Project Title: Allotment Grant for the Georgia Mining and Mineral Resources Institute

Project No: E-19-502

Project Director: Dr. J. E. Husted

Sponsor: U. S. Department of the Interior, Office of Surface Mining; Washington, D.C. 20240

Agreement Period: From 12/4/80 Until 9/30/81 (Reports)

Type Agreement: Allotment Grant No. G5114003

Amount: $64,200

64,200 GIT (E-19-219)

$128,400 TOTAL

Reports Required: Quarterly Technical & Financial Status Reports; Final Technical & Financial Status Report

Sponsor Contact Person: Dr. Lawrence Chase
Office of Surface Mining
U. S. Department of the Interior
1951 Constitution Avenue, N.W.
Washington, D. C. 20240

Contractual Matters

Dr. David R. Maneval
Assistant Director, Technical Services and Research
Office of Surface Mining
U. S. Department of Interior
1951 Constitution Avenue, N.W.
Washington, D. C. 20240

Defense Priority Rating: None

Assigned to: Chemical Engineering (School/Engineering)
SPONSORED PROJECT TERMINATION SHEET

Date 3/2/82

Project Title: Allotment Grant for GA Mining & Mineral Resources Institute

Project No: E-19-502

Project Director: Dr. J. E. Husted

Sponsor: U.S. DOI/OSM

Effective Termination Date: 9/30/81

Clearance of Accounting Charges: 12/31/81 (Rpts)

Grant/Contract Closeout Actions Remaining:

- [x] Final Invoice and Closing Documents (Financial Status Report sent by PD)
- [ ] Final Fiscal Report
- [ ] Final Report of Inventions
- [x] Govt. Property Inventory & Related Certificate (see enclosed form required)
- [ ] Classified Material Certificate
- [ ] Other

Assigned to: Chemical Engineering (School/Laboratory)

COPIES TO:

Administrative Coordinator
Research Property Management
Accounting
Procurement/EES Supply Services

Research Security Services
Research Reports Coordinator (OCA)
Legal Services (OCA)
Library

EES Public Relations (2)
Computer Input
Project File
Other
**Summary:**

This report includes the latter part of December 1980 in order to put reporting on a quarterly calendar basis. December was primarily a month of Christmas Holidays, vacation and recuperation for the Director. Beginning in January the Director returned to work full time.

On February 3rd, GMMRI served as hosts for a one day meeting. The first half was devoted to the Sunbelt Consortium of Mineral Institutes and the second half to OSM district business represented by states in the Sunbelt Consortium plus Iowa.

The Director was a guest of the Crushed Stone Association of Georgia at their annual meeting. They had offered assistance to the GMMRI. Most equipment had been ordered by the end of the quarter.
Quarterly SMMRRI Reports

<table>
<thead>
<tr>
<th>Grant Recipient</th>
<th>Type of Report</th>
<th>Reporting Period</th>
<th>Control Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia Institute of Technology</td>
<td>Quarterly Technical</td>
<td>1/1/81-3/31/81</td>
<td>G-51004001</td>
</tr>
</tbody>
</table>

Project Title/Program

Scholarship - Fellowship Program

Investigator(s) / Fellowships Recipients

- Mr. Jim Kimball (Met) Continuing fellowship in amount of $1866 per quarter
- Mr. Randall Chapman (Cer. Engr.) Continuing fellowship in amount of $1866 per quarter
- Ms. Teresa Bryan (Ch.E.) Fellowship in amount of $1866
- Ms. Carolyn Moore (C.E.) Scholarship in amount of $291.50

Performing Organization:

* Mr. Terry Patterson (Ch.E.) Scholarship in amount of $291.50
* Mr. Lee Mohnkern (Ch.E.) Continuing scholarship in amount of $291.50
* Mr. Jeffrey Reid (Geol.-Univ. of Ga.) Ph.D. candidate 2nd of 3 qtrs. @ $5963 for 3 quarters
* Mr. Thomas Brazell (Geol.-Univ. of Ga.) M.S. candidate, 2nd of 3 qtrs. @ $5600 for 3 quarters
* Mr. Daniel Lovingood (Geol.Univ. of Ga.) M.S. candidate, 2nd of 3 qtrs. @ $5600 for 3 quarters
* Mr. William O'Leary (Geol.-Univ. of Ga.) M.S. candidate, 2nd of 3 qtrs. @ $5600 for 3 quarters
* Mr. Phillip Potter (Geol.-Univ. of Ga.) M.S. candidate, 2nd of 3 qtrs. @ $5600 for 3 quarters
FEDERAL CASH TRANSACTIONS REPORT

(See instructions on the back. If report is for more than one grant or assistance agreement, attach completed Standard Form 272-A.)

