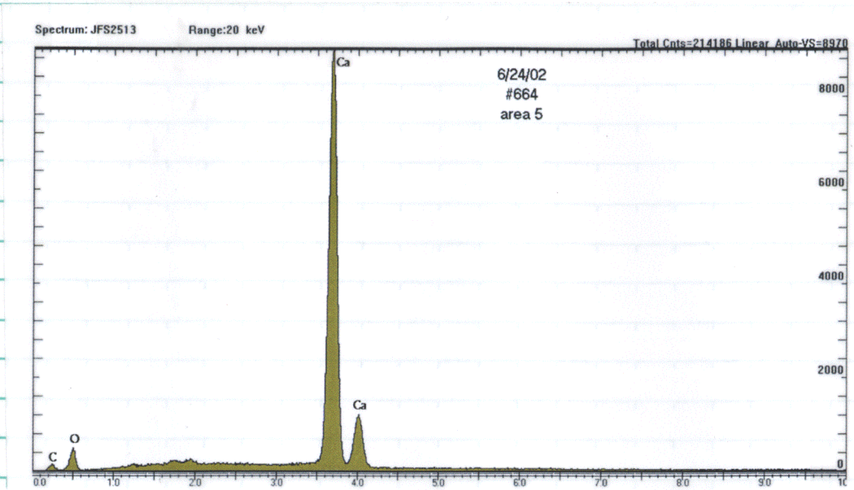
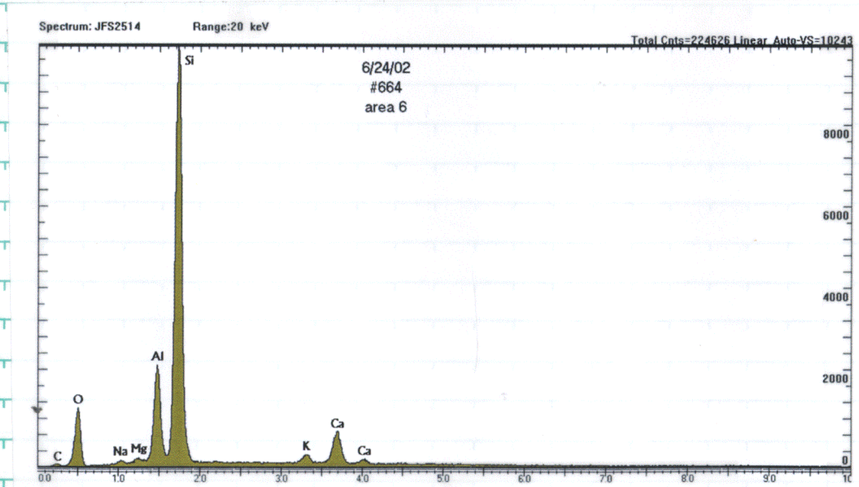


Calcite



Ca rich Al-silicate.

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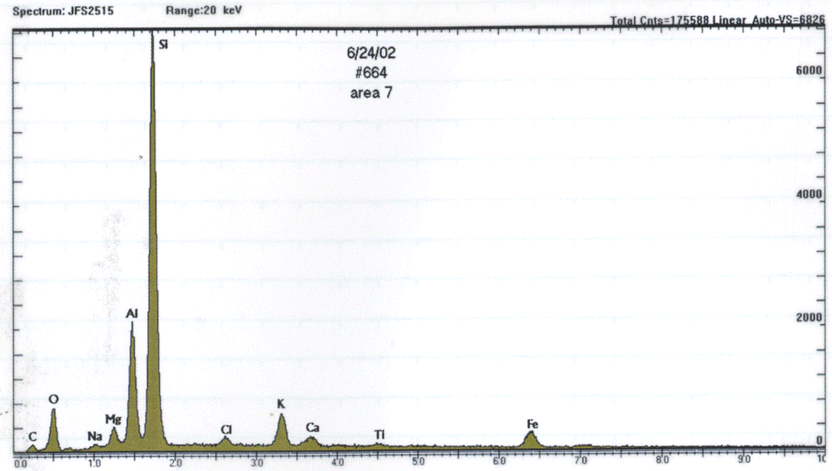
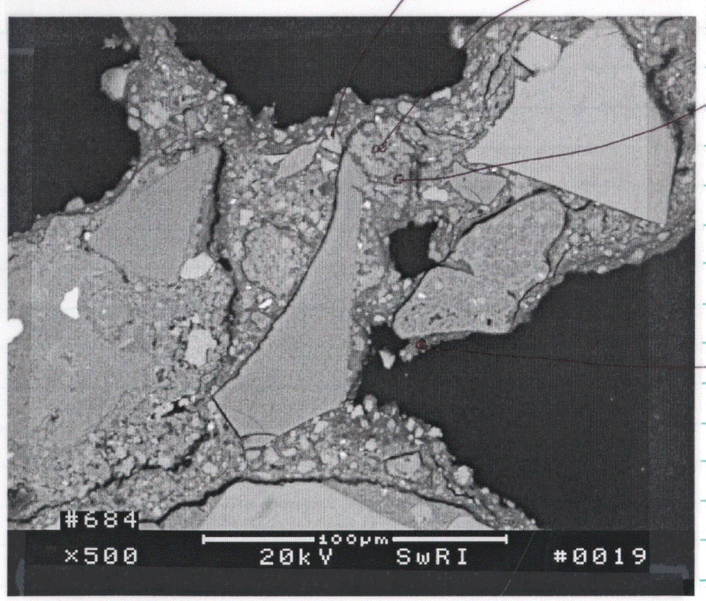


