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ABSTRACT

The exemplary project was the cooperative effort of two schools in the western Kentucky coal fields to field test a program in mining and reclamation technology. Covering the first year of the project, the report describes the problem and scope of the study, the objectives pursued, the methodology, and the results obtained. The goal of the project was to relieve the manpower shortage by training and retraining people in Region 2 to be safer coal miners or reclamation technolgists. Selection of students desiring work experience while enrolled in the program was made jointly by the schools and the mining companies. During the year the cooperative coordinator continued in recruitment, counseling, interviewing, evaluation, and securing co-op positions. Appended materials include news clippings, conference agendas, a report of a practicum in reclamation technology, a budget report, and other program-related materials. (NJ)

PROGRESS REPORT

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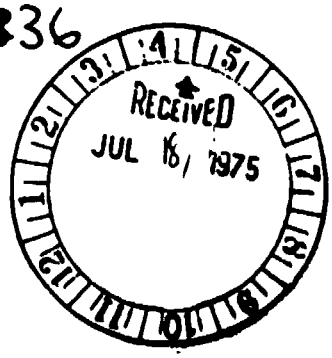

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The attached report does not represent a true final report as the project is to be continued for another year. However, it is believed that this report contains information that may be of value to other vocational educators. Please feel free to disseminate as you deem appropriate.

Robert M. Schneider, Director
Kentucky RCU

PERIOD COVERED

April 1, 1975 through June 30, 1975

MAJOR ACTIVITIES AND ACCOMPLISHMENTS
DURING THE ENTIRE FISCAL YEAR
PLUS THE FOURTH QUARTER

Introduction

This report describes the activities and outcomes of the Cooperative Mining and Reclamation Project for the fourth quarter specifically, and for the entire fiscal year in general.

This experimental project in cooperative education has worked. When Madisonville Vocational-Technical School and Madisonville Community College embarked on this project, the officials at both schools were optimistic but not thoroughly convinced that everything would work out.

Since that early beginning, much progress has been made in the mining and reclamation cooperative effort. The faculty and staff from both institutions have become very well acquainted and have a working knowledge of what the other is doing in the field of mining.

There has been a continuing interaction of the students from both schools. We have placed vocational and college students in the same mining classes, and the results have been very good. Both groups of students came out of this situation with positive attitudes and a feeling that they had learned something about mining.

Presently, we have three (3) college classes being taught by the vocational school instructors at the vocational school. This is being done after the regular school day, and the instructors are employed by the University of Kentucky as part time teachers. These classes are supervised by the cooperative coordinator, the vocational school principal, and the vocational regional director.

The coal industry and the reclamation agencies have given their full support to the project since its inception. We sincerely need industry to keep a project of this nature and magnitude operating. Through the provision of co-op positions for work/experience and the sharing of their expertise where necessary, the total help from industry has been outstanding.

The project directors have played a key role in keeping the project running smoothly and preventing small difficulties from becoming large ones. From the very beginning, they have been working to make this cooperative effort between the two (2) schools a success.

The Bureau of Vocational Education and the University of Kentucky are to be commended for speculating on such a project with the hope of making

it a success. The personnel at both locations have cooperated extremely well during the year and have played a major part in the success of the entire cooperative project.

As the reader examines the fourth and final report, he will see strong support for the above introductory statements.

As coordinator of the cooperative project, it is a pleasure for me to have worked on such a project. I appreciate all of the advice and assistance that has been given so graciously. It is my hope and desire that the project can be funded for the 1975-76 fiscal year. Much work remains to be done in the area of cooperative mining and reclamation, and Region II lends itself as a very worthwhile and practical area for such activities.

The following pages of this introductory section include a brief description of the project problem under investigation, the scope of the study, the objectives pursued, the methodology, and the results obtained.

Madisonville Community College and Madisonville State Vocational-Technical School are located in the center of the Western Kentucky coal field, one of the heaviest coal producing areas of the United States. Adequately trained manpower is a constant problem for the coal companies and especially so during the period of energy shortage which we are now experiencing.

The major coal companies are in an expansion period during which they expect to open several new mines within a fifty (50) mile radius of the two (2) educational institutions. Three (3) of the greatest problems they face are the lack of well-trained coal miners, reclamation technologists, and mining superivsory personnel.

It is the purpose of the two (2) schools and the mining industry to relieve the manpower shortage by training and retraining the people of Region II who are genuinely interested in either Mining or Reclamation Technology. We feel that the development of manpower through the co-op or work experience method will fulfill the needs of the student and the mining industry.

This Cooperative Program has been an exemplary program designed to field test a Cooperative Mining and Reclamation Technology Program. The knowledge and experience gained from this program could be used in other cooperative programs throughout the state of Kentucky. The project has identified methods of sharing the expertise and facilities of the Madisonville State Vocational-Technical School and Madisonville Community College to better serve the mining and reclamation industry and the people of Region II and the Western Kentucky coal field.

Student selection for the Co-op Programs have varied according to the school selected and the student's expected outcome from the program.

For the most part, the student attending the vocational school Co-op Program has received training to permit him to be a better safer coal miner.

re recei[illegible]gs in mine maintenance mechanics, dealing with a detailed study of [illegible]ics and electric circuits. The student's goal is to become a master mecha[illegible]or an underground coal mining company.

The community college Co-op Program is designed to train the individual to be a better safer coal miner or reclamation technologist. The student in the Mining Technology Program could eventually become a supervisory or mid-management employee for a company Such positions as face boss, assistant mine foreman, mine foreman, and superintendent are examples [illegible]e to the graduate. Reclamation technologists are trained to work for a surface mining company, a state division of reclamation, or for a private reclamation agency as an expert technologist in preplanning, planning, inspecting, and actually working in and completing reclamation projects of the area.

Student selection for the vocational school Co-op Program is done jointly by the vocational school and the mining companies. The student is required to bid for his co-op position much in the same way that a worker bids for a position at the mine site. The potential student is screened and tested by the company and the vocational-technical school officials for entry into the program.

The community college student is selected from community college mining and reclamation students who desire co-op or work experience while enrolled in the program. Interviews are conducted by representatives from the mining industry and the cooperative coordinator. The student must exhibit an ability to do satisfactory work on the college level before being allowed to work in a co-op position.

The entire project has been in operation for one (1) year. Plans are for the revised program to go into effect on July 1, 1975, and continuing through June 30, 1976. The new project is to begin with an extensive recruitment effort which has already been completed. Twenty-five (25) high schools in the area have been visited by the coordinator to explain the Co-op Program From this point, the business of screening, interviewing, and testing the applicants will take place before any new students will be admitted to the program. The next step will be to admit new students to the program for the 1975-76 school year.

Once the student is aboard, the business of an effective teaching, tutoring, counseling, and evaluation program comes into effect. Throughout the year, the student will be involved in an extensive education program that when completed will provide him with the skills, attitude, and knowledge to help equip him for the job market and the world of work.

A continued effort during the year by the cooperative coordinator in recruitment, counseling, interviewing, evaluating, and securing more co-op positions will take place. A complete documented report will be filed quarterly to the project monitor as was done during 1974-75.

It is our desire to provide the [illegible]ning and reclamation technology student the best quality education. With t[illegible] goal in mind, we feel that the mining industry will be able to look to our schools for graduates now and in the future, and we can stand proud as an educational institution.

Practicum in Reclamation Technology

Mr. Patrick Angel conducted the first Reclamation Practicum course during the month of May. Sixteen (16) students participated in the two (2) week course that included practical "hands on" type activities in both the Western and Eastern Kentucky coal fields.

The students received three (3) hours college credit for the two (2) week course. It was begun on May 12, 1975 and was completed on May 23, 1975. They were involved in learning situations eight (8) hours a day for the full ten (10) days.

We have a number of agencies and people to thank for making the Practicum such an overwhelming success. The following deserve recognition:

a. Breckinridge Job Corps (Muhlenberg County)
b. Kentucky Division of Reclamation
c. Kentucky Reclamation Association
d. U.S. Forestry Service Experimental Station at Berea.
e. Tennessee Valley Authority
f. U.S.D.A. Soil Conservation Service at Quicksand, KY
g. Falcon Coal Company
h. Forest and Wood Technology School at Quicksand, KY

The course was designed to familarize the community college reclamation student with the use of reclamation tools and equipment. The course involved students visiting active surface mine operations, as well as actual praticipation of spoil placement with heavy equipment, grading, seedbed preparation, seedings, tree planting, liming and fertilization of spoil, and water quality treatment.

No textbooks were required for the course and no examinations were given. Grades were based on attendance, enthusiasm, and a special typewritten journal which had to be submitted no later than May 27, 1975. The journal had to be a complete and detailed account of every activity the student was involved in during the two (2) week period.

Please refer to Appendixes I and II for a more detailed account of the Practicum and a newspaper clipping describing the course of study.

Program Steering Committee

The Madisonville Community College Mining and Reclamation Steering Committee met on April 29, 1975. The purpose of the meeting was to inform the committee concerning the progress of the two (2) college programs. Mr. Combs, Mr. Angel, and Mr. Barnett spoke to the group and informed them of the progress and accomplishments for the year.

The meeting was held at the Ramada Inn at 6:00 p.m. in Madisonville. Twenty-nine (29) people were in attendance including Mr. John Stanley Hoffman, Commissioner of Natural Resources and Enviornmental Protection. Mr. John Gray, Chairman, conducted the meeting and from all indications everyone in attendance was thoroughly impressed with the Mining and Reclamation Technology Program.

The classes are organized into five (5) week sessions and the employees are required to spend an entire school day, each day, until the five (5) weeks have been complete

From all indications, there will be future management classes taught at M.C C. during the next fiscal year. This is very good because we feel that the more contacts we make and the more we can provide the coal companies of the area, the more acceptant their personnel will be to our program at the vocational-technical school and Madisonville Community College.

Mining Co-op Program Begins at Vocational School

A new group of Island Creek co-op students began the school phase on May 12, 1975. A total of nine (9) male students were selected by the company and school officials to become a part of the six (6) month Co-op Program. This brings the accumulated total for the year to twenty (20).

The students will alternate work and school at six (6) week intervals. They will continue to be employed by the mining company and will remain as members of the U.M.W.A. through the entire program.

The coordinator has started working with the vocational school instructors and staff with the above mentioned co-op group. Evaluations and visits to work areas will be conducted much in the same way that the community college program has worked.

The students are scheduled to end the school phase on June 13, 1975. They will then report to the mine where they were originally employed for a six (6) week period of work. They will be involved as a mechanic trainee while in the work phase.