1. Federal sponsoring agency and organizational element to which this report is submitted
   U.S. Dept. of Interior - Office of Surface Mining

2. RECIPIENT ORGANIZATION
   Name: Georgia Institute of Technology
   Number and Street: 659-Z unin4., Atlanta, Georgia 30332

3. FEDERAL EMPLOYER IDENTIFICATION NO. 58-6002023

4. Federal grant or other identification number, See Attached
   14-18-0530

5. Recipient's account number or identifying number
   10

6. Letter of credit number
   14-18-0530

7. Last payment voucher number
   10

Give total number for this period

8. Payment Vouchers credited to your account
   2

9. Treasury checks received (whether or not deposited)
   2

10. PERIOD COVERED BY THIS REPORT
    FROM (month, day, year) 1/1/81 TO (month, day year) 3/31/81

11. STATUS OF FEDERAL CASH
    (See specific instructions on the back)

   a. Cash on hand beginning of reporting period $ 8,247.04
   b. Letter of credit withdrawals
   c. Treasury check payments 43,000.00
   d. Total receipts (Sum of lines b and c) 43,000.00
   e. Total cash available (Sum of lines a and d) 51,247.04
   f. Gross disbursements 51,312.89
   g. Federal share of program income
   h. Net disbursements (Line f minus line g) 51,312.89
   i. Adjustments of prior periods
   j. Cash on hand end of period $ 65.85

12. THE AMOUNT SHOWN ON LINE 11J, ABOVE, REPRESENTS CASH REQUIREMENTS FOR THE ENSUING 1 Days

13. OTHER INFORMATION
    a. Interest income $ 
    b. Advances to subgrantees or subcontractors $ 

14. REMARKS (Attach additional sheets of plain paper, if more space is required)

5. CERTIFICATION
   certify to the best of my knowledge and belief that this report is true in all respects and that all disbursements have been made for the purpose and conditions of the grant or agreement

   AUTHORIZED CERTIFYING
   SIGNATURE OFFICIAL
   
   TYPED OR PRINTED NAME AND TITLE
   David V. Welch, Manager, Grants & Contracts Acctg.
   (Area Code) 404 (Number) 894-4624 (Extension)
   TELEPHONE 894-4624

4/20/81

STANDARD FORM 272 (7-76)
Prescribed by Office of Management and Budget
Cir. No. A-110
1. FEDERAL SPONSORING AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH THIS REPORT IS SUBMITTED
U.S. Dept. of Interior
Office of Surface Mining

2. RECIPIENT ORGANIZATION (Give name only as shown in item 2, SF 272)
Georgia Institute of Technology
Atlanta, Georgia 30332

3. PERIOD COVERED BY THIS REPORT (As shown on SF 272)
FROM (month, day, year) TO (month, day, year)
1/1/81 3/31/81

4. List information below for each grant or other agreement covered by this report. Use additional forms if more space is required.

<table>
<thead>
<tr>
<th>FEDERAL GRANT OR OTHER IDENTIFICATION NUMBER</th>
<th>RECIPIENT ACCOUNT NUMBER OR OTHER IDENTIFYING NUMBER</th>
<th>FEDERAL SHARE OF NET DISBURSEMENTS</th>
<th>CUMULATIVE NET DISBURSEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-51-06001</td>
<td>T-87-212/T-86-146/AF-94381</td>
<td>$16,659.54</td>
<td>$33,408.83</td>
</tr>
<tr>
<td>G-5104003</td>
<td>E-19-584/E-18-584</td>
<td>$9,494.59</td>
<td>$68,498.26</td>
</tr>
<tr>
<td>G-5114003</td>
<td>E-19-502</td>
<td>$20,572.62</td>
<td>$20,572.62</td>
</tr>
</tbody>
</table>

5. TOTALS (Should correspond with amounts shown on SF 272 as follows: column (c) the same as line 11h; column (d) the sum of lines 11h and 11i of this SF 272 and cumulative disbursements shown on last report. Attach explanation of any differences.)

