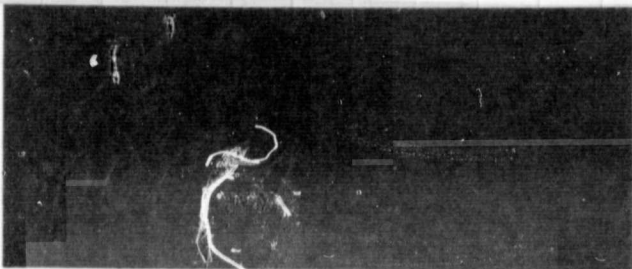


General Disclaimer

One or more of the Following Statements may affect this Document

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.



7.8-100.82

CR-155760

November 1977

RESEARCH REPORT 340

NATURAL RESOURCES

FROM THE MICHIGAN STATE UNIVERSITY
AGRICULTURAL EXPERIMENT STATION EAST LANSING

Guide to Aerial Imagery of Michigan

"Made available under NASA sponsorship
in the interest of early and wide dis-
semination of Earth Resources Survey
Program information and without liability
for any use made thereof."

(E78-10082) GUIDE TO AERIAL IMAGERY OF
MICHIGAN (Michigan State Univ.) 212 p
HC A10/MF A01

N78-19561

CSSL 08B

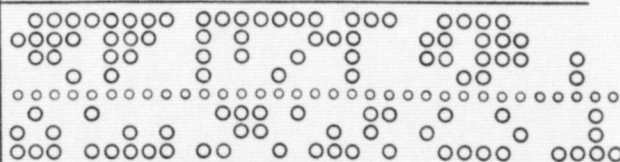
Unclas

G3/43 00082



TECHNICAL

Information



Guide to Aerial Imagery of Michigan



by
William R. Enslin
and
Richard Hill-Rowley*
Remote Sensing Project
Michigan State University

Original photography may be purchased from:
EROS Data Center

Sioux Falls, SD

**ORIGINAL CONTAINS
COLOR ILLUSTRATIONS**

*Research Specialist and Graduate Research Assistant,
respectively. Department of Resource Development and School
of Urban Planning and Landscape Architecture.

The cover photo mosaic of Michigan was produced from separate images acquired by a Landsat satellite at an altitude of 570 miles. Reproduced from the General Electric Company's copyrighted U.S. Space Mosaic with permission of the General Electric Company.

FOREWORD

The Remote Sensing Project at Michigan State University is cooperating with Michigan agencies to develop practical uses of remote sensing technology for effective land/resource use decisions and actions. Part of this program is the organization of a centralized source of information on the availability, characteristics, sources and uses of aerial imagery. The Guide to Aerial Imagery of Michigan documents this inventory effort.

Preparation of the guide was made possible through a National Aeronautics and Space Administration (NASA) grant (NGL 23-004-083) to Michigan State University, which is administered by the NASA Office of University Affairs. Professor Myles Boylan, School of Urban Planning and Landscape Architecture, and Dr. Raymond D. Vlasin, Chairman of the Department of Resource Development, are the principal investigators. The research effort also involves staff from the departments of Botany and Plant Pathology, Computer Science, Crop and Soil Science, Forestry, Geography, and Geology, as well as the MSU Agricultural Experiment Station.

Assembling the guide was a major task, and its completion required the cooperative efforts of all the Remote Sensing Project staff. In particular, Stephen Tilmann and John Harrington developed the computerized indexing systems; Christopher Cialek, Kenneth Keifenheim and Dan Dueweke were responsible for the cartography and graphics; Christine Wettle and Joan Glass typed successive drafts of the manuscript; and Kathie Alcoze was responsible for the final typing. Publication and distribution was supported by the Michigan State University Agricultural Experiment Station and the Division of Land Resource Programs, Michigan Department of Natural Resources.

CONTENTS

	Page
FOREWORD.	v
INTRODUCTION.	xi
1. FUNDAMENTALS OF REMOTE SENSING.	1-1
Electromagnetic Spectrum.	1-3
Types of Aerial Imagery	1-5
Imagery Parameters.	1-13
2. INFORMATION ON OBTAINING IMAGERY.	2-1
General Inquiry Procedures.	2-3
EROS Data Center.	2-4
National Cartographic Information Center.	2-5
MSU Remote Sensing Project.	2-6
3. LANDSAT SATELLITE IMAGERY	3-1
General Information	3-3
Landsat-C and D Satellites.	3-4
Landsat Data Products	3-5
How to Use the Landsat Index.	3-13
Index to Landsat Imagery.	3-20
4. SKYLAB SPACECRAFT IMAGERY	4-1
General Information	4-3
How to Use Skylab Indexes	4-9
Index to Skylab S-190A/B Photography.	4-16
Index to Skylab Nikon Photography	4-21
Index to Skylab Hasselblad Photography.	4-23
5. NASA HIGH ALTITUDE IMAGERY.	5-1
General Information	5-3
How to Use the RB-57/U-2 Indexes.	5-7
Index to RB-57 Imagery.	5-16
Index to U-2 Imagery.	5-20
6. REGIONAL/COUNTY IMAGERY	6-1
General Information	6-3
How to Use the Index.	6-5
Status Maps of Regional/County Imagery.	6-7
Index to Regional/County Imagery.	6-29

7. LOCAL IMAGERY	7-1
General Information	7-3
How to Use the Index	7-5
Index to Local Imagery	7-7
APPENDICES	A-1
A. Selected References: Aerial Imagery Catalogs	A-3
B. Mailing Addresses	B-1

FIGURES

	Page
1.1 Electromagnetic Spectrum.	1-4
1.2 U.S. Army Corps of Engineers Panchromatic Photo of Downtown Detroit	1-6
1.3 Agricultural Stabilization & Conservation Service Panchromatic Photo of Detroit	1-7
1.4 NASA High Altitude Color Infrared Photo of the Detroit Metropolitan Area.	1-8
1.5 NASA Space Imagery of Southeast Michigan.	1-9
1.6 Parameters of Optical-Mechanical Scanning	1-12
1.7 Parameters of Aerial Photography.	1-14
1.8 MSU Remote Sensing Project Oblique Pan- chromatic Photo of Downtown Detroit	1-15
3.1 Landsat MSS Images of the Lansing-Grand Rapids Area	3-8
3.2 Landsat Color Composite Image of the Lansing-Grand Rapids Area	3-9
3.3 Single Landsat Coverage Map	3-10
3.4 Landsat Nominal Image Center Locations.	3-19
4.1 Skylab S-190A Multiband Photos of the Saginaw Bay Area.	4-5
4.2 Skylab Photographic Coverage of Michigan.	4-6
4.3 Skylab S-190B Color Photo of the Saginaw Bay Area.	4-7
4.4 Michigan County Reference Map	4-15
5.1 NASA High Altitude Multiband Photos of the Gull Lake Area.	5-4
5.2 NASA High Altitude Color Infrared Photo of the Gull Lake Area	5-5
5.3 NASA High Altitude Photographic Coverage of Michigan	5-6
5.4 Michigan County Reference Map	5-15
6.1 MDSHT Color Infrared Photo of St. Ignace.	6-6
7.1 MSU Remote Sensing Project Color Photo of the MSU Campus.	7-5

TABLES

	Page
1.1 Characteristics of Typical Data Sources	1-18
3.1 Landsat Spectral Bands	3-4
3.2 Thematic Mapper Spectral Bands	3-5
3.3 Earth Features Highlighted in Landsat Spectral Bands	3-14
4.1 S-190A Multispectral Camera Film Characteristics	4-4
4.2 S-190B Earth Terrain Camera Film Characteristics	4-8
4.3 Skylab S-190A/B Coverage by County	4-13
5.1 NASA High Altitude Coverage (RB-57/U-2) by County	5-11
5.2 Film/Filter Codes for NASA Research Aircraft Photography: Metric Camera Systems	5-13
5.3 Film/Filter Codes for NASA Research Aircraft Photography: Multiband Camera Systems	5-14

INTRODUCTION

This guide provides a single source reference which documents the coverage of aerial imagery available for areas in Michigan. The term "aerial imagery" refers to a variety of data products acquired from aircraft and spacecraft remote sensing systems. Photographic images are obtained by cameras using various types of film (e.g. black-and-white panchromatic, color and color infrared) but aerial images are also produced from non-photographic sensor data acquired by electronic devices such as multispectral and thermal scanners.

Aerial imagery of Michigan is grouped into five main categories for which a comprehensive index has been prepared. These are: a) NASA Landsat satellite imagery; b) Skylab spacecraft imagery; c) high altitude imagery acquired by NASA RB-57 and U-2 aircraft; d) aerial photo coverage of entire counties and regions secured by various federal and state agencies; and e) photo coverage of local areas obtained by state agencies, such as the Michigan Department of Natural Resources, and by aerial survey firms.

These categories reflect the resolution capabilities of different sensor/scale systems and thus are applicable to different levels of land cover/use or resource inventory needs. The most general level of information can be economically extracted from satellite imagery. For example, Level I land cover/use categories (urban or built-up land, agricultural land, forest land, and water) can be mapped efficiently and economically over large areas from orbital imagery, whereas the principal source for Level II data (approximately 30 land cover/use categories) is presently high altitude color infrared photography. Likewise, more detailed land cover/use data can be extracted from medium altitude regional/county imagery or local photography.

Choice of an image type is therefore dependent on the needs of the user. It is influenced typically by how well particular sensors or film/filter combinations provide an image of sufficient detail and clarity to emphasize features of interest. Many interrelated factors must be considered concurrently including film type, image scale and format, year and season of acquisition, frame coverage, image quality, percent cloud cover and cost. Each imagery level indexed in the guide presents, in a map or computer

listing format, information relative to these factors and the indexes are preceded by general background information and appropriate explanatory comments for effective use of the section.

A brief overview of the fundamentals of remote sensing and basic information on obtaining aerial imagery are included in the beginning of the guide to further assist users who may be unfamiliar with this material.

A variety of aerial imagery catalogs were used as basic references in the preparation of this guide and are listed in Appendix A. Appendix B contains a listing of mailing addresses for government, university and private sources of aerial imagery information and products.

SUPPLEMENTARY REPORTS REQUEST FORM

Gathering and indexing of aerial imagery is a continuous process and consequently the guide is bound in loose-leaf form to facilitate periodic updating. To ensure that the guide remains both current and accurate, if you notice any errors, or are aware of photographic coverage that is appropriate for inclusion, please contact the Project Office.

The information presented includes only that which was available as of June, 1977. As more imagery becomes available descriptions of its location and quality can be supplied. If you wish to obtain these supplementary reports, please fill out the coupon below and return it to:

Remote Sensing Project
201 UPLA Building
Michigan State University
East Lansing, Michigan 48824

Please keep me informed of any additions to the Guide to Aerial Imagery of Michigan.

Date _____

NAME _____

POSITION OR TITLE _____

AGENCY _____

ADDRESS _____

ZIP CODE _____ PHONE NO. _____

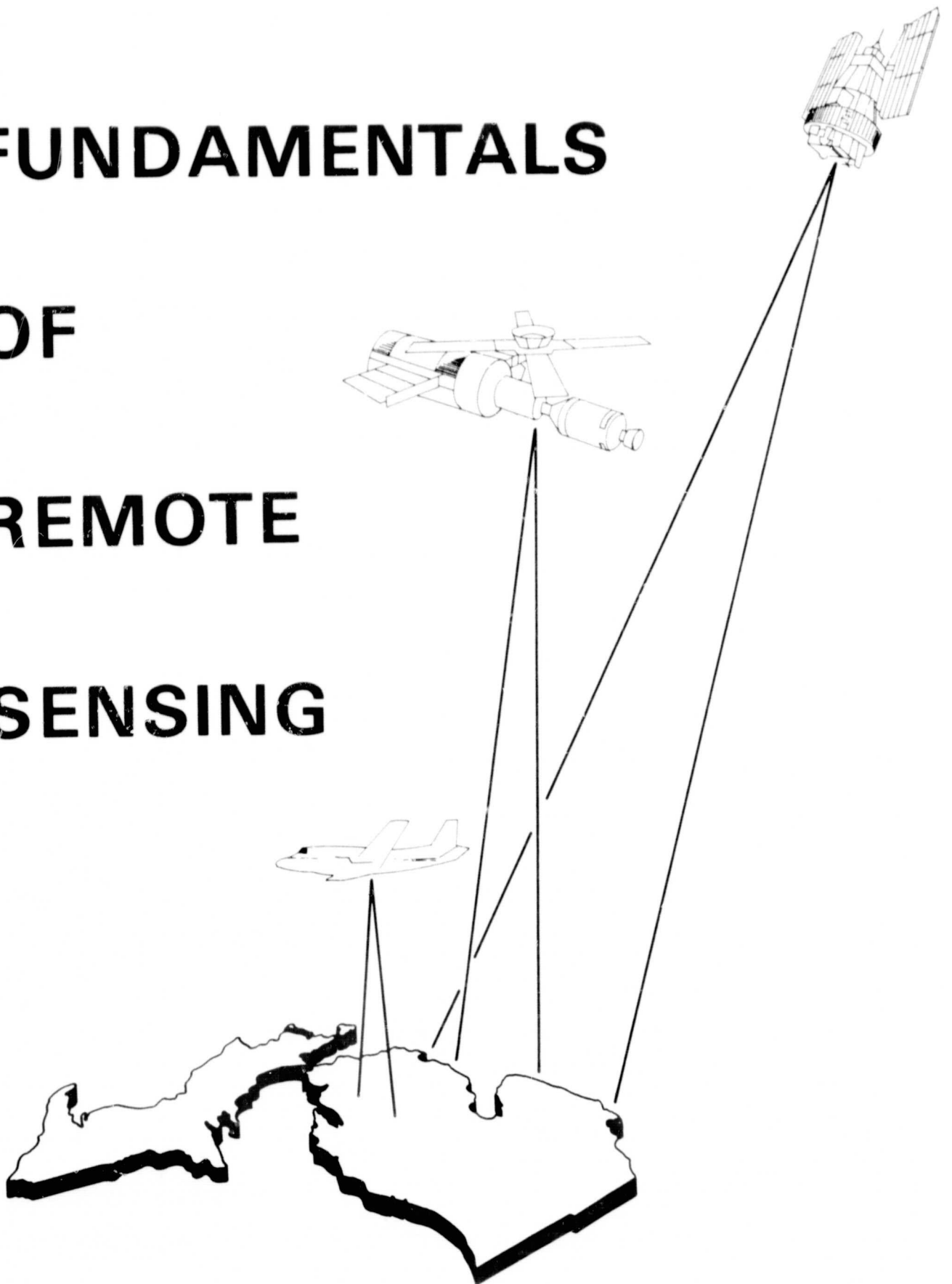
Comments:

FUNDAMENTALS

OF

REMOTE

SENSING



SECTION 1

FUNDAMENTALS OF REMOTE SENSING

ELECTROMAGNETIC SPECTRUM

A basic definition of remote sensing involves a consideration of what is implied by each word. "Sensing" means detecting or measuring some property (characteristic) of a feature or object of interest. "Remote" signifies that the sensing activity takes place at some distance from the feature or object, i.e., not in direct contact.

Remote sensors detect and record (typically on photographic film) differences in the wavelength and intensity of energy reflected or emitted from the features in the scene being sensed. This energy consists of particles that travel in waves and is called electromagnetic radiation.

Visible light is the most apparent form of electromagnetic radiation, yet a much wider spectrum of energy exists beyond the range of human vision. The electromagnetic spectrum can be represented as a continuum of energy (Fig. 1.1) classified according to wavelength (the distance between two successive wave crests) or frequency (cycles per second).