Fine material

Mixture of Al-silicate & dolomite

Sample 684 (S4517.JPG)



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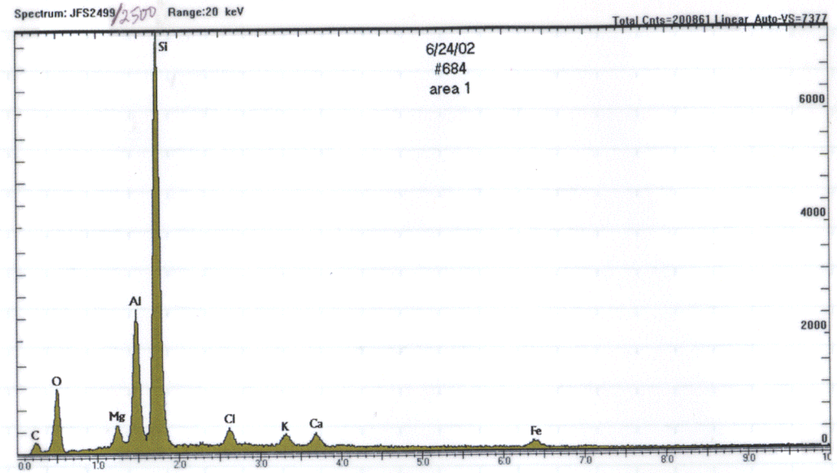
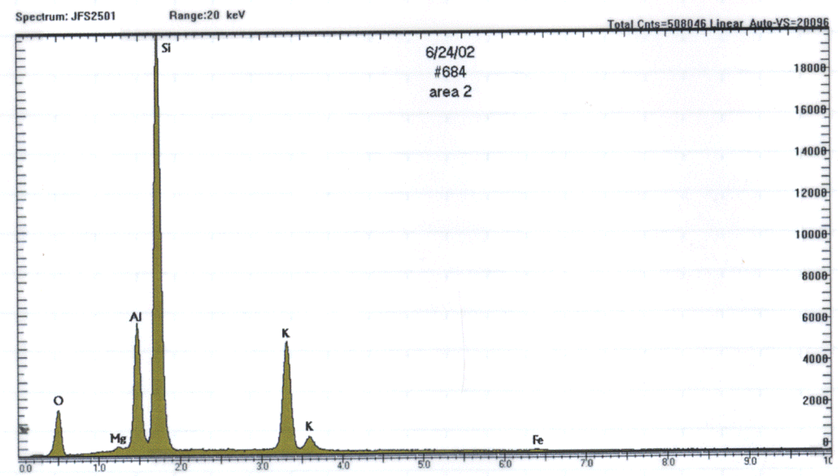


Mixture of Al-silicate & dolomite.