Total: $51,312.89 $127,065.85
# Financial Status Report

**U.S. Dept. of Interior - Office of Surface Mining**

**G-5114003**

**58-6002023**

**E-19-502 (E-19-219)**

---

### 1. Recipient Organization (Name and complete address, including ZIP code)

Georgia Institute of Technology

Atlanta, Georgia 30332

---

### 3. Recipient Account Number or Identifying Number

E-19-502 (E-19-219)

---

### 4. Employer Identification Number

58-6002023

---

### 5. Recipient Account Number or Identifying Number

E-19-502 (E-19-219)

---

### 6. Final Report

YES

---

### 7. Basis

CASH

---

### 8. Project/Grant Period (See Instructions)

**FROM** (Month, day, year) 12/4/80

**TO** (Month, day, year) 6/30/81

**FROM** (Month, day, year) 12/4/80

**TO** (Month, day, year) 3/31/81

---

### 9. Status of Funds

#### (a) Net outlays previously reported

$0

---

#### (b) Total outlays this report period

$20,572.62

---

#### (c) Program income credits

$0

---

#### (d) Net outlays to date

$20,572.62

---

#### (e) Less: Non-Federal share of outlays

$0

---

#### (f) Total Federal share of outlays

$20,572.62

---

#### (g) Total unliquidated obligations

$10,242.03

---

#### (h) Federal share of unliquidated obligations

$10,242.03

---

#### (i) Total cumulative amount of Federal funds authorized

$64,200.00

---

#### (j) Unobligated balance of Federal funds

$33,385.35

---

### 10. Indirect Expense

#### (a) Type of Rate

- PROVISIONAL

- PREDETERMINED

- FIXED

---

#### (b) Rate

73%

---

#### (c) Base

S&W

---

#### (d) Total Amount

$7,558.40

---

#### (e) Federal Share

$7,558.40

---

### 11. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

Represents charges recorded in the accounting records as of 3/31/78.

---

### 12. Certification

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

---

### SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

David V. Welch, Manager

Grants & Contracts Acctg.

---

### DATE REPORT SUBMITTED

4/20/81

---

### TELEPHONE (Area code, number and extension)

404/894-4624

---

### STANDARD FORM 269 (7-76)

Prescribed by Office of Management and Budget

Cir. No. A-110

---

269-102
### FINANCIAL STATUS REPORT

(Place "X" in appropriate box)

<table>
<thead>
<tr>
<th>1. TYPE OF RATE</th>
<th>b. RATE</th>
<th>c. BASE</th>
<th>d. TOTAL AMOUNT</th>
<th>e. FEDERAL SHARE</th>
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<tr>
<td>PROVISIONAL</td>
<td>73%</td>
<td>8%</td>
<td>$401.50</td>
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<tr>
<td>FIXED</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Certification:**

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

**Signature:**

David V. Welch, Manager
Grants and Contracts Accounting

---

**PROGRAMS/FUNCTIONS/ACTIVITIES**

<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>TOTAL</th>
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<tr>
<td>$</td>
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</table>

**STATUS OF FUNDS**

<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
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<th>(f)</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>$</td>
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<td>-0-</td>
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</tbody>
</table>

**SUMMARY OF ACTIVITIES**

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<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
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<td>$</td>
<td>$</td>
<td>$</td>
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</tbody>
</table>

**NOTE:** Charges recorded in the accounting records as of 3/31/81.
**FINANCIAL STATUS REPORT**

(Read instructions on the back)

1. **FEDERAL AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH REPORT IS SUBMITTED**
   - U.S. Dept. of Interior - Office of Surface Mining

2. **FEDERAL GRANT OR OTHER IDENTIFYING NUMBER**
   - G-5104003

3. **RECIPIENT ORGANIZATION**
   - Georgia Institute of Technology
   - Atlanta, Georgia 30332

4. **EMPLOYER IDENTIFICATION NUMBER**
   - 58-6002023

5. **RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER**
   - E-19-584/E-18-584

6. **FINAL REPORT**
   - Yes

7. **BASIS**
   - CASH

8. **PROJECT/GRANT PERIOD**
   - FROM (Month, day, year): 12/4/79
   - TO (Month, day, year): 2/3/81

9. **PERIOD COVERED BY THIS REPORT**
   - FROM (Month, day, year): 1/1/81
   - TO (Month, day, year): 3/31/81

10. **STATUS OF FUNDS**

<table>
<thead>
<tr>
<th>PROGRAMS/FUNCTIONS/ACTIVITIES</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total outlays this report period</td>
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<tr>
<td>Less: Program income credits</td>
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<tr>
<td>Net outlays to date</td>
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<tr>
<td>Non-Federal share of outlays</td>
<td></td>
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<tr>
<td>Total Federal share of outlays</td>
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</tr>
<tr>
<td>Total cumulative amount of Federal funds authorized</td>
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<td></td>
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<tr>
<td>Unobligated balance of Federal funds</td>
<td>$481.74</td>
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</tbody>
</table>

11. **INDIRECT EXPENSE**

<table>
<thead>
<tr>
<th>(Place &quot;X&quot; in appropriate box)</th>
<th>BASE</th>
<th>TOTAL AMOUNT</th>
<th>FEDERAL SHARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>As of 7/1/80 73%</td>
<td>S&amp;M</td>
<td>$37,386.58</td>
<td>$20,949.74</td>
</tr>
</tbody>
</table>

12. **REMARKS:**

- Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

13. **CERTIFICATION**

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

**SIGNATURE OF AUTHORIZED CERTIFYING OFFICER**

David V. Welch, Manager
Grants & Contracts Acctg.

