



Native American communities analysis methodology : socioeconomic assessment, Exxon Crandon Project. 1980

Austin, Texas: RPC, Inc., 1980

<https://digital.library.wisc.edu/1711.dl/B4WO573YPNUXW8O>

<http://rightsstatements.org/vocab/InC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

NOV 18 1980

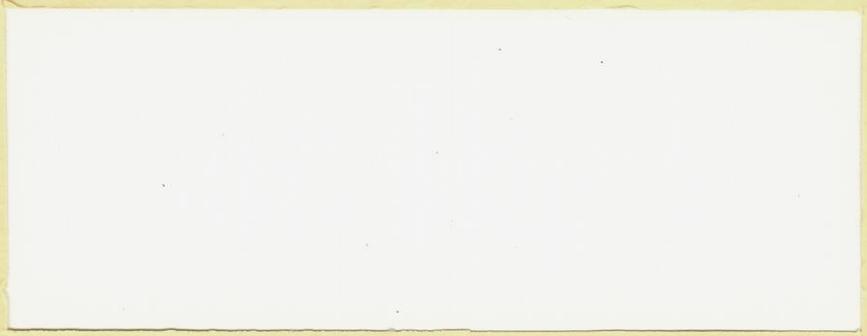


CRANDON PROJECT



SOCIOECONOMIC STUDY

prepared by RPC, Inc.



NATIVE AMERICAN COMMUNITIES
ANALYSIS METHODOLOGY

SOCIOECONOMIC ASSESSMENT

EXXON CRANDON PROJECT

prepared for
Exxon Minerals Company

by
RPC, Inc.
Austin, Texas
Madison, Wisconsin

Dept. of Development
Library

LIMITATION ON USE

This document represents the position of RPC, Inc. on the matters addressed as of the date of publication noted below. RPC, Inc. reserves the right to amend its position on any matter in light of additional data and analysis which may become available. Further comments on this document by interested parties are welcomed. Both RPC, Inc. and Exxon Minerals Company have given their permission for anyone to copy, cite, or quote this document provided that this Limitation on Use Statement is included in any copy, citation, or quotation.

September 1980



TD
194.66
.W62
C719
1980
v.9

We will appreciate any comments you may have on the methods and techniques we describe in this report. You may direct comments and suggestions to any of the following:

Daniel J. Derfus
Manager, Socioeconomic Study
Exxon Minerals Company
P.O. Box 813
Rhineland, WI 54501
Tel: 715/369-2800

Ronald T. Luke, Ph.D.
President
RPC, Inc.
1705 Guadalupe
Austin, TX 78701
Tel: 512/472-7765

Frank Sonderman
Community Planning Coordinator
Exxon Minerals Company
P.O. Box 813
Rhineland, WI 54501
Tel: 715/369-2800

James Kimmel
Vice President
RPC, Inc.
1705 Guadalupe
Austin, TX 78701
Tel: 512/472-7765

1. *What is the relationship between the two main characters?* (10 points)

2. *How does the author use the setting to support the plot?* (10 points)

3. *What is the significance of the title?* (10 points)

4. *How does the author use symbolism to enhance the story?* (10 points)

5. *What is the overall message of the story?* (10 points)

6. *How does the author use language to create mood and atmosphere?* (10 points)

7. *What is the significance of the ending?* (10 points)

8. *How does the author use irony to add depth to the story?* (10 points)

9. *What is the significance of the characters' names?* (10 points)

10. *How does the author use foreshadowing to build suspense?* (10 points)

HOW TO USE THIS REPORT

This report is part of a comprehensive study commissioned by Exxon Minerals Company to determine the potential socioeconomic effects of a proposed mine/mill complex in northeastern Wisconsin. The report describes the techniques we plan to use to estimate the potential effects of the project on Native American communities in the local study area.

Part of the intent of Exxon Minerals Company in commissioning this socioeconomic assessment is that everyone with an interest in the proposed project should have access to the reports concerning the socioeconomic effects that might result from project development. However, this intended readership covers a wide spectrum of types of interests and technical backgrounds. In an effort to provide information for those with nontechnical interests, as well as for readers who want all the statistical and mathematical details, we have designed our reports in two parts. The first part, printed on yellow paper, covers the highlights of the technical work described in the white pages.

We have organized the technical discussion in the white pages as follows:

- Chapter 1: Our approach to the analysis and the data sources we will use
- Chapter 2: The data we will collect for our baseline description and the concepts underlying our data requirements
- Chapter 3: Technical discussion of how we will estimate without-project and with-project futures for each element of the analysis of potential effects of the proposed project on Native American communities in the local study area

The yellow-page summary section describes the procedures we detail in the white pages, without listing specific data requirements, mathematical formulas, or other technical details.

SUMMARY

Exxon Minerals Company (Exxon) is considering the establishment of a mine/mill complex near Crandon, Wisconsin. This proposed complex would be based on a large ore body containing commercial quantities of zinc and copper. Engineering and economic feasibility studies are underway for the project, and environmental studies are in progress to satisfy local, state, and federal regulatory requirements. Exxon estimates that construction and operation phases of the project will each employ 800 to 900 people.

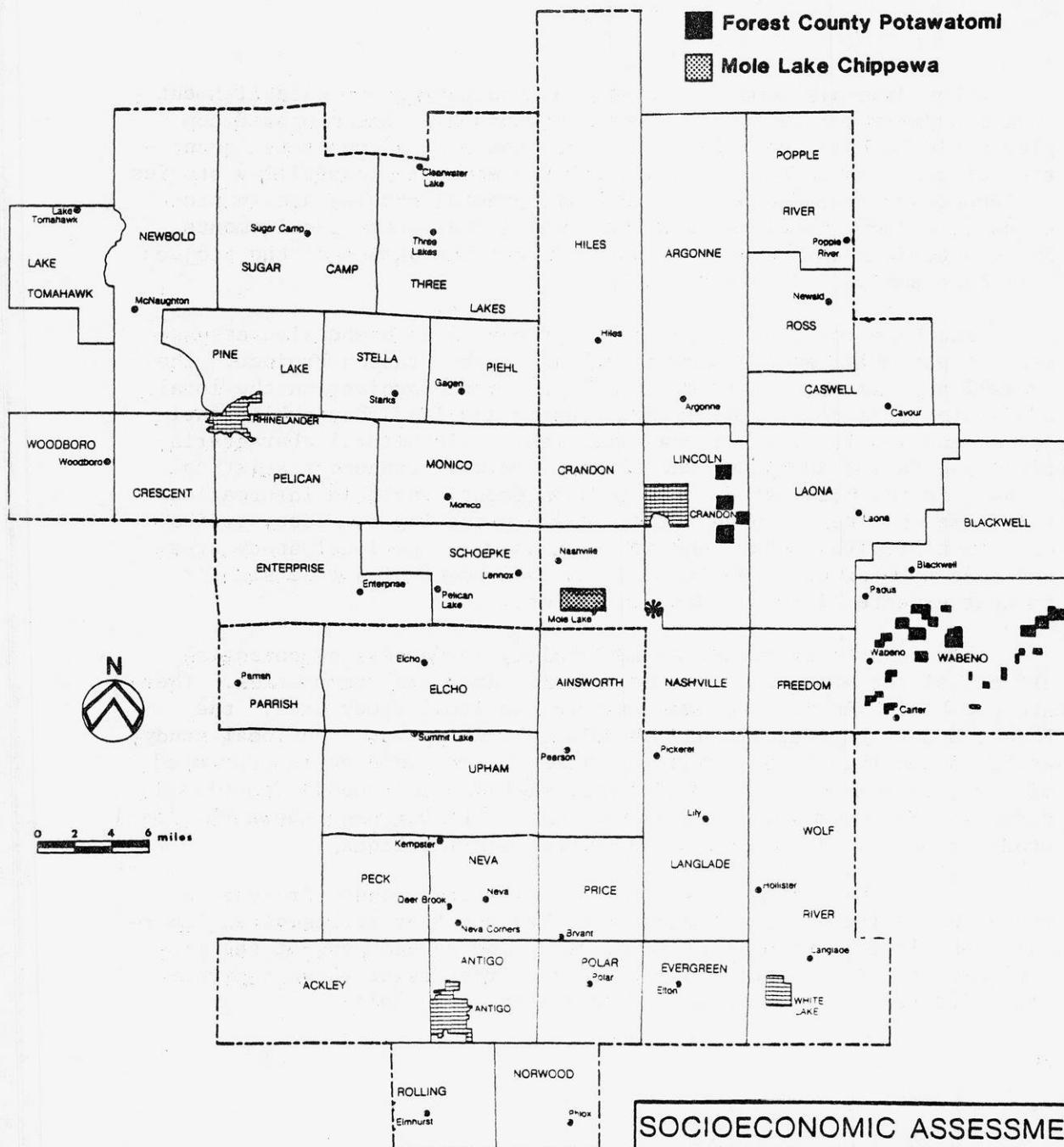
Exxon has retained RPC, Inc. to prepare a comprehensive assessment of potential socioeconomic effects of the Crandon Project. The overall assessment will forecast effects of the project on the local study area's economy, demography, housing and land use, public facilities and services, fiscal capabilities, sociocultural characteristics, and Native American communities. We will conduct statistical surveys in the local study area to supplement available information for these analyses. In addition, we are preparing two case studies on communities that share characteristics with the local study area and that have experienced industrial development of a type similar to that expected from the Crandon Project.