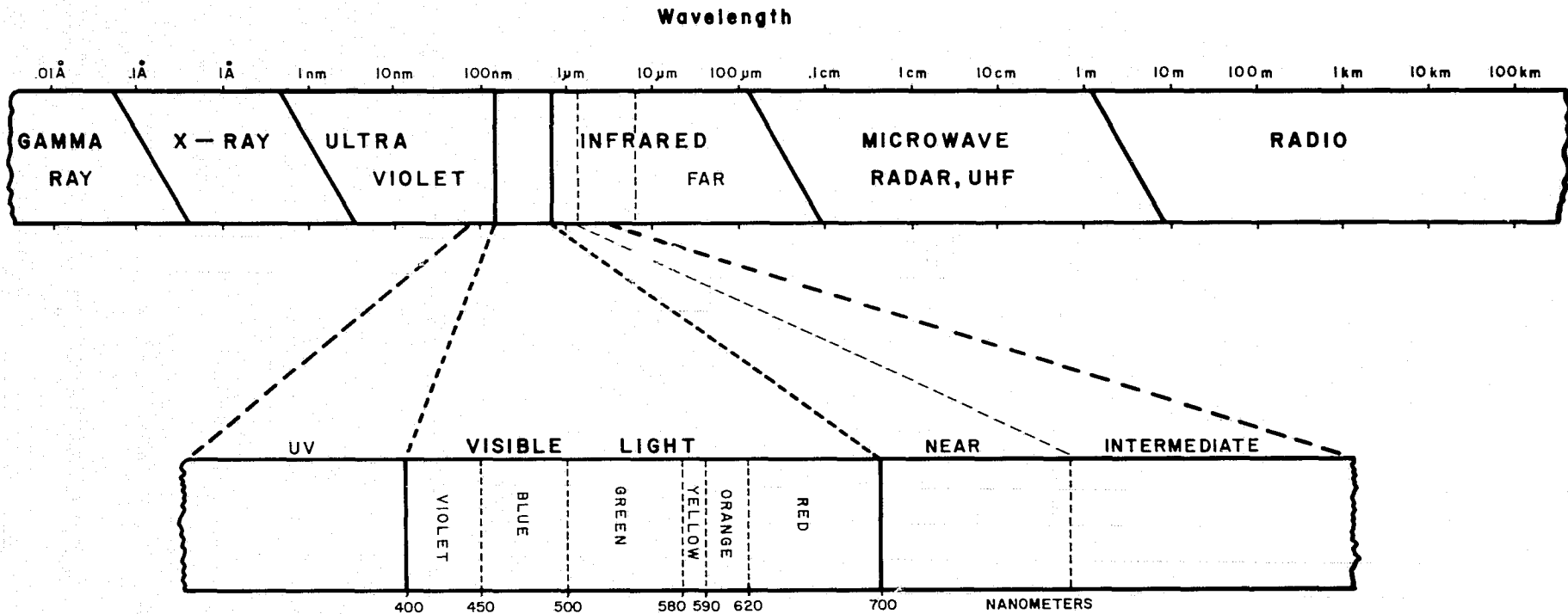
Each feature on the earth characteristically reflects and emits varying amounts of energy at different wavelengths dependent upon its physical properties. Remote sensors can detect specific portions of this range and consequently reveal different information about the feature. For example, in addition to photographing visible light, ultraviolet and near infrared radiation can be recorded on special films. Advanced mechanical sensors can detect energy in the far (thermal) infrared, microwave and radar ranges.

Remote sensors thus extend our detection capabilities to energy areas beyond the sensitivity range of our eyes, recording what they detect in an image form. This provides a visible record of features and conditions in an environment at the time of sensing.

An environment can be sensed at varying degrees of "remoteness," from ground level to elevated platforms, and from aircraft at various altitudes to orbital satellites.

PRECEDING PAGE BLANK NOT FILMED

ELECTROMAGNETIC SPECTRUM



1-4

Å - Angstrom = .000,000,000,1 meter
 nm - nanometer = .000,000,001 meter
 μm - micrometer = .000,001 meter
 cm - centimeter = .01 meter
 m - meter
 km - kilometer = 1,000 meters

Figure 1.1.--Electromagnetic Spectrum.

The scale of the imagery varies accordingly and influences the level of detail obtainable. Figures 1.2 through 1.5 illustrate this capability.

TYPES OF AERIAL IMAGERY

Different kinds of remotely sensed imagery provide different kinds of information. Various film/filter combinations and types of sensors are used to focus on specific portions of the electromagnetic spectrum in order to highlight selected features of interest. Some general characteristics and typical uses of particular image types are described below.

Black-and-White Panchromatic Photography (PAN)

Panchromatic film is sensitive to the visible portion (400-700 nm) of the electromagnetic spectrum and records light intensity as tones of gray. Normally, a light yellow filter is used to eliminate blue wavelengths, thus minimizing the effects of haze. Black-and-white panchromatic photography is the most common type of aerial imagery. It is used in a wide variety of applications, notably the preparation of topographic and soil survey maps, site analysis studies, tax equalization, land use planning and resource management. The lack of color representation is perhaps the most serious limitation to effective photo interpretation since the human eye has only a limited capacity to distinguish among various tones of gray. Traditional sources of panchromatic photography are: the Agricultural Stabilization and Conservation Service, the United States Geological Survey and the Soil Conservation Service.

Black-and-White Infrared Photography (BWIR)

Black-and-white infrared film, when exposed through a deep red filter to block reflection of visible light, records only reflected infrared energy (700-900 nm). This film, as well as color infrared film, does not record thermal infrared radiation which is emitted, and thus does not indicate the temperature of features. Other filters are sometimes used which eliminate only blue or green wavelengths, and thereby allow some visible light and infrared radiation to be imaged at the same time (referred to as modified-infrared photography).

Black-and-white infrared photography is useful in vegetative studies because there is usually a strong contrast



Figure 1.2.--U.S. Army Corps of Engineers Panchromatic Photo of Downtown Detroit on March 15, 1973 (scale: 1:6,000).

ORIGINAL PAGE IS
OF POOR QUALITY



Figure 1.3.--Agricultural Stabilization & Conservation Service Pan-chromatic Photo of Detroit in 1973 (reduced from 9 by 9 inches, original scale 1:40,000).



Figure 1.4.--NASA High Altitude Color Infrared Photo of the Detroit Metropolitan Area on June 29, 1975 (reduced from 9 by 9 inches, original scale 1:120,000).

ORIGINAL PAGE IS
OF POOR QUALITY

Skylab Spacecraft
S-190B Color Photo,
August 5, 1973
(scale: 1:950,000)



Landsat Satellite
Color Composite
Image, April 14,
1973
(scale: 1:1,650,000)

ORIGINAL PAGE IS
OF POOR QUALITY

Figure 1.5.--NASA Space Imagery of Southeast Michigan.

in infrared reflectivity among various plant communities, e.g. deciduous and coniferous trees are easily differentiated. The lack of color representation, however, limits the overall usefulness of BWIR photography. The Forest Service of the United States Department of Agriculture periodically acquires BWIR photography for forest cover-type mapping.

Color Photography (COL)

Normal color film has three emulsion layers sensitive to blue, green and red light, respectively. These layers are exposed by visible light (400-700 nm) and through a development process provide a natural color photograph of a scene. The tonal range of natural colors offers a distinct interpretive advantage over black-and-white photography. Good quality color photography is, however, difficult to acquire and more expensive than black-and-white. Consequently, uses tend to be restricted to small areas and specialized applications, e.g. coastline analyses, industrial site analyses, and identification of hydrographic features and vegetation. One notable exception is the color photographs from space, covering extensive areas of the earth, that were obtained during the Skylab spacecraft missions.

Color Infrared Photography (CIR)

Color infrared film is also a three-layer film but it has been designed so that one emulsion layer is sensitive to green light, another to red, while a third emulsion is sensitive to reflected infrared radiation (700-950 nm). A yellow ("minus blue") filter is used to eliminate blue light which is frequently scattered by the atmosphere, especially during hazy conditions.

The color representation of the landscape in CIR photography (see Fig. 1.4), where vegetation shows in red hues, is not natural. This is because healthy vegetation reflects a large amount of infrared energy which is recorded as red on the imagery. The red wavelengths are recorded as green and green wavelengths as blue.

Color infrared photography is being used increasingly in land cover/use mapping, especially for regional inventories. Additional uses include the identification of tree and crop types, plant vigor, aquatic vegetation, soil moisture and drainage, and water pollution. Much of the CIR

imagery of Michigan was acquired from NASA high altitude research aircraft. In addition, several regional planning commissions have acquired color infrared coverage of their region.

Multiband Photography (MB)

Various film/filter combinations can be used simultaneously to produce different types of photographs of the same area. The film/filter combinations record discrete portions (bands) of the electromagnetic spectrum and collectively are referred to as multiband photography. For example, the multiband system aboard the Skylab spacecraft provided six photographs of each scene including color, CIR, PAN and BWIR film types. In addition to Skylab photographs, several NASA research aircraft missions also have acquired multiband photography of Michigan.

Multispectral Scanner Imagery (MSS)

Multispectral scanners are optical-mechanical line scanning devices (not photographic cameras, see Fig. 1.6) that record radiation in several narrow bands simultaneously in the visible and invisible ranges of the electromagnetic spectrum. The scanner detects the level of spectral radiation (or the intensity of energy) reflected in each band from a feature and records the data on magnetic tape. The taped data can then be transformed into an image by an electron beam recorder which proportionately converts the recorded amounts of radiation to light intensity, resulting in tones of gray on the imagery. Individual bands can be color coded and combined to form a color composite image.

The Landsat satellites routinely produce multispectral images of Michigan areas in four discrete spectral bands. User applications have been confined mainly to the inventory of large areas and involve the identification of crops, soils, rock types, natural vegetation, lake ice and lake sedimentation and circulation patterns.

Thermal Infrared Imagery

Thermal infrared imagery is obtained with a scanning device which records on magnetic tape the emissivity or heat radiated from surface features in the 8.0 to 14.0 micrometers region of the electromagnetic spectrum. The taped data can then be transformed and compiled into a

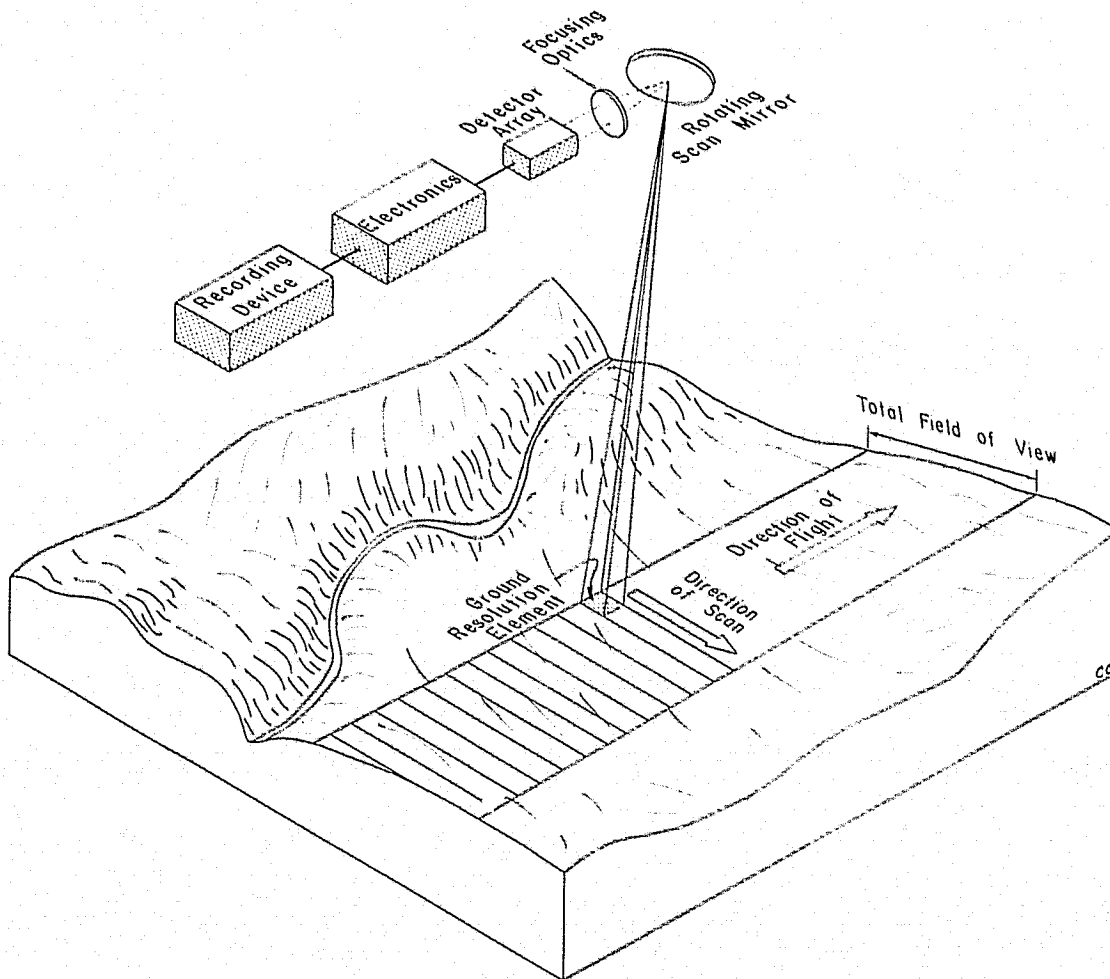


Figure 1.6.--Parameters of Optical-Mechanical Scanning.

photographic image using a system similar to that described for multispectral imagery.

Available coverage of Michigan is limited to a few research project areas flown by NASA high altitude aircraft and several site surveys conducted for private industry. In addition, the Environmental Research Institute of Michigan acquired thermal imagery of the Great Lakes Shoreline of Michigan in 1974. Thermal imagery has been used to advantage in drainage and ground water studies, seismic work, detection of air and thermal pollution and fire surveillance.

ORIGINAL PAGE IS
OF POOR QUALITY

Radar Imagery

Radar (Radio Detection and Ranging) is an active sensing technique that provides feature illumination using high frequency radio waves. Current Radar systems operate in the 0.85-3.3 cm wavelength region although this division is somewhat arbitrary. The sensor transmits radio pulses of known wavelength to the terrain. Part of each pulse is reflected back to the sensor and is picked up and amplified by a receiver system. The signals are usually stored on photographic film and reconverted to a recognizable image by special optical processing equipment which exposes a second photographic film.

Radar has the advantage of being able to provide imagery in almost all weather conditions as well as at night. Resolution, however, is not as good as in some other image types. Radar allows acquisition of imagery for large areas in a single mission. It is being used frequently in reconnaissance mapping of geologic and physiographic features, drainage networks, urban/transportation patterns, and snow and ice distribution.

Passive Microwave Imagery

Microwave sensing is a passive technique which records natural long wave radiation in the 0.1-10 cm wavelength region. This radiation is influenced by the emittance, transmittance, reflectance and temperature properties of features within the scene. The imagery is obtained using a scanning device similar to that used in thermal infrared sensing with minor technical differences related to the quality of signal received. The signals are recorded on magnetic tape and the tape is computer processed in conjunction with a color electron beam system to produce an image where each temperature increment is represented by a different color. Lighter colors are usually chosen to represent higher radiometric temperatures. Passive microwave sensing is a recent innovation and has not been used extensively, although some studies of oil pollution, soil moisture and snow/ice monitoring have shown its potential.

IMAGERY PARAMETERS

The parameters of aerial imagery described below are sensor viewing angle, image scale and format, surface area covered by an image and date of acquisition. The relation-

ship of these parameters and the basic sensor system components and geometry are illustrated in Figure 1.6 (Parameters of Optical-Mechanical Scanning) and Figure 1.7 (Parameters of Aerial Imagery).