Individual Conferences for Students

We feel it is important to mention in the report that we are going to continue to have the student in the work phase to report to the school for the student's evaluation of his work experience. This gives the student an opportunity to assess his situation and to put many of his thoughts on paper.

This seems only a fitting gesture since the student is evaluated both during the school and the work phase. We feel that adequate evaluation will bring about a stronger program.

Summer Program Varies Slightly from Fall and Spring

Originally, it was planned for the Summer Session at the community college to be set up similar to the Fall and Spring Semester.

This plan has not been altered a great deal but there are some difference that [illegible] For example, all co-op students in the school phase will be given the opportunity to enroll for a full semester of college work. This can be arranged by having a seven (7) week intersession taught by the instructors at the vocational-technical school. The student can elect to take as many as eight (8) hours during the seven (7) week period. Then on June 16, 1975, the student can begin attending classes at the community college. Both schools can allow the student a total of fourteen (14) semester hours which is considered a full load during a regular semester.

Another slight difference is the fact that the student in the summer work phase will have only fifteen (15) weeks to work as compared to sixteen (16) weeks during a Fall or Spring Semester.

We are well pleased with the way the Summer Session has been conducted and the students have voiced their approval also.

Coordinator Continues Outreach and Recruitment Procedures

During the Spring Semester, the coordinator made seventy-five (75) visits to area mining companies, reclamation agencies, and high schools. One purpose of these visits is to let all of these agencies know what is going on in the programs at both schools and to meet with and encourage future high school graduates to become interested in one of the programs.

Another purpose has been to keep a watchful eye on our students. We want to know their progress during the work phase, and we feel the company officials want to know the students progress at school. Much of this work can be done by written correspondance or by phone, but we feel that it is very important to keep in close personal touch with people in the industry. Plans now are for similar outreach activities for the next fiscal year.

Quality Group of Co-op Students Chosen by Island Creek this Summer

From all indication, Island Creek Coal Company made some wise choices in the selection of co-op students for the summer. As mentioned earlier, nine (9) students were selected for the vocational school program and seven (7) new students were selected for the college program.

At this writing, all of these students are in the school phase of their programs and are anxiously awaiting the opportunity to move into a work phase.

I feel at this point that much of Island Creek's success in selection of personnel can be traced back to a gentleman by the name of A. O. DeMoss. He has an ability to work with and judge people for the co-op positions. He has a good working knowledge as to how the Co-op Program operates and an ability to get this across to the potential student. He is very honest with the person he is interviewing and will give the person a clear explanation of Island Creek's position and plans for him.

Frankfort Meeting Concerning Reclamation Technology

Mr. Angel and Mr. [illegible]ett attended a conference dealing with the review of training programs for mined lands reclamation officers on May 14, 1975, at Frankfort, Kentucky

The purpose of the meeting was to discuss in detail the programs that are being offered throughout the state in reclamation technology and to prevent an abundance of programs which could eventually saturate the market with too many technologists and possible even lessen the quality of the graduate.

Presently, four (4) colleges or universities have technology programs initially started These include:

a Morehead State University
b Pikeville College
c Lees Junior College
d. Madisonville Community College

The meeting was very informative and beneficial to all concerned. It was felt that representatives from the schools and from the reclamation department should get together more often.

A copy of the agenda for the meeting can be found in Appendix IV.

Vocational School Co-op Program Begins

May 5, 1975, marked the beginning of the tenth co-op group at Madisonville Vocational-Technical School in cooperation with the Island Creek Coal Company. Nine (9) young men were screened and tested and started into a six (6) week school phase on May 5. The program is six (6) months in length with the student alternating six (6) week sessions of school and work.

The Co-op Program is designed for training the person to become a mine machinery mechanic His course of study includes theory and practical work in hydraulics and electricity while at school and "hands on" activities as a mechanic trainee while in the work phase.

The co-op student receives full pay benefits while in the six (6) month program, and he remains a member of the United Mine Workers of America with full benefits. Please refer to Appendix V for the first monthly report and a list of the students presently involved in the vocational school Co-op Program

SIGNIFICANT FINDINGS AND EVENTS

Budget Report

As this fiscal year comes to a close, we can report that the funds allocated for the Cooperative Mining and Reclamation Technology Program

have been very adequate. One item, travel, has not been completely exhausted due to the fact that much of the traveling by the coordinator was done in the University of Kentucky vehicle. It has not been determined by the director as to the policy for the coming year concerning travel.

It is our feeling that an adequate number of dollars be earmarked for travel under the assumption that a university vehicle will not be available.

The reimbursement claim summary through June 30, 1975, can be found in Appendix VI.

Coordinator Provided Office Space at Area Vocational School

As mentioned earlier in the report, the cooperative coordinator has assumed the duty of the vocational school Co-op Program for mining training. As a result of this assignment, it was recommended that office space be provided for the coordinator at the vocational-technical school. This space was provided during the month of May.

This change will aid the coordinator in bringing about an even better, cooperative effort between the personnel at both schools. The coordinator will be housed at the vocational-technical school at varying intervals beginning July 1, 1975.

Canadian Enrolls in Reclamation Technology

Mr. Neil Schram, an employee of Cominco Ltd, Pine Point, Canada, started classes in Reclamation Technology on May 12, 1975. We feel that this is a significant step forward in proving that our reclamation program is designed to suit the needs of people from anywhere. Reclamation is not just cleaning up surface coal mine spoil, but can be utilized in any situation where the surface has been disturbed.

We are very happy to have this gentleman with us. We feel that we can offer him the kind of training that will allow him to better serve his company and Canada.

Students in the Work Phase Return to School

The transition by the community college co-op students from the work phase to the school phase has been successfully completed. The reason that we feel such a transition is significant is the fact that young people experiencing financial reward for the first time tend to want to keep experiencing it. It is a pleasure to report that our society is basically an honest society and will honor an agreement when made.

Although the mining students are members of the United Mine Workers of America, they continue to honor the committment they made to alternate

semesters of work school until they have completed the associate degree. We are proud of their honesty and their desire to better themselves for the future.

MAPCO to Enter Program for Fall

Contact was made with Mr. Tom Patterson from Webster County Coal Company this spring, and his company committed itself to re-entering the Co-op Program for the Fall of 1975.

Plans are now for two (2) students to be given co-op positions. One (1) will be in the school phase for the fall while the other begins a work phase.

We are very fortunate that MAPCO officials have made this decision. They have two (2) excellent mines in Webster and Henderson County. Our attempt to work with this company last fall did not work out successfully. It is our intention this fall to present to them two (2) very fine candidates. We feel that if success can be achieved with these two (2) students, then the door will open for many other future students.

At any rate, we feel that a second chance with this company is a significant event.

Forty-Eight Students Involved in Work Phase for the Summer

The Mining and Reclamation Programs at both schools have slowed very little for the summer months. We presently have forty-eight (48) students involved in the work phase at both schools.

The nine (9) co-op students at the vocational-technical school have just recently changed from school to work. They will continue in the work phase for a six (6) week period.

Thirty-nine (39) co-op students are in a work phase from the community college program. Twenty-nine (29) are in Mining Technology and ten (10) are in Reclamation Technology.

This is our plan for the programs at both schools. We want continuous school and work activities at all times. The summer months will include evaluations of our students just as the fall and spring did. The coordinator will continue to make personal visits to the work areas as well as conferences with instructors about each individual student in the school phase.

Evaluation results will be completed on all co-op students at both schools and will be forwarded to the proper officials.

Five Percent Continue Program

We are pleased to announce that eighty-five (85) percent of the ninety-five (95) students are continuing in the program at Madisonville Community College for the year, only four (4) reclamation students withdrew from the program while only twelve (12) withdrew from the Mining Technology Program

We are very proud to make this announcement. We feel that is indicates the very real success of our program. This means that our students are relatively happy and they the instruction they are receiving is very adequate

I will be very quick to add that this just didn't happen. Many people from industry, the area vocational school and the community college played a major role in the overall success of this program.

We are very proud for the leadership of men such as Mr. John Gray, Mr B. M. Haltey, and Dr. G. H. Massey. We look to them for the leadership on a local level.

The Bureau of Vocational Education led by the exemplary coordinator, Mr. Lou Perry, has been a key to the complete success of this school years. We look forward to an even greater year in 1975-76.

Six more Reclamation Positions

Mr. Angel and Mr. Barnett have been in contact during the spring with Mr. Willie Curtis of the U.S. Forestry Service at Berea, Kentucky. Our initial contact brought about a favorable response from Mr. Curtis, and we had great hope that co-op positions would result.

During the month of May, Mr. Angel made a personal visit to Mr. Curtis' office and six (6) new reclamation-forestry co-op positions were provided.

The plans are for two (2) of the students to begin a work phase during the Fall of 1975 with two (2) more to follow for the Spring of 1976, and an another two (2) for the summer. If everything goes well, there is nothing to prevent this from being a yearly program.

Needless to say, this has been a tremendous boost for our morale. Reclamation positions are difficult to come by, but are reasonably easy to retain once a company works with our students and becomes familiar with our program.

We have some very qualified students just waiting for Mr. Curtis to give the word and they will be on their way to Berea, Kentucky.

High Schools Completed

The coordinator completed all of the visits to area high schools during the month of May. Students from twenty-five (25) high schools in the area were contacted. More than five hundred (500) interested students listened to information concerning the vocational-technical Mining Program and the community college Mining and Reclamation Technology Program.

There is a complete awareness of the cooperative program in the nine (9) county area which makes up the Western Kentucky coal field and Region II.

As a result of this awareness, more than seventy-five (75) people have applied for either the Summer or Fall Semester 1975 at the college, and there has been an increased interest in the vocational school Mining Program.

Much of the same will continue next year in the way of recruitment and outreach. One added plan that will be mentioned under **Future Activities** should add to the outreach program.

National Magazine Gives Program More Publicity

Once again the magazine Coal Mine Processing has given our program some very favorable publicity. In the May issue, this magazine contained an article about the meeting of the Kentucky Mining Institute. At this meeting Mr. Larry Combs and Mr. Carl D. Barnett spoke about the mining program. The author, Mr. Hugh Collett, discusses the Kentucky Mining Institute's activities and features pictures and names of those giving speeches. Our particular program received some very good recognition. For a copy of the article and the pictures, please refer to Appendix VII of this report.

Plans for New Co-op Brochure

Plans are being made to prepare a new co-op brochure for the next school year. The changes proposed would be in the design rather than the content. It seems that something to catch the eye is in order. No definite plans have been made, but it is hoped that a new brochure could be ready during the Fall of 1975.

