

RECORD OF PROCEEDINGS

Golden, Colorado
January 8, 1988

The Board of Trustees met in regular session on January 8, 1988, at 8:00 a.m.

Trustees present: Ms. Allen, Messrs. Henderson, Pascoe, Schwartzberg, Warren, Wilson and Wood.

Absent: Mr. Miller.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, and Scott, Deans Gentry and Chevront, Dr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting of December 18, 1987, were approved as distributed.

Tuition Reduction for Nontraditional Students. Dr. Golden informed the Board that Dr. Wiedenhoeft, Department of Humanities and Social Sciences, would like to open some of his courses to senior citizens, age 50 and over, with a fifty percent reduction in tuition. Dr. Golden recommends approval.

The Board unanimously approved the request.

Approval of Program Plan for Engineering Hall. Mr. Scott informed the Board that the architects have completed program planning for the renovation of Engineering Hall. Board approval is required prior to consideration of the plan by CCHE.

The building has been designed in a manner that fully accommodates the expected occupants. The quantity of contaminated materials is uncertain. A final determination can only be made as the materials are moved and tested. Costs are therefore equally uncertain. The combination of conservative estimates for demolition and decontamination along with the cost of renovation place in jeopardy our ability to pay for the shipment and interment of the contaminated material as planned.

A Colorado disposal site is being sought for all or part of the materials to reduce costs. There is a reasonable possibility that a combination of lesser demolition and renovation costs will be experienced and that these combined with the contingency within the project will be sufficient to provide off-site disposal.

An alternate plan would be to hold the contaminated materials on CSM property until a more accessible and affordable disposal site becomes available.

The building could be reprogrammed retaining the bearing walls and the estimates of cost would be considerably

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lower. However, this plan does not remove known contaminants as completely, and it results in the loss of approximately 1500 square feet of floor space, making the building less adequate to house the intended occupants.

Mr. David Leavenworth of the Plant Facilities Department, and Ms. Mary Bishop, radiation consultant, responded to questions.

The Board unanimously approved the Program Plan as presented, with the recognition that costs may require a delay in the disposal of the contaminated materials removed from the building.

Preliminary Approval of Resolution Refunding CSM Housing System Bonds. The Housing System, including Ben Parker Student Center, is financed with revenue bonds under a consolidated bond issue. These were refunded in 1984 at an effective rate of 10.42 percent.

Bonds are currently selling at lower interest, resulting in an opportunity to save debt service funds, with a present value of approximately \$200,000. The Board is asked to approve this preliminary resolution authorizing a 1988 refunding, subject to the determination that savings of at least \$200,000 in present value will be realized by marketing the new issue. The market has been volatile, and action is being requested at this time in the belief that an attractive opportunity may present itself in the next few weeks.

The Board unanimously voted to accept the Bond Resolution in the form provided by Bond Counsel, copy of which is appended hereto. A final approval/ratification will be required at a subsequent board meeting if the bonds are sold.

New Faculty Appointments. Dr. Gentry informed the Board that there are no current signed contracts to report at this time.

Graduate School Admissions. Dr. Romberger informed the Board that because of the holiday period, the status of graduate admissions has not changed since the report given at the December 18, 1987 meeting.

Enrollment - Admissions. Mr. Young had provided the January 1, 1988 Admissions Report and the Admissions Report for Spring Semester 1988.

New Research Awards. Dr. Olson provided a report on new research award volume for December 1987. This month's volume is \$589,253 compared to \$344,346 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$3,865,789, which is \$244,774 behind the total for the same period the previous year of \$4,110,563. Twenty-six different faculty were involved in twenty new project awards.

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Sixteen proposals were submitted in the month of December 1987 compared to thirty-one during the month of November 1987. A total to date of 146 proposals for FY 1988 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Six Months Ending December 31, 1987; Colorado School of Mines Auxiliary and Self-Funded Activities for the Six Months Ending December 31, 1987; and Colorado School of Mines Time Deposits and Investment Report, December 31, 1987. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year. Mr. Scott reminded the Board that the Governor is still considering a one or two percent rescission.

Safety Report. Dr. Golden informed the Board that due to the Christmas break, there is no substantial change to the report presented at the meeting of December 18, 1987.

Dr. Golden reported that Fire Marshal Joe Bruce from the Golden Fire Department will meet with the department heads on Monday, February 8 for a fire safety briefing, and on Tuesday, January 12, Bob Bensching from Gates will meet with Dr. Golden, Mr. Scott and Mr. Sudermann concerning safety issues.

Bookstore Proposal Analysis. Dr. Chevront reviewed the material which had been distributed prior to the meeting. In the material he stated that proposals to construct and manage the Colorado School of Mines Bookstore were received from three companies, LCB Limited, Barnes and Noble Bookstores Inc., and Follett College Stores Corporation. A committee was convened to evaluate the proposals.

The committee's deliberations included a review of the request for proposal, individual interviews with representatives of the three bidders, and a final evaluation. The committee has recommended that the bookstore construction and management contract be awarded to Follett College Stores Corporation.

Mr. Wood thanked Dr. Chevront for the information.

Mr. Pascoe entered the meeting at this time.

Faculty Handbook, Eleventh Edition. Dr. Golden informed the Board that the faculty approved the draft of the Eleventh Edition of the Faculty Handbook at its meeting held on December 16, 1987. Copies of this draft are being distributed to the members of the Board today for their information and approval at the February meeting.

Department of Humanities & Social Sciences Presentation. Dr. Gentry introduced Dr. Wilton Eckley, Head of the Humanities Department, who discussed that Department's

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facilities, its functions, special programs and staff. The Department's objectives are to strengthen curriculum, teaching and research.

Dr. Eckley introduced H & SS Department faculty members Drs. Peter Hartley, Ron Wiedenhoeft, Barbara Olds and Kathy Ochs, who each contributed to the presentation.

Mr. Wood thanked Dr. Eckley and his colleagues for their presentation.

Sabbatical Report. Dr. Donald Langmuir, Professor of Chemistry and Geochemistry, who was on leave during the 1986-87 academic year, at one-half pay, reported on his activities during the sabbatical leave.

Mr. Wood thanked Dr. Langmuir for his report.

Legislative Report. Dr. Nyikos informed the Board that the higher education budget appropriation is \$38 million and that CSM should receive \$11.8 million. He also discussed the proposed rescission and the capital construction appropriation.

Dr. Nyikos also informed the Board that he is in the process of scheduling legislative luncheons.

CCHE - Program Discontinuance. Dr. Golden informed the Board that CSM has asked to have two programs removed from the list, and that both programs will be taken into Phase II. The CCHE staff will make an early recommendation.

Nondegree Departmental Status for International Activities. Dr. Gentry stated that in view of the burgeoning activities and interests in international affairs at CSM, it appears advisable to establish a nondegree granting Department of Global Systems and Cultures.

Dr. Gentry had distributed background information and rationale for this recommendation prior to the meeting. This proposed new department would serve an institutional need in the educational process at CSM, as well as the academic component for the newly initiated International Institute and the planned North-South Center within the Institute.

Dr. Gentry believes that creation of the academic department will be a positive step in furthering the institution's efforts toward meeting several of the goals articulated in the Future Graduate Profile.

Discussion ensued, during which Mr. Henderson complimented Dr. Gentry on the thoroughness of the proposal.

No Board action was requested at this time.

The meeting was adjourned at 12:10 p.m., and the Board went into executive session.

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January 8, 1988

James M. Wood
Secretary, signed for the



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Golden, Colorado
February 12, 1988

The Board of Trustees met in regular session on February 12, 1988, at 9:00 a.m.

Trustees present: Messrs. Henderson, Miller, Pascoe, Warren and Wood.

Absent: Ms. Allen and Messrs. Schwartzberg and Wilson.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, and Scott, Deans Gentry and Chevront, Dr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting of January 8, 1988, were approved as distributed.

Sabbatical Leave Request. Drs. Golden and Gentry recommend approval of the following sabbatical request:

Michael J. Pavelich
Associate Professor of Chemistry and Geochemistry
and Director of EPICS
Original appointment to the faculty: 1977-78
Has not previously been on leave
Request is for the 1988-89 academic year at one-half pay for renewal, review of educational literature, study intellectual development theories in depth and association with a chemical research group in either Kingston, Jamaica or Limerick, Ireland.

The Board unanimously approved the request for sabbatical leave.

Proprietary Research Policy. At the December 18 meeting of the faculty the following statement on proprietary research was approved by the faculty subsequent to approval by Graduate Council. This statement is much more specific in terms of the rights of the student than the policy approved by the Board at an earlier meeting.

An advanced degree normally will not be granted by Colorado School of Mines unless the thesis describing the research is made public property in the sense that immediately upon completion of the work it is deposited in the Library of Colorado School of Mines and made accessible to all interested persons and to the public. Under special circumstances

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the School may enter into an agreement with a sponsor to include proprietary research in a graduate student's thesis or dissertation. The nature and extent of proprietary research reported in the thesis or dissertation must be agreed upon in writing by the sponsor, principal investigator, student, and Dean of Graduate Studies. Under no circumstances will the research, thesis preparation, thesis defense, and graduation of the student be delayed. The thesis defense will remain open to the public. In addition, denial of public access to the written thesis will be limited to a maximum of twelve months from the date of submittal of the Statement of Work Completion form to the Dean of Graduate Studies.

At the request of President Ansell and Dr. Golden, the Board unanimously approved the proposed Proprietary Research Policy.

NAIA Policy on Substance Abuse. In response to the NAIA's directive that member institutions must have a drug screening program in place, the Board unanimously approved the following proposal:

Recognizing mounting drug problems with athletic programs nationally, the Colorado School of Mines Athletic Department has proposed policies to be initiated in the Spring 1988. CSM wants to deal positively with drug problems in order to maintain an excellent athletic program - one in which concern for the student and his/her ability to continue their education is of the utmost concern. In order to accomplish this goal, the following policies will be implemented.

1. Before participation in athletics at the Colorado School of Mines, every athlete must attend a lecture presentation by the athletic trainer.
2. Before participation in athletics at the Colorado School of Mines, every athlete must complete and sign a drug screening questionnaire.
3. Before participation in athletics at the Colorado School of Mines, every athlete and his/her parents/guardian must sign a consent waiver which allows random sampling for drug use (urine analysis).
4. Drug use as indicated by the urine analysis or the questionnaire will result in the student being required to receive individual assistance, within the Athletic Department, and/or being required to attend a mandatory counseling

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program at the Colorado School of Mines Student Development Center.

5. A student athlete identified as having a severe drug use problem may have his/her parent(s) or legal guardian or spouse notified, and may be required to participate in an extensive rehabilitation program as determined by the Dean of Students and the Student Development Center. Additional action (probation or suspension) will be determined by the Dean of Students as in the case of any student determined to have a drug related problem.

Syvret Educational Loan Fund. Mr. Scott informed the Board that the Syvret Educational Loan Fund was established by a gift from Mr. Charles Syvret with the approval of the Board of Trustees. The terms of the gift require that the loan fund be held in U. S. securities or an account insured by an agency of the U. S. Government.

Mr. Scott is proposing the opening of a separate insured account to facilitate the operation of the fund.

The Board unanimously approved the standard bank resolution provided by the Colorado National Bank in Golden.

Visiting Committees. The Board unanimously approved the request of the Geophysics Department to remove Mr. DeSio from its committee list. Details appear in the departmental response to the visiting committee report.

The Board unanimously approved the following suggested visiting committee list for the Department of Chemical Engineering and Petroleum Refining.

Robert Bird, Professor of Chemical Engineering,
University of Wisconsin

Scott Roberts, Business Manager, Chemical Division
Shell Oil Company

Charles Cook, Vice President, Research and
Development, Phillips Petroleum

Roger Beach, President, Refining and Marketing
UNOCAL

Richard Herring, President, Ball Aerospace
Systems Division

John K. Coors, Director of Customer Satisfaction
Adolph Coors Company

Ted Bednarski, Director, Research and Development
Hercules, Inc.

Leroy Berti, Production Manager, Union Carbide

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A. Bernard Coady, President and Chairman, Delta Projects Ltd., Calgary, Alberta

Philip Wankat, Professor of Chemical Engineering
Purdue University

Walter L. Robb, Senior Vice President, Corporate Research and Development, General Electric Company

Geoffrey Place, Vice President, Research and Development, The Proctor and Gamble Company

Charles M. Starks, Vice President, Research and Development, Vista Chemical Company

The Board unanimously approved the following suggested visiting committee list for the Department of Humanities and Social Sciences.

Stephen Fienberg, Dean of Humanities and Social Sciences, Carnegie-Mellon University

Father David M. Clarke, President, Regis College

Brig. General Erlind Royer, Dean of Faculty,
U.S. Air Force Academy

Ted Goudvis, President of Concrete Masonry,
retired

Roger Eldridge, Associate Director of Sponsored Research, U.S. West, Inc.

Benjamin Rummerfield, President, GeoData Corp.

Robert Pozzo, metallurgical engineer, retired

Phillipe Dunoyer, President, Total Petroleum

Fay Carter, President and Director, Fay S. Carter Foundation

Faculty Handbook. Dr. Golden informed the Board that the Faculty Handbook Committee has met for the past two and one-half years developing this edition of the Handbook and building the consensus process.

The Handbook was reviewed by Dr. Tom Emmet, who is an expert in the development of handbooks, and he met with the committee. The Handbook was also reviewed by Mr. Charles Kaiser and Mr. Edward Liberatore, our past and present representatives from the Attorney General's office. They also met with members of the committee on several occasions.

The current draft of the contractual portion of the Handbook was approved by the faculty at its meeting on December

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16, 1987. The administration now recommends the Handbook to the Board of Trustees for their consideration and approval.

Mr. Henderson complimented the Faculty Handbook Committee for its work. Mr. Miller moved approval, the motion was seconded by Mr. Henderson, and the Board unanimously approved the draft of the Faculty Handbook.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Mr. Scott S. Bailey Instructor in Mathematics	\$3,000 for the spring semester of the 1987-88 academic year
Dr. Mark S. Bohn Adjunct Associate Professor of Engineering	\$3,500 for the spring semester of the 1987-88 academic year
Dr. Edward B. Coalson Adjunct Associate Professor of Geology and Geological Engineering	\$2,000 for the spring semester of the 1987-88 academic year
Dr. Adriana Donoso Visiting Professor of Humanities & Social Sciences	No compensation for the spring semester of the 1987-88 academic year
Dr. Maria T. Duailibe Visiting Professor of Humanities & Social Sciences	No compensation for the spring semester of the 1987-88 academic year
Dr. Wendy J. Harrison Assistant Professor of Geology and Geological Engineering	\$13,382 (prorated on academic year salary of \$35,000) for the period Feb. 1, 1988 - May 5, 1988
Dr. David C. Prater Adjunct Assistant Professor of Humanities & Social Sciences	\$2,500 for the spring semester of the 1987-88 academic year
Dr. Samuel Sa Visiting Professor of Humanities & Social Sciences	No compensation for the spring semester of the 1987-88 academic year
Dr. William D. Stephenson Adjunct Assistant Professor of Humanities & Social Sciences	\$5,000 for the spring semester of the 1987-88 academic year

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Continuation of Appointment.

Dr. Frederick B. Bart Adjunct Assistant Professor of Humanities & Social Sciences	\$2,500 for the spring semester of the 1987-88 academic year
Dr. Robert J. Copeland Adjunct Associate Professor of Engineering	\$3,000 for the spring semester of the 1987-88 academic year
Dr. Richard L. Harlan Adjunct Professor of Geology and Geological Engineering	\$4,000 for the 1987- 88 academic year
Mr. Wesley G. Johnson Adjunct Associate Professor of Mining Engineering	\$2,250 for the spring semester of the 1987-88 academic year
Dr. Hossein Kazemi Adjunct Associate Professor of Petroleum Engineering	\$4,158 for the spring semester of the 1987-88 academic year
Dr. Thomas J. McInerney Adjunct Associate Professor of Humanities & Social Sciences	\$2,500 for the spring semester of the 1987-88 academic year
Dr. David A. Stephenson Adjunct Professor of Geology and Geological Engineering	\$2,000 for the fall semester of the 1987-88 academic year

Reappointment.

Dr. Henry A. Babcock Adjunct Professor of Engineering	\$5,000 for the spring semester of the 1987-88 academic year
Dr. Robert J. Sterrett Adjunct Assistant Professor of Geology and Geological Engineering	\$5,000 for the spring semester of the 1987-88 academic year

Additional Information.

Dr. John Tilton has accepted and signed a contract for the position of Head of Mineral Economics Department effective February 1, 1988.

Dr. Mogens Henriksen has accepted and signed a contract for the position of Head of Engineering Department effective January 4, 1988.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Fall 1988, as of January 29, 1988.

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Enrollment - Admissions. Mr. Young had provided the February 1, 1988 Admissions Report. Discussion ensued, during which Mr. Miller commented that there is a real need in industry for good technical managers.

Mr. Spaulding had provided the Spring 1987-88 Registrar's Report.

New Research Awards. Dr. Olson provided a report on new research award volume for January 1988. This month's volume is \$1,024,508 compared to \$753,317 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$4,890,297, which is \$26,417 ahead of the total for the same period the previous year of \$4,863,880. Nineteen different faculty were involved in seventeen new project awards.

Eighteen proposals were submitted in the month of January 1988 compared to sixteen during the month of December 1987. A total to date of 164 proposals for FY 1988 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Seven Months Ending January 31, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Seven Months Ending January 31, 1988; and Colorado School of Mines Time Deposits and Investment Report, January 31, 1988. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year.

Safety Report. Dr. Golden provided a safety report and reported on lost-time accidents.

Dr. Golden informed the Board that the School had accepted Trustee Miller's gracious offer of Gates personnel to advise the School in safety matters. There was an initial meeting with Mr. R. K. (Bob) Bensching of Gates to discuss the scope of safety matters at the School. A second meeting was held with Mr. Bensching and Mr. Ernie Karger, also of Gates, to amplify the information discussed at the initial meeting. On January 26, a safety walkthrough of the campus was conducted with three Gates personnel who, on February 10, 1988, submitted a report to the School on current safety issues and recommendations for future programs. Dr. Golden thanked Mr. Miller for making his people available to assist the Safety Committee.

President Ansell informed the Board that he intends to approach other college presidents to explore the possibility of forming a joint industry/university committee made up of professionals from the universities and from industries which would be both cooperative and aware of our needs, such as Coors, IBM, Kodak, Gates, etc. He believes that such a group might be able to reduce the cost of meeting our campus environmental needs by the sharing of specific areas of knowledge and expertise, and providing counsel and advice. President Ansell stated that he will keep the Board informed on this matter.

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Mr. Miller said that he will continue to make Mr. Bensching available for assistance.

Visiting Committee Reports. President Ansell had provided the Board with copies of the reports of the visiting committees for the Department of Geophysics, the McBride Honors Program, and the Department of Mineral Economics and the responses to those reports.

Discussion ensued, during which it was determined that the Board would discuss in depth one visiting report per month.

Medalist Nominees. The Board unanimously approved the list of nominees for the Distinguished Achievement Medal and the George R. Brown Medal.

Sabbatical Report. Dr. William A. Hustrulid, Professor of Mining Engineering, who was on leave during the 1986-87 academic year at one-half pay, presented his report. He spent his sabbatical at the University of Lulea in Sweden, where he participated in a five-year, \$50 million research program called Mining in the Future, which involved a coordinated effort on the parts of the University of Lulea, the Swedish mining companies, other research organizations, and the suppliers to the mining industry. He has also completed several chapters of a textbook he is writing on surface mine design.

Dr. Hustrulid thanked the Board for the opportunity to take academic leave.

Mr. Wood thanked Dr. Hustrulid for his report.

Legislative Report. Dr. Nyikos discussed the proposed revisions to the CCHE's current tuition and fees policy. The Board asked that Dr. Nyikos prepare a response to the CCHE which states that the Trustees do not support any of the proposed alternatives as bases for policy.

Mr. Henderson left the meeting at this time.

Dr. Nyikos discussed the CCHE Affirmative Action Policy which has been adopted.

Dr. Golden discussed program discontinuance. He informed the Board that Physics has been removed from the discontinuance list. President Ansell believes that Math will also be removed from the discontinuance list.

Dr. Nyikos discussed HB 1009, the so-called privatization act, which would extend state services to private enterprise, i.e. janitorial services.

Dr. Nyikos reported that the revenue picture for the state is very good and that the School may not be subjected to a rescission.

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The meeting was adjourned at 10:45 a.m., and the Board went into executive session.


Secretary

February 12, 1988

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Golden, Colorado
March 11, 1988

The Board of Trustees met in regular session on March 11, 1988, at 9:00 a.m.

Trustees present: Messrs. Henderson, Miller, Pascoe, Schwartzberg, and Wood.

Absent: Ms. Allen and Messrs. Warren and Wilson.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, and Scott, Deans Gentry and Chevront, other staff members, and visitors.

Mr. Wood presided.

Resolution. Mr. Schwartzberg recommended that the Board of Trustees take official action to recognize the accomplishments of the Mines basketball team, specifically Coach Jim Darden's recognition as NAIA District 7 Coach of the Year. He further recommended that a letter signed by the President of the Board be sent to Coach Darden and the team reflecting this action.

The recommendation was seconded by Mr. Henderson and unanimously approved by the Board.

Previous Minutes. Mr. Henderson moved to amend the minutes of February 12, 1988, with regard to the safety report. He requested that the third paragraph, second sentence, be amended to read as follows: "He believes that such a group might be able to reduce the cost of meeting all of our campus safety needs by the sharing of specific areas of knowledge and expertise, and providing counsel and advice."

The Board unanimously approved the minutes of February 12, 1988, as amended.

Faculty Emeritus Appointments. Dr. Golden reported that two faculty members who qualify for emeritus status have announced their intent to retire on transitional teaching appointments at the end of this academic year. They are:

Robert J. Taylor, Associate Professor of Engineering
Initial appointment: AY 1955-56

Austin R. Brown, Professor of Mathematics
Initial appointment: AY 1965-66
Promotion to Professor: AY 1967-68

The Board unanimously approved the request for conferral of emeritus status for Prof. Taylor and Dr. Brown.

Department Name Change. Dr. Golden informed the Board that the Department of Humanities and Social Sciences has

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requested that the name of the department be changed to Department of Humanities, Social Sciences and Communication.

Discussion ensued, following which President Ansell withdrew the motion.

Bond Resolution. Mr. Scott reminded the Board that at its January meeting it approved a preliminary resolution authorizing a 1988 refunding, subject to the determination that savings of at least \$200,000 in present value will be realized by marketing the new issue.

Mr. Scott informed the Board that negotiations have been completed and recommended approval of the bond resolution, the escrow agreement and the bond purchase agreement. He introduced Mr. Ron Kaiser of Boettcher and Co., who offered to answer questions.

Mr. Pascoe moved for ratification. The motion was seconded by Mr. Schwartzberg and unanimously approved by the Board.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Dr. Michael L. Hendricks Adjunct Assistant Professor of Geology and Geological Engineering	No compensation for the spring semester of the 1987-88 academic year
Mr. Guoliang Huang Visiting Scholar of Metallurgical Engineering	\$3,500 for the Period January 1, 1988 - July 31, 1988

Continuation of Appointment.

Dr. Bruce Craig Adjunct Associate Professor of Petroleum Engineering	\$3,720 for the spring semester of the 1987-88 academic year
Dr. Peter J. McCabe Adjunct Associate Professor of Geology and Geological Engineering	No compensation for the spring semester of the 1987-88 academic year

Dr. Gentry had distributed quantitative evaluation reports to the Board members prior to the Board meeting.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Fall 1988, as of February 29, 1988.

Enrollment - Admissions. Mr. Young had provided the March 1, 1988 Admissions Report. Mr. Pascoe expressed his continuing concern about the lagging number of applications for admission received at CSM compared with other institutions.

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Discussion ensued, during which Mr. Young responded to questions.

New Research Awards. Dr. Olson provided a report on new research award volume for February 1988. This month's volume is \$300,341 compared to \$1,219,335 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$5,190,638, which is \$892,575 behind the total for the same period the previous year of \$6,083,215. Twenty-two different faculty were involved in eighteen new project awards.

Twenty-two proposals were submitted in the month of February 1988 compared to eighteen during the month of January 1988. A total to date of 182 proposals for FY 1988 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Eight Months Ending February 29, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Eight Months Ending February 29, 1988; and Colorado School of Mines Time Deposits and Investment Report, February 29, 1988. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year.

Safety Report. Dr. Golden provided a safety report and reported on lost-time accidents.

Dr. Golden informed the Board that the administration has decided to proceed with the hiring of a person to fill the position of Manager of Environmental Safety. It is his belief that this addition will greatly enhance the campus safety program. Mr. Henderson expressed the opinion that the title of the person hired should be manager of safety and environmental affairs.

Institutional Response to Geophysics Departmental Visiting Committee Report. Dr. Phil Romig, Head of the Department of Geophysics, stated that the Visiting Committee Report is very detailed and extensive and includes thirty-five specific recommendations. Dr. Romig discussed a few of the key issues that were raised by the Visiting Committee.

President Ansell informed the Board that it will receive another draft of the response for consideration. This draft will reflect the policy changes of the School.

Mr. Henderson requested that an afternoon session be held in the future to help create a better understanding as to how applied research at Mines could contribute to the bringing of new knowledge to the field.

Mr. Wood thanked Dr. Romig for his presentation.

Dr. Nyikos distributed a brochure on the Summet Minority Engineering Program. Summet is funded by contributions

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from industry. Major contributors include ARCO, Consolidated Coal, EXXON, Mobil, Marathon Oil, Shell and Texaco. Mr. Henderson stated that he would like to hear more about the program at a future meeting.

Legislative Report. Dr. Nyikos informed the Board that he remains hopeful that funding for the fieldhouse renovation will be approved.

Dr. Nyikos stated that the Legislature hopes to introduce the Long Bill by April 9. The Legislature intends to adjourn by May 6.

Dr. Nyikos reminded the Board of its March 24 luncheon with the House Education Committee.

Dr. Nyikos informed the Board that the CCHE has adopted a state-wide transfer policy, which CSM finds acceptable.

Dr. Nyikos discussed the CCHE tuition policy. He said that the Board's position has been stated to the CCHE. The Commission's action was to give the Executive Director of the Commission the authority to negotiate with the boards of institutions. CSM is not in favor of this. He stated that it is unclear what the next step will be on the part of the Commissioners.

Dr. Nyikos reported on the CCHE state-wide affirmative action policy. The Commission staff was directed to focus its efforts on the student side of this matter. Dr. Nyikos has met with Ms. Romero of the CCHE to discuss the internal goals of CSM. A draft plan will be submitted to the Board and then to the CCHE.

Dr. Nyikos discussed the issue of minority enrollment on campus. Mr. Henderson asked that the minutes reflect the Board's appreciation for items like the monthly reports on minority student enrollment, the brochure on the Summit Summer Minority Engineering Training Program, and the minority hiring plan (institutional employees).

In response to the Board's inquiry regarding the status of capital projects, Mr. Scott reported that the Berthoud Hall renovation will be completed by fall.

Mr. Scott informed the Board that an attempt is being made to find an affordable licensed disposal site to put the contaminated material removed from Engineering Hall. A hearing is scheduled for April 6, and he hopes that the material can be disposed of by May or June.

Mr. Scott reported on the status of a number of other small projects such as signage, the gilding of the Guggenheim dome, the completion of the infirmary, the asbestos abatement in the bookstore and additional lighting on the campus.

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The meeting was adjourned at 10:45 a.m., and the Board went into executive session.


Secretary

March 11, 1988

RECORD OF PROCEEDINGS

Golden, Colorado
April 8, 1988

The Board of Trustees met in regular session on April 8, 1988, at 9:00 a.m.

Trustees present: Ms. Allen, Messrs. Henderson, Miller, Pascoe, Schwartzberg, Warren, Wilson and Wood.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, and Scott, Deans Gentry and Chevront, Dr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting held on March 11, 1988, were approved as distributed.

Request to CSMF Board. Dr. Golden reminded the Board that each year at this time CSM makes a formal request to the Foundation for support of the school's activities. This support has been used for undergraduate financial aid, faculty recruiting, faculty improvement, graduate recruiting, and support of the President's Office. Last year \$1,050,000 was requested and approved by the Foundation. This amount included \$50,000 for legislative services support.

After review of the budget situation for the next two years and considering the financial needs of the Foundation in launching a major capital campaign, the administration recommends a request level of \$351,500. This amount includes \$51,500 for legislative services support.

The Board unanimously approved the request.

Institutional Response to Department of Geophysics Visiting Committee Report. After suggesting several minor changes, the Board unanimously approved the Response.

New Faculty Appointments. Dr. Gentry informed the Board that there are no current signed contracts to report.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Fall 1988, as of March 31, 1988.

Enrollment - Admissions. Mr. Young had provided the April 1, 1988 Admissions Report, which included a report on women and ethnic minority applicants.

RECORD OF PROCEEDINGS

2

New Research Awards. Dr. Olson provided a report on new research award volume for March 1988. This month's volume is \$1,034,704 compared to \$947,647 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$6,225,342, which is \$805,520 behind the total for the same period the previous year of \$7,030,862. Twenty-seven different faculty were involved in twenty-five new project awards.

Twenty-five proposals were submitted in the month of March 1988 compared to twenty-two during the month of February 1988. A total to date of 207 proposals for FY 1988 have been submitted.

Dr. Olson responded to questions, and Mr. Schwartzberg requested that a presentation be made at a future meeting regarding how departments have fared in securing research funds during a three-year period. Dr. Olson will prepare a report for presentation.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Nine Months Ending March 31, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Nine Months Ending March 31, 1988; and Colorado School of Mines Time Deposits and Investment Report, March 31, 1988. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year.

Safety Report. Dr. Golden provided a safety report and informed the Board that a group of final candidates has been selected for the Manager of Safety and Environmental Affairs.

Safety Report - Student Life Areas. Mr. Bill Hill, Director of Student Life, presented the report.

Tuition Assessment Schedule. Mr. Spaulding explained how this will change the way in which the Board will see the tuition rates presented to it in May or June.

Faculty Senate. Dr. Golden introduced Dr. Dave Fletcher, a member of the Committee which drafted the document, who responded to questions.

Discussion ensued during which the Board suggested several changes.

It was moved, seconded and passed to approve the Faculty Senate document with the suggested changes.

Institutional Response to Department of Mineral Economics Visiting Committee Report. Dr. Tilton, Head of the Department, made the presentation which included a discussion of the undergraduate Mineral Economics program, graduate programs,

April 8, 1988

RECORD OF PROCEEDINGS

3

scholarly research and publications, sponsored research, faculty recruiting, and support for visiting scholars, international conferences and other networking activities.

Extensive discussion ensued, following which Mr. Henderson suggested that the Department's priorities be included in the response.