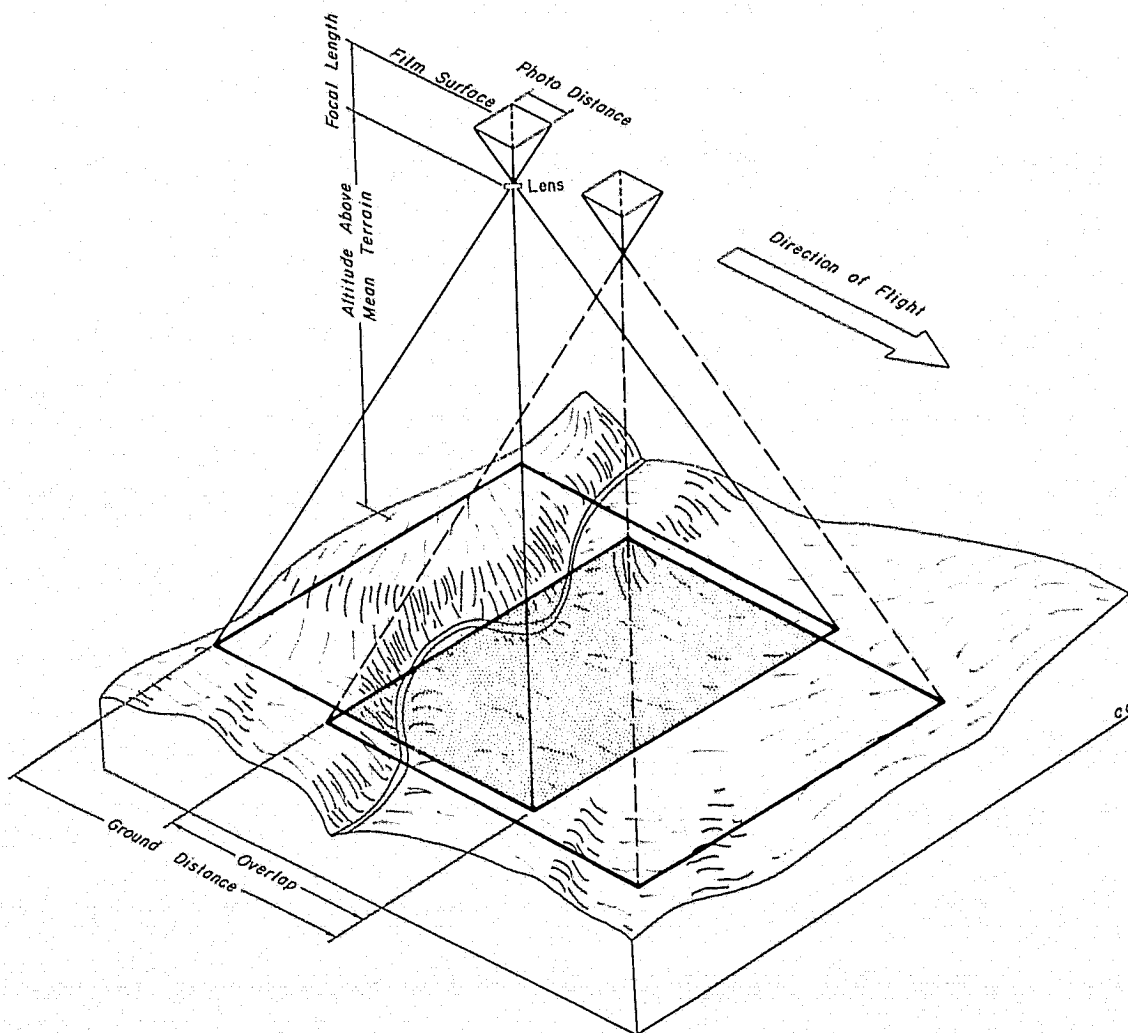


Figure 1.7.--Parameters of Aerial Photography.

Angle of Imagery

All imagery listed in this guide was taken with the sensor's axis perpendicular to the earth's surface, unless

otherwise noted. Vertical photography with 60% overlap between frames is preferable for most applications because it has good metric properties, angular directions are true and it provides three-dimension viewing. It is needed for virtually all interpretive purposes.

Oblique imagery, acquired by positioning the sensor's axis diagonally downward, provides a more "natural" view of an area than vertical photography (Fig. 1.8). Oblique views, however, are geometrically distorted, and consequently are mainly used for illustration and simple interpretation. If the horizon is not shown, the imagery is referred to as a low oblique, whereas views including the horizon are called high obliques. Oblique photography of Michigan has been obtained from the Skylab spacecraft and from light aircraft in support of specific projects documented in the "Local Imagery" section of this guide.



Figure 1.8.--MSU Remote Sensing Project Oblique Panchromatic Photo of Downtown Detroit on October 7, 1975.

ORIGINAL PAGE IS
OF POOR QUALITY

Scale of Imagery

The scale of an image defines the fixed relationship between a given distance on a photograph and the corresponding distance on the surface of the earth, or the ratio of image size to actual size (see Fig. 1.7). Scale may be expressed in several different ways but is most commonly given as a representative fraction, e.g. 1:20,000 or 1/20,000. This fraction expresses a ratio whereby one unit distance on the photography (1 millimeter, 1 inch, etc.) is equivalent to 20,000 of the same units on the ground. In other words, features are actually 20,000 times larger than they appear on the photograph. Scale is also often indicated in feet per inch. Thus, a scale of 1:20,000 can be expressed as 1,667 feet per inch ($20,000 \div 12 = 1,667$), i.e., one inch on the photograph represents 1,667 feet on the ground.

Large-scale imagery (e.g. 1:10,000) is used for detailed study of small features and can be obtained by either flying at lower altitudes or using longer focal-length lenses. Small-scale images (e.g. 1:1,000,000), acquired at orbital altitudes, usually have low resolution, but they provide a synoptic view of larger areas for general analysis. In this guide, the nominal scale of the original imagery is given as a representative fraction, although copies are frequently available at either a reduced or enlarged scale.

Format of Imagery

Format may refer to film size, film medium or size of image area. The two most common aerial film sizes are 9.5 by 9.5 inches, used extensively in photogrammetric missions, and 70 mm film, typical for most photographic space missions. They provide an image area of 9 by 9 inches and 2.2 by 2.2 inches, respectively. The Skylab Earth Terrain Camera utilized 5 inch wide film providing a 4.5 by 4.5 inch image size. Enlargements of most formats can be obtained. The photographic media normally available are film negatives, film positives (transparencies) and paper prints.

Coverage of Imagery

The area of the earth's surface that is imaged on an individual frame is related to image scale and format. As the scale decreases (becomes smaller) or as image format

increases, the size of the area imaged increases. Table 1.1 gives the area covered on common image formats at representative scales and also indicates other characteristics of the imagery available from the major sources cited in this guide.

Date of Imagery Acquisition

Aerial imagery is acquired at different seasons of the year depending upon which features the user wants to highlight within the overall scene. If, for instance, the mapping of the ground surface or earth materials is of primary interest, imagery obtained in spring or late fall is most useful since vegetation and/or snow cover are not obscuring the soils. Topographic mapping, urban planning, or evaluation of terrain features from aerial imagery is accomplished more easily when deciduous vegetation is without leaves. Studies of vegetation, however, obviously need imagery procured during the growing season from late spring through fall. The Agricultural Stabilization and Conservation Service (ASCS) is interested in cropland and, therefore, acquires primarily summer imagery.

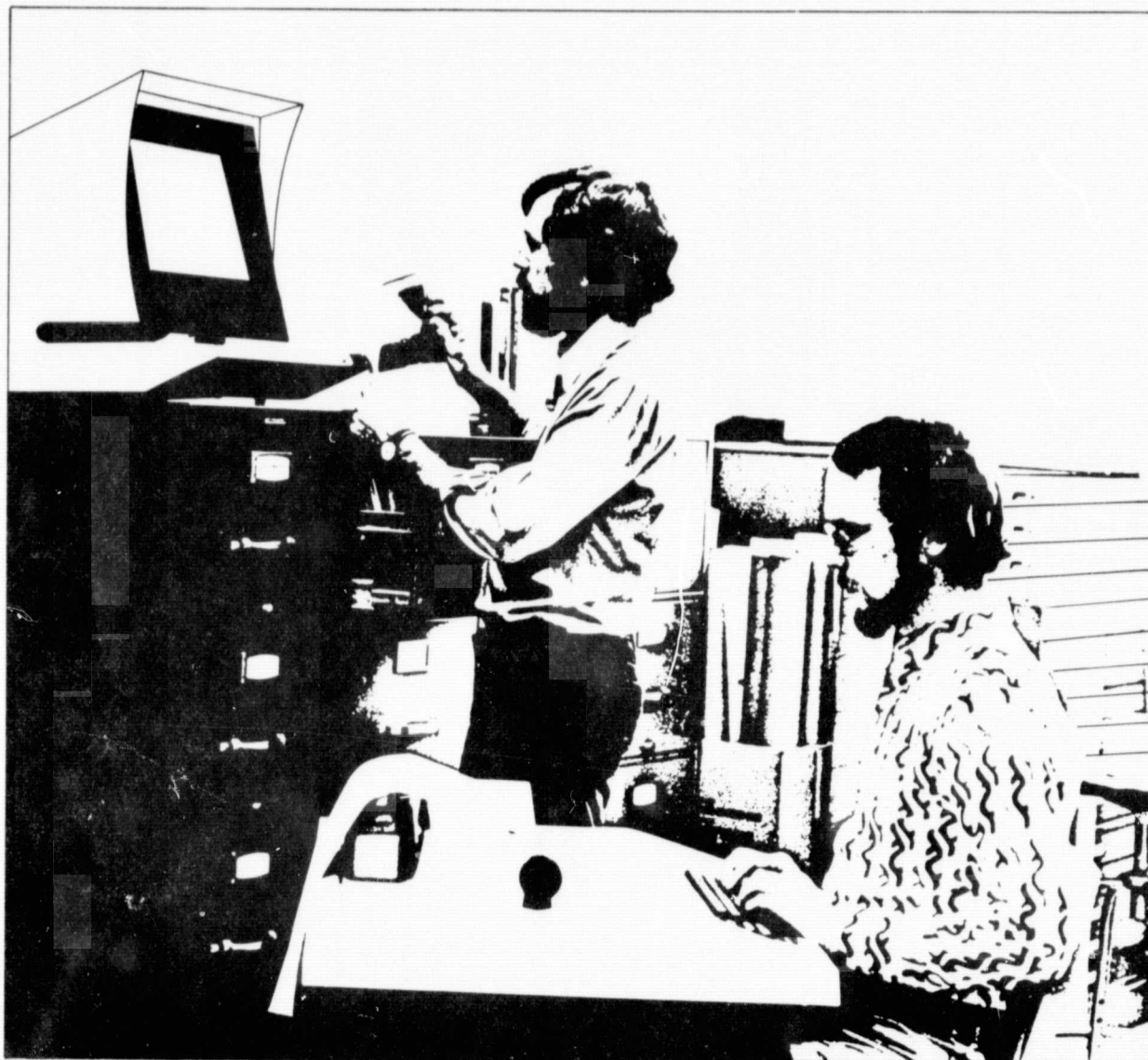
The year of imagery acquisition may also be significant. The most recent imagery of an area is required for most studies of relatively current conditions in the landscape. Older, repetitive imagery of an area, however, is important for studying landscape changes over longer periods of time. Seasonal, or in some cases bi-weekly, changes may be monitored using Landsat imagery.

Table 1.1.--Characteristics of Aerial Imagery.

Category	Image Scale	Image Type	Frame Coverage (sq. mi.)	Data Characteristics	Selected Michigan Applications
Landsat Imagery	1:3,369,000	MSS	13,225	Very small scale, synoptic view, low resolution, state-wide repetitive coverage, digital data.	State-wide and regional land cover mapping (Level I-II categories) Lake turbidity and circulation patterns Computerized land cover inventory files Illustration of synoptic land use patterns
Skylab Imagery	1:2,850,000	MB	10,201	Very small scale, synoptic view, low-moderate resolution.	Illustration of synoptic land use patterns Regional land cover mapping (Level I-II categories)
	1:950,000	COL	4,624		
NASA High Altitude Aircraft Imagery	1:450,000	MB	244.1	Small to moderate scale, moderate resolution, regional coverage on a project basis.	Regional land cover/use mapping (Level II-III categories) "Reference data" for satellite data analysis
	1:120,000	COL/CIR	290.0		
	1:60,000	CIR	72.6		
Regional/County Imagery	1:60,000	PAN/COL	72.6	Moderate scale, moderate to high resolution, periodic county coverage, potential periodic state coverage.	County and regional land cover/use mapping (Level II-IV categories), Watershed and county planning "Reference data" for satellite data analysis Tax equalization, Topographic map preparation Forest type mapping
	1:40,000	PAN	32.3		
	1:36,000	CIR	26.1		
	1:31,680	CIR	20.3		
	1:24,000	PAN	11.6		
	1:20,000	PAN	8.1		
Local Imagery	1:15,840	BWIR	5.1	Large to very large scale, high to very high resolution, selected project sites.	City planning, Site analyses, Engineering studies, Detailed vegetative type mapping, Wetland & shoreline assessment, Crop biomass & stress estimation.
	1:12,000	Varies:	2.91		
	1:9,600	PAN/COL	1.86		
	1:6,000		.73		
	1:4,800	CIR	.46		

1-18

ORIGINAL PAGE IS
OF POOR QUALITY



INFORMATION ON OBTAINING IMAGERY

ORIGINAL PAGE IS
OF POOR QUALITY

SECTION 2

INFORMATION ON OBTAINING IMAGERY

GENERAL INQUIRY PROCEDURES

The level of information included in this guide normally does not enable one to directly order imagery, since frame identification numbers are not provided. This information can be obtained by contacting the appropriate agency. Landsat and Skylab imagery, however, may be ordered directly since ordering numbers are included in the guide.

Order forms with cost information are included in the index sections of the guide. These forms may not reflect current prices, but new forms can be periodically obtained from the appropriate agencies and inserted in the guide.

To decide which image frames to order from federal sources, photo index sheets are available for inspection and purchase at the county, district, state or regional offices of the respective agencies. A photo index is an assemblage of individual photographs copied at a reduced scale (usually at 1" or 2" to the mile). Frame identification numbers are indicated on these photo indexes. Prepayment is required to purchase imagery from federal agencies.

General questions concerning imagery availability and acquisition can be answered by contacting the MSU Remote Sensing Project, whereas specific requests pertaining to ordering imagery should be directed to the appropriate source agency by providing as much information as possible. Written inquiries should include the following information:

1. Name, address, telephone number (business) and name of company, agency, etc.
2. Location of point or area of interest, specified if appropriate by state, county, town, township, range, section, latitude, longitude and a verbal description such as "gravel pit immediately west of Bear Lake Bog in southeast Lansing" or "sink holes on the northern tip of Grosse Ile island in the Detroit River." Inclusion of a map with the desired area specifically outlined is also helpful.

PRECEDING PAGE BLANK NOT FILMED

3. Type of imagery desired (panchromatic, color infrared, etc.) including image size (9 by 9 inch contact image or some enlargement), printing format (i.e., film negative, paper print or transparency) and whether stereo coverage is desired. If the date, roll number, frame number or project symbol is known, it should be included.
4. A statement concerning the proposed applications or intended use of the imagery will assist the agency in responding more concisely to your request.

EROS DATA CENTER

The EROS Data Center stores and reproduces aerial imagery, and provides user assistance and training. This facility is operated by the Earth Resources Observation Systems (EROS) program of the U.S. Department of the Interior. The EROS program was established in 1966 to apply remote sensing technology to the inventory, monitoring, and management of resources, and is administered by the U.S. Geological Survey.

The Data Center is the principal source of imagery acquired by NASA from the Skylab, Apollo and Gemini space missions, from the Landsat satellites, and from high altitude research aircraft. Photography obtained for aerial mapping by the U.S. Department of Interior, particularly the U.S. Geological Survey, is also available from the Center.

Information on the availability of imagery for a specific area can be requested from the EROS Data Center by mail, visit or phone. The inquiry will initiate a computerized geographic search and may be requested by:

1. Indicating the latitude and longitude coordinates of a selected point. All images that cover any portion of a 50 mile radius area around the point will be included in the supplied computer listing.
2. Indicating the latitude and longitude corner coordinates of an area of interest. All images covering any portion of the specified area will be listed.
3. Indicating a point or area on a map and forwarding it to the Data Center.

The Geographic Computer Search Inquiry Form (p. 2-7) is used to request a point or area computer search of imagery. Users should allow at least two weeks for the search to be completed and for the computer listing to be sent. There is no charge for a computerized geographic search.

For further information contact:

EROS Data Center
Sioux Falls, South Dakota 57198
Phone: (605) 594-6511, Ext. 151

NATIONAL CARTOGRAPHIC INFORMATION CENTER

The National Cartographic Information Center (NCIC) is an information service facility for cartographic data (including aerial photography) of the United States. The center was established by the U.S. Geological Survey, Department of the Interior, in July 1974.

NCIC has developed a computer information system for the storage and dissemination of information on existing or planned aerial photography, called the Aerial Photography Record System (APRS). APRS currently references photographic coverage of large geographic areas acquired by seven major federal agencies. The system will eventually include air photo holdings of agencies at the state, county and municipal level, private companies and other federal agencies.

