MISSOURI COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF MISSOURI
& LINCOLN UNIVERSITY

```
                        EBASE
        (ESTIMATING LOCAL ECONOMIC BASE
              AND MULTIPLIER IMPACTS
        OF INCOME & EMPLOYMENT CHANGES)


                  REPORT NO. 49
```
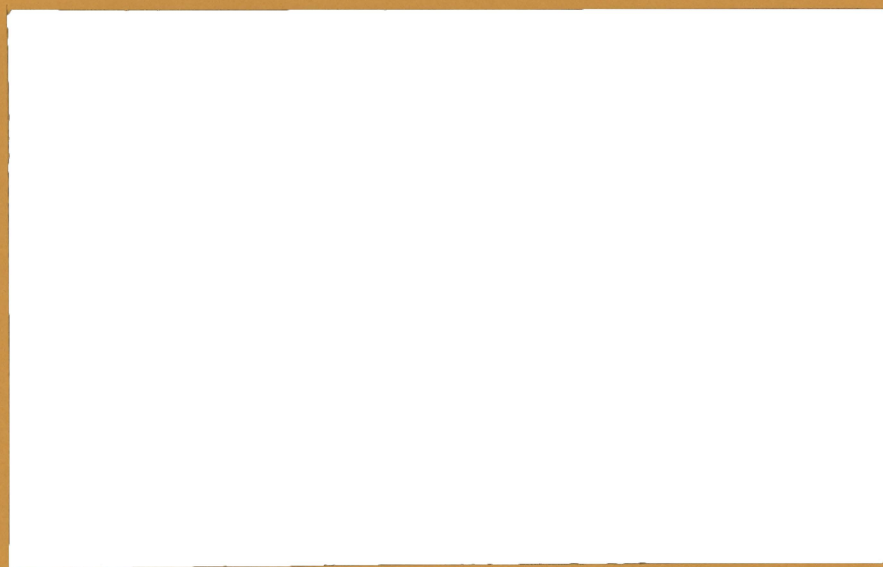
**OFFICE OF SOCIAL AND
ECONOMIC DATA ANALYSIS**

**8th Floor Clark Hall
Columbia, MO 65211
314/882-7396**

EBASE
(ESTIMATING LOCAL ECONOMIC BASE
AND MULTIPLIER IMPACTS
OF INCOME & EMPLOYMENT CHANGES)

REPORT NO. 49

DECEMBER 1982

EBASE

ECONOMIC BASE

OBJECTIVE

This program estimates the economic base of a non metropolitan area from income and/or employment data. Once the economic base has been estimated, the impact of employment or income changes on various sectors of the local economy is projected.

CREDITS

This program was developed at the University of Missouri by John Kuehn, Bill Elder and Mimi Hess. It is based on research reported in "Economic Base Multipliers and Community Growth" by John Kuehn, Curtis Braschler and John Croll.

REQUIRED INPUT DATA

Employment and Income data for various industry classification are required. This data is compiled by the Bureau of Economic Analysis of the U.S. Dept. of Commerce and is available for Missouri counties thorough the Missouri Cooperative Extension Service, Office of Social and Economic Data Analysis, 809 Clark Hall, Columbia, Mo. 65201. 314-882-7396.

RUNNING THE PROGRAM

You will be given an opportunity to read the program instructions and then if you proceed you will be asked to identify the county you wish to analyze. You will need to indicate whether the county has a town with a population of 2500 persons. This factor adjusts the multiplier values. Next, you will be presented with a menu to determine whether you wish to run employment or income estimates and depending on your response, you will be prompted for the input data described on the attached form. Once you have entered the employment or income data the totals will be checked, any discrepancy noted and changes in the values made as you indicate.
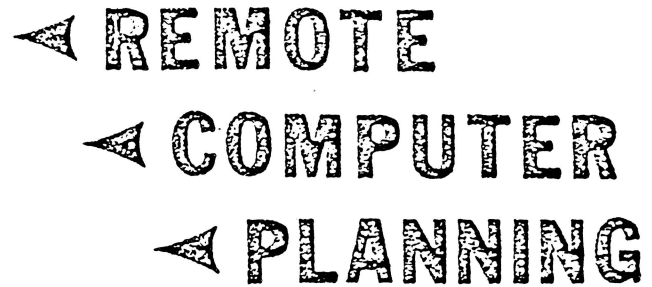
When the totals are correct, the economic base table will be printed and you will be asked if you wish to analyze the impact of changes in the base.