Mr. Wood thanked Dr. Tilton for his presentation.

Legislative Report. Dr. Nyikos discussed the E-Day activities.

Dr. Nyikos informed the Board that the Joint Budget Committee (JBC) has completed its work. The amount recommended for higher education is \$24.2 million. CSM's share is an increase of approximately 9.2%, or almost \$1 million. The JBC has earmarked \$2.7 million for "excellence" money. The JBC funded CATI at a level of \$1.2 million. The institutions will agree to a four percent increase in tuition.

Dr. Nyikos reported that the fieldhouse is probably not going to be funded.

Dr. Nyikos discussed the legislation which establishes a centralized management system and which vests the CCHE with the authority to monitor this system.

Dr Nyikos discussed the bill which gives the CCHE additional power in setting up a financial reward system to discontinue programs. This has no funding.

Dr. Nyikos informed the Board that the Consortium has changed its name to Trustees of State Colleges in Colorado.

Dr. Nyikos reported that he attended the CCHE meeting on April 7.

At the request of Mr. Schwartzberg, Dr. Nyikos promised to prepare a paper on state issues.

The meeting was adjourned at 11:45 a.m., and the Board went into executive session.


Secretary

April 8, 1988

RECORD OF PROCEEDINGS

Golden, Colorado
May 5, 1988

The Board of Trustees met in regular session on May 5, 1988, at 2:00 p.m.

Trustees present: Ms. Allen, Messrs. Henderson, Miller, Pascoe, Warren, Wilson and Wood.

Absent: Mr. Schwartzberg.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, and Scott, Deans Gentry, Olson and Chevront, Dr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Mr. Wood welcomed visiting alumni who were attending the meeting.

Previous Minutes. The minutes of the meeting held on April 8, 1988, were approved as distributed.

Candidates for Degrees. Distribution was made of lists of candidates for degrees as recommended by the regular and graduate faculties.

Upon motion made, seconded and unanimously passed, the candidates whose names appear on the lists appended hereto were approved for degrees on the dates specified, subject to the completion of all academic requirements and continued compliance with school requirements and regulations.

Approval of Faculty Contracts. Copies of faculty and student contracts were sent to members of the Board of Trustees on April 22. Only the faculty contracts will be included as part of the Faculty Handbook.

At the request of Dr. Golden, the Board unanimously approved the faculty and student contracts.

Proposed 1988-89 Budget. Mr. Scott stated that the proposed budget was prepared subject to final action by the State Legislature. Board approval will be sought at the June 16, 1988 Board meeting.

Since action has not been completed by the Legislature, the Board authorized the administration to file the first quarter operating plan required by H.B. 1302 of this Legislature in advance of the June meeting.

Mr. Wilson entered the meeting at this time.

RECORD OF PROCEEDINGS

2

Humanities and Social Sciences Visiting Committee. Dr. Golden informed the Board that the Department of Humanities and Social Sciences has requested that Dr. Linda B. Salamon, Dean, College of Arts and Sciences, Washington University, be invited to become a member of the Department's visiting committee.

The Board unanimously approved the request.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Ms. Mimi Moskovit Ito Part-time Instructor in Humanities and Social Sciences	\$2,500 for the period Jan. 25, 1988 - April 29, 1988
Dr. Gary R. Olhoeft Adjunct Professor of Geophysics	No compensation Thesis advising

Reappointment after Interruption.

Mr. Fred F. Meissner Adjunct Professor of Geology and Geological Engineering	\$4,000 for the spring semester of the 1987-88 academic year
--	---

Additional Information.

Dr. Gentry had distributed quantitative evaluation reports to the Board members prior to the Board meeting.

Dr. Gentry informed the Board that Dr. Stephen Daniel has been appointed Head of the Department of Chemistry and Geochemistry, effective late summer 1988, at an academic year salary of \$55,000.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Fall 1988, as of April 27, 1988.

Enrollment - Admissions. Mr. Young had provided the May 1, 1988 Admissions Report.

New Research Awards. Dr. Olson provided a report on new research award volume for April 1988. This month's volume is \$670,626 compared to \$952,596 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$6,895,968, which is \$1,087,490 behind the total for the same period the previous year of \$7,983,458. Twenty-four different faculty were involved in twenty new project awards.

Twenty-nine proposals were submitted in the month of April 1988 compared to twenty-five during the month of March 1988. A total to date of 236 proposals for FY 1988 have been submitted.

May 5, 1988

RECORD OF PROCEEDINGS

3

Dr. Olson also provided a report which reflects the research volume for each CSM department for the fiscal years 1985, 1986, 1987, and the estimated volume for FY 1988.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Ten Months Ending April 30, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Ten Months Ending April 30, 1988; and Colorado School of Mines Time Deposits and Investment Report, April 29, 1988. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year.

Safety Report. Dr. Golden provided a safety report. He informed the Board that Mr. Robert A. MacPherson has been hired for the safety and environmental affairs position.

Electrical Engineering Proposal. President Ansell informed the Board that at the CCHE meeting this morning, the Commission rejected CSM's Proposal for a Masters and Doctoral Program in Electrical Engineering. With the Board's approval, he intends to resubmit the Proposal to the Commission at a future meeting.

Report of North Central Association of Colleges and Schools. The report was distributed to the Board members for their information.

Assessment at CSM. Dr. Barbara Olds, Chair, CSM Assessment Committee, presented a report on the higher education accountability program and why CSM is involved in outcomes assessment. Dr. Olds reviewed CSM expected student outcomes, content of proposals for institutional accountability programs - CCHE guidelines, and CSM student assessment portfolios.

Dr. Olds informed the Board that she is requesting approval to submit institutional goals and objectives to CCHE staff by June 1, 1988.

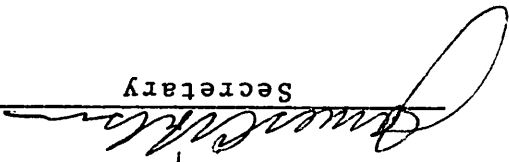
Discussion ensued, during which Mr. Henderson moved, motion seconded by Mr. Wilson, to approve Dr. Olds' request to submit the institutional goals to the CCHE staff, with the caveat that the goals submitted be congruent with the goals which appear in the Faculty Handbook. The Board unanimously approved the request.

Institutional Response to Department of Metallurgical and Materials Engineering Visiting Committee Report. Dr. Copeland, Head of the Department, reviewed the Visiting Committee report and the proposed institutional response.

The administration was charged with preparing a response.

Legislative Report. Dr. Nyikos presented a brief report. He informed the Board that a preliminary agenda for the annual Trustees' Conference has been distributed.

May 5, 1988


Secretary

The meeting was adjourned at 3:17 p.m., and the Board
went into executive session.

CLASS OF 1988
GRADUATING SENIORS
May 6, 1988

AGENDA ITEM I-6

BACHELOR OF SCIENCE
(Mining Engineering)

Zairul Afendi Zainal Abidin
Carlos Alberto Baptista
Peter Rocco Dawson
John Sennett Durr, Jr.
Mark S. Henshaw
Richard Edward Jones
Dean Leonard Willis

BACHELOR OF SCIENCE
(Metallurgical Engineering)

David Paul Barbour
Audrey Aileen Fasching
Mary Jean Ford
Alexander Erik Gort
Lawrence Anderson Hamje
Karl Ernst Hofmann
Wendy Marie Lilyquist
Kelly A. Mestas
Hichem Ben Mohamed Msaad
John Neil Schwartzberg
Patricia Ann Stewart
Yuya Umezu
Desiree Ann Weygandt
Shelly Ruth Wilson
Lisa Esther Wright

BACHELOR OF SCIENCE
(Geological Engineering)

*Malcolm York Brogden
Douglas Bradly Coleman
Sandra Rae Engel
Claudia Christine Faunt
Andrea J. Gallagher
Roberta Francine Garcia
Anita Rochelle Gebbie
David Michael Good
David Allan Kanzer

BACHELOR OF SCIENCE
(Geological Engineering) Continued

Tod Jay LeFevre
Liane LaVerne Mattson
Erin Jayne Nelson
Gregory Paul Nickel
Brian James Peterman
Michael Dean Ringler
Dwight Lee Smith
Randal Dean Strauss
Matthew David Sullivan
John Thomas Weger
William Lyon Wingle

BACHELOR OF SCIENCE
(Petroleum Engineering)

Dana Joseph Anderson
Max Edward Bordelon
*Samuel Chang
Anne Elizabeth Charlap
John Joseph Christmann, IV
Daniel Earl Crosby
Timothy F. Curran
Vincent Anthony Dernbach
*Francis Eugene Dominguez
Monte Hayden Failoni
James Andrew Hemmerly
David Harold Hudspeth
Steven Michael Jenkins
Jody Ellen Kamrath
Jess Dan Kelley
Corey Duane Kramer
Christopher Wesley Kruger
Robert Douglas Lawler
James Yong Lee
David John Lillo
Gary John Lundberg
Judika Malau
Charles Courtney McConnell
Charles Lynn Miller, III
Paul Ray Morehead
*Katheleen Ann Muhic

*Double Degree

CLASS OF 1988
GRADUATING SENIORS
May 6, 1988

BACHELOR OF SCIENCE
(Petroleum Engineering) Continued

Kenneth Hoyt Neupert
Darren Lee Scoles
Ahmad Sharaf
David William Sobernheim
Deborah Ann Waterloo
A. Peter Wisnie
Robert Hyung-Jun Yun

BACHELOR OF SCIENCE
(Chemical & Petroleum-Refining Engineering)

Amir Assar
Nathan Albert Antoine Bedee
Katherine Ann Cryderman
Hormoz Farkhan
Mehrddad Farkhan
Justine Elizabeth Hager
James Anthony Hull
Kelly Rae Huwe
Craig Richard Johnson
Michael Patrick Kellison
Scott Michael Kelly
Jill Marie Kristan
Larry Charles Medina
Ernest Erich Michelfelder
Clifford Eugene Morgan
Denise Renea Plouffe
Chad Ernest Schlichtemeier
Yassir Sindi
Gregory Lee Skeels
Monica Grazina Steikunas
Dennis Michael Vidmar
Catherine Anne Wightman

BACHELOR OF SCIENCE
(Geophysical Engineering)

Vivek Chandra
*Samuel Chang
Michael John Culig
Timothy Michael Deignan
Paul Andrew Ferre

BACHELOR OF SCIENCE
(Geophysical Engineering) Continued

Gregory Alan Jones
Bruce Gene Karr
Gary Thomas Molinero
Melinda Sue Moore
Christopher Emmanuel Papadakis
Nancy Kathleen Roldan
Karen Lees Schoonover
Gehrig Stannard Schultz
Keerthi Rau Yelundur

BACHELOR OF SCIENCE
(Chemistry)

Michael John Dammann
Jeffrey David Jarriel
Bettina Annette Muller-Bongartz
Steven Marc Muskal
Eric Robert Oberg
Cynthia Kay Robb

BACHELOR OF SCIENCE
(Mathematics)

Trent Matthew Doyle
Mark Thomas Freiheit
Kelly Ann Hadley
Jeffrey Wayne Jackson
Charlotte Renee Ledall
Amber Dawn Lusk
Randall Allan Reddig
Douglas Ross Roquet
Raymond Matthew Sanders
Todd Mitchell Versaw
Eric William Vestal

BACHELOR OF SCIENCE
(Engineering Physics)

Rex Allen Boone
Christopher Adam Briggs
Paul Andrew Delaney
Grant Robert Euler

*Double Degree

CLASS OF 1988
GRADUATING SENIORS
May 6, 1988

BACHELOR OF SCIENCE
(Engineering Physics) Continued

Anthony Warren Fabrizio
David Arthur Fleming
Kevin Lee Jones
Ross Clarence King, III
Brian Jeffrey Kriss
Russell Harland Page
Brian Keith Smith

BACHELOR OF SCIENCE
(Engineering)

Saad Mohammed Al-Sheikh
David Henry Behnen, Jr.
Chris Earl Bement
Benjamin Benson
Todd Edward Bergren
Richard Wallace Berk
Richard Edward Berns
Jeffrey Allen Block
Dale Christopher Bone
Garth Robert Bowers
*Malcolm York Brogden
*Francis Eugene Dominguez
Scott Richard Fahrney
Curtis Herbert Farmer
Kelley Vincent Fetter
Gregory Flaherty
Tama Lynn Funk
John Timothy Garris
Roxanne Gail George
Dean Joseph Gipson
Scott Evan Godfrey
Karl Lupe Gonzalez
Michael Darren Gossett
Barbara Diane Hazlett
Robert H. Heidelmeier
Brian Lee Hildenbrandt
Jeffrey Alden Holley
Tami Lynn Holley
Jeffrey John Jelniker

BACHELOR OF SCIENCE
(Engineering)

Lawrence Alan Johnson
Charles Michael Keith
Richard Hayes Kerr
Robert Dean Krehbiel
Bernard Eugene Kuta
Donald Brady Larson
Dale Lewis Lauer
Allison Marie Lovato
Gerald Rodney Mendez
Matthew Peter Miller
Michael Robert Montano
*Katheleen Ann Muhic
Bryan David Nordlund
John Stanley Olsson
Raulie Mark Pederson
Andrew Joseph Pott
Kenneth Duane Pyne
Vicki Gail Reed
Rebecca Ann Rowe
Brian Patrick Shea
Dixie L. Shear
Michael Dean Smith
John Charles Stites
Sarah Elizabeth Thaler
Bambang Trigunarsyah
Douglas William Vallance
Juliene May White
Michael Robert Wichmann
James Walter Williams, IV
Chris Rolland Wonderly

*Double Degree

CLASS OF 1988
GRADUATING SENIORS
June 17, 1988

BACHELOR OF SCIENCE
(Petroleum Engineering)

Stephen Michael Kozloski
Michael Gilbert Leska
Jamin Blair McNeil

BACHELOR OF SCIENCE
(Engineering)

J. Stephen Lesser
Monte Dean McVay
Bonnie L. Waybright

BACHELOR OF SCIENCE
(Chemical & Petroleum-Refining Engineering)

Lewis Edward Chandler
Karla Ann Fischer
Patricia Louise Glora
Thomas Anthony Riccio
Jacquelynne Suzanne Rittenhouse
Alan Lane Robinson
Anke H. Tice
Elizabeth Ann Toness-Lynn
Brian Christopher Tripp
Howard Charles Witbeck

BACHELOR OF SCIENCE
(Geophysical Engineering)

Timothy Paul Lane
Nugroho Setio

BACHELOR OF SCIENCE
(Chemistry)

Robert Todd Mero

BACHELOR OF SCIENCE
(Mathematics)

Alexander Eddy Gosyanto
Thomas William Stark
Michele Marie Tudor
Jon B. Wisda

CLASS OF 1988
GRADUATING SENIORS
August 12, 1988

BACHELOR OF SCIENCE
(Mining Engineering)

Ment Floor Dijkhuizen
Kristopher John Kile

BACHELOR OF SCIENCE
(Metallurgical Engineering)

Rachid Ben Slimane
Erin A. Powers
James Evan Samuel, II

BACHELOR OF SCIENCE
(Geological Engineering)

Marijo Busam Brady
David Eric Swenson

BACHELOR OF SCIENCE
(Petroleum Engineering)

Moncef M. Attia
Lotfi Ben Rached
Paul Chan
Purbaya Gandawidjaja
I Wayan Sujana

BACHELOR OF SCIENCE
(Chemical & Petroleum-Refining Engineering)

Susan Kyung-Sook Kim
Abderraouf Klibi

BACHELOR OF SCIENCE
(Mathematics)

Michael Gene Medberry

BACHELOR OF SCIENCE
(Engineering Physics)

Meredith Alice Bond

BACHELOR OF SCIENCE
(Engineering)

Shamil Abu Hassan
Kevin Robert Blair
Laura Leigh Blicher
Scott Allen McWhorter
Nicholas William Riggio
George William Tripp
Mohamad Afif Yusoff

*Double Degree

4/28/88

FINAL

AGENDA ITEM I-a

MASTER OF ENGINEERING

MASTER OF SCIENCE

May 6, 1988

MINING ENGINEERING DEPARTMENT

Dr. Miklos D. G. Salamon,
Department Head

Master of Science
(Mining Engineering)

Panlop Huttagosol
Dante A. Manzanares

Bangkok, Thailand
Tacna, Peru

METALLURGICAL ENGINEERING DEPARTMENT

Dr. William D. Copeland,
Department Head

Master of Science
(Metallurgy)

David Nels Meendering

Denver, Colorado

Master of Science
(Metallurgical Engineering)

B. Suha Aksoy
Julianne Bates
Gianluca Beverini
Matthew J. Duornak
Michael J. Leap

Ankara, Turkey
Albuquerque, New Mexico
Guatemala City, Guatemala
Slidell, Louisiana
San Francisco, California

GEOLOGY AND GEOLOGICAL ENGINEERING DEPARTMENT

Dr. Samuel S. Adams,
Department Head

Master of Engineering
(Geological Engineer)

Andrea R. Aikin
John W. Anthony
Jeffrey J. Johnson
Wendy Kay Milne
Michael R. Schmidt
David J. Umstot
William E. Wright

Denver, Colorado
Sacramento, California
Lakewood, Colorado
Holdingsford, Minnesota
Gig Harbor, Washington
Palm Beach Gardens, Florida

Master of Science
(Geology)

Olaya J. Covarrubias
Handoko Djanda
Robert G. Eppinger, III
Andrew T. Hunt
Robert L. Lewis
Kurt Alan Miller
William Layton Oppenheimer
Hilmi Panigoro
Thomas Joseph Serenko

Santiago, Chile
Jakarta, Indonesia
Nederland, Colorado
Atlanta, Georgia
Denver, Colorado
Canoga Park, California
Albuquerque, New Mexico
Djakarta, Indonesia
Youngstown, Ohio

PETROLEUM ENGINEERING DEPARTMENT

Dr. Craig W. Van Kirk,
Department Head

Master of Engineering
(Petroleum Engineer)

William Winfrid Fleckenstein

Denver, Colorado

Master of Science
(Petroleum Engineering)

Hiatham Nage Abdalbake
Donal George Fitterer
Phillip Lewis Hedges
Huang, Gin-Fu
Claude Harvey Joseph
Susan L. Mann
Edward A. Voge

Baghdad, Iraq
Nikiski, Alaska
Golden, Colorado
Taiwan, Republic of China
New York, New York
Fort Wayne, Indiana
Eden, Utah

CHEMICAL ENGINEERING AND PETROLEUM REFINING DEPARTMENT

Dr. Arthur J. Kidnay,
Department Head

Master of Science
(Chemical and Petroleum-Refining Engineering)

Suk-Bae Cha
Chu, Shao-Hwa
James Patrick Flahive
Gerald John Sherman
Stephen F. Voss

Golden, Colorado
Tsoying, Kaohsiung, Taiwan, ROC
Sterling, Colorado
Englewood, Colorado
Aurora, Colorado

GEOPHYSICS DEPARTMENT
Dr. Phillip R. Romig, Jr.,
Department Head

Master of Science
(Geophysics)

Warren Agena
Julianne Marhofer
Susan Watkins Shoemaker
Edward William Worthington
Aurora, Colorado
Naples, Florida
Santa Barbara, California
Evergreen, Colorado

Master of Science
(Geophysical Engineering)

Abdulmotaleb M.A.G. Al-Qahant
Regina M. Bochicchio
Tallah, Abha, Saudi Arabia
Nutley, New Jersey

CHEMISTRY AND GEOCHEMISTRY DEPARTMENT
Dr. George H. Kennedy,
Department Head

Master of Science
(Geochemistry)

James F. Ranville
Raymond M. Sadowski
Mahyoub A. Saeed
Cheboygan, Michigan
Lakewood, Colorado
Yemen, Arab Republic

MATHEMATICS DEPARTMENT

Dr. Ardel J. Boes,
Department Head

Master of Science
(Mathematics)

Kevin Lee Gobbo

Grand Junction, Colorado

MINERAL ECONOMICS DEPARTMENT

Dr. John E. Tilton,
Department Head

Master of Science
(Mineral Economics)

Todd F. Anderson
Grant Joret Bayless
Daniel L. Brudevold
James R. Coldwell
Owen S. Dull
Hiemi Kim Haines
Richard Alan Martin, Jr.
Janie Chermak Miller
Allen Scott Moore
Michael C. Nettesheim
Roger Dale Peterson
Melanie S. Rigg
Joel David Schneyer
Edward Steven Smida

Westminster, Colorado
Crested Butte, Colorado
Seattle, Washington
Glenwood Springs, Colorado
Ft. Collins, Colorado
Littleton, Colorado
Golden, Colorado
Hotchkiss, Colorado
Boulder, Colorado
Golden, Colorado
Golden, Colorado
Denver, Colorado
Denver, Colorado
Denver, Colorado

ENVIRONMENTAL SCIENCES AND ENGINEERING ECOLOGY
Dr. John Emerick,
Acting Department Head

Master of Science
(Ecological Engineering)

Angelina Marie Dennis

Wrightstown, New Jersey

DOCTOR OF PHILOSOPHY

METALLURGICAL ENGINEERING DEPARTMENT
Dr. William D. Copeland,
Department Head

Doctor of Philosophy
(Metallurgical Engineering)

Thomas Joseph Comi

Pueblo, Colorado

GEOLOGY AND GEOLOGICAL ENGINEERING DEPARTMENT

Dr. Samuel S. Adams,
Department Head

Doctor of Philosophy
(Geology)

Philip Walker Bateman
Robert MacAllister Bruce
John Edgar Larson
Stephen George Weaver
Gregory Ralph Wessel

Toronto, Ontario, Canada
Golden, Colorado
Tucson, Arizona
York, Pennsylvania
Lakewood, Colorado

PETROLEUM ENGINEERING

Dr. Craig W. Van Kirk,
Department Head

Doctor of Philosophy
(Petroleum Engineering)

Hazim Hussein Abass
Majeed H. Yousif

Baghdad, Iraq
Baghdad, Iraq

CHEMICAL ENGINEERING AND PETROLEUM REFINING DEPARTMENT

Dr. Arthur J. Kidnay,
Department Head

Doctor of Philosophy
(Chemical and Petroleum-Refining Engineering)

Shin, Sung Chul

Seoul, South Korea

GEOPHYSICS DEPARTMENT
Dr. Phillip R. Romig, Jr.,
Department Head

Doctor of Philosophy
(Geophysics)

Frederick E. Berkman
Jason Chin-sen Kao
Wang Xiaomu
Xia, Hengren

Golden, Colorado
Lakewood, Colorado
Chengdu City, China
Jiangsu, China

CHEMISTRY AND GEOCHEMISTRY DEPARTMENT
Dr. George H. Kennedy,
Department Head

Doctor of Philosophy
(Geochemistry)

Michelle L. Tuttle

MATHEMATICS DEPARTMENT
Dr. Ardel J. Boes,
Department Head

Doctor of Philosophy
(Mathematics)

Brian L. Sumner

Denver, Colorado

MINERAL ECONOMICS DEPARTMENT
Dr. John E. Tilton
Department Head

Doctor of Philosophy
(Mineral Economics)

Ross Randolph Bhattu
Alfredo Parra
James John Thome, Sr.

Wheat Ridge, Colorado
Anguano, Michoacan, Mexico
El Paso, Texas

PROFESSIONAL DEGREE

GEOLOGY AND GEOLOGICAL ENGINEERING DEPARTMENT
Dr. Samuel S. Adams,
Department Head

Professional Degree
(Hydrogeology)

Kenton C. Bowen

Littleton, Colorado

RECORD OF PROCEEDINGS

Golden, Colorado
June 16, 1988

The Board of Trustees met in regular session on June 16, 1988, at 7:00 p.m. at The Aspen Lodge.

Trustees present: Ms. Allen, Messrs. Henderson, Miller, Pascoe, Schwartzberg, Warren, Wilson and Wood.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, and Scott, Deans Olson and Chevront, Dr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting held on May 5, 1988, were approved as distributed.

Proposed 1988-89 Budget. Mr. Scott had provided Financial Plans for FY 1988, 1989 and 1990, Auxiliary Budgets for FY 1989, Proposed Tuition and Fees supporting the 1988-89 budgets, along with the FY 1990 parameters suggested for the Education and General Budget Request to be submitted for the State appropriation. These materials are appended hereto.

Extensive discussion ensued during which the staff responded to questions.

Ms. Allen and Mr. Pascoe entered the meeting at this time.

The Board unanimously approved the 1988-89 Institutional Budget, along with the recommended Tuition and Fees, and the 1990 Parameters for the appropriation request.

Institutional Response to Department of Metallurgical and Materials Engineering Visiting Committee Report. The Board unanimously approved the Institutional Response.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Fall 1988, as of May 31, 1988.

Enrollment - Admissions. Mr. Young had provided the June 15, 1988 Admissions Report.

New Research Awards. Dr. Olson provided a report on new research award volume for May 1988. This month's volume is \$822,038 compared to \$1,009,360 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$7,718,006, which is \$1,274,812 behind the total for the same

RECORD OF PROCEEDINGS

2

period the previous year of \$8,992,818. Twenty-four different faculty were involved in twenty new project awards.

Twenty-six proposals were submitted in the month of May 1988 compared to twenty-nine during the month of April 1988. A total to date of 262 proposals for FY 1988 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Eleven months Ending May 31, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Eleven Months Ending May 31, 1988; and Colorado School of Mines Time Deposits and Investment Report, May 31, 1988. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year.

Recognition of Mr. Warren. Mr. Wood presented a silver Certificate of Appreciation to student Trustee Brian Warren. The Certificate reads:

In recognition of his
loyal and meritorious service as
a member of the Board of Trustees,
this certificate is presented to
BRIAN WARREN
by the Board of Trustees upon the
occasion of expiration of the term
June thirtieth, One thousand nine hundred and eighty-eight.

Summary Report - Twin Towers Rental. Dr. Chevront informed the Board that the first three floors of the east tower will be used to house the Foundation, the Alumni Association, and the Admissions Office. The atrium will be renovated to serve as a common reception/lobby area and the laundry/piano room will be remodeled and serve as a copy room/employee break room.

Rent will be assessed annually as follows:

Foundation	\$ 65,753
Alumni	18,281
Admissions	18,673
TOTAL	<u>\$102,707</u>

Dr. Chevront's report discussed the renovation/move-in costs and reflected the first year cost summary.

Infirmary. Dr. Chevront informed the Board that work on the Infirmary should be completed within the next week.

Bookstore. Dr. Chevront stated that he believes the bookstore will officially open July 1.

Berthoud Hall. Dr. Golden informed the Board that Berthoud Hall should be fully occupied by August.

June 16, 1988

RECORD OF PROCEEDINGS

3

Field House. President Ansell reported that one-third of the funds necessary for renovation of the field house have been secured, and the project should be completed by next year.

Engineering Hall. Mr. Scott informed the Board that materials to support requests for proposals will be completed within the next ten days.

Development Report. Mr. Robbins presented the Eleven-month contributions report (total contributions for the first eleven months of 1987-88).

Safety Report. Dr. Golden informed the Board that there is no activity to report this month.

Dr. Golden introduced Mr. Robert MacPherson, newly-appointed Director of Environmental Health and Safety.

Mr. Schwartzberg requested that the Board receive regular reports from Mr. MacPherson.

Messrs. Wood and Schwartzberg requested that Dr. John C. Emerick, Acting Head of the Department of Environmental Sciences and Engineering Ecology, who was present at the meeting, give a report on his department at a future board meeting.

The Board thanked Dr. Chevront for the report on the Career Planning & Placement Center Statistics for 1987-88, which was prepared by Diana Doyle, Director, Student Development, Career Planning & Placement, Louise Wildeman, Career Services Coordinator, and Fran Ratte, Placement Coordinator.

Legislative Report. Dr. Nyikos reported that phase one of the field house renovation has been funded. He expressed appreciation for the assistance of Senator Traylor, Rep. Grampsas, Bonnie Geiger and Jerry Johnson.

Dr. Nyikos discussed the issue of the Governor's proposed regulation that would require his signing off on lobbying contracts.

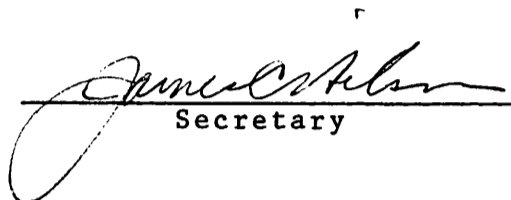
Mr. Sudermann reported on the status of the lighting projects on campus.

Graduate Program Duplication and Discontinuance Study. Dr. Golden discussed the CSM graduate programs that are listed on the initial CCHE Graduate Program Duplication Report. The Commission staff will develop a process to study graduate programs that are duplicated, in their judgment, at Colorado institutions of higher education. The process will take two years and could potentially lead to program discontinuance recommendations. Since Mines has just been through this process with our doctoral programs in mathematics and applied physics, Dr. Golden stated that the prospect of further activity by the Commission staff is, at best, unsettling.

RECORD OF PROCEEDINGS

4

The meeting was adjourned at 8:25 p.m., and the Board went into executive session.


Secretary

June 16, 1988

CSM
BOARD OF TRUSTEES
AGENDA ITEM

Date of Meeting 6-16-88
Item Number 1(b)
Presented By Gordon Scott

Subject:

Proposed 1988-89 Budget

Background Information:

Materials provided include Financial Plans for FY 88, 89 and 90, Auxiliary Budgets for FY 89, Proposed Tuition and Fees supporting the 88-89 budgets, along with the FY 90 Parameters suggested for the Education and General Budget Request to be submitted for the State appropriation. Additional comments are appended hereto.

Action/Motion Requested:

Approval of the 1988-89 Institutional Budget, along with the recommended Tuition and Fees.

Approval of the 1990 Parameters for the appropriation request.

- Represents best estimate of financial status June 30, 1988.
- Includes purchase of new mainframe computer.
- Rolls reserve funds forward to FY 89.

1987-88 FINANCIAL PLAN

State Appropriated

- Reflects increased General Fund appropriation.
- Includes 4 percent tuition rate increase.
- Includes increased indirect cost recoveries.
- Provides 3 percent salary increase within a 5.9 percent compensation increase for the teaching faculty and administrative faculty.
- Provides 1.5 percent salary increase (merit only) within a 3.5 percent compensation increase for classified staff.
- Library support increased.
- Research Development funds decreased.

Sponsored Research, Direct

- Increased \$1 million.
- Expenses distributed by estimate.

GSMF Endowed Restricted

- Incorporates 5.5 percent spending rule.
- Rolls forward \$672,000 from FY 88.
- Fund Managers to budget expenses prior to August 1.

CSMF Unendowed Restricted

- . Includes funds unspent as of June 30, 1988.
- . Expenses distributed by estimate.
- . Fund Managers to budget expenses prior to August 1.