User output consists of a standard APRS report (Catalog of Agency Holdings) and Tabular Graphic (TAG) maps of total holdings. The catalogs list aerial photography acquired by a single agency and include extent and date of coverage, photo scale, film type, agency project code and status (planned, in progress or complete). The TAG maps of agency holdings summarize the photo holdings in a 15 degree strip of longitude with four maps providing complete coverage of the coterminous United States.

Users of the APRS can also custom query the system to obtain specific summary indexes of photographic data for a desired area of interest and selected photo parameters. Some 29 parameters may be specified including geographic area (by latitude/longitude boundaries, state and county, or 7.5' quadrangle), film type and format, date or date range, cloud cover, and scale or scale range.

For further information contact:

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, Virginia 22092
Phone: (703) 860-6059

MSU REMOTE SENSING PROJECT

The Michigan State University (MSU) Remote Sensing Project, under the leadership of faculty members from eight University departments, has been working cooperatively with federal and state agencies and all levels of local government, as well as with a variety of corporations and consulting firms to develop a wide range of operational applications of remote sensing whereby land/resource use decisions and actions may be improved. To accomplish this objective, project staff conduct demonstration applications of remote sensing, provide user services and participate in many modes of educational activities.

Most of the NASA high altitude research aircraft imagery of Michigan, as well as some selected Skylab and Landsat coverage, is available for inspection at the project office. Staff are on hand to provide consultation on the use of imagery, technical assistance on user problems and additional support materials to foster remote sensing applications by present and prospective users.

For further information contact:

Remote Sensing Project
201 UPLA Building
Michigan State University
East Lansing, Michigan 48824
Phone: (517) 353-7195



INQUIRY FORM GEOGRAPHIC COMPUTER SEARCH

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Return
completed
form to
the facility
nearest you.

DATE _____

NAME ^{MR} _____ ACCOUNT NO _____
^{MS} (FIRST) (INITIAL) (LAST) (IF KNOWN)

COMPANY _____ PHONE (Bus.) _____
 (IF BUSINESS ASSOCIATED)

ADDRESS _____ PHONE (Home) _____

CITY _____ Your Ref. No. _____
 (P.O. GOV. ACC. OR OTHER)

TO INITIATE AN INQUIRY AND COMPUTER GEOSearch, COMPLETE THE FOLLOWING

POINT SEARCH
LONG
LAT

Selected Point

POINT #1	POINT #2	POINT #3
Latitude _____ ° _____ ' N or S	Latitude _____ ° _____ ' N or S	Latitude _____ ° _____ ' N or S
Longitude _____ ° _____ ' E or W	Longitude _____ ° _____ ' E or W	Longitude _____ ° _____ ' E or W

Landsat Only. (Worldwide Reference System)

Path _____	Path _____	Path _____	Path _____	Path _____
Row _____	Row _____	Row _____	Row _____	Row _____

Imagery with any coverage over the selected point will be included.

AREA RECTANGLE
LONG LONG LAT LAT

AREA #1	AREA #2	AREA #3
Lat. _____ ° _____ ' N or S to _____ ° _____ ' N or S	Lat. _____ ° _____ ' N or S to _____ ° _____ ' N or S	Lat. _____ ° _____ ' N or S to _____ ° _____ ' N or S
Long. _____ ° _____ ' E or W to _____ ° _____ ' E or W	Long. _____ ° _____ ' E or W to _____ ° _____ ' E or W	Long. _____ ° _____ ' E or W to _____ ° _____ ' E or W

Imagery with any coverage over the selected area will be included.

If the above geographic coordinates cannot be supplied, please specify area by GEOGRAPHIC NAME AND LOCATION (include a map if possible.)

PREFERRED TYPE OF COVERAGE	PREFERRED TIME OF YEAR		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Black & White <input type="checkbox"/> Landsat <input type="checkbox"/> Skylab <input type="checkbox"/> Nasa-Aircraft <input type="checkbox"/> Aerial Mapping Photography (Minimum color available) </td> <td style="width: 50%; border: none;"> Color or Color Infrared <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </td> </tr> </table>	Black & White <input type="checkbox"/> Landsat <input type="checkbox"/> Skylab <input type="checkbox"/> Nasa-Aircraft <input type="checkbox"/> Aerial Mapping Photography (Minimum color available)	Color or Color Infrared <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Check maximum of three <input type="checkbox"/> JAN-MAR <input type="checkbox"/> APR-JUNE <input type="checkbox"/> JULY-SEPT <input type="checkbox"/> OCT-DEC <input type="checkbox"/> All coverage <input type="checkbox"/> Latest coverage <input type="checkbox"/> SPECIFIC DATES _____ <small>NOTE: Seasonal coverage normally applies only to Landsat coverage.</small>
Black & White <input type="checkbox"/> Landsat <input type="checkbox"/> Skylab <input type="checkbox"/> Nasa-Aircraft <input type="checkbox"/> Aerial Mapping Photography (Minimum color available)	Color or Color Infrared <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

MINIMUM QUALITY RATING ACCEPTABLE <input type="checkbox"/> 0-2 (VERY POOR) <input type="checkbox"/> 3-4 (POOR) <input type="checkbox"/> 5-6 (FAIR) <input type="checkbox"/> 7-9 (GOOD)	MAXIMUM CLOUD COVER ACCEPTABLE <input type="checkbox"/> 10% <input type="checkbox"/> 30% <input type="checkbox"/> 50% <input type="checkbox"/> 80% <input type="checkbox"/> 100%
--	--

NOTE: Classification of percent of cloud cover is subjective and is relative to the amount of clouds appearing on the imagery and not to their location.

APPLICATION AND INTENDED USE _____

NCIC HEADQUARTERS
U.S. Geological Survey
507 National Center
Reston, VA 22092
FTS: 928-6045
COMM: 703-860-6045

EROS APPLICATIONS FACILITY
NSTL
U.S. Geological Survey
Bay St. Louis, MS 39520
FTS: 494-3541
COMM: 688-3472

NCIC MID-CONTINENT
U.S. Geological Survey
1400 Independence Rd.
Rolla, MO 65401
FTS: 276-9107
COMM: 314-364-3680

EROS DATA CENTER
U.S. Geological Survey
Sioux Falls, SD 57198
FTS: 784-7151
COMM: 605-594-6511

NCIC ROCKY MOUNTAIN
U.S. Geological Survey
Stop 510, Box 25046
Denver Federal Ctr.
Denver, CO 80225
FTS: 234-2326
COMM: 303-234-2326

NCIC WESTERN
U.S. Geological Survey
345 Middlefield Rd.
Menlo Park, CA 94025
FTS: 467-2427
COMM: 415-323-8111

HOW TO REQUEST A GEOGRAPHIC SEARCH

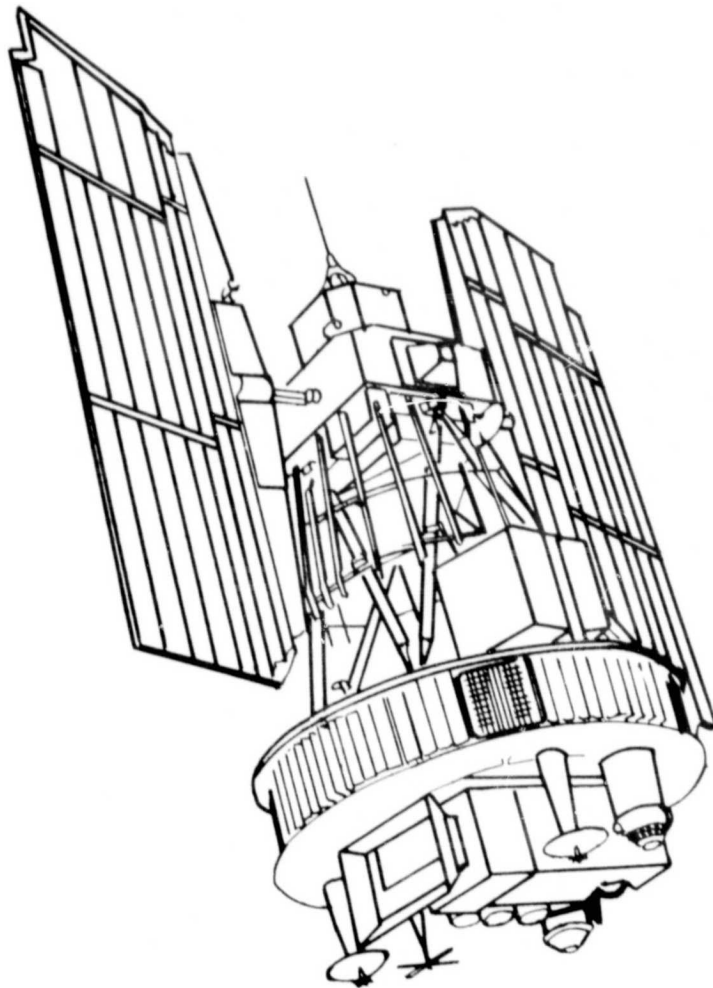
This form is used to request a computer search for imagery over a point or area of interest.

Data from this inquiry sheet will be used to initiate a computer Geosearch. The results will be returned on a computer listing along with a decoding sheet, from which imagery can be selected and ordered.

Complete the form as follows:

- A. Enter your NAME, ADDRESS, and ZIP CODE clearly. If you have had previous contact with that facility, include your ACCOUNT number. Enter a PHONE number where you can be reached during business hours.
- B. Complete the required information for either the POINT SEARCH, or AREA RECTANGLE inquiry, which includes the geographic LATITUDE and LONGITUDE coordinates. If coordinates are not available, please supply the GEOGRAPHIC NAME AND LOCATION or a map with the area of interest identified. It is beneficial that you minimize your area of interest, thereby allowing for a faster and more critical retrieval of information.
- C. Complete all other information.
- D. Complete the APPLICATION AND INTENDED USE portion of the inquiry. e.g. Will it be used for identifying buildings or will it be framed and placed on a wall. This information will assist our technicians in determining whether the products available will satisfy your requirements.
- E. Return completed form to the FACILITY NEAREST YOU.

NOTE: If an inquiry is made for Landsat Data, and the Worldwide Reference of PATH and ROW numbers are available, please insert them in the appropriate locations. Otherwise, geographic coordinates will suffice.



LANDSAT SATELLITE IMAGERY

ORIGINAL PAGE IS
OF POOR QUALITY

SECTION 3

LANDSAT SATELLITE IMAGERY

GENERAL INFORMATION

The first unmanned Earth Resources Technology Satellite (ERTS-1) was launched into orbit on July 23, 1972 by the National Aeronautics and Space Administration (NASA). While the satellite was still operational, a second ERTS satellite was launched into a similar orbit on January 22, 1975. A new name was adopted by NASA in January 1975 to refer to these satellites, and they are now known as Landsat (for land satellite) 1 and 2. These satellites are part of the Earth Resources Observation Systems (EROS) Program of the U.S. Department of the Interior.

These butterfly-shaped space observatories are in a sun-synchronous, near-polar orbit at an altitude of approximately 570 miles (920 km). They orbit the earth in a north-south direction every 103 minutes, or 14 times a day. The entire earth is covered by each Landsat every 18 days and, since they are 180 degrees apart (out of phase), one or the other of the satellites will be over a given earth location every 9 days.

The Landsat vehicles carry two types of sensor systems: 1) three Return Beam Vidicon (RBV) or television cameras, which became inoperable on Landsat-1 shortly after launch; and 2) a Multispectral Scanner (MSS). The MSS system is a mechanical line scanning device using an oscillating mirror to simultaneously scan the earth's landscape passing beneath the spacecraft in four spectral regions or bands. The spectral bands of the Landsat sensors are given in Table 3.1.

The scanner detects electromagnetic radiation (or the intensity of light reflected) from the earth's surface and records the amount of radiation detected on magnetic tape. The data are transmitted to a ground receiving station and recorded again on tape. The taped data can then be compiled as an image facilitating visual interpretation, or can be directly interpreted using special computer processing routines.

One Landsat scene covers an area of 115 by 115 miles (185 by 185 km). An arbitrary forward overlap of approximately 10% occurs between consecutive Landsat images, while

Table 3.1.--Landsat Spectral Bands.

Band	Sensor	Wavelength (nanometers)	Spectral Range
1	RBV	475-575	blue-green
2	RBV	580-680	red
3	RBV	690-830	near infrared
4	MSS	500-600	green
5	MSS	600-700	red
6	MSS	700-800	near infrared
7	MSS	800-1100	near infrared

sidelap between adjacent orbits ranges from 14% at the equator to 85% at a latitude of 80 degrees (about 37% for Michigan).

Landsat MSS images are parallelograms, not squares, due to the earth's rotation and the optical-mechanical scanning process which creates the images. RBV images, however, are acquired instantaneously and thus have a square format. Landsat imagery is produced in a Space Oblique Mercator projection format.

LANDSAT-C AND D SATELLITES

In early 1978, the NASA Office of Applications plans to launch Landsat-C which will contain an improved Return Beam Vidicon (RBV) system providing high-resolution (131 feet/40 meters) panchromatic imagery. A thermal infrared band (10.4 to 12.6 μm), in addition to the four bands presently provided, is planned for the Multispectral Scanner (MSS) system on-board Landsat-C. The resolution of the thermal imagery will be 787 feet (240 meters) whereas the four other channels will have the same resolving capability (262 feet/80 meters) as the Landsat-1 and -2 systems.

The Landsat-C RBV system consists of two identical cameras that operate in the spectral band from 500 to 750 nm. They will be aligned to view adjacent nominal ground scenes of 61 miles (98 km) on a side with a sidelap of 9 miles (14 km). Four RBV scenes (two successive scene pairs) will nominally overlap each MSS frame and will be designated A, B, C and D.

The MSS thermal band can be operated at any time, including night operation and at solar elevation angles less than the normal 10 degree minimum for the other four bands. This band should afford a capability of measuring gaseous and particulate pollutants, water temperature and ocean currents.

Planned for launch in early 1981, Landsat-D will contain a new remote sensing system known as the Thematic Mapper. The system will be a multispectral scanner with six spectral bands and a major improvement in geometric resolution to 30 meters. Provision has been made for adding a seventh band with even finer spatial resolution as required. The spectral bands selected are shown in Table 3.2.

Table 3.2.--Thematic Mapper Spectral Bands.

Band	Wavelength (nm)	Remarks
1	450 to 520	Added to aid in assessment of water quality
2	520 to 600	Similar to MSS band 4
3	630 to 700	Reduced from that of MSS band 5 to improve crop discrimination
4	760 to 900	Reduced from MSS bands 6 and 7 to avoid H ₂ O absorption
5	1,550 to 1,750	Added to aid in crop identification and geologic study
6	10,400 to 12,500	Unchanged from thermal band, Landsat-C

LANDSAT DATA PRODUCTS

The following types of remote sensing data products are prepared from the MSS taped spectral information and are available for purchase:

Computer Compatible Tapes: NASA Goddard Space Flight Center prepares computer compatible digital tapes of Landsat scenes for the EROS Data Center upon user request. These standard 0.5 inch (12.7 mm) magnetic tapes may be requested in either seven- or nine-track format at 800 or 1,600 bpi (bits per inch). For a given Landsat scene, the digital data for the four bands are interwoven among four computer compatible tapes (CCT). Thus, four CCT's are required per Landsat scene.

Black-and-White Images: A black-and-white image of each band scene is produced using an analog printer called an electron beam recorder. The printer translates the recorded amounts of radiation into small cells of light and dark shades at 3,300 cells per printed line, and 4,512 of these lines per 70 mm frame to form a picture. The resultant contact images (Fig. 3.1, p. 3-8) cover an area of 115 by 115 miles (185 by 185 km) at a scale of 1:3,369,000 (1 inch represents about 53 miles). A range of enlargements are available from the EROS Data Center. A common format is a 7.3 by 7.3 inch black-and-white transparency or print produced for all bands at a scale of 1:1,000,000.