**DATE REPORT SUBMITTED**

4/20/81

**TELEPHONE (Area code, number and extension)**

604/894-4624

**STANDARD FORM 269 (7-76)**

Prescribed by Office of Management and Budget

Cir. No. A-110
### Financial Status Report

**1. Federal Agency and Organizational Element to Which Report Is Submitted**
U.S. Dept. of Interior - Office of Surface Mining

**2. Federal Grant or Other Identifying Number**
G-5106001

**3. Recipient Account Number or Identifying Number**
T-B6-146/T-87-212/AF-94381

**4. Recipient Identification Number**
58-6002023

**5. Recipient Organization**
Georgia Institute of Technology
Atlanta, Georgia 30332

**6. Final Report**
YES

**7. Basis for Report**

- CASH
- ACCRUAL

**8. Project/Grant Period (See Instructions)**

- **FROM** (Month, day, year)
  - 9/1/79

- **TO** (Month, day, year)
  - 9/30/82

- **FROM** (Month, day, year)
  - 1/1/81

- **TO** (Month, day, year)
  - 3/31/81

**9. Status of Funds**

<table>
<thead>
<tr>
<th>(#)</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>a.</td>
<td>$16,749.29</td>
<td>$16,659.54</td>
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<td>$12,602.50</td>
<td>$12,602.50</td>
<td>$160,000.00</td>
<td>$113,988.67</td>
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<td>$33,408.83</td>
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<td>$12,602.50</td>
<td>$12,602.50</td>
<td>$160,000.00</td>
<td>$113,988.67</td>
</tr>
<tr>
<td>c.</td>
<td>Non-Federal share of outlays</td>
<td>Total Federal share of outlays</td>
<td>Total unliquidated obligations</td>
<td>Federal share of unliquidated obligations</td>
<td>Total cumulative amount of Federal funds authorized</td>
<td>Unobligated balance of Federal funds</td>
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<td>d.</td>
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</table>

**10. Programs/Functions/Activities**

- (a)
- (b)
- (c)
- (d)
- (e)
- (f)
- (g)
- (h)
- (i)
- (j)
- (k)
- (l)

**11. Indirect Expense**

<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE OF RATE</td>
<td>RATE</td>
<td>BASE</td>
<td>TOTAL AMOUNT</td>
<td>FEDERAL SHARE</td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**12. Remarks:** Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

**13. Certification**
I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

**Signature of Authorized Certifying Official**
David V. Welch, Manager
Grants & Contracts Accounting

**Date Report Submitted**
4/20/81

**Telephone (Area code, number and extension)**
404-894-4624

---

*Represents charges recorded in the accounting records as of 3/31/81*
<table>
<thead>
<tr>
<th>Grant Recipient</th>
<th>Type of Report</th>
<th>Reporting Period</th>
<th>Control Numbers</th>
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<tbody>
<tr>
<td>Georgia Institute of Technology</td>
<td>Quarterly Technical</td>
<td>4/1/81-6/30/81</td>
<td>G-05114003</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Project Title/Program</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator(s) / Fellowships Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>John E. Husted, Director</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performing Organization:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia Mining and Mineral Resources Institute</td>
</tr>
</tbody>
</table>

**Summary:**

During the subject period the Director worked half time as Director, with the remaining time devoted to teaching a course each in Mineral Separation and Fossil Fuels.

Time was spent on reviewing equipment needs and tracking progress of 1982 Congressional budget action in relation to the Mineral Institutes.

On May 26th and 27th a meeting of the Association of Mineral Institute Directors was attended in Arlington, VA.

Preparation for the GMMRI External Advisory Board meeting, July 8th, included circulating questionnaire and tabulating results. The results are attached.

