

Tribal Colleges Initiative Project

DOE/SF/21375-TI

Quarterly Report

April 1, 1998 – June 30, 1998

For

U.S. Department of Energy
Oakland Operations Office

By

TCI Program Office
Crownpoint Institute of Technology
Dine' College
Southwestern Indian Polytechnic Institute

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AUG 14 1998
OSTI

Grant Number DE-FG03-97SF21375

July 1998

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INTRODUCTION

The Tribal Colleges Initiative (TCI) grant is in the second year of funding from the US Department of Energy Environmental Management program. The project period has been determined to be 7.5 months, April 1 to November 14, 1998 in order to align with the federal fiscal year.

This quarterly report includes activities for the first three months (April 1 – June 30, 1998) of the Year 2 funding period.

The TCI program office requested each Tribal College to write a quarterly report of activities at their respective institutions. These reports are attached. These institutions are Southwestern Indian Polytechnic Institute (SIPI), Crownpoint Institute of Technology (CIT) and the Dine' College (DC, formerly Navajo Community College).

TCI program office

ACTIVITIES AND ACCOMPLISHMENTS

The Tribal Colleges Initiative project director was hired on March 17, 1998.

The director has assumed the role of administering the TCI project continuation grant.

Majority of the director's time has involved the:

- Technical Year-end Report;
- Final Financial Budget Status of Year 1;
- Current Year 2 Proposal;
- Current Year 2 budget.

These activities involved revising the initial report/proposal document submitted on March 18, 1998. This activity included constant communication with the DOE Oakland Operations Office personnel in order to meet their requirements.

The equipment list reconciliation involved numerous man-hours.

The Year 1 technical progress report and year-end financial status report was finalized and submitted to DOE. The current year proposal, including the scope of work and budget for each of the three institutions, went through several revisions. Upon approval of the entire TCI budget, the scope of work activities will be fully implemented.

Currently, the TCI project is in negotiations with the DOE regarding the final budget and workplans.

The TCI project requested and received approval of two pre-award agreements for the months of April through June. Negotiations continued in these months while the pre-award approval allowed the TCI colleges and program office to incur expenses.

The director made a trip to the DOE Oakland Operations Office to identify requirements for the technical progress report; Year 1 budget status; Year 2 proposal; Year 2 budget submittal for the continuation grant process.

There have been numerous conference calls with the DOE contract personnel; Tribal College presidents, coordinators and other staff member regarding the TCI project grant requirements.

The director escorted two federal government representatives to the three Tribal colleges and the Navajo Nation President's office in early April. The trip was to accompany the U.S. Department of Defense and U.S. Department of Transportation representatives on a site visit to present the progress and equipment the Year 1 funding has contributed to.

The director, accountant and SIPI Coordinator made another trip to the Tribal Colleges to meet the other TCI participants and to review the accounting and grants management systems.

PLANNING

The three months expenditures reflect stagnant activity. This is due to the current negotiations regarding the final workplan and budget for the three Tribal Colleges and the TCI program office. Once the negotiations are completed, expenditures are anticipated to reflect the increase in activities.

The director plans to conduct business that requires traveling now that the TCI proposal and budget are close to finalization.

Travel by the director is for:

1. Visits to each Tribal College to monitor the progress and to provide oversight and direction in accomplishing the scope of work for each Tribal College.
 - This activity is essential to evaluate the TCI project progress.
2. The director plans to attend training offered in the next quarter.
 - Due to the negotiations, the director postponed two training dates. The director plans to fulfill the training commitment in the current proposal.
3. A trip to Washington DC is planned by the director to promote the TCI project, establish contacts with DOE and Department of Defense representatives and identify possible funding sources.

PERSONNEL

The TCI project director hired a secretary for the program office. The previous secretary is no longer with the TCI program office. The new staff has already contributed to the project.

The Tribal Colleges have hired or are hiring summer interns. The project director is working with each Tribal College Coordinator in determining the duties, activities and planning for their respective summer student interns.

FINANCIAL EXPENDITURES

The TCI project director has been working closely with the SIPI Board of Regents accountant in monitoring the expenditures for the three months. Attached is the financial status for SIPI, CIT, DC and the TCI program office.