K-Al-silicate

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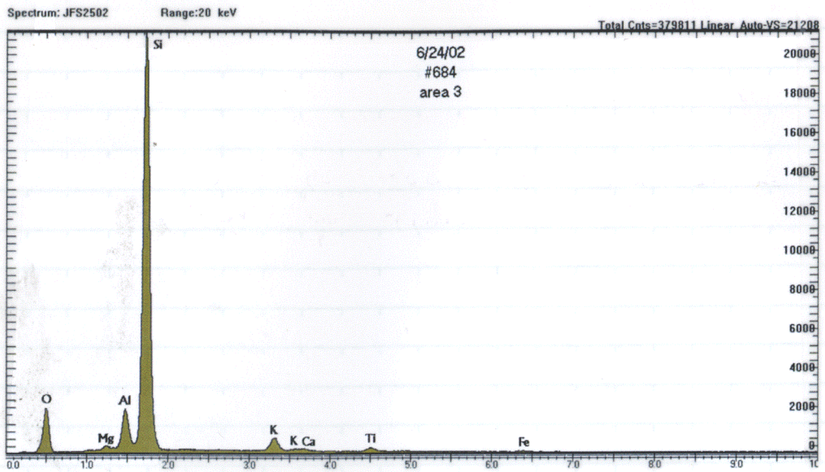
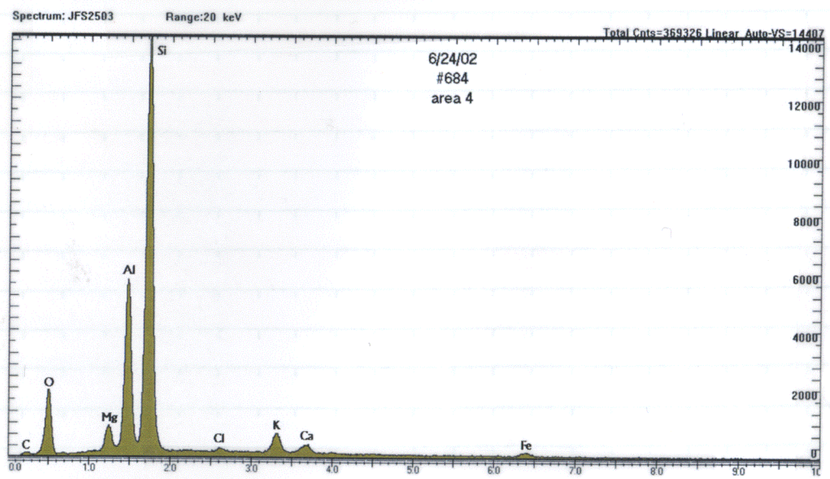


Fine material - replacement texture.



Mixture of Al-silicates & dolomite.

9/15/03 JP

Surface Area Analysis of EWDP well cuttings

Obj - measure the surface area of well cuttings collected during drilling of wells NC-EWDP-02D & NC-Washburn-1X.

Method - determine the BET surface area of the well cuttings using a Coulter SA 3100 particle size analyzer.

Materials + Supplies -
- EWDP well cuttings from NC-EWDP-02D & NC-Washburn-1X taken at approximately 5 ft intervals.
- SA 3100 Coulter surface area analyzer
- 3 ml glass sample bulbs.
- LN_2
- SRM 1899 surface area standard - 10.67 m^2/g (NIST)
- plastic containers
- No 10 (2mm opening) + No 35 (500 μm opening) brass sieves

Procedure -
For each well cutting sample the following procedure was followed. In addition a surface area standard (SRM 1899) was analyzed periodically for quality assurance purposes.

① The well cuttings sample was sieved through No 10 + NO 35 sized sieves. A portion (~5g) of material passing thru the No 35 sieve

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was placed in a plastic sample container and labeled.

② The following procedure was used to determine the surface area of ~2g of the sample in 3 ml sample tubes.

Procedure:

1. Weigh the tube (including the tube insert and cap) to at least 0.001g precision. Record the weight for later use.
2. Add sample to sample tube using the loading funnel.
3. Log in the sample(s)
   - Move to **Outgas** screen
   - If no samples are outgassing, the SA 3100 is ready to outgas when the following message at the bottom of the screen is present "*LOAD AND LOG SAMPLES; Press Start when loaded*".
   - Press the circle corresponding to the outgas port to which you will attached the sample tube for outgasssing.
   - The **Sample Information** screen appears.
   - Enter information or make selections by pressing each key on the **Sample Information** screen. (Sample ID, Customer, Operator, Sample Weight, Max Temperature, and Profile). Up to 3 samples can outgas simultaneously, repeat log-in for each sample.
4. Outgassing samples
   - Outgas port O-rings should be checked for cleanliness and greased daily.
   - Loosen the knurled nut on the outgas port.
   - Remove cap from sample tube, then insert the tube onto the outgas port until is stops against the manifold.
   - Tighten the knurled nut until finger-tight.
   - Move to **Outgas** screen
   - Press Outgas Temperature or Outgas Time to change the value displayed on the key.
   - Press Start

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- When outgasssing is complete, the message "*Outgassed*" is displayed below the graphic for the outgassing port(s) used and the following message is displayed at the bottom of the **Outgas** screen: "*REMOVE SAMPLES; Press OK when removed*".
- Lossen knurled nut and pull tube out of the fitting
- Promptly place cap on the sample tube, weigh the tube (including insert, cap, and sample) to at least 0.001 g precision, and record the weight.
- Subtract the weight found earlier for the sample tube assembly without sample to determine the outgassed sample weight. Make a note of the resulting sample weight.