This contract was extended at no additional costs until September 30, 1981.
Industry's Responses to GMMRI Questionaire

Questionaire mailed March 23, 1981 to 140 companies.
107 - No response (No response from 28 Ga. Mining Assoc. Members)
19 - Returned (Companies out of business)
24 - Responses
140

Of the responses:
15 have a need for mineral trained people
13 have a need for Chemical Engineers trained in mineral processing with at least 1 annually - some periodically every 5 to 6 years
17 have a need for Civil Engineers with geotechnical training with at least 1 annually - some periodically every 5 to 6 years
5 have a need for Extractive Metallurgists with a background in mineral engineering course work

Number and kind of engineers employed:

<table>
<thead>
<tr>
<th>Kind of Engineer</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic</td>
<td>13</td>
</tr>
<tr>
<td>Chemical</td>
<td>21</td>
</tr>
<tr>
<td>Civil</td>
<td>8</td>
</tr>
<tr>
<td>Commercial</td>
<td>1</td>
</tr>
<tr>
<td>Economic geologist</td>
<td>2</td>
</tr>
<tr>
<td>Electrical</td>
<td>4</td>
</tr>
<tr>
<td>Industrial</td>
<td>13</td>
</tr>
<tr>
<td>Mechanical</td>
<td>26</td>
</tr>
<tr>
<td>Mineral</td>
<td>9</td>
</tr>
</tbody>
</table>

Total *123

(*One company reported that it employed 25 engineers but did not specify which kind.)

Comments on brochure:
The few comments were favorable.

Suggestions:
More mining courses
Courses related to mine reclamation need to be added
Course in government and state regulations needs to be added
### Quarterly SMMRRI Reports

<table>
<thead>
<tr>
<th>Grant Recipient</th>
<th>Type of Report</th>
<th>Reporting Period</th>
<th>Control Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia Institute of Technology</td>
<td>Quarterly Technical</td>
<td>4/1/81-6/30/81</td>
<td>G-51004001</td>
</tr>
</tbody>
</table>

#### Project Title/Program

Scholarship - Fellowship Program

#### Investigator(s) / Fellowships Recipients

- **Mr. Jim Kimball (met.):** Continuing fellowship in amount of $1866 per quarter
- **Mr. Randall Chapman (Cer. Engr.):** Continuing fellowship in amount of $1866 per quarter
- **Ms. Teresa Bryan (Ch.E.):** Continuing fellowship in amount of $1866 per quarter
- **Ms. Carolyn Moore (C.E.):** Continuing scholarship in amount of $291.50 per quarter
- **Mr. Terry Patterson (Ch.E.):** Continuing scholarship in amount of $291.50 per quarter
- **Mr. Lee Mohnkern (Ch.E.):** Continuing scholarship in amount of $291.50 per quarter
- **Mr. Jeffrey Redi (Geol.-Univ. of Ga.):** Ph.D. candidate - $5963 for 3 quarters
- **Mr. Thomas Brazell (Geol.-Univ. of Ga.):** M.S. candidate - $5600 for 3 quarters
- **Mr. Daniel Lovingood (Geol.-Univ. of Ga.):** M.S. candidate - $5600 for 3 quarters
- **Mr. William O'Leary (Geol.-Univ. of Ga.):** M.S. candidate - $5600 for 3 quarters
- **Mr. Phillip Potter (Geol.-Univ. of Ga.):** M.S. candidate - $5600 for 3 quarters

#### Performing Organization:

Mr. Jamie Patterson (Ch.E.) Continuing scholarship in amount of $291.50 per quarter

Mr. Lee Mohnkern (Ch.E.) Continuing scholarship in amount of $291.50 per quarter

Mr. Jeffrey Redi (Geol.-Univ. of Ga.) Ph.D. candidate - $5963 for 3 quarters

Mr. Thomas Brazell (Geol.-Univ. of Ga.) M.S. candidate - $5600 for 3 quarters

Mr. Daniel Lovingood (Geol.-Univ. of Ga.) M.S. candidate - $5600 for 3 quarters

Mr. William O'Leary (Geol.-Univ. of Ga.) M.S. candidate - $5600 for 3 quarters

Mr. Phillip Potter (Geol.-Univ. of Ga.) M.S. candidate - $5600 for 3 quarters
FEDERAL CASH TRANSACTIONS REPORT

(See instructions on the back. If report is for more than one grant or assistance agreement, attach completed Standard Form 272-A.)

1. Federal sponsoring agency and organizational element to which this report is submitted
   U. S. Dept. of Interior - Office of Surface Mining

2. RECIPIENT ORGANIZATION
   Name: Georgia Institute of Technology
   Number and Street: Atlanta, Georgia 30332

3. FEDERAL EMPLOYER IDENTIFICATION NO.: 58-6002023

   a. Cash on hand beginning of reporting period $ (65.85)
   b. Letter of credit withdrawals
   c. Treasury check payments 56,000.00
   d. Total receipts (Sum of lines b and c) 56,000.00
   e. Total cash available (Sum of lines a and d) 55,934.15
   f. Gross disbursements 45,817.94
   g. Federal share of program income
   h. Net disbursements (Line f minus line g) 45,817.94
   i. Adjustments of prior periods
   j. Cash on hand end of period $ 10,116.21

4. RECIPIENT ORGANIZATION
   Status of Federal Cash

   a. Interest income
   b. Advances to subgrantees or subcontractors $ 3

5. OTHER INFORMATION
   13. CERTIFICATION

   Authorized
   Certification Official
   Typed or Printed Name and Title
   David V. Welch, Manager, Grants & Contracts Acctg.
   Telephone 404 894-4624

   I certify to the best of my knowledge and belief that this report is true in all respects and that all disbursements have been made for the purpose and conditions of the grant or agreement.