If you do, you will be asked to identify the industry sector and the amount of change in employment or income. A low, average & high estimate of the impact will then be printed for elements of the local economy. The main program menu will then reappear so that you may select another option.

ERROR ANALYSIS

Various error messages are possible. Each message describes what has happened and what to do next. Most often the program will ask you to reenter a value. If the same error runs repeatedly, the program will end automatically.

There is a special error routine associated with the input of employment and income data. The program will not proceed until the items total exactly. When there is a difference the program will continue to note the discrepancy for you, offer options to resolve it; and act on your selection until the total is correct.

◄ REMOTE
◄ COMPUTER
◄ PLANNING

INPUT FORM FOR
EBASE
(ECONOMIC BASE PROGRAM)

EMPLOYMENT DATA

COUNTY: _____   _____   _____

1. TOTAL EMPLOYMENT: _____   _____   _____

2. FARM PROPRIETORS: _____   _____   _____

3. NONFARM PROPRIETORS: _____   _____   _____

4. FARM: _____   _____   _____

5. AGRIC. SERV., FORESTRY,
   FISHERIES AND OTHER: _____   _____   _____

6. MINING: _____   _____   _____

7. CONSTRUCTION: _____   _____   _____

8. MANUFACTURING: _____   _____   _____

9. TRANSPORTATION,COMMUNICATIONS
   AND UTILITIES: _____   _____   _____

10. TRADE: _____   _____   _____

11. FINANCE, INSURANCE AND REAL
    ESTATE: _____   _____   _____

12. SERVICES: _____   _____   _____

13. FEDERAL CIVILIAN: _____   _____   _____

14. FEDERAL MILITARY: _____   _____   _____

15. STATE AND LOCAL: _____   _____   _____

16. SS RECIPIENTS: _____   _____   _____

INCOME DATA

COUNTY: _____ _____ _____

1. TOTAL LABOR AND PROPRIETORS'
   INCOME BY PLACE OF WORK: _____ _____ _____

2. FARM LABOR AND PROPRIETORS'
   INCOME: _____ _____ _____

3. AGRICULTURAL SERVICES, FORESTRY,
   FISHERIES & OTHER: _____ _____ _____

4. MINING: _____ _____ _____

5. CONSTRUCTION: _____ _____ _____

6. MANUFACTURING: _____ _____ _____

7. TRANSPORTATION, COMMUNICATIONS
   AND UTILITIES: _____ _____ _____

8. WHOLESALE AND RETAIL TRADE: _____ _____ _____

9. FINANCE, INSURANCE, AND REAL
   ESTATE: _____ _____ _____

10. SERVICES: _____ _____ _____

11. FEDERAL CIVILIAN: _____ _____ _____

12. FEDERAL MILITARY: _____ _____ _____

13. STATE AND LOCAL: _____ _____ _____

14. DIVIDENDS, INTEREST, AND RENT: _____ _____ _____

15. TRANSFER PAYMENTS: _____ _____ _____

```
UUUU        UUUU
UUUU        UUUU
UUUU        UUUU
UUUU        UUUU
UUUU        UUUU   MMMM      MMMM
UUUU        UUUU   MMMM  MMM MMMM
UUUUU      UUUUU   MMMM   M  MMMM
  UUUUUUUUUUUU     MMMM      MMMM
                   MMMM      MMMM
                   MMMM      MMMM
                   MMMM      MMMM
                   MMMM      MMMM
```

UNIVERSITY OF MISSOURI
COOPERATIVE EXTENSION DIVISION

ESTIMATING LOCAL ECONOMIC BASE AND MULTIPLIER IMPACTS

THIS PROGRAM IS DESIGNED TO HELP ESTIMATE
BOTH EMPLOYMENT AND INCOME BASE AND PROJECT IMPACTS OF KNOWN
CHANGES IN BASIC EMPLOYMENT OR INCOME THROUGH MULTIPLIERS FOR
NONMETROPLITAN COUNTY TRADE AREAS.

    DO YOU WISH TO READ AN INTRODUCTION AND DESCRIPTION
OF THE PROGRAM OR PROCEED DIRECTLY TO THE MENU?