CAPITAL EQUIPMENT ACQUISITION

New Van for Mining and Reclamation Program Arrives

A much needed vehicle arrives on campus during the month of May. A new 1975 Dodge B300 Sportsman model van was delivered. It is designed to

seat twelve (12) passengers plus the driver. The van will be used to transport students from school to field trip locations and to provide the coordinator transportation to and from mine sites.

Other uses for the van will be determined as the year progresses. It is indeed an asset to the program. The department can feel secure in knowing that a vehicle will always be ready and waiting when needed. Many of the items used in the two (2) programs can be transported by van.

Needless to say, the administration, the faculty, and the students are very happy to have this new mode of transportation.

DATA COLLECTIONS

Evaluations Completed for Students

Students involved in the Co-op Program at both schools are evaluated continually during the course of their school and work phase. At this writing, all evaluations have been completed. The student knows his standing with his instructors and his co-op employer. By knowing his stituation the student can do his work in a more confident manner.

The evaluation process follows the exact guidelines of the Buckley Law. No evaluations are reported until the student has signed a release to permit reporting.

The evaluation process used this past year has been very effective and well accepted. Students have been very eager to know what their evaluation results are. The supervisors at the work areas have maintained an interest in the program. They want to evaluate the students. They have a strong interest in our young people, because they know that our students will become assets to the mining and reclamation business. The instructors at school like the idea of a written evaluation for each of our students while in school. Cooperation has been the key work in our evaluations.

PROBLEMS

There are no significant proglems that need to be mentioned in this the fourth and final report.

We are well pleased with the progress of both Co-oo Programs. It is our feeling at this time that everyone concerned with the programs at either school has a good feeling about them. When people are happy, this means things are going well.

If there is one cause for the lack of problems, I think it would be the very cooperative effort that exists in Region II and the Western Kentucky coal field among the various agencies involved.

It is our hope that 1975-76 can be as successful as 1974-75 was. The year has been very enjoyable for the writter.

OTHER ACTIVITIES

[illegible] Basin Meeting at [illegible] Lake

The second meeting of the Illinois Basin Coal Mining Manpower Council was held on April 4, 1975 at Rend Lake College near Ina, Vernon, Illinois. Again there were people from each section of the Illinois Basin which includes Western Kentucky, Western Indiana, and most of the state of Illinois.

The purposes of this organization are to:

A. Alleviate Illinois Basin manpower shortages in the coal mining industry
B. To develop cooperation between Education and Industry and among various Educational Institutions.
C. To seek educational funding
D. To propose legislative changes

This Council provides for educational and industrial idea sharing, and we feel that it is a very worthwhile organization. It is our feeling at this time that we will continue a close association with this Council during the 1975-76 fiscal year.

An agenda of the Rend Lake meeting can be found by referring to Appendix VII of this report.

A.I.M.E. Activities

The American Institute of Mining Engineers Chapters have been active during the quarter. As mentioned earlier in this report under major activities, the groups did some traveling as part of their activities.

Other activities include a car wash held at the United Methodist Church in Madisonville. This type of activity is very important for the young people. It gives them an opportunity to get to know one another outside the classroom setting. Too often students drive to school, attend classes, and drive back home without even really associating with fellow-students.

The group also started a cleanup campaign on campus. They saw a need for increased student respect for the community college building and its facilities. We were very happy to see them take this initiative. Sometimes it is difficult to gain the respect so necessary in order to have a fine school, but we feel that the A.I.M.E. Chapters are to be commended for making the contributions they have made. We look forward to working with them next year.

Illinois Basin Meeting at Southeastern Illinois College

Another meeting of the Illinois Basin Council was held on May 21, 1975. The purpose of this meeting was to bring some people from business and

industry together to inform the members of the Council of some of the new ideas and innovations in the coal industry

One of the highlights of the meeting was the introduction of some very fine gentlemen - coal miners from Great Britain They discussed many of the similarities and differences in the underground mining process in Great Britain and the United States Probably the greatest difference in the two (2) is the fact that in Great Britain they have a terrible problem with water.

Other talks were given by representatives from various companies pertaining to management studies, simulated educational equipment, and mine safety equipment and procedures.

It was decided by the group to have the next meeting in September of 1975 We committed the two (2) schools and officials from our Region II area as hosts for the September meeting. An answer to that committment should be forthcoming.

Refer to Appendix IX for the agenda of the May 21 meeting.

Visits to S.I.U.

Mr. Larry Combs and Mr. Carl Barnett made a visit to Southern Illinois University on May 9, 1975. The purpose of the visit was to gather materials and evaluate the four (4) year degree programs offered in mining. Two (2) of our mining students, James Adkins and Ronald Madlem, accompanied us on the trip.

We visited the School of Technical Careers where information was given on a degree program designed for each individual student. This degree was not specifically mining, but any type of degree program that the student would like to pursue We were impressed with this individualized approach taken by the staff at the School of Technical Careers.

Our afternoon was spent discussing the transfer procedures to the S.I.U. Mining Technology four (4) year degree program. It was confirmed that S.I.U. would accept all of the credits from the Madisonville Community College Mining Technology Program. The student transferring to S.I.U. from M.C.C. would be required to complete sixty (60) semester hours of satisfactory work. He would then be awarded his B.S. Degree in Mining Technology.

We were all impressed with the programs and the University as a whole. We hope some of our students can take advantage of the S.I.U. programs.

Proposal for Mine Foreman's Certificate

We are still in the process of proposing for a time allowance for our students in their bid to achieve their Assistant Mine Foreman's Certificate. It has been our opinion from the beginning of our Mining Technology Program that some credit in time be given toward the Assistant Mine Foreman's

Certificate upon c[illegible]letion of the two (2) [illegible]r degree program. At this writing, nothing h[illegible]en officially dete[illegible]oncerning a time allowance.

Mr. Combs, our m[illegible]structor, has worked diligently to help our students achieve this cred[illegible]e has committed himself to continue to work toward that goal. His latest proposal is a very [illegible]ear and concise one. It contains the necessary information about the overa[illegible] program. This information includes objectives, the course of study, and a complete breakdown as to how the Mining Technology co-op operates. We are hopeful that a confirmation on credit time will be given the next few weeks.

Appendix X contains a copy of the most recent proposal.

STAFF UTILIZATION

Coordinator to be Housed at Both Schools

The project directors, Dr. G. H. Massey and Mr. B. M. Hatley, will work closely with the cooperative coordinator. The project coordinator will be housed at both institutions for the fiscal year 1975-76 on a percentage basis. The amount of time spent in each office will depend on the amount and length of duties at each school. The project coordinator will work closely with the directors in the sharing of office time.

It is apparent that a great deal of the coordinator's time will need to be spent at the community college. If the predictions hold true, there will be approximately one hundred fifty (150) co-op students at the college and approximately thirty-five (35) co-op students at the vocational school.

We are looking forward to another fine year with the faculty and staff of both institutions.

Faculty and Staff to Make Visits to Work Areas

During the fiscal year 1975-76, the mining and reclamation faculty and the cooperative coordinator will make personal visits to the work area and secure firsthand information from the student's superintendent, mine foreman, or job supervisor.

The faculty members were not involved in extensive visits to the work areas last year because of a very heavy teaching load and class preparation. The desire on the part of the faculty members to make evaluation visits is quite high.

We feel that faculty visitations to the work area will be a definite plus for the program. The students will appreciate it that their instructors have the interest. The supervisory personnel at the work area will realize that we have an interest in our students and the kinds of activities they get involved in while in the work phase.

Mining Intersession Yielding Positive Results

An experiment in teaching is taking place during the summer term in the college Mining Technology program. College mining students are enrolled in Mining Technology classes taught by the vocational school instructors at the vocational-technical school in hydraulics, electric circuits, and elements of mining.

From conferences with the faculty and staff at the vocational school it is quite apparent that the experiment is yielding very positive results. The students seem very happy and contented with the project. The vocational school instructors are very happy with the situation.

Again this is an example of how the two (2) institutions can and do work together for the good of the student. We are proud of the success of this experiment. Its success will open the door to future experiments and the end result will be better prepared student for the mining industry.

FUTURE ACTIVITIES

Outlook for New Co-op Positions for 1975-76

The situation is very favorable for a number of new co-op positions for next year. At the present time we have seventy-six (76) co-op students. Twenty (20) in Reclamation Technology and fifty-six (56) in Mining Technology.

Companies and agencies that the coordinator has been in contact with this spring have indicated their support again for the coming year. This could mean another sixty-eight (68) co-op positions for the year. Fifty (50) of these would be in mining and eighteen (18) in reclamation. That would bring the total to one hundred forty-four (144) co-op positions. Thirty-eight (38) in reclamation and one hundred six (106) in Mining Technology. Add approximately forty (40) non-co-op students to the above figures and the total student population in the two (2) programs would be one hundred eighty-four (184)

With all of this in mind it is apparent that the programs are very attractive to the people in Region II. We look to the future with optimism and hope. It is our objective to make the program even bigger and better in the coming years.

Evaluation by Mining Officials Planned for Next Year

In keeping with our theory that we want to know how all those concerned feel about our programs, we have added another evaluation from to be filled out by a company official. We prefer that a superintendent or a supervisory person at the work station complete this new evaluation form.

We are asking these company officials to assess the overall design of the Co-op Program and to make general comments concerning the quality of

students involved in the program. It is our feeling that the more constructive input the sponsoring agency or company can have the better the relationship will be. With this in mind, we have provided this form for the coming year.

This form will be sent to company representatives and will be concerned with both the community college and the vocational school programs. A copy of the evaluation form to be used can be found by referring to Appendix XI.

Companies to Become More Selective

One point that merits attention in the future activities section is the fact that sponsoring agencies and companies are going to become more selective in their process of choosing students for Mining and Reclamation Technology and the Co-op Program at the vocational school.

This will call for a more thorough screening process by the school officials to prevent the possibility of recommending undesirables to the companies. A closer check will be make of the student's background including high school grades and activities, military and work experiences, and a check of references that are given by the applicant.

The coordinator will continue to request a resume from the student and will work hard to insure the companies that the potential student really wants to become a co-op student and is not just looking for employment.

We look forward to a successful year in securing new students for the programs at both schools.

Interviews for Next Year

The most recent contact with company representatives has yielded at least a tentative schedule for interviews. The two (2) large supporters of our programs have decided that the latter part of July and August will be set aside for interviewing potential co-op students.

One (1) company has indicated that their representative will not conduct interviews until the student has demonstrated a desire and capability of doing the work required of him in the school phase.

Other companies will go ahead and accept the student on certain conditions. The student would first be required to perform academically. He would then be required to pass a physical examination and then commit himself to the program by signing a training agreement.

Still another idea that has come about is to have the student to demonstrate his desire to enter the Co-op Program by completing one (1) year of school before beginning a work phase. The present system in operation is the alternating semesters of school and work. We at the community college and the vocational school will remain very flexible and open minded to change.