False-Color Composites: In addition to images of individual bands, three band images (usually 4, 5 and 7) are assigned a particular color (e.g. blue, green and red, respectively) by exposing the bands through different color filters onto color film. The processed false-color composite (Fig. 3.2, p. 3-9) normally simulates a color infrared image. Color composite images depict healthy vegetation in various hues of red whereas cultural features are blue-gray and cleared land appears white to gray. Water is rendered dark blue to black and in lighter blues if sediment laden.

Color composites do not exist for all Landsat scenes because they are only produced upon customer request. However, for an additional one-time initial preparation charge, color composite images of Landsat scenes not previously prepared can be generated.

Microfilm: The Goddard Space Flight Center prepares a complete listing of Landsat scenes processed each month and a 16 mm "browse" microfilm of band 2 RBV and band 5 MSS images of those scenes. The microfilm provides a visual index to coverage, cloud cover and quality of each processed scene prior to the ordering of individual images, and is not intended for analytical purposes. The microfilms on open reels are available for purchase from the EROS Data Center.

Landsat Standard Data Catalogs: The NASA Goddard Space Flight Center prepares monthly and cumulative listings of Landsat imagery. These NASA ERTS/Landsat Standard Catalogs do not include photographs and are not always compatible with revisions made of film holdings. EROS therefore suggests that inquiries be made to the Data Center before ordering imagery.

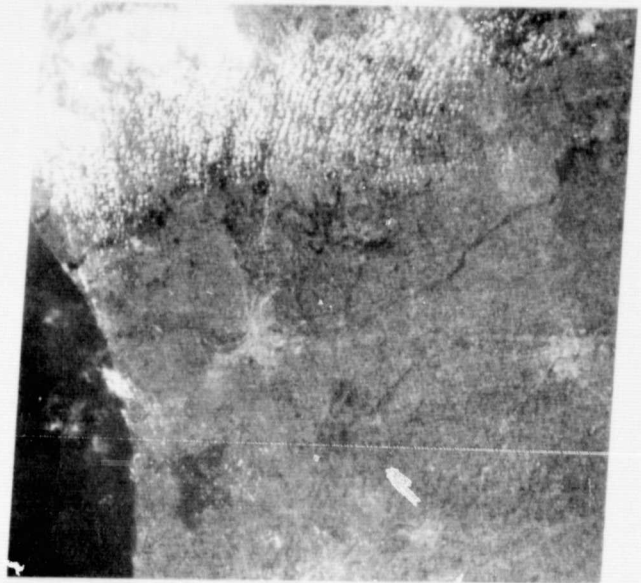
Single Landsat Coverage: The EROS Data Center has selected for sale the best available Landsat image (black-and-white band 5) of each area in the coterminous United States based on quality, optimum time of year (generally spring or summer), and minimum cloud cover. Users who are interested in a Landsat image of their area and do not have special requirements (such as date and scale), can usually obtain the best image by ordering from the Single Landsat Coverage Map (Fig. 3.3, p. 3-10). This map identifies the nominal centers of all Landsat images of the United States by a dot at the intersection of Path and Row lines. To order a Landsat image, refer to the accompanying instructions.

Landsat Mosaics: Adjacent Landsat images can be compiled (matched) to produce photo mosaics of larger regions such as the State of Michigan or even the coterminous United States. Landsat mosaics are available from a variety of sources (addresses in Appendix B), some of which are described below.

- Abrams Aerial Survey Corporation has produced a 16 by 20 inch black-and-white mosaic of Michigan from 1973-74 Landsat satellite imagery.
- General Electric Space Division has prepared a color composite Landsat mosaic of Michigan which is available in several formats. Mosaics for other states or areas may also be available.
- The USDA Soil Conservation Service has assembled a Landsat image mosaic of the 48 contiguous United States and Alaska for NASA.
- An 11 by 14 inch color reproduction of a Landsat mosaic of the coterminous United States can be purchased from Space Photos.
- The U.S. Geological Survey, Branch of Distribution, has prepared mosaics of Landsat images of selected states as well as the coterminous United States.



BAND 4



BAND 5



BAND 6



BAND 7

Figure 3.1.--Landsat MSS Images of the Lansing-Grand Rapids Area.



Figure 3.2.--Landsat Color Composite Image of the Lansing-Grand Rapids Area.

**ORIGINAL PAGE IS
OF POOR QUALITY.**

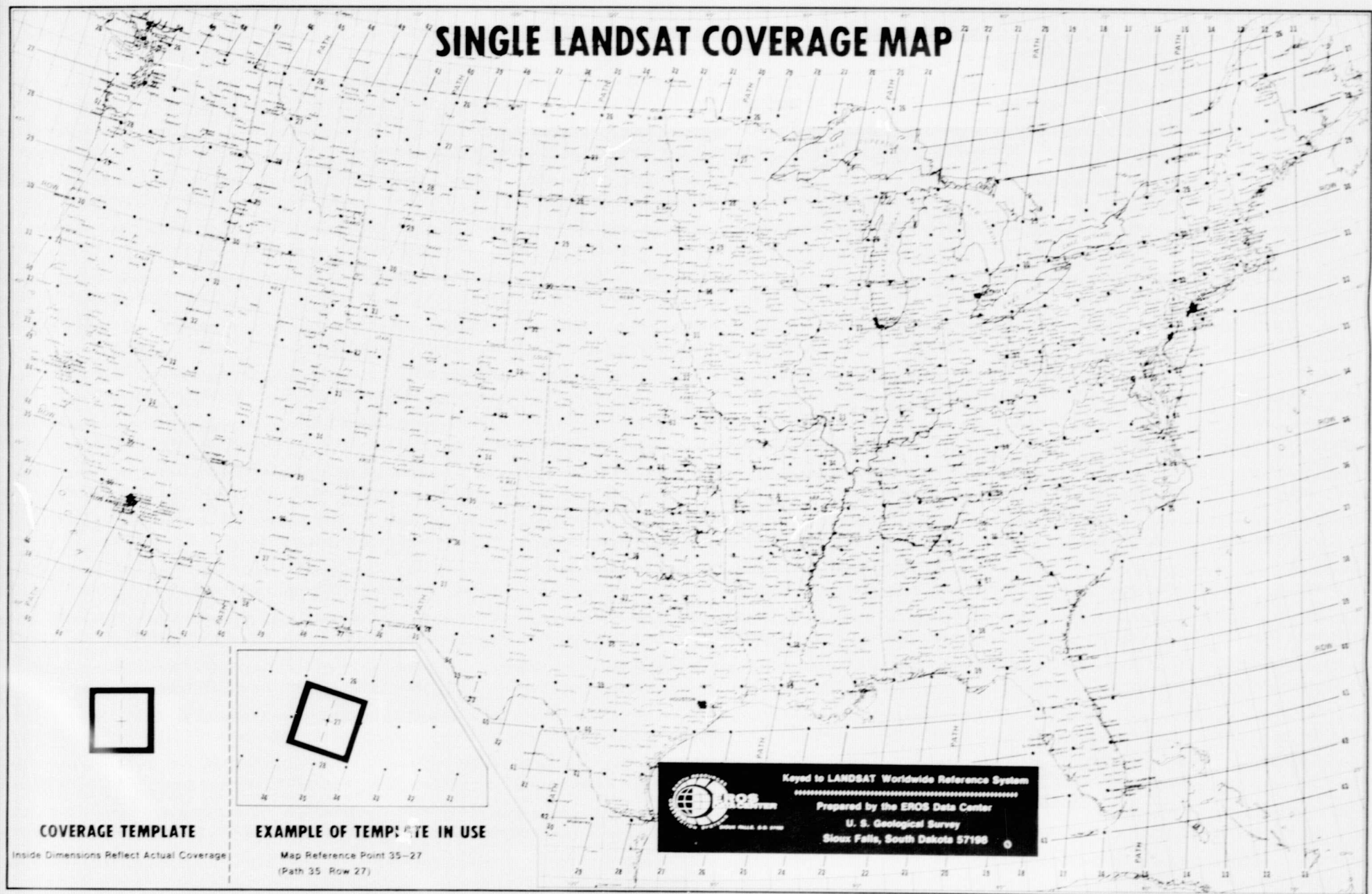


Figure 3.3.--Single Landsat Coverage Map.

HOW TO ORDER SINGLE LANDSAT COVERAGE DATA

This order form is used to order only SINGLE LANDSAT COVERAGE DATA over the Conterminous United States.

Please provide the following information in the indicated areas of the order form:

- A. List your complete NAME, ADDRESS, ZIP CODE, and name of your COMPANY if applicable.
- B. List a PHONE NUMBER where you can be contacted during business hours.
- C. If you have had previous business with the Data Center and this order relates to that business, please list the previous CONTACT NUMBER if known.
- D. Enter the MAP REFERENCE NUMBER

Turn to the SINGLE LANDSAT COVERAGE MAP foldout.

Identify your area of interest on the map. It may require that you reference a road map or atlas in locating the area on the map.

Trace the small coverage outline from the lower left corner of the map onto a sheet of thin paper. This outline portrays the ground coverage of a LANDSAT image on that map.

Center the coverage trace over the numbered dot nearest your area of interest on the map, aligning the extended dashed line through the dots above and below. (See example of template in use - lower left on map) Dots should fall in sequence, i.e. if your center dot is 35 - 27 the dots to align with will be 35 - 26 and 35 - 28. You may find that a photo centered over adjoining dots will also cover your area of interest. Select the framing you most prefer.

Transcribe the PATH number from the map to the first column of the Map Reference Number. Transcribe the ROW number from the map to the second column of the Map Reference Number.

NOTE: ROW numbers are identified on every FIFTH PATH.

- E. Enter the PRODUCT CODE of the type product being ordered from the STANDARD PRODUCTS TABLE.
- F. The REMARKS column is completed only when a CUSTOM PRODUCT is desired and you want to specify the parameters.
- G. Enter the number of COPIES of that product which you desire in the QUANTITY column.
- H. Enter the UNIT PRICE of the type product as reflected in the STANDARD PRODUCTS TABLE.
- I. Multiply the figure in the QUANTITY column by the UNIT PRICE and enter the result in the TOTAL PRICE column.
- J. Repeat the above for each product ordered.
- K. TOTAL the costs of all products ordered on that order form and enter the net result in BLOCK A. TOTAL ABOVE.
- L. If more than 1 order form is required, enter the sum of the figures in BLOCKS A in BLOCK B on the last order form.
- M. Enter the SUM of BLOCK A and BLOCK B in BLOCK C. TOTAL COST.
- N. Indicate the TYPE of payment being made with a CHECK MARK. Make all drafts payable to U.S. GEOLOGICAL SURVEY. DO NOT SEND CASH.
- O. Mail ORDER FORM(S) and PAYMENT to the address listed on the front side of this form.

HOW TO USE THE LANDSAT INDEX

The decision as to whether Landsat imagery is suitable for any particular task must involve a range of factors. Two sets of characteristics are of basic importance and need to be considered before referring to the index.

1. Only very large features such as urban areas, forests, water bodies, agricultural areas and sand dunes can be recognized visually due to the small scale of Landsat imagery. For example, a 40 acre field would typically be the smallest area than can be identified with a minor (3X) magnification. Processing of Landsat Computer Compatible Tapes (CCT's) however, can improve resolving power to the 1.1 acre limit of the sensor system.
2. Each multispectral band also tends to emphasize different features which will inevitably influence image selection. Band 4, for instance, highlights areas of shallow water and sediment-laden water, but this 500-600 nm range is very susceptible to haze distortion. The red band, #5, shows the contrast between topographic, vegetational and man-made features (e.g. drainage patterns, forests, roads and cities) making it the most useful band for land use mapping. Bands 6 and 7 record reflected (not thermal) infrared energy and thus offer better haze penetration. They emphasize vegetation, landforms and the boundary between land and water. If only one black-and-white image is desired, band 5 will usually be the best selection since it offers a general-purpose view of the earth's surface. By ordering all four bands, however, additional features in the scene may be identified. A detailed list of features highlighted in each spectral band is given in Table 3.3.

To select Landsat imagery of Michigan, users should:

1. Examine Figure 3.4 (p. 3-19) to identify the nominal image center nearest the area of interest.
2. Actual frame coverage can vary slightly in any direction from the nominal coverage cited, so there is no assurance that every frame listed under a nominal center will cover an area of interest falling within .25 inches (64 mm) of a frame edge. In this case, check (a) and (b) below, but otherwise go on to number 3.

Table 3.3--Earth Features Highlighted in Landsat Spectral Bands.

MSS Spectral Bands	4	5	6	7	MSS Spectral Bands	4	5	6	7
Airfields		x			Marshes				x
Air Pollution	x	x			Metamorphic Rock				
Atmospheric Sensitivity	x				Alluvium Differentiation				x
Burned Rangeland				x	Rivers			x	x
Chlorophyll (Land)		x			Roads	x	x		
Chlorophyll (Sea Water)			x	x	Serpentine Outcrop				x
Cloud Penetration				x	Shallow Water	x			
Cloud-Snow Differentiation			x		Shoals	x			
Clouds (Thin Cirrus)	x	x			Shores			x	x
Crop Differentiation				x	Small Lakes				x
Defoliation		x		x	Snow Detection	x			
Eddies		x		x	Snow Lines (Transient on Glacier)			x	
Flood Plains				x	Snow Lines (Forest)	x			
Forests		x			Soil Associations		x	x	
Geologic Features			x	x	Soils Discrimination		x		x
Grass Fires				x	Soil Moisture Detection		x		
Growth State	x			x	Stream Channels			x	
Haze	x				Stress		x		
Ice	x			x	Surface Water			x	x
Igneous Rocks			x	x	Tectonic Features			x	x
Iron (Ferric)	x	x			Topography		x		
Irrigated Fields				x	Turbidity	x	x		
Jet Contrails	x	x			Urban Areas	x	x		x
Lakes				x	Water Boundaries			x	x
Lake Eutrophication	x				Water Depth (Bathymetry)	x	x		
Landform Features		x			Water Pollution	x	x		
Large Bridges			x		Water Sedimentation	x	x		
Large Horizontal Concrete Structures		x			Wetlands			x	x
Lithology		x			Wooded Areas	x	x		

SOURCE: Landsat Data Users Handbook (see Appendix A).

- (a) Send the latitude and longitude boundary points of the area of interest to the EROS Data Center and request a computer listing of Landsat images available for the area (see Section 2).
 - (b) Request a similar computer listing from the MSU Remote Sensing Project by either sending the latitude and longitude boundary points of the area or a map indicating the outline of the area.
3. From the list in the Landsat index, identify the frame number(s) desired for the nominal center(s) selected, by examining the following information:

NOMINAL CENTER: The sequential nominal image center number as shown on Figure 3.4 (p. 3-19) is given followed by the corresponding path/row number of the Landsat Worldwide Reference System (see Single Landsat Coverage Map, p. 3-10).

IMAGE DATE: Date of exposure for the image

IMAGE TYPE: MSS = multispectral
RBV = return beam vidicon (television)
COL = color composite

BAND QUALITY: "0" = inferior to "9" = excellent, if blank = unavailable

MSS: individual availability and quality for MSS bands 4, 5, 6 and 7, respectively

RBV: individual availability and quality for RBV bands 1, 2 and 3, respectively

COL: first column indicates the quality of the color composite followed by the respective filters used for the composite (e.g. B = blue, G = green, and R = red).

Note: Only Landsat scenes (frame numbers) that have at least one band with a quality of 5 or better are listed in the index. If imagery taken on an unlisted date is required, refer back to "2a."

CLOUD COVER: Cloud cover percentage

Note: Only Landsat scenes (frame numbers) that have 30% or less cloud cover are listed in the index. If imagery taken on an unlisted date is required, refer back to "2a."

FRAME NUMBER: The Landsat frame identification number used for ordering imagery.

4. Landsat scenes can be ordered using the frame number(s) identified in the index, and the following Landsat Standard Products order form and the instructions given on its reverse side.

HOW TO ORDER LANDSAT DATA

This order form is used to order all standard Landsat data. Necessary order information can normally be extracted from a computer listing of available data or from other Landsat references.