DISCUSSIONS AND CONCLUSION

The project director and the accountant are working hard at resolving issues from the Year 1 project period. We are in frequent contact with the DOE Oakland Office personnel addressing these outstanding problems. We are mutually working towards the same goals. Both the project director and accountant have devoted substantial time to this effort.

Southwestern Indian Polytechnic Institute
ENVIRONMENTAL SCIENCE AND INDUSTRIAL HYGIENE (ESIH) PROGRAM
STATUS REPORT--7/98

Facilities: --The arrival of the new Soil testing modular laboratory component has been delayed slightly pending preparation of the grounds and foundation. The new schedule calls for the setup in the second week of August, 1998. It will incorporate Environmental Science and Civil Engineering soil testing equipment purchased with funds from DOD-AFOSR.

--Planning for SIPI's new Science Building is ongoing. The current level of planning includes deciding placement of equipment for both the general Environmental Science lab and an advanced Environmental Science Practical Applications lab so that appropriate ventilation, drains, etc. can be built in.

Faculty Development:

-- Coordinator Tom Corbitt attended GIS training incorporating Superfund data given by NW PETE-Portland, OR, May 19-22, 1998.

--Coordinator also attended a conference on Environmental Technology Curriculum Development for Tribal Colleges in Crow Agency, MT. The meeting was hosted by Little Big Horn College and sponsored by NSF through a grant to Karl Topper at Mesa State College, Grand Junction, CO.

--Train the trainer session for general environmental technology topics-time and location to be determined. Tom Corbitt is currently on a waiting list for a two-week session.

Student Training

--SIPI is offering short course instruction during the summer and fall trimesters to provide opportunities for tribal members to get training in a variety of environmental and water resource technologies. These short courses will also satisfy the Practicum training requirement for SIPI students in the Environmental Science and Industrial Hygiene program.

Short Course Offerings for Summer-Fall 1998

1) Confined Space Awareness (3 days)	July 8-10
To comply with OSHA 29 CFR 1910.146, 147	
3) Asbestos Inspector (3 days)	July 13-15
4) Asbestos Management Planner (2 days)	July 16-17
5) Asbestos Refresher-8 hour	July 25 (Saturday)

6) **Asbestos Contractor/Supervisor (5 days)** July 27-31
The above three to comply with EPA 040 CFR 61.148 c(8)
and for accreditation under TSCA Title II

7) **Safe Drinking Water Act (2 days)** July 27-28
A survey of the regulations concerning the Safe Drinking Water Act (SDWA) and its implications for tribal and small community water use. Covers contaminant groups, sampling frequencies and procedures and record-keeping and public notification requirements. Includes one examination.

8) **HAZWOPER-40 hour (5 days)** August 3-7
To comply with OSHA 29 CFR 1910.120

9) **HAZWOPER Refresher-8 hour** August 8 (Saturday)
To comply with OSHA 29 CFR 1910.120

10) **Basic Hydrology (5 days)** August 10-14
An introduction to the general properties of surface and ground water, wells, water quality and related measurements, water pollution, and concepts of water management with pertinent laws and regulations.

11) **Wellhead Protection and Monitoring (3 days)** September 28-30

12) **Lead Abatement Worker (4 days)** October 5-9
To comply with OSHA 29 CFR 1910.1025 and 1926.62

13) **Small Water System Operation and Maintenance (5 days)** October 19-23
This course is intended to help develop new qualified water supply system operators, expand the abilities of existing operators and to prepare these operators for civil service and certification examinations. The class will be geared toward preparing the students to take the New Mexico State Certification exam.

14) **Introduction to Geographic Information Systems/Global Positioning Systems (GIS/GPS) (5 days)** November 9-13
A beginner's course presenting all of the basic information needed to create and manipulate geographic information using Trimble GPS equipment and ArcView and ArcInfo software.

SUPI is currently soliciting bids for the following additional classes.

15) **Basic Water Rights Doctrine (3 days)**
This course will focus on Indian water right claims, procedures for substantiating claims and decision-making for litigation or negotiation of claims.

16) **Master Planning (5 days)**
A general review of management techniques with special attention to the needs of tribal departments. Intended to supplement current management of operations with instruction in obtaining grants, building infrastructure, and community planning and supervision.

17) **Permaculture and Sustainable Development (5 days)**
An introduction to the use of sustainability concepts in modern living, including water conservation, use of native plants and design of home sites and communities. Emphasizes low impact integration of human structures into the environment.