Talks to Continue on Surface Mining Option and Seminars Planned

Madisonville Community College will continue to work toward establishing an Option to the Reclamation Technology Program. Requests continue to be made by surface mining companies to provide the region with surface mine training. No definite plans have been made, but talks will continue through the summer and fall of 1975 toward the Option. As it stands now, only a few courses will need to be added to the Reclamation Technology Program to make the Option a reality.

Also in the planning stages is a workshop or seminar to be held at Madisonville Community College during the fall of 1975. This workshop will be expertly guided by Mr. John Gray of the Island Creek Coal Company in association with Dean David Blyth from the University of Kentucky. Plans now are for a one (1) day conference involving coal and reclamation people from all of Western Kentucky. The topics discussed during the conference will be interesting and beneficial to the coal industry in Western Kentucky.

Other workshops and conferences will be planned for the future as requested or needed. We look forward to hosting these conferences and workshops. This is one more example as to how the vocational-technical school and the community college can better serve the people of Region II and the Western Kentucky coal field.

Steering Committee and Advisory Committee Planned for Next Year

We feel that both a Steering Committee and an Advisory Committee is necessary to insure an effective Cooperative Program for next year. The Steering Committee will be responsible for the overall direction of the project and operational guidelines. This committee will also review and evaluate plans for the mining programs as they are developed.

The local Advisory Committee will be responsible for keeping a close watch on the entire Co-op Program. It will be this committee's duty to assess the progress of the Co-op Program and to make suggestions to the project directors and the Steering Committee. The Advisory Committee will in no way function as a decision making body for the Cooperative Program.

Plans for Coordinator at the Vocational School Next Year

As stated previously in this report, the cooperative coordinator will be housed at least part of his working time at the Madisonville Vocational-Technical School. The duties at the vocational school will center around the Mining Program. A close association will be maintained with the faculty and staff. The Co-op Program at the vocational school will be under the guidance and direction of the coordinator.

The coo[illegible] responsi[illegible]nking the vocational school, community co[illegible] [illegible]ing in [illegible]ther Region II has made great positive [illegible]s regard, but we feel that there is much to be accomplished

In essence, the coordinator's task will be to meet and deal with people. It will be his duty to maintain an atmosphere of harmony in regards to the three (3) agencies involved He will accomplish this by relating to people and letting them know he cares.

APPENDIX I

Practicum in Reclamation Technology

PRACTICUM IN RECLAMATION TECHNOLOGY (ET 175)

Information Sheet

WHAT IS PRACTICUM?

Practicum in Reclamation Technology (ET 175) is a three (3) credit hour course that is designed to familiarize M.C.C. reclamation students with the use of reclamation tools and equipment. The course will involve students in visits to active surface mine operations, as well as actual participation of spoil placement with heavy equipment, grading, seedbed preparation, seedings, tree planting, liming and fertilization of spoil, and water quality treatment.

WHEN AND WHERE WILL PRACTICUM MEET?

Practicum will meet from May 12 to May 23, 1975, and the students will be involved in learning situations eight (8) hours per day, for ten (10) days during this time. The first week will be held in Western Kentucky and the second week will be held in Eastern Kentucky (see itinerary on pages 4 - 7 for more details).

WHAT WILL PRACTICUM COST?

The tuition for Practicum in Reclamation Technology is $51.00 for Kentucky residents. If you are planning to take three (3) or more credit hours in addition to Practicum during the regular summer term, tuition would be $97.50.

Housing has been arranged in Eastern Kentucky at a cost of $7.00 per student and meals will be taken at restaurants on the road. The following is a list of the approximate costs on the road for Practicum in Reclamation Technology:

In Western Kentucky

May 12	Lunch at Job Corp Center	-	$ 1.00
13	Lunch at Job Corp Center	-	1.00
14	Lunch at Restaurant	- Approx.	2.00
15	Lunch at Restaurant	- Approx.	2.00
16	Bring sack lunch	- Approx.	1.50

(continued on the following page)

In Eastern Kentucky

May 18	Dinner at Restaurant	- Approx.	$ 2.50
	Motel Room	-	3.00
19	Breakfast at Berea College Cafeteria	-	1.00
	Lunch at Berea College Cafeteria	-	1.75
	Dinner at Restaurant	- Approx.	2.50
	Room at Quicksand	-	1.00
20	Breakfast at Restaurant	- Approx.	1.50
	Lunch at Restaurant	- Approx.	2.00
	Dinner at Restaurant	- Approx.	2.50
	Room at Quicksand	-	1.00
21	Breakfast at Restaurant	- Approx.	1.50
	Lunch at Restaurant	- Approx.	2.00
	Dinner at Restaurant	- Approx.	2.50
	Room at Quicksand	-	1.00
22	Breakfast at Restaurant	- Approx.	1.50
	Lunch at Restaurant	- Approx.	2.00
	Dinner at Restaurant	- Approx.	2.50
	Room at Quicksand	-	1.00
23	Breakfast at Restaurant	- Approx.	1.50
	Lunch at Restaurant	- Approx.	2.00
	Dinner at Restaurant	- Approx.	2.50
		TOTAL	$ 46.25

Expect to spend approximately $40.00 to $50.00 for meals and housing during the two (2) weeks.

Transportation and all necessary equipment (including hardhats) will be provided. Each student must have a pair of hardtoe boots. For the week in Eastern Kentucky, each student must bring his own linen (towels, washcloths, blankets, pillow, extra large bedsheets, etc.) for the four (4) nights we will spend at Quicksand. A sleeping bag could be substituted in place of bed sheets and blankets. A student accident and sickness insurance coverage is provided for all students involved in the two (2) week activities in Practicum.

HOW WILL GRADES BE EARNED IN THIS COURSE?

Nc textbooks are required and there will be no examinations. Grades will be based on attendance, enthusiasm, and a special type written journal which must be submitted no later than May 27. The journal will be a complete and detailed account of every activity you are involved in during the two (2)

weeks of Practicum. I[illegible]l include step by step descriptions of activities, names and comments of F[illegible]ation people encountered. sketch maps of areas visited, critiques of exp[illegible]al plots observed, and any other detail worth recording for future re[illegible]nce The majority of your grade will be based upon the journal that you sub[illegible]

HOW DO I SIGN UP FOR PRACTICUM IN RECLAMATION TECHNOLOGY?

Due to the nature of this course, no more than sixteen (16) students will be permitted to sign up this summer. Therefore, reservations will be made on a "first come - first serve" basis. The first sixteen students who pays the tuition fees for Practicum will have a guaranteed reservation for the course. The fees must be paid in full to the business office at M.C.C. before you are signed up. When the list is full, a "waiting list" will be started in the event one of the first sixteen students withdraws or fails to show up for the course. The tuition fees may be sent in by mail or brought in personally but in either case, must be paid no later than May 9.

WHERE CAN I GET MORE INFORMATION ABOUT PRACTICUM?

Contact: Patrick N. Angel
Administrative Coordinator
Reclamation and Mining Technology
Madisonville Community College
Madisonville, KY 42431

Telephone: (502) 821-2250

In Western Kentucky

May 12, 1975

7:15 AM	- Leave M.C.C. student parking lot for Breckinridge Satellite Job Corp Training Center.
8:00 AM to 9:00 AM	- Lecture. Familiarization with the use and functions of bulldozers in reclamation or related activities on strip mine spoil. Cost factors, safety, specifications of different models, etc.
9:00 AM to 11:30 AM	- Field exercise. Actual participation in placement of spoil, grading, etc. with bulldozers. Dozer repair, maintenance and limitations of each model used.
11:30 AM to 12:30 PM	- Lunch
12:30 PM to 1:30 PM	- Lecture. Familiarization with the use and functions of scrapers, in reclamation or related activities on strip mine spoil. Cost factors, safety, specifications of different models, etc.
1:30 PM to 4:30 PM	- Field exercise. Actual participation of movement and replacement of spoil with scrapers. Scraper repair, maintenance and limitations of each model used.
4:30 PM	- Return to M.C.C.

May 13, 1975

7:15 AM	- Leave M.C.C. student parking lot for Breckinridge Satellite Job Corp Training Center.
8:00 AM to 9:00 AM	- Lecture. Familiarization with the use and functions of graders in reclamation or related activities on strip mine spoil. Cost factors, safety specifications of different models, etc.
9:00 AM to 11:30 AM	- Field exercise. Actual participation of spoil grading and movement on spoil with graders. Grader repair, maintenance and limitations of each model used.
11:30 AM to 12:30 PM	- Lunch

12:30 PM to 1:30 PM	-	Lecture Familiarization with the use and functions of front-end loaders as applicable to strip mine reclamation or related activities. Cost factors, safety, specifications of different models, etc.
1:30 PM to 4:30 PM	-	Field exercise. Actual operation of front-end loaders. Front-end loader repair, maintenance and limitations of each model used.
4:30 PM	-	Return to M.C.C.

May 14, 1975

7:45 AM	-	Leave M.C.C. student parking lot for Madisonville District Office of the Kentucky Division of Reclamation.
8:00 AM to 4:30 PM	-	Inspection of area surface mines with state reclamation inspectors. Students will travel with inspectors and observe their routine activities and participate in activities such as inspecting, testing water, taking spoil samples, "walking out" permits, taking slope readings, etc. Students will observe first hand the actual enforcement of area surface mining in Western Kentucky. Lunch at local restaurant.
4:30 PM	-	Return home

May 15, 1975

- (Same as May 14)

May 16, 1975

7:30 AM	-	Leave M.C.C. student parking lot for Kentucky Reclamation Associations nursery and field operations on nearby strip mine.
8:00 AM to 4:30 PM	-	Actual participation in the application of lime fertilizer, mulch, etc. on spoil materials. Seeding, tree planting, seedbed preparation, tree nursery work. Bring a sack lunch.
4:30 PM	-	Return home

In Eastern Kentucky

May 18, 1975

1:00 PM. - Leave M C C student parking lot for U.S.F.S. Experimental Station at Berea, Kentucky.

6:00 PM - Arrive in Berea, Kentucky, check in motel, and have dinner.

May 19, 1975

8:00 AM to 12:00 PM - Tour of U S Forest Service Experimental Station and review a Strip Mine Reclamation Research projects being conducted at Berea.

12:00 PM to 1:00 PM - Lunch

1:00 PM - Leave Berea for Caryville, Tennessee

3:00 PM to 5:00 PM - Tour of Multiple Seam-Back to Contour Experimental Operation by Long Pit Mining Company in cooperation with Tennessee Valley Authority.