CSMF Unendowed Unrestricted

- . Includes \$300,000 new funds from CSMF.
- . Includes roll forward \$581,646 from FY 88.
- . Maximizes reserve to protect against unexpected expenses in FY 89 and to roll forward to FY 90.

Auxiliaries

- . Provides funds from non-bonded auxiliaries to cover described expenditures.

1989-90 FINANCIAL PLAN

- . Provided for reference in considering FY 89.

State Appropriated

- . Assumes slightly decreased General Fund available through the fixed/variable funding formula.
- . Assumes 5 percent tuition increase.
- . Provides 3 percent compensation increase for teaching and administrative faculty.
- . Assumes 5 percent compensation increase for classified staff.
- . Other items essentially unchanged.
- . Revenues assumed to be only \$200,000 greater than FY 89, requiring partial expenditure of funds rolled forward in CSMF unendowed unrestricted.
- . Estimated year-end reserves in State appropriated CSMF unendowed unrestricted and auxiliaries, \$397,203.

Proposed
TUITION AND FEES
FY 1988-89

Tuition and fees at CSM are kept at a minimum, consistent with the cost of instruction and the amount of State funds appropriated to the School.

All prices are effective June 1988 and are subject to change without notice.

TUITION

Academic and Field Courses

<u>Semester Hours</u>	<u>Resident</u>	<u>Nonresident</u>
Less than 10	\$ 105/semester hour	\$ 291/semester hour
10 or more	\$1,575/semester hour	\$4,366/semester hour

The above are applicable to all academic periods and to both graduate and undergraduate courses.

Other Courses and Programs

Extended Studies - \$105 per credit hour

Executive Program Mineral Economics (incl. fees)	\$11,000
Audit, no credit	6,600

Intensive English for International Students:

	<u>Reg. Semester</u>	<u>Summer Session</u>
EN 01	\$2,279*	\$1,746*
EN 02	1,368*	1,164*

Graduate Student Notes

All on-campus graduate students are expected to enroll for a minimum of 15 semester hours of course work and/or thesis each regular semester.

Students employed on a full-time basis outside the School are required to enroll for a minimum of 3 semester hours each regular semester. Evidence of employment must be filed with the Graduate School each semester.

Students doing thesis research in the summer should register for a minimum of 3 semester hours the first week after spring Commencement.

* Any change will be submitted later.

Payment of fees entitles students to a ticket to all athletic events; subscriptions to both the Oredigger, the weekly newspaper published by students, and the Prospector, the student yearbook; use of the Student Health Center and Student Center; and participation in student activities.

The Associated Students fee is administered by the Student Council in financing the Oredigger, the Prospector, the band, the chorus, and Interfraternity Council, Barb Council and the student organizations. Budgets for these publications and organizations are set at the beginning of the fall semester by the Student Council.

Regular Semester (Fall/Spring)

During a regular semester, students taking less than 6.5 credit hours are not required to pay student fees. Any such student, however, wishing to take part in student affairs and receive student privileges may do so by paying full semester fees.

All degree students carrying 6.5 or more credit hours must pay full student fees as follows:

Health Center**	\$ 32.50
Associated Students	25.00
Athletics	30.00
Student Center	<u>75.00</u>
Total	\$162.50

In addition to the above fees, Intensive English Students also pay a \$90 activity fee.*

Nondegree students are not required to pay student fees. Should they wish to receive any of the student privileges provided by fee payment, they may do so by paying full semester (or session) fees. Medical insurance may be purchased without paying the other fees.

Summer Session

Academic Courses

Health Center	\$ 20.00
Athletics	15.00
Student Center Fee	<u>37.50</u>
Total	\$ 72.50

Thesis Research (if on campus)

Health Center	\$ 20.00
Athletics	15.00
Student Center	<u>37.50</u>
Total	\$ 72.50

Intensive English

Health Center	\$ 27.00
Student Center	37.50
Activities	<u>60.00*</u>
Total	\$124.50

* Any change will be submitted later.

** An optional medical insurance program is also available. See Student Health Plan below.

Field Courses/Graduate Field Trips

On-Campus: Health Center \$ 10.50

Off-Campus:

Arrangements and payment for transportation, food, lodging and other expenses must be made with the department concerned. (Geology Field Camp costs, including camping and materials, are \$100.)

Miscellaneous:

New Student Orientation/Quick

Start Program/Freshman Hard Hat \$ 16.00

New Stu Orien./Quick Start, \$7
Freshman Hard Hat, \$9
(Hd Hat Fee of \$9 can be waived.)

Deposits (cover the cost of supplies consumed,
with any unused balance refunded)

Chem Lab (1st time reg.) \$ 15.00
Plane Surveying 50.00

Graduation (includes theses binding and other expenses)

Bachelors \$ 30.00
Professional Engineers 75.00*
Masters 135.00*
Doctors 152.00*

Graduate Studies Support \$ 1500.00
(optional for sponsored students)

Student Health Plan (optional for all students)

A medical insurance program is available to all students, both degree and nondegree, who request coverage. An election to accept/waive this insurance must be made at the time of registration. Costs are as follows:

Fall Semester \$ 64.00**
Spring Semester (provides
coverage through August) 64.00**
Summer Session 32.00**

Arrangement can be made for coverage of spouse and/or children. The insurance carrier should be contacted directly. The annual fee for coverage is:

Spouse \$134.00**
Spouse and Child(ren) 258.00**
Child(ren) Only 122.00**
Optional Maternity, per unit 100.00**

* Any change will be submitted later.
** New rate not yet available.

June 16, 1988

PROPOSED BUDGET SUMMARY

1962 BOND ISSUE
1966 BOND ISSUE
TWIN TOWERS
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>		
Residence Halls	\$ 602,114	\$ 586,170
Student Center	300,560	417,647
Dining Hall	760,470	715,155
Prospector Village	276,577	283,750
Mines Park	196,484	203,626
Twin Towers	438,936	325,911
Conferences	90,000	145,500
TOTAL INCOME	<u>\$2,665,141</u>	<u>\$2,677,759</u>
 <u>EXPENSE</u>		
Residence Halls	\$ 207,400	\$ 259,272
Student Center	354,803	349,856
Dining Hall	666,055	687,003
Prospector Village	182,300	184,208
Mines Park	130,890	130,520
Twin Towers	205,015	232,430
Conferences	53,400	86,536
Debt Service and Renewal/Replacement	780,000	747,500
TOTAL EXPENSE	<u>\$2,579,863</u>	<u>\$2,677,425</u>

June 16, 1988

PROPOSED BUDGET SUMMARY
STATE RENTAL PROPERTIES
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 26,350	\$ 26,350
<u>EXPENSE</u>	\$ 6,000	\$ 5,760

June 16, 1988

PROPOSED BUDGET SUMMARY
HEALTH AND ACCIDENT
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 106,475	\$ 125,575
<u>EXPENSE</u>	\$ 106,475	\$ 125,575

June 16, 1988

PROPOSED BUDGET SUMMARY
ATHLETIC ASSOCIATION
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
INCOME	\$ 149,355	\$ 154,939
EXPENSE	\$ 149,355	\$ 154,939

Note: As in the past, the above figures exclude the Administrative Allocation.

June 16, 1988

PROPOSED BUDGET SUMMARY
ASSOCIATED STUDENTS
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 152,385	\$ 222,730
<u>EXPENSE</u>	\$ 152,385	\$ 222,730

Note: As in the past, the above figures exclude the Administrative Allocation.

June 16, 1988

PROPOSED BUDGET SUMMARY
CSM PUBLICATIONS
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 476,598	\$ 83,233
<u>EXPENSE</u>	\$ 473,038	\$ 83,233

June 16, 1988

PROPOSED BUDGET SUMMARY
SPECIAL PROGRAMS
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 214,000	\$ 500,000
<u>EXPENSE</u>	\$ 200,000	\$ 500,000

June 16, 1988

PROPOSED BUDGET SUMMARY
GREEN CENTER
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 63,000	\$ 80,000
<u>EXPENSE</u>	\$ 58,150	\$ 78,875

June 16, 1988

PROPOSED BUDGET SUMMARY
RESEARCH REVOLVING FUND
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 7,250	\$ 5,150
<u>EXPENSE</u>	\$ 7,250	\$ 5,150

June 16, 1988

PROPOSED BUDGET SUMMARY
SELF FUNDING ACTIVITIES
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
INCOME	\$ 781,495	\$ 822,567
EXPENSE	\$ 781,495	\$ 822,567

June 16, 1988

PROPOSED BUDGET SUMMARY
SPONSORED RESEARCH
FOR FISCAL YEAR 1988-89

	<u>BUDGET 1987-88</u>	<u>BUDGET 1988-89</u>
<u>INCOME</u>	\$ 7,600,000	\$ 9,900,000
<u>EXPENSE</u>	\$ 7,600,000	\$ 9,900,000

June 16, 1988

COLORADO SCHOOL OF MINES
RECOMMENDED PARAMETERS
1989-90 EDUCATION AND GENERAL BUDGET

1. ENROLLMENT

Proposed: Fall Headcount - 2,165 (1465 UG/700 Grad).
FTE - 2,204 (1,637 UG/567 Grad) (1,423 Res/781 NR).
Res/NR FTE Mix - 65/35.

1988-89 Budget: Fall Headcount - 2,188 (1,513 UG/675 Grad).
FTE - 2,236 (1,688 UG/548 Grad) (1,446 Res/790 NR).
Res/NR FTE Mix - 65/35.

2. GENERAL FUND

Proposed: 5 percent increase on a Fixed/Variable base
(-1.7 percent overall).

3. TUITION

Proposed: Resident tuition increase of 5 percent, to
\$3,308. Nonresident tuition increase of
5 percent, to \$9,168.

1988-89 Budget: Resident tuition, \$3,150. Nonresident
tuition, \$8,732.

4. EXEMPT FTE

A reduction of 7.6 FTE faculty in State Appropriated Resident
Instruction.

5. FACULTY SALARY INCREASE

Three percent.

6. SUPPORT STAFF SALARY INCREASES

Classified	5 percent
Graduate Assistants	4 percent

7. OTHER INCREASES (State Appropriated)

Library Books/Journals	\$10,000	(2.0%)
Utilities	42,320	(3.5%)
Financial Aid	37,940	(4.0%)

1987-88 FINANCIAL PLAN

280037
6/10/88

	State Appropriated	Sponsored Research (Direct)	CSMF Endowed/ Restricted	CSMF Unendowed/ Restricted	CSMF Unendowed/ Unrestricted	Total Direct CSMF Support	CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Combined	ED and GENERAL COMMENTS
INCOME:												
Education & General												
General Fund	\$10,310,885										\$10,310,885	
Tuition	10,457,674										10,457,674	
Ind Cost Recoveries	1,536,000										1,536,000	Reduced by 264,000
Other Cash	200,000										200,000	
Sponsored Programs		\$7,064,000	\$1,153,202	\$5,145,433	\$1,123,400	\$7,422,035	\$707,530	\$895,605	\$605,100		16,694,270	
Auxiliaries										\$3,996,336	3,996,336	
Prior Yr Roll Forward	325,000				119,538	119,538				398,597	843,135	
TOTAL INCOME	\$22,829,559	\$7,064,000	\$1,153,202	\$5,145,433	\$1,242,938	\$7,541,573	\$707,530	\$895,605	\$605,100	\$4,394,933	44,038,300	
EXPENSE:												
Total Faculty						\$47,670						
Avg Compensation	\$47,670	\$47,670	\$47,670	\$47,670		\$47,670						
FTE	218.1	45.9	1.6	7.7		9.3					273.3	
Total Compensation	10,396,827	2,188,427	76,272	367,059		443,331					\$13,028,585	
Faculty Charge-outs												
Avg Compensation	47,670											
FTE	(18.0)										(18.0)	
Total Compensation	(858,060)										(858,060)	
Admin Faculty												
Avg Compensation	48,440											
FTE	32.2										32.2	
Total Compensation	1,559,768										1,559,768	
Classified Staff												
Avg Compensation	28,915	28,915	28,915	28,915		28,915						
FTE	187.8	12.2	0.6	2.5		3.1					203.1	
Total Compensation	5,430,237	353,906	17,349	72,288		89,637					5,873,780	
Graduate Assistants												
Avg Compensation	29,360	29,360	29,360	29,360	29,360	29,360						
FTE	34.0	70.5	0.5	0.3	0.5	1.3					105.8	
Total Compensation	998,240	1,575,272	14,680	8,808	14,680	38,168					2,611,680	
Hourly								\$10,672				
Avg Compensation	10,672	10,672	10,672	10,672		10,672		\$10,672				
FTE	16.3	33.7	0.2	4.5		4.7		0.0			54.7	
Total Compensation	173,954	240,176	2,134	48,024		50,158		0			464,288	
Operating Expense/Travel	1,758,320	1,929,178	0	0	0	0					3,687,498	
Program Support			0	0	0	0					0	
Departmental Support			89,370	535,946	199,673	824,989					824,989	
Library Books/Journals	405,690		7,180	20,996	0	28,176					433,866	
Utilities	1,168,200										1,168,200	
Micro Computer Project	11,000										11,000	
Financial Aid												
Undergrad-State	500,000							789,499			1,289,499	
Grad-State								106,106			106,106	
Undergrad-Other			224,870	712,939	391,809	1,329,618	\$707,530		\$605,100		2,642,248	
Grad-Other			31,953	276,722	55,130	363,805					363,805	
Marketing	145,562										145,562	
Research Development	750,000					0					750,000	
FTE	3.0										3.0	
Capital Outlay	248,000	777,040	16,899	175,212		192,111					1,217,151	
Safety (OCE)	25,000										25,000	
Pymts to St Agencies	112,000									\$105,000	112,000	
Reserve/unallocated	4,821		672,495	2,927,439	581,646	4,181,580				4,289,933	4,291,401	
Auxiliaries										4,289,933	4,289,933	
TOTAL EXPENSE	\$22,829,559	\$7,064,000	\$1,153,202	\$5,145,433	\$1,242,938	\$7,541,573	\$707,530	\$895,605	\$605,100	\$4,394,933	\$44,038,300	
TOTAL FTE	473.4	162.3	2.9	15.0	0.5	18.4		0.0	0.0	0.0	654.1	

1988-89 FINANCIAL PLAN

2800933
6/10/88

	State Appropriated	Sponsored Research (Direct)	CSMF Endowed/ Restricted	CSMF Unendowed/ Restricted	CSMF Unendowed/ Unrestricted	Total Direct CSMF Support	CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Combined	COMMENTS
INCOME:												
Education & General												
General Fund	\$11,139,857										\$11,139,857	CSM=3.8052
GF Reserve	0										\$0	
Tuition	10,413,217										10,413,217	+4.0%
Ind Cost Recoveries	1,824,000										1,824,000	
Other Cash	200,000										200,000	
Sponsored Programs		\$8,076,000	\$1,230,667	\$2,927,439	\$300,000	\$4,458,106	\$730,000	\$1,126,400	\$650,000		15,040,506	
Auxiliaries										\$4,698,303	4,698,303	
Prior Yr Roll Forward	4,821		672,495		581,646	1,254,141				105,000	1,363,962	
TOTAL INCOME	\$23,581,895	\$8,076,000	\$1,903,162	\$2,927,439	\$881,646	\$5,712,247	\$730,000	\$1,126,400	\$650,000	\$4,803,303	\$44,679,845	
EXPENSE:												
Total Faculty												
Avg Compensation	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497						3% salary increase
FTE	206.1	49.5	0.8	9.0	0.0	9.8					265.4	-18.0 FTE
Total Compensation	10,407,432	2,501,945	40,398	454,473	0	494,871					\$13,404,247	
Faculty Charge-outs												
Avg Compensation	50,497											
FTE	(18.0)										(18.0)	
Total Compensation	(908,946)										(908,946)	
Admin Faculty												
Avg Compensation	52,960											3% salary increase
FTE	31.5										31.5	
Total Compensation	1,668,240										1,668,240	
Classified Staff												
Avg Compensation	29,937	29,937	29,937	29,937		29,937						1.5% mandated salary increase
FTE	187.7	13.5	0.7	2.8		3.5					204.7	
Total Compensation	5,619,175	404,608	20,956	83,824		104,780					6,128,562	
Graduate Assistants												
Avg Compensation	30,530	30,530	30,530	30,530	30,530	30,530						+4.0%
FTE	32.6	59.0	2.0	2.6	3.1	7.7					99.3	
Total Compensation	995,278	1,800,948	61,060	79,378	94,643	235,081					3,031,307	
Hourly												
Avg Compensation	11,100	11,100	11,100	11,100		11,100		\$11,100				+4.0%
FTE	15.0	24.7	0.8	3.4		4.2		8.0			51.9	-1.3 FTE
Total Compensation	166,500	274,584	8,880	37,740		46,620		88,800			576,504	
Operating Expense/Travel	2,085,546	2,205,556	8,700	10,000		18,700		\$1,400			4,351,202	
Lib Books Augmentation	20,000										20,000	
Marketing Augmentation	50,000										50,000	
Grad Sch Augmentation	30,000										30,000	
Office Move									\$75,000		75,000	
Alderson Program Plan									56,000		56,000	
Berthoud Phones									5,000		5,000	
Global Studies Remodel	9,500										9,500	
Program Support			115,000	380,000	130,000	625,000					625,000	
Departmental Support			287,689	179,624		467,313					467,313	
Library Books/Journals	425,365		9,184	73,000		82,184					507,549	Addl gift funds (\$68,000)
Utilities	1,209,100										1,209,100	+3.5%
Financial Aid												
Undergrad-State	1,001,884							911,300			1,913,184	
Grad-State								84,900			84,900	
Undergrad-Other			416,400	540,000	48,116	1,004,516	\$730,000		\$650,000		2,384,516	
Grad-Other			65,400	235,000		300,400					300,400	
Research Development	650,000		27,000			27,000					677,000	-\$100,000
FTE	3.0										3.0	
Capital Outlay		888,360	170,000	135,000		305,000					1,193,360	
Pvnts to St Agencies	118,000									7,000	118,000	
Reserve/unallocated	34,821		672,495	719,400	608,887	2,000,783				4,660,303	4,660,303	
Auxiliaries												
TOTAL EXPENSE	\$23,581,895	\$8,076,000	\$1,903,162	\$2,927,439	\$881,646	\$5,712,247	\$730,000	\$1,126,400	\$650,000	\$4,803,303	\$44,679,845	
TOTAL FTE	457.9	146.8	4.3	17.8	3.1	25.2		8.0	0.0	0.0	637.9	

1989-90 FINANCIAL PLAN

	State	Sponsored	CSMF	CSMF	CSMF	Total	CSMF	Restricted	Agency	Auxiliaries	Combined	COMMENTS
	Appropriated	Research	Endowed/	Unendowed/	Unendowed/	Direct CSMF	Loans	CSM	Funds			
		(Direct)	Restricted	Restricted	Unrestricted	Support						
INCOME:												
Education & General												
General Fund	\$10,948,665										\$10,948,665	assume Higher Ed increase will be 5.0%
Tuition	10,810,368										10,810,368	+5.0%
Ind Cost Recoveries	1,800,000										1,800,000	
Other Cash	200,000										200,000	
Sponsored Programs		\$8,900,000	\$1,350,000	\$4,250,000	\$300,000	\$5,900,000	\$767,000	\$1,166,220	\$682,000		17,415,220	
Auxiliaries										\$4,810,000	4,810,000	
Prior Yr Roll Forward	34,821		672,495		608,887	1,281,382				7,000	1,323,203	
TOTAL INCOME	\$23,793,854	\$8,900,000	\$2,022,495	\$4,250,000	\$908,887	\$7,181,382	\$767,000	\$1,166,220	\$682,000	\$4,817,000	\$47,307,456	
EXPENSE:												
Total Faculty												
Avg Compensation	\$52,012	\$52,012	\$52,012	\$52,012	\$52,012	\$52,012						3% comp increase
FTE	199.5	53.0	0.8	17.0	2.0	19.8					272.3	-7.6 FTE E&G
Total Compensation	10,376,394	2,756,636	41,610	884,204	104,024	1,029,838					\$14,162,868	
Faculty Charge-outs												
Avg Compensation	52,012											
FTE	(19.0)											(19.0) 1.0 FTE additional charge-out
Total Compensation	(988,228)											(988,228)
Admin Faculty												
Avg Compensation	54,549											3% comp increase
FTE	31.5											31.5
Total Compensation	1,718,294											1,718,294
Classified Staff												
Avg Compensation	31,434	31,434	31,434	31,434		31,434						5.0% comp increase
FTE	187.7	14.0	0.7	5.0		5.7						207.4
Total Compensation	5,900,162	440,976	22,004	157,170		179,174						6,519,412
Graduate Assistants												
Avg Compensation	31,751	31,751	31,751	31,751	31,751	31,751						+4.0%
FTE	33.2	65.0	3.0	8.0	3.1	14.1						112.3
Total Compensation	1,054,133	2,063,815	95,253	254,008	98,428	447,689						3,565,632
Hourly												
Avg Compensation	11,540	11,540	11,540	11,540		11,540		\$11,540				+4.0%
FTE	15.0	32.0	0.8	6.0		6.8		8.0				61.8
Total Compensation	173,100	369,280	9,232	69,240		78,472		92,320				713,172
Operating Expense/Travel	2,085,546	2,370,193	7,902	18,000	80,000	105,902		42,800				4,604,441
Program Support			120,000	600,000	130,000	850,000						850,000
Departmental Support			305,000	326,572		631,572						631,572
Library Books/Journals	435,690		10,000	70,804	9,675	90,481						526,171
Utilities	1,251,420											1,251,420 +3.5%
Financial Aid												
Undergrad-State	977,480							943,200				1,920,680
Grad-State								87,900				87,900
Undergrad-Other			455,000	1,100,000	172,520	1,727,520	\$767,000		\$682,000			3,176,520
Grad-Other			71,000	500,000		571,000						571,000
Research Development	650,000		28,000			28,000						678,000
FTE	3.0											3.0
Capital Outlay		900,000	185,000	270,000		455,000						1,355,000
Pymts to St Agencies	123,900											123,900
Reserve/unallocated	35,963		672,495		314,240	986,735				\$47,000		1,069,698
Auxiliaries										4,770,000		4,770,000
TOTAL EXPENSE	\$23,793,854	\$8,900,000	\$2,022,495	\$4,250,000	\$908,887	\$7,181,382	\$767,000	\$1,166,220	\$682,000	\$4,817,000	\$47,307,456	
TOTAL FTE	450.9	164.0	5.3	36.0	5.1	46.4		8.0	0.0	0.0	669.3	

Proposed
ROOM AND BOARD CHARGES
FY 1988-89

<u>Academic Year</u>	PRESENT RATE PER STUDENT 1987-88	PROPOSED RATE PER STUDENT 1988-89
Residence Halls*		
Bradford, Randall, Morgan and Thomas		Returning Students
Double Room	\$1665	\$1665 \$1740
Single Room	1855	1855 1940
Double Room as Single	2155	2155 2240
 Twin Towers		
Double Room	1930	1930 2025
Single Room	2080	2080 2175
Double Room as Single	2130	2130 2375
"E" Room, Single		2225
 Meal Plans, Academic Year*		
19-meal Plan	1470	1575
15-meal Plan	1375	1470
10-meal Plan	1305	1395
Residence Hall Activity Fee	10	10
 <u>Field Session</u>		
Randall Hall Room Only		
Double Room	320	335
Single Room	350	370
 <u>Summer Session</u>		
Randall Hall*		
Double Room	425	445
Single Room	465	490
Twin Towers*		
Double Room	N/A	N/A
Single Room	N/A	N/A
 Meal Plans, Summer Session*		
15-Meal Plan	345	370
10-Meal Plan	320	345
 <u>Prospector Village (monthly rate)</u> Married Student Apartments		
1-Bedroom	300	315
2-Bedroom	325	340
3-Bedroom	350	370
Furnished	Add 30	Add 30
 <u>Mines Park (monthly rate)</u>		
		<u>1987-88</u> <u>1988-89</u>
		Grd Grd
Buffet Apartment	Util. included	<u>Stu</u> <u>Fac</u> <u>Stu</u> <u>Fac</u>
1-Bedroom Apartment	" "	300 315 315 330
2-Bedroom Apartment	" "	400 420 420 440
2-Bedroom Apartment	" "	460 495 485 520
2-Bedroom House (37,38,39)	+ All utilities	510 535 500 525
2-Bedroom House (25,26,27,28)	" "	525 560 550 590
2-Bedroom House (30,31-34,35)	" "	435 460 455 490
3-Bedroom House	" "	495 525 520 550
3-Bedroom House (29)	" "	555 610 585 640

Residents are not responsible for irrigation of yards.

* Residence Hall students must choose one of the available meal plans.

RECORD OF PROCEEDINGS

Golden, Colorado
July 8, 1988

The Board of Trustees met in regular session on July 8, 1988, at 9:00 a.m.

Trustees present: Ms. Allen, Messrs. Henderson, Pascoe, Schwartzberg, Warren, Wilson and Wood.

Absent: Mr. Miller

Also attending the meeting were President Ansell, Vice Presidents Golden and Scott, Dean Chevront, Dr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting held on June 16, 1988, were approved as distributed.

1989-90 Capital Construction Request. Mr. Scott informed the Board that CSM is required to submit the 1989-90 Capital Construction Request prior to the September Board of Trustees meeting. Mr. Scott had distributed a Summary of the Request, containing project cost over a number of fiscal years. He reviewed the specific amounts requested.

The Board unanimously approved the 1989-90 Capital Construction Request.

1988-89 Budget Adjustments. Mr. Scott had distributed the revised 1988-89 Financial Plan, copy of which is appended hereto, reflecting a mandated General Fund reserve established by the Governor in his memorandum of June 17, copy of which is also attached. Mr. Scott explained that expenditures formerly appearing in the State Appropriated expense categories of Marketing Augmentation and Graduate School Augmentation now appear in the CSMF Unendowed/Unrestricted column. If the reserve is released to us, we may be able to return these expenses to the State Appropriated column.

Mr. Scott had also distributed revised Tuition and Fee Materials, copies of which are appended hereto, which, on page 2, Regular Semester, modify the number of credit hours taken which require payment of student fees, from 6.5 to 7, to be consistent with the requirements of the new Student Information System. On page 3, Student Health Insurance premium information is included which was unavailable at the time of the June 16 meeting.

The Board unanimously approved the modified 1988-89 Operating Budget and the Tuition and Fee modifications.

RECORD OF PROCEEDINGS

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Cosponsorship of Program. President Ansell informed the Board that former Governor Lamm has asked if the School of Mines would be interested in becoming a cosponsor of a program to be sponsored by the Club of Rome. The program will be held in the spring of 1989 in Denver, and approximately 1,000 persons are expected to attend. The topic areas to be covered include climatic change, the world economy and security.

The University of Colorado, the University of Denver, Colorado State University and the University of Colorado at Denver have also agreed to be cosponsors. The organizers of the program are former Gov. Dick Lamm, Morris Straun and John Welles. If the Board agrees to the cosponsorship, CSM would have a representative on the steering committee planning the event.

The Board unanimously approved the request.

Visiting Committees. Dr. Golden informed the Board that Dr. Kidnay of the Department of Chemical Engineering and Petroleum Refining has recommended that Dr. Robert Furgason, Vice Chancellor for Academic Affairs at the University of Nebraska, be invited to serve on that department's visiting committee.

The Board unanimously approved the recommendation.

Dr. Golden stated that Dr. Philipose has recommended that the following persons be invited to serve on the McBride Honors Program Visiting Committee:

Mr. James K. Brewington
Vice President, AT&T
Denver, Colorado

Mr. Arden B. Engbretsen
Vice Chairman & Chief Financial Officer
Hercules, Inc.
Wilmington, Delaware

Ms. Judith Servoos
Vice President, Public Affairs
U.S. West
Denver, Colorado

Dr. Mark J Waltch
Director
Aldrich, Eastman & Waltch
Boston, Massachusetts

The Board unanimously approved the recommendation.

New Faculty Appointments. Dr. Golden presented the report as follows:

Dr. Gaye Christoffersen	\$28,000 for the 1988-
Assistant Professor of Political Science and Asian Studies	89 academic year

July 8, 1988

RECORD OF PROCEEDINGS

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Dr. Istvan Dobozi Visiting Professor of Mineral Economics	\$48,000 for the 1988- 89 academic year
Dr. Nicholas E. Douglas Instructor in Engineering	\$8,000 for the fall semester of the 1988- 89 academic year
Dr. Roger H. Morin Adjunct Associate Professor of Engineering	No compensation. Thesis advising for the period May 1, 1988 - May 1, 1989.
Dr. Abbas Pourgerami Visiting Assistant Professor of Mineral Economics	\$4,000 for the fall semester of the 1988- 89 academic year
Dr. Ian Ridley Adjunct Professor of Geology and Geological Engineering	No compensation. During the 1988-89 academic year, will be collaborating with Prof. Nelson on his research programs in Southern Chile.
Dr. Chester J. Van Tyne Associate Professor of Metallurgical Engineering and FIERF Professor	\$38,000 for the 1988- 89 academic year
Dr. Noboru Wada Assistant Professor of Physics	\$34,000 for the 1988- 89 academic year
Mr. Versie Lee Wallace, Jr. Assistant Professor of Physical Education	\$28,000 for the 1988- 89 academic year

Continuation of Appointment.

Dr. Robert C. Drury Visiting Assistant Professor of Mineral Economics	\$32,000 for the 1988- 89 academic year
Ms. Diana L. Moss Instructor in Mineral Economics	\$5,400 for the fall semester of the 1988- 89 academic year
Ms. Cheryl A. Siefert Adjunct Assistant Professor of Mineral Economics	\$4,800 for the 1988- 89 academic year

Administrative Contracts.

Ms. Kay Juricek Lyons Assistant Librarian/ Technical Services	\$23,000 (12-month contract)
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July 8, 1988

RECORD OF PROCEEDINGS

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Mr. Robert A. MacPherson \$48,500 (12-month
Director, Environmental contract)
Health and Safety

Quantitative evaluation reports had been distributed to the Board members prior to the Board meeting.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Fall 1988, as of June 30, 1988.

Enrollment - Admissions. Mr. Young had provided the July 1, 1988 Admissions Report.

New Research Awards. Dr. Olson provided a report on new research award volume for June 1988. This month's volume is \$941,465 compared to \$1,068,441 for the same time period the previous year. This results in a cumulative total for FY 1988 of \$8,659,471, which is \$1,401,778 behind the total for the same period the previous year of \$10,061,259. Thirty different faculty were involved in twenty-four new project awards.

Twenty proposals were submitted in the month of June 1988 compared to twenty-six during the month of May 1988. A total to date of 282 proposals for FY 1988 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures and Other Changes for the Twelve months Ending June 30, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Twelve Months Ending June 30, 1988; and Colorado School of Mines Time Deposits and Investment Report, June 30, 1988. It is his belief that the School is operating within the revenues projected for the 1988 fiscal year.