Student Training cont.

--Two ESIH students are working on their internship credits this summer.
One student is currently involved in an internship with the Bureau of

Reclamation in Provo, UT where he is conducting population surveys of various species of plants and wildlife in wetlands areas. The other student is working with the BIA hospital in Rosebud, SD to train for a position as Facility Safety Officer.

Curriculum Updates

- The Environmental Science I (ESIH 101) class is being offered this summer with a current enrollment of eight students, five of whom are Environmental Science and Industrial Hygiene majors.
- Planning for a distance education course for the Fall is in progress. ESIH 101 will be broadcast via satellite to the AIHEC network schools.
- The curriculum for ESIH 210-Tribal Environmental Management and Planning is being collected for possible inclusion in a text. It is intended to include extensive examples from tribal environmental departments, as well as hypothetical situations from industry, emergency response, etc. for exercises.

Cooperative Agreements

- An agreement with WERC is pending which will integrate training for tribal and DOD eligible persons on the SIPI campus with an internship at regional tribal environmental departments.
- Discussions with Colorado State University are on-going concerning procurement of funding for planning, training, dissemination, etc. of water resources technology curriculum, among others. The submission of a proposal for a grant to initiate planning for this cooperative venture is the next step.

Articulation with K-12 and University Partners

- The ESIH curriculum will go up for formal approval at the next meeting of the Academic Affairs Committee, paving the way for the articulation agreement CIT and SIPI have worked out. Thirty-one of thirty-seven credit hours at CIT will transfer to SIPI's Associate Degree Program in Environmental Science and Industrial Hygiene. We plan to have the agreement in place for the Fall trimester, 1998.
- Discussions with NMSU are on-going and will hopefully lead to dialogues with other regional schools. Targeted schools include UNM, NMHU, Colorado State University and Northern Arizona University.
- Ideas for development of an articulation agreement have grown out of discussions with Keith James from Colorado State University. Additional dialogue is expected as work proceeds on the grant proposal mentioned above.

Recruitment

- Participants in SIPI's Upward Bound program in the summer were offered an Environmental module taught by Tom Corbitt. Eleven students opted for the class, which included such activities as water testing, pollution and recycling studies and role-playing exercises as members of a community making decisions about zoning and environmental resource protection.
- SIPI will be offering 8 scholarships sponsored by Nations Bank for Fall Semester 1998. The scholarships are \$500 each-\$250 at beginning of trimester, remaining \$250 upon successful (GPA 3.0 or >) completion of trimester for first or second trimester SIPI students. The students must be enrolled in Environmental Science and Industrial Hygiene or Agricultural Technology program. A 500-word essay on "My Goals For Environmental Change" is due by August 17, 1998. The awardees will be required to attend monthly mentorship meetings to evaluate progress and assess educational goals.
- SIPI's recruiting officer has been constantly conducting tours and attending career days at high schools around the region. His next engagement will be in Kayenta, AZ.

**Tribal College Initiative
Quarterly Report
Crownpoint Institute of Technology**

April 1 -June 30, 1998

Students enrolled since Oct. 1996: **18**

Students participated since Oct. 1996: **02**

Students retained since Oct. 1996: **12**

Students transferred since Oct. 1996: **04**

Academic Year	Enrollment	Graduates	Participation	Retention
1996-1997	5	3	0	3
Beginning Winter 1997	3	2	0	2
1997-1998	10	5	2	7

Environmental Courses available Oct. 1996: **06**

Environmental Courses added or enhanced (since Jan. 1, 1998):

Physical Geology - added

Commercial Drivers License with HazMat endorsements- added

General Biology and General Chemistry - planning to add

Partnerships formed:

CIT is working with Haskell Indian Nations University in assisting us in placing our students after graduation in internship positions with federal agencies. Also, a possible articulation agreement is being discussed.

A partnership was formed between CIT and the Bureau of Indian Affairs-Navajo Area Office.

Existing partnerships: ARCO, Peabody Western, Woodward-Clyde, and Brown & Caldwell.

Discussions have been held with the White Mountain Apache Environmental programs for a possible articulation with TCI.

Articulation with secondary:

CIT will be offering customized training to area high school students who wish to obtain training and certification in a specific environmental training area. Scholarships will be offered to these students so that they may attend this training.