5. Analyzing samples
   - Press Analysis to move to the **Analysis** screen
   - Press Next. The **Outgassed Samples** screen is displayed
   - Select the sample to analyze by pressing the key marked with the correct Sample ID.
   - The **Sample Information** screen is displayed. Press the Sample Weight key, then enter the sample weight and press Enter.
   - Press OK to return to the **Analysis** screen. The following message appears: "*LOAD SAMPLE; Press Start when loaded*".
   - Load sample onto sample port and press Start.
   - The status message on the screen reads: "*WAIT... SAMPLE EVACUATING*"
   - Add liquid nitrogen to dewar until about half full
   - When the following message appears "*LOAD DEWAR...PRESS START WHEN LOADED*".
   - Load the dewar into the SA 3100. Using the dewar funnel fill the dewar with liquid nitrogen to 1 inch from the top.
   - Press Start. The analysis proceeds automatically.
6. After analysis
   - At the completion of the analysis, results are displayed on the screen for about 2 minutes.
   - The SA 3100 will automatically evacuate the sample tube in preparation for removing the dewar. When evacuation is complete the following message appears: "*REMOVE DEWAR; Press OK when removed*".
   - Remove dewar and press OK. The follwing message will appear: "*WAIT; backfilling sample*".
   - When backfilling is complete the following message appears: "*REMOVE SAMPLE; Press OK when removed*".
   - Press OK. The following message appears: "*IS SAMPLE WEIGHT OK?*
   - If sample weight is OK press YES. If not press NO and correct the weight.
   - Print report.
   - If more samples are to be analyzed return to step 5.

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(3) A summary of the analysis report for each sample is included on the following pages along with a notation indicating the depth interval of the sample & the well id. The full analysis report for each sample which include the summary, surface area report, analysis data, interpolated data, & isotherm data will be kept in a 3-ring binder entitled "Results of Surface Area Analysis of EWDP well cuttings". Analysis reports for the surface area standard (SRM 1895) will also be included here and in the 3-ring binder.

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Surface Area Analysis Results

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	1899	Start Date	02/18/93
Customer	CNWRA	Start Time	08:42:53
Operator	JP	Elapsed Time	33 min
Sample Wt	0.9295 g	Outgas Time	120 min
Profile	BET5	Outgas Temperature	350 C

Summary

NIST reference standard

Surface Area Report

BET Surface area 10.670 sq.m/g
Correlation Coefficient 0.99999

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-66	Start Date	02/18/93
Customer	CNWRA	Start Time	09:32:31
Operator	JP	Elapsed Time	41 min
Sample Wt	1.4769 g	Outgas Time	120 min
Profile	BET5	Outgas Temperature	350 C

Summary

NC-EWDP-02D
Depth 35-40 ft

Surface Area Report

BET Surface area 30.246 sq.m/g
Correlation Coefficient 0.99986

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-71	Start Date	02/19/93
Customer	CNWRA	Start Time	08:53:39
Operator	JP	Elapsed Time	40 min
Sample Wt	1.9563 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
85-90 ft

Summary

Surface Area Report

BET Surface area	18.658 sq.m/g
Correlation Coefficient	0.99985

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-73	Start Date	02/20/93
Customer	CNWRA	Start Time	06:25:49
Operator	JP	Elapsed Time	38 min
Sample Wt	1.9886 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
105-110 ft

Summary

Surface Area Report

BET Surface area	10.809 sq.m/g
Correlation Coefficient	0.99984

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-128	Start Date	02/19/93
Customer	CNWRA	Start Time	09:56:34
Operator	JP	Elapsed Time	45 min
Sample Wt	1.8449 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
710-715 ft

Summary

Surface Area Report

BET Surface area	31.230 sq.m/g
Correlation Coefficient	0.99996

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-132	Start Date	02/21/93
Customer	CNWRA	Start Time	11:18:14
Operator	JP	Elapsed Time	43 min
Sample Wt	2.0627 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
750-755 ft

Summary

Surface Area Report

BET Surface area	21.921 sq.m/g
Correlation Coefficient	0.99996

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-136	Start Date	02/21/93
Customer	CNWRA	Start Time	12:19:09
Operator	JP	Elapsed Time	40 min
Sample Wt	2.028 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
795-800 ft

Summary

Surface Area Report

BET Surface area 26.001 sq.m/g
Correlation Coefficient 0.99996

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-140	Start Date	02/21/93
Customer	CNWRA	Start Time	13:43:06
Operator	JP	Elapsed Time	43 min
Sample Wt	1.8546 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
835-840 ft

Summary

Surface Area Report

BET Surface area 19.340 sq.m/g
Correlation Coefficient 0.99993

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-144	Start Date	02/22/93
Customer	CNWRA	Start Time	10:38:46
Operator	JP	Elapsed Time	44 min
Sample Wt	1.9129 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
875-880 ft