This report describes our methodology for assessing potential effects of the proposed project on Native American communities. There are two Native American communities in the local study area: the Forest County Potawatomi and the Mole Lake Chippewa. The local study area, consisting of 40 townships, three cities, and one incorporated village, encompasses most of Forest, Langlade, and Oneida Counties in northeastern Wisconsin. The map on the following page shows the local study area with the location of Native American lands.

We are considering possible effects of the Crandon Project on these two Native American communities because they represent an important subculture in the local study area, and development of the project may affect the socioeconomic characteristics of these communities differently from the local study area as a whole.

NATIVE AMERICAN LANDS IN THE LOCAL STUDY AREA

- Crandon Project Discovery Site
- Forest County Potawatomi
- ▨ Mole Lake Chippewa



**SOCIOECONOMIC ASSESSMENT
CRANDON PROJECT
EXON MINERALS COMPANY, U.S.A.**

prepared by **RPC, Inc.** austin / madison

Our analysis of potential effects of the Crandon Project on Native American communities should provide information that will be useful to:

1. The Wisconsin Department of Natural Resources for assessing overall effects of the proposed project
2. Tribal officials for planning and management
3. Exxon Minerals Company for developing possible actions that could mitigate undesirable effects and enhance benefits of project development

We hope that public distribution of this report will stimulate discussion and comment on our methodology. Early involvement of officials and the interested public will enable us to consider their concerns as we proceed with the analysis. In addition, Exxon staff will be aware of these concerns as they develop plans for the project.

Our methodology for estimating potential effects of the project on the economy, population, housing, public facilities and services, fiscal conditions, and sociocultural characteristics of the Forest County Potawatomi and Mole Lake Chippewa communities consists of a four-step process for each of these six elements:

1. Describe baseline conditions for the Native American communities.
2. Estimate future conditions for the Native American communities without development of the Crandon Project.
3. Estimate future conditions for the Native American communities with project development and after the project ceases operation.
4. Compare futures and determine effects of the project.

DATA SOURCES

We will base our analysis on data from federal, state, local, and tribal records. We will also use data we develop in other elements of the overall socioeconomic assessment for the local study area. In addition to these quantitative data sources, we hope to obtain permission of tribal officials for a survey of attitudes and opinions and for interviews with members of the tribes who have

experienced changes in their communities over a number of years. The knowledge and insight we could obtain from the survey and interviews would be important considerations as we develop our estimates of future conditions.

BASELINE DESCRIPTION

Our first task is to describe current conditions and important trends in the Forest County Potawatomi and Mole Lake Chippewa communities. We will describe each of the communities in terms of its economy, population, housing, public facilities and services, fiscal conditions, and sociocultural characteristics. To the greatest extent possible, we will gather time-series data to establish baseline values for each of the six elements of the analysis.

ESTIMATING FUTURES AND DETERMINING PROJECT EFFECTS

We will estimate the future economy of the Native American communities with and without the proposed project on the basis of current capacities of the labor force and businesses on each reservation. This approach is based on specific local conditions, permitting consideration of local goals and objectives as we develop our estimates.

Our population estimates are based on current population, plus births, minus deaths, plus net migration for each reservation. For population with project development, we vary the migration rate to reflect possible effects of the project on migration.

We will base our estimates of future housing needs on the number of new households anticipated for each reservation, current household characteristics, and available housing less those units that, on the basis of age and demolition rates, we expect to be subtracted from the housing stock over time. Our estimates of housing needs will include replacements for those units. We will also consider other factors that affect housing supply and demand, such as availability of land, provision of services, and capacity of the construction industry to supply needed housing.

We will estimate future demand for public facilities and services from our estimates of future population and the current reserve capacity of each facility and service. We will then estimate required expansions and the costs of these expansions.

We will compare the estimated costs for public facilities and services to estimated revenues to determine whether future revenues will be sufficient to meet any increases in costs for public facilities and services.

We will base our estimates of future sociocultural characteristics on trends established from our time-series data. Our qualitative data from the survey research will either support these estimates or provide a basis for modifying them.

We will identify socioeconomic changes that result directly from project activities by comparing estimates of future conditions without the project to estimates of future conditions with the project. The difference between those estimates can be attributed to changes in the Native American communities that result from development of the project.

ADDENDUM

November 1980

The Mole Lake Chippewa and Forest County Potawatomi tribal councils have elected not to actively participate in the Socioeconomic Assessment. Therefore our Native American communities analysis will be conducted without the added benefit of tribal records and surveys of tribal members.

This lack of active involvement by the two Native American communities does not impair our ability to prepare a socioeconomic assessment which will adequately meet all regulatory and legal requirements. Sufficient data are available from public sources for this purpose. The decision will, however, reduce our ability to work with tribal officials in their planning to benefit from the opportunities expected from the proposed project.

TABLE OF CONTENTS

	<u>Page</u>
How To Use This Report	i
Summary	iii
1. GENERAL APPROACH	1
Use of Scenarios	1
Basis of Analysis	2
Data Sources	3
2. DESCRIPTION OF BASELINE CONDITIONS	9
Economy	11
Population	11
Housing	11
Public Facilities and Services	12
Fiscal Conditions	12
Sociocultural Characteristics	13
3. WITHOUT-PROJECT AND WITH-PROJECT FUTURES AND EFFECTS OF THE PROJECT	15
Economy	15
Population	17
Housing	17
Public Facilities and Services	19
Fiscal Conditions	22
Sociocultural Characteristics	22
Appendix A: Worksheets for Collecting Economic Data	25
Appendix B: Worksheet for Collecting Population Data	31
Appendix C: Worksheets for Collecting Housing Data	35
Appendix D: Worksheets for Collecting Public Facilities and Services Data	39
Appendix E: Worksheet for Collecting Fiscal Data	65
Appendix F: Worksheet for Collecting Sociocultural Data	69
References	73

LIST OF TABLES

<u>Table Number</u>		<u>Page</u>
1	Major Data Sources	4
2	Baseline Data	10
3	Sociocultural Indicator Data Points and Sources . . .	14

1. GENERAL APPROACH

This report describes our methodology for estimating potential effects of the proposed Crandon Project on the economy, population, housing, public facilities and services, fiscal conditions, and socio-cultural characteristics of the Forest County Potawatomi and the Mole Lake Chippewa communities. Our analysis consists of a four-step process for each of these elements:

1. Describe baseline conditions for the Native American communities.
2. Estimate future conditions for the Native American communities without development of the Crandon Project.
3. Estimate future conditions for the Native American communities with project development and after the project ceases operations.
4. Compare futures and determine effects of the project.

USE OF SCENARIOS

Our estimates of future conditions for the Native American communities in the local study area are not predictions. Rather, they represent the best possible range of estimates based on certain assumptions about project development, current conditions, and recent trends.