Please provide the following information in the indicated areas of the order form:

- A. List your complete NAME, ADDRESS, ZIP CODE, and name of your COMPANY if applicable.
- B. List a PHONE NUMBER where you can be contacted during business hours.
- C. If you have had previous business with THAT FACILITY, please list your ACCOUNT NUMBER if known.
- D. Enter the complete SCENE IDENTIFICATION NUMBER. This number can be transcribed directly from the COMPUTER LISTING. If the source of information is from other than a computer listing, please specify the date the scene was recorded and the time taken.
- E. Review the STANDARD PRODUCTS TABLE on the ORDER FORM and determine the type of product desired.
- F. Enter the PRODUCT CODE of the type product being ordered from the STANDARD PRODUCTS TABLE.
- G. Enter an indicator for the band(s) desired.
- H. The COMMENTS portion is completed only when a CUSTOM PRODUCT is desired and you want to specify the parameters. Refer to the current price list for custom product cost determination.
- I. Enter the Total Number of Bands ordered.
- J. Multiply the total bands ordered by the number of copies desired and enter the result in the QUANTITY column.
- K. Enter the UNIT PRICE of the type product as reflected on the current PRICE LIST.
- L. Multiply the figure in the QUANTITY column by the UNIT PRICE and enter the result in the TOTAL PRICE column.
- M. Repeat the above for each product ordered.
- N. TOTAL the costs of all products ordered on that order form and enter the net result in BLOCK A, TOTAL ABOVE.
- O. If more than one order form is required, enter the sum of the figures in BLOCKS A in BLOCK B of the last order form.
- P. Enter the SUM of BLOCK A and BLOCK B in BLOCK C, TOTAL COST.
- Q. Indicate the TYPE of payment being made with a CHECK MARK. Make all drafts payable to U.S. GEOLOGICAL SURVEY. DO NOT SEND CASH.
- R. Mail ORDER FORM(S) and PAYMENT to the FACILITY NEAREST YOU. If payment has been previously forwarded, the order form(s) must be mailed to the same facility.

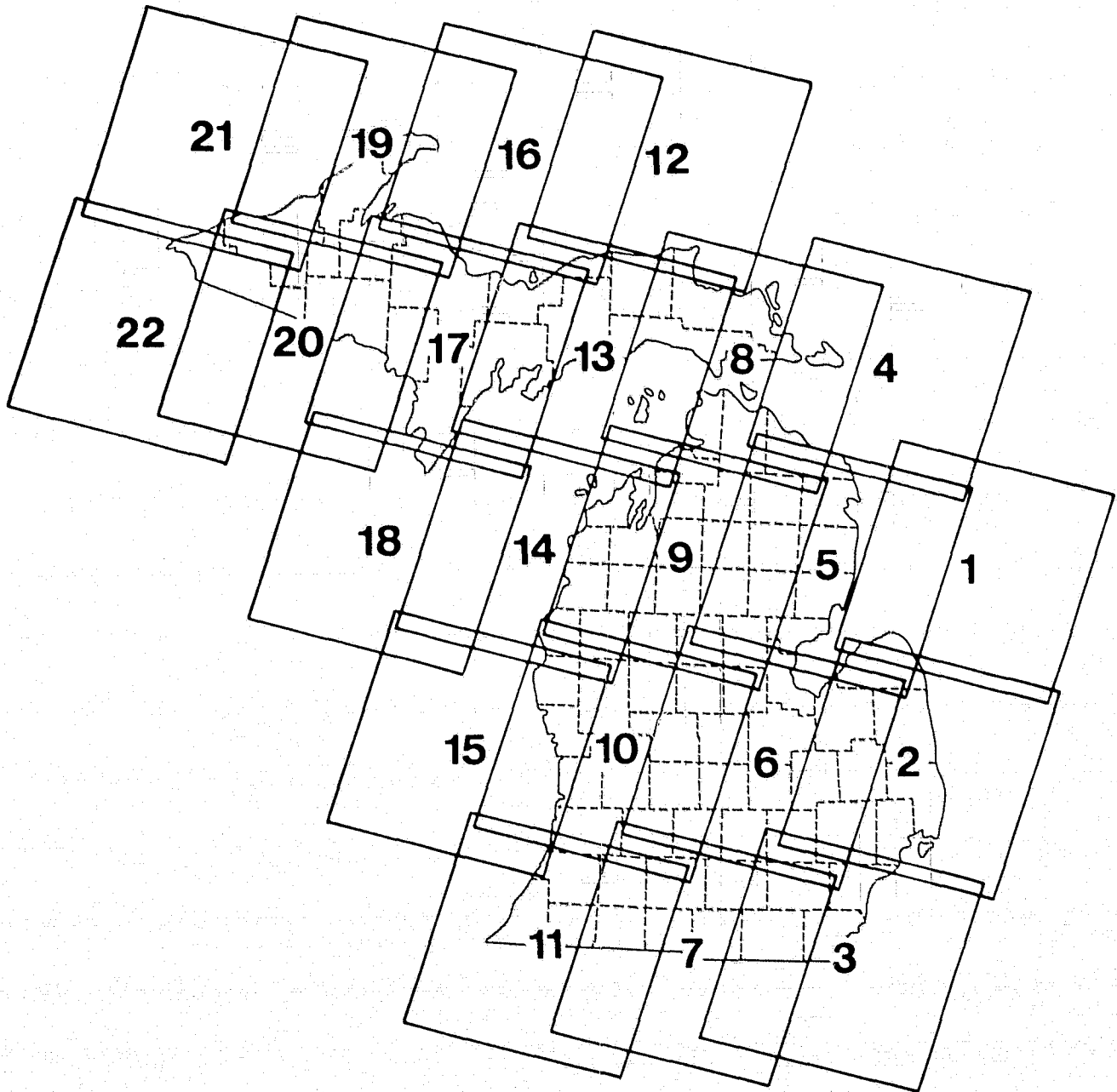


Figure 3.4.--Landsat Nominal Image Center Locations.

INDEX TO LANDSAT IMAGERY
AUGUST, 1972 -- JUNE, 1977

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
1					
(21,29)	1972 SEP 28	MSS	8888	30	81067154605N0
	1973 MAR 27	MSS	8888	10	81247154725N0
	APR 14	MSS	8888	0	81265154715N0
	JUN 25	MSS	8888	10	81337154635N0
	JUN 25	COL	88GR	10	81337154635N2
	SEP 5	MSS	2888	30	81409154535N0
	1974 FEB 14	MSS	8888	10	81571154215N0
	APR 27	MSS	2822	10	81643154045N0
	JUN 20	MSS	8888	0	81697153905N0
	AUG 13	MSS	8888	10	81751153715N0
	SEP 18	MSS	8888	20	81787153555N0
	1975 FEB 1	MSS	8888	30	82010153335N0
	APR 13	MSS	8888	30	82081153505N0
	APR 22	MSS	8888	0	85003152725N0
	MAY 10	MSS	5858	0	85021152625N0
	JUL 3	MSS	5588	10	8507515232500
	AUG 8	MSS	5555	0	8511115211500
	AUG 17	MSS	5558	30	8220715340500
	SEP 4	MSS	5588	20	8222515335500
	OCT 28	MSS	5555	10	8227915332500
	1976 MAR 11	MSS	8888	30	8532715074500
	APR 7	MSS	5885	10	8244115302500
	MAY 13	RBV	588	30	8247715292200
	JUN 9	MSS	8888	30	8541715014500
	JUN 18	RBV	585	10	8251315283200
	JUN 18	MSS	5588	10	8251315283500
	JUN 27	MSS	8588	10	8543515001500
	JUL 6	MSS	8888	10	8253115280500
	JUL 15	MSS	5888	10	8545314585500
	JUL 24	MSS	8888	30	8254915273500
	AUG 2	MSS	5888	10	8547114572500
	AUG 20	MSS	5588	10	8548914555500
	SEP 7	MSS	8888	30	8550714542500
	SEP 25	MSS	8888	30	8552514525500
	OCT 4	MSS	5888	20	8262115252500
	1977 FEB 7	MSS	0888	10	8274715203500
	MAR 15	MSS	8588	20	8278315190500
	MAY 14	MSS	888	10	8575614321500
2					
(21,30)	1972 SEP 28	MSS	8838	30	81067154635N0
	1973 MAR 27	MSS	8888	10	81247154745N0
	MAR 27	COL	78GR	0	81247154745N2
	APR 14	MSS	8888	10	81265154745N0
	APR 14	COL	78GR	0	81265154745N2

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BANG QUALITY	CLOUD COVER	FRAME NUMBER
2	(21, 30)	1973			
	MAY 20	MSS	8888	10	81301154725N0
	JUN 7	MSS	2888	10	81319154715N0
	JUN 7	COL	5888	20	81319154715N2
	JUN 25	MSS	8888	10	81337154705N0
	JUN 25	COL	7888	10	81337154705N2
	1974				
	APR 27	MSS	2888	0	81643154115N0
	JUN 20	MSS	8888	00	81697153935N0
	JUL 8	MSS	8888	20	81715153855N0
	1975				
	FEB 1	MSS	8888	10	82010153405N0
	FEB 1	RBV	5888	30	82010153405N2
	FEB 9	MSS	8888	00	81931153315N0
	APR 4	MSS	8888	00	819851528375N0
	APR 13	MSS	8888	00	82081153355N0
	MAY 10	MSS	8888	00	820211528655N0
	MAY 19	MSS	8888	30	82117153505N0
	MAY 28	MSS	5888	10	820391525555N0
	JUL 30	MSS	5888	10	8218915350500
	AUG 8	MSS	5888	00	821111522145000
	SEP 4	MSS	5888	00	82225153415000
	OCT 10	MSS	5888	00	82261153405000
	OCT 28	MSS	5888	00	82279153355000
	DEC 3	MSS	8888	00	82315153325000
	DEC 21	MSS	5888	30	82333153315000
	1976				
	JAN 8	MSS	8888	10	82335115330500
	JAN 17	MSS	8888	00	822731151145000
	APR 7	MSS	5888	10	82441153055000
	APR 16	MSS	8888	00	823631520545000
	MAY 4	MSS	5888	00	8233311500435000
	MAY 13	RBV	8888	00	824771529550000
	MAY 13	MSS	5888	00	824771529550000
	JUN 18	MSS	8888	10	825131529550000
	JUN 18	RBV	5888	10	825131529550000
	JUN 27	MSS	8888	10	824351500450000
	JUL 6	MSS	8888	10	825311529250000
	JUL 15	MSS	8888	10	8251531159150000
	JUL 24	MSS	8888	00	825401527550000
	AUG 11	MSS	8888	10	825671527250000
	AUG 20	MSS	8888	10	825491526150000
	SEP 25	MSS	8888	10	825521523150000
	OCT 4	MSS	5888	00	825211525550000
	OCT 22	MSS	8888	00	826391525150000
	DEC 15	MSS	8888	10	825931523050000
	1977				
	FEB 7	MSS	8888	10	827471520550000
	MAR 15	MSS	8888	10	827831519250000
	MAY 8	MSS	8888	10	828371516350000
	MAY 14	MSS	8888	10	827561513245000
	MAY 26	MSS	8888	10	828551515450000

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BANG QUALITY	CLOUD COVER	FRAME NUMBER
3	(21, 31)	1973			
	MAR 27	MSS	8888	10	81247154815N0
	MAR 27	COL	6888	0	81247154815N2
	APR 14	MSS	8888	10	81265154805N0
	APR 14	COL	7888	0	81265154805N2
	MAY 20	MSS	8888	20	81301154755N0
	JUN 4	MSS	8888	10	81319154745N0

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
3					
(21,31)	1973				
	JUN 25	MSS	8828	10	81337154725N0
	OCT 11	MSS	2888	20	81445154535N0
	1974				
	FEB 14	MSS	8888	20	81571154305N0
	APR 27	MSS	2888	0	81643154135N0
	JUN 2	MSS	8888	20	81679154035N0
	JUN 20	MSS	8888	10	81697153955N0
	JUL 8	RBV	8888	20	81715153922N0
	OCT 6	MSS	5888	20	81805153605N0
	1975				
	FEB 9	MSS	5885	10	81931153135N0
	APR 4	MSS	8858	0	81985152905N0
	APR 13	MSS	8888	20	82081153555N0
	MAY 10	MSS	5858	0	82021152715N0
	MAY 19	MSS	2858	10	82117153535N0
	MAY 28	MSS	5558	10	82039152615N0
	JUN 6	MSS	5588	10	8213515355500
	JUL 21	MSS	8855	20	8209315230500
	JUL 30	MSS	5558	10	8218915352500
	AUG 8	MSS	5555	10	8211115220500
	NOV 6	MSS	5550	30	8220115164500
	NOV 15	MSS	5885	10	8229715340500
	DEC 3	MSS	8858	20	8231515335500
	1976				
	JAN 8	MSS	8858	10	8235115335500
	JAN 17	MSS	8888	20	8227315120500
	MAR 11	MSS	8888	10	8232715083500
	APR 7	MSS	8888	10	8244115311500
	MAY 4	MSS	8588	10	8238115045500
	MAY 13	MSS	8858	10	8247715301500
	MAY 13	RBV	558	10	8247715301200
	MAY 22	MSS	8888	20	8239915034500
	JUN 9	MSS	8888	20	8241715023500
	JUN 18	MSS	8888	10	8251315292500
	JUN 18	RBV	588	10	8251315292200
	JUN 27	MSS	8888	10	8243515010500
	JUL 6	MSS	5888	10	8253115285500
	JUL 15	MSS	8888	10	8245314594500
	JUL 24	MSS	5888	10	8254915282500
	AUG 2	MSS	8888	30	8247114581500
	AUG 11	MSS	5588	30	8256715275500
	AUG 20	MSS	5888	0	8248914564500
	AUG 29	MSS	5858	20	8258515271500
	SEP 7	MSS	8588	10	8250714551500
	OCT 4	MSS	2888	10	8262115261500
	OCT 22	MSS	8888	20	8263915254500
	NOV 9	MSS	5888	30	8265715245500
	DEC 15	MSS	8888	10	8269315232500
	1977				
	JAN 20	MSS	8888	20	8272915220500
	FEB 7	MSS	5888	10	8274715212500
	MAR 15	MSS	5888	0	8278315195500
	MAY 8	MSS	8888	10	8283715170500
	MAY 14	MSS	8888	10	8275614330500
	MAY 26	MSS	8888	10	8285515160500
4					
(22,28)	1973				
	FEB 20	MSS	8888	30	81212155225N0
	MAR 28	MSS	8888	10	81248155245N0

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
4					
(22, 28)					
1973	SEP 6	MSS	8888	20	81410155055N0
	DEC 5	MSS	2828	20	81500154925N0
1974	APR 28	MSS	2822	30	81644154605N0
	JUN 3	MSS	8888	20	81680154505N0
	JUL 27	MSS	5888	10	81734154315N0
1975	FEB 2	MSS	8888	20	82011154105N0
	MAR 27	MSS	8558	20	82064154015N0
	APR 5	MSS	5855	0	81986153335N0
	APR 14	MSS	5888	0	82082154025N0
	MAY 11	MSS	5558	30	85022153145N0
	JUL 31	MSS	5588	10	8219015395500
1976	JAN 9	MSS	8858	10	8235215375500
	JAN 27	MSS	8888	30	8237015374500
	FEB 14	MSS	5588	10	8238815372500
	APR 8	MSS	8888	20	8244215354500
	MAY 23	MSS	8588	30	8540015080500
	JUN 1	MSS	8888	0	8249615341500
	JUN 10	MSS	5588	30	8541815065500
	JUN 19	MSS	8888	30	8251415335500
	JUL 25	MSS	8888	10	8255015325500
	AUG 21	MSS	8888	10	8549015010500
	AUG 30	MSS	8888	10	8258615314500
	SEP 8	MSS	8888	0	8550814593500
	SEP 17	MSS	5555	20	8260415311500
	OCT 23	MSS	5588	30	8264015300500
1977	JAN 21	MSS	8888	20	8273015263500
	APR 3	MSS	8888	0	8280215232500
	APR 9	MSS	888	10	8572114405500
	MAY 9	MSS	8888	10	8283815213500
	MAY 15	MSS	8888	10	8575714373500
	MAY 27	MSS	8885	0	8285615203500
	JUN 14	MSS	5888	10	8287415194500
5					
(22, 29)					
1973	MAR 28	MSS	8888	20	81248155305N0
	MAY 21	MSS	8822	10	81302155245N0
	MAY 21	COL	68GR	20	81302155245N2
	JUN 8	MSS	8888	20	81320155235N0
	AUG 19	MSS	8822	30	81392155135N0
1974	FEB 15	MSS	8888	20	81572154755N0
	JUN 3	MSS	8888	10	81680154525N0
	JUN 3	COL	88GR	10	81680154525N2
	JUN 21	MSS	8885	20	81698154455N0
	JUL 9	MSS	8888	10	81716154415N0
	JUL 27	MSS	5858	10	81734154335N0
	SEP 19	MSS	0800	30	81788154135N0
1975	FEB 2	RBV	888	20	82011154132N0
	FEB 2	MSS	8888	20	82011154135N0
	MAR 9	MSS	5888	10	82046154055N0
	MAR 27	MSS	5588	20	82064154045N0
	APR 5	MSS	8558	20	81986153355N0