   Authorized
   Certifying Official

   SIGNATURE

   DATE REPORT SUBMITTED 7/28/81

   THIS SPACE FOR AGENCY USE
**FEDERAL CASH TRANSACTIONS REPORT**

**CONTINUATION**

(This form is completed and attached to Standard Form 272 only when reporting more than one grant or assistance agreement.)

1. **FEDERAL SPONSORING AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH THIS REPORT IS SUBMITTED**
   - U. S. Dept. of Interior
   - Office of Surface Mining

2. **RECIPIENT ORGANIZATION** (Give name only as shown in item 2, SF 272)
   - Georgia Institute of Technology
   - Atlanta, Georgia 30332

3. **PERIOD COVERED BY THIS REPORT** (As shown on SF 272)
   - FROM (month, day, year) 4/1/81 TO (Month, day, year) 6/30/81

4. List information below for each grant or other agreement covered by this report. Use additional forms if more space is required.

<table>
<thead>
<tr>
<th>FEDERAL GRANT OR OTHER IDENTIFICATION NUMBER</th>
<th>RECIPIENT ACCOUNT NUMBER OR OTHER IDENTIFYING NUMBER</th>
<th>FEDERAL SHARE OF NET DISBURSEMENTS (Gross disbursements less program income received) FOR REPORTING PERIOD</th>
<th>CUMULATIVE NET DISBURSEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) G-5106001</td>
<td>T-87-212/T-86-146/A1-94381</td>
<td>$14,644.38</td>
<td>$48,053.21</td>
</tr>
<tr>
<td>G-5104003</td>
<td>E-19-584/E-18-584</td>
<td>$.00</td>
<td>68,498.26</td>
</tr>
<tr>
<td>G-5105019</td>
<td>E-18-624/G-41-614</td>
<td>10,285.66</td>
<td>14,871.80</td>
</tr>
<tr>
<td>G-5114003</td>
<td>E-19-502</td>
<td>20,887.90</td>
<td>41,460.52</td>
</tr>
</tbody>
</table>

5. **TOTALS** (Should correspond with amounts shown on SF 272 as follows; column (c) the same as line 11h; column (d) the sum of lines 11h and 11i of this SF 272 and cumulative disbursements shown on last report. Attach explanation of any differences.)

<table>
<thead>
<tr>
<th>$</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>45,817.94</td>
<td>172,883.79</td>
</tr>
</tbody>
</table>
### Financial Status Report

**1. Federal Agency and Organizational Element to Which Report is Submitted**

U.S. Dept. of Interior - Office of Surface Mining

**2. Federal Grant or Other Identifying Number**

G-5106001

**3. Recipient Organization**

Georgia Institute of Technology
Atlanta, Georgia 30332

**4. Employer Identification Number**

58-6002023

**5. Recipient Account Number or Identifying Number**

T-86-146/T-86-212/AF-94381

**6. Final Report**

[ ] Yes [ ] No

**7. Basis**

[ ] Cash [ ] Accrual

**8. Project/Grant Period (See Instructions)**

FROM (Month, day, year) 9/1/79 TO (Month, day, year) 9/30/82

FROM (Month, day, year) 4/1/81 TO (Month, day, year) 6/30/81

**9. Period Covered by This Report**

FROM (Month, day, year) 9/1/79 TO (Month, day, year) 9/30/82

FROM (Month, day, year) 4/1/81 TO (Month, day, year) 6/30/81

**10. Status of Funds**

<table>
<thead>
<tr>
<th>PROGRAMS/FUNCTIONS/ACTIVITIES</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Net outlays previously reported</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$ 33,408.83</td>
</tr>
<tr>
<td>b. Total outlays this report period</td>
<td>14,644.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c. Less: Program income credits</td>
<td>14,644.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Net outlays this report period</td>
<td>48,053.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Net outlays to date</td>
<td>48,053.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Less: Non-Federal share of outlays</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Total Federal share of outlays</td>
<td>160,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Total unliquidated obligations</td>
<td>111,946.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Less: Non-Federal share of unliquidated obligations shown on line h</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Federal share of unliquidated obligations</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Total Federal share of outlays and unliquidated obligations</td>
<td>48,053.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Total cumulative amount of Federal funds authorized</td>
<td>160,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m. Unobligated balance of Federal funds</td>
<td>111,946.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**11. Indirect Expense**

| a. Type of Rate | N/A |
| b. Rate | Provisional |
| c. Base | Predetermined |
| d. Total Amount | Final |
| e. Federal Share | Fixed |

**12. Remarks:** Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

**13. Certification**

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

**Signature of Authorized Certifying Official**

David V. Welch, Manager
Grants & Contracts Acctg.