Safety Report. Dr. Golden reported on the activities of Mr. Bob MacPherson, newly-appointed Director of Environmental Health and Safety.

Coors Alumni Challenge. Mr. Robbins reported that total alumni giving to the Mines Annual Fund (MAF) for fiscal year 1987-88 amounted to \$822,451. This total exceeds the \$800,000 required to meet the Adolph Coors Foundation Challenge Grant by three percent and was achieved a full six months early.

Mr. Robbins informed the Board that this year's contributions came from 3,302 alumni, or 32 percent of the 10,350 solicited, for an average gift of \$249.00. While it is too early to make comparisons with other institutions, CSM is now probably among the leaders in American public higher education in annual alumni giving in both percentage participation and average annual gift. Compared with last year, alumni contributions to MAF increased by 27 percent and the number of alumni contributors increased by seven percent. Our goal for 1988-89 is to maintain last year's level of alumni giving to MAF while increasing the proportion of alumni participating.

July 8, 1988

RECORD OF PROCEEDINGS

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Mr. Henderson thanked President Ansell, his staff, and the staff of the CSM Foundation for their efforts.

1987-88 Contributions Report. Mr. Robbins informed the Board that estimated total contributions received by the CSM Foundation for fiscal year 1987-88 amounted to \$6.87 million. This is approximately \$0.5 million (or seven percent) less than was contributed last year. Unrestricted contributions grew by more than 50 percent to almost \$1.9 million. This growth is due to the very strong effort to complete the Coors Alumni Challenge six months early.

Mr. Robbins stated that when looked at on an annual basis, contributions may vary significantly due to the presence of single, very large gifts that might occur in any one year and not another. Because of this, he has used a three-year moving average to smooth out any sharp year-to-year variations. The trend in contributions to the School appears to be steady and constant with an average annual growth rate of approximately 8.5 percent over the past six years.

1989 Board of Trustees Conference. Dr. Golden, Chairman of the Conference planning committee, reported that initial plans for the 1989 Board of Trustees Conference will center on departmental visiting committee reports and departmental strategic plans. The goal of the conference will be to discuss and to define how we can make these efforts the most effective, to interchange experiences, ideas and reports, and to synthesize an academic agenda for the future.

Dr. Golden informed the Board that members of the committee are Dr. Gentry, Dr. Baldwin, Dr. Cordes, Dr. Olson, Dr. Trefny, two department heads (to be selected), and Mr. Robbins.

The committee will bring a brief report on the status of the conference planning to the Trustees in October, February and April of the coming academic year.

Status Report on Campus Construction Projects. Mr. Scott presented the status report.

Berthoud Hall. Mr. Wood announced that he had toured Berthoud Hall and was favorably impressed with the renovation.

Mr. Henderson reported on the campus visit of Mr. Peter T. Lucas, General Manager, Exploration and Production, Research and Development, Shell Development Company.

The meeting was adjourned at 9:55 a.m., and the Board went into executive session.


Secretary

July 8, 1988

Proposed
ROOM AND BOARD CHARGES
FY 1988-89

<u>Academic Year</u>	PRESENT RATE PER STUDENT 1987-88	PROPOSED RATE PER STUDENT 1988-89
Residence Halls*		
Bradford, Randall, Morgan and Thomas		Returning Students
Double Room	\$1655 \$1665	\$1655 \$1665 \$1740
Single Room	1855	1855 1940
Double Room as Single	2155	2155 2240
Twin Towers		
Double Room	1930	1930 2025
Single Room	2080	2080 2175
Double Room as Single	2130	2130 2375
"E" Room, Single		2225
Meal Plans, Academic Year*		
19-meal Plan	1470	1575
15-meal Plan	1375	1470
10-meal Plan	1305	1395
Residence Hall Activity Fee	10	10
<u>Field Session</u>		
Randall Hall Room Only		
Double Room	320	335
Single Room	350	370
<u>Summer Session</u>		
Randall Hall*		
Double Room	425	445
Single Room	465	490
Twin Towers*		
Double Room	N/A	N/A
Single Room	N/A	N/A
Meal Plans, Summer Session*		
15-Meal Plan	345	370
10-Meal Plan	320	345
<u>Prospector Village (monthly rate)</u>		
Married Student Apartments		
1-Bedroom	300	315
2-Bedroom	325	340
3-Bedroom	350	370
Furnished	Add 30	Add 30
<u>Mines Park (monthly rate)</u>		
		<u>1987-88</u> <u>1988-89</u>
		Grd Grd
Buffet Apartment	Util. included	<u>Stu</u> <u>Fac</u> <u>Stu</u> <u>Fac</u>
1-Bedroom Apartment	" "	300 315 315 330
2-Bedroom Apartment	" "	400 420 420 440
2-Bedroom Apartment	" "	460 495 485 520
2-Bedroom House (37,38,39)	+ All utilities	510 535 500 525
2-Bedroom House (25,26,27,28)	" "	525 560 550 590
2-Bedroom House (30,31-34,35)	" "	435 460 455 490
3-Bedroom House	" "	495 525 520 550
3-Bedroom House (29)	" "	555 610 585 640

Residents are not responsible for irrigation of yards.

* Residence Hall students must choose one of the available meal plans.

1988-89 FUND BAL PLAN

	State Appropriated	Sponsored Research (Direct)	CSMF Endowed/ Restricted	CSMF Unendowed/ Restricted	CSMF Unendowed/ Unrestricted	Total Direct CSMF Support	CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Combined	COMMENTS
INCOME:												
Education & General											\$11,028,459	CSM=3.8052
General Fund	\$11,028,459										\$11,028,459	12
GF Reserve	111,398										111,398	+4.02
Tuition	10,413,217										10,413,217	
Ind Cost Recoveries	1,824,000										1,824,000	
Other Cash	299,999										299,999	
Sponsored Programs		\$8,076,000	\$1,230,667	\$2,927,439	\$300,000	\$4,458,106	\$730,000	\$1,126,400	\$650,000		\$15,040,506	
Auxiliaries										\$4,698,303	\$4,698,303	
Prior Yr Roll Forward	4,821		672,495		581,646	1,254,141				105,000	1,363,962	
TOTAL INCOME	\$23,581,895	\$8,076,000	\$1,903,162	\$2,927,439	\$881,646	\$5,712,247	\$730,000	\$1,126,400	\$650,000	\$4,803,303	\$44,679,845	
EXPENSE:												
Total Faculty												
Avg Compensation	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497						3% salary increase
FTE	206.1	49.5	0.8	9.0	0.0	9.8					265.4	
Total Compensation	10,407,432	2,501,945	40,398	454,473	0	494,871					\$13,404,247	
Faculty Charge-outs												
Avg Compensation	50,497											(18.0)
FTE	(118.0)											(908,946)
Total Compensation	(908,946)											
Admin Faculty												
Avg Compensation	52,960											3% salary increase
FTE	31.5										31.5	
Total Compensation	1,668,240										1,668,240	
Classified Staff												
Avg Compensation	29,937	29,937	29,937	29,937		29,937						1.5% mandated salary increase
FTE	187.7	13.5	0.7	2.8		3.5					204.7	
Total Compensation	5,619,175	404,608	20,956	83,824		104,780					6,128,562	
Graduate Assistants												
Avg Compensation	30,530	30,530	30,530	30,530	30,530	30,530						+4.02
FTE	32.6	39.0	2.0	2.6	3.1	7.7					99.3	
Total Compensation	995,278	1,800,948	61,060	79,378	94,643	235,081					3,031,307	
Hourly												
Avg Compensation	11,100	11,100	11,100	11,100		11,100		\$11,100				+4.02
FTE	15.0	24.7	0.8	3.4		4.2		8.0			51.9	
Total Compensation	166,500	274,584	8,880	37,740		46,620		88,800			576,504	
Operating Expense/Travel	2,085,546	2,205,556	8,700	10,000		18,700		41,400			4,351,202	
Lib Books Augmentation	20,000										20,000	
Marketing Augmentation					50,000	50,000					50,000	
Grad Sch Augmentation					30,000	30,000					30,000	
Office Move									75,000		75,000	
Alderson Program Plan									56,000		56,000	
Berthoud Phones									5,000		5,000	
Global Studies Remodel	9,500										9,500	
Program Support			115,000	380,000	130,000	625,000					625,000	
Departmental Support			287,689	179,624		467,313					467,313	
Library Books/Journals	425,365		9,184	73,000		82,184					507,549	Add gift funds
Utilities	1,209,100										1,209,100	+3.52
Financial Aid												
Undergrad-State	1,001,884							911,300			1,913,184	
Grad-State								84,900			84,900	
Undergrad-Other			416,400	540,000	48,116	1,004,516	\$730,000		\$650,000		2,384,516	
Grad-Other			65,400	235,000		300,400					300,400	
Research Development	650,000		27,000			27,000					677,000	-\$100,000
FTE	3.0										3.0	
Capital Outlay		888,360	170,000	135,000		305,000					1,193,360	
Pmts to St Agencies	118,000										118,000	
Reserve/unallocated	114,821		672,495	719,400	528,887	1,920,783				7,000	2,042,604	
Auxiliaries										4,660,303	4,660,303	
TOTAL EXPENSE	\$23,581,895	\$8,076,000	\$1,903,162	\$2,927,439	\$881,646	\$5,712,247	\$730,000	\$1,126,400	\$650,000	\$4,803,303	\$44,679,845	
TOTAL FTE	457.9	146.8	4.3	17.8	3.1	25.2		8.0	9.6	0.0	67.9	

Note: CSMF expenditures are projected based on prior year expected income through gifts and investments.

STATE OF COLORADO

EXECUTIVE CHAMBERS

136 State Capitol
Denver, Colorado 80203-1792
Phone (303) 866-2471



MEMORANDUM

Roy Romer
Governor

TO: Department Executive Directors
Governing Boards of Higher Education

FROM: Roy Romer *Roy Romer*
Governor

DATE: June 17, 1988

SUBJECT: Unallotted Reserve Requirement - HB 1302 Work Programs

As my letter of May 31 indicated, a final decision regarding a required unallotted reserve was still pending. Although the State's revenue outlook is currently positive, there is still cause for caution in projecting 1988-89 revenues. The additional cash the State now has on hand could be the accruals set up for last fiscal year or could be a one-time windfall. We are cautiously optimistic, but there are not enough positive signs in our economy as yet to assure us that revenues will stabilize and grow.

Given this scenario, I believe responsible, pro-active management of State government calls for a required unallotted reserve as part of your 1988-89 work programs. We want to be prepared and not be required to follow the recision exercises of the past. Therefore, I am ordering a required unallotted reserve of 1% be set aside in all departments' (excluding the Department of Education) 1988-89 work programs and be entered into the Central Accounting System. One third (.33%) of this reserve, however, will be released at the end of each of the first three quarters of the fiscal year if projected revenues are achieved and future projections indicate revenue stability. This process allows us to exercise good management by being prepared, yet is sensitive to the reality, and hope, that revenues will be stable and no reductions from appropriated levels will be required.

As I have stated, this work program process should be viewed as a management tool, not a punitive process. As responsible managers of State government, these steps must be taken. The Office of State Planning and Budgeting and the State Controller's Office will be available for further details.

Proposed
TUITION AND FEES
FY 1988-89

Tuition and fees at CSM are kept at a minimum, consistent with the cost of instruction and the amount of State funds appropriated to the School.

All prices are effective June 1988 and are subject to change without notice.

TUITION

Academic and Field Courses

<u>Semester Hours</u>	<u>Resident</u>	<u>Nonresident</u>
Less than 10	\$ 105/semester hour	\$ 291/semester hour
10 or more	\$1,575/semester	\$4,366/semester

The above are applicable to all academic periods and to both graduate and undergraduate courses.

Other Courses and Programs

Extended Studies - \$105 per credit hour

Executive Program Mineral Economics (incl. fees)	\$11,000
Audit, no credit	6,600

Intensive English for International Students:

	<u>Req. Semester</u>	<u>Summer Session</u>
EN 01	\$2,279**	\$1,746**
EN 02	1,368**	1,164**

Graduate Student Notes

All on-campus graduate students are expected to enroll for a minimum of 15 semester hours of course work and/or thesis each regular semester.

Students employed on a full-time basis outside the School are required to enroll for a minimum of 3 semester hours each regular semester. Evidence of employment must be filed with the Graduate School each semester.

Students doing thesis research in the summer should register for a minimum of 3 semester hours the first week after spring Commencement.

* ~~Any change will be submitted later.~~

Payment of fees entitles students to a ticket to all athletic events; subscriptions to both the Oredigger, the weekly newspaper published by students, and the Prospector, the student yearbook; use of the Student Health Center and Student Center; and participation in student activities.

The Associated Students fee is administered by the Student Council in financing the Oredigger, the Prospector, the band, the chorus, and Interfraternity Council, Barb Council and the student organizations. Budgets for these publications and organizations are set at the beginning of the fall semester by the Student Council.

Regular Semester (Fall/Spring)

During a regular semester, students taking less than ^{7 credit}~~6.5 credit~~ hours are not required to pay student fees. Any such student, however, wishing to take part in student affairs and receive student privileges may do so by paying full semester fees.

All degree students carrying ^{7 or}~~6.5 or~~ more credit hours must pay full student fees as follows:

Health Center**	\$ 32.50
Associated Students	25.00
Athletics	30.00
Student Center	<u>75.00</u>
Total	\$162.50

In addition to the above fees, Intensive English Students also pay a \$90 activity fee.*

Nondegree students are not required to pay student fees. Should they wish to receive any of the student privileges provided by fee payment, they may do so by paying full semester (or session) fees. Medical insurance may be purchased without paying the other fees.

Summer Session

Academic Courses

Health Center	\$ 20.00
Athletics	15.00
Student Center Fee	<u>37.50</u>
Total	\$ 72.50

Thesis Research (if on campus)

Health Center	\$ 20.00
Athletics	15.00
Student Center	<u>37.50</u>
Total	\$ 72.50

Intensive English

Health Center	\$ 27.00
Student Center	37.50
Activities	<u>60.00*</u>
Total	\$124.50

* ~~Any change will be submitted later.~~

** An optional medical insurance program is also available. See Student Health Plan below.

Field Courses/Graduate Field Trips

On-Campus: Health Center \$ 10.50

Off-Campus:

Arrangements and payment for transportation, food, lodging and other expenses must be made with the department concerned. (Geology Field Camp costs, including camping and materials, are \$100.)

Miscellaneous:

New Student Orientation/Quick Start Program/Freshman Hard Hat \$ 16.00

New Stu Orien./Quick Start, \$7
Freshman Hard Hat, \$9
(Hd Hat Fee of \$9 can be waived.)

Deposits (cover the cost of supplies consumed, with any unused balance refunded)

Chem Lab (1st time reg.) \$ 15.00
Plane Surveying 50.00

Graduation (includes theses binding and other expenses)

Bachelors \$ 30.00
Professional Engineers 75.00*
Masters 135.00*
Doctors 152.00*

Graduate Studies Support \$ 1500.00
(optional for sponsored students)

Student Health Plan (optional for all students)

A medical insurance program is available to all students, both degree and nondegree, who request coverage. An election to accept/waive this insurance must be made at the time of registration. Costs are as follows:

Fall Semester \$ ~~64.00~~** \$107.00
Spring Semester (provides coverage through August) ~~64.00~~** 107.00
~~Summer Session~~ ~~32.00~~**

Arrangement can be made for coverage of spouse and/or children. The insurance carrier should be contacted directly. The annual fee for coverage is:

~~Student and Spouse~~ \$~~134.00~~** \$452.00
~~Student and Child(ren)~~ ~~258.00~~** 666.00
~~Child(ren) Only Student and Child(ren)~~ ~~122.00~~** 428.00
~~Optional Maternity, per unit~~ ~~100.00~~**

* Any change will be submitted later.

** ~~New rate not yet available.~~

RECORD OF PROCEEDINGS

Golden, Colorado
September 9, 1988

The Board of Trustees met in regular session on September 9, 1988 at 9:00 a.m.

Trustees present: Ms. Allen, Messrs. Lawler, Pascoe, Schwartzberg, Stott, Wilson and Wood.

Absent: Mr. Miller

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos and Scott, Deans Chevront, Cordes, Gentry and Olson, Mr. Robbins, Executive Director of the CSM Foundation, Mr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Oath of Office. Oaths of office were administered to Trustee Stott and student Trustee Lawler and were properly executed by them.

Previous Minutes. The minutes of the meeting held on July 14, 1988, were approved as distributed.

Approval of Agreement Between CSM Employee and CSM. The Board unanimously ratified the Agreement between CSM and Dr. David C. Stickler, Professor of Mathematics, CSM, copy of which is appended hereto.

Designation of Representatives to Statewide Accounting Standards subcommittee. Mr. Scott informed the Board that the State Controller's Office has had an Advisory Committee for a number of years. It recently requested the designation of members to a subcommittee to deal with financial systems. The school is represented on the primary committee by our controller.

The Board unanimously approved the designation of James Carter, Controller, as voting member, with Marge Bowen as alternate; and designation of Ed Zitt as nonvoting member, with James Allen as alternate.

Visiting Committees. Dr. Golden informed the Board that Dr. Boes of the Department of Mathematics has recommended that the following persons be invited to serve on the visiting committee for that department:

Mr. Ahmed Kafadar, Chairman
OEA, Inc.
Denver, Colorado

Mr. Thomas P. Teenor
Area Manager
AVCO Research Laboratory
Textron
Huntsville, AL

Dr. J. Wendell Wiggins
Research Geophysicist
Western Geophysical
Houston, Texas

Dr. Robert Burrige
Schlumberger-Dole Research
Ridgefield, CT

RECORD OF PROCEEDINGS

2

Mr. Burton Smith
Supercomputing Research Center
Institute for Defense Analysis
Lanham, MD

Mr. William E. Riddle
Chief Technical Officer and
Executive Vice President
Software Productivity Consortium
Reston, VA

Mr. Benjamin Rummerfield
President
Geodata Corporation
Tulsa, OK

Mr. Franklin A. Graybill
Centennial Professor of Statistics
Colorado State University
Fort Collins, CO

Dr. Harry F. Jordan, Professor
Department of Electrical and Computer
Engineering and Computer Science
Boulder, CO

The Board unanimously approved the motion to invite the above-named persons to serve on the Visiting Committee for the Department of Mathematics.

Dr. Golden reminded the Board that the Visiting Committee for the Mining Department was appointed last year. In order to enhance the effectiveness of that committee, Dr. Salamon, Head of the Mining Department, has recommended that the following persons be added to the committee:

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Executive Vice President
Coal & Ind. Minerals
Cyprus Minerals Company
Englewood, CO

Mr. T. Peter Philip
Senior vice President
Newmont Mining Corporation
New York, New York

Mr. Thomas P. Taplin
Director
North American Coal Company
Denver, Co

The Board unanimously approved the recommendation.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Mr. Michael J. George Instructor in Engineering	\$13,500 for the fall semester of the 1988-89 academic year
Mr. Doran Greening Instructor in Engineering	\$20,000 for the 1988- 89 academic year

RECORD OF PROCEEDINGS

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RECORD OF PROCEEDINGS

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Lease of CSM Property. Mr. Scott informed the Board that agents representing Cellular One have requested a lease on CSM property for location of an antenna to support the cellular phone system.

They originally proposed a site on the Survey Field. We asked them to examine the property we have declared surplus and for sale on the west side of US 6, under the M, which they did but found unsatisfactory. They then proposed an alternate site on property owned by CSM, formerly leased to the City of Golden, which contains some water tanks and police radio antenna for the City. We have asked them to test this location to see whether it is, in fact, satisfactory. They will do so in conjunction with CSM and the appropriate Golden agencies.

Mr. Scott hopes to have sufficient information to prepare a recommendation for action at the October meeting of the Board.

September 9, 1988

RECORD OF PROCEEDINGS

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Appointment to CCHE Advisory Committee. President Ansell informed the Board that the Trustees are to appoint, in consultation with faculty organization members associated with Mines, the 1988-89 faculty representative to the advisory committee.

Dr. Sloan, President of the Faculty Senate, indicated that he is willing to serve as the representative on a temporary basis. He will submit a name in nomination at the October Board meeting.

It was moved, seconded and unanimously approved to have Dr. Sloan serve as temporary faculty representative to the CCHE Advisory committee.

ATO Fraternity. Mr. Scott reminded the Board that the ATO Fraternity has had a number of discussions and agreement with it in the past several years. The Fraternity currently holds an option to purchase a lot on West Campus road. A copy of that agreement is appended hereto.

Past Boards have listed a number of requirements for structures built upon these lots. A copy of that list is also appended hereto, together with a letter written by Mr. Scott reflecting a past Board's willingness to waive provision 10.

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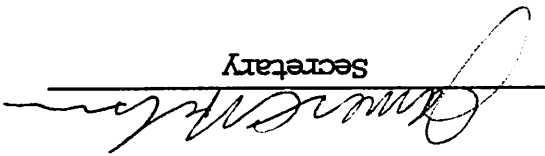
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Dr. Nyikos reminded the Board of the tour of the new offices located in Twin Towers immediately following the Board meeting. The tour will also include the bookstore and the new Student health Center.

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September 9, 1988

September 9, 1988


Secretary

The meeting was adjourned at 10:15 a.m., and the Board
went into executive session.

GSM
BOARD OF TRUSTEES
AGENDA ITEMS

Date of Meeting 10/14/88
Item Number I-a
Presented By Ansell

Subject: Consideration of previous minutes

Background Information:

Action Motion Requested:

Motion to approve minutes of meeting of September 9, 1988

RECORD OF PROCEEDINGS

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September 9, 1988

September 9, 1988

Secretary

The meeting was adjourned at 10:15 a.m., and the Board
went into executive session.

RECORD OF PROCEEDINGS

AGREEMENT

COME NOW, Colorado School of Mines, (hereafter "CSM"), and Dr. David C. Stickler, (hereafter "Dr. Stickler"), and hereby agree as follows:

WHEREAS, Dr. Stickler has served CSM as a professor of mathematics during the 1986-87 academic year, and was granted a one-year leave of absence for the 1987-88 academic year; and

WHEREAS, Dr. Stickler has requested another leave of absence for the 1988-89 academic year; and

WHEREAS, the parties wish to clarify and reduce to writing their agreement regarding Dr. Stickler's tenure status;

NOW THEREFORE, in consideration of the mutual promises set forth herein, the parties hereby state and agree as follows:


1. CSM shall grant Dr. Stickler's request for a leave of absence for the 1988-89 academic year.

2. Dr. Stickler's qualifications for tenure shall be reviewed by CSM in conformity with the procedure outlined in Section 5.11 of the CSM Faculty Handbook (Eleventh Edition, December 1987) with the following modification. In calculating the maximum seven-year probationary period under Section 5.11, neither the 1987-88 academic year nor the 1988-89 academic year shall be counted as "years of service" at CSM.

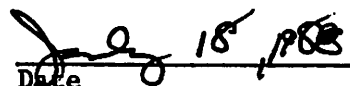
3. Nothing in this Agreement shall be construed to prevent CSM from nonrenewing the contract of Dr. Stickler pursuant to the procedures outlined in Sections 5.15.1.1 and 5.15.2.1 of the CSM Faculty Handbook (Eleventh Edition, December 1987) or dismissing Dr. Stickler for cause, if such cause arises, pursuant to the procedures outlined in Sections 5.15.3 and 5.15.4 of said handbook.

4. Both parties warrant that they have entered into this Agreement voluntarily with full knowledge of their legal rights with regard thereto.

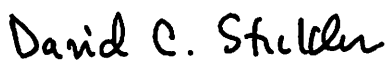
5. This Agreement shall not be effective until ratified by the CSM Board of Trustees.



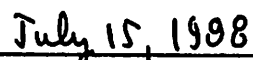
Dr. George S. Ansell
President
Colorado School of Mines



Date



Dr. David C. Stickler
Professor of Mathematics
Colorado School of Mines



Date

OPTION AGREEMENT

Come now the parties, EPSILON ALPHA OF ALPHA TAU OMEGA HOME ASSOCIATION, 10403 W. Colfax, Suite 725, Lakewood, Colorado 80215, hereinafter referred to as "Purchaser," and COLORADO SCHOOL OF MINES, a State agency acting by and through its Board of Trustees, 1500 Illinois Street, Golden, Colorado 80401, hereinafter referred to as "Seller."

WITNESSETH:

Whereas Purchaser wishes to purchase an option upon certain realty known as Lot 2, West Campus Road, Golden, to wit:

A tract of land in the SE¹/₄ of the NE¹/₄ and the NE¹/₄ of the SE¹/₄ of Section 33, Township 3 S., Range 70 West of the 6th P.M., more particularly described as beginning at the S E Corner of said SE¹/₄ NE¹/₄; thence N 85° 45' 30" W 393.03 feet to the true point of beginning; thence S 4° 44' 30" W 201.75 feet to a point; thence 180.34 feet along the arc of a curve whose chord bears N 55° 51' 15" W 177.20 feet to a point; thence N 37° 11' W 29.0 feet to a point; thence N 46° 15' E 175.0 feet to a point; thence S 52° 00' E 69.0 feet to the true point of beginning.

Whereas Seller is willing to sell said option upon the following terms and conditions.

NOW, THEREFORE, the parties agree as follows:

1. The option shall be for a period of five years commencing September 14, 1984 and ending September 13, 1989.
2. Purchaser shall pay the sum of One Thousand Dollars (\$1,000) for said Option in five annual payments of \$200 at the beginning of each option year.

3. Should Purchaser exercise its option, the purchase price shall be Six Thousand Five Hundred Dollars (\$6,500).

4. Should Purchaser exercise its option, any monies paid upon the option shall be credited in the purchase price.

5. Purchaser shall not be allowed to exercise this option unless it first presents plans of construction of a Chapter House to Seller, which plans are acceptable to Seller, which approval shall not be unreasonably withheld.

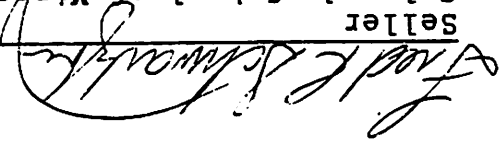
6. Notice of the exercise of this option may be given at any time during the five-year period by written Notice to Seller, at its normal place of business, together with the submission of plans set forth in paragraph 5.

7. Seller shall have no more than 45 days to approve the proposed plans, or not.

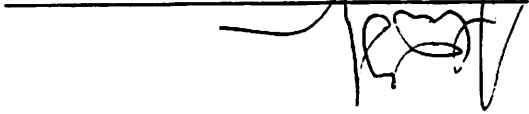
8. In the event Seller approves the plans, it shall advise Purchaser of said approval at Purchaser's normal place of business. Once Notice of Approval has been mailed, Purchaser shall have one year to undertake construction of the house.

9. In the event construction is not begun within the required time, or in the event construction once begun does not continue in a normal period of time, then in that event Seller may set aside the purchase of the realty and retake ownership of the realty, removing such materials from the site as Seller deems appropriate and retaining such monies paid by Purchaser as are necessary for costs of removal.

Seller
Colorado School of Mines
Fred R. Schwartzberg
President of the Board



Purchaser
Epsilon Alpha of Alpha Tau
Omega Home Association
Stuart Squires, President



- 10. This option is not transferable.
 - 11. If at the end of the term set forth in paragraph 1 Purchaser has not exercised its option, then this option shall cease, and all monies paid under paragraph 2 shall be retained by Seller.
- To the above Option Agreement the parties affix their signatures this 14th day of September, 1984.

RULES AND REGULATIONS CONCERNING FRATERNITY HOUSES CONSTRUCTED IN THE
WEST CAMPUS AREA - ADOPTED BY THE BOARD OF TRUSTEES AT THEIR
MEETING HELD JULY 8, 1966

1. No requirements were set on the style of architecture or on the number of stories. However, the final plans are subject to approval by the Board of Trustees of the Colorado School of Mines.
 2. All houses shall be fire resistant in accordance with the uniform building code. The roof likewise shall be in accordance with the code.
 3. The houses must be built to sleep a minimum of 36 men, with a maximum of 60 men.
 4. The number of lavatories and toilets in each house must be in accordance with the uniform building code and be in relation to the number of individuals housed.
 5. Each house must have a minimum setback at the front, rear, and side, of 10 feet from the property line.
 6. Each house must face the peripheral street.
 7. Each house must dispose of its garbage and trash in a way which will not create a nuisance in the neighborhood. Properties must not be allowed to become unsightly to others.
 8. Each fraternity will be required to provide a minimum of fifteen additional parking positions on their building plot. In any event they must furnish parking for at least 60% of the sleeping capacity of the fraternity including the ten positions to be furnished by the School.
 9. The Board of Trustees of the Colorado School of Mines must approve the landscaping plan for each fraternity. Each fraternity will be required to furnish its own top soil on its site.
 - * 10. Each fraternity must employ a full time housemother approved by the School for the regular academic year who will be required to live in the fraternity house. Housemother quarters must include a separate bedroom, living room, bathroom, and closet and must not be less than a total of 425 square feet.
 11. In the event a fraternity or the fraternity house corporation wishes to sell its property in the west campus area, the Board of Trustees must approve the sale. The purchaser must be a fraternity or a fraternity house corporation whose presence on the campus has been approved by the School.
- * This requirement has been and will be reviewed by the Board. A determination of the need to provide such space should be made prior to program planning for your structure.

The Board will waive item 10 of the list of requirements (house-
 mother's space). It will entertain the A/D proposal to build a
 fraternity house to house twenty-four men, so long as the plans
 for expansion to house a minimum of thirty-six men are clearly
 a part of the original design. The Board expressed a strong
 desire that all other amenities usually present in fraternity
 houses and stated in the existing policy, including kitchen
 facilities, are a part of the initial structure.

I have been asked to inform you of the Board of Trustees action
 in response to your request at today's meeting.

Dear John:

Mr. John R. Beers
 570 Estes Street
 Lakewood, Colorado 80226

November 9, 1979

W. G. Scott, Vice President
 for Business Affairs
 WGS/bh
 Copy to President McBride

Sincerely,

RECORD OF PROCEEDINGS

Golden, Colorado
October 14, 1988

The Board of Trustees met in regular session on October 14, 1988 at 9:00 a.m.

Trustees present: Messrs. Lawler, Miller, Pascoe, Schwartzberg, Stott, Wilson and Wood.

Absent: Ms. Allen

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos and Scott, Deans Chevront, Gentry and Olson, Mr. Robbins, Executive Director of the CSM Foundation, Mr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting held on September 9, 1988, were approved as distributed.

House Bill 1187--CCHE Existing Program Review Policy. Dr. Gentry informed the Board that CCHE policy requires that each governing board submit to CCHE by March 1, 1989, a policy including objectives for program review according to each institution's role and mission, and specifies the process and procedures to be followed in order to accomplish program review. The draft document was submitted for the Board's review as a policy statement for fulfilling these requirement.