    A.   PLEASE PRINT THE INTRODUCTION AND DESCRIPTION.

    B.   PLEASE GO DIRECTLY TO THE PROGRAM MENU.

PLEASE ENTER EITHER A OR B:B

WHICH COUNTY WOULD YOU LIKE TO ANALYZE?

PLEASE ENTER:CARTER

IN WHICH POPULATION CATEGORY IS THE COUNTY TO BE ANALYZED:

    A.   WITH AT LEAST ONE TOWN OF 2500 OR MORE.
    B.   WITH NO TOWNS OF 2500 OR MORE.

PLEASE ENTER LETTER A OR B:B

WHICH PROCEDURE DO YOU WISH TO RUN?

    A.   ESTIMATE EMPLOYMENT BASE AND EMPLOYMENT IMPACTS FOR CARTER
    B.   ESTIMATE INCOME BASE AND INCOME IMPACTS FOR CARTER
    C.   ANALYZE ANOTHER COUNTY
    D.   NONE. END PROGRAM.

PLEASE SELECT A PROCEDURE AND ENTER THE
CORRESPONDING LETTER   A   B   C OR D.

PLEASE ENTER LETTER:A

DO YOU WISH TO READ THE INTRODUCTION FOR THIS
SECTION?

PLEASE ENTER YES OR NO:NO

ARE YOU READY FOR INPUT?

PLEASE ENTER YES OR NO:YES

ENTER TOTAL EMPLOYMENT:1580
ENTER FARM PROPRIETORS:218
ENTER NONFARM PROPRIETORS:287
ENTER FARM:30
ENTER AGRIC. SERV., FORESTRY,FISHERIES AND OTHER:0
ENTER MINING:0
ENTER CONSTRUCTION:0
ENTER MANUFACTURING:310
ENTER TRANSPORTATION, COMMUNICATIONS AND UTILITIES:19
ENTER TRADE:123
ENTER FINANCE,INSURANCE AND REAL ESTATE:35
ENTER SERVICES:163
ENTER FEDERAL CIVILIAN:65
ENTER FEDERAL MILITARY:17
ENTER STATE AND LOCAL:280
ENTER SS RECIPIENTS:1319

THE SUM OF THE INDIVIDUAL INDUSTRY VALUES YOU
HAVE ENTERED DOES NOT EQUAL THE TOTAL EMPLOYMENT FIGURES YOU
ENTERED IN ITEM ONE.
THE DIFFERENCE OF ITEM ONE MINUS THE SUM OF ITEMS TWO THROUGH
FIFTEEN IS   33.   YOU MAY HAVE MADE A DATA ENTRY ERROR,
OR THE DATA YOU HAVE MAY BE INCOMPLETE, ESPECIALLY IF DATA VALUE
IS A ZERO. LET'S FIX IT. FIRST, PLEASE REVIEW THE ITEMS YOU
ENTERED AND CORRECT ANY ERRORS.THANK YOU.

FOR CARTER
WITH TOWNS < 2500 PEOPLE

1TOTAL EMPLOYMENT	:	1580
2FARM PROPRIETORS	:	218
3NONFARM PROPRIETORS	:	287
WAGE & SALARY:		
4FARM	:	30
5AGRIC. SERV., FORESTRY,FISHERIES AND OTHER	:	0
6MINING	:	0
7CONSTRUCTION	:	0
8MANUFACTURING	:	310
9TRANSPORTATION, COMMUNICATIONS AND UTILITIES	:	19
10TRADE	:	123
11FINANCE,INSURANCE AND REAL ESTATE	:	35
12SERVICES	:	163
13FEDERAL CIVILIAN	:	65
14FEDERAL MILITARY	:	17
15STATE AND LOCAL	:	280
16SS RECIPIENTS	:	1319

**** TOTAL ****　　　　　　　　　　　　　　　2899

ANY CHANGE?