We describe possible future conditions through various "scenarios." These scenarios are descriptions of possible future conditions, based on different estimates of population, economic development, and project plans. Use of scenarios provides the best possible range of likely future conditions. We can best estimate future conditions by saying "If this happens, then things probably will be this way; if something else happens, things will be another way."

BASIS OF ANALYSIS

Our methodology for assessing potential effects of the Crandon Project on the Native American communities in the local study area is a combination of quantitative and qualitative techniques. We will base our quantitative analyses on past trends, on the assumption that conditions will continue to develop as they have in the past. Estimates based on long-term trends will be more accurate than those derived from data for a single year, which may not be representative of general conditions.

However, even the technique of establishing trends from time-series data is limited in that there is no assurance that conditions will continue as they have in the past. Therefore, our study design calls for supplementing our quantitative estimates with qualitative data from a survey of the Native American communities and from interviews with tribal officials, other tribal members, and officials in the local study area. The qualitative data will provide a check on the

accuracy of our quantitative trends, and our quantitative trends will guide our collection of qualitative data to ensure its applicability to our purposes.

DATA SOURCES

We will base our analysis on data we develop in other elements of the overall socioeconomic assessment, on quantitative data from secondary sources, and on qualitative data from a survey of Native Americans in the local study area and from interviews. The appendices to this report contain examples of our worksheets for recording the data for each element of the analysis.

Data From Other Elements of the Socioeconomic Assessment

We will use our forecasts of economic conditions for the local study area as a whole to compare our estimates of future economic conditions for the Native American communities.

Quantitative Data From Secondary Sources

We will draw on federal, state, local, and tribal records for our quantitative data. Table 1 lists our major sources for these data. Insofar as possible, we will gather these data for as many recent years as possible, back to 1969.

Table 1

MAJOR DATA SOURCES^a

<u>Agency</u>	<u>Data Source</u>
Federal	
Bureau of Indian Affairs	Indian Labor Force Reports; other reports
Farmers Home Administration	
U.S. Department of Commerce, Bureau of the Census	Special census of Indians; other reports
U.S. Department of Housing and Urban Development	
U.S. Department of Health, Education, and Welfare	
Other	
State	
Wisconsin Department of Industry, Labor and Human Relations.....	Quarterly employment printouts
Wisconsin Department of Public Instruction	
Other	
Local	
Forest County.....	County records
Public utilities serving the reservations	
Other	
Private	
Exxon Minerals Company	Socioeconomic assessment economic forecasts
Native American communities	Overall Economic Development Programs; other tribal records

^aWe also plan to use qualitative data from survey research and interviews with tribal officials and other members of the tribes.

Qualitative Data
From Primary Sources

Although we could develop a valid analysis of socioeconomic conditions for Native American communities using only secondary data, we could improve our assurances of the accuracy of our estimates if we supplement our quantitative data with information from a survey of Native Americans and from interviews with tribal officials and other members of the tribes. However, to conduct survey research and interviews, we must have the permission and cooperation of tribal officials. For the survey research, in particular, we would need a prompt response in order to maintain a reasonable schedule for the overall socioeconomic assessment for the local study area.

Any direct communication with members of the Native American communities would be only with permission of tribal officials. We hope to work closely with tribal leaders so that any information we elicit as a result of the survey and interviews would not only be of value to us for our estimates of future conditions, but it would be information tribal officials could use for planning and management and that Exxon Minerals Company could use to develop possible actions to make project development a positive influence for the Forest County Potawatomi and the Mole Lake Chippewa communities.

Survey Research. Our survey design specifies administration of two questionnaires: one for enrolled tribal members who do not live on the reservation, and the other for residents of the reservations. We would consider the suggestions of tribal officials and planners as we develop the questionnaires, thus enabling the survey instruments to also serve as instruments for tribal planning and management.

The results of the survey should provide a profile of adult tribal members' attitudes and opinions concerning variables within the following general content areas:

1. General attitudes	7. Purchasing patterns
2. Norms, values, and beliefs	8. Housing
3. Population	9. Recreational patterns
4. Employment and the economy	10. Development in the area
5. Commuting patterns	11. Mining
6. Community	12. The effects of mining

We would also ask respondents whether they may move onto the reservation (or away from the reservation) if the proposed project is not developed and if development of the proposed mine/mill complex proceeds.

For a detailed description of our proposed design and administration of the survey, see our report Survey Research Methodology (Exxon Minerals Company, 1980b).

Informant Research. Our informant research would involve interviews with tribal officials and other members of the tribes. The knowledge and insight of people who have experienced changes in the communities over a number of years should be an important consideration in our estimates of future changes in those communities. We would seek out individuals who are particularly knowledgeable about tribal customs and values. We would ask these individuals their expectations of what the future of their communities may be like, both without the Crandon Project and with project development.

Use of informant research acknowledges that people who have lived many years in a society have gained valuable understanding about how life changes through time and that their perceptions of future developments are based on experience and familiarity with their communities.

We would tape record the interviews and maintain the tapes for historical purposes. If the Tribal Councils so desired, we would also photograph special places and items of significance to the tribes.

2. DESCRIPTION OF BASELINE CONDITIONS

The description of current conditions for the Forest County Potawatomi and the Mole Lake Chippewa communities in the local study area is the baseline against which we can measure project-related change over time. Table 2 lists the categories for data we will collect for each of the six elements of the Native American communities analysis. Our worksheets for collecting data in the appendices to this report provide a detailed list of the data we will collect for each element.

Whenever possible, we will compile information for each data item for the past several years. We will then use statistical methods to analyze these time-series data to develop trends, which we will use to estimate future conditions as well as to describe baseline conditions for the reservations.

For housing, public facilities and services, and fiscal conditions, we will evaluate the baseline descriptions for deficiencies and surpluses. If there are deficiencies, we will try to determine the reasons for the situation and estimate the type and cost of resources required to eliminate the deficiency. If there should be a surplus for any of these elements, we will determine the amount of additional demand they can absorb before they reach capacity.

Table 2
BASELINE DATA

<u>Economy</u>	<u>Population</u>	<u>Housing</u>	<u>Public Facilities and Services</u>	<u>Fiscal Conditions</u>	<u>Sociocultural Characteristics</u>
Labor force and employment	Total population: No. males No. females	Number Type	Current demand and capacity: General government	All funds that support public facilities and services/ sources and amounts:	Marriage rate
No. males in labor force	Age distribution	Age	Fire protection	Transfer payments:	Percent unmarried
No. females in labor force			Law enforcement	Bureau of Indian Affairs	Birth rate
No. unemployed	Birth rates	Condition	Education	Dept. of Health, Education, and Welfare	Divorce rate
No. unemployed	Death rates	Occupancy	Solid waste disposal	Dept. of Housing and Urban Development	Ratio of marriages to divorces
No. seeking work	Migration rates	Barriers to development: Legal Institutional Economic Physical	Streets, roads, and public transportation	Economic Development Administration	Cases of and deaths from reported diseases
Types of employment for those employed			Water supply	Other	Death rate
Average wage rate			Wastewater collection and treatment		Employment and unemployment rates
Range of wages			Electric service		Household effective buying income
Stability of employment			Fuel oil		No. acres for recreational use
Seasonality of employment			Natural or LP gas		Percent substandard housing
Locations of employment			Telephone service		No. registered vehicles
Household income			Clinics and hospitals		No. scheduled buses per day
Sources of income other than employment			Emergency medical service		Crime rate
Business establishments:			Health care personnel		No. arrests for alcohol and drug abuse
Type			Public health and welfare		Demand for counseling services
Location of owner			Cultural opportunities		Percent with high school diploma
Gross business volume			Recreational facilities		Percent school age enrolled during past year: Public school BIA school
No. employees: Native American					
can					
Other					
Gross wage payments					
Estimates of future business volume					

ECONOMY

Our baseline description of economic conditions for the Native American communities will include labor force characteristics, household income, sources of income other than employment, and business development on the reservations.