The Board unanimously approved the draft document for submission to CCHE.

Request for Lease - Cellular Radio Facility. Mr. Scott informed the Board that McCaw Communications, operating as Cellular One, has requested a lease on a site for a telephone relay station. After examining three locations on CSM property, they request they be allowed to locate their facility near the CSM Survey Field parking lot.

The firm is anxious to receive an indication of the Board's willingness to agree to such a use of the property. The Board may wish to accept or reject this proposal, in principle, with details such as appropriate compensation to be resolved by further negotiations.

The Board unanimously approved the request.

Appointment to CCHE Advisory Committee. Dr. Sloan reminded the Board that at its September meeting it had appointed him to serve on the Advisory Committee on a temporary basis. Mr. Wood stated that he recently received a letter from Dr. David A. Longanecker, Executive Director of the CCHE, in which he informed Mr. Wood that the Colorado Faculty Advisory Council has decided to revert to having the elected chair of CFAC be the CCHE Advisory Board Faculty Representative. Accordingly, he

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is suggesting that the obligation of the School of Mines to provide a CCHE faculty representative has been discharged acceptably and without stigma under this newer policy of representation. Dr. Sloan informed the Board that he is amenable to being relieved of this responsibility.

Mr. Wood said that he will write a letter to Dr. Longanecker agreeing to relieve Dr. Sloan of this responsibility.

Visiting Committees. Dr. Golden informed the Board that Dr. Daniel of the Department of Chemistry and Geochemistry recommended that the following persons be invited to serve on the visiting committee for that department:

Dr. Mary L. Good
Engineered Materials Research Center
Allied Signal Corporation
Des Plaines, IL

Mr. J. E. (Jim) Briggs
Vice President, Production and
Oil Field Research
Chevron Oil Field Research Company
La Habra, CA

Dr. Michael M. O'Mara
Senior Vice President
B.F. Goodrich and Company
Cleveland, OH

Mr. J. Alan Coope
Director of Geochemistry
Newmont Exploration Limited
Tucson, AZ

Mr. Howard Anderson
Manager of Supplies Products
IBM
Boulder, CO

Dr. Charles Burgett
Avondale Division
Hewlett Packard Corp.
Avondale, PA

Mr. J. Richard Cook
Vice President of Technical Operations
Astronautics Group
Martin Marietta Corp.
Denver, CO

Mr. Dale Pollard
Director of Strategic Research
Texaco, Inc.
Beacon, NY

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Mr. William Kane, Manager
Standards and Measurements
Corning Glass Works
Corning, NY

Mr. Leo J. Thomas
LFG Management
Eastman Kodak Co
Rochester, NY

Mr. Roy D. Gerard
General Manager
West Hollow Research Center
Shell Development Company
Houston, TX

Mr. David W. Brooks
University of Nebraska
Lincoln, NE

The Board unanimously approved the motion to invite the above-named persons to serve on the Visiting Committee for the Department of Chemistry and Geochemistry.

Dr. Golden told the Board that Dr. Henriksen of the Department of Engineering has recommended that the following persons be invited to serve on the visiting committee for that department:

Mr. William Beduhn
Vice President
Adv. Tech. Development
MIS Systems, Inc.
Eden Prairie, MN

Mr. C. Thorsten (Thor) Brandt
Fenix & Scisson
Tulsa, OK

Mr. David L. Cohen
Executive Vice President
Benzeevi Cohen Corporation
Los Angeles, CA

Mr. Chester "Ed" Colby
General Manager
RTD
Denver, CO

Dr. Leroy S. Fletcher
Thomas A. Dietz Professor
Department of Mechanical Engineering
Texas A & M University
College Station, TX

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Mr. Joseph R. Fowler, President
Stress Engineering Services, Inc.
Houston, TX

Mr. Ben L. Fryrear, President
Aerospace Optics, Inc.
Fort Worth, TX

Mr. Ed M. Galle, Vice President
Engineering and Research
Hughes Tool Co.
Houston, TX

Mr. Raymond Harrigan
Intelligent Machine Systems Division
Sandia National Labs
Albuquerque, NM

Mr. James R. Howell, President
James R. Howell & Co., Inc.
Denver, CO

Mr. Donald Oxley
Director of University Relations
Texas Instruments, Inc.
Dallas, TX

Mr. Steve J. Poulos, Principal
Geotechnical Engineers, Inc. (GEI)
Winchester, MA

Dr. Harriett Rigas, Chair
Electrical Engineering & Systems Science
Michigan State University
East Lansing, MI

Mr. Virgil Young
Martin Marietta
Denver, CO

The Board unanimously approved the motion to invite the above-named persons to serve on the Visiting committee for the Department of Engineering.

Dr. Golden informed the Board that Dr. Adams of the Department of Geology and Geological Engineering has recommended that the following persons be invited to serve on the visiting committee for that department:

Mr. Peter T. Lucas
General Manager
Exploration and Production
Research and Development
Shell Development Company
Houston TX

October 14, 1988

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Mr. John P. Lockridge
Independent petroleum geologist
Denver, CO

Mr. E. Dean B. Laudeman
Vice President
Western Region
Unocal
Los Angeles, CA

Mr. F. Steven Mooney
Vice President and General Manager of Administration
Cyprus Minerals Company
Denver, CO

Mr. Paul A. Bailly, President
Fulcrum Management, Inc.
Denver, CO

Ms. Dianne R. Nielson, Director
Division of Oil, Gas and Minerals
Utah State Government
Salt Lake City, UT

Mr. John W. Rold, Director
Colorado Geological Survey
Denver, CO

Dr. Don L. Warner, Dean
School of Mines and Metallurgy
University of Missouri-Rolla
Rolla, Missouri

Mr. David Pentz, Principal
Golder and Associates
Seattle, WA

Dr. Arthur J. Pansze
Consulting Geologist
Cruson & Pansze
Golden, CO

Mr. Charles E. Shultz
Senior Vice President
Tenneco Oil Exploration & Production
Houston, TX

The Board unanimously approved the motion to invite the above-named persons to serve on the Visiting Committee for the Department of Geology and Geological Engineering.

CSM Policy for the Provision of Goods and Services. Mr. Scott informed the Board that the 1988 General Assembly has passed House Bill 1009. CCHE will approve final guidelines at its October meeting. CSM is

October 14, 1988

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required to submit its policy to CCHE by November. The proposed policy incorporates the CCHE policy, Section I, verbatim. Sections II and III provide the CSM procedures for handling complaints and preparing the required reports. A copy of the proposed policy is appended hereto.

The Board unanimously voted to adopt the policy as submitted.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Dr. Judith A. Barlow Visiting Assistant Professor of Mathematics	\$33,712 for the 1988- 89 academic year
Mrs. Roberta Hodkowski Adjunct Professor of Global Systems and Cultures	No compensation for the 1988-89 academic year. English as a Second Language Program Coordinator
Ms. Susana Lopez Adjunct Professor of Global Systems and Cultures	No compensation for the 1988-89 academic year. USIA Visiting Faculty
Dr. John J. Schanz Adjunct Professor of Mineral Economics	No compensation for the 1988-89 academic year. Thesis advising
Dr. John P.H. Steele Visiting Assistant Professor of Engineering	\$38,500 for the 1988- 89 academic year
Ms. Lee Ann Tobin Adjunct Assistant Professor of Humanities and Social Sciences	\$2,000 for the fall semester of the 1988-89 academic year

Continuation of Appointment.

Mr. S. Scott Bailey Instructor in Mathematics	\$9,000 for the 1988- 89 academic year
Dr. Barbara Bath Visiting Assistant Professor of Mathematics	\$25,956 for the 1988- 89 academic year
Dr. Richard DeVoto Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising

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Dr. James Ely Adjunct Professor of Chemical Engineering and Petroleum Refining	\$7,400 for the 1988- 89 academic year
Dr. Lee C. Gerhard Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising
Dr. Samuel S. Goldich Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising
Dr. Robert D. Hamilton Adjunct Assistant Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising
Mr. Michael L. Hendricks Adjunct Assistant Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising
Dr. Hossein Kazemi Adjunct Associate Professor of Petroleum Engineering	\$4,228 for the fall semester of the 1988-89 academic year
Dr. Robert Knecht Adjunct Professor of Chemical Engineering and Petroleum Refining	\$7,400 for the 1988- 89 academic year
Mr. Patrick A. Madison Adjunct Assistant Professor of Mathematics	\$4,326 for the 1988- 89 academic year
Dr. Harold W. Olsen Adjunct Professor of Engineering	\$3,000 for the fall semester of the 1988- 89 academic year
Dr. T. J. Reynolds Adjunct Assistant Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Advises faculty and students relative to the special research area of fluid inclusion studies.
Dr. W. Ian Ridley Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising

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Dr. Reuben J. Ross Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising
Dr. David A. Stephenson Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising
Dr. Robert Sterrett Adjunct Assistant Professor of Geology and Geological Engineering	No compensation. Thesis advising

Reappointment after Interruption

Dr. Henry A. Babcock Adjunct Professor of Engineering	\$9,000 for the fall semester of the 1988-89 academic year
Dr. Thais Silva da Gama Adjunct Professor of Global Systems and Cultures	\$3,000 for the fall semester of the 1988- 89 academic year

Quantitative evaluation reports had been distributed to the Board members prior to the Board meeting.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Spring 1989, as of September 30, 1988. Also included was summary data for Fall 1988 registration.

Enrollment - Admissions. Mr. Spaulding had provided a report on the Final Fall 1988-89 Enrollment Statistics. Also, Mr. Young provided cost data for engineering schools for 1988-89 and a memorandum on freshman academic characteristics and CCHE admissions index.

New Research Awards. Dr. Olson provided a report on new research award volume for September 1988. This month's volume is \$1,132,439 compared to \$837,984 for the same time period the previous year. This results in a cumulative total for FY 1989 of \$3,060,384, which is \$814,582 ahead of the total for the same period the previous year. Twenty-seven different faculty were involved in twenty-six new or add-on project awards.

Sixteen proposals were submitted in the month of September 1988 compared to eleven during the month of August 1988. A total to date of thirty-five proposals for FY 1989 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures, and other Changes for the Three Months Ending September 30, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for

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the Three Months Ending September 30, 1988; and Colorado School of Mines Time Deposits and Investment Report, September 30, 1988. It is his belief that the School is operating within the revenues projected for the 1989 fiscal year.

Safety Report. Mr. MacPherson had submitted the Environmental Health and Safety Report for the period September 9 to October 14, 1988.

CCHE Programs of Excellence. Drs. Golden and Gentry informed the Board that CSM will be nominating EPICS, Materials Science, and Environmental Sciences and Engineering Ecology for designation as programs of excellence by CCHE.

Report on 1989 BOT Conference. Dr. Golden reported that initial plans for the 1989 Board of Trustees Conference will center on departmental visiting committee reports and departmental strategic plans. The goal of the conference will be to discuss and to define how we can make these efforts the most effective; to interchange experiences, ideas and reports and to synthesize an academic agenda for the future.

Dr. Golden stated that by October 14 all academic departments except Environmental Sciences and Global Systems and Cultures will have approved visiting committees. Committees for those two departments will be submitted to the Trustees at the November meeting. All academic departments have completed an initial draft of a departmental strategic plan which supports the institutional strategic plan. Dean Gentry is now in the process of synthesizing the departmental plans into an institutional plan for discussion with the department heads and the BOT Conference planning committee.

Dr. Golden said that although the departmental strategic plans and the visiting committee reports will form the basis of the Trustees Conference discussion, it is the belief of the planning committee members that they already understand most of the key issues and questions. Accordingly, the committee's next meetings will focus on listing those issues and questions and defining potential solutions to the problems. The committee will meet twice a month during the fall semester.

Report on Department of Environmental Sciences and Engineering Ecology. Dr. John C. Emerick, Associate Professor of Environmental Sciences and Engineering Ecology and Acting Department Head, presented the report. He distributed a viewbook on the department and discussed the history and mission of the department.

Mr. Wood thanked Dr. Emerick for his report.

Mr. Schwartzberg stated that he believes the viewbooks are an excellent marketing tool for recruiting students.

Sabbatical Report. Dr. Don L. Williamson, Professor of Physics, who was on academic leave during the 1987-88 academic year at one-half pay, presented his report. His sabbatical leave was spent working at the Solar Energy Research Institute in Golden. He reported on his work at SERI and discussed the benefits which he believes he and CSM have derived from that relationship.

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Dr. Williamson thanked the Board and the administration for their support of sabbaticals for faculty members. Mr. Wood thanked Dr. Williamson for his report.

Proposed Replacement of Tau Beta Pi Pedestal. Mr. Warren Mason had distributed a photograph which shows damage caused by age and weather to the present Tau Beta Pi pedestal which is located below the front entrance to Guggenheim Hall. He believes that the damage to the pedestal has created an unsightly, undesirable situation for both Tau Beta Pi and CSM, and he told the Board that Tau Beta Pi is asking permission to replace the old pedestal with donated rock as the new base.

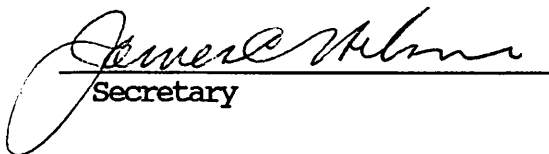
Mr. Mason stated that the cost of the replacement would be very minimal since the rock has been donated by Mr. Chip Parfet. The cost for labor would be from donations rather than from institutional funds. Plant Facilities will donate its services to assist in this project, and he hopes that the Earth Mechanics Institute will donate its services to get the new pedestal in place since this will benefit the entire institution.

The Board unanimously approved the request to replace the pedestal

Legislative Report. Dr. Nyikos reported that there will be a legislative luncheon on campus on November 12 prior to the Mines football game. The legislators will be given a tour of Berthoud Hall.

Dr. Nyikos discussed the Auraria "management" situation and said that the CCHE will make a final decision on this issue on December 15, 1988.

The meeting was adjourned at 10:10 a.m., and the Board went into executive session.


Secretary

October 14, 1988

COLORADO SCHOOL OF MINES
POLICY FOR THE PROVISION OF GOODS AND SERVICES

SECTION I. GUIDELINES FOR THE PROVISION OF GOODS AND SERVICES
Section I is quoted in its entirety from CCHE guidelines on this subject.

A. Introduction

The primary mission of higher education institutions is to create and disseminate knowledge. To perform this mission, it is often necessary for institutions to provide, and charge fees for, goods and services that enhance, promote, or support their teaching, research, and public service functions. It is important, however, that institutions be mindful that the provision of goods and services may be in competition with private businesses, and remain sensitive to the interests of private businesses.

The purpose of these guidelines is to define the legitimate purposes of the provision of goods and services by institutions of higher education and to establish a mechanism for addressing complaints of unfair competition by private businesses. These guidelines were developed in accordance with Colorado Revised Statutes title 24 of article 113, in consultation with governing boards and business to be implemented by governing boards on each of the campuses under their control.

B. Exclusions

In recognition of the teaching, research, and public service missions of higher education institutions, these guidelines shall not apply to the following situations:

- 1) instructional charges;
- 2) services provided in the experiential aspects of instructional and research programs;
- 3) services for fees in extracurricular or residential life programs, including residence halls, food service, athletic, recreational and cultural programs;
- 4) the University of Colorado Health Sciences Center, except in those cases where a prosthetic or medical device is provided without an accompanying surgery or medical procedure;

- 5) the provision of free medical services or equipment to indigents in association with a community service health program; and
- 6) public service radio and television stations licensed to a governing board or to an institution under its control.

C. Guidelines

It is appropriate for higher education institutions to provide and charge for goods and services to students, faculty, staff, and invited guests, under the following conditions:

- 1) the good or service is authorized by statute;
- 2) the good or service offers a valuable educational or research experience for students as a part of their education;
- 3) the good or service fulfills the public service mission of the institution of higher education;
- 4) the good or service is being provided other than through intergovernmental or interagency agreement with another agency of state government or unit of local government, which, if provided directly by the institution would be in violation of these guidelines.

D. Criteria for Provision of Goods and Services to Students, Faculty and Invited Guests

In determining the appropriateness of of a good or service to the campus community, consideration shall be given to the following criteria:

- 1) whether the good or service is substantially and directly related to the instructional, research, or public service mission of the institution;
- 2) whether the good or service is necessary or convenient for the campus community;
- 3) whether the intended use of the good or service is for students, faculty, staff, or invited guests rather than the general public. Invited guests are defined as persons who enter a campus for an educational, research, or public service activity, and not primarily to purchase or receive goods and services not related to the educational, research, or public service mission of the campus.
- 4) whether the price charged reflects the direct and indirect costs and overhead costs of the good, as well as the price in the private marketplace;

- 5) whether in establishing the price of the good or service, consideration was given to the price in the private marketplace;
- 6) whether there is a demand by the general public for the good or service.

E. Criteria for Sales to the External Community

In assessing the validity of providing goods or services to the external community, both of the following criteria must be met:

- 1) The good or service represents a resource that is directly related to an institution's educational mission, not commonly available or otherwise easily accessible, and for which there is a demand from the external community; the goods or services are by-products of the institution's instructional, research, or public service activities; the institution has specific statutory authority to sell the good or service; or the good or service is produced from the businesslike management of the assets of the institution for the exclusive benefit of the institution.
- 2) The price charged is sufficient to recover the full costs, including both direct and appropriate indirect costs, of the good and service. The price of such items in the private market place shall be taken into account in establishing the price or fee.

SECTION II. GRIEVANCE REVIEW PROCEDURES.

The Vice President for Business Affairs is designated as the officer who shall be available to:

- 1) resolve matters concerning the internal application of this policy. Should proposed sources of revenue be inconsistent with this policy, the matter shall be referred to the Vice President for Business Affairs for a decision.
- 2) review all proposed sales to other agencies;
- 3) address questions from members of the external community about specific sales programs;
- 4) meet and confer with complaining parties or firms and attempt to resolve such complaints by direct negotiation or other appropriate means.
- 5) If resolution is not reached as a result of the review by the Vice President for Business Affairs, appeal may be made to the governing board of the institution via the Office of the President.

The Vice President for Business Affairs shall prepare and the CSM Board of Trustees shall submit, by February 1 and August 1 of each year, semiannual reports to the Commission regarding the outcome of grievances reviewed pursuant to the procedures established in accordance with Section II of these guidelines.

SECTION III. REPORTING PROCEDURES.

RECORD OF PROCEEDINGS

Golden, Colorado
November 11, 1988

The Board of Trustees met in regular session on November 11, 1988 at 9:00 a.m.

Trustees present: Ms. Allen, Messrs. Lawler, Miller, Schwartzberg, Stott, Wilson and Wood.

Absent: Mr. Pascoe.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos and Scott, Deans Chevront, Gentry and Olson, Mr. Robbins, Executive Director of the CSM Foundation, Mr. Sloan, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting held on October 14, 1988, were approved as distributed.

Internal Auditor. President Ansell informed the Board that the new Internal Auditor will report to the Vice President for Academic Affairs. A proposed job description had been forwarded to the Board for its consideration. Mr. Schwartzberg requested that the job description include a statement regarding compliance with federal laws and regulations.

The Board unanimously approved the proposed job description for the Internal Auditor with the suggested modification.

Sabbatical Requests. Dr. Golden informed the Board that the following faculty members have submitted sabbatical requests:

Dr. Norman Bleistein, Professor of Mathematics, has requested a sabbatical leave for the spring semester of the 1989-90 academic year in order to spend time in Scotland and France learning two new areas of applied mathematics--nonlinear least squares inverse methods and nonlinear dynamics and chaos.

Professor W. John Cieslewicz, Associate Professor of Slavic Studies and Foreign Languages, has requested a sabbatical leave for the fall semester of the 1989-90 academic year in order to teach courses in Chile, Ecuador and/or Argentina.

Dr. Frank G. Hagin, Professor of Mathematics, has requested a sabbatical leave for the fall semester of the 1989-90 academic year in order to study what is being done nationally to modernize the undergraduate mathematics curriculum and to work toward implementing the best of the ideas at CSM.

Dr. Golden stated that these leave requests have been approved by the department heads involved as well as Dean Gentry. He also recommends approval of the requests.

The Board unanimously approved the sabbatical requests.

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Membership in Associated Western Universities. Dr. Golden informed the Board that Associated Western Universities is an outgrowth of the Associated Rocky Mountain Universities (ARMU), which was organized in Colorado in 1959 by several of the major universities in the Rocky Mountain region. It is a non-profit organization funded primarily by the United States Department of Energy (DOE). The University/DOE Laboratory Cooperative Program was developed to help assure an adequate supply of manpower to assist with the nation's energy needs; to strengthen and augment the academic institutions' capabilities to understand more fully and anticipate such needs by providing adequate and relevant education in the physical sciences and engineering; and, through the interchange of technology between academe and the laboratories, to invigorate those laboratories with new ideas and stimuli offered by university personnel.

CSM would like to become a member for the following reasons:

1. To participate in the faculty sabbatical program
2. Access to graduate thesis work at national labs
3. Access to IRIS (electronic bulletin board)

The Office of Research Development will fund the \$1,000 per year membership fee.

The Board unanimously approved the request.

Revised 1988-89 Budget. Mr. Scott informed the Board that the administration has evaluated revenue and expenses following Fall registration and is submitting the modified budget for the approval of the Board. He expects to evaluate the budget throughout the year and anticipate additional revisions following Spring enrollment and clarification of Colorado's state revenues. A copy of Mr. Scott's memorandum outlining the modifications and a copy of the revised 1988-89 Financial Plan are appended hereto.

The Board unanimously approved the revised 1988-89 Financial Plan.

Visiting Committee. Dr. Golden informed the Board that Dr. Emerick of the Department of Environmental sciences and Ecological Engineering has recommended that the following persons be invited to serve on the visiting committee for that department:

C. Wes McDonald
Executive Vice President/Operations
Consolidation Coal Company
Pittsburgh, PA

David Sheetz
Senior Vice President and
Chief Scientist
Dow Chemical Company
Midland, MI

Alan W. Czarnowsky
Chairman
ACZ Inc.
Steamboat Springs, CO

Steven Aasheim
Vice President and Regional Manager
CH2M Hill
Greenwood Village, CO

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William W. Moore, Jr.
General Manager
International Technology Corporation
Englewood, CO

Harold C. Heinze
ARCO Transportation Company
Long Beach, CA

Dennis Donald
Office of the Director
Colorado Department of Natural Resources
Denver, CO

Robert Duprey
Director
Division of Waste Management
U.S. EPA, Region VII
Denver, CO

William Odum
Chairman
Department of Environmental Sciences
University of Virginia
Charlottesville, VA

Charles A. Champion
President
Tower Petroleum Corporation
Carson, CA

Leonard R. Judd
Executive Vice President
Phelps Dodge Corporation
Phoenix, AZ

The Board unanimously approved the motion to invite the above-named persons to serve on the Visiting Committee for the Department of Environmental Sciences and Ecological Engineering.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Dr. John C. Horne Adjunct Professor of Geology and Geological Engineering	No compensation for the 1988-89 academic year. Thesis advising.
Mr. Claude H. Joseph Adjunct Assistant Professor of Petroleum Engineering	\$2,500 for the fall semester of the 1988- 89 academic year
Dr. Gordon M. Matheson Adjunct Assistant Professor of Geology and Geological Engineering	\$1,000 for the fall semester of the 1988- 89 academic year.
Dr. David G. Wirth Adjunct Professor of Metallurgy and Metallurgical Engineering and Director of the Colorado Center for Advanced Ceramics	No compensation for the period August 22, 1988 - August 18, 1989

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Mr. Abdul Wahid \$1,800 for the fall
Adjunct Instructor of Indonesian semester of the 1988-
Studies in the Department of 89 academic year
Global Systems and Cultures

Reappointment after Interruption

Dr. Richard L. Harlan \$2,000 for the fall
Adjunct Professor of Geology semester of the
and Geological Engineering 1988-89 academic year

Quantitative evaluation reports had been distributed to the Board members prior to the Board meeting.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Spring 1989, as of October 31, 1988.

Enrollment - Admissions. Mr. Spaulding had provided the Enrollment Report for the fall semester of the 1988-89 academic year.

New Research Awards. Dr. Olson provided a report on new research award volume for October 1988. This month's volume is \$1,164,853 compared to \$410,476 for the same time period the previous year. This results in a cumulative total for FY 1989 of \$4,225,237, which is \$1,568,959 ahead of the total for the same period the previous year. Thirty-two different faculty were involved in twenty-seven new or add-on project awards.

Forty-one proposals were submitted in the month of October 1988 compared to sixteen during the month of September 1988. A total to date of seventy proposals for FY 1989 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures, and other Changes for the Four Months Ending October 31, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Four Months Ending October 31, 1988; and Colorado School of Mines Time Deposits and Investment Report, October 31, 1988. It is his belief that the School is operating within the revenues projected for the 1989 fiscal year.

Safety Report. Mr. MacPherson had submitted the Environmental Health and Safety Report for the period October 15 to November 11, 1988. Mr. MacPherson also gave a presentation on his plan to establish a hazardous waste program for CSM together with his budget proposal. He thanked the Board for its support.

Mr. Wood thanked Mr. MacPherson for his presentation.

Sabbatical Report. Dr. A Keith Turner, Professor of Geology and Geological Engineering, who was on leave during the spring semester of the 1987-88 academic year at three-fourths pay, presented his report. He spent his sabbatical leave in The Netherlands at the International Institute for Aerospace Survey and Earth Sciences and the Netherlands Organization for Applied Scientific Research - Institute for Applied Geoscience. The emphasis of his work was on application of geographic information systems and artificial intelligence - methods to hydrogeology and engineering geology.

Dr. Turner thanked the Board for giving him the opportunity to take the sabbatical leave and to make his presentation. Mr. Wood thanked him for his report.

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The Colorado School of Mines Assessment Plan. Dr. Barbara Olds, Assistant Professor of Humanities and Social Sciences and Acting Director of EPICS, who was selected to direct CSM's accountability effort, had distributed a draft of the CSM Assessment Plan. This assessment plan constitutes the document which is proposed for submission to the CCHE prior to December 1. It is believed that the plan is realistic and consistent with the educational mission of the institution, as well as being consistent with the overall structure and nature of the School.

Dr. Olds gave a presentation on the plan and requested Board approval.

The Board unanimously approved the proposed CSM Assessment Plan.

The meeting was adjourned at 10:25 a.m., and the Board went into executive session.


Secretary

November 11, 1988

CSM
BOARD OF TRUSTEES
AGENDA ITEM

Date of Meeting 11-11-88
Item Number 1(e)
Presented By Gordon Scott

SUBJECT:

Revised 1988-89 Budget

BACKGROUND INFORMATION:

We have evaluated revenue and expenses following Fall registration and submit the modified budget for the approval of the Board. We expect to evaluate the budget throughout the year and anticipate additional revisions following Spring enrollment and clarification of Colorado's State revenues. Copies of the budget approved July 8 are attached for your comparison

Highlights of the changes include for

State Appropriated Funds

Increased Tuition revenues and inclusion of Prior Year Roll Forward within total income.

Expenses are modified as follows:

Additional Faculty FTE and Compensation reflecting staffing demands.

Additional Operating expenses reflecting departmental roll-forwards and specific additions.

The Library book augmentation is greater.

Funds for a brochure are included within Research Development.

Capital Outlay funds are included to modify laboratories to receive equipment from NSF and Parsons grants.

Payments to State Agencies are increased to reflect costs of Attorney General services.

The Reserve Unallocated increases slightly and a specific expenditure line is included for funds which may be rescinded.

CSMF Endowed Restricted

Final prior year roll-forward funds are included.

CSMF Unendowed Restricted

Final year-end balances are included as opening balances for the current year.

CSMF Unendowed Unrestricted

Reflects funds available current year and balances rolled forward.

1989-90 Financial Plan

An updated plan is provided to illustrate expected income and expense trends next fiscal year.

Brief highlights include increased tuition and indirect cost income, reduction in faculty numbers and compensation from appropriated funds while increasing funding for operating expense, travel and library books and journals.

\$752,000 remains unallocated within the State Appropriated column, while the reserve within CSMF Unendowed Unrestricted is reduced to \$238,000.

The Sponsored Research column reflects this year's award volume which will be monitored closely.

The CSMF Endowed Restricted and Unendowed Restricted are the same estimates as appeared in the early version of this Plan.

ACTION/MOTION REQUESTED:

Approval of the revised 1988-89 Financial Plan.