PLEASE ENTER YES OR NO:YES

PLEASE ENTER THE INPUT NUMBER FOR
THAT ENTRY.
ENTER ZERO IF ALL ENTRIES ARE CORRECT
:
5
ENTER AGRIC. SERV., FORESTRY,FISHERIES AND OTHER:17

PLEASE ENTER THE INPUT NUMBER FOR
THAT ENTRY.
ENTER ZERO IF ALL ENTRIES ARE CORRECT
:
7
ENTER CONSTRUCTION:16

PLEASE ENTER THE INPUT NUMBER FOR
THAT ENTRY.
ENTER ZERO IF ALL ENTRIES ARE CORRECT
:
0

12/82

TABLE A

ECONOMIC BASE WITH EMPLOYMENT DATA

FOR CARTER
WITH TOWNS < 2500 PEOPLE

INDUSTRY	EMPLOYMT IN COUNTY	EXPECTED EMPLOYMT	BASIC EMPLOYMT	% OF BASIC EMPLMT	IMPORTED SERVICE JOBS
TOTALLY BASIC INDUSTRIES:					
1 AGRICULTURE	265	0	265	12.8	0
2 MINING	1	0	1	0.0	0
3 MANUFACTURING	328	0	328	15.8	0
4 FEDERAL GOVERNMENT	82	0	82	4.0	0
5 SOCIAL SECURITY RECIPIENTS	1319	0	1319	63.7	0
MIXED INDUSTRIES:					
6 CONSTRUCTION	58	87	0	0.0	29
7 TRANS, COMMU & UTILITIES	33	58	0	0.0	25
8 TRADES	216	290	0	0.0	74
9 FINANCE & SERVICES	318	299	19	0.9	0
10 STATE & LOCAL GOVERNMENT	280	223	57	2.8	0
*** TOTAL ***	2899		2071		

DO YOU WISH TO ANALYZE EMPLOYMENT IMPACTS?

PLEASE ENTER YES OR NO:YES

ACCORDING TO THE STUDY ON WHICH THIS PROGRAM
IS BASED, AT LEAST 10 PERCENT OF THE NEW JOBS WILL BE TAKEN BY
IN-MIGRANTS TO THE COMMUNITY. THE AVERAGE IS 30 PERCENT. PLEASE
ENTER THE PROPORTION OF NEW JOBS YOU EXPECT TO BE TAKEN BY
IN-MIGRANTS. IF YOU ARE UNSURE, PLEASE ENTER .30.
PLEASE ENTER THE PROPORTION AS A RATE NOT GREATER THAN 1.0 AND
BE SURE TO INCLUDE A DECIMAL POINT.

PLEASE ENTER THE BEST ESTIMATE:.30

ANY CHANGE?

PLEASE ENTER YES OR NO:NO

HERE IS THE MENU OF ALL INDUSTRIES:

1 AGRICULTURE

2 MINING

3 MANUFACTURING

4 FEDERAL GOVERNMENT

5 SOCIAL SECURITY RECIPIENTS

6 CONSTRUCTION

7 TRANS, COMMU & UTILITIES

8 TRADES

9 FINANCE & SERVICE

10 STATE & LOCAL GOVERNMENT

PLEASE ENTER THE NUMBER OF THE INDUSTRY YOU ARE GOING TO ANALYZE:3

PLEASE ENTER THE AMOUNT OF NEW INDUSTRY EMPLOYMENT YOU EXPECT:50

ESTIMATED IMPACT OF NEW EMPLOYMENT

COUNTY CARTER
FOR MANUFACTURING
WITH TOWNS < 2500 PEOPLE

	ESTIMATES		
	LOW	AVERAGE	HIGH
PROJECTED NEW EMPLOYMENT	50	50	50
IMPORT SUBSTITUTION	0	0	0
REVISED PROJECTION	50	50	50
ADDITIONAL NEW EMPLOYMENT	9	10	11
NON-BASIC DISTRIBUTIONS			
CONSTRUCTION	1	1	1
TRANS, COMMU & UTILITIES	1	1	1
TRADES	3	3	3
FINANCE & SERVICE	3	3	3
STATE & LOCAL GOVERNMENT	2	2	3
TOTAL ADDITIONAL EMPLOYMENT	59	60	61

DO YOU WISH TO ANALYZE AN ADDITIONAL
EMPLOYMENT IMPACTS?

PLEASE ENTER YES OR NO
:
NO

WHICH PROCEDURE DO YOU WISH TO RUN?

    A.   ESTIMATE EMPLOYMENT BASE AND EMPLOYMENT IMPACTS FOR CARTER
    B.   ESTIMATE INCOME BASE AND INCOME IMPACTS FOR CARTER
    C.   ANALYZE ANOTHER COUNTY
    D.   NONE. END PROGRAM.