**Date Report Submitted**

7/28/81

**Telephone (Area code, number and extension)**

404/894-4624

STANDARD FORM 269 (7-76)
Prescribed by Office of Management and Budget
Cir. No. A-110
1. **FEDERAL AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH REPORT IS SUBMITTED**

   U.S. Dept. of Interior - Office of Surface Mining

2. **FEDERAL GRANT OR OTHER NUMBER**

   G-5104003

3. **RECIPIENT ORGANIZATION**

   Georgia Institute of Technology

   Atlanta, Georgia 30332

4. **EMPLOYER IDENTIFICATION NUMBER**

   58-6002023

5. **RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER**

   E-19-584/E-18-584

6. **RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER**

   OMB Approved No. 80-R0180

7. **PROJECT/GRANT PERIOD**

   (See instructions)

   FROM (Month, day, year) 
   FROM 12/4/79 TO 2/3/81

   TO (Month, day, year)
   TO 4/1/81

   FROM (Month, day, year)
   FROM 4/1/81 TO 6/30/81

8. **PERIOD COVERED BY THIS REPORT**

9. **STATUS OF FUNDS**

<table>
<thead>
<tr>
<th>PROGRAMS/FUNCTIONS/ACTIVITIES</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Net outlays previously reported</td>
<td>$</td>
<td></td>
<td>$</td>
<td></td>
<td>$</td>
<td>$</td>
<td>$108,835.58</td>
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<tr>
<td>b. Total outlays this report period</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>71,676.47*</td>
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</tr>
<tr>
<td>c. Less: Program income credits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71,676.47</td>
<td></td>
</tr>
<tr>
<td>d. Net outlays this report period</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>180,512.05</td>
<td></td>
</tr>
<tr>
<td>(Line b minus line c)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>112,013.79</td>
<td></td>
</tr>
<tr>
<td>e. Net outlays to date</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>68,498.26</td>
<td></td>
</tr>
<tr>
<td>(Line d plus line e)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Less: Non-Federal share of outlays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>41,020.00*</td>
<td></td>
</tr>
<tr>
<td>g. Total Federal share of outlays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Line e minus line f)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>41,020.00</td>
<td></td>
</tr>
<tr>
<td>h. Total unliquidated obligations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>109,518.26</td>
<td></td>
</tr>
<tr>
<td>i. Less: Non-Federal share of unliquidated obligations shown on line h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>110,000.00</td>
<td></td>
</tr>
<tr>
<td>j. Federal share of unliquidated obligations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Federal share of outlays and unliquidated obligations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>481,74</td>
<td></td>
</tr>
<tr>
<td>k. Total cumulative amount of Federal funds authorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Unobligated balance of Federal funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. **INDIRECT EXPENSE**

   a. TYPE OF RATE (Place "X" in appropriate box)
   - PROVISIONAL
   - PREDETERMINED
   - FINAL
   - FIXED

   b. RATE
   - 12/4/79-6/30/80 -7%
   - 7/1/80-12/31/80 -7%

   c. TOTAL AMOUNT
   - $67,707.13
   - $20,949.74

11. **CERTIFICATION**

   I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

   SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

   DATE REPORT SUBMITTED
   - 7/28/81

   TELEPHONE (Area code, number and extension)
   - 404/894-4624

12. **REMARKS:**

   Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

   [Note: Charges recorded in the accounting records as of 6/30/81. All charges were obligated as of 2/3/81.]