POPULATION

Changes in population result from three factors: births, deaths, and migration. We will describe population trends as they result from the balance of births and deaths since 1969. Migration is a more difficult variable for which to establish a trend or to estimate for the future. Not only are records on migration incomplete, but it is not possible to establish trends in migration with much assurance. Migration may be caused by a complex series of factors that are unique in each time and place. However, we will obtain the best information available on migration for the past 12 years, from which we will develop a range of estimates of migration rates.

HOUSING

In our analysis of housing on the two reservations, we will describe existing housing stock by type, age, vacancy rate, average number of persons per household, and size. If there is a surplus of

housing, we will determine how many additional households the surplus will accommodate. If there is a housing shortage, we will examine the situation for possible legal, institutional, economic, or physical barriers to housing development.

PUBLIC FACILITIES AND SERVICES

The baseline description of public facilities and services will report current demand and current capacities of all the facilities and services listed in Table 2. We will identify facilities and services for which demand exceeds capacity for evaluation in the fiscal baseline description.

FISCAL CONDITIONS

The assessment of fiscal conditions is closely tied to the baseline and cost estimates for public facilities and services. Many facilities and services are paid for by public funds from a variety of sources, including taxes and transfer payments from other units of government. Our baseline description of fiscal conditions for the Native American communities will include an inventory and description of sources and amounts of all funds that support public facilities and services on the reservations.

If we identified deficiencies in any facilities and services during our baseline analysis for that element, we will examine the

revenues for the Native American communities to determine whether there is a fiscal reason for the deficiency.

SOCIOCULTURAL CHARACTERISTICS

We will derive our baseline description of sociocultural characteristics of the Native American communities from time-series data we will collect for the data points listed for the sociocultural indicators shown in Table 3. Sociocultural indicators are indirect means of obtaining information about characteristics that cannot be measured directly. For example, if we assume that a high divorce rate in a society indicates some amount of instability in family relations in that society, we have selected divorce rate as a sociocultural indicator for family stability, which cannot be measured.

Table 3 lists the sociocultural indicators and data sources we will use to describe existing sociocultural characteristics of the Forest County Potawatomi and Mole Lake Chippewa communities. Our report, Sociocultural Assessment Methodology (Exxon Minerals Company, 1980a) describes the theoretical assumptions underlying our choices and use of sociocultural indicators.

We will supplement trends we develop from the data listed in Table 3 with results of our survey research and information from our interviews.

Table 3
SOCIOCULTURAL INDICATOR DATA POINTS AND SOURCES

<u>Indicator</u>	<u>Data Points</u>	<u>Data Source</u>
Marriage	Marriage rate/1,000 population; percent of population unmarried	U.S. Bureau of the Census
Fertility	Birth rate/1,000 population	U.S. Bureau of the Census
Divorce	Divorce rate/1,000 population; ratio of marriages to divorces	County records
Morbidity	Reported illnesses/1,000 population	BIA records
Mortality	Death rate/1,000 population	BIA records
Employment	Employment and unemployment rates	Economic baseline, Native American communities analysis
Consumption	Household effective buying income	Economic baseline, Native American communities analysis
Leisure	Number of acres/1,000 population for recreational use	Housing baseline, Native American communities analysis
Housing	Percent substandard housing	Housing baseline, Native American communities analysis
Transportation	Number of registered vehicles; number of scheduled buses per day	Wisconsin Department of Transportation; public facilities and services baseline, Native American communities analysis
Crime	Crime rate/1,000 population	BIA records
Alcohol and drug abuse	Number of arrests for alcohol and drug abuse; demand for counseling services/1,000 population	BIA records, state, county, and local data
Schooling	Percentage population with high school diploma; percentage school-age population enrolled during past year; percentage school-age population in public school; percentage school-age population in BIA school	BIA records

3. WITHOUT-PROJECT AND WITH-PROJECT FUTURES AND EFFECTS OF THE PROJECT

This chapter describes our techniques for estimating future conditions for each element of the Native American communities analysis. We determine potential effects of the Crandon Project by comparing the without-project future to the with-project futures. Differences in the estimates for the futures without the project and with the project are considered to be attributable to the project.

ECONOMY

We will analyze the baseline characteristics of economic conditions on the two reservations by means of an "economic base study." With this approach, we estimate future conditions on the basis of current capacities of the labor force and businesses on each reservation. This approach is more qualitative than other methods of economic analysis, but it is better suited to analyzing relatively small local economies. A major advantage of this type of analysis is that it is based on specific local conditions, and we can incorporate local goals and objectives such as those of the tribes' Overall Economic Development Programs. Because economic conditions on the reservations are

somewhat related to those of the surrounding area, we will coordinate our estimates for the without-project future with the forecasts of economic conditions for the local study area as a whole from the overall socioeconomic assessment.

To estimate the economy of the Native American communities with project development and after project closing, we will use the with-project economic forecasts for the local study area. The forecasts for the local study area include estimates of employment of Native Americans by the Crandon Project.

In addition, we will identify types of business and commercial activities that may be stimulated by project development and that the tribes may consider as potential economic development projects. We will compare our with-project estimates of economic conditions for the reservations with the economic development goals as stated in the tribes' Overall Economic Development Programs. This comparison will reveal possible areas of conflict between our estimates and the tribes' plans. We will also identify any beneficial or other effects that project development, related economic activities, and project closing may have on the tribes' economic development and employment opportunities.

POPULATION

We will estimate future populations for the Native American communities on the basis of births, deaths, and migration, as shown in equation (1):

$$\text{future population} = \text{current population} + (\text{births} - \text{deaths}) + \text{net migration} \quad (1)$$

To estimate population with project development, we will use estimates of migration rates from our baseline description that reflect possible effects of the mine/mill complex on migration rates. We will have estimated these migration rates from our analysis of time-series data on migration and from responses to our survey question concerning possible intent to move onto or away from the reservation.

HOUSING

We will estimate future housing demand by first estimating the number of new households for whom housing will be needed on the reservations. We will determine the number of new households from our population estimates for the reservations and from responses to our survey question concerning whether off-reservation tribal members may consider moving onto the reservation.

Next, we will estimate the number of housing units that will be available to accommodate future households on the reservations. The basis for this estimate will be the age of existing housing stock and

demolition rates from our baseline description, from which we will estimate the number of housing units that will be lost from the current supply over time.

We will estimate the number and types of housing units that will be needed on the reservations from our description of current household characteristics in the housing baseline. These estimates of housing needs for the without-project and with-project futures will include replacement housing for those units expected to be subtracted from the existing housing stock.

There are several factors that affect the supply of and demand for housing other than those included in our baseline description. These include availability of land suitable for development, availability of basic services such as fire protection, capacity of the local construction industry to build new units, sources of funds for home construction, sources of funds for provision of services, and availability of financing for home purchases. We will consider all of these factors in our estimates of possible future demand for and supply of housing on the reservations.

In our estimates of future housing needs, we will also identify legal, institutional, economic, or physical factors that may be deterrents to the provision of new housing.

PUBLIC FACILITIES AND SERVICES

We will estimate future demand for public facilities and services from our estimates of future populations and the effective reserve capacity of each facility and service. We will then estimate to what extent each facility and service may have to be expanded to meet new demand, and how much that expansion is likely to cost.

We will use the "case study method" (Burchell and Listokin, 1978) to evaluate capacities of facilities and services for the without-project and with-project futures. Our estimates of future demands for public facilities and services will be based on one of three approaches, depending on whether the facility or service under consideration is one that:

1. Represents a large capital expenditure
2. Consists mostly of operation and maintenance costs
3. Is privately supported or is supported by state or federal agencies

For a facility or service that represents a large capital expenditure, we first calculate current effective reserve capacity by subtracting current peak demand from current effective capacity, as shown in equation (2):

$$\text{effective reserve capacity} = \text{effective capacity} - \text{peak demand} \quad (2)$$

Effective reserve capacity is the amount of new demand a facility or service can absorb and still continue to operate safely and smoothly.

Similarly, effective capacity is the total demand that can be realistically and continuously met by a facility or service. We use values for effective capacity and peak demand in order to obtain a more conservative estimate of reserve capacity.