PLEASE SELECT A PROCEDURE AND ENTER THE
CORRESPONDING LETTER   A   B   C OR D.

PLEASE ENTER LETTER:B

DO YOU WISH TO READ THE INTRODUCTION FOR THIS
SECTION?

PLEASE ENTER YES OR NO:NO

ARE YOU READY FOR INPUT?

PLEASE ENTER YES OR NO:YES

PLEASE BE SURE THAT ALL THE INPUT DATA
HERE WILL BE IN THOUSAND OF DOLLARS.

ENTER TOTAL LABOR AND PROPRIETORS'INCOME BY PLACE OF WORK:11154
ENTER FARM LABOR AND PROPRIETORS'INCOME:0
ENTER AGRICULTURAL SERVICES, FORESTRY,FISHERIES & OTHER:71
ENTER MINING:0
ENTER CONSTRUCTION:201
ENTER MANUFACTURING:3624
ENTER TRANSPORTATION,COMMUNICATIONS AND UTILITIES:380
ENTER WHOLESALE AND RETAIL TRADE:1274
ENTER FINANCE, INSURANCE, AND REAL ESTATE:401
ENTER SERVICES:1202
ENTER FEDERAL CIVILIAN:969
ENTER FEDERAL MILITARY:0 -
ENTER STATE AND LOCAL:2811
ENTER DIVIDENDS, INTEREST, AND RENT:3758
ENTER TRANSFER PAYMENTS:8487

THE SUM OF THE INDIVIDUAL INDUSTRY VALUES YOU
HAVE ENTERED DOES NOT EQUAL THE TOTAL INCOME FIGURES YOU
ENTERED IN ITEM ONE.
THE DIFFERENCE OF ITEM ONE MINUS THE SUM OF ITEMS TWO THROUGH
THIRTEEN IS   221.   YOU MAY HAVE MADE A DATA ENTRY ERROR,
OR THE DATA YOU HAVE MAY BE INCOMPLETE, ESPECIALLY FOR ZERO
VALUES. LET'S FIX IT. FIRST, PLEASE REVIEW THE ITEMS YOU
ENTERED AND CORRECT ANY ERRORS.THANK YOU.

```
                    TABLE FOR INCOME DATA

                    FOR CARTER
                    WITH TOWNS < 2500 PEOPLE


1TOTAL LABOR AND PROPRIETORS'INCOME BY PLACE OF WORK   :   11154
    WAGE & SALARY
        2FARM LABOR AND PROPRIETORS'INCOME            :       0
        3AGRICULTURAL SERVICES, FORESTRY,FISHERIES & OTHER  :   71
        4MINING                                       :       0
        5CONSTRUCTION                                 :     201
        6MANUFACTURING                                :    3624
        7TRANSPORTATION,COMMUNICATIONS AND UTILITIES  :     380
        8WHOLESALE AND RETAIL TRADE                   :    1274
        9FINANCE, INSURANCE, AND REAL ESTATE          :     401
        10SERVICES                                    :    1202
        11FEDERAL CIVILIAN                            :     969
        12FEDERAL MILITARY                            :       0
        13STATE AND LOCAL                             :    2811
14DIVIDENDS, INTEREST, AND RENT                       :    3758
15TRANSFER PAYMENTS                                   :    8487
                                                          ---------

            ****   TOTAL   ****                           23178



ANY CHANGE?

PLEASE ENTER YES OR NO:YES


PLEASE ENTER THE INPUT NUMBER FOR
THAT ENTRY.
ENTER ZERO IF ALL ENTRIES ARE CORRECT
:
12
ENTER FEDERAL MILITARY:221


PLEASE ENTER THE INPUT NUMBER FOR
THAT ENTRY.
ENTER ZERO IF ALL ENTRIES ARE CORRECT
:
0
```