5:00 PM - Leave Tennessee for Quicksand, Kentucky

May 20, 1975

8:00 AM to 12:00 PM - Tour of U.S D.A., Soil Conservation Services Plant Materials Center at Quicksand, Kentucky and review of Strip Mine Reclamation Research projects being conducted on spoil.

12:00 PM to 1:00 PM - Lunch

1:00 PM to 4:30 PM - Tour of Soil Conservation Service and Division of Reclamation experimental plots on mountain top removal strip mining in Breathitt County, Kentucky

4:30 PM - Return to Quicksand

May 21, 1975

7:15 AM - Leave Quicksand for Hazard District office of the Kentucky Division of Reclamation.

8:00 AM to 4:30 PM - Inspection of contour surface mines with state reclamation inspectors. Students will travel with inspectors and observe their routine activities and participate in activities such as inspecting, testing water, taking spoil samples, "walking out" permits, taking slope readings, etc.

Students will observe first hand the actual [illegible] surface mining in [illegible] lunch at local restaurant.

4:30 PM — Return to Quicks Hill

May 22, 1975

[illegible] May 21

May [illegible]

9:00 [illegible] removal operation, experimental plots, hydroseeder operation, and vineyard on Falcon Coal Company strip mine spoil in Breathitt County, Kentucky.

[illegible] - Lunch

12:30 PM [illegible] - Travel to Winchester, Kentucky

2:00 PM to [illegible] - Demonstration of Estes lime spreading trucks, straw blower, wood bark mulcher and one-way spreader attachment and other heavy equipment designed for strip mine spoil reclamation.

4:00 PM - Return to Madisonville

APPENDIX II

Newspaper Clipping
on
Practicum in Reclamation Technology

Working And Watching

NOT ALL WORK but not all play either, is the two-week agenda for 16 MCC mining reclamation students involved in an 'on-the-job' course ending this week. Students learned how to run heavy equipment at the Job Corps satellite center in Muhlenberg County last week. [illegible] boy are of Eastern Kentucky visiting [illegible]. Photo by student Lowell Mendyk.

Would You Pay To Work In The Sun? Sixteen Reclamation Students Are

By STEWART JENNISON
Area News Director

The underground miner crawling through a three-foot high shaft or the surface miner pulling a double-shift in the summer sun may have little sympathy for the mining student curled up with a textbook in the air-conditioned lounges of Madisonville Community College, but for at least 16 of the students, this is not a fair statement.

Beginning May 12 and continuing through May 23, several MCC reclamation students are involved in a "100 per cent participation and pure 'hands on' course," according to instructor Patrick Angel.

Called "Practicum in Reclamation Technology," the three credit hour course is designed to familiarize students with the use of reclamation tools and equipment. Students will visit active surface mine operations and participate in [illegible] placement with heavy [illegible]ment grading [illegible]seeded preparation, seedings, tree planting, limbing, fertilization of spoil, and water quality treatment.

Angel said students will be involved in learning situations eight hours a day for 10 days with a week each in Western and Eastern Kentucky. The project with its heavy concentration of activities was not arranged without the help of several agencies and individuals.

Among them: the Breckinridge Job Corps satellite training center in Muhlenberg County, Peabody Coal Co., the Kentucky Division of Reclamation, the Kentucky Reclamation Association the United States Forestry Service experimental station at Berea, the Tennessee Valley Authority, the U.S.D.A. Soil Conservation Service plant materials center at Quicksand, Ky., Falcon Coal Co. in Breathitt County, Don Estes of Winchester and the Forestry and Wood Technology School at Quicksand.

Angel feels the highlight of the course is the involvement with the Job Corps where students will learn to use graders, dozers, scrapers and loaders. "In a sense, we are literally trading instructors for the duration of our involvement. Both the Job Corpsmen and the MCC reclamation students are benefiting greatly."

Students involved in the practicum are Don Laffoon, Lowell Mendyk, Ed Matheny, Larry Burnham, Alfred Johnston, Earl Bandy, Dennie Cartwright, James Brown, John Bruce, Mason Weaver, James Fowler, and Neil Schram, a Canadian who has come to MCC especially for the reclamation training.

After spending May 12 and 13 at the Job Corps, the students left for Frankfort where they toured surface mines with state reclamation inspectors. May 16, the students took a sack lunch to the Kentucky Reclamation Association tree nursery and to a near by strip mine where they participated in the application of fertilizer and mulch on spoil material.

Sunday, the group left for Berea here they visited the experimental station. This afternoon, the students will tour an experimental operation by the Long Pit Mining Co. in cooperation with the TVA. Remaining on the agenda are the visits to Quicksand where students will inspect experimental reclamation plots on mountain tops in Breathitt County and Friday's visit to Winchester where a demonstration of the Estes lime spreading trucks, straw blower and wood mulcher will be held.

If the working miner is still not sympathetic, he should know the students are not being paid for their efforts--they are paying. Altogether the course costs about $100 including tuition and travel expenses.

A new year is about to begin at Madisonville Community College with a semester starting June 16.

APPENDIX III

Mining and Reclamation Steering Committee

Attendance List and Summary of Activities

MADISONVILLE COMMUNITY COLLEGE
MINI.'G-RECLAMATION PROGRAMS

MEETING AT RAMADA INN, APRIL 29, [illegible] P.M. WITH
THE FOLLOWING PEOPLE & MCC RE-[illegible]TATIVES

Mr. Tom Duncan, President
Kentucky Coal Association

Mr. Jed Mosgrove
Kentucky Coal Association

Mr. Earl Kumpf
Kentucky Reclamation Association

Mr. Ben Walcott
Kentucky Reclamation Association

Mr. Mike Vaughn
Division of Strip Mining & Reclamation

Mr. Baird Cook, Inspector
Division of Strip Mining & Reclamation

Mr. John Stanley Hoffman, Commissioner
Natural Resources & Environmental Protection

Mr. Otto Corum
Corum & Company, Inc.

Mr. William Brinkley
State Representative

Mr. Ken Gibson
State Senator

Mr. Bill Hatley
Vocational Regional Director

Mr. Ted Haley
Department of Civil Engineering
University of Kentucky

Mr. James Thorpe
Kentucky Mines & Minerals

Mr. John Gray, Manager of Properties
and Public Relations
West Kentucky Division
Island Creek Coal Company

Mr. Gene Neihaus
Peabody Coal Company

Dr. G. H. Masse[illegible] Director
Madisonville Community College

Mr Sam Jones
Peabody Coal Company

Mr. Calvin Crabtree, Inspector
Division of Strip Mining & Reclamation

Mr. Tom Cook, Inspector
Division of Strip Mining & Reclamation

Mr. Hubert Reed, Chairman
Madisonville College Foundation

Mr. Phil Fox, Inspector
Division of Strip Mining & Reclamation

Mr. Bob Harris
Peabody Coal Company

Mr. Bill Wilson
Badgett Mine Stripping Corporation

Mr. Carl Barnett
Cooperative Coordinator
Mining/Reclamation Technology
Madisonville Community College

Mr. Larry Combs
Assistant Professor
Mining Technology
Madisonville Community College

Mr. Patrick Angel
Administrative Coordinator
Reclamation/Mining Technology
Madisonville Community College

Dr. Thomas Boyd
Assistant Director for Instruction
Madisonville Community College

MADISONVILLE COMMUNITY COLLEGE
SPRING MEETING
M.N. AND RECLAMATION STEERING COMMITTEE
APRIL 29, 975

The Spring meeting of the Madisonville Community College Mining and Reclamation Steering Committee was held at the Ramada Inn on April 29, 1975, starting with a dinner. After dinner, the meeting was called to order by the Chairman, John Gray, who gave a warm welcome to all those present and explained to the non-members the purpose and objectives of the Mining and Reclamation Steering Committee. Mr. Gray proceeded to introduce each person present.

The meeting was then turned over to Dr. G. H. Massey, Director of Madisonville Community College, who expressed his thanks to everyone for attending and stated that thanks to the Advisory Committee, the Mining and Reclamation Department has become strong. He then stated: "We at M.C.C. took the recommendations of the Mining and Reclamation Steering Committee seriously." One example he gave, was the recommendation several meetings ago to change the "mining engineering" curriculum and replace some of the courses with a less technical course of study. It was felt that the harder courses such as Calculus and Advanced English, were not needed as much and in fact, were probably responsible for "scaring away" many prospective students. Keeping these recommendations in mind, a new and less technical course of study called "Mining Technology" was initiated last fall. Dr. Massey emphasized that the Mining and Reclamation Technology Programs at M.C.C. were established to serve the two industries in the region, and if anyone present could see any changes or alterations that could be made to better both programs, to please feel free to speak up and give their advise.

The meeting was then turned over to Mr. Patrick Angel. (A transcript of the presentation given by Mr. Angel reads as follows:)

Thank you Dr. Massey: I'm going to speak briefly about the progress of the Reclamation Technology Program at M.C.C. - I can honestly report that since its beginning two (2) semesters ago, we have had very POSITIVE progress in the Reclamation Program. Our program has been hailed as "Unique" and the "first of its kind in the country," has a very healthy student body, and has promise of doubling in the next several semesters. Interest in hiring our graduates has not only come from companies and agencies here in Kentucky, but from many other states as well (Tennessee, West Virginia, Illinois, Indiana, and even Texas). An official from a surface mining operation, way up in the northwest territories of Canada, visited M.C.C. during the winter and evidently liked what he saw. The latest correspondance received from him indicates that he plans to be in Madisonville for the summer and will enroll in the Reclamation Technology Program. This is significant for our program in that it indicates that people are (on a national scale) beginning to look at us as a institution that offers "quality" instruction in Reclamation Technology. We are here to "teach" not to "flunk". This word "quality" is important to us. Our desire is to give the best possible instruction and the most meaningful instruction in Reclamation we possibly can. This means that our courses are basically participation or "hand on" courses. We see to it that no less than 50% of each Reclamation class is field work. In other words, the students are rolling up their sleeves and actually getting out there in the mud for that practical experience. In "Spoil Reforestation", which is a three (3) hour sophomore course, the students have actually planted 3,000 white pine seedlings on our campus. Another example of the heavy amount field work they experience is the course entitled "Practicum in Reclamation Technology." This is another three (3) hour course, but it meets for two (2) weeks, eight (8) hours per day and each student actually operates the heavy equipment used in Reclamation: (bulldozers, front-end loaders, scrapers, graders, limetrucks, hydroseeders). We are doing this

because they will be dealing the activities of this equipment when they graduate, and we feel its important to give them some instruction in the operation of heavy equipment so they can become familiar with its limitations and problems and at least have a little field experience with equipment. We are able to do this through the fine cooperation of the [illegible] Muhlenberg County The Division of Reclamation and the Kentucky Reclamation Association, along with other organizations, will also be involved in this two week course this summer. The second week will be held in Eastern Kentucky so the students can obtain knowledge of contour mining as well as area mine reclamation, which we have here in Western Kentucky

The program is growing, the students are growing as well as instructors are growing. There's been many times that both myself and [illegible] instructors and students have been found using the [illegible]

This is one thing that I would like to stress! there is still a great need for Reclamation co-op spots, and I'm sure that Mr Barnett will emphasize this This last Spring Semester brought to our program a large number of students who want co-op positions in Reclamation Technology but because of the limited number available, were unable to receive [illegible] Continuing to work with representatives of the mining companies and reclamation agencies on this problem, but we need your help. - Pause -

The Mining Technology program at Madisonville Community College has also made positive progress. Here tonight to tell us about this progress is our mining instructor, Mr. Larry Combs. I'll now turn the program over to Larry

Mr Combs then addressed the group and spoke briefly on the following topics:

The formation of the two (2) AIME Chapters at Madisonville Community College (American Institute of Mining Engineers).