Summary

Surface Area Report

BET Surface area 14.607 sq.m/g
Correlation Coefficient 0.99989

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-148	Start Date	02/22/93
Customer	CNWRA	Start Time	11:51:25
Operator	JP	Elapsed Time	57 min
Sample Wt	1.976 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
915-920 ft

Summary

Surface Area Report

BET Surface area 13.514 sq.m/g
Correlation Coefficient 0.99988

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-151	Start Date	02/22/93
Customer	CNWRA	Start Time	13:13:22
Operator	JP	Elapsed Time	38 min
Sample Wt	2.0039 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
945-950 ft

Summary

Surface Area Report

BET Surface area	11.544 sq.m/g
Correlation Coefficient	0.99988

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-210	Start Date	02/23/93
Customer	CNWRA	Start Time	10:30:11
Operator	JP	Elapsed Time	43 min
Sample Wt	2.0519 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1535-1540 ft

Summary

Surface Area Report

BET Surface area	16.580 sq.m/g
Correlation Coefficient	0.99996

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-214	Start Date	02/23/93
Customer	CNWRA	Start Time	11:51:17
Operator	JP	Elapsed Time	42 min
Sample Wt	2.0983 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1575-1580 ft

Summary

Surface Area Report

BET Surface area	14.377 sq.m/g
Correlation Coefficient	0.99994

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-218	Start Date	02/23/93
Customer	CNWRA	Start Time	12:50:26
Operator	JP	Elapsed Time	37 min
Sample Wt	2.1125 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1615-1620 ft

Summary

Surface Area Report

BET Surface area	16.063 sq.m/g
Correlation Coefficient	0.99996

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-148	Start Date	02/24/93
Customer	CNWRA	Start Time	11:54:26
Operator	JP	Elapsed Time	45 min
Sample Wt	1.9957 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
915-920 ft

Summary

Surface Area Report

BET Surface area	13.527 sq.m/g
Correlation Coefficient	0.99987

Duplicate EWDP-148
see p 61

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-151	Start Date	02/24/93
Customer	CNWRA	Start Time	12:56:06
Operator	JP	Elapsed Time	40 min
Sample Wt	2.0683 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
945-950 ft

Summary

Surface Area Report

BET Surface area	11.465 sq.m/g
Correlation Coefficient	0.99988

Duplicate EWDP-151
See p 62

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	1899	Start Date	02/24/93
Customer	CNWRA	Start Time	13:59:49
Operator	JP	Elapsed Time	22 min
Sample Wt	0.7617 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NIST reference standard.

Summary

Surface Area Report

BET Surface area	10.837 sq.m/g
Correlation Coefficient	1.00000

10/3/03 JP
* Note - the date shown on all the previous surface area analyses reports is incorrect. All these samples were run before 10/3/03. The time + date on the Coulter SA 3100 was changed to reflect the current date + time. All the following analysis reports have the correct date.

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-170	Start Date	10/03/03
Customer	CNWRA	Start Time	07:39:24
Operator	JP	Elapsed Time	41 min
Sample Wt	2.0034 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1135-1140 ft

Summary

Surface Area Report

BET Surface area	14.142 sq.m/g
Correlation Coefficient	0.99992

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-186	Start Date	10/03/03
Customer	CNWRA	Start Time	08:42:59
Operator	JP	Elapsed Time	32 min
Sample Wt	2.1237 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NCEWDP-02D
1295-1300 ft

Summary

Surface Area Report

BET Surface area	10.505 sq.m/g
Correlation Coefficient	0.99995

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-203	Start Date	10/03/03
Customer	CNWRA	Start Time	09:30:26
Operator	JP	Elapsed Time	47 min
Sample Wt	2.1118 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1465-1470 ft.

Summary

Surface Area Report

BET Surface area	12.764 sq.m/g
Correlation Coefficient	0.99994

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-178	Start Date	10/04/03
Customer	CNWRA	Start Time	10:34:59
Operator	JP	Elapsed Time	34 min
Sample Wt	2.1322 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1215-1220 ft

Summary

Surface Area Report

BET Surface area	9.318 sq.m/g
Correlation Coefficient	0.99997

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-190	Start Date	10/04/03
Customer	CNWRA	Start Time	11:29:27
Operator	JP	Elapsed Time	37 min
Sample Wt	2.1725 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
1335-1340 ft

Summary

Surface Area Report

BET Surface area	12.186 sq.m/g
Correlation Coefficient	0.99996

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-202	Start Date	10/04/03
Customer	CNWRA	Start Time	12:23:22
Operator	JP	Elapsed Time	36 min
Sample Wt	2.0263 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NCEWDP-02D
1455-1460 ft

Summary

Surface Area Report

BET Surface area	12.918 sq.m/g
Correlation Coefficient	0.99994

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-77	Start Date	10/05/03
Customer	CNWRA	Start Time	10:52:37
Operator	JP	Elapsed Time	46 min
Sample Wt	2.1374 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NC-EWDP-02D
145-150 ft