1988-89 FINANCIAL PLAN

	1988-89 FINANCIAL PLAN						CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Combined	COMMENTS
	State Appropriated	Sponsored Research (Direct)	CSMF Endowed/ Restricted	CSMF Unendowed/ Restricted	CSMF Unendowed/ Unrestricted	Total Direct CSMF Support						
INCOME:												
Education & General												
General Fund	\$11,028,459									\$11,028,459		CSM=3.805%
GF Reserve	111,398									\$111,398		1%
Tuition	10,675,920									10,675,920		+4.0%
Ind Cost Recoveries	1,824,000									1,824,000		
Other Cash	200,000									200,000		
Sponsored Programs		\$8,076,000	\$1,230,667	\$2,924,484	\$470,516	\$4,625,667	\$730,000	\$1,126,400	\$650,000		15,208,067	
Auxiliaries										\$4,698,303	4,698,303	
Prior Yr Roll Forward	918,645		639,246		404,881	1,044,127					150,819	2,113,591
TOTAL INCOME	\$24,758,422	\$8,076,000	\$1,869,913	\$2,924,484	\$875,397	\$5,669,794	\$730,000	\$1,126,400	\$650,000	\$4,849,122	\$45,859,738	
EXPENSE:												
Total Faculty												
Avg Compensation	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497						3% salary increase
FTE	209.3	49.5	0.8	9.0	0.0	9.8					268.6	
Total Compensation	10,569,022	2,501,945	40,398	454,473	0	494,871					\$13,565,838	
Faculty Charge-outs												
Avg Compensation	50,497											
FTE	(18.0)										(18.0)	
Total Compensation	(908,946)										(908,946)	
Admin Faculty												
Avg Compensation	52,960											3% salary increase
FTE	31.5										31.5	
Total Compensation	1,668,240										1,668,240	
Classified Staff												
Avg Compensation	29,937	29,937	29,937	29,937		29,937						1.5% mandated salary increase
FTE	187.7	13.5	0.7	2.8		3.5					204.7	
Total Compensation	5,619,175	404,608	20,956	83,824		104,780					6,128,562	
Graduate Assistants												
Avg Compensation	30,530	30,530	30,530	30,530	30,530	30,530						+4.0%
FTE	32.6	59.0	2.0	2.6	3.1	7.7					99.3	
Total Compensation	995,278	1,800,948	61,060	79,378	94,643	235,081					3,031,307	
Hourly												
Avg Compensation	11,100	11,100	11,100	11,100		11,100		\$11,100				+4.0%
FTE	15.0	24.7	0.8	3.4		4.2		8.0			51.9	
Total Compensation	166,500	274,584	8,880	37,740		46,620		88,800			576,504	
Operating Expense/Travel	2,810,197	2,205,556	8,700	10,000		18,700		41,400			5,075,853	
Lib Books Augmentation	50,000										50,000	
Marketing Augmentation					50,000	50,000					50,000	
Grad Sch Augmentation					30,000	30,000					30,000	
Office Move										\$75,000	75,000	
Alderson Program Plan										56,000	56,000	
Berthoud Phones										5,000	5,000	
Global Studies Remodel	9,500										9,500	
Program Support			115,000	380,000	130,000	625,000					625,000	
Departmental Support			287,689	179,624		467,313					467,313	
Library Books/Journals	425,365		9,184	73,000		82,184					507,549	Addl gift funds
Utilities	1,209,100										1,209,100	+3.5%
Financial Aid												
Undergrad-State	1,001,884							911,300			1,913,184	
Grad-State								84,900			84,900	
Undergrad-Other			416,400	540,000	48,116	1,004,516	\$730,000		\$650,000		2,384,516	
Grad-Other			65,400	235,000		300,400					300,400	
Research Development	700,000		27,000			27,000					727,000	-\$100,000
FTE	3.0										3.0	
Capital Outlay	58,000	888,360	170,000	135,000		305,000					1,251,360	
Pymts to St Agencies	138,000										138,000	
Reserve/unallocated	135,709		639,246	716,445	522,638	1,878,330					2,028,858	
GF Recision	111,398									14,819	111,398	
Auxiliaries										4,698,303	4,698,303	
TOTAL EXPENSE	\$24,758,422	\$8,076,000	\$1,869,913	\$2,924,484	\$875,397	\$5,669,794	\$730,000	\$1,126,400	\$650,000	\$4,849,122	\$45,859,738	
TOTAL FTE	461.1	146.8	4.3	17.8	3.1	25.2		8.0	0.0	0.0	641.1	

1989-90 FINANCIAL PLAN

	State Appropriated	Sponsored Research (Direct)	CSMF Endowed/ Restricted	CSMF Unendowed/ Restricted	CSMF Unendowed/ Unrestricted	Total Direct CSMF Support	CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Combined	COMMENTS
INCOME:												
Education & General												
General Fund	\$10,948,665										\$10,948,665	assume Higher Ed increase will be 5.0%
Tuition	11,264,452										11,264,452	+5.0%
Ind Cost Recoveries	2,250,000										2,250,000	
Other Cash	200,000										200,000	
Sponsored Programs		\$9,750,000	\$1,350,000	\$4,250,000	\$300,000	\$5,900,000	\$767,000	\$1,166,220	\$682,000		18,265,220	
Auxiliaries										\$4,810,000	4,810,000	
Prior Yr Roll Forward	485,709		639,246		522,638	1,161,884				14,819	1,662,412	
TOTAL INCOME	\$25,148,826	\$9,750,000	\$1,989,246	\$4,250,000	\$822,638	\$7,061,884	\$767,000	\$1,166,220	\$682,000	\$4,824,819	\$49,400,749	
EXPENSE:												
Total Faculty												
Avg Compensation	\$52,012	\$52,012	\$52,012	\$52,012	\$52,012	\$52,012						3% comp increase
FTE	199.5	58.0	0.8	17.0	2.0	19.8					277.3	-9.8 FTE E&G
Total Compensation	10,376,394	3,016,696	41,610	884,204	104,024	1,029,838					\$14,422,928	
Faculty Charge-outs												
Avg Compensation	52,012											
FTE	(19.0)										(19.0)	1.0 FTE additional charge-out
Total Compensation	(988,228)										(988,228)	
Admin Faculty												
Avg Compensation	54,549											3% comp increase
FTE	31.5										31.5	
Total Compensation	1,718,294										1,718,294	
Classified Staff												
Avg Compensation	31,434	31,434	31,434	31,434		31,434						5.0% comp increase
FTE	187.7	15.0	0.7	5.0		5.7					208.4	
Total Compensation	5,900,162	471,510	22,004	157,170		179,174					6,550,846	
Graduate Assistants												
Avg Compensation	31,751	31,751	31,751	31,751	31,751	31,751						+4.0%
FTE	33.2	72.0	3.0	8.0	3.1	14.1					119.3	
Total Compensation	1,054,133	2,286,072	95,253	254,008	98,428	447,689					3,787,894	
Hourly												
Avg Compensation	11,540	11,540	11,540	11,540		11,540		\$11,540				+4.0%
FTE	15.0	35.0	0.8	6.0		6.8		8.0			64.8	
Total Compensation	173,100	403,900	9,232	69,240		78,472		92,320			747,792	
Operating Expense/Travel	2,570,546	2,586,822	7,902	18,000	80,000	105,902		42,800			5,306,070	
Program Support			120,000	600,000	130,000	850,000					850,000	
Departmental Support			305,000	326,572		631,572					631,572	
Library Books/Journals	475,365		10,000	70,806		80,806					556,171	
Utilities	1,251,420										1,251,420	+3.5%
Financial Aid												
Undergrad-State	1,077,480							943,200			2,020,680	
Grad-State								87,900			87,900	
Undergrad-Other			455,000	1,100,000	172,520	1,727,520	\$767,000		\$682,000		3,176,520	
Grad-Other			71,000	500,000		571,000					571,000	
Research Development	650,000		28,000			28,000					678,000	
FTE	3.0										3.0	
Capital Outlay		985,000	185,000	270,000		455,000					1,440,000	
Pymts to St Agencies	138,000										138,000	
Reserve/unallocated	752,160		639,246		237,666	876,912				\$54,819	1,683,891	
Auxiliaries										4,770,000	4,770,000	
TOTAL EXPENSE	\$25,148,826	\$9,750,000	\$1,989,246	\$4,250,000	\$822,638	\$7,061,885	\$767,000	\$1,166,220	\$682,000	\$4,824,819	\$49,400,749	
TOTAL FTE	450.9	180.0	5.3	36.0	5.1	46.4		8.0	0.0	0.0	685.3	

1988-89 FINANCIAL PLAN

	State Appropriated	Sponsored Research (Direct)	CSMF Endowed/ Restricted	CSMF Unendowed/ Restricted	CSMF Unendowed/ Unrestricted	Total Direct CSMF Support	CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Coibined	COMMENTS
INCOME:												
Education & General											\$11,028,459	CSM=3.805%
General Fund	\$11,028,459										\$111,398	1%
GF Reserve	111,398											+4.0%
Tuition	10,413,217										1,824,000	
Ind Cost Recoveries	1,824,000										200,000	
Other Cash	200,000										15,040,506	
Sponsored Programs		\$8,076,000	\$1,230,667	\$2,927,439	\$300,000	\$4,458,106	\$730,000	\$1,126,400	\$650,000	\$4,698,303	\$4,698,303	
Auxiliaries										105,000	1,363,962	
Prior Yr Roll Forward	4,821		672,495		581,646	1,254,141						
TOTAL INCOME	\$23,581,895	\$8,076,000	\$1,903,162	\$2,927,439	\$881,646	\$5,712,247	\$730,000	\$1,126,400	\$650,000	\$4,803,303	\$44,679,845	
EXPENSE:												
Total Faculty												3% salary increase
Avg Compensation	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497	\$50,497					265.4	
FTE	206.1	49.5	0.8	9.0	0.0	9.8					\$13,404,247	
Total Compensation	10,407,432	2,501,945	40,398	454,473	0	494,871						
Faculty Charge-outs												
Avg Compensation	50,497										(18.0)	
FTE	(18.0)										(908,946)	
Total Compensation	(908,946)											
Admin Faculty												3% salary increase
Avg Compensation	52,960										31.5	
FTE	31.5										1,668,240	
Total Compensation	1,668,240											
Classified Staff						29,937						1.5% mandated salary increase
Avg Compensation	29,937	29,937	29,937	29,937	29,937	29,937					204.7	
FTE	187.7	13.5	0.7	2.8	0.0	3.5					6,128,562	
Total Compensation	5,619,175	404,608	20,956	83,824		104,780						
Graduate Assistants												+4.0%
Avg Compensation	30,530	30,530	30,530	30,530	30,530	30,530					99.3	
FTE	32.6	59.0	2.0	2.6	3.1	7.7					3,031,307	
Total Compensation	995,278	1,800,948	61,060	79,378	94,643	235,081						
Hourly								\$11,100				+4.0%
Avg Compensation	11,100	11,100	11,100	11,100		11,100		8.0			51.9	
FTE	15.0	24.7	0.8	3.4		4.2		88,800			576,504	
Total Compensation	166,500	274,584	8,880	37,740		46,620		\$1,490			4,351,202	
Operating Expense/Travel	2,085,546	2,205,556	8,700	10,000		18,700					20,000	
Lib Books Augmentation	20,000										50,000	
Marketing Augmentation					30,000	30,000					30,000	
Grad Sch Augmentation										\$75,000	75,000	
Office Move										56,000	56,000	
Alderson Program Plan										5,000	5,000	
Berthoud Phones											9,500	
Global Studies Remodel	9,500										625,000	
Program Support			115,000	380,000	130,000	625,000					467,313	
Departmental Support			287,689	179,624		467,313					507,549	Add gift funds
Library Books/Journals	425,365		9,188	73,000		82,184					1,209,100	+3.5%
Utilities	1,209,100											
Financial Aid								911,300			1,913,184	
Undergrad-State	1,001,884							84,900			84,900	
Grad-State									\$650,000		2,384,516	
Undergrad-Other			416,400	540,000	48,116	1,004,516	\$730,000				300,400	
Grad-Other			65,400	235,000		300,400					677,000	-\$100,000
Research Development	650,000		27,000			27,000					3.0	
FTE	3.0										1,193,360	
Capital Outlay		888,360	170,000	135,000		305,000					118,900	
Pvnts to St Agencies	118,000									7,000	2,042,604	
Reserve/unallocated	114,821		672,495	719,400	528,887	1,920,783				4,660,303	4,660,303	
Auxiliaries												
TOTAL EXPENSE	\$23,581,895	\$8,076,000	\$1,903,162	\$2,927,439	\$881,646	\$5,712,247	\$730,000	\$1,126,400	\$650,000	\$4,803,303	\$44,679,845	
TOTAL FTE	457.9	146.8	4.3	17.8	3.1	25.2		8.0	0.0	0.0	637.9	

* CSMF expenditures are projected based on prior year expected income through gifts and investments.

1989-90 FINANCIAL PLAN

	State	Sponsored Research (Direct)	CSMF Endowed/Restricted	CSMF Unendowed/Restricted	CSMF Unendowed/Unrestricted	Total Direct CSMF Support	CSMF Loans	Restricted CSM	Agency Funds	Auxiliaries	Combined	COMMENTS
INCOME:												
Education & General											\$10,948,665	assume Higher Ed. increase will be 5.0%
General Fund	\$10,948,665										10,810,368	+5.0%
Tuition	10,810,368										1,800,000	
Ind Cost Recoveries	1,800,000										200,000	
Other Cash	200,000										17,415,220	
Sponsored Programs		\$8,900,000	\$1,350,000	\$4,250,000	\$300,000	\$5,900,000	\$767,000	\$1,166,220	\$682,000		4,810,000	
Auxiliaries										\$4,810,000	7,000	1,323,203
Prior Yr Roll Forward	34,821		672,495		608,887	1,281,382						
TOTAL INCOME	\$23,793,854	\$8,900,000	\$2,022,495	\$4,250,000	\$908,887	\$7,181,382	\$767,000	\$1,166,220	\$682,000	\$4,817,000	\$47,307,456	
EXPENSE:												
Total Faculty												3% comp increase
Avg Compensation	\$52,012	\$52,012	\$52,012	\$52,012	\$52,012	\$52,012					272.3	-7.6 FTE E&G
FTE	199.5	53.0	0.8	17.0	2.0	19.8						
Total Compensation	10,376,394	2,756,636	41,610	884,204	104,024	1,029,838					\$14,162,868	
Faculty Charge-outs												
Avg Compensation	52,012											(19.0) 1.0 FTE additional charge-out
FTE	(19.0)											(988,228)
Total Compensation	(988,228)											
Admin Faculty												3% comp increase
Avg Compensation	54,549											31.5
FTE	31.5											1,718,294
Total Compensation	1,718,294											
Classified Staff												5.0% comp increase
Avg Compensation	31,434	31,434	31,434	31,434	31,434	31,434						207.4
FTE	187.7	14.0	0.7	5.0		5.7						6,519,412
Total Compensation	5,900,162	440,076	22,004	157,170		179,174						
Graduate Assistants												+4.0%
Avg Compensation	31,751	31,751	31,751	31,751	31,751	31,751						112.3
FTE	33.2	65.0	3.0	8.0	3.1	14.1						3,565,637
Total Compensation	1,054,133	2,063,815	95,253	254,008	98,428	447,689						
Hourly												+4.0%
Avg Compensation	11,540	11,540	11,540	11,540	11,540	11,540		\$11,540				61.8
FTE	15.0	32.0	0.8	6.0		6.8		8.0				713,172
Total Compensation	173,100	369,280	9,232	69,240		78,472		92,320				4,604,441
Operating Expense/Travel	2,085,546	2,370,193	7,902	18,000	80,000	105,902		42,800				850,000
Program Support			120,000	600,000	130,000	850,000						631,572
Departmental Support			305,000	326,572		631,572						526,171
Library Books/Journals	435,690		10,000	70,806	9,675	90,481						1,251,420
Utilities	1,251,420											
Financial Aid												
Undergrad-State	977,480							943,200				1,920,680
Grad-State								87,900				87,900
Undergrad-Other			455,000	1,100,000	172,520	1,727,520	\$767,000		\$682,000			3,176,520
Grad-Other			71,000	500,000		571,000						571,000
Research Development	650,000		28,000			28,000						678,000
FTE	3.0											3.0
Capital Outlay		900,000	185,000	270,000		455,000						1,355,000
Pyets to St Agencies	123,900											123,900
Reserve/unallocated	35,963		672,495		314,240	986,735				\$47,000		1,069,698
Auxiliaries										4,770,000		4,770,000
TOTAL EXPENSE	\$23,793,854	\$8,900,000	\$2,022,495	\$4,250,000	\$908,887	\$7,181,383	\$767,000	\$1,166,220	\$682,000	\$4,817,000	\$47,307,456	
TOTAL FTE	450.9	164.0	5.3	36.0	5.1	46.4		8.0	0.0	0.0	669.3	

RECORD OF PROCEEDINGS

Golden, Colorado
December 16, 1988

The Board of Trustees met in regular session on December 16, 1988 at 9:00 a.m.

Trustees present: Ms. Allen, Messrs. Lawler, Miller, Pascoe, Schwartzberg, Stott, Wilson and Wood.

Also attending the meeting were President Ansell, Vice Presidents Golden, Nyikos, Powers, and Scott, Deans Chevront, Gentry and Olson, Mr. Robbins, Executive Director of the CSM Foundation, Dr. Edwards, faculty representative to the Board, other staff members, and visitors.

Mr. Wood presided.

Previous Minutes. The minutes of the meeting held on November 11, 1988, were approved as distributed.

Candidates for Degrees. Distribution was made of lists of candidates for degrees as recommended by the regular and graduate faculties.

Upon motion made, seconded and unanimously passed, the candidates whose names appear on the lists appended hereto were approved for degrees on the dates specified, subject to the completion of all academic requirements and continued compliance with school requirements and regulations.

Campus Location of Center for Fuels and High Altitude Engine Research. Dr. Mogens Henriksen informed the Board that the proposal which was distributed to it prior to the meeting was written to secure the funding necessary to plan, design and build a research and technology evaluation facility for heavy-duty vehicles. The facility will also be used for research focused on alternate fuels as well as devices which are claimed to reduce harmful emissions from internal combustion engines.

The proposed facility will establish a baseline data similar to those generated in other facilities, including Southwest Research Institute in San Antonio, Texas. However, this facility will operate at high altitude, a first for the United States and indeed the world.

The proposal describes a high altitude engine and fuels research center at the Colorado School of Mines. The proposal also outlines plans for operating the center. The center is the result of initiatives of the Regional Transportation District, the Colorado School of Mines, the office of the Governor of the State of Colorado as well as a number of other third party interest groups.

Discussion ensued, following which the Board unanimously approved the proposal to establish the Colorado Center for Fuels and High Altitude Engine Research at the Colorado School of Mines.

Sabbatical Requests. Professor John Hogan of the Humanities and Social Sciences Department has requested a sabbatical leave for the fall semester 1989 at three-fourths pay. Professor Hogan plans to travel to various colleges and universities for the purpose of discovering fresh ideas for his classes in oral communication. He joined the Humanities and Social Sciences Department in 1968 and this will be his first sabbatical leave.

RECORD OF PROCEEDINGS

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Dr. Richard W. Hutchinson, Charles Franklin Fogarty Professor in Economic Geology, has also requested a sabbatical leave for the fall semester of 1989 at three-fourths pay. Dr. Hutchinson plans to participate in a symposium and a workshop, complete several manuscripts and, if time permits, begin work on a textbook. He joined the faculty in 1983, and this will be his first sabbatical since coming to CSM.

The Board unanimously approved the sabbatical requests.

New Faculty Appointments. Dr. Gentry presented the report as follows:

Dr. Catherine Kraeger-Rovey Adjunct Professor of Geology and Geological Engineering	\$5,922 for the fall semester of the 1988- 89 academic year.
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Continuation of Appointment.

Dr. Peter McCabe Adjunct Professor of Geology and Geological Engineering	No compensation for for the fall semester of the 1988-89 academic year. Thesis committees.
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Reappointment after Interruption

Dr. Thomas J. Cook Adjunct Associate Professor of Mineral Economics	\$5,000 for the spring semester of the 1988-89 academic year
Dr. Dubos J. Masson Adjunct Assistant Professor of Mineral Economics	\$5,000 for the spring semester of the 1988-89 academic year
Mr. John Stermole Adjunct Assistant Professor of Mineral Economics	\$3,000 for the spring semester of the 1988-89 academic year

Quantitative evaluation reports had been distributed to the Board members prior to the Board meeting.

Graduate School Admissions. Dr. Cordes had provided the standard report for graduate student admissions for Spring 1989, as of November 30, 1988.

Enrollment - Admissions. Mr. Young had provided the December 1, 1988 Admissions Report.

New Research Awards. Dr. Olson provided a report on new research award volume for November 1988. This month's volume is \$616,977 compared to \$620,258 for the same time period the previous year. This results in a cumulative total for FY 1989 of \$4,842,214, which is \$1,565,678 ahead of the total for the same period the previous year. Thirteen different faculty were involved in eleven new or add-on project awards.

Twenty-one proposals were submitted in the month of November 1988 compared to forty-one during the month of October 1988. A total to date of ninety-one proposals for FY 1989 have been submitted.

Monthly Financial Reports. Mr. Scott provided the following monthly reports prior to the Board meeting: Current Funds Revenues, Expenditures, and other Changes for the Five Months Ending November 30, 1988; Colorado School of Mines Auxiliary and Self-Funded Activities for the Five Months Ending November 30, 1988; and Colorado School of Mines Time Deposits and Investment Report, November 30, 1988. It is his belief that the School is operating within the revenues projected for the 1989 fiscal year.

RECORD OF PROCEEDINGS

3

Safety Report. Mr. MacPherson had submitted the Environmental Health and Safety Report for the period November 11 to December 16, 1988.

W-470. Mr. Scott informed the Board that the W-470 Authority is planning the route of W-470 from I-70 north around Arvada to I-25. Their suggested route follows US 6 to the edge of our baseball field and then cuts across CSM property to new bridges over Clear Creek. Construction may be as long as fifteen years in the future, but the Authority seeks an indication of the Board's reaction to this proposed route. Representatives from the Authority were present to answer questions.

Mr. Scott stated that he is seeking an indication of the Board's acceptance or rejection of the routing.

The Board suggested that the administration carry on discussions with the appropriate people and keep it informed.

Placement Update. Dr. Chevront and Ms. Doyle had provided an updated report on the employment status of recent CSM graduates. Ms. Doyle reviewed the report and informed the Board that she will provide it with an update in six months.

Mr. Pascoe thanked Ms. Doyle for her report.

Legislative Report. Dr. Nyikos reported on the Capital Development Committee hearings which were held on November 10. He said that he believes Mines will receive \$1.3 million for completion of the fieldhouse renovation. The completion date is 1990.

Dr. Nyikos informed the Board that the Joint Budget Committee hearings are scheduled for January 16, 1989.

Dr. Nyikos reported on the results of the CCHE admissions and administrative cost audits, and CSM's Assessment Plan, which has been submitted to CCHE.

Drs. Nyikos and Gentry reported that the EPICS program was one of five selected by CCHE for its Program of Excellence program. This honor could be worth \$150,000 over an extended period of time.

Mr. Pascoe thanked Dr. Nyikos for his report.

Mr. Pascoe welcomed Dr. Glen Edwards, who attended the meeting in place of Dr. Sloan as faculty representative.

President Ansell introduced Mr. David Powers, newly-appointed Vice President for Institutional Advancement.

The meeting was adjourned at 9:55 a.m., and the Board went into executive session.


Secretary

December 16, 1988

D42286
01/06/88

CERTIFIED RECORD

of proceedings of

BOARD OF TRUSTEES

of

COLORADO SCHOOL OF MINES

authorizing the issuance of

HOUSING SYSTEM REFUNDING AND IMPROVEMENT REVENUE BONDS,

SERIES 1988

IN AN AGGREGATE PRINCIPAL AMOUNT NOT TO EXCEED \$6,000,000

to refund the optionally redeemable portion of

HOUSING SYSTEM REFUNDING REVENUE BONDS, SERIES A 1984

IN THE PRINCIPAL AMOUNT OF \$5,685,000

The Resolution as adopted is as follows:

NOES:

AYES:

The motion, carrying with it the adoption of Resolution, prevailed by the following vote:

Member introduced a Resolution which moved that seconded that read by Secretary. Member adopted. Member introduced a quorum of the said Board, at which meeting following, among other business, was transacted. with the following members of said Board absent:

Members:

President:
Vice President:
Secretary:

The Board of Trustees of Colorado School of Mines convened in regular meeting on the 8th day of January, 1988, at _____, Colorado, at _____ o'clock p.m., with the following members and officers of the Board present:

STATE OF COLORADO)
) ss.)
) COUNTY OF JEFFERSON)

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RESOLUTION

A RESOLUTION AUTHORIZING THE ISSUANCE OF COLORADO SCHOOL OF MINES HOUSING SYSTEM REFUNDING AND IMPROVEMENT REVENUE BONDS, SERIES 1988, IN AN AGGREGATE PRINCIPAL AMOUNT NOT TO EXCEED \$6,000,000 FOR THE PURPOSE OF REFUNDING, PAYING AND DISCHARGING CERTAIN HOUSING SYSTEM REFUNDING REVENUE BONDS OF THE BOARD AND TO PROVIDE FOR CERTAIN IMPROVEMENTS TO THE HOUSING SYSTEM; APPROVING THE FORM OF THE BOND RESOLUTION; AUTHORIZING THE EXECUTION AND DELIVERY OF A BOND PURCHASE AGREEMENT; AND AUTHORIZING INCIDENTAL ACTION.

WHEREAS, the Board of Trustees (the "Board") of the Colorado School of Mines (the "School") is empowered by virtue of its organization under the Constitution and laws of the State of Colorado, particularly Title 23, Articles 5 and 41, Colorado Revised Statutes, as amended, to have general control and supervision of the Colorado School of Mines, at Golden, Colorado and power to do all things incidental thereto, including the power to contract for the advancement of monies for the construction, acquisition and equipping of housing and dining facilities and the purchase of land at the School and to issue revenue bonds or interim warrants to evidence the advancement of monies and to exercise the power, within statutory limits, to bind itself to the performance of obligations and to refund and exchange such obligations and bonds; and

WHEREAS, the Board has heretofore issued and sold its Housing System Refunding Revenue Bonds, Series A 1984 dated September 15, 1984, in the original aggregate principal amount of \$5,685,000 (the "Series 1984 Bonds"); and

WHEREAS, certain of the Series 1984 Bonds are subject to optional redemption prior to their respective maturity dates on January 1, 1994, at a price of 103% of the principal amount of each Series 1984 Bond so redeemed plus accrued interest thereon to the redemption date; and

WHEREAS, the Board desires to refund, pay and discharge the optionally redeemable portion of the Series 1984 Bonds (the "Refunded Bonds"); and

WHEREAS, the Board desires to provide for the construction, acquisition and installation of certain improvements to the School's housing system; and

WHEREAS, the Board is empowered by the provisions of Part 1 of Article 56 of Title 11, Colorado Revised Statutes, as

amended (the "Act"), and Articles 5 and 41 of Title 23, Colorado Revised Statutes, as amended, to issue housing system refunding revenue and improvement bonds by resolution without an election; and

WHEREAS, the Board has determined to issue its Housing System Refunding and Improvement Revenue Bonds, Series 1988, in an aggregate principal amount not to exceed \$6,000,000 (the "Bonds") for the purpose of refunding, paying and discharging the Refunded Bonds and providing for certain improvements to the School's housing system pursuant to a bond resolution (the "1988 Bond Resolution") proposed to be adopted in final form by the Board at a future date upon the determination of the final terms and conditions for the issuance of the Bonds; and

WHEREAS, Boettcher & Company, Inc., Denver, Colorado (the "Underwriter") proposes to purchase the Bonds for a public or private offering and to enter into a Bond Purchase Agreement (the "Bond Purchase Agreement") with the Board at some future date prior to the adoption of the 1988 Bond Resolution; and

WHEREAS, the Board intends that the Bond Purchase Agreement shall not be executed and the Bonds shall not be issued unless the School's Vice President - Business Affairs has determined that the issuance of the Bonds and the refunding, paying and discharging of the Refunding Bonds will result in a net minimum present value debt service savings of \$200,000 to the Board; and

WHEREAS, the Bonds may be offered pursuant to a Preliminary Official Statement and a final Official Statement of the Board (collectively, the "Official Statement") relating thereto, which will be filed with the Board on some future date; and

WHEREAS, there has been filed with the Board a proposed form of the 1988 Bond Resolution which form is attached hereto as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE COLORADO SCHOOL OF MINES, IN LAWFUL MEETING ASSEMBLED:

Section 1. Approval of Form of 1988 Bond Resolution.

The form of the 1988 Bond Resolution is hereby approved in substantially the form attached hereto subject to such changes as are necessary to conform to the final terms and conditions to the issuance of the Bonds, to provide for bond insurance in respect to the Bonds and to otherwise provide as may be deemed necessary and desirable by the Board and subject to final approval and adoption by the Board.

Section 2. Authorization and Terms of the Bonds. The issuance of the Bonds is hereby authorized subject to the adoption of the 1988 Bond Resolution by the Board. The Bonds shall be issued as fully registered bonds in an aggregate principal amount not to exceed \$6,000,000. The net effective interest rate for the Bonds, as defined in the Act, shall not exceed 9% per annum. The Bonds shall not be sold at a price less than 95% of the principal amount thereof and accrued interest thereon to the date of delivery. The final maturity schedule, interest rates, redemption prices and other terms for the Bonds shall be established by the 1988 Bond Resolution.

Section 3. Authorization to Enter Into Bond Purchase Agreement. The Board's President and the School's Vice President - Business Affairs are hereby authorized to execute the Bond Purchase Agreement with the Underwriter, on behalf of the Board, with the final form of the Bond Purchase Agreement to be approved, ratified and confirmed by the 1988 Bond Resolution.

Section 4. Incidental Action. The President and Secretary of the Board and the Vice President - Business Affairs of the School are hereby authorized and directed to execute and deliver such other documents and to take such other actions as may be necessary or appropriate in order to effectuate the execution and delivery of the Bond Purchase Agreement, the Official Statement and the 1988 Bond Resolution and the issuance and sale of the Bonds, all in accordance with the foregoing Sections hereof.

ADOPTED AND APPROVED this 8th day of January, 1988.

President,
Board of Trustees of Colorado
School of Mines

(Seal)

ATTEST:

Secretary,
Board of Trustees of Colorado
School of Mines

EXHIBIT A

FORM OF 1988 RESOLUTION

R E S O L U T I O N

A RESOLUTION AUTHORIZING COLORADO SCHOOL OF MINES HOUSING SYSTEM REFUNDING AND IMPROVEMENT REVENUE BONDS, SERIES 1988, IN THE AGGREGATE PRINCIPAL AMOUNT OF \$_____ FOR THE PURPOSE OF REFUNDING, PAYING AND DISCHARGING CERTAIN HOUSING SYSTEM REFUNDING REVENUE BONDS OF THE BOARD; MAKING PLEDGE OF REVENUES FOR THE PAYMENT OF THE BONDS AND THE INTEREST THEREON; AMENDING THE RESOLUTION AUTHORIZING THE ISSUANCE OF THE SERIES 1984 BONDS ADOPTED ON SEPTEMBER 14, 1984; AND PROVIDING OTHER DETAILS IN CONNECTION THEREWITH.