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
5	(22, 29)	1975			
	APR 14	MSS	8858	0	82082154045N0
	MAY 11	MSS	8558	30	85022153205N0
	MAY 20	MSS	8858	10	82118154025N0
	JUL 31	MSS	8558	10	8219015401500
	AUG 27	MSS	8558	30	8513015255500
	SEP 14	MSS	8558	10	8514815245500
	SEP 23	MSS	8588	30	8224415392500
	1976				
	JAN 9	MSS	8858	20	8235215382500
	JAN 27	MSS	8888	10	8237015381500
	FEB 14	MSS	8888	10	8238815374500
	APR 8	MSS	8888	30	8244215360500
	MAY 14	RBV	8558	10	8247815351200
	MAY 14	MSS	8888	20	8247815351500
	JUN 1	MSS	8588	10	8249615344500
	JUN 10	MSS	8888	10	8541815072500
	JUN 19	MSS	8888	30	8251415341500
	JUN 19	MSS	8888	30	8547215030500
	AUG 3	MSS	8888	0	8547215030500
	AUG 21	MSS	8588	10	8549015013500
	AUG 30	MSS	8888	20	8258615321500
	SEP 8	MSS	8888	0	8550815000500
	OCT 23	MSS	8588	10	8264015303500
	1977				
	APR 3	MSS	8888	0	8280215235500
	APR 9	MSS	8888	10	8572114411500
	MAY 9	MSS	8888	10	8283815215500
	MAY 15	MSS	8888	10	8575714375500
	MAY 27	MSS	8588	0	8285615205500
	JUN 14	MSS	8888	10	8287415200500
6	(22, 30)	1973			
	MAR 28	MSS	8888	30	81248155335N0
	MAY 21	MSS	8888	20	81302155315N0
	JUN 8	COL	78GR	10	81320155255N2
	JUN 8	MSS	8888	0	81320155255N0
	SEP 6	MSS	8888	10	81410155145N0
	SEP 24	MSS	8888	30	81428155115N0
	DEC 5	MSS	2828	10	81500155015N0
	1974				
	MAR 5	MSS	8888	0	81590154805N0
	JUN 3	MSS	8888	30	81680154555N0
	JUL 9	MSS	8888	10	81716154445N0
	SEP 19	MSS	8585	10	81788154155N0
	1975				
	FEB 2	MSS	8888	10	82011154155N0
	MAR 9	MSS	8888	10	82046154125N0
	APR 5	MSS	8558	10	81986153425N0
	MAY 2	MSS	8888	30	82100154105N0
	MAY 11	MSS	8858	20	85022153235N0
	MAY 20	MSS	8888	10	82118154055N0
	JUL 31	MSS	8888	0	8219015404500
	AUG 27	MSS	8558	10	8513015261500
	SEP 14	MSS	8588	10	8514815251500
	SEP 23	MSS	8555	30	8224415395500
	NOV 16	MSS	8588	10	8229815392500
	1976				
	JAN 9	MSS	8858	30	8235215384500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
6	(22,30)	1976			
	JAN 18	MSSS	8888	20	8527415172500
	JAN 27	MSSS	8888	10	8237015383500
	FEB 14	MSSS	8888	0	8238815381500
	MAY 25	MSSS	8888	10	8537215101500
	MAY 23	MSSS	8888	20	8540015085500
	JUN 10	MSSS	8888	10	8541815074500
	AUG 24	MSSS	8888	0	8547215032500
	AUG 23	MSSS	8888	10	8549015015500
	AUG 29	MSSS	8888	10	8553515032500
	SEP 8	MSSS	8888	0	8550815002500
	OCT 14	MSSS	8888	20	8554414572500
	1977				
	JAN 21	MSSS	8888	20	8273015272500
	MAR 16	MSSS	8888	0	8278415250500
	APR 3	MSSS	8888	0	8280215241500
	APR 9	MSSS	8888	0	8572114414500
	MAY 9	MSSS	8888	30	8283815222500
	MAY 15	MSSS	8888	10	8575714382500
	MAY 27	MSSS	8888	0	8285615212500
	JUN 14	MSSS	8888	10	8287415203500
7	(22,31)	1973			
	MAY 21	MSSS	8888	20	8130215533500
	JUN 8	MSSS	8888	10	8132015532500
	JUN 27	COL	8888	10	8132015532500
	SEP 6	MSSS	8888	10	8141015520500
	SEP 24	COL	8888	30	8141015520500
	SEP 24	MSSS	8888	20	8142815514500
	NOV 17	MSSS	8888	10	8148215505500
	1974				
	MAR 5	MSSS	8888	10	8159015482500
	JUN 30	MSSS	8888	10	8168015461500
	JUN 30	COL	8888	10	8168015461500
	JUL 9	MSSS	8888	10	8171615450500
	JUL 27	MSSS	8888	30	8173415442500
	SEP 19	MSSS	8888	10	8178815422500
	1975				
	FEB 23	BDV	8888	0	8201115422200
	FEB 23	MSSS	8888	10	8201115422200
	APR 23	MSSS	8888	20	8195615344500
	MAY 23	MSSS	8888	20	8210015413500
	MAY 11	MSSS	8888	30	8502215322500
	MAY 29	MSSS	8888	30	8211815411500
	MAY 29	MSSS	8888	20	8504815315500
	JUL 31	MSSS	8888	10	8219015410500
	NOV 18	MSSS	8888	0	82298153394500
	DEC 4	MSSS	8888	0	82316153393500
	1976				
	JAN 9	MSSS	8888	20	8235215391500
	JAN 14	MSSS	8888	10	8527415174500
	JAN 14	MSSS	8888	10	8537015383500
	FEB 23	MSSS	8888	10	8238815381500
	FEB 23	MSSS	8888	10	8537215101500
	MAY 25	MSSS	8888	10	8538215103500
	MAY 23	MSSS	8888	20	8540015085500
	JUN 10	MSSS	8888	10	8541815074500
	JUL 7	MSSS	8888	10	8253215343500
	JUL 25	MSSS	8888	10	8255015340500
	AUG 3	MSSS	8888	0	8547215032500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
7					
(22, 31)	1976				
	AUG 21	MSS	8888	10	8549015022500
	AUG 30	MSS	8888	10	8258615330500
	SEP 8	MSS	8888	0	8550815005500
	OCT 14	MSS	8885	10	8554414575500
	1977				
	JAN 21	MSS	5888	30	8273015274500
	FEB 8	MSS	8888	30	8274815270500
	MAR 16	MSS	8888	0	8278415253500
	APP 3	MSS	8888	10	8280215244500
	APP 9	MSS	888	10	85721114420500
	MAY 9	MSS	8888	30	8283815224500
	MAY 15	MSS	888	0	8575714384500
	MAY 27	MSS	8888	0	8285615214500
	JUN 14	MSS	5858	20	8287415205500
8					
(23, 28)	1972				
	SEP 12	MSS	8828	30	81051155715N0
	1973				
	JAN 16	MSS	8888	20	81177155735N0
	MAR 29	MSS	8888	20	81249155825N0
	MAY 4	MSS	8888	0	81285155815N0
	MAY 22	MSS	8828	10	81303155805N0
	MAY 22	COL	75CP	10	81303155805N2
	JUN 9	MSS	8882	20	81321155755N0
	SEP 7	MSS	8882	30	81411155635N0
	1974				
	JUL 10	MSS	8888	10	81717154935N0
	JUL 28	MSS	5888	30	81735154855N0
	AUG 15	MSS	8888	20	81753154815N0
	1975				
	FEB 3	RBV	555	10	82012154832N0
	FEB 3	MSS	8858	10	82012154835N0
	FEB 11	MSS	8888	20	81933154145N0
	APR 6	MSS	5888	0	81987153915N0
	APR 15	MSS	8855	30	82083154605N0
	MAY 12	MSS	5858	10	85023153725N0
	JUN 26	MSS	5555	10	8215515460500
	JUL 5	MSS	5525	20	8507715342500
	AUG 1	MSS	5555	10	8219115453500
	SEP 15	MSS	8588	30	8514915300500
	SEP 24	MSS	5555	10	8224515444500
	OCT 30	MSS	5558	20	8228115442500
	NOV 17	MSS	5555	30	8229915441500
	1976				
	JAN 1	MSS	5855	30	8525715232500
	MAR 22	MSS	8885	20	8242515420500
	APR 9	MSS	8888	10	8244315412500
	JUN 2	MSS	5888	0	8249715400500
	JUN 11	MSS	8888	10	8541915123500
	JUN 20	MSS	8888	0	8251515393500
	JUL 8	MSS	8888	10	8253315390500
	AUG 22	MSS	8588	10	8549115064500
	SEP 18	MSS	8888	10	8260515365500
	NOV 29	MSS	8888	30	8267715342500
	1977				
	JAN 22	MSS	8888	10	8273115321500
	MAR 17	MSS	5888	10	8278515300500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER	
A	(23,28)	1977				
		APR 22	MSS	8888	30	8282115291500
		MAY 10	MSS	8888	10	8283915271500
		MAY 28	MSS	8888	10	8285715261500
		JUN 3	MSS	888	10	8577614413500
		JUN 15	MSS	8588	10	8287515252500

9	(23,29)	1973				
		JAN 16	MSS	8888	10	81177155755N0
		MAR 29	MSS	8888	10	81249155845N0
		MAY 4	MSS	8888	10	81285155835N0
		MAY 22	MSS	8888	20	81303155835N0
		JUN 9	MSS	8888	0	81321155815N0
		JUN 9	COL	88GR	0	91321155815N2
		SEP 7	MSS	8882	20	81411155705N0
		DEC 24	MSS	8888	30	81519155515N0

		1975				
		FEB 11	MSS	8888	0	81933154205N0
		APR 6	MSS	8885	0	81987153935N0
		APR 15	MSS	8888	30	82083154635N0
		MAY 12	MSS	5858	20	85023153745N0
		JUN 26	MSS	5555	10	8215515463500
		JUL 5	MSS	5888	20	8507715344500
		AUG 1	MSS	5558	10	8219115460500
		SEP 24	MSS	8888	30	8224515451500
		OCT 30	MSS	8888	10	8228115445500
		NOV 17	MSS	5555	10	8229915444500

		1976				
		FEB 24	MSS	8885	10	8531115202500
		MAR 22	MSS	8888	10	8242515422500
		APR 9	MSS	8888	0	8244315415500
		APR 18	MSS	5888	30	8536515164500
		JUN 2	MSS	8888	0	8249715402500
		JUN 11	MSS	8888	10	8541915130500
		JUN 20	MSS	8888	0	8251515395500
		JUL 8	MSS	8888	10	8253315392500
		JUL 17	MSS	8888	30	8545515100500
		JUL 26	MSS	8588	30	8255115385500
		AUG 22	MSS	8888	10	8549115070500
		SEP 18	MSS	8888	10	8260515372500
		NOV 29	MSS	8888	20	8267715344500

		1977				
		JAN 4	MSS	5888	20	8271315331500
		JAN 22	MSS	8888	10	8273115323500
		MAY 10	MSS	8888	10	8283915273500
		MAY 28	MSS	8888	0	8285715264500
		JUN 3	MSS	888	10	8577614415500
		JUN 15	MSS	8888	10	8287515254500

10	(23,30)	1972				
		AUG 25	COL	58GR	20	81033155805N2
		AUG 25	MSS	8888	30	81033155805N0
		1973				
		JAN 16	MSS	8888	10	81177155825N0
		MAY 4	MSS	8888	10	81285155905N0
		JUN 9	COL	98GR	0	81321155845N2
		JUN 9	MSS	8888	0	81321155845N0
		AUG 20	MSS	8888	30	81393155745N0

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
10					
(23, 30)	1973				
	SEP 7	MSS	8882	20	81411155725N0
	1974				
	JAN 11	MSS	8888	30	81537155505N0
	MAR 6	COL	78GP	10	81591155345N2
	MAR 6	MSS	8888	10	81591155345N0
	JUL 28	MSS	5888	10	81735154945N0
	OCT 26	MSS	5858	0	81825154655N0
	1975				
	FEB 3	MSS	8858	20	82012154925N0
	FEB 3	RBV	588	30	82012154922N0
	APR 6	MSS	8588	0	81987154005N0
	JUN 26	MSS	5585	20	8215515465500
	JUL 5	MSS	5885	10	8507715351500
	AUG 1	MSS	5558	10	8219115462500
	SEP 24	MSS	5588	30	8224515453500
	NOV 17	MSS	5588	0	8229915450500
	1976				
	JAN 10	MSS	8888	30	8235315443500
	MAR 22	MSS	8888	10	8242515425500
	APR 9	MSS	8888	0	8244315421500
	APR 18	MSS	8888	20	8536515170500
	JUN 2	MSS	8888	10	8249715405500
	JUN 11	MSS	5888	20	8541915132500
	JUN 20	MSS	8888	10	8251515402500
	JUL 8	MSS	8888	10	8253315395500
	JUL 17	MSS	8588	10	8545515103500
	JUL 26	MSS	5888	10	8255115392500
	AUG 22	MSS	5888	0	8549115073500
	AUG 31	MSS	8888	20	8258715381500
	SEP 18	MSS	8888	10	8269515374500
	1977				
	JAN 4	MSS	8858	10	8271315334500
	JAN 22	MSS	8888	20	8273115330500
	MAY 10	MSS	8888	10	8283915280500
	MAY 16	MSS	888	10	8575814440500
	MAY 28	MSS	8888	10	8285715270500
	JUN 3	MSS	888	10	8577614422500
	JUN 15	MSS	8888	0	8287515261500
11					
(23, 31)	1972				
	AUG 25	MSS	8888	30	81033155825N0
	DEC 11	MSS	888	30	81141155915N0
	1973				
	JAN 16	MSS	8888	10	81177155845N0
	JAN 16	COL	78GR	10	81177155845N2
	MAR 11	MSS	8882	30	81231155935N0
	MAY 4	MSS	8888	10	81285155925N0
	MAY 4	COL	58GR	10	81285155925N2
	JUN 9	COL	78GR	0	81321155905N2
	JUL 15	MSS	58GR	30	81357155845N0
	AUG 20	MSS	8888	30	81393155815N0
	SEP 7	MSS	8882	30	81411155755N0
	SEP 25	MSS	8888	20	81429155725N0
	1974				
	JAN 11	MSS	8822	30	81537155535N0
	JUL 28	MSS	5588	20	81735155015N0
	AUG 15	MSS	8888	10	81753154935N0