Summary

Surface Area Report

BET Surface area	14.240 sq.m/g
Correlation Coefficient	0.99987

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-197	Start Date	10/05/03
Customer	CNWRA	Start Time	11:57:55
Operator	JP	Elapsed Time	39 min
Sample Wt	2.182 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

NCEWDP-02D
1405-1410 ft

Summary

Surface Area Report

BET Surface area	12.396 sq.m/g
Correlation Coefficient	0.99992

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-66	Start Date	10/05/03
Customer	CNWRA	Start Time	12:56:14
Operator	JP	Elapsed Time	49 min
Sample Wt	2.0054 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 31.467 sq.m/g
Correlation Coefficient 0.99987

NC-EWDP-02D
35-40 ft
(duplicate see p 57)

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-73	Start Date	10/06/03
Customer	CNWRA	Start Time	12:48:32
Operator	JP	Elapsed Time	42 min
Sample Wt	2.1987 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 11.047 sq.m/g
Correlation Coefficient 0.99984

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-87	Start Date	10/06/03
Customer	CNWRA	Start Time	14:25:56
Operator	JP	Elapsed Time	47 min
Sample Wt	2.1151 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 27.001 sq.m/g
Correlation Coefficient 0.99991

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-174	Start Date	10/06/03
Customer	CNWRA	Start Time	15:49:11
Operator	JP	Elapsed Time	34 min
Sample Wt	2.2369 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 13.485 sq.m/g
Correlation Coefficient 0.99998

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-71	Start Date	10/07/03
Customer	CNWRA	Start Time	10:45:53
Operator	JP	Elapsed Time	47 min
Sample Wt	2.1725 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	19.178 sq.m/g
Correlation Coefficient	0.99983

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-81	Start Date	10/07/03
Customer	CNWRA	Start Time	11:49:15
Operator	JP	Elapsed Time	56 min
Sample Wt	2.1503 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	22.324 sq.m/g
Correlation Coefficient	0.99989

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-198	Start Date	10/07/03
Customer	CNWRA	Start Time	14:43:46
Operator	JP	Elapsed Time	40 min
Sample Wt	2.1519 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	12.851 sq.m/g
Correlation Coefficient	0.99994

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-182	Start Date	10/15/03
Customer	CNWRA	Start Time	09:31:54
Operator	JP	Elapsed Time	34 min
Sample Wt	2.1165 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	13.806 sq.m/g
Correlation Coefficient	0.99995

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-194	Start Date	10/15/03
Customer	CNWRA	Start Time	10:45:38
Operator	JP	Elapsed Time	31 min
Sample Wt	2.2075 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 8.329 sq.m/g
Correlation Coefficient 0.99998

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-206	Start Date	10/15/03
Customer	CNWRA	Start Time	11:37:23
Operator	JP	Elapsed Time	39 min
Sample Wt	2.0312 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 19.352 sq.m/g
Correlation Coefficient 0.99996

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-64	Start Date	10/16/03
Customer	CNWRA	Start Time	10:47:50
Operator	JP	Elapsed Time	1 hrs 1 min
Sample Wt	2.1804 g	Outgas Time	120 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 15.928 sq.m/g
Correlation Coefficient 0.99989

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-126	Start Date	10/16/03
Customer	CNWRA	Start Time	12:04:33
Operator	JP	Elapsed Time	43 min
Sample Wt	1.8884 g	Outgas Time	120 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area 30.158 sq.m/g
Correlation Coefficient 0.99998

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-160	Start Date	10/16/03
Customer	CNWRA	Start Time	13:03:52
Operator	JP	Elapsed Time	41 min
Sample Wt	2.0513 g	Outgas Time	120 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	17.503 sq.m/g
Correlation Coefficient	0.99995

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-164	Start Date	10/17/03
Customer	CNWRA	Start Time	07:39:42
Operator	JP	Elapsed Time	37 min
Sample Wt	2.1539 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	12.428 sq.m/g
Correlation Coefficient	0.99993

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-116	Start Date	10/17/03
Customer	CNWRA	Start Time	08:39:17
Operator	JP	Elapsed Time	46 min
Sample Wt	2.2573 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	10.407 sq.m/g
Correlation Coefficient	0.99992

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-95	Start Date	10/17/03
Customer	CNWRA	Start Time	09:41:58
Operator	JP	Elapsed Time	45 min
Sample Wt	2.0544 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	16.780 sq.m/g
Correlation Coefficient	0.99991

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-91	Start Date	10/21/03
Customer	CNWRA	Start Time	07:46:09
Operator	JP	Elapsed Time	40 min
Sample Wt	1.9817 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	21.106 sq.m/g
Correlation Coefficient	0.99993