WHEREAS, the Board of Trustees of Colorado School of Mines (the "Board") is empowered by virtue of its organization under the Constitution and laws of the State of Colorado, particularly Title 23, Articles 5 and 41, Colorado Revised Statutes, as amended, to have general control and supervision of the Colorado School of Mines, at Golden, Colorado (the "School" or the "College"), and power to do all things incidental thereto, including the power to contract for the advancement of moneys for the construction and equipping of housing and dining facilities and the purchase of land at the School and to issue revenue bonds or interim warrants to evidence the advancement of moneys, and generally to do all things, within statutory limits, to bind itself to the performance of obligations and to refund and exchange such obligations and bonds; and

WHEREAS, the Board has heretofore issued and sold its Housing System Refunding Revenue Bonds, Series A 1984 dated September 15, 1984, in the original aggregate principal amount of \$5,685,000 (the "Series 1984 Bonds") pursuant to resolution of the Board adopted on September 14, 1984 (the "1984 Resolution"); and

WHEREAS, the Board may adopt such resolutions amending the 1984 Resolution without the consent of or notice to the holders of the Series 1984 Bonds for the purpose of making any provision with respect to matters arising under the 1984 Resolution or for any other purpose if such provisions are necessary or desirable and do not adversely affect the interests of the holders of the Series 1984 Bonds; and

WHEREAS, there is outstanding of the Series 1984 Bonds the aggregate principal amount of \$5,430,000, maturing on January 1 in the following years in the following aggregate principal amounts and bearing interest at the following per annum interest rates:

<u>Years</u>	<u>Principal Amounts</u>	<u>Per Annum Interest Rates</u>
1989	\$ 95,000	8.000%
1990	110,000	8.250
1991	105,000	8.500
1992	120,000	8.750
1993	135,000	9.000
1994	135,000	9.200
1995	150,000	9.400
1996	165,000	9.600
2004	2,040,000	10.375
2009	3,375,000	10.500

and

WHEREAS, Series 1984 Bonds maturing in the years 1989 through 1994 are not subject to optional redemption prior to their respective maturity dates, and Series 1984 Bonds maturing in the year 1995 and thereafter are subject to optional redemption prior to their maturity date on January 1, 1994, at a price of 103% of the principal amount of each Series 1984 Bond so redeemed plus accrued interest thereon to the redemption date; and

WHEREAS, the Board desires to refund, pay and discharge the Series 1984 Bonds maturing in the years 1995 and thereafter (the "Refunded Bonds"); and

WHEREAS, the Board is empowered by the provisions of Part 1, Article 56 of Title 11, Colorado Revised Statutes, as amended (the "Act"), and Articles 5 and 41 of Title 23, Colorado Revised Statutes, as amended, to issue housing system refunding revenue bonds by resolution without an election; and

WHEREAS, the Board is empowered to pledge and to apply housing system revenues to the payment of such bonds; and

WHEREAS, the Board has determined to issue its Housing System Refunding and Improvement Revenue Bonds, Series 1988, dated _____, 1988, in the aggregate principal amount of \$_____ (the "Bonds") for the purpose of refunding, paying and discharging the Refunded Bonds and to provide for certain improvements to the Housing System and, pursuant to Section 23-5-102, Colorado Revised Statutes, as amended, has notified the Colorado Commission on Higher Education of its intent to do so; and

WHEREAS, the Board has received a proposal for the purchase of the Bonds upon terms favorable to the Board, together with the disclosures, comparisons and other information required

by the Act, from Boettcher & Company, Inc., Denver, Colorado (the "Underwriter") and the Board has determined to accept the same; and

WHEREAS, there have been filed with the Board a copy of a Bond Purchase Agreement, dated _____, 1988 (the "Bond Purchase Agreement"), between the Board and the Underwriter executed on behalf of the Board by the Board's President and the School's Vice President-Business Affairs and a form of an Escrow Agreement, dated as of _____, 1988 (the "Escrow Agreement"), between the Board and [N. Escrow Agent] (the "Escrow Agent").

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF COLORADO SCHOOL OF MINES, IN LAWFUL MEETING ASSEMBLED:

Section 1. Confirmation of Award of Contract for Purchase. The contract for the purchase of the Bonds has heretofore been awarded to the Underwriter at the price specified in the Bond Purchase Agreement and upon the terms set forth in this resolution (this "Resolution"). The Execution of the Bond Purchase Agreement on the Board's behalf by the Board's President and the School's Vice President-Business Affairs is hereby approved, ratified and confirmed.

Section 2. Authorization and Description. For the purpose of refunding, paying and discharging the Refunded Bonds the Board shall issue the Bonds.

The Bonds shall be dated _____, 1988, shall be in registered form without coupons attached, payable to the registered owner or assigns, will be in denominations of \$5,000 or any multiple thereof, numbered from one upward, as may be determined by the Underwriter.

Pursuant to the recommendations of the Committee on Uniform Security Identification Procedures, CUSIP numbers may be printed on the Bonds.

The Bonds shall mature on January 1 in each of the following years and principal amounts and shall bear interest from _____, 1988, or the interest payment date to which interest has been paid next preceding their respective dates, whichever is later, to their respective maturity dates, except if redeemed prior thereto, at the following per annum interest rates:

Years
Maturing

Principal
Amounts

Per Annum
Interest Rates

\$

%

Said interest shall be payable on July 1, 1988, and semiannually thereafter on the 1st day of January and the first day of July of each year. If upon presentation of maturity the principal of any Bond is not paid as provided herein, interest shall continue to accrue thereon at the same interest rate until the principal is paid in full.

Section 3. Maximum Net Effective Interest Rate. The maximum net effective interest rate for the Bond is 9% per annum. The actual net effective interest rate for the Bonds is ___% per annum.

Section 4. Amendment of 1984 Resolution; Nature of
Obj. The portion of the first paragraph prior to the first colon (:) of Section 11 of the 1984 Resolution is hereby amended to read as follows:

Section 11. That the Board may issue one or more series of additional parity bonds to be secured by a parity lien on and payable from the revenues pledged to the Bonds of the College, including (i) the Board's Housing System Refunding and Improvement Revenue Bonds, Series 1988, dated _____, 1988, in the aggregate principal amount of \$_____, and (ii) such other additional parity bonds to finance the construction of additional housing, dining, Student Center or other related facilities, or for the extension and improvement of such facilities, provided, with respect to such other additional parity bonds and not with regard to such Series 1988 Refunding and Improvement Revenue Bonds that:

The Board hereby finds that such amendment is with respect to matters arising under the 1984 Resolution, is necessary and

desirable and does not adversely affect the interests of the holders of the Series 1984 Bonds.

The Bonds and interest thereon shall constitute special obligations of the Board, payable solely from the Net Revenues herein pledged, and such obligations shall not constitute an indebtedness of the State of Colorado or the Board within the meaning of any constitutional or statutory limitation, and the holders of the Bonds shall never have the right to demand payment out of funds raised or to be raised by taxation. The principal of and interest on the Bonds shall be paid from and secured by a first lien (but not an exclusive first lien) on and pledge of the Net Revenues sufficient to meet all debt service and reserve requirements, and issued on a parity in all respects with the Series 1984 Bonds. Said lien and pledge is hereby irrevocably created and made.

Section 5. Payment of Principal and Interest. The principal of and interest on the Bonds shall be payable in lawful money of the United States of America to the registered owners of the Bonds by the Paying Agent. The principal and the final installment of interest shall be payable to the registered owner of each Bond upon presentation and surrender thereof at maturity or upon prior redemption. Except as hereinbefore and hereinafter provided, the interest shall be payable to the registered owner of each Bond determined as of the close of business on the fifteenth day of the calendar month next preceding the interest payment date (the "Regular Record Date"), irrespective of any transfer of ownership of the Bond subsequent to the Regular Record Date. Prior to such interest payment date, by check or draft mailed to such registered owner at the address appearing on the registration books of the Board maintained by the Registrar. Any interest not paid when due and any interest accruing after maturity shall be payable to the registered owner of each Bond entitled to receive such interest determined as of the close of business on the date fixed by the Paying Agent for such purpose (the "Special Record Date"), irrespective of any transfer of ownership of the Bond subsequent to the Special Record Date and prior to the date fixed by the Paying Agent for the payment of such interest, by check or draft mailed as aforesaid. Notice of the Special Record Date and of the date fixed for the payment of such interest shall be given by sending a copy thereof by certified or registered first-class postage prepaid mail, at least ten (10) days prior to the Special Record Date, to the registered owner of each Bond upon which interest will be paid determined as of the close of business on the day preceding such mailing at the address appearing on the registration books of the Board.

Section 6. Redemption. Bonds maturing in the years _____ through _____ shall not be subject to optional redemption

prior to their respective maturity dates. Bonds maturing in the year ____ and thereafter shall be subject to optional redemption prior to their maturity date, in whole or in part in inverse order of maturity and by lot within a maturity, on January 1, ____, and on any interest payment date thereafter, at a price equal to the principal amount of each Bond so redeemed plus accrued interest thereon to the redemption date and premiums as follows:

<u>Redemption Period</u>	<u>Redemption Premium</u>
	%

Bonds maturing in the year ____ shall also be subject to mandatory sinking fund redemption prior to their maturity date, by lot, on the dates specified below at a price equal to the principal amount of each Bond so redeemed plus accrued interest thereon to the redemption date. Such Bonds shall be redeemed on January 1 in each of the following years in each of the following aggregate principal amounts:

<u>Years</u>	<u>Principal Amounts</u>
	\$

*

*Stated Maturity

Bonds which are subject to redemption prior to their maturity date may be redeemed in part if issued in denominations which are integral multiples of \$5,000. Such Bonds shall be treated as representing a corresponding number of separate Bonds in a denomination of \$5,000 each. Any such Bond to be redeemed in part shall be surrendered for partial redemption in the manner hereinafter provided for transfer of ownership. Upon payment of the redemption price of any such Bond redeemed in part the registered owner thereof shall receive a new Bond or Bonds of authorized denominations in aggregate principal amount equal to the unredeemed portion of the Bond surrendered.

Notice of redemption shall be given by the Paying Agent in the name of the Board by sending a copy thereof by certified or registered first-class postage prepaid mail, at least thirty (30) days prior to the redemption date, to the registered owner of each of the Bonds being redeemed determined as of the close of business on the date preceding the first mailing of such notice

at the address appearing on the registration books of the Board. Such notice shall specify the number or numbers of the Bonds to be redeemed, whether in whole or in part, and the date fixed for redemption and shall further state that on the redemption date there will be due and payable upon each Bond or part thereof so to be redeemed the principal amount or part thereof plus accrued interest thereon to the redemption date plus redemption premium, if any, and that from and after such date interest will cease to accrue. Failure to mail any notice as aforesaid or any defect in any notice so mailed with respect to any Bond shall not affect the validity of the redemption proceedings with respect to any other Bond. Any Bonds redeemed prior to their maturity date by call for prior redemption or otherwise shall not be reissued and shall be cancelled the same as Bonds paid at or after maturity.

Section 7. Execution and Authentication. The Bonds shall be executed by and on behalf of the Board with the facsimile signature of the President, shall bear a facsimile of the seal of the Board, shall be attested with the facsimile signature of the Board Secretary and shall be authenticated with the manual signature of a duly authorized signatory of the Registrar. Should any officer whose facsimile signature appears on the Bonds cease to be such officer before authentication and delivery of any Bond, such facsimile signature shall nevertheless be valid and sufficient for all purposes. No Bond shall be valid or become obligatory for any purpose or be entitled to any security or benefit under this Resolution unless and until the certificate of authentication on such Bond shall have been duly executed by the Registrar, and such executed certificate upon any Bond shall be conclusive evidence that such Bond has been authenticated and delivered under this Resolution. The certificate of authentication on any Bond shall be deemed to have been duly executed by the Registrar if signed by a duly authorized signatory thereof, but it shall not be necessary that the same signatory sign the certificate of authentication on all of the Bonds.

8. Registration, Transfer and Exchange. Upon their execution and authentication and prior to their delivery the Bonds shall be registered for the purpose of payment of principal and interest with the Registrar. Thereafter, the Bonds shall be transferable only upon the registration books of the Board by Central Bank of Denver, Denver, Colorado, or its successors, as transfer agent (the "Transfer Agent"), at the request of the registered owner thereof or his, her or its duly authorized attorney-in-fact or legal representative. The Registrar or Transfer Agent shall accept a Bond for registration or transfer only if the registered owner is to be an individual, a corporation, a partnership, or a trust. A Bond may be transferred upon surrender thereof together with a written instrument of transfer duly executed by the registered owner or

his, her or its duly authorized attorney-in-fact or legal representative with guaranty of signature satisfactory to the Transfer Agent, containing written instructions as to the details of the transfer, along with the social security number or federal employer identification number of the transferee and, if the transferee is a trust, the names and social security numbers of the settlors and the beneficiaries of the trust. The registered owner of any Bond may also exchange such Bond for another Bond of authorized denomination. New Bonds delivered upon any transfer or exchange shall be valid obligations of the Board, evidencing the same debt as the Bonds surrendered, shall be secured by this Resolution, and shall be entitled to all of the security and benefits hereof to the same extent as the Bonds surrendered. Transfers and exchanges shall be made without charge except that the Transfer Agent may require payment of a sum sufficient to defray any tax or other governmental charge that may hereafter be imposed in connection with any transfer or exchange of Bonds. No registration or transfer of any Bond shall be effective until entered on the registration books of the Board. In the case of every transfer or exchange, the Transfer Agent shall deliver to the new registered owner a new Bond or Bonds of the same aggregate principal amount, maturing in the same year, and bearing interest at the same per annum interest rate as the Bond or Bonds surrendered. Such Bond or Bonds shall be dated as of their date of authentication. The Transfer Agent shall not be required to transfer ownership of any Bond during the fifteen (15) days prior to the first mailing of any notice of redemption or to the ownership of any Bond selected for redemption on or after the date of such mailing. The Board may deem and treat the person whose name any Bond is last registered upon the books of the Board as the absolute owner thereof for the purpose of receiving payment of the principal of and interest on such Bond and for all other purposes, and all such payments so made to such person or upon his order shall be valid and effective to satisfy and discharge the liability of the Board upon such Bond to the extent of the sum or sums so paid, and the Board shall not be affected by any notice to the contrary.

Section 9. Lost, Destroyed or Stolen Bonds. If any Bond shall have been lost, destroyed or stolen, it may be reissued in the form and tenor of the lost, destroyed or stolen Bond upon the owner's furnishing, to the satisfaction of the Board: (a) proof of ownership, (b) proof of loss, destruction or theft, (c) a surety bond in the amount of all principal and interest remaining unpaid on the Bond, and (d) payment of the cost of preparing and issuing the new Bond. Nothing contained in the provisions of this Section 9 prohibits the Board from reissuing, upon such terms and conditions as the Board may determine, provided that such terms and conditions are not otherwise contrary to the provisions of this Resolution or the

requirements of law, any outstanding Bond which shall not have become lost, destroyed or stolen.

Section 10. Form of Bonds. The Bonds shall be in substantially the following form:

[Form of Bond]

(Text of Face)

UNITED STATES OF AMERICA

STATE OF COLORADO

COLORADO SCHOOL OF MINES
HOUSING SYSTEM REFUNDING AND IMPROVEMENT REVENUE BOND
SERIES 1988

No. R-_____ \$_____

<u>Interest Rate</u>	<u>Maturity Date</u>	<u>Original Date</u>	<u>CUSIP</u>
%	January 1, _____	_____, 1988	

REGISTERED OWNER:

PRINCIPAL SUM:

The Board of Trustees (the "Board") of the Colorado School of Mines (the "School") at Golden, Colorado, for value received, hereby promises to pay solely from the funds and revenues hereinafter described to the Registered Owner (specified above), or registered assigns, the Principal Sum (specified above), in lawful money of the United States of America, on the Maturity Date (specified above), with interest thereon from _____, 1988, or the interest payment date to which interest has been paid next preceding the date hereof, whichever is later, to the Maturity Date, except if redeemed prior thereto, at the per annum Interest Rate (specified above), payable semiannually on the 1st day of January and the 1st day of July of each year, commencing on July 1, 1988, or the first such date after the date hereof, whichever is later, in the manner provided herein. If upon presentation at maturity payment of the Principal Sum of this Bond is not made as provided herein, interest shall continue at the Interest Rate until the Principal Sum is paid in full.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS BOND SET FORTH ON THE REVERSE HEREOF.

IN WITNESS WHEREOF, the Board has caused this Bond to be executed in its name and on its behalf with the facsimile signature of the President of the Board, to be sealed with a facsimile of the seal of the Board, and to be attested with the facsimile signature of the Secretary of the Board.

BOARD OF TRUSTEES, COLORADO
SCHOOL OF MINES

(FACSIMILE)
(SEAL)

By: (Facsimile Signature)
President

ATTEST:

(Facsimile Signature)
Secretary

CERTIFICATE OF AUTHENTICATION

This Bond is one of the series issued pursuant to the Resolution herein described. Printed on the reverse hereof is the complete text of the opinion of bond counsel, Ballard, Spahr, Andrews & Ingersoll, a signed copy of which, dated the date of the first delivery of the Bonds therein described, is on file with the undersigned.

CENTRAL BANK OF DENVER
a corporation
Registrar

By: (Manual Signature)
Authorized Signatory

DATED:

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Bond, shall be construed as though they were written out in full according to applicable laws or regulations.

TEN COM - as tenants in common
TEN ENT - as tenants by the entirety
JT TEN - as joint tenants with the right of survivorship and not as tenants in common

UNIF GIFT MIN ACT - _____ Custodian _____
(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not on the above list.

(Text of Reverse)

Bonds of this issue maturing in the years ____ through ____ are not subject to optional redemption prior to their respective maturity dates. Bonds of this issue maturing in the years ____ and thereafter are subject to optional redemption prior to their maturity date, in whole or in part in inverse order of maturity and by lot within a maturity, on January 1, ____, and on any interest payment date thereafter, at a price equal to the principal amount of each Bond so redeemed plus accrued interest thereon to the redemption date and premiums as follows:

<u>Redemption Period</u>	<u>Redemption Premium</u>
	%

Bonds of this issue maturing in the year _____ are also subject to mandatory sinking fund redemption prior to their maturity date, by lot, on the dates specified below at a price equal to the principal amount of each Bond so redeemed plus accrued interest thereon to the redemption date. Such Bonds are to be redeemed on January 1 in each of the following years in each of the following aggregate principal amounts:

<u>Years</u>	<u>Principal Amounts</u>
	\$

*

*Stated Maturity

Bonds of this issue which are subject to redemption prior to their maturity date may be redeemed in part if issued in denominations which are integral multiples of \$5,000. In such case the Bond is to be surrendered in the manner provided for transfer of ownership. Upon payment of the redemption price the Registered Owner is to receive a new Bond or Bonds of authorized denominations in aggregate principal amount equal to the unredeemed portion of the Bond surrendered.

The principal of and interest on this Bond are payable to the Registered Owner by Central Bank of Denver, Denver, Colorado, or its successors, as paying agent. The principal and the final installment of interest are payable to the Registered Owner upon presentation and surrender of this Bond at maturity or upon prior redemption. Except as hereinbefore or hereinafter provided, the interest is payable to the Registered Owner

determined as of the close of business on the regular record date, which is the fifteenth day of the calendar month next preceding the interest payment date, irrespective of any transfer of ownership hereof subsequent to the regular record date and prior to such interest payment date, by check or draft mailed to the Registered Owner at the address appearing on the registration books of the Board maintained by Central Bank of Denver, Denver, Colorado, or its successors, as registrar. Any interest hereon not paid when due and any interest hereon accruing after maturity is payable to the Registered Owner determined as of the close of business on the special record date, which is to be fixed by the paying agent for such purpose, irrespective of any transfer of ownership of this Bond subsequent to the special record date and prior to the date fixed by the paying agent for the payment of such interest, by check or draft mailed as aforesaid. Notice of the special record date and of the date fixed for the payment of such interest is to be given by sending a copy thereof by certified or registered first-class postage prepaid mail, at least ten (10) days prior to the special record date, to the registered owner of each Bond upon which interest will be paid determined as of the close of business on the day preceding such mailing at the address appearing on the registration books of the Board.

Notice of redemption of any Bonds of this issue is to be given by the paying agent in the name of the Board by sending a copy of such notice by certified or registered first-class postage prepaid mail, at least thirty (30) days prior to the redemption date, to the registered owner of each of the Bonds being redeemed determined as of the close of business on the day preceding the first mailing of such notice at the address appearing on the registration books of the Board. Such notice is to specify the number or numbers of the Bonds to be redeemed, whether in whole or in part, and the date fixed for redemption and is further to state that on the redemption date there will be due and payable upon each Bond or part thereof so to be redeemed the principal amount or part thereof plus accrued interest thereon to the redemption date and redemption premium, if any, and that from and after such date interest will cease to accrue. Failure to mail any notice as aforesaid or any defect in any notice so mailed with respect to any Bond does not affect the validity of the redemption proceedings with respect to any other Bond.

This Bond is one of a series issued by the Board for the purpose of refunding, paying and discharging certain valid outstanding housing system refunding revenue bonds of the Board and of providing certain improvements to the housing system of the School pursuant to, by virtue of and in full conformity with the Constitution of the State of Colorado, part 1 of article 56 of title 11, Colorado Revised Statutes, as amended (the "Act"),

part 1 of article 5 of title 23, Colorado Revised Statutes, as amended, part 1 of article 41 of title 23, Colorado Revised Statutes, as amended, and all other laws of the State of Colorado thereunto enabling, and pursuant to a resolution of the Board duly adopted prior to the issuance of this Bond. The foregoing recital conclusively imparts full compliance with all of the provisions and limitations of the Act, and said statute provides that this Bond is incontestable for any cause whatsoever after its delivery for value.

This Bond is secured by a first lien (but not an exclusive first lien) on and pledge of the Net Revenues (as defined in the Resolution), derived from the operation and ownership of a Housing System consisting of the New Residence Hall; and Bradford Hall; Randall Hall; Morgan Hall; Thomas Hall; Prospector Village; Mines Park; and the Student Center, including, but not limited to, the food services facilities therein and the proceeds derived from a Student Center Fee levied against all enrolled students sufficient, together with other pledged revenue, to meet all debt service and reserve requirements, and issued on a parity in all respects with all Outstanding Bonds and any other Parity Bonds (as defined in the Resolution) of the College.

This Bond and the interest hereon constitute special obligations of the Board and are payable solely from Net Revenues, and do not constitute an indebtedness of the State of Colorado or the Board within the meaning of any constitutional or statutory limitation. The owner hereof shall never have the right to demand payment of this Bond or the interest hereon out of any funds raised or to be raised by taxation.

It is hereby declared and represented that the Board has covenanted and agreed to operate and maintain continuously the Housing System and the services afforded by same; to establish and continuously maintain rental, use, occupancy, Student Center fees, and other charges sufficient to pay the reasonable operation and maintenance expenses thereof, the principal of and interest on the Bonds as each Bond matures, and as such interest falls due, and to establish and maintain the required reserve as is more fully provided in the Resolution authorizing the Bonds; and that it will assure maximum use and occupancy of the Housing System.

It is hereby certified and recited that all acts, conditions, and things required to be done precedent to and in the issuance of this Bond and the series of which it is a part have been properly done, have happened, and have been performed in regular and due time, form, and manner as required by the Constitution and the laws of the State of Colorado and the proceedings herein mentioned, that this series of Bonds does not

exceed any constitutional or statutory limitation, and that provision has been made for the payment of principal of and interest on this Bond and the series of which it is a part by an irrevocable pledge of the revenues specified herein.

Reference is hereby made to the resolution of the Board authorizing the issuance of this Bond, and to any and all modifications thereof and amendments thereto, for a description of the provisions, terms and conditions upon which this Bond is issued and secured, including, without limitation, definition of terms used herein, the nature and extent of the security for this Bond, provisions with respect to the application of the proceeds of this Bond, the rights, duties and obligations of the Board and the members of the Board, and the rights of the Registered Owner.

This Bond is transferable only upon the registration books of the Board by Central Bank of Denver, Denver, Colorado, or its successors, as transfer agent, at the request of the Registered Owner or his, her or its duly authorized attorney-in-fact or legal representative, upon surrender hereof together with a written instrument of transfer duly executed by the Registered Owner or his, her or its duly authorized attorney-in-fact or legal representative with guaranty of signature satisfactory to the transfer agent, containing written instructions as to the details of the transfer, along with the social security number or federal employer identification number of the transferee and, if the transferee is a trust, the names and social security numbers of the settlors and beneficiaries of the trust. The Registered Owner may also exchange this Bond for another Bond of authorized denomination. Transfers and exchanges will be made without charge, except that the transfer agent may require payment of a sum sufficient to defray any tax or other governmental charge that may hereafter be imposed in connection with any transfer or exchange of Bonds. No registration or transfer of this Bond is effective until entered on the registration books of the Board. In the case of every transfer or exchange, the transfer agent will deliver to the new registered owner a new Bond or Bonds of the same aggregate principal amount, maturing in the same year, and bearing interest at the same per annum interest rate as the Bond or Bonds surrendered. Such Bond or Bonds are to be dated as of their date of authentication. The transfer agent is not required to transfer ownership of this Bond during the fifteen (15) days prior to the first mailing of any notice of redemption or to transfer ownership of any Bond selected for redemption on or after the date of such mailing. The Board may deem and treat the person in whose name this Bond is last registered upon the books of the Board as the absolute owner hereof for the purpose of receiving payment of the principal of and interest on this Bond and for all other purposes, and all such payments so made to such person or upon his order will be valid and effective to satisfy

and discharge the liability of the Board upon this Bond to the extent of the sum or sums so paid, and the Board will not be affected by any notice to the contrary.

(Assignment)

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned sells, assigns and transfers unto

PLEASE INSERT SOCIAL SECURITY OR
OTHER IDENTIFYING NUMBER OF ASSIGNEE

(Name and Address of Assignee)

this Bond and does hereby irrevocably constitute and appoint
_____, _____, _____, or its
successors, to transfer this Bond on the books kept for
registration thereof.

Dated: _____

Signature guaranteed:

(Bank, Trust Company or Firm)

NOTICE: The signature to this assignment must correspond with the name of the Registered Owner as it appears upon the face of this Bond in every particular without alteration or enlargement or any change whatever.

[End of Form of Bond]

Section 11. Disposition of Bonds and Proceeds. The Bonds, when executed, authenticated and registered as provided herein, shall be delivered to the Underwriter upon receipt of full payment therefor in accordance with the Bond Purchase Agreement.

Interest accrued on the Bonds from the date thereof to the delivery date thereof shall be applied to the payment of interest first due on the Bonds. The original proceeds of the Bonds, exclusive of accrued interest, shall be used for the purposes stated herein and for no other purposes, provided, however, that any portion of the Bond proceeds may be temporarily invested pending such use, with such temporary investment to be made consistent with the covenant hereinafter made concerning arbitrage bonds. Neither the Purchaser nor any subsequent owner of the Bonds shall be in any way responsible for the application of the proceeds of the Bonds by the Board or any of its officers.

Section 12. Escrow Fund. A special fund is hereby created and designated as the "Board of Trustees, Colorado School of Mines, Housing System Refunding Revenue Bonds, Series 1988, Escrow Fund" (the "Escrow Fund"). A portion of the original proceeds of the Bonds, exclusive of accrued interest, shall be deposited in the Escrow Fund as provided in the Escrow Agreement. The Board shall purchase the bills, certificates of indebtedness, notes, bonds or similar securities which are direct obligations of, or the principal and interest of which obligations are unconditionally guaranteed by, the United States of America ("Federal Securities") in which the moneys in the Escrow Fund are to be invested and shall fund the required cash balance as provided in the Escrow Agreement and in accordance with the proposal submitted by the Underwriter. The Escrow Fund shall be maintained in an amount at the time of the deposit therein, and at all times subsequently, at least sufficient, together with the known minimum yield to be derived from the investment of the deposits therein or any part thereof in Federal Securities, to pay the interest on the Bonds through and including January 1, 1994, and the principal of the Refunded Bonds as the same becomes due upon prior redemption on January 1, 1994. Moneys shall be withdrawn by the Escrow Bank from the Escrow Fund in sufficient amounts and at times to permit the payment of said amounts. Any moneys remaining in the Escrow Fund after provision has been made for the payment of said amounts shall be applied to any lawful purposes of the Board as the Board may hereafter determine. If for any reason the amount in the Escrow Fund shall at any time be insufficient for the purposes hereinbefore set forth, the Board shall forthwith from the first moneys available therefor deposit therein such additional moneys as shall be necessary to permit the payment in full of said amounts.

Section 13. Redemption of Refunded Bonds; Notice of Refunding and Redemption of Refunded Bonds. The Board hereby exercises its option to redeem the Refunded Bonds prior to their maturity date, on January 1, 1994, at a price equal to the principal amount of each Refunded Bond so redeemed plus accrued interest thereon to the redemption date and a redemption premium of 3% of the principal amount of each Refunded Bond so redeemed. The Paying Agent is hereby authorized and directed to give forthwith and again on December 1, 1993, notice of refunding and redemption of the Refunded Bonds. The notice of refunding and redemption of the Refunded Bonds shall be given by sending a copy of such notice by certified or registered first-class postage prepaid mail to the Underwriter, and to the registered owners of each of the Refunded Bonds determined as of the close of business on the date preceding the first mailing of such notice at the address appearing on the registration books of the Board. The notice of refunding and redemption of the Refunded Bonds shall be in substantially the following form:

[Form of Notice]

NOTICE OF REFUNDING AND REDEMPTION

OF CERTAIN

COLORADO SCHOOL OF MINES
HOUSING SYSTEM REFUNDING REVENUE BONDS
SERIES A 1984
DATED SEPTEMBER 1, 1984 - \$5,685,000

NOTICE IS HEREBY GIVEN to the registered owners of all outstanding Colorado School of Mines, Housing System Refunding Revenue Bonds, Series A 1984 dated September 1, 1984, in the original aggregate principal amount of \$5,685,000, maturing in the years 1995 through 2009 (the "Refunded Bonds"), that the Board of Trustees (the "Board") of the Colorado School of Mines (the "School") has issued Housing System Refunding and Improvement Revenue Bonds, Series 1988, dated _____, 1988 in the aggregate principal amount of \$_____ (the "Bonds"), and deposited a portion of the proceeds thereof in escrow with _____, Denver, Colorado, which proceeds have been invested in bills, certificates of indebtedness, notes or bonds which are direct obligations of, or the principal and interest of which obligations are unconditionally guaranteed by, the United States of America for the payment of the interest on the Bonds through and including January 1, 1994, and the principal of the Refunded Bonds as the same becomes due upon prior redemption on January 1, 1994.

NOTICE IS FURTHER HEREBY GIVEN that the Board has exercised its option to redeem the Refunded Bonds numbered _____ prior to their maturity date, on January 1, 1994, at a price equal to the principal amount of each Refunded Bond so redeemed plus accrued interest thereon to the redemption date and a redemption premium of 3% of the principal amount of each Refunded Bond.

On the redemption date there will become and will be due and payable upon each Refunded Bond to be redeemed 103% of the principal amount of each Refunded Bond so redeemed plus accrued interest thereon to the redemption date and from and after the redemption date interest will cease to accrue. Each Refunded Bond will be redeemed on or after the redemption date upon presentation and surrender thereof.

DATED this _____ day of _____, 19__.

CENTRAL BANK OF DENVER
a banking corporation

[End of Form of Notice]

Section 14. Covenants of the Board. The Board hereby covenants and agrees as follows:

A. That it will continue to operate and maintain a Housing System. The Housing System shall continue to be operated on a fiscal year basis.

B. That all Gross Revenues arising from the operation or ownership of the Housing System shall be deposited to the credit of a special fund, heretofore created and known as the "Housing System Revenue Fund Account" (the "Revenue Fund") and held in the custody of the Board, separate and apart from all other funds. The Revenue Fund shall be maintained, so long as any of the Series 1984 Bonds or the Bonds are outstanding, in a bank which is a member of the Federal Deposit Insurance Corporation and shall be expended and used by the Board only in the manner and order specified below.

C. That Current Expenses of the Housing System shall be payable as a first charge from the Revenue Fund as the same become due and payable.

D. That the Board has heretofore established with the Paying Agent and shall maintain, so long as any Series 1984 Bonds or Bonds are outstanding, a separate account known as the "Housing System Bond and Interest Sinking Fund Account" (the "Sinking Fund Account") into which shall be deposited from the Revenue Fund, after providing for the payment of Current Expenses, sums which shall be sufficient to pay the principal of and interest on the Series 1984 Bonds and the Bonds promptly as the same become due and payable, including mandatory sinking fund payments.