Next, we estimate future peak demand by means of equation (3):

$$\text{future peak demand} = \left(\text{demand coefficient} \times \text{independent variable} \right) + \text{current peak demand} \quad (3)$$

For this equation, we will assume that an increase in population is the major cause of increased demand. Thus, an estimate of future population would be the independent variable. The demand coefficient is the amount of demand resulting from one unit of the independent variable; in this case, it would be amount of demand per capita.

To find future effective reserve capacity, substitute future peak demand for peak demand in equation (2); the result will be effective reserve capacity of the facility or service under conditions of increased demand but with no increase in effective capacity.

Inserting the values from equation (2) into equation (4) gives the percentage of effective capacity remaining in reserve:

$$\% \text{ effective capacity in reserve} = \frac{\text{effective reserve capacity}}{\text{effective capacity}} \times 100 \quad (4)$$

For public facilities and services that consist mostly of operation and maintenance costs, such as tribal administration, we use equation (3) to estimate operation and maintenance costs. As for our calculation for future demand for facilities and services with large

capital expenditures, the independent variable would be an estimate of future population, and the demand coefficient would be amount of demand per capita. For both of these types of facilities and services, we can estimate future demand for each year of project development or for periodic intervals, such as every five years.

Facilities and services that are privately supported or that are supported by state or federal agencies include services such as medical care, electricity, telephone, and public health and welfare services. We will identify the organizations that provide these services to the reservations, and we will interview the appropriate managers of those facilities and services to obtain the following information:

1. Any physical, economic, or legal factors that limit the amount of service that can be provided to the reservations
2. Any special charges for provision of service to the reservations
3. Any plans for increasing or decreasing service to the reservations
4. How the provider of the service might respond to increased demands for service on the reservations
5. Any observable trends in state and federal appropriations that would increase or decrease the level of service provided to the reservations

Our estimates for future demand for and capacities of facilities and services in this category can only be descriptions of possible trends. Decisions about providing services such as medical care, telephone service, electricity, or public health or welfare are usually based

on private business considerations or on political action at the state or federal level of government, removed from local concerns.

FISCAL CONDITIONS

We will use the estimates of costs for public facilities and services, which we derived as we estimated future conditions for that element, to estimate the futures for fiscal conditions. We will compare these cost estimates to estimated revenues to determine whether revenues will be sufficient to meet increased costs for public facilities and services. Insofar as possible, we will identify which sources of revenue will be most greatly affected by increased costs that may result from new demands for facilities and services.

SOCIOCULTURAL CHARACTERISTICS

Because the direction of change in a society's sociocultural characteristics depends on a complex mixture of events and factors, estimates of future sociocultural characteristics should never be interpreted as more than broad possibilities. Our estimates of sociocultural characteristics of the Native American communities, based on trends we established from the time-series data listed in Table 3, are broad indicators of possible sociocultural trends.

Interpretation of the results of our survey of Native Americans and of information we obtain in our interviews would either support

our estimates, or they would provide a basis for modifying them. Thus, the combination of quantitative and qualitative techniques will result in estimates of future sociocultural characteristics of the Native American communities that are more reliable than those we could derive from either method alone.

Appendix A
WORKSHEETS FOR COLLECTING ECONOMIC DATA

Native American Communities
Economics--Labor Force

Reservation _____

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Size of total potential labor force within and adjacent to the reservation												
Males												
Females												
Size of total potential labor force within the reservation												
Males												
Females												
Total employed												
Males												
Females												
Employed, earning \$5,000 or more a year (all jobs)												
Males												
Females												
Employed, earning less than \$5,000 a year (all jobs)												
Males												
Females												
Total underemployed												
Males												
Females												
Total unemployed												
Males												
Females												
Unemployed actively seeking work												
Males												
Females												

Native American Communities
Economics--Labor Force/2

Reservation _____

Types of Employment of Those Employed:

<u>Job Type/Name</u>	<u>Number Employed</u>	<u>Average Wage Rate</u>	<u>Normal Range of Wage Rates</u>	<u>Stability/Seasonality of Employment</u>	<u>Employment Location</u>
----------------------	------------------------	--------------------------	-----------------------------------	--	----------------------------

Sources of Income Other Than Employment:

<u>Source(s)</u>	<u>Purpose/Justification</u>	<u>% of Households Receiving Extra Income</u>	<u>Average Amount of Income Received per Source for Households Receiving Extra Income</u>
------------------	------------------------------	---	---

% of Reservation Households in each Income Category:

<u>Less than \$5,000</u>	<u>\$5,000-\$7,999</u>	<u>\$8,000-\$11,999</u>	<u>\$12,000-\$14,999</u>	<u>\$15,000 and over</u>
--------------------------	------------------------	-------------------------	--------------------------	--------------------------

Native American Communities
Economics--Businesses

Reservation _____

<u>Type of Business</u>	<u>Location Of Owner</u>	<u>Gross Business Volume</u>	<u>Number of Employees</u> Indian / Non-Indian	<u>Gross Wage Payments</u>	<u>Future Projections Of Business Volume Years</u>
-------------------------	--------------------------	------------------------------	---	----------------------------	--

Appendix B
WORKSHEET FOR COLLECTING POPULATION DATA

Native American Communities Population

Reservation _____

1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980

Total population within
and adjacent to reservation

Males
Females

Total population within
reservation

Males
Females

Age Distribution:

0-4 years
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
60-64
65-69
70-74
75 +

Birth Rate

Death Rate

Migration Rate

Appendix C
WORKSHEETS FOR COLLECTING HOUSING DATA

Native American Communities
Housing

Reservation _____

<u>Type of Housing Unit</u>	<u>Number of Housing Units Or Number Of Units</u>	% of Housing Type in each Age Category					
		<u>5 yrs.</u>	<u>5-10 yrs.</u>	<u>11-15 yrs.</u>	<u>16-20 yrs.</u>	<u>21-30 yrs.</u>	<u>31+ yrs.</u>

% of Housing Type In _____ Condition			<u>% of Housing Type Occupied</u>	<u>Average Household Size (# Persons) Per Housing Type</u>
<u>Dilapidated</u>	<u>Substandard</u>	<u>Standard</u>		

**Native American Communities
Housing/2**

Restrictions/Barriers To Meeting the Reservation's Housing Needs:

<u>Type</u>	<u>Cause/ Purpose/Restrictions</u>
Legal	
Administrative	
Economic	
Physical	

Appendix D
WORKSHEETS FOR COLLECTING
PUBLIC FACILITIES AND SERVICES DATA

Native American Communities
Public Facilities and Services Reservation _____
Fire Protection/1

	<u>1970</u>	<u>1975</u>	<u>1979</u>
Population served			
Number of full-time firefighters			
Number of full-time firefighters/capita			
Number of volunteer firefighters			
Number of volunteer firefighters/capita			
Number of administrative personnel			
Number of administrative personnel/capita			
Number of pieces of motorized equipment			
Salary costs (including fringe benefits)			
Expenditures for materials and supplies			
Expenditures for operation and maintenance of motorized equipment			
Expenditures for equipment			
Key rate			
Total number of calls			
Number of residential calls			
Number of emergency calls other than fire			

Facilities:

<u>Station Number or Designation</u>	<u>Location</u>	<u>Floor Space (ft.²)</u>	<u>General Condition</u>	<u>Age</u>

Vehicles and Equipment:

<u>Type</u>	<u>Number</u>	<u>Age</u>	<u>Condition</u>	<u>Expected Life Span</u>

Communication Equipment:

Type	Age	Adequacy:	Poor	Fair	Good	Excellent

Native American Communities
Public Facilities and Services Reservation _____
Fire Protection/2

Cooperative Agreements:

Cooperating jurisdictions
Nature of agreements
Policy regarding calls outside service area

Emergency Service Other than Fires:

Types of services provided
Specialized equipment available
Provisions for industrial accidents, oil and chemical spills

Personnel Utilization:

List of duties and percent of time involved in each
Normal work schedule

Planned Modifications:

	<u>Type of Modification</u>	<u>Schedule</u>	<u>Estimated Cost</u>
Personnel			
Equipment			
Facilities			

Sources of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>

Debt:

<u>Type</u>	<u>Amount</u>	<u>Amortization Schedule</u>

Native American Communities
Public Facilities and Services Reservation _____
Solid Waste/1