ECONOMIC BASE WITH INCOME DATA

FOR CARTER
WITH TOWNS < 2500 PEOPLE

INDUSTRY	INCOME IN COUNTY	EXPECTED INCOME	BASIC INCOME	% OF BASIC INCOME	IMPORTED SERVICE INCOME
TOTALLY BASIC INDUSTRIES:					
1 AGRICULTURE	71	0	71	0.5	0
2 MINING	0	0	0	0.0	0
3 MANUFACTURING	3624	0	3624	25.0	0
4 FEDERAL GOVERNMENT	1190	0	1190	8.2	0
5 TRANSFER PAYMENTS	8487	0	8487	58.4	0
MIXED INDUSTRIES:					
6 CONSTRUCTION	201	966	0	0.0	765
7 TRANS, COMMU & UTILITIES	380	786	0	0.0	406
8 TRADES	1274	2021	0	0.0	747
9 FINANCE & SERVICES	1603	1864	0	0.0	261
10 STATE & LOCAL GOVERNMENT	2811	1662	1149	7.9	0
11 DIVIDENDS, INTEREST, RENT	2819	3571	0	0.0	752
	---------		---------		
*** TOTAL ***	22460		14521		

DO YOU WISH TO ANALYZE INCOME IMPACTS?

PLEASE ENTER YES OR NO:YES

HERE IS THE MENU OF ALL INDUSTRIES:

    1 AGRICULTURE

    2 MINING

    3 MANUFACTURING

    4 FEDERAL GOVERNMENT

    5 TRANSFER PAYMENTS

    6 CONSTRUCTION

    7 TRANS, COMMU & UTILITIES

    8 TRADES

    9 FINANCE & SERVICE

    10 STATE & LOCAL GOVERNMENT

    11 DIVIDENDS, INTEREST, RENT

PLEASE ENTER THE NUMBER OF THE INDUSTRY YOU ARE GOING TO ANALYZE:3

PLEASE ENTER THE AMOUNT OF NEW INCREASED EARNINGS IN THOUSAND
OF DOLLARS YOU EXPECT:1000

ESTIMATED IMPACT OF NEW EARNINGS

COUNTY CARTER
FOR MANUFACTURING
WITH TOWNS < 2500 PEOPLE

	ESTIMATES		
	LOW	AVERAGE	HIGH
PROJECTED NEW EARNINGS	1000	1000	1000
IMPORT SUBSTITUTION	0	0	0
REVISED PROJECTION	1000	1000	1000
ADDITIONAL NEW EARNINGS	440	470	500

NON-BASIC DISTRIBUTIONS

	LOW	AVERAGE	HIGH
CONSTRUCTION	39	42	45
TRANS, COMMU & UTILITIES	32	34	36
TRADES	82	87	93
FINANCE & SERVICE	75	80	86
STATE & LOCAL GOVERNMENT	67	72	77
DIVIDENDS, INTEREST, RENT	145	155	165
TOTAL ADDITIONAL EARNINGS	1440	1470	1500

DO YOU WISH TO ANALYZE AN ADDITIONAL INCOME
IMPACTS?

PLEASE ENTER YES OR NO:NO

WHICH PROCEDURE DO YOU WISH TO RUN?

    A.   ESTIMATE EMPLOYMENT BASE AND EMPLOYMENT IMPACTS FOR CARTER
    B.   ESTIMATE INCOME BASE AND INCOME IMPACTS FOR CARTER
    C.   ANALYZE ANOTHER COUNTY
    D.   NONE. END PROGRAM.

PLEASE SELECT A PROCEDURE AND ENTER THE
CORRESPONDING LETTER   A   B   C OR D.

PLEASE ENTER LETTER:D

THANK YOU FOR USING THE SYSTEM
WE HOPE THAT IT WAS HELPFUL. GOOD BYE.

READY

University Libraries
University of Missouri

Digitization Information Page

Local identifier   Report [number]

Source information

   Format   Book
   Content type   Text with Images
   Source ID   Gift Copy not added to the Collection
   Notes   Printed single-sided;
                          Cover has cut-out showing title on the next page
                          Pages are unbound, stapled on top left;
                          Both front and back covers are orange color (#FF9900)

Capture information

   Date captured   October 2019
   Scanner manufacturer   Fujitsu
   Scanner model   fi-7460
   Scanning system software ScandAll Pro v. 2.1.5 Premium
   Optical resolution   600 dpi
   Color settings   8 bit grayscale
   File types   tiff
   Notes   Cover scanned separately with Opticbook

Derivatives - Access copy

   Compression   Tiff: LZW compression
   Editing software   Adobe Photoshop CC
   Resolution   600 dpi
   Color   8 bit grayscale
   File types   pdf created from tiff
   Notes   Images cropped, straightened, darkened