The attitude of the students at the beginning of the semester and how it has changed throughout the semester to where the students now have a better outlook and attitude toward the program

Students offering tutoring assistance to other students in the program needing help in all subject areas

He then spoke to the group on the non-co-op students and the students enrolled in the mining engineering

The meeting was then turned over to Carl Barnett, cooperative coordinator of the Mining and Reclamation Technology Program, who gave the following presentation:

Gentlemen, we sincerely appreciate your presence here tonight.

It is indeed a pleasure to be able to report to you some very positive results of our exemplary cooperative program, and to inform you concerning the projected enrollment for the next five years

The cooperative efforts between the schools and the various companies and agencies continues to run a very steady course The relationship between the community college personnel and the vocational school personnel is a productive one. An example of this cooperation is going to be further proved when on May 12, students in the college program will be taught by the vocational school instructors at the vocational mining building.

A year has almost p[illegible] and both schools have very active programs. A sharing of ideas continually takes [illegible] between the officials of the two schools. I feel that any graduates your compa[illegible]ency employs from e[illegible] the vocational school mining program or Madisonville [illegible] College will be a[illegible] to your program. We work with each company in the se[illegible] students from the Co-op Program. The potential student is interviewed thoro[illegible]h the industry officials and school representatives.

The companies that support the programs at both schools have sincerely supported us and have vowed continued support.

I feel it is very important that free enterprise and education work together. We in education need to know what you in industry need. The closer the relationship is, the better we can help the student progress and become the kind of person you want and need.

We can report to you tonight that our students have received very special attention while in the Mining and Reclamation Technology Programs. Counseling has been provided, the learning laboratory has been at their disposal throughout the year, and tutoring programs have been set up for the student's benefit.

As a result of all of these positive happenings, many of our new students coming into the program have been encouraged by our present students. When they hear about the Co-op Program, fine quality instruction, the evaluation process, and the overall support the programs have received, they are also very encouraged.

As you view the materials concerning the project enrollment, some of the figures may seem too high. We feel that the figures are realistic.

We know our program is good. We also realize that many parts of the program could be improved. We are continually evaluating our program to bring about these improvements.

On behalf of the faculty and staff at the area vocational school and Madisonville Community College, we sincerely appreciate your efforts during the past year, and we look forward to working with you in the future. For it is through you, and men like you, that the programs discussed here tonight have made so much progress.

Mr. Gray then directed questions to some of the members of the audience and urged each of them to comment on their impressions of the progress made by the Mining and Reclamation Department at Madisonville Community College.

John Stanley Hoffman, Secretary of the Department of Natural Resources and Environmental Protection

Secretary Hoffman stated that he has a fond association with Madisonville that originated when he was a boy. He further stated that he is not opposed to the mining industry in spite of the rumers, and that he realizes that energy production and environmental protection must go hand in hand in the state of Kentucky. He stated that he was very impressed with the Mining and Reclamation Department at M.C.C. and that the program will definitely help the Division of Reclamation improve the quality of its personnel and will help fill vacancies. He further stated that he definitely wants to become involved in the Reclamation Co-op Program. The Department of Natural Resources and Environmental Protection has been involved in one in the past. He then thanked Mr. Gray for the invitation

Sam Jones, Peabody Coal

Mr. Jones started off jokingly by saying that: "Peabody is the worlds largest mining company except in Madisonville." He then stated two facts which he strongly believed in: 1.) Peabody has sponsored many scholarships, but he feels the program at M.C.C. may be a better investment ?) The coal mining industry is fortunate in having a cooperative Secretary (reference to John S. Hoffman)

Ted Haley, University of Kentucky Engineering Department

Mr. Haley stated that Pikeville and Madisonville are the two strongest programs in the state. He further stated that the problem of transferring M.C.C. credits to U.K. is a technical matter and will be personnally solved by himself. He mentioned that M.C.C. should become the focuse of Mininig in the Mid-West and Pikeville should become the focus in the East. He then made an appeal to the audience for letters of recommendation for the establishment of a B.S. degree program in mining at U.K. He closed his talk with the suggestion of M.C.C. not to cast its mining and reclamation curriculum in the concrete.

Senator Ken Gibson

Senator Gibson spoke briefly and mentioned that Kentucky has passed bills which has put it in the forefront of Coal Research and Development and Education.

Representative Bill Brinkley

Representative Brinkley also spoke breifly and stated that coal is king but under attack. He stated that he has worked actively against Patsy Minx and that he was sure the audience and the coal industry was proud of his voting record.

Dr. Massey then opened up the floor to the general audience for further questions and comments:

Sam Jones - Recommended that the reclamation curriculum should include a study of Hydrology.

Bill Wilson - Mentioned that if the federal government passed the pending Strip Mine bill, we will need Hydrology.

Dr. Massey - Asked that letters of recommendation be sent to M.C.C. if new training programs are needed. He then asked, are we offering enough "Surface Mining"?

Mike Vaughn - Mentioned that we will need people to write Environmental Protection reports and Environmental impact statements.

Ted Haley - Technicians can handle the water quality problems.

Sam Jones - Asked: "Where can be get people to help write the pending Surface Mine Regulations?"

Ted Haley - Dr. Kao, Civil Engineering and Dr. Hann, Agricultural Engineering, would be two good sources.

Dr. Massey - Closed the meeting by saying that we should keep in contact. He thanked everyone for coming tonight and the meeting was dismissed.

Respectfully submitted,

Patrick Angel
Administrative Coordinator
Reclamation/Mining Technology

APPENDIX IV

Agenda for the Reclamation Meeting at Frankfort

BRIEFS OF TRAINING PROGRAMS FOR
MINE LANDS RECLAMATION OFFICERS
Wednesday, May 14, 1975
5th Floor, Conference Room
Capital Plaza Tower
Contact Birney R Fish:
Phone: 502/564-3350
Frankfort, Kentucky

1:30 - 3:00 p m :

Introduction - John S. Hoffman, Secretary for Natural Resources and Environmental Protection

The Reclamation Technology Program at Madisonville Community College - Mr. Patrick Angel, Coordinator for Reclamation and Mining Technology

The Reclamation Technology Program at Morehead State University - Dr. Jerry Shuck, Coordinator for Reclamation Technology

Surface Mining & Reclamation Programs at Pikeville College - Dr. Maurice Bailey, Chairman Division of Science and Technology, Pikeville College

The Surface Mining and Reclamation Technology Program at Lees Junior College - Dr. Troy Eslinger, President, Lees Junior College

3:00 4:00 p.m. OPEN DISCUSSION

APPENDIX V

Vocational School Report

TRADE AND INDUSTRIAL COOPERATIVE EDUCATION
SCHOOL - INDUSTRY MONTHLY ENROLLMENT REPORT
FOR MONTH OF May FISCAL YEAR 1974-75

SCHOOL Madisonville State Vocation[illegible] Technical REGION 02

OFFICE OF EDUCATION OCCUPATIONAL CODE	NAME OF OCCUPATION	NUMBER OF STUDENTS NOW IN PROGRAM THAT HAVE ACTIVE TRAINING AGREEMENTS		TOTAL THAT HAVE BEEN IN PROGRAM THIS FISCAL YEAR
		MALE	FEMALE	
17.9900	Mine Training	9	0	20

NEW AGREEMENTS

		NEW STUDENTS NAME	AGREEMENT ATTACHED
17.9900	Mine Training	Eddie W. Allen John M. Calloway Bruce W. Fletcher Danny F. Gibson Ronald J. Henderson James E. Johnson Carl E. Oliver Donald R. Pike Jerry W. Sisk	

SUBMITTED BY _____ DATE 5/31/75 REGIONAL DIRECTOR _____

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APPENDIX VI

Budget Report

REIMBURSEMENT CLAIM SUMMARY

PROJECT NUMBER: B 38883-01 DATE: 06/27/75

Title of Project or Program: Mining and Reclamation Cooperative Education Program

Agency Madisonville Community College and Madisonville State Vocational-Technical School Project or Program Director Carl D. Barnett

Agency Address University Dr., and 537 West Center Street, Madisonville, KY 42431

REIMBURSEMENT CLAIM FOR PERIOD OF April 1, 1975 TO June 27, 1975 (DATE)

BUDGET ITEM	FUNDED BUDGET	BALANCE AT START OF PERIOD	CURRENT CLAIMS	BALANCE
101 Payroll Salaries	13,563.00	3,168.24	2,078.26	1,089.98
104 Contracted Prof. Services				
109 Occasional Labor				
TOTAL PERSONAL SERVICES				
201 Postage, Freight and Express				
202 Telephone and Telegraph				
204 Travel - (In-State) & Out	1,200.00	800.27	316.07	484.20
205 Printing and Advertising	300.00	179.16	90.93	88.23
206 Utilities				
207 Maint. of Vehicles and Equip.				
208 Maint. of Build. and Grounds				
209 Athletics				
210 Laundry and Cleaning				
215 Out-of-State Travel Expenses				
301 Office Supplies	100.00	36.32	35.13	1.19
304 Motor Fuels				
305 Heating Fuels				
306 Clothing and Personal Supplies				
307 Janitor Supplies				
308 Medical Supplies				
309 Commercial Supplies				
334 Classroom Supplies				
351 Rental of Building				
352 Rental of Equipment				
353 Insurance				
354 bonds (Surety, Fidelity, Etc.)				
356 Grants				
364 Dues				
371 Subscriptions - (Non-Library)				
372 Miscellaneous Public Relations	100.00	100.00	67.36	32.64
TOTAL CURRENT OPERATING EXPENSES				
501 Furniture, Fixtures and Equip.				
504 Instruments and Apparatus				
505 Motor Vehicles				
506 Bldgs. and Fixed Equip.				
507 Books for Institutions & Libraries				
509 Other Capital Outlay				
TOTAL CAPITAL OUTLAY				
TOTAL ANTICIPATED EXPENDITURES	15,263.00	4,283.99	2,587.75	1,696.24

APPENDIX VII

Article from Coal Mine Processing

From left to right: Harreld Kirkpatrick commissioner of the Kentucky Bureau of Mines & Minerals Lexington, presented welcome address Dr Thomas Falkie director-U S Bureau of Mines, discussed coal-related government programs Albert Gore chairman of the board-Island Creek Coal Co and former Tennessee senator, spoke to record crowd at the annual banquet Herman D Regan commissioner of the Kentucky Environmental Quality Dept , forcefully criticized many EPA projects regulating mine operators

Dr. Tom Falkie of the U.S. Bureau of Mines set the tone at the annual meeting of the Kentucky Mining Institute in a talk appraising coal's future outlook

Falkie calls manpower problem coal's Achilles' heel

by Hugh Collett

The recent annual meeting of the Kentucky Mining Institute in Lexington, Ky., offered all members and guests a comprehensive cram course in all key phases of coal mining – from the new EPA laws and regulations and U.S. Bureau of Mines rules to geology, equipment safety modifications, college level mining technology training courses, and hints on how to market coal profitably.