1970 1975 1979

Population served
Demand (tons/week)
Demand/capita
Number of operation and service personnel
Salary costs (including fringe benefits)
Expenditures on materials and supplies
Number of collection vehicles
Operation costs for collection vehicles
Number of site maintenance equipment
Operation costs for site maintenance equipment

Disposal Sites:

<u>Site Number or Designation</u>	<u>Size of Site</u>	<u>Expected Remaining Useful Life</u>	<u>Violations or Modification Orders</u>

Collection and Site Maintenance Equipment:

<u>Type</u>	<u>Number</u>	<u>Age</u>	<u>Condition</u>

Cooperative Agreements:

Participating Jurisdictions
Nature of Agreements

Personnel and Equipment Utilization:

Collection schedules
Employee schedules
Average pick-ups/minute
Vehicle maintenance schedule
Downtime for average vehicle

Native American Communities
Public Facilities and Services Reservation _____
Solid Waste/2

Planned Modifications:

<u>Type of Modification</u>	<u>Schedule</u>	<u>Estimated Cost</u>
Personnel		
Equipment		
Facilities		

Sources of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>

Debt:

<u>Type</u>	<u>Amount</u>	<u>Amortization Schedule</u>

Native American Communities
 Public Facilities and Services Reservation _____
 Law Enforcement/1

	<u>1970</u>	<u>1975</u>	<u>1979</u>
Population served			
Number of full-time certified officers			
Number of full-time certified officers/ capita			
Number of part-time officers			
Number of part-time officers/capita			
Number of administrative personnel			
Number of administrative personnel/ capita			
Number of jail personnel			
Number of jail personnel/capita			
Number of patrol vehicles			
Number of patrol vehicles/capita			
Salary costs (including fringe benefits)			
Expenditures for materials and supplies			
Expenditures for operation and maintenance of patrol vehicles			
Expenditures for purchase of patrol vehicles			

Office Facilities:

Floor space (ft. ²)							
Age							
General Condition: Poor	____	Fair	____	Good	____	Excellent	____
General Adequacy: Poor	____	Fair	____	Good	____	Excellent	____

Detention Facilities:

Floor space (ft. ²)							
Number of cells							
Age							
State Certification: Yes	____	No	____				
General Condition: Poor	____	Fair	____	Good	____	Excellent	____
General Adequacy: Poor	____	Fair	____	Good	____	Excellent	____

Vehicles:

Type	Number	Age	Condition	Expected Life Span
------	--------	-----	-----------	--------------------

Native American Communities
Public Facilities and Services
Law Enforcement/2 Reservation _____

Vehicles (continued):

Utilization practice
Number of patrol officers/vehicle
Hours of use/day
Days of use/week
Frequency of scheduled maintenance
Downtime for average vehicle
Cost of typical patrol vehicle

Communication Equipment:

Type
Age
Adequacy: Poor ____ Fair ____ Good ____ Excellent ____

Officer Utilization:

Percent time allocated to
Patrol Briefing Reporting Office Duties Training Other

Normal officer work schedule

Cooperative Agreements:

Cooperating jurisdictions
Nature of agreements

Planned Modifications:

Type of Modification	Schedule	Estimated Cost
Personnel		
Equipment		
Facilities		

Native American Communities
Public Facilities and Services Reservation _____
Law Enforcement/3

Sources of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>

Debt:

<u>Type</u>	<u>Amount</u>	<u>Amortization Schedule</u>

Native American Communities
 Public Facilities and Services
 Water Supply/1

Reservation _____

1970 1975 1979

Population served
 Number of connections
 Peak daily demand (MGD)
 Peak daily demand/capita (GD)
 Peak daily demand/connection (GD)
 Average daily demand ((MGD)
 Average daily demand/capita (GD)
 Average daily demand/connection (GD)
 Production capacity (MGD)
 Storage capacity (MG)
 Delivery capacity (MGD)
 Number of operation and maintenance
 personnel
 Number of administrative personnel
 Salary costs (including fringe benefits)
 Expenditures on materials and supplies
 Expenditures on equipment (including
 vehicles)

Wells:

<u>Designation or Number</u>	<u>Production Capacity (MGD)</u>	<u>Current Demand(MGD)</u>	<u>Effective Reserve Capacity(MGD)</u>	<u>Age</u>	<u>Expected Remaining Useful Life</u>
----------------------------------	--------------------------------------	--------------------------------	--	------------	---

Pumps:

<u>Designation or Number</u>	<u>Capacity (MGD)</u>	<u>Current Demand (MGD)</u>	<u>Effective Reserve Capacity (MGD)</u>	<u>Age</u>	<u>Expected Remaining Useful Life</u>
----------------------------------	---------------------------	-------------------------------------	---	------------	---

Treatment System:

<u>Plant Designation or Number</u>	<u>Type</u>	<u>Capacity (MGD)</u>	<u>Current Demand (MGD)</u>	<u>Effective Reserve Capacity (MGD)</u>	<u>Age</u>	<u>Expected Remaining Useful Life</u>
--	-------------	---------------------------	-------------------------------------	---	------------	---

Native American Communities
Public Facilities and Services Reservation _____
Water Supply/2

Storage:

<u>Designation or Number</u>	<u>Type</u>	<u>Capacity</u>	<u>Current Use</u>	<u>Effective Reserve Capacity</u>	<u>Age</u>	<u>Expected Remaining Useful Life</u>
----------------------------------	-------------	-----------------	------------------------	---	------------	---

Distribution System:

Total linear feet (1000's) of distribution lines

Percent of total lines in each size category

1" 2" 3" 4" 5" 6" 7" 8" 9" 10" 11" 12" 13" 14"

Planned Modifications:

<u>Personnel Equipment Facilities</u>	<u>Type of Modification</u>	<u>Schedule</u>	<u>Estimated Cost</u>
---	---------------------------------	-----------------	---------------------------

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
-------------	-----------------------	-----------------------------

Debt:

<u>Type</u>	<u>Amount</u>	<u>Amortization Schedule</u>
-------------	---------------	------------------------------

Native American Communities
 Public Facilities and Services Reservation _____
 Wastewater Collection and Treatment/1

1970 1975 1979

Population served
 Number of connections
 Peak daily demand (MGD)
 Peak daily demand/capita (GD)
 Peak daily demand/connection (GD)
 Average daily demand (MGD)
 Average daily demand/capita (GD)
 Average daily demand/connection (GD)
 Treatment capacity (MGD)
 Collection capacity (MGD)
 Number of operation and maintenance personnel
 Number of administrative personnel
 Salary costs (including fringe benefits)
 Expenditures on materials and supplies
 Expenditures on equipment

Treatment System:

<u>Plant Designation or Number</u>	<u>Type</u>	<u>Capacity (MGD)</u>	<u>Current Demand (MGD)</u>	<u>Effective Reserve Capacity (MGD)</u>	<u>Age</u>	<u>Expected Remaining Useful Life</u>
--	-------------	---------------------------	-------------------------------------	---	------------	---

Collection System:

Total linear feet (1000's) of collection lines
 Infiltration rates
 Number and condition of lift stations

Planned Modifications:

<u>Type of Modification</u>	<u>Schedule</u>	<u>Estimated Cost</u>
---------------------------------	-----------------	---------------------------

Personnel
 Equipment
 Facilities

Native American Communities
Public Facilities and Services Reservation _____
Wastewater Collection and Treatment/2

Sources of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>

Debt:

<u>Type</u>	<u>Amount</u>	<u>Amortization Schedule</u>

Native American Communities
Public Facilities and Services Reservation _____
Education/1 Facility _____

	<u>1970</u>	<u>1975</u>	<u>1979</u>
Number of pupils enrolled			
Average daily attendance			
Number of full-time teachers			
Average daily attendance/full-time teacher			
Number of part-time teachers			
Average daily attendance/part-time teacher			
Number of administrative personnel			
Average daily attendance/administrative personnel			
Number of service personnel (food, custodial)			
Average daily attendance/service personnel			
Average daily attendance/classroom			
Number of pupils in bus program			
Number of buses			
Salary costs (including fringe benefits)			
Expenditures for materials and supplies			
Operation and maintenance costs of bus program, including personnel			
Expenditures for utilities			
Expenditures for equipment			
Total expenditures per pupil			

Facility:

Size (ft.²)

Number of classrooms

Other features (gymnasium, cafeteria, etc.) and size of each

General condition: Poor Fair Good Excellent

Age

Age
Maximum number of pupils that have used the facility during any given school year

Is the facility overcrowded?