CIT is currently offering full academic scholarships to 5 high school students from each area high school in an effort to increase enrollment in the programs at CIT, including the ES&T program.

Articulation with 4 yr. Institutions:

An effort was made to articulate with Dine' College. There was a question about transferability and the effort was tabled. CIT will again approach Dine' College at a future time, perhaps when higher education accreditation is obtained.

There is currently an articulation agreement being finalized between CIT and the Southwestern Indian Polytechnic Institute. This articulation agreement should be in place by Fall 1998.

I met with Dr. Omnia El Hakim, Engineering Professor at Fort Lewis College, on June 10, 1998 and we discussed the possibility of an articulation agreement between our respective institutions. She stated that they are very interested and that further discussion would need to be made with the Records Office. I discussed the possibility of an articulation agreement with the Records Office Director and she stated that CIT will need to obtain higher education accreditation before we can proceed with an articulation.

I met with Mr. Barry King, Director of the Environmental Health and Industrial Hygiene Program at the Technical Vocational Institute (TVI) in Albuquerque, and he stated that they are very interested developing an articulation agreement. I told him that I am presently revising the curriculum here at CIT and that, when completed and approved, I will send him a copy for review. I foresee an articulation agreement developing between CIT and TVI within the next year.

Both TVI and SIPI would like to come to CIT during the school year to look at the campus and to join us in one or two field trips. In particular, TVI and SIPI would like to travel to the Navajo Nation Abandoned Mine Lands Reclamation Department Offices near Shiprock to visit a Superfund site and to see an abandoned uranium mine. Also, they would like to speak with mining survivors in the Red Valley area.

Professional Training and Development Offered at CIT

Through a partnership with Southcentral PETE, CIT offered a short course entitled "Environmental Issues on the Navajo Indian Reservation" from May 17-24, 1998. Instructors from throughout the United States participated and stated that they enjoyed their time in Crownpoint and the course. A total of 13 participants were in the course and these participants, upon successful completion of the course, were awarded three graduate level credits.

In attendance were:

- Dave Boon, Environmental Science & Technology Program Director
Front Range Community College, 3645 W. 112th Ave. Westminster, CO 80030 (303) 466-1623
- Logan Boon, Daughter of Dave Boon
- Lea Campbell, Executive Director of Southcentral PETE
PO Box 310, Port Arthur Texas 77641 (409) 984-6000
- Linda Fitzhugh, Environmental Science & Technology Instructor
Gulf Coast Community College, 5230 West US Highway 98, Panama City, Florida 32401 (850) 872-3836
- Jim Hafer, Agricultural Specialist
Dull Knife Memorial College, PO Box 98, Lame Deer, MT 87043 (406) 477-6215
- King Hoermann, Environmental Technology Instructor
Texas State Technical College, 307 N. Breckenridge Ave, Breckenridge, TX 76424 (254) 559-6556
- Karen Kendall-Fite, Environmental Technology Instructor
Columbia State Community College, PO Box 1315, Columbia, TN 38402 (931) 540-2696
- Rod Nelson, Environmental Science Instructor
Westark College, 5210 Grand Ave., Ft. Smith, Arkansas 72913 (501) 788-7618
- Rosann Poltrone, Environmental Technology Instructor
Arapahoe Community College, 2500 West College Drive, Littleton, CO 80160 (303) 797-5698
- George Schroeder, Graduate Student, University of New Mexico (505) 262-0545
- Bill Stokes, Alaska Department of Environmental Conservation, Fairbanks, Alaska (907) 269-7580
- Mary Watson, Front Range Community College, 3645 W. 112th Ave. Westminster, CO 80030 (303) 404-5343
- Lee Eversol, Crownpoint Institute of Technology, PO Box 849, Crownpoint, NM 87313 (505) 786-4100

Tentatively, there are plans to hold this environmental short course on the campus of CIT again next summer.

1. Equipment Purchases

**Equipment Purchases - Department of Energy Funding
Crownpoint Institute of Technology (\$47,995.00)**

The Crownpoint Institute of Technology Environmental Science & Technology Program recently purchased the following equipment made possible through the grant from the Department of Energy:

Equipment purchased with DOE funding this past spring include the following:

A down payment has been made on a 28' X 64' modular science building. The building will house a chemistry laboratory and a general science laboratory. The building is scheduled to be delivered July 20, 1998. The amount paid on the building is \$44,995.00 with an outstanding balance of \$29,614.73 to paid upon building delivery.