[illegible] returning president, John E. Young from Lynch, Ky., responded to the opening welcome address by Commissioner Harreld Kirkpatrick of the Kentucky Bureau of Mines & Minerals. Then the day's technical session began spinning in an analytical appraisal of coal's future outlook, delivered by Dr. Thomas V. Falkie, head of the U.S. Bureau of Mines, Washington, D.C.

Now that a new surface mining law has cleared Congress, Dr. Falkie said that Federal lawmakers contend, in the main, that other coal-allied bills and proposed regulations should be held up and "taken in balance with our nation's energy needs."

He identified the current manpower situation as coal's Achilles' heel in the whole industry growth plan, calling for additional coal technology training programs. But growth can and must, according to Dr. Falkie, to double or triple coal output in 10 to 20 years and, thereby, overcome our present and future national energy shortages.

He mentioned some of the major programs of the federal government to meet these goals. Like the delivery, or "transportation" problems of the first half of this decade. The Bureau Director, noting that railroads' movement of materials is currently 26 percent coal and that coal cars are in short supply now, said that Washington must initially address and answer this problem. Government provision of extra coal gondolas, he indicated, may become the only positive method of problem solving.

"The balance of trade deficit, as we see it, will grow larger each year in the immediate future under the present energy programs," Dr. Falkie predicted. One "gut issue," he said, was whether scrubbing devices will be made to work satisfactorily soon enough, noting that EPA may have to lighten some of its standards temporarily to permit higher sulfur dioxide-producing coal to be burned in many regions until scrubbers of top-level capabilities become a reality.

"I think all power plants built in the next 20 to 30 years in this nation, should be planned to work with coal or nuclear power," he emphasized.

Former Tennessee Senator Albert Gore, now chairman of the board of Island Creek Coal Co., urged all Ken-

Research directed at developing "inherently safe mining systems" was discussed by M.J. Cosgrove of FMC Corporation

ucky Mining Institute members to in-ist on short-term contracts with coal buyers. He told the record crowd at the Institute's Annual Banquet, that that is what he's doing to make a profit at Island Creek.

"Island Creek was in serious trouble when I joined them," said a vigorous Senator Gore, "with a lot of long term contracts, particularly with electric utilities. The company was losing all the money it could make elsewhere on those contracts, subsidizing the utilities. We weren't alone in this experience," he continued. "Many coal companies got caught with just that sort of situation. My job was to renegotiate those contracts, and soon after I had renegotiated one of them, I had earned my lesson.

"If I never bring anything else to the coal industry," said Chairman Gore, "I brought to Island Creek one firm policy: we're just not signing any more long-term contracts—unless, after all possible escalations we can think of, we also have a provision therein, come hell or high water, whereby we're going to be guaranteed $3.00 profit per ton, if it's for steam coal. If it's metallurgical coal, we'll make $5.00 per ton profit."

In almost the same words he had used in his talk before the Kentucky Coal Association annual meeting three weeks earlier, Kentucky Environmental Quality Commissioner **Herman D. Regan** again ripped apart many of the projects of the Environmental Protection Agency. He told the 350 registrants of the Institute that he and his Bureau were waiting for a workable definition of "waters—United States" from EPA and couldn't begin to enforce the law until a reasonable explanation of its meaning is issued.

He warned mine operators to make application to EPA for new water permits, but not to sign and submit the final permit form back to the Agency until after all the "numbers" in their regulations become final. "Until then," Regan advised, "you'd just be signing a blank check."

Unlike those presentations outlined above, the remainder of the Institute's business sessions were highly technical. Typical and of extreme interest to those in attendance was the paper by **M.J. Cosgrove** of FMC Corp., entitled, "Inherently Safe Mining Systems—Working Demonstrations."

Cosgrove's color slides greatly enhanced his commentary about how he and FMC redesigned a number of conventional mining equipment units to provide greater utility and safety features. To provide a suitable proving ground for mine safety research, the U.S. Bureau of Mines contracted with the Island Creek Coal Co. to open a unique new coal mine in Eastern Kentucky (Floyd County). Like other mines there it produces coal, but its chief purpose is to serve as a testing and demonstration site for mine safety technology.

Named "Jenny Mine" after local folk heroine Jenny Wiley, the mine is mainly a proving ground for new equipment and methods developed by private firms under Bureau research contracts. FMC is one of the major experimenters, under Cosgrove. Four specific measures developed by Bureau contractors are being field-tested at the Jenny Mine: protective cabs for mine vehicles, standardized controls for the vehicles, improved mine communication systems, and improved underground illumination.

Albert C. Wagers, chief coal inspector, U.S. Steel Corp. of Lynch, Ky. and **David K. Hylbert**, associate professor of geo-sciences at Morehead (Ky.) State University, outlined different aspects of mine roof techniques demonstrated in the same mines near Lynch, Ky. Wagers' paper, entitled "Temporary Roof Support," stated that his topic "has probably received more managerial and engineering attention than any other single coal mining problem."

In an effort to provide maximum protection to roof bolters, U.S. Steel Mines have developed a temporary roof support plan known as "Seven Jack-Nine or Twelve Set." Three jacks, he said, are set no farther than 5 ft in by permanently supported roof. Two jacks are set on 4-ft centers in line with the two outside jacks in the first row.

After the first row of roof bolts has been installed, the two corner jacks are moved to fill the void behind the center jack in the first row, Wagers continued. If required, the final row is installed by moving the jacks from the second row to the last position. "This plan is minimum," he said, "and must be followed even if the top is 'self supporting'. If abnormal conditions exist, such as

continued on page 62

Temporary roof support and prediction of unstable mine roof were covered in papers presented by Albert C. Wagers, U.S. Steel (left) and David K. Hylbert of Morehead State University (right). Far right: Coal oriented work underway at the University of Kentucky's Institute for Mining and Minerals Research was presented by Dr. James E. Funk, dean, College of Engineering.

Dr. Maurice Bailey (left), director-Div. of Science & Technology, Pikeville College, and Carl D. Barnett (right) of Madisonville Community College's Mining & Reclamation Technology Program, reported on their respective coal mining technology courses. Far right: New Institute president Harry L. LaViers Jr., South East Coal Co., Irving, Ky.

Institute meeting . . .

continued from page 57

kettle bottoms or slips, and cannot be supported adequately by seven jacks, then additional temporary support must be installed."

Hylbert reported on his study of roof falls or rock falls, from a geologic standpoint to predict in mines with changing roof-lines where rocks may change character, as from sandstone to shale, and "see if we can pick out some of the trends." His study is funded by the U.S. Bureau of Mines. "Joint studies have been a great key in this project," he related, "because mining parallel to frequent joints is a very unstable roof situation.

"Rock courses and faults determine the stability of the roof, and we have been following and charting roof faults to lay them out and see if we can pick up trends." By charting all major fault lines and putting all collected data into a computer, Hylbert and his associates have come up with "quite accurate predictions as to where roof dangers may exist," and thereby avoid them by changing the course of mining.

"The Kentucky Energy Research Program," the topic of **Dr. James E. Funk, Dean, College of Engineering,** University of Kentucky, was thoroughly covered by him. He described coal-oriented work now under way at the University's Institute for Mining and Minerals Research and "how it relates to the really broad program that the State of Kentucky has embarked upon in the last couple of years."

Beginning its work in 1972, the school's Institute has been doing work on the caking characteristics of Kentucky coals in liquefaction and gasification processes. It had $200,000 funding its initial year, $550,000 by the end of 1973, and for the '74-'76 period a $4 million appropriation for the research center and $50 million to attract research and demonstration conversion plans to the State. "This," said Dean Funk, "is the most progressive program being done by any state today."

He predicted that 37 or 38 high Btu conversion plants would be in production in the U.S. by 1990. Standard output of just one of these plants should be 250 million cu ft of gas daily. "That's enough to supply the average daily gas requirements of a city the size of Metropolitan Louisville," the Dean said.

Larry L. Combs and **Carl D. Burnett** of Madisonville (Ky.) Community College's Mining Technology program, and **Dr. Maurice Bailey**, director of the Division of Science and Technology at Pikeville (Ky.) College, told the Institute gathering about their respective school's coal mining technology courses. Dr. Bailey also described several key research projects under way at Pikeville College, including a grant for coal liquefaction study and one measuring miners' reactions to equipment design at the Island Creek Jenny Mine.

New officers of the Mining Institute elected at the meeting are: **Harry L. LaViers Jr.**, South East Coal Co., Irving, Ky., president; **Raymond A. Bradbury**, Martin County Coal Co., Inez, Ky., first vice president; **W. Tom Patterson**, Madisonville, Ky., second vice president; **E. Don Slone**, Brookside, Ky., third vice president; and **Commissioner Kirkpatrick**, Lexington, Ky., secretary-treasurer. □

APPENDIX VIII

Illinois Basin Meeting at Rend Lake

ILLINOIS BASIN COAL MINING MANPOWER COUNCIL MEETING
April 4, 1975, Rend Lake College
AGENDA

9:00 a.m. -	9:30 a m.	Coffee and Name Tags
9:?0 a.m. -	9:45 a.m.	Welcome by Rend Lake College President, Dr. J. M. Snyder (Little Theater)
9:45 a.m. -	10:30 a.m.	Distribution of Composited Industrial Survey and Discussion
10:30 a.m. -	11:30 a.m.	Committee Groups
11:30 a.m. -	12:00 noon	Committee Reports to Council on Objectives
12:00 noon -	1:00 p.m.	Lunch (on Campus)
1:00 p.m. -	?	Tour of Rend Lake Campus and Coal Mining Technology Program Facilities

Officers & Chairmen:

Mr. Charles R. Harrison, Chairman--AMAX Coal Company
Mr. John Sutton, Vice Chairman--Southern Illinois University, Carbondale
Mr. John Gwaltney, Secretary--Wabash Valley College
Dr. Anthony Tilmans, Educational Committee Chairman--Indiana State University, Evansville, Indiana
Mr. Alan Weed, Underground Committee Chairman--Freemen United Coal Company
Mr. Harold Odle, Surface Committee Chairman--AMAX Coal Co.