Is the facility overcrowded?
Could the facility handle more pupils?

If so, how many?

Is the facility adequate for current programs?

Native American Communities Reservation _____
Public Facilities and Services Facility _____
Education/2

Instructional Equipment:

List type and number of specialized equipment
Is equipment adequate for current programs?

Curriculum:

List subjects in curriculum

Bus Program (for entire district):

Number of buses

Number of buses in each age category

Less than 1 yr. old 1-3 yrs. old 4-6 yrs. old More than 6 yrs. old

Replacement schedule for buses

Cost of typical bus

Planned Modifications:

	<u>Type of Modification</u>	<u>Schedule</u>	<u>Estimated Cost</u>
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type Current Amount Purpose/Restrictions

Debt:

Type Amount Amortization Schedule

Native American Communities
 Public Facilities and Services
 Clinics and Hospitals/1

Reservation	_____
Facility	_____
Ownership	_____

	1970	1975	1979
Number of beds			
Average occupancy rate			
Total number of patients served			
Total number of physicians using facility			
Physicians using facility by type			
G.P. (or family practice)			
O.B./Gyn.			
Internist			
Orthopedic			
Anesthesiology			
Cardiovascular			
General Surgery			
Pediatrics			
Other			
Number of RN's			
Number of LPN's			

Facilities and Equipment Available:

Type	Number	Capacity	Current Demand	Effective Reserve Capacity
------	--------	----------	----------------	----------------------------

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Amount	Purpose/Restrictions
------	--------	----------------------

Native American Communities
Public Facilities and Services
Clinics and Hospitals/2

Reservation	_____
Facility	_____
Ownership	_____

Debt:

<u>Type</u>	<u>Amount</u>	<u>Amortization Schedule</u>
-------------	---------------	------------------------------

Geographic Origins of Users:

Percent of total patients served who came from

Local city

Local county

Adjacent county

County other than adjacent county

List of counties of origin other than local county

Native American Communities
Public Facilities and Services Reservation _____
Health Care Personnel

	<u>1970</u>	<u>1975</u>	<u>1979</u>
Total number full-time physicians who practice in the jurisdiction			
Total number part-time physicians who practice in the jurisdiction			
Physicians by specialty who practice in the jurisdiction			
G.P. (or family practice)			
O.B./Gyn.			
Internist			
Orthopedic			
Anesthesiology			
Cardiovascular			
General Surgery			
Pediatrics			
Other (specify)			
Total number full-time dentists who practice in the jurisdiction			
Total number part-time dentists who practice in the jurisdiction			
Total number full-time RN's who practice in the jurisdiction			
Total number part-time RN's who practice in the jurisdiction			
Total number full-time LPN's who practice in the jurisdiction			
Total number part-time LPN's who practice in the jurisdiction			

Recognized Excess or Deficiencies:

Does the local medical association (or other relevant group) state that a surplus or deficiency of medical personnel exists in the jurisdiction?

State source and nature of any perceived surplus or deficiency

Native American Communities
Public Facilities and Services
Public Health and Welfare Services

Reservation _____

<u>Service</u>	<u>Provider</u>	<u>Location of Nearest Office</u>	<u>No. of Staff in Nearest Local Office</u>	<u>Budget for Nearest Local Office</u>	<u>Numbers of Clients Served by Nearest Local Office</u>
				<u>1970</u> <u>1975</u> <u>1979</u>	<u>1970</u> <u>1975</u> <u>1979</u>

Native American Communities
Public Facilities and Services Reservation _____
Emergency Medical Service/1

Supplier of EMS to the Jurisdiction:

Location of Nearest Station:

Emergency Equipment Available at that Station:

<u>Type</u>	<u>Number</u>	<u>Condition</u>
-------------	---------------	------------------

Number of Certified Personnel Available at Nearest Station:

Schedule of Availability of Equipment and Personnel:

Average Response Time to the Jurisdiction:

Average Run Time to Emergency Care Facility:

Types of Life-Support Services and Equipment Provided During the Run:

Is Radio Contact Provided with a Physician?

Sources of Funds:

<u>Type</u>	<u>Amount</u>	<u>Purpose/Restrictions</u>
-------------	---------------	-----------------------------

Native American Communities
Public Facilities and Services Reservation _____
Emergency Medical Service/2

Rate Structure:

<u>Amount/Call</u>	<u>Amount/Mile</u>	<u>Other Charges</u>
--------------------	--------------------	----------------------

Planned Modifications:

	<u>Type of Modification</u>	<u>Schedule</u>	<u>Estimated Cost</u>
Personnel			
Equipment			
Facilities			

Native American Communities
Public Facilities and Services
Electric Service Reservation _____

1970 1975 1979

Number of connections
Unit Cost
Cost for new service connections
 Line cost/100 yards
 Meter fee
 Connection fee
 Other charges

Limitations on Capacity Expansion:

Transmission lines
Generating capacity

Supplier(s) of Service to the Jurisdiction:

Does supplier participate in regional or state network?

Native American Communities Public Facilities and Services Reservation _____
Fuel Oil

1970 1975 1979

Number of users
Unit cost

Limitations on Capacity Expansion:

Supply
Distribution
Other

Supplier(s) in the Jurisdiction:

Native American Communities Public Facilities and Services Reservation _____
Natural or LP Gas

	<u>1970</u>	<u>1975</u>	<u>1979</u>
Number of connections or services			
Unit cost			
Cost for new service connections			
Line cost/100 yards			
Tank cost			
Connection fee			
Other charges			

Limitations on Capacity Expansion:

Supply
Distribution
Other

Supplier(s) in the Jurisdiction:

Native American Communities
Public Facilities and Services Reservation _____
Telephone Service

	<u>1970</u>	<u>1975</u>	<u>1979</u>
Number of connections			
Base service charge			
Cost for new service connections			
Line cost/100 yards			
Connection fee			
Other charges			

Limitations on Capacity Expansion:

Supplier(s) in the Jurisdiction:

Native American Communities
Public Facilities and Services
Cultural Opportunities
(Libraries, Museums, Art Galleries, Monuments and Memorials)

Reservation _____

<u>Type of Cultural Opportunity</u>	<u>Supporting Organization</u>	<u>Size (ft. ²)</u>	<u>Budget</u>			<u>Number of Users</u>		
			<u>1970</u>	<u>1975</u>	<u>1979</u>	<u>1970</u>	<u>1975</u>	<u>1979</u>

Appendix E
WORKSHEET FOR COLLECTING FISCAL DATA

Native American Communities
Fiscal

Reservation _____

Sources of Funds for Financing Public Facilities and Services:

Source	Type	Eligibility Requirements or Formula		Amount			Debt (If Any)	Amortization Schedule (If Any)
		1969	1974	1979				
Bureau of Indian Affairs								
Dept. of Health, Education & Welfare								
Dept. of Housing & Urban Development								
Economic Development Administration								
Tribal Government Bonds Other loans								