Complete Chemistry and General Science laboratory furniture has been purchased to be installed into the new modular laboratory building we will be acquiring by mid-August 1998. This furniture includes laboratory benches, storage cabinets, fume hoods, resin top desks, resin top tables, and safety cabinets.

Site preparation has been made for the modular building. A construction contractor has been hired and the foundation is being prepared. The foundation should be ready by the July 20 modular science building delivery date. Funds from the DOE operations budget was used to partially pay for the foundation work. Of the total cost of \$13,000.00 for the foundation preparation work, \$3000.00 came from the CIT ES&T budget.

2. Expenditures to Date

A new modular science building has been ordered in which CIT will be housing a chemistry and natural science laboratory. The building will be delivered in July 1998 and will be placed near the existing ES&T classroom.

A full expenditures to date report has been submitted to the TCI director and the TCI Project Accountant.

3. Distance Education and Technology

A new GIS/GPS laboratory has been incorporated into the ES&T classroom. The computers are used to teach these respective technologies. Integration with other programs is expected in this area so that more students and interested community members obtain training in this area. A surveying/drafting course may also be taught next school year which incorporates GIS and AutoCad.

Distance education courses are planned to be implemented by Fall 1998. These courses are to be broadcasted to schools and possibly chapter houses throughout the Navajo Nation. Also, technical training courses in many areas such as Veterinarian Medicine,

Environmental Remediation and Technology, and Natural Resources Management will be captured using our satellite dish and equipment currently in place on the campus of CIT.

4. Teaching Methods

Part of the curriculum developed by the Environmental Technology Education Transfer to Native American Colleges, developed by Dr. Karl Topper of Mesa State College, has been incorporated into the Environmental Science & Technology program, although much of the incorporation of Native American perspectives is through personal experience and cultural knowledge.

5. Faculty

No new faculty have been added since Fall 1996, although instructors are hired under Continuing Education to teach Geology and GIS/GPS. Technical training of short duration is paid for using funding from the ES&T program budget. Other technical training is offered at no cost by the BIA and other entities with whom we have developed partnerships and alliances.

Additional faculty which have been utilized for ES&T program training include Mr. Lee Eversole in teaching Physical Geology, Mr. Chris Kerns to teach GIS/GPS, and professional personnel hired as adjunct faculty depending upon area of training.

6. Faculty Professional Development

The ES&T program coordinator, Mr. Steven Chischilly, did not travel to Cedar Rapids, Iowa for he obtained the needed training from the BIA in Gallup, New Mexico this past Spring. He will be traveling to other training to increase his knowledge of environmental issues and laws.

Ms. Martha Ginaine will be traveled to Fort Collins, CO to attend a micro-scale chemistry workshop hosted by Southcentral PETE. She attended this meeting for 2 weeks in June 1998. She learned a great deal about microscale chemistry and would very much like to see it implemented here at CIT. Ms. Ginaine may teach Chemistry this coming school year.

Mr. Christopher Kerns attended a workshop hosted by Northwestern PETE and the Salish Kootenai Tribe in Portland, Oregon from May 20-23, 1998. This training covered GIS. Mr. Kerns will be teaching GIS/GPS next Fall under the Continuing Education program. Attendees of this training received free Superfund simulation software.

Mr. Jerry Manuelito, CIT Recruiter, has been traveling to different chapter houses throughout the Navajo Nation to recruit students for the forthcoming 1998-1999 school year. An informational packet has been developed by the Student Services program which provides information to all chapter officials concerning program training

opportunities here at CIT. These packets will be mailed to these individuals for their dissemination by July 10, 1998.

7. Recruitment/Retention

Scholarships specifically for ES&T program students has been initiated and will commence Fall 1998. These scholarships are to assist students financially so that they will not have to drop out or otherwise quit the program.

A scholarship has been presented to CIT to be awarded to an ES&T program student Fall 1998. This scholarship check has been provided by Southcentral PETE and was part of the Navajo Nation Environmental Short Course offered here at CIT during May 1998.

A matching challenge letter has been drafted by Southcentral PETE Executive Director, Ms. Lea Campbell, and Mr. James Tutt, CIT President, and has been sent to several companies in an attempt to have these companies match the scholarship. As of July 9, no response has been received from these companies.