E. That the Board shall establish from the proceeds of the Bonds and maintain a common reserve for the Series 1984 Bonds, the Bonds and other obligations payable on a parity with the Series 1984 Bonds and the Bonds from the Net Revenues of the College, known as the "Housing System Debt Service Reserve Fund" (the "Reserve Fund"), in an amount to be equal to the combined Average Annual Debt Service. In calculating Average Annual Debt Service, term Bonds maturing in any particular year shall be considered as serial maturities in accordance with the mandatory sinking fund schedule. Moneys in the Reserve Fund shall be used only to prevent deficiencies in the payment of the principal of and interest on the Series 1984 Bonds, the Bonds and other bonds or obligations payable on a parity with the Series 1984 Bonds and the Bonds from the Net Revenues resulting from a failure to deposit into the Sinking Fund Account sufficient funds to pay debt service and mandatory

sinking fund requirements on the Series 1984 Bonds, the Bonds and other parity bonds or obligations. If funds shall have been withdrawn from the Reserve Fund to pay debt service or mandatory sinking fund requirements, the Board shall restore such moneys so withdrawn at the earliest possible time.

F. That the Board has heretofore established [shall establish from the proceeds of the Bonds, by deposit of the sum of \$_____ therein] a separate account known as the "Housing System Repair and Replacement Fund" (the "Repair and Replacement Fund"), into which shall be deposited annually, by January 1 of each year, from the Revenue Fund and other available revenues, after payments required by paragraphs C, D, and E of this Section have been made, moneys equal to not less than one-fifth of the combined Average Annual Debt Service requirements until there is on hand not less than an amount equal to the combined Average Annual Debt Service requirements. This provision is not intended to limit the right of the Board to deposit additional moneys in the Repair and Replacement Fund from time to time as the Board may determine. [The sum of \$_____ deposited for the Repair and Replacement Fund from the proceeds of the Bonds shall be used by the Board to construct, acquire and equip _____, by not later than _____, 1991.] All other moneys in the Repair and Replacement Fund may be drawn on and used by the Board for the purpose of paying the cost of unusual or extraordinary maintenance or repairs, renewals and replacements, and the renovating or replacement of the furniture and equipment not paid as part of the ordinary and normal expense of Housing System operations. However, in the event the funds in the Sinking Fund Account or Reserve Fund should be reduced below their requirements, funds on deposit in the Repair and Replacement Fund shall be transferred immediately to the Sinking Fund Account or Reserve Fund to the extent required to eliminate the deficiency in such Accounts.

G. That, subject to making the foregoing deposits, the Board may use the balance of excess funds in the Revenue Fund at the close of each fiscal year (a) to redeem the Bonds on the next interest payment date, in inverse order of maturity, and in amounts of \$5,000 par value or (b) for any expenditures, including the payment of debt service on subordinate bonds or obligations, in improving or restoring any existing housing and dining facilities or providing any such additional facilities, or (c) for any other lawful purpose of the Housing System.

Section 15. Additional Parity Bonds. The Board may issue one or more series of additional parity bonds to finance

the construction of additional housing, dining, Student Center or other related facilities, or for the extension and improvement of such facilities, to be secured by a parity lien on and payable from the revenues pledged to the Series 1984 Bonds and the Bonds, provided that:

(1) The revenues of the facility or facilities to be built or financed from the proceeds of the additional parity bonds and other revenues added as security, if any, for the additional parity bonds, are pledged as additional security for the additional parity bonds, the Series 1984 Bonds, the Bonds and all other outstanding bonds or obligations payable on a parity with the Bonds from Net Revenues;

(2) The Board is in full compliance with all covenants and undertakings in connection with the Series 1984 Bonds, the Bonds and other obligations, if any, payable from the Net Revenues; and

(3) The annual Net Revenues for the fiscal year next preceding the issuance of additional parity bonds are certified, by an independent (certified or licensed) public accountant employed by the Board or State Auditor, to have been equal to at least one and twenty-five hundredths (1.25) times the combined Average Annual Debt Service requirements on all Series 1984 Bonds, Bonds and other bonds or obligations then outstanding, if any, payable on a parity with the Bonds from the Net Revenues; and

(4) The annual Net Revenues for the fiscal year next preceding the issuance of additional parity bonds are certified, by an independent (certified or licensed) public accountant employed by the Board or State Auditor, to have been equal to at least seventy-five hundredths (.75) times the combined Average Annual Debt Service requirements on all Series 1984 Bonds, Bonds and other bonds or obligations then outstanding, and on the additional bonds proposed to be issued payable on a parity with the Bonds from the Net Revenues; and

(5) The estimated pledged Net Revenues of the facility or facilities to be constructed or financed with the proceeds of such additional parity bonds plus the estimated annual Net Revenues of the Housing System including facilities under construction shall equal at least one and twenty-five hundredths (1.25) times the combined Average Annual Debt Service requirements on all bonds payable from the Net Revenues of the Housing System and on the additional parity bonds proposed to be issued. Computation of the future Net Revenues of the then existing

Housing System, together with the facilities to be financed with the proceeds of the additional parity bonds, shall be based on actual net income for the fiscal year next preceding the issuance of such additional parity bonds, as may be adjusted, to reflect the schedule of rates and charges in effect or to become effective when the additional facilities become revenue-producing, and after giving recognition to anticipated changes in current expenses of the Housing System. The computation of estimates shall be made by the Chief Financial Officer of the Board and shall be approved by the College president and the Board.

Nothing in this Resolution shall be construed so as to permit the issuance of additional bonds or other obligations, payable from the Net Revenues of the Housing System and having a lien on such revenues superior to the lien of the Bonds on said revenues; nothing herein shall prevent the College from issuing additional bonds or other obligations payable from such Net Revenues and having a lien thereon junior and inferior to the lien thereon of the Bonds.

All additional parity bonds shall bear such date, shall be payable as to principal on January 1 and as to interest on January 1 and July 1 and shall be subject to redemption prior to maturity on such terms and conditions as may be provided, and shall bear interest at such rate or rates as may be fixed by resolution of the Board.

Non-amortized bonds or warrants, i.e. bonds maturing on one principal payment date or subject to mandatory sinking fund requirements varying by more than 20% of the principal and interest requirements for the preceding fiscal year, shall have a junior and inferior lien on the Net Revenues.

Section 16. Abandonment of Housing System Facilities.

The Board agrees that so long as any revenue bonds are outstanding against the Housing System, it will not sell or otherwise dispose of (except as herein provided) any of the Housing System facilities or any part thereof and, except as provided for herein, it will not create or permit to be created any charge or lien on the Net Revenues thereof ranking equal or prior to the charge or lien of the Series 1984 Bonds and the Bonds. The Board may at any time permanently abandon the use of any of its Housing System facilities, provided that:

(1) It is in full compliance with all covenants and undertakings in connection with all of its bonds payable from the Net Revenues;

(2) It certifies, prior to any abandonment of use, that the facility to be abandoned is no longer economically feasible of producing Net Revenues; and

(3) It certifies that the estimated Net Revenues of the remaining Housing System for the then succeeding fiscal year (and any other revenues pledged as security) plus the estimated Net Revenues of the facility, if any, to be added to the Housing System satisfy the requirements of Section 17F.

Section 17. Further Covenants of the Board. The Board further covenants and agrees that:

A. It will faithfully perform at all times any and all covenants, undertakings, stipulations and provisions contained in this Resolution and in each and every Bond executed and delivered hereunder; that it will promptly pay or cause to be paid from the Net Revenues herein pledged the principal of and interest on every Bond issued hereunder, on the dates and in the places and manner prescribed in such Bond; and that it will, prior to the installment date for principal, interest or mandatory sinking fund requirements or the maturity of each such Bond, at the times and in the manner prescribed herein, deposit or cause to be deposited, from the revenues pledged, the amounts of money specified herein. All Bonds, when paid, shall be canceled by the Paying Agent and shall be delivered to or upon the order of the Board.

B. It is duly authorized under the laws of the State of Colorado to create and issue the Bonds; that all action on its part for the creation and issuance of the Bonds has been duly and effectively taken; and that the Bonds in the hands of the holders and owners thereof are and will be valid and enforceable special obligations of the Board in accordance with their terms.

C. It lawfully owns and is lawfully possessed of the land upon which the Housing System has been constructed and has a good and indefeasible estate in such land in fee simple; that it warrants that it has and will defend the title to the Housing System, the lands pertaining thereto, every part thereof and improvements thereon, for the benefit of the holders and owners of the Bonds against the claims and demands of all persons whomsoever; it is lawfully qualified to pledge the Revenues of the Housing System as herein provided to the payment of the Bonds in the manner prescribed herein.

D. It will, from time to time and before the same become delinquent, pay and discharge all taxes, assessments and governmental charges, if any, which shall be lawfully imposed upon it or upon the Housing System.

E. It will not do or suffer any act or thing whereby the Housing System or any part thereof might or could be impaired and it will at all times maintain, preserve and keep the real and tangible property of the Housing System, and every part thereof, in good condition, repair and working order, and maintain, preserve and keep all structures and equipment pertaining thereto and every part and parcel thereof in good condition, repair and working order.

F. It will establish and maintain, so long as any of the Series 1984 Bonds or the Bonds are unpaid, such fees, student center fees, parietal rules, rental rates and charges for the use of the Housing System as may be necessary to assure maximum occupancy and use of the same and the services afforded thereby, and to pay the Current Expenses thereof and to provide sufficient Net Revenues for debt service, required debt service reserve, Current Expenses, Repair and Replacement Fund and all other payments and charges as are required under this Resolution, and that it will permit no free occupancy or use of the dormitories in the Housing System.

G. (1) The Board shall continue to maintain fire and extended coverage insurance on the Housing System in amounts at least sufficient to provide for full recovery of up to eighty percent (80%) of the full insurable value of the property insured. Such insurance shall be carried with an insurance company or companies authorized to do business with the State of Colorado and the premiums on such insurance shall be paid as Current Expenses.

The Board shall continue to maintain, so long as any of the Series 1984 Bonds or the Bonds are unpaid, Public Liability Insurance with limits of not less than \$100,000 for one person and \$300,000 for more than one person involved in one accident to protect the Board from claims for bodily injury or death which may arise from the Board's operations, including any use or occupancy of its grounds, structures and vehicles.

(2) Upon the happening of any loss or damage covered by any such policies from one or more of the causes to which reference is made in this Section, the Board shall make proof of loss and do all things necessary or desirable

to cause the insuring companies to make payment in full directly to the Board.

(3) The proceeds of insurance covering such property shall be used forthwith by the Board for the purpose of repairing the property damaged or replacing the property destroyed and any insurance proceeds remaining upon the completion of such repair or replacement shall be deposited in the Sinking Fund Account.

(4) If the funds received from said insurance policies on account of any loss, together with other available funds, shall be insufficient to make the building or buildings suffering such loss tenantable or useable, then the Board shall hold said funds in the Sinking Fund Account for the benefit of holders of the Series 1984 Bonds, the Bonds and other parity obligations as their respective interests may appear.

H. It will continue to keep proper books of record and account in which full, true and correct entries shall be made of all dealings or transactions in relation to the Housing System and other pledged revenues, and all books, documents and vouchers relating to the properties, business and affairs of the Housing System and other pledged revenues shall at all reasonable times be made available for the inspection upon written request by the United States of America during the time it is the Registered Owner of any of the Bonds or from holders of not less than twenty-five percent (25%) of the then outstanding Bonds.

I. Each year while any of the Bonds are outstanding, an audit will be made of the Board's books and accounts relating to the College, the Housing System and other pledged revenues by a certified public or registered accountant or the State Auditor of Colorado, such audit to be based on the fiscal year of the College. Each year, within thirty (30) days after such audit is completed, a copy of each annual audit shall be mailed to the Underwriter and to all other bondholders who shall in writing so request. Such annual audit reports shall be open to the inspection of the bondholders and their agents and representatives at all reasonable times.

Section 18. Investment of Funds. Any moneys in the Revenue Fund, Sinking Fund Account, the Reserve Fund and the Repair and Replacement Fund may be invested in legal investments as permitted by the laws of Colorado pertaining to investments by state institutions. All interest accruing on any such investments shall be deposited in the Revenue Fund.

Section 19. Discharge of Resolution. When all of the Bonds and the interest thereon have been duly paid, the pledge and lien hereunder shall be discharged and the Bonds shall no longer be deemed to be outstanding within the meaning of this Resolution. There shall be deemed to be such payment when the College has placed in escrow or in trust with a Trust Bank which is a member of the Federal Deposit Insurance Corporation, located within or without the State, moneys or Federal Securities in an amount sufficient (including the known minimum yield available for such purpose from Federal Securities in which such amount wholly or in part may be initially invested) to meet all principal and interest payments on the Bonds, as the same become due to the final maturities of the Bonds or upon any date as of which the College shall have exercised its prior redemption option by a call of Bonds for payment. The Federal Securities shall become due prior to the respective times at which the proceeds shall be needed, in accordance with a schedule established and agreed upon between the College and such bank at the time of the creation of the escrow or trust or the Federal Securities shall be subject to redemption at the option of the holder to assure such availability as so needed to meet such schedule.

Section 20. Events of Default and Remedies.

A. Each of the following events is hereby declared to be and to constitute an Event of Default;

(1) Payment of the principal of any of the Bonds or any prior redemption premium due in connection therewith or both is not made when the same becomes due and payable, either at maturity or by proceedings for mandatory or optional prior redemption, or otherwise;

(2) Payment of any installment of interest is not made when the same becomes due and payable or within five (5) days thereafter;

(3) The College for any reason is, or is rendered, incapable of fulfilling its obligations hereunder;

(4) The College shall have failed to carry out and to perform (or in good faith to begin the performance of) all acts and things lawfully required to be carried out or to be performed by it under this Resolution, and such failure shall continue for sixty (60) days after receipt of notice from the holders of ten percent (10%) in principal amount of the Bonds then outstanding;

(5) An order or decree is entered by a court of competent jurisdiction, with the consent or acquiescence of the College appointing a receiver for the Net Revenues and any other moneys subject to the lien to secure the payment of the Bonds or if any order or decree, having been entered without the consent or acquiescence of the College, is not vacated, discharged or stayed on appeal within sixty (60) days after entry;

(6) The College makes any default in the due and punctual performance of any other of the representations, covenants, conditions, agreements and other provisions contained in the Bonds or in this Resolution on its part to be performed and if such default continues for sixty (60) days after written notice, specifying such default and requiring the same to be remedied, is given to the College by the holders of ten percent (10%) in principal amount of the Bonds then outstanding.

B. Upon the happening and continuance of any of the Events of Default, as provided in Section 20A hereof, then and in every case, the holder or holders of not less than ten percent (10%) in principal amount of the Bonds then outstanding may proceed against the College and its agents, officers and employees to protect and to enforce the rights of any holder of Bonds under this Resolution by mandamus or by other suit, action or special proceeding in equity or at law, in any court of competent jurisdiction, either for the appointment of a receiver or an operating trustee or for the specific performance of any covenant or agreement contained herein or for any proper legal or equitable remedy as such holder or holders may deem most effectual to protect and to enforce the rights aforesaid, or thereby to enjoin any act or thing which may be unlawful or in violation of any right of any holder of any Bond, or to require the College to act as if it were the trustee of an express trust, or any combination of such remedies, or as otherwise may be authorized by any statute or other provision of law. All such proceedings at law or in equity shall be instituted, had and maintained for the benefit of all holders of the Bonds. Any receiver or operating trustee appointed in any proceedings to protect the rights of such holders hereunder, the consent to any such appointment being hereby expressly granted by the College, may collect, receive and apply all Net Revenues arising after the appointment of such receiver or operating trustee in the same manner as the College itself might do.

C. The failure of any holder of any Bond to proceed in any manner herein provided shall not relieve the

College or any of its officers, agents or employees of any liability for failure to perform or carry out any duty, obligation or other commitment. Each right or privilege of any such holder (or trustee) is in addition and is cumulative to any other right or privilege and the exercise of any right or privilege by or on behalf of any holder shall not be deemed a waiver of any other right or privilege thereof. Each holder of any Bond shall be entitled to all of the privileges, rights and remedies provided or permitted in this Resolution and as otherwise provided or permitted by law or in equity or by other statutes.

D. Upon the happening of any of the Events of Default as provided in Section 20A hereof, the College, in addition, will do and perform all proper acts on behalf of and for the holders of the outstanding Bonds to protect and to preserve the security created for the payment of their Bonds and to insure the payment of the principal and interest requirements promptly as the same become due. During any period of default, so long as any of the Bonds are outstanding, except to the extent it may be unlawful to do so, all Net Revenues shall be paid into the Sinking Fund Account or, in the event parity obligations are issued during such period of time, such revenues shall be paid into the Sinking Fund Account for all parity obligations, including the Bonds on an equitable and prorated basis, and used for the purposes therein provided. If the college fails or refuses to proceed as in this section provided, the holder or holders of not less than ten percent (10%) in principal amount of the Bonds then outstanding, after demand in writing, may proceed to protect and to enforce the rights of the holders of the Bonds as hereinabove provided. Nothing herein requires the College to proceed as provided herein if it determines in good faith and without any abuse of its discretion that such action is likely to affect materially and prejudicially the holders of the Bonds and any parity obligations.

Section 21. Amendment of the Resolution.

A. The College may, without the consent of or notice to the holders of the Bonds, adopt such resolutions supplemental hereto (which amendments shall thereafter form a part hereof) for any one or more or all of the following purposes:

(1) To cure any ambiguity or to cure, correct or supplement any defect or inconsistent provision contained in this Resolution, or to make any provision with respect to matters arising under this Resolution or for any other purpose if such provisions

are necessary or desirable and do not adversely affect the interests of the holders of the Bonds; or

(2) To subject to this Resolution additional revenues, properties or collateral.

B. This Resolution may be amended or modified by resolutions or other instruments duly adopted by the Board, without receipt by it of any additional consideration, but with the written consent of the holders of at least sixty-six percent (66%) in aggregate principal amount of the Bonds outstanding at the time of the adoption of such amendatory resolution or other instrument, including any outstanding refunding securities as may be issued for the purpose of refunding any of the Bonds, provided that no such amendatory or modifying instrument shall permit:

(1) A change in the maturity or in the terms of redemption of the principal of any outstanding Bond or any installment of interest thereon; or

(2) A reduction in the principal amount of any Bond, the rate of interest thereon or any prior redemption premium payable in connection therewith, without the consent of the holder of the Bond; or

(3) The creation of a lien upon or a pledge of the Net Revenues ranking prior to the lien or to the pledge created by this Resolution; or

(4) A reduction of the principal amount or percentage of Bonds, or any modification otherwise affecting the description of Bonds or otherwise changing the consent of the holders of Bonds, which may be required herein for any amendment hereto; or

(5) The establishment of priorities as between Bonds issued and outstanding under the provisions of this Resolution; or

(6) Any modifications otherwise materially and prejudicially affecting the rights or privileges of the holders of less than all of the Bonds then outstanding.

Whenever the Board proposes to amend or modify this Resolution under the provisions of this Section 21B, it shall give notice of the proposed amendment by publication at least one (1) time by one (1) publication in The Bond Buyer, New York, New York, if then in business and publishing (and if not, then in a similar financial

newspaper or journal published in New York, New York, as determined by the Board), such notice to be deemed complete upon such publication; and copies of such notice shall be mailed within thirty (30) days after such publication to the Registered Owner or assigns as recorded on the books maintained by the Registrar. Such notice shall briefly set forth the nature of the proposed amendment and shall state that a copy of the proposed amendatory resolution or other instrument is on file in the office of the Secretary of the Board of Trustees of the College for public inspection.

C. Whenever at any time within one (1) year from the date of the completion of the notice required to be given by Section 21B hereof, there shall be filed in the office of the Secretary an instrument or instruments executed by the holders of at least sixty-six percent (66%) in aggregate principal amount of the Bonds then outstanding which instrument or instruments shall refer to the proposed amendatory resolution or other instrument described in such notice and shall specifically consent to and approve the adoption of such resolution or other instrument, thereupon, but not otherwise, the Board may adopt such amendatory resolution or instrument authorized by Section 21B and such resolution or instrument shall become effective. If the holders of at least sixty-six percent (66%) in aggregate principal amount of the Bonds then outstanding, at the time of the adoption of such amendatory resolution or instrument, or the predecessors in title of such holders, shall have consented to or shall have revoked any consent as herein provided, then no holder shall have any right or interest to object to the adoption of such amendatory resolution or other instrument or to object to any of the terms or provisions therein contained or to the operation thereof or to enjoin or restrain the College from taking any action pursuant to the provisions thereof. Any consent given by the holder of a Bond pursuant to the provisions hereof shall be irrevocable for a period of six (6) months from the date of the completion of the notice above provided for and shall be conclusive and binding upon all future holders of the same Bond during such period. Such consent may be revoked at any time after six (6) months from the completion of such notice, by the holder who gave such consent or by a successor in title, by filing notice of such revocation with the Secretary but such revocation shall not be effective if the holders of sixty-six percent (66%) in aggregate principal amount of the Bonds outstanding as herein provided, prior to the attempted revocation, shall have consented to and approved the amendatory instrument referred to in such revocation.

D. Notwithstanding anything in the foregoing provisions contained, the terms and the provisions of this Resolution, or of any resolution or other instrument amendatory thereof and the rights and the obligations of the College and of the holders of the Bonds may be modified or amended in any respect upon the adoption by the College and upon the filing with the Secretary of an instrument to that effect and with the consent of the holders of all the Bonds then outstanding, such consent to be given in the manner provided in Section 21C hereof; and no notice of holders of Bonds, either by mailing or by publication, shall be required, nor shall the time of consent be limited except as may be provided in such consent.

Section 22. Rights of the Bond Insurer. The _____ ("_____") shall be deemed to be the holder of the Bonds insured by _____: (i) at all times for the purpose of giving any approval or consent to the execution and delivery of a Supplemental Resolution which under this Resolution requires the written approval or consent of the holders of not less than sixty-six percent (66%) in aggregate principal amount of the Bonds at the time outstanding and (ii) following an Event of Default for all other purposes.

[Insert other requirements of Bond Insurer]

Section 23. Tax Covenants and Designations. The Board shall make no investment or other use of the proceeds of the Bonds at any time during the term thereof which, if such investment or other use had been reasonably expected on the date the Bonds are issued, would have caused the Bonds to be arbitrage bonds within the meaning of Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder by the United States Treasury Department, and that the Board will comply with the requirements of such Section and regulations throughout the term of the Bonds.

[The Chief Financial Officer of the School will determine the amount of the required arbitrage rebate to the United States Government under Section 103 of the Code in respect of the Bonds and will make any required payments at the times and in the manner as provided by Section 103 of the Code and applicable Treasury regulations, regardless of whether there are any remaining proceeds or other funds attributable to the Bonds that are available for the purpose. The Board will not permit the amount of gross proceeds invested in any bond year of the Bonds at a yield materially higher than the Bond yield to exceed the limits of Section 103 of the Code.]

The Board shall comply with all information reporting requirements under the Code.

[The Board hereby designates the Bonds as "qualified tax-exempt obligations" under Section 265(b)(3) of the Code.]

Section 24. Rights and Immunities. Except as herein otherwise expressly provided, nothing herein expressed or implied is intended or shall be construed to confer upon or to give to any person, other than the Board and the registered owners from time to time of the Bonds, any right, remedy or claim under or by reason hereof or any covenant, condition or stipulation hereof. All the covenants, stipulations, promises and agreements herein contained by and on behalf of the Board shall be for the sole and exclusive benefit of the Board and any owner of any Bonds.

No recourse shall be had for the payment of the principal of and interest on the Bonds or for any claim based thereon or otherwise upon this Resolution, or any other instrument pertaining hereto, against any individual member of the Board or any officer or other agent of the Board, past, present or future, either directly or indirectly through the Board, or otherwise, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any penalty or otherwise, all such liability, if any, being by the acceptance of the Bonds and as a part of the consideration of their issuance specially waived and released.

Section 25. Facsimile Signatures. Pursuant to the Uniform Facsimile Signature of Public Officials Act, part 1 of article 55 of title 11, Colorado Revised Statutes, as amended, the Board's President and Secretary shall forthwith, and in any event prior to the time the Bonds are delivered to the Purchaser, file with the Colorado Secretary of State their manual signatures certified by them under oath.

Section 26. Authorized Action. The officers of the Board are hereby authorized and directed to enter into such agreements and take all action necessary or appropriate to effectuate the provisions of this Resolution and to comply with the requirements of law, including without limiting the generality of the foregoing:

a. the printing of the Bonds, including the printing upon each of such Bonds of a copy of the legal opinion of Ballard, Spahr, Andrews & Ingersoll, bond counsel, duly certified by the Registrar, and, if necessary or desirable pending delivery of printed Bonds, the preparation of one or more temporary typewritten Bonds in an aggregate principal amount equal to that of the Bonds, otherwise in substantially the same form and bearing the same terms, to be delivered to the Underwriter and thereafter to be exchanged by the Underwriter for printed Bonds when the same are received by the Board;

b. the preparation of preliminary and final official statements for the use of prospective purchasers of the Bonds, including the Underwriter and its associates, if any;

c. the execution of the Escrow Agreement and such certificates as may reasonably be required by the Underwriter relating to the signing of the Bonds; the tenure and identity of the Board officials; if in accordance with the facts the absence of litigation, pending or threatened, affecting the validity of the Bonds; the exemption of interest on the Bonds from federal and Colorado income taxation, receipt of the bond purchase price and of the Bonds; and the accuracy and adequacy of information provided in the official statement;

d. the making of various statements, recitals, certifications and warranties provided in the form of Bond set forth in this Resolution; and

e. the payment of the interest on the Bonds as the same shall become due and the principal of the Bonds at maturity or upon prior redemption without further warrant or order.

Section 27. Ratification. All action not inconsistent with the provisions of this Resolution heretofore taken by the Board or its officers and otherwise by the Board directed toward the issuance and delivery of the Bonds is hereby ratified, approved and confirmed.

Section 28. Repealer. All acts, orders, resolutions or parts thereof, taken by the Board in conflict with this Resolution are hereby repealed, except that this repealer shall not be construed so as to revive any act, order, resolution, ordinance, or part thereof, heretofore repealed.

Section 29. Resolution Irrepealable. This Resolution is, and shall constitute, a legislative measure of the Board, and after the Bonds are issued and outstanding, this Resolution shall constitute a contract between the Board and the registered owners of the Bonds and shall be and remain irrepealable until the principal of and interest on the Bonds shall have been fully paid, satisfied and discharged.

Section 30. Statutory Limitations Met. The Board hereby determines that the provisions and limitations of the Act and any other applicable law imposed on the issuance of the Bonds have been met.

Section 31. Severability. If any paragraph, clause or provision of this Resolution is judicially adjudged invalid or unenforceable, such judgment shall not affect, impair or invalidate the remaining paragraphs, clauses or provisions hereof, the intention being that the various paragraphs, clauses or provisions hereof are severable.

Section 32. Definitions. Throughout this Resolution the following terms as used herein shall have the meanings set forth below, unless the text hereof specifically indicates otherwise:

The term "Average Annual Debt Service" as of any date shall mean, for the Bonds and other bonds or obligations payable on a parity from the Net Revenues, the aggregate of all future principal and interest to become due on the bonds of such series in all years in which principal is to mature in accordance with the scheduled maturities, or the mandatory sinking fund requirements thereof, divided by the number of such years. All term bonds payable on a parity from the Net Revenues must be subject to mandatory sinking fund payments. The term "combined Average Annual Debt Service" shall mean the aggregate of the Average Annual Debt Service for each separate series.

The term "Board" shall mean the Board of Trustees of Colorado School of Mines.

The term "Bonds" shall mean the Housing System Refunding and Improvement Revenue Bonds, Series 1988, authorized hereunder.

The term "College" or "School" shall mean Colorado School of Mines, at Golden, Jefferson County, Colorado.

The term "Current Expenses" shall include all necessary operating expenses, current maintenance charges, properly allocated share of charges for insurance and all other expenses incident to the operation of the Housing System, but shall exclude depreciation, all general administrative expenses of the Board, capital improvements and the payment into the "Housing System Repair and Replacement Fund."

The term "fiscal year" shall mean the period July 1 to June 30.

The term "Gross Revenues" shall mean all revenues in each fiscal year of the Housing System of the College including rates, fees, charges, Student Center Fees and interest earned on all Housing System funds except interest earned on construction funds.

The term "Housing System" or "System" shall mean the [New Residence] Hall; Bradford Hall; Randall Hall; Morgan Hall; Thomas Hall; Prospector Village; Mines Park; the Student Center, including, but not limited to, food services facilities therein; and such additional facilities as may, at some future date, be added to the Housing System.

The term "Net Revenues" as applied to the Housing System for any fiscal year shall mean the Gross Revenues thereof and Other Pledged Revenues minus Current Expenses thereof during such fiscal year.

The term "Other Pledged Revenues" shall mean legally available moneys, other than Gross Revenues, deposited in the Revenue Fund and irrevocably pledged for the purposes of said Fund.

The terms "Paying Agent and Registrar," "Paying Agent," or "Registrar" shall mean the Central Bank of Denver, Denver, Colorado or its successor.

The term "Refunded Bonds" shall mean the portion of the Series 1984 Bonds to be redeemed by the Bonds, consisting of the optionally redeemable portion of the Series 1984 Bonds.

The term "Series 1984" shall mean the unpaid maturities and installments of the Colorado School of Mines, Housing System Refunding Revenue Bonds, Series A 1984, to be partially refunded by the Bonds.

The term "Student Center Fee" shall mean the Student Center Fee levied against all enrolled students at the College.

ADOPTED AND APPROVED this 8th day of January, 1988.

(S E A L)

ATTEST:

President,
Board of Trustees of
Colorado School of Mines

Secretary,
Board of Trustees of
Colorado School of Mines

STATE OF COLORADO)
) ss.
COUNTY OF JEFFERSON)

I, the undersigned, Secretary of the Board of Trustees of Colorado School of Mines, do hereby certify that the above and foregoing constitute a true and correct copy of the Resolution, and of the minutes pertaining thereto, adopted by the Board of Trustees of Colorado School of Mines, on the 8th day of January, 1988, pertaining to the issuance of bonds designated Colorado School of Mines Housing System Refunding and Improvement Revenue Bonds, Series 1988, in an aggregate principal amount not to exceed \$6,000,000, which Resolution is duly of record in the minutes of the Board of Trustees of Colorado School of Mines.

EXECUTED UNDER MY HAND and seal of the Board of Trustees of Colorado School of Mines, this 8th day of January, 1988.

Secretary

(S E A L)