Appendix F
WORKSHEET FOR COLLECTING SOCIOCULTURAL DATA

Native American Communities Sociocultural Indicator Data

Reservation _____

1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979

Marriage rate/
1,000 population

Birth rate/
1,000 population

**Reported illnesses/
1,000 population**

Death rate/
1,000 population

Crime rate/
1,000 population

Demand for alcohol
and drug abuse
counseling services/
1,000 population

Percent school age population enrolled during past school year

Percent population
with high school
diploma

Percent school age population in public school

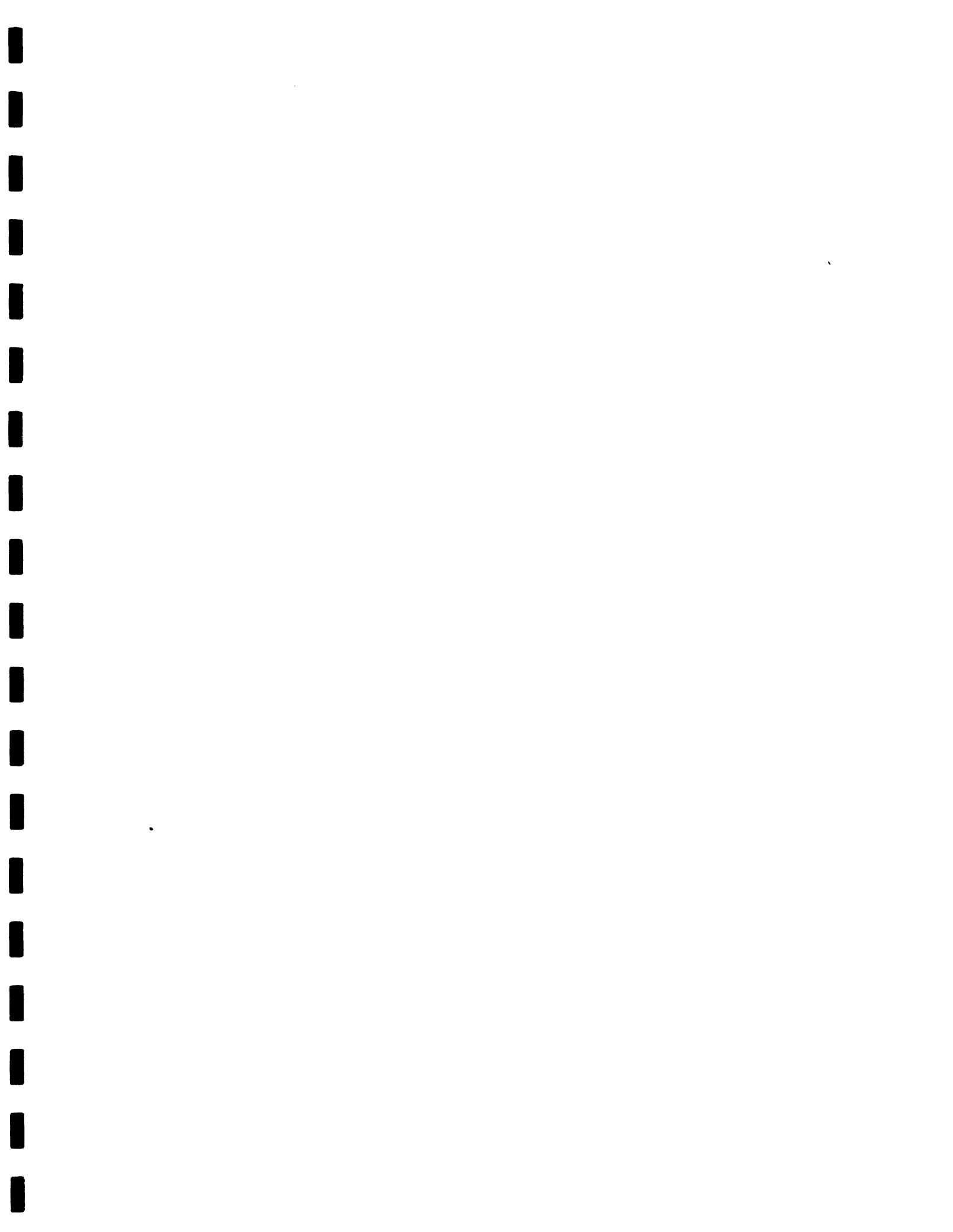
Percent school age population in BIA school

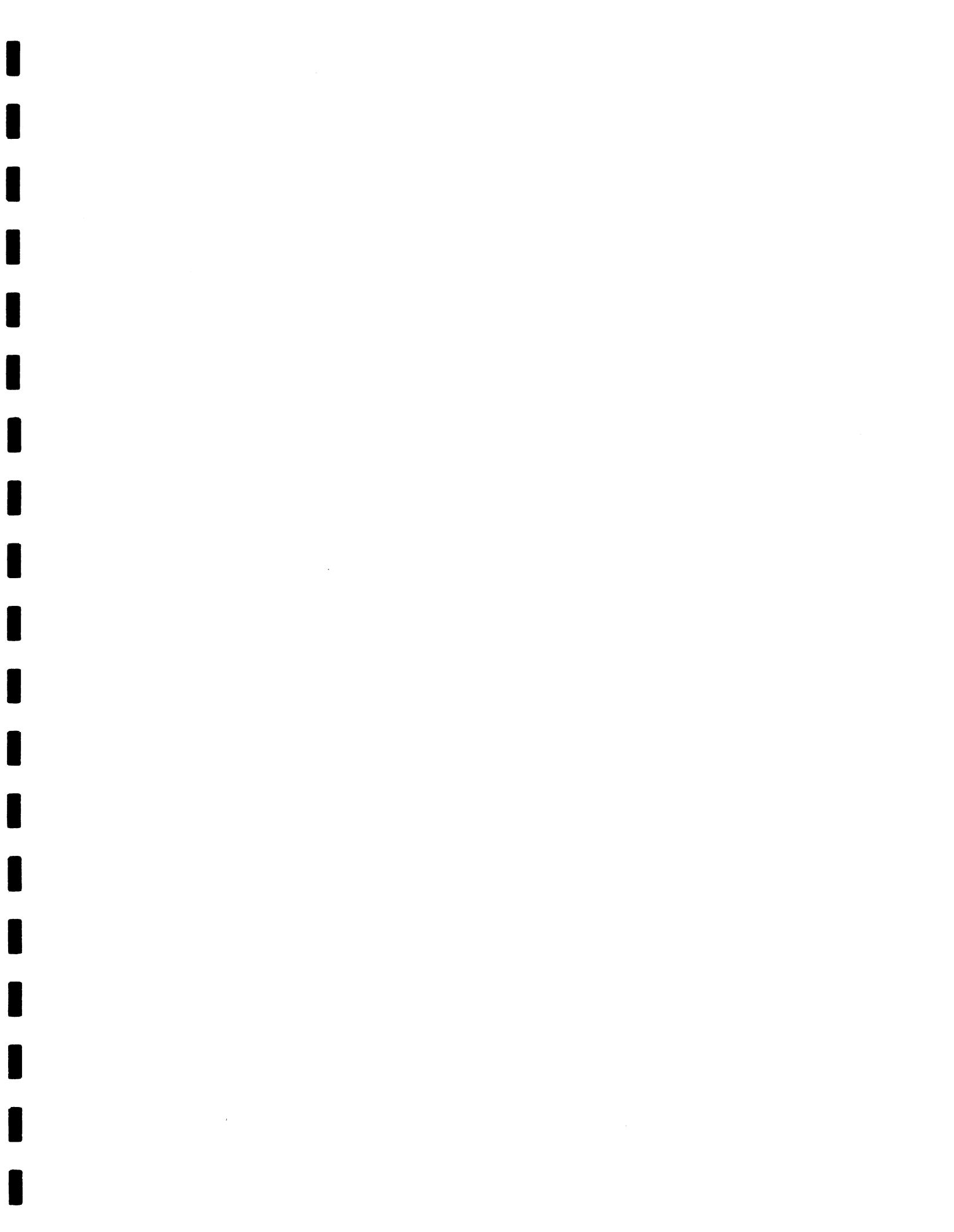
REFERENCES

Burchell, R.W. and D. Listokin. 1978. The Fiscal Impact Handbook.
New Brunswick, New Jersey: The Center for Urban Policy Research.

Exxon Minerals Company. 1980a. Sociocultural Assessment Methodology,
Socioeconomic Assessment, Exxon Crandon Project. Prepared by
RPC, Inc. for Exxon Minerals Company. Rhinelander, Wisconsin.

_____. 1980b. Survey Research Methodology, Socioeconomic
Assessment, Exxon Crandon Project. Prepared by RPC, Inc. for
Exxon Minerals Company. Rhinelander, Wisconsin.





UW-STEVENS POINT



3 1775 621470 3