   200-102

   STANDARD FORM 269 (7-76)

   Prescribed by Office of Management and Budget

   Cir. No A-110
# FINANCIAL STATUS REPORT

**U.S. Dept. of Interior - Office of Surface Mining**

**FINANCIAL STATUS REPORT**

<table>
<thead>
<tr>
<th>1. FEDERAL AGENCY AND ORGANIZATIONAL ELEMENT TO WHICH REPORT IS SUBMITTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Dept. of Interior - Office of Surface Mining</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. FEDERAL GRANT OR OTHER IDENTIFYING NUMBER</th>
<th>3. RECIPIENT ORGANIZATION (Name and complete address, including ZIP code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-5114003</td>
<td>Georgia Institute of Technology, Atlanta, Georgia 30332</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. EMPLOYER IDENTIFICATION NUMBER</th>
<th>5. RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>6. FINAL REPORT</th>
<th>7. BASIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>□ CASH</td>
</tr>
<tr>
<td>NO</td>
<td>□ ACCRUAL</td>
</tr>
</tbody>
</table>

**PROJECT/GRANT PERIOD**

<table>
<thead>
<tr>
<th>FROM (Month, day, year)</th>
<th>TO (Month, day, year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/4/80</td>
<td>6/30/81</td>
</tr>
<tr>
<td>4/1/81</td>
<td>6/30/81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. STATUSES OF FUNDS</th>
<th>9. TOTAL (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Net outlays previously reported $</td>
<td>$ 20,572.62</td>
</tr>
<tr>
<td>b. Total outlays this report period</td>
<td>$ 85,088.90</td>
</tr>
<tr>
<td>c. Less: Program income credits</td>
<td>$ 85,088.90</td>
</tr>
<tr>
<td>d. Net outlays to date</td>
<td>$ 105,661.52</td>
</tr>
<tr>
<td>e. Less: Non-Federal share of outlays</td>
<td>$ 64,201.00</td>
</tr>
<tr>
<td>f. Total Federal share of outlays</td>
<td>$ 41,460.52</td>
</tr>
<tr>
<td>g. Total cumulative amount of Federal funds authorized</td>
<td>$ 16,439.12</td>
</tr>
<tr>
<td>h. Federal share of unliquidated obligations</td>
<td>$ 16,439.12</td>
</tr>
<tr>
<td>i. Total cumulative amount of Federal funds authorized</td>
<td>$ 57,899.64</td>
</tr>
<tr>
<td>j. Total unliquidated obligations</td>
<td>$ 64,200.00</td>
</tr>
</tbody>
</table>

**INDIRECT EXPENSE**

<table>
<thead>
<tr>
<th>a. TYPE OF RATE</th>
<th>b. RATE</th>
<th>c. BASE</th>
<th>d. TOTAL AMOUNT</th>
<th>e. FEDERAL SHARE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>73%</td>
<td>S&amp;W</td>
<td>$38,394.12</td>
<td>$12,938.29</td>
</tr>
</tbody>
</table>

**CERTIFICATION**

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

**SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL**

David V. Welch, Manager
Grants & Contracts Office

**DATE REPORT SUBMITTED**

7/28/81

**TELEPHONE (Area code, number and extension)**

404/894-4624

**STANDARD FORM 269 (7-76)**

Prescribed by Office of Management and Budget

Cir. No. A-410
3. RECIPIENT ORGANIZATION: (Name and complete address, including ZIP code)
GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

5. RECIPIENT ACCOUNT NUMBER OR IDENTIFYING NUMBER
G-41-614/E-18-624

10. STATUS OF FUNDS
(a) Net outlays previously reported
(b) Total outlays this report period
(c) Less: Program income credits
(d) Net outlays this report period
(Line b minus line c)
(e) Net outlays to date
(Line a plus line d)
(f) Less: Non-Federal share of outlays
(g) Total Federal share of outlays
(Line e minus line f)
(h) Total unliquidated obligations
(i) Less: Non-Federal share of unliquidated obligations shown on line h
(j) Federal share of unliquidated obligations
(k) Total Federal share of outlays and unliquidated obligations
(l) Total cumulative amount of Federal funds authorized
(m) Unobligated balance of Federal funds

11. INDIRECT EXPENSE
(a) TYPE OF RATE
(Place "X" in appropriate box)
(b) RATE
(c) BASE
(d) TOTAL AMOUNT
(e) FEDERAL SHARE
73% S&W $4,003.34 $4,003.34

13. CERTIFICATION
I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

SIGNED OF AUTHORIZED CERTIFYING OFFICIAL

DATE REPORT SUBMITTED
7/28/81

TELEPHONE (Area code, number and extension)
404-894-4624

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269--102
Georgia Institute of Technology  Final Technical Report  12/4/80-9/30/81  G-5114003

Allotment Grant for the Georgia Mining and Mineral Resources Institute

John E. Husted, Director

Georgia Mining and Mineral Resources Institute

Summary:

All personal services charged to this grant were completed during the initial grant period December 4, 1980-June 30, 1981 and are adequately covered without duplication in the two Quarterly Reports for this period.

Other expenditures on this grant were for travel expenses for which the personal services were charged on Grant G-5114017, materials and supplies, and capital expenditures for which prior permission was obtained.