3/17/75

APPENDIX IX

Illinois Basin Meeting at

Southeastern Illinois College

[illegible] MANPOWER COUNCIL MEETING

[illegible] COLLEGE
[illegible]

AGENDA

[illegible]	[illegible]
[illegible]	Welcome by Dr. Harry Abell, President, SIC
[illegible]	Distribution of updated Industry Manpower Needs Survey
	Distribution of minutes of previous meeting
9:45 - 10:30	Doron Precision Systems, Inc.
10:30 - 11:00	Employee Development Institute
11:00 - 11:30	United Systems
11:30 - 12:00	Bucyrus-Erie Company
12:00 - 12:15	Committee activity summary report to council
12:15 - 1:00	Lunch
1:00 -	Tour of Southeastern Illinois College Campus and explanation of the Coal Mining Technology program

Officers and Committee Heads

Mr. Charles R. Harrison, Amax Coal Company - Chairman
Mr. John Sutton, Southern Illinois University, Carbondale, Illinois - Vice Chairman
Mr. John Gwaltney, Wabash Valley College - Secretary
Dr. Anthony Tillmans, Indiana State University, Evansville, Indiana - Educational Committee
Mr. Alan Weed, Freemen United Coal Company - Underground Committee
Mr. Harold Odle, Amax Coal Company - Surface Committee

APPENDIX X

Time Allowance for

the Foreman's Certificate

The demand for coal is rapidly increasing. To meet the coal needs of the nation in the future new mines will need to be developed and opened. To open a new mine, and throughout its development, a large number of safety experienced, and well educated coal miners will be needed. The lack of such men, is one of the problems facing the coal industry today. The Mining Technology Program at Madisonville Community College offers the opportunity to provide the education and actual underground experience needed to help the coal industry with this problem. The following proposal is directed at obtaining some time allowance for the students in the Mining Technology Program towards the attainment of the Assistant Mine Foreman's Certificate.

In 1974, an advisory committee composed of officials from the coal industry, United Mine Workers, and Madisonville Community College congregated and derived the following course of study for students in the Mining Technology Program:

MINING TECHNOLOGY
COURSE OF STUDY

First Year

	Sem. Hr. Credit
First Semester:	
CE 105 Basic Engineering Graphics	2
ENG 101 Freshman Composition or	3
CMS 151 Composition for Technical Students I	3
ET 030 Introduction to Coal Mining and Reclamation	1
ET 100 Engineering Problems (slide rule and calculator)	1
ET 105 Mechanics I - Statics and Strength	3
GLY 140 General Physical Geology	4
MA 109 Pre-Calculus Mathematics	3
	16
Second Semester:	
CE 231 Elements of Mining	3
ENG 102 Freshman Composition or	3
CMS 152 Composition for Technical Students II	3
ET 110 Electric Circuits and Components I	4
ET 150 Mining Laws	3
CE 100 Plane Surveying	3
	16
	52

Second Year

First Semester:	
ET 162 Fundamentals of Indust· Engineering	3
ET 235 Surveying II	3
ET 269 Hydraulics	3
ET 270 Mining Mechanics	5
ET 272 Coal Preparation	3
	17
Second Semester:	
ET 263 Sampling and Analysis of Coal	4
HPR 130 First Aid and Emergency Care	2
ET 273 Mining Economics	3
ET 274 Mine Safety	3
ET 275 Mine Management	3
	15
Total Hours	64

The main objective of this course of study is to provide the inexperienced coal miners with an education in safe underground practices. The course descriptions are as follows, with the main objective achieved by the above combination of subjects.

CE 105 Basic Engineering Graphics -
Freehand sketching and lettering. Orthographic and axonometric drawings and sketches. Use and care of instruments. Use of scales. Dimensioning. Auxiliary views. Sectioning. Fasteners. Pencil and ink techniques. Charts, maps and diagrams. Six hours per week.

ENG 101 Freshman Composition -
A basic course designed to teach students to develop their ideas in clear, effective written English. Major emphasis is on organization, development and usage, particularly in descriptive and expository writing. Three hours per week.

CMS 151 Composition for Technical Students I -
A course designed for students enrolled in associate in applied science degree programs, containing oral pattern practice, written sentence structure, dictionary study, oral presentations, and concept of the paragraph, spelling, vocabulary building, and exercises based on the various techniques, with simultaneous emphasis on reading, usage, and mechanics. Three hours per week.

ET 030 Introduction to Coal Mining and Reclamation -
History and Survey of Coal Mining, Field Trips and Employment Opportunity. One hour per week.

ET 100 Engineering Problems (slide rule and calculator) -
Explains the principles of a slide rule operation, emphasizing by practical application its value in the solution of problems related to the various technical field One hour per week.

ET 105 Mechanics I - Statics and Strength -
Simplified study of forces, components, resultants, equilibrants, couples, moments, stresses, bindings, deflections, torsion beams and columns. Three hours per week.

GLY 140 General Physical Geology -
A first course in the principles of physical geology, including typics from mineralogy, geochemistry, and geophysics. Lecture, three hours; Laboratroy, two hours.

MA 109 Pre-Calculus Mathematics -
A one-semester course covering selected topics in algebra, trigonometry and analytic geometry; deisgned to develop the maniqulative skills prerequisite to the successful study of calculus. Three hours per week.

CE 231 Elements of Mining -
Fundamental mining operations, prospecting and mine development. Lecture and recitation, three hours per week.

ENG 102 Freshman Composition -
This advanced writing course investigates the logical and rhetorical problems involved in argumentative, analytical, and documented papers. Three hours per week.

CMS 152 Composition for Technical Students II -
A continuation of CMS 151, containing modes of paragraph development, outline development, transitional devices, oral discourse, preparation of reports, and readings from regional literature. Three hours per week.

ET 110 Electric Circuits and Components I -
An elementary lecture-demonstration course designed primarily for the engineering technology student. The course covers basic electricity, direct current circuits, magnetism, electromagnetic induction, alternating current circuits, impedances, reactances, power and electrical energy. Emphasis is placed on electrical measurement, instruments, and applications. Lectures and recitations, four hours per week.

ET 150 Mining Laws -
Theory and Construction of Mining Laws. Laws pertaining to the acquisition of mining rights and the operation of mines. Three hours per week.

CE 100 Plane Surveying -
Principles, field practice and calculations. General use and care of surveying instruments. Class work, two hours; field work, three hours per week.

ET 162 Fundamentals of Industrial Engineering -
Production methods improvement; work measurement; principles and practices of operation analysis, motion, micromotion, and time study; application and promotion of safety programs. Three hours per week.

ET 235 Surveying II -
Continuation of ET 135. Three hours per week.

ET 269 Hydraulics -
Fundamentals of mac hydraulics; motor, controls, their function and application Three hour per week. Two hours lab per week.

ET 270 Mining Mechanics -
Basic skills involved in the proper repair, maintenance, and reconditioning of mine machinery. Two hours per week with three hours of laboratory per week.

ET 272 Coal Preparation -
Principles and practices of coal preparation and associated operations. Field trips and observations are an integral part of the course. Three hours per week

ET 263 Sampling and Analysis of Coal -
Introduction to basic concepts of chemistry essential to the analysis of coal and to sampling techniques. Six hours per week of lecture and laboratory.

HPR 130 First Aid and Emergency Care -
A study of first aid subject matter and orientation in the various first aid teaching method. Lectures and demonstrations on first aid measures with skilled training. Lecture, one hour per week; Laboratory, two hours per week.

ET 273 Mining Economics -
Financial Calculations, evaluation of mines, tax laws relating to mines. Three hours per week.

ET 274 Mine Safety -
An introduction to mine safety, program organization, safety training, mine rescue operations, and the role of state and federal governments in mine safety. Field trips are an integral part of the course. Three hours per week.

ET 275 Mine Management -
Basic principles of business management and their specific applications to mine operations. Three hours per week.

The Mining Technology Program can be a co-operative one, also, whereby a student attends school for one semester (a semester being equal to four months) and works at an underground coal mine in the Madisonville area one semester until he completes the requirements for graduation. The work phase of the program is as a Union personnel receiving Union wages as described by the contract. Therefore, the student, while in the work phase, is underground daily obtaining actual experience which is so vital to a person planning to make underground coal mining a career. The following chart (Chart A) gives a semester-to-semester account of two students - one, Student A, attending school the first semester in the program and the other,

Student B, working in a nearby mine. Chart A shows, that Student A would obtain three semesters, or one year of actual experience while Student B would secure four semesters, or sixteen months actual experience Students in the Mining Technology Program who receive actual underground work experience along with their classwork, will indeed provide for a safer and better underground coal miner, or supervisor for the coal industry.

CHART A

Semester Number	Student A	Student B
First	School	Work
Second	Work	School
Third	School	Work
Fourth	Work	School
Fifth	School	Work
Sixth	Work	School
Seventh	School	Work
Eighth		School

As can be seen from this proposal, a student in the Mining Technology Program will have the working and educational knowledge of underground coal mining, thus helping himself become a safe worker in the coal industry. Threfore, I believe that time should be awarded to the students in this program toward their Assistant Mine Foreman's Certificate.

APPENDIX XI

Coal Company Evaluation

MADISONVILLE STATE VOCATIONAL-TECHNICAL SCHOOL
and
MADISONVILLE COMMUNITY COLLEGE

COOPERATIVE COMPANY EVALUATION

Company Name_____

Date_____

Please comment on the following items pertaining to the Mining and Reclamation Cooperative Program at Madisonville State Vocational-Technical School and Madisonville Community College.

1 The overall design of the Co-op Program_____

2 The benefits of the Program for your Company_____

3. The quality of the students involved in the Program_____

4. Changes you would recommend (including curriculum, work periods, or any other pertinent items)_____

5 List any comments concerning the Program_____

(Signature) Company Representative