8. Other Benefits of the TCI Program

TCI has allowed CIT to begin building a science and engineering technology program. Without the support of the TCI program, CIT would not be able to offer the technical training and courses currently being offered. Also, through collaboration with partners, the CIT program is preparing students for jobs with the appropriate, applicable training.

TRIBAL COLLEGE INITIATIVE

Quarterly Report

April 1 to June 30, 1998

Diné College

SUMMARY

The principal activities of the TCI program at Diné College during this quarter have been to finalize plans for the modular Biology Laboratory to support the expansion of environmental coursework (primarily done by the faculty coordinator), and to implement the summer GIS environmental project with faculty and students. The only expenditures from TCI funds have been for the time of the faculty coordinator (April 1 - May 15), and for the GIS student interns (June). The college has continued with other preparations for the modular lab with its own resources, and other funds have supported the remaining needs of the GIS project.

New TCI Biology Lab

In preparation for the new modular Biology Laboratory, several activities have taken place concerning the site.

A site drawing map was developed for the New TCI Biology Lab using AutoCad R14. This "As-Built" Map of the area required physical measurements the perimeter of the building, sidewalks, nearby buildings, utility line locations, etc. and elevation shots using surveying instruments on manholes, existing ground, and buried utility lines. To avoid delays during construction, all utility lines in the vicinity of the New TCI Biology Lab were physically located and verified. With this information the actual utility stub outs were planned. An electrical load calculation was performed on the buildings and classrooms (including the proposed lab). It was determined that a new power line would be needed in that area. Navajo Tribal Utility Authority has requested a letter of affidavit(s) for the electrical and gas connection before giving estimates on all the utility connections. Diné College – Shiprock Maintenance Department will perform the site grading and concrete work (footing and foundation).

A cabinet was designed (using AutoCad) for the security and protection of the PictureTel Video Conference unit that was purchased with TCI funding (DOD) last year. It was built by the Dine College – Shiprock Maintenance Department.

Student Interns with Environmental GIS 1998 SUMMER PROJECT

Two students are being supported by TCI to participate in a GIS project. The faculty member is being supported by the Land Grant Office of the college, and 4 other students are being supported by NSF/AMP, the Navajo Dryland Environments Laboratory and the Navajo Nation Division of Youth Services. The equipment being used has been provided by TCI and NSF. The Bureau of Land Management has been providing a GIS technician one day a week.

The current project is collecting data from the area around Morgan Lake for the purpose of planning its development to best contribute to the local economy while protecting the environment. This is a small lake beside the Arizona Public Service power plant and close to the Navajo chapters of Upper Fruitland, Nenahnezad and San Juan. The lake is used for fishing, wind surfing and other recreational uses. Various alternatives for developing the site will be prepared and analyzed using GIS software, and these will be presented at community meetings for discussion. Community feedback will be incorporated in a new set of alternatives for further presentation and discussion. The result will be a consensus plan for land and water use for recreation, economic development, tourism and other uses.

The students have collected data with the use of Global Positioning System (GPS) devices to supplement computerized maps imported and/or digitized from other sources. Different "layers" of mapping are being added to represent hydrology, vegetation, wildlife areas, roads and paths, etc. The students have met with chapter (community) representatives, environmental officials from the power plant, BLM, Utah State University, the Navajo Nation and Northern Arizona University. They have divided the project in segments so that each student will have their own presentation in August.

This project is being carried out through a collaboration between the college's Institute for Integrated Rural Development, the Shiprock Campus Division of Math and Natural Science, the Navajo Nation Regional Business Development Office, Arizona Public Service, the University of Arizona Cooperative Extension Service, and Utah State University, along with the three Navajo chapters in that area. Some equipment match will be requested of Arizona Public Service; Utah State University will provide a professor to assist with land use planning; the University of Arizona Cooperative Extension Program and the Navajo Nation Regional Business Development Office will provide some in kind support with the community planning meetings.

The benefits of this project will be 1) students who see how advanced education can benefit local communities through involvement with real world applications; 2) the local college enhanced in techniques and knowledge to better serve the community; 3) a model of collaboration between communities, the college, local government and industry; and 4) a consensus plan for land and water development of one community resource.

*Financial data removed.
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9/6/98*