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-104	Start Date	10/21/03
Customer	CNWRA	Start Time	08:49:38
Operator	JP	Elapsed Time	40 min
Sample Wt	2.2082 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	12.483 sq.m/g
Correlation Coefficient	0.99990

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-120	Start Date	10/21/03
Customer	CNWRA	Start Time	09:50:18
Operator	JP	Elapsed Time	54 min
Sample Wt	2.2925 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	11.212 sq.m/g
Correlation Coefficient	0.99988

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-100	Start Date	10/22/03
Customer	CNWRA	Start Time	09:21:44
Operator	JP	Elapsed Time	42 min
Sample Wt	2.2109 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	8.883 sq.m/g
Correlation Coefficient	0.99987

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-112	Start Date	10/22/03
Customer	CNWRA	Start Time	10:32:39
Operator	JP	Elapsed Time	39 min
Sample Wt	2.2071 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	13.043 sq.m/g
Correlation Coefficient	0.99990

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-168	Start Date	10/22/03
Customer	CNWRA	Start Time	11:43:12
Operator	JP	Elapsed Time	39 min
Sample Wt	2.2012 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	12.073 sq.m/g
Correlation Coefficient	0.99995

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-123	Start Date	10/24/03
Customer	CNWRA	Start Time	13:21:36
Operator	JMB	Elapsed Time	59 min
Sample Wt	2.1395 g	Outgas Time	60 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	12.061 sq.m/g
Correlation Coefficient	0.99985

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-156	Start Date	10/24/03
Customer	CNWRA	Start Time	14:37:12
Operator	JMB	Elapsed Time	34 min
Sample Wt	1.9908 g	Outgas Time	60 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	11.000 sq.m/g
Correlation Coefficient	0.99994

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	1899	Start Date	10/24/03
Customer	CNWRA	Start Time	15:49:28
Operator	JMB	Elapsed Time	32 min
Sample Wt	0.7501 g	Outgas Time	60 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	10.773 sq.m/g
Correlation Coefficient	1.00000

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-108	Start Date	11-13-03 ~~10/25/03~~
Customer	CNWRA	Start Time	16:23:06
Operator	JMB	Elapsed Time	46 min
Sample Wt	2.1218 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	7.839 sq.m/g
Correlation Coefficient	0.99990

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Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-1	Start Date	11-13-03 ~~10/25/03~~
Customer	CNWRA	Start Time	17:25:14
Operator	JMB	Elapsed Time	52 min
Sample Wt	2.065 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	13.085 sq.m/g
Correlation Coefficient	0.99987

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-4	Start Date	11-13-03 ~~10/25/03~~
Customer	CNWRA	Start Time	19:49:21
Operator	JMB	Elapsed Time	43 min
Sample Wt	2.087 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	14.201 sq.m/g
Correlation Coefficient	0.99982

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Coulter SA 3100 Surface Area and Pore Size Analyzer
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Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-7	Start Date	11-20-03 ~~10/26/03~~
Customer	CNWRA	Start Time	20:45:44
Operator	JMB	Elapsed Time	41 min
Sample Wt	2.086 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	6.021 sq.m/g
Correlation Coefficient	0.99983

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-10	Start Date	11-20-03 ~~10/26/03~~
Customer	CNWRA	Start Time	21:41:09
Operator	JMB	Elapsed Time	37 min
Sample Wt	2.0792 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	8.130 sq.m/g
Correlation Coefficient	0.99984

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	1899	Start Date	11-21-03 ~~10/27/03~~
Customer	CNWRA	Start Time	21:04:35
Operator	JMB	Elapsed Time	21 min
Sample Wt	0.6286 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	150 C

Summary

Surface Area Report

BET Surface area	9.218 sq.m/g
Correlation Coefficient	0.99998

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	8006	Start Date	12-5-03 ~~10/29/03~~
Customer	CNWRA	Start Time	01:07:58
Operator	JMB	Elapsed Time	23 min
Sample Wt	2.3986 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

Summary

Surface Area Report

BET Surface area	0.229 sq.m/g
Correlation Coefficient	0.99976

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Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-13	Start Date	12-12-03 ~~10/30/03~~
Customer	CNWRA	Start Time	03:27:22
Operator	JMB	Elapsed Time	37 min
Sample Wt	2.1412 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	9.280 sq.m/g
Correlation Coefficient	0.99988

Bad analysis. Did not weigh sample before analysis. Re-analized below.

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-13-	Start Date	12-13-03 ~~11/01/03~~
Customer	CNWRA	Start Time	02:18:10
Operator	JMB	Elapsed Time	37 min
Sample Wt	1.9986 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	9.557 sq.m/g
Correlation Coefficient	0.99987

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-16	Start Date	12-12-03 ~~10/30/03~~
Customer	CNWRA	Start Time	04:22:05
Operator	JMB	Elapsed Time	42 min
Sample Wt	2.0423 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	14.688 sq.m/g
Correlation Coefficient	0.99984

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-19	Start Date	12-12-03 ~~10/30/03~~
Customer	CNWRA	Start Time	05:20:18
Operator	JMB	Elapsed Time	42 min
Sample Wt	1.9631 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	15.684 sq.m/g
Correlation Coefficient	0.99985

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-22	Start Date	12-13-03 ~~11/01/03~~
Customer	CNWRA	Start Time	03:25:17
Operator	JMB	Elapsed Time	41 min
Sample Wt	2.0484 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	20.775 sq.m/g
Correlation Coefficient	0.99988

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-25	Start Date	12-13-03 ~~11/01/03~~
Customer	CNWRA	Start Time	04:24:32
Operator	JMB	Elapsed Time	56 min
Sample Wt	2.0797 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	19.836 sq.m/g
Correlation Coefficient	0.99988

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-28	Start Date	1-5-04 ~~11/02/03~~
Customer	CNWRA	Start Time	04:29:36
Operator	JMB	Elapsed Time	44 min
Sample Wt	2.1362 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	12.100 sq.m/g
Correlation Coefficient	0.99989

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-31	Start Date	1-5-04 ~~11/02/03~~
Customer	CNWRA	Start Time	05:49:29
Operator	JMB	Elapsed Time	37 min
Sample Wt	2.098 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

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Summary

Surface Area Report

BET Surface area	10.105 sq.m/g
Correlation Coefficient	0.99987

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-34	Start Date	1-5-04 ~~11/02/03~~
Customer	CNWRA	Start Time	06:40:48
Operator	JMB	Elapsed Time	40 min
Sample Wt	2.1295 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area 15.851 sq.m/g
Correlation Coefficient 0.99990

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-37	Start Date	1-6-04 ~~11/03/03~~
Customer	CNWRA	Start Time	04:34:13
Operator	JMB	Elapsed Time	43 min
Sample Wt	1.935 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

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Summary

Surface Area Report

BET Surface area 27.689 sq.m/g
Correlation Coefficient 0.99991

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Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-43	Start Date	1-6-04 ~~11/03/03~~
Customer	CNWRA	Start Time	05:36:13
Operator	JMB	Elapsed Time	38 min
Sample Wt	2.1574 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area 10.065 sq.m/g
Correlation Coefficient 0.99988

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-46	Start Date	1-6-04 ~~11/03/03~~
Customer	CNWRA	Start Time	06:32:22
Operator	JMB	Elapsed Time	48 min
Sample Wt	2.1178 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area 14.594 sq.m/g
Correlation Coefficient 0.99988

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Coulter SA 3100 Surface Area and Pore Size Analyzer
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Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-40	Start Date	1-7-04 ~~11/04~~/03
Customer	CNWRA	Start Time	04:10:58
Operator	JMB	Elapsed Time	44 min
Sample Wt	2.1248 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	14.814 sq.m/g
Correlation Coefficient	0.99989

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-49	Start Date	1-7-04 ~~11/04~~/03
Customer	CNWRA	Start Time	05:22:24
Operator	JMB	Elapsed Time	40 min
Sample Wt	2.1407 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	9.606 sq.m/g
Correlation Coefficient	0.99987

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Coulter SA 3100 Surface Area and Pore Size Analyzer
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Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-52	Start Date	1-7-04 ~~11/04~~/03
Customer	CNWRA	Start Time	08:03:06
Operator	JMB	Elapsed Time	52 min
Sample Wt	1.9689 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

1-15-04

Summary

Surface Area Report

BET Surface area	42.304 sq.m/g
Correlation Coefficient	0.99990

Coulter SA 3100 Surface Area and Pore Size Analyzer
Analysis Report

Serial No.	w46020	Software Version	2.11
Sample ID	EWDP-55	Start Date	1-13-04 ~~11/05~~/03
Customer	CNWRA	Start Time	09:54:48
Operator	JMB	Elapsed Time	52 min
Sample Wt	2.1046 g	Outgas Time	720 min
Profile	BET5	Outgas Temperature	350 C

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Summary

Surface Area Report

BET Surface area	14.121 sq.m/g
Correlation Coefficient	0.99987

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1/14/04 JP

Entries for studies documented in this notebook continue in Notebook 631.

1/14/04 JP

I have reviewed this scientific notebook and find it in agreement with QAP-001. There is sufficient information regarding methods used for conducting tests, acquiring and analyzing data so that another qualified individual could repeat the activity.

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