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
11					
(23, 31)					
1974	OCT 26	MSS	8888	10	81825154725N0
1975	FEB 3	MSS	8888	20	82012134955N0
	FEB 20	MSS	8888	10	82029154735N0
	APR 6	MSS	8888	10	81987154025N0
	JUN 8	MSS	8888	20	82137154725N0
	JUL 5	MSS	8888	20	8507715353500
	AUG 1	MSS	8888	20	8219115465500
	NOV 17	MSS	8888	0	8229915453500
1976	JAN 1	MSS	8888	30	8525715243500
	MAR 20	MSS	8888	20	8242515431500
	APR 9	MSS	8888	0	8244315424500
	APR 19	MSS	8888	10	8536515173500
	JUN 2	MSS	8888	30	8249715411500
	JUN 11	MSS	8888	10	8541915135500
	JUN 20	MSS	8888	10	8251515404500
	JUL 8	MSS	8888	10	8253315401500
	JUL 17	MSS	8888	20	8545515105500
	JUL 26	MSS	8888	10	8255115394500
	AUG 4	MSS	8888	20	8547315092500
	AUG 22	MSS	8888	10	8549115075500
	AUG 31	MSS	8888	30	8258715384500
	SEP 18	MSS	8888	20	8260515381500
	OCT 15	MSS	8888	0	8554515033500
1977	JAN 4	MSS	8888	30	8271315340500
	JAN 22	MSS	8888	30	8273115332500
	MAY 10	MSS	8888	0	8283915282500
	MAY 16	MSS	8888	10	8575814442500
	MAY 29	MSS	8888	10	8285715273500
	JUN 3	MSS	8888	10	8577614424500
	JUN 15	MSS	8888	10	8287515263500
12					
(24, 27)					
1973	MAY 5	MSS	8888	0	81286160335N0
	MAY 5	COL	78GR	10	81286160335N2
	JUL 16	MSS	8888	0	81358160245N0
	JUL 16	COL	88GR	0	81358160245N2
	AUG 3	MSS	8888	10	81376160235N0
	AUG 3	COL	78GR	10	81376160235N2
	AUG 21	MSS	8888	10	81394160215N0
	NOV 19	MSS	8888	0	81484160035N0
1974	MAY 18	MSS	8888	30	81664155635N0
	JUL 11	MSS	8888	0	81718155455N0
	OCT 27	MSS	8888	10	81826155125N0
	DEC 2	MSS	8888	0	81862154955N0
1975	MAR 20	MSS	8888	30	81970154525N0
	APR 7	MSS	8888	0	81988154425N0
	APR 16	MSS	8888	20	82084155125N0
	APR 25	MSS	8888	30	85006154335N0
	MAY 13	MSS	8888	10	85024154235N0
	MAY 22	MSS	8888	10	82120155055N0
	AUG 20	MSS	8888	30	8221015501500
	SEP 25	MSS	8888	10	8224615500500
	OCT 13	MSS	8888	30	8226415495500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
12					
(24,27)	1975 DEC 6	MSS	5888	30	8231815492500
	1976 MAY 25	MSS	8888	30	8540215190500
	JUN 21	MSS	8588	0	8251615445500
	JUN 30	MSS	8888	10	8543815162500
	JUL 9	MSS	5588	30	8253415442500
	JUL 27	MSS	8888	30	8255215435500
	AUG 14	MSS	8888	20	8257015431500
	AUG 23	MSS	8888	20	8549215115500
	SEP 10	MSS	8888	30	8551015102500
	1977 JAN 5	MSS	8888	20	8271415381500
	FEB 16	MSS	5888	20	8566914563500
	MAY 11	MSS	8888	10	8284015322500
13					
(24,28)	1973 MAR 12	MSS	8888	30	81232160405N0
	APR 17	COL	5888	20	81268160405N2
	MAY 5	MSS	8888	0	81286160355N0
	MAY 5	COL	7888	0	81286160355N2
	JUL 16	MSS	8828	10	81358160315N0
	AUG 3	MSS	8828	10	81376160255N0
	AUG 21	MSS	8888	10	81394160245N0
	SEP 9	MSS	8888	20	81412160225N0
	NOV 19	MSS	8888	30	81484160105N0
	1974 FEB 17	MSS	8888	30	81574155855N0
	JUN 5	MSS	8888	20	81682155625N0
	JUL 11	MSS	8888	0	81718155515N0
	OCT 27	MSS	5558	10	81826155155N0
	DEC 2	MSS	8888	0	81862155025N0
	1975 FEB 3	PBV	555	20	82012154902N0
	FEB 3	MSS	8858	20	82012154905N0
	FEB 21	MSS	8888	20	82030155205N0
	APR 7	MSS	5858	10	81988154455N0
	APR 25	MSS	8555	30	85006154355N0
	MAY 13	MSS	2888	0	85024154305N0
	MAY 22	MSS	5555	30	82120155125N0
	AUG 11	MSS	5588	20	8511415375500
	OCT 13	MSS	5555	10	8226415502500
	1976 MAY 25	MSS	8888	30	8540215192500
	JUN 3	MSS	8888	10	8249815454500
	JUN 21	MSS	5858	10	8251615451500
	JUL 18	MSS	5888	30	8545615152500
	JUL 27	MSS	8888	10	8255215441500
	AUG 23	MSS	8588	10	8549215122500
	SEP 10	MSS	8858	20	8551015105500
	OCT 7	PBV	555	30	8252415421200
	1977 FEB 10	MSS	8888	30	8275015371500
	FEB 16	MSS	5588	10	8566914565500
	FEB 28	MSS	8888	30	8276815363500
	MAR 18	MSS	8888	30	8278615354500
	APR 23	MSS	8888	20	8282215335500
	MAY 11	MSS	8888	10	8284015325500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
14					
(24, 29)	1973				
	MAY 5	MSS	8888	0	81286160425N0
	MAY 5	COL	78GR	0	81286160425N2
	JUN 10	MSS	8828	10	81322160405N0
	JUL 16	MSS	8828	10	81358160335N0
	AUG 3	MSS	8888	0	81376160325N0
	AUG 21	MSS	8888	10	81394160305N0
	OCT 14	MSS	8888	20	81448160145N0
	NOV 19	MSS	8888	20	81484160125N0
	1974				
	MAR 7	MSS	8888	30	81592155905N0
	JUL 11	MSS	8888	0	81718155545N0
	OCT 27	MSS	5558	20	81826155215N0
	DEC 2	MSS	8888	10	81862155045N0
	1975				
	FEB 21	MSS	5888	20	82030155235N0
	APR 7	MSS	5858	10	81988154515N0
	APR 16	MSS	8888	20	82084155215N0
	MAY 13	MSS	2588	0	85024154325N0
	AUG 11	MSS	5588	30	8511415381500
	OCT 13	MSS	5555	10	8226415504500
	1976				
	MAR 23	MSS	8888	30	8242615480500
	MAY 25	MSS	8588	20	8540215195500
	JUN 3	MSS	5888	0	8249815460500
	JUN 12	MSS	5888	10	8542015184500
	JUN 21	MSS	5858	20	8251615454500
	JUL 18	MSS	5888	10	8545615154500
	JUL 27	MSS	8888	10	8255215444500
	AUG 23	MSS	8888	0	8549215124500
	SEP 1	MSS	5888	30	8258815433500
	SEP 10	MSS	5888	20	8551015111500
	1977				
	FEB 16	MSS	8588	20	8566914572500
	FEB 28	MSS	8888	20	8276815365500
	APR 23	MSS	8888	10	8282215341500
	MAY 11	MSS	8888	20	8284015331500
	MAY 29	MSS	5888	30	8285815322500
15					
(24, 30)	1973				
	MAR 16	MSS	8828	10	81358160405N0
	AUG 21	MSS	8828	10	81394160335N0
	OCT 14	COL	78GR	0	81448160215N2
	OCT 14	MSS	2882	0	81448160215N0
	1974				
	JUL 11	MSS	8588	0	81718155605N0
	JUL 29	MSS	8885	30	81736155525N0
	SEP 21	MSS	8885	30	81790155325N0
	OCT 27	MSS	5558	20	81826155245N0
	DEC 2	MSS	8858	10	81862155115N0
	1975				
	MAR 20	MSS	5558	10	81970154635N0
	APR 7	MSS	8858	10	81988154545N0
	APR 16	MSS	8888	30	82084155235N0
	MAY 13	MSS	2888	0	85024154355N0
	AUG 11	MSS	5558	20	8511415384500
	OCT 13	MSS	5558	10	8226415511500
	NOV 18	MSS	5555	30	8230015504500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
15					
(24, 30)	1976				
	MAR 23	MSS	8888	0	8242615483500
	APR 28	MSS	8588	10	8246215472500
	MAY 25	MSS	8588	10	8540215201500
	JUN 3	MSS	5888	0	8249815463500
	JUN 12	MSS	5588	10	8542015190500
	JUL 18	MSS	5588	0	8545615161500
	JUL 27	MSS	5888	30	8255215450500
	AUG 23	MSS	8588	20	8549215131500
	SEP 10	MSS	8858	20	8551015114500
	DEC 18	MSS	5588	20	8269615400500
	1977				
	FEB 10	MSS	8888	10	8275015380500
	FEB 16	MSS	8888	10	8566914574500
	FEB 28	MSS	8888	20	8276815372500
	APR 23	MSS	8888	30	8282215344500
16					
(25, 27)	1972				
	SEP 14	MSS	2822	10	81053160815N0
	OCT 20	MSS	8888	0	81089160845N0
	1973				
	MAR 31	MSS	8888	10	81251160925N0
	APR 18	MSS	8888	10	81269160925N0
	AUG 4	MSS	8888	10	81377160815N0
	AUG 22	MSS	8882	20	81395160755N0
	SEP 9	MSS	8882	0	81413160735N0
	SEP 27	COL	5888	30	81431160715N0
	SEP 27	MSS	8888	10	81431160715N0
	OCT 15	MSS	8888	10	81449160645N0
	1974				
	MAR 26	MSS	2822	30	81611160335N0
	MAY 1	MSS	2888	20	81647160245N0
	MAY 19	MSS	2888	0	81665160215N0
	JUN 24	MSS	8888	10	81701160105N0
	JUL 12	MSS	8888	20	91719160035N0
	AUG 17	MSS	5588	10	81755155915N0
	SEP 14	MSS	8888	10	81773155835N0
	OCT 10	MSS	5888	10	81809155725N0
	1975				
	APR 8	MSS	8588	10	81989155005N0
	APR 26	MSS	2888	0	85007154915N0
	AUG 3	MSS	5555	30	8219315563500
	AUG 12	MSS	5550	30	8511515430500
	SEP 26	MSS	5598	10	8224715555500
	1976				
	MAR 24	MSS	5555	30	8242715530500
	APR 2	MSS	8888	10	8534915282500
	APR 11	MSS	5888	10	8244515522500
	MAY 26	MSS	8888	10	8540315244500
	JUN 4	MSS	5885	0	8249915510500
	JUN 22	MSS	8888	10	8251715503500
	JUL 1	MSS	8888	10	8543915220500
	AUG 6	MSS	8888	10	8547515190500
	AUG 15	MSS	8588	10	8257115485500
	AUG 24	MSS	8898	0	8549315173500
	SEP 2	MSS	585	10	8258915483200
	SEP 2	MSS	8885	10	8258915483200
	SEP 11	MSS	8888	0	8551115160500
	SEP 20	MSS	8558	10	8260715480500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
16					
(25, 27)	1977				
	MAR 1	MSS	8858	10	8276915414500
	MAR 19	MSS	8888	10	8278715405500
	MAY 30	MSS	5558	10	8285915371500
17					
(25, 28)	1972				
	SEP 14	MSS	2822	10	81053160845N0
	OCT 20	MSS	8888	0	81089160905N0
	OCT 20	COL	68GP	0	81089160905N2
	1973				
	MAR 31	MSS	8888	10	81251160955N0
	APR 18	MSS	8888	10	81269160955N0
	JUL 17	MSS	8888	30	81359160855N0
	AUG 4	MSS	8888	10	81337160845N0
	SEP 9	MSS	8888	0	81413160805N0
	SEP 9	COL	78GP	10	81413160805N2
	SEP 27	MSS	8888	30	81431160735N0
	OCT 15	MSS	8888	10	81449160705N0
	1974				
	MAR 26	MSS	2822	10	81611160405N0
	MAY 1	MSS	8888	10	81647160315N0
	MAY 19	MSS	8888	0	81665160245N0
	JUL 12	MSS	8888	30	81719160055N0
	AUG 17	MSS	8888	10	81755155945N0
	SEP 4	MSS	8888	20	81773155855N0
	OCT 10	MSS	5858	10	81809155755N0
	1975				
	FEB 13	MSS	8858	30	81935155305N0
	APR 8	MSS	8888	0	81989155035N0
	APR 26	MSS	2888	10	85007154935N0
	MAY 23	MSS	8588	10	82121155715N0
	JUN 1	MSS	5558	30	85043154745N0
	JUL 7	MSS	8888	30	8507915454500
	JUL 16	MSS	5858	10	8217515572500
	AUG 3	MSS	5558	20	8219315570500
	AUG 30	MSS	5558	20	8513315423500
	SEP 26	MSS	5558	10	8224715561500
	NOV 1	MSS	5558	10	822831555500
	1976				
	FEB 26	MSS	8888	20	8531315311500
	MAR 24	MSS	5558	30	8242715532500
	APR 2	MSS	8888	0	8534915235500
	APR 11	MSS	8888	10	8244515525500
	APR 20	MSS	5558	30	8536715273500
	MAY 9	MSS	8888	20	8538515262500
	MAY 26	MSS	8888	10	8540315251500
	JUN 4	MSS	8888	0	8249915512500
	JUL 1	MSS	8888	20	8543915223500
	AUG 6	MSS	5888	10	8547515193500
	AUG 15	MSS	8888	30	8257115492500
	AUG 24	MSS	8888	0	8549315180500
	SEP 2	MSS	5588	10	8258815485200
	SEP 2	MSS	8888	10	8258815485200
	SEP 11	MSS	8888	0	8551115163500
	SEP 20	MSS	8888	20	8260715482500
	SEP 29	MSS	8888	10	8552915150500
	NOV 13	MSS	8888	10	8266115463500
	DEC 1	MSS	5888	30	8267915454500
	1977				
	MAR 1	MSS	5858	10	8276915421500

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
17					
(25, 28)	1977				
	MAR 19	MSS	8888	10	8278715412500
	APR 6	MSS	888A	30	8280515402500
18					
(25, 29)	1972				
	AUG 9	MSS	8888	20	81017160915G0
	SEP 14	MSS	2A22	10	81053160905N0
	OCT 20	MSS	888A	20	81099160935N0
	DEC 13	MSS	882A	30	81143160955N0
	1973				
	FEB 23	MSS	8888	20	81215161005N0
	MAR 13	MSS	888A	30	81233161015N0
	APR 18	MSS	8888	10	81269161015N0
	JUN 11	COL	68GP	30	81323160945N2
	JUN 11	MSS	8882	10	81323160945N0
	JUL 17	COL	78GR	0	81359160915N2
	JUL 17	MSS	8888	0	81359160915N0
	AUG 4	MSS	288A	20	81377160905N0
	AUG 22	MSS	8882	20	81395160845N0
	OCT 15	MSS	8888	20	81449160735N0
	1974				
	JAN 31	MSS	8882	10	81557160525N0
	MAR 26	MSS	2822	20	81611160425N0
	MAY 1	MSS	888A	30	81647160335N0
	AUG 17	MSS	888A	20	81755160005N0
	OCT 10	MSS	8888	0	81809155815NC
	1975				
	FEB 13	MSS	5888	10	81935155335N0
	MAR 3	MSS	8888	30	81953155245N0
	APR 8	MSS	588A	10	81989155055N0
	APR 26	MSS	5888	20	85007155005N0
	MAY 23	MSS	5588	20	82121155745N0
	JUN 1	MSS	5555	20	85043154815N0
	JUL 16	MSS	8558	10	8217515574500
	AUG 3	MSS	5555	20	8219315572500
	SEP 26	MSS	5888	10	8224715564500
	NOV 1	MSS	5555	0	8228315562500
	NOV 19	MSS	5555	30	8230115560500
	1976				
	FEB 25	MSS	885A	10	8531315314500
	MAR 15	MSS	8888	10	853331153035000
	APR 2	MSS	8888	0	85349152915000
	APR 11	MSS	8888	10	82445155315000
	MAY 8	MSS	8888	0	85335152645000
	MAY 17	MSS	8888	20	824811552215000
	MAY 26	MSS	8588	10	85403152535000
	JUN 4	MSS	885A	0	82499155155000
	JUN 13	MSS	888A	10	854211522425000
	JUL 1	MSS	8888	10	85439152255000
	AUG 6	MSS	5888	30	85475151955000
	AUG 15	MSS	8888	30	82571154945000
	AUG 24	MSS	8888	0	85493151825000
	SEP 2	MSS	588	30	82589154922000
	SEP 2	MSS	8888	20	825891549225000
	SEP 11	MSS	8888	0	85511151655000
	SEP 29	MSS	8888	10	85529151535000
	OCT 17	MSS	588A	20	85547151405000
	NOV 13	MSS	588A	0	82661154655000
	1977				
	MAR 1	MSS	8858	0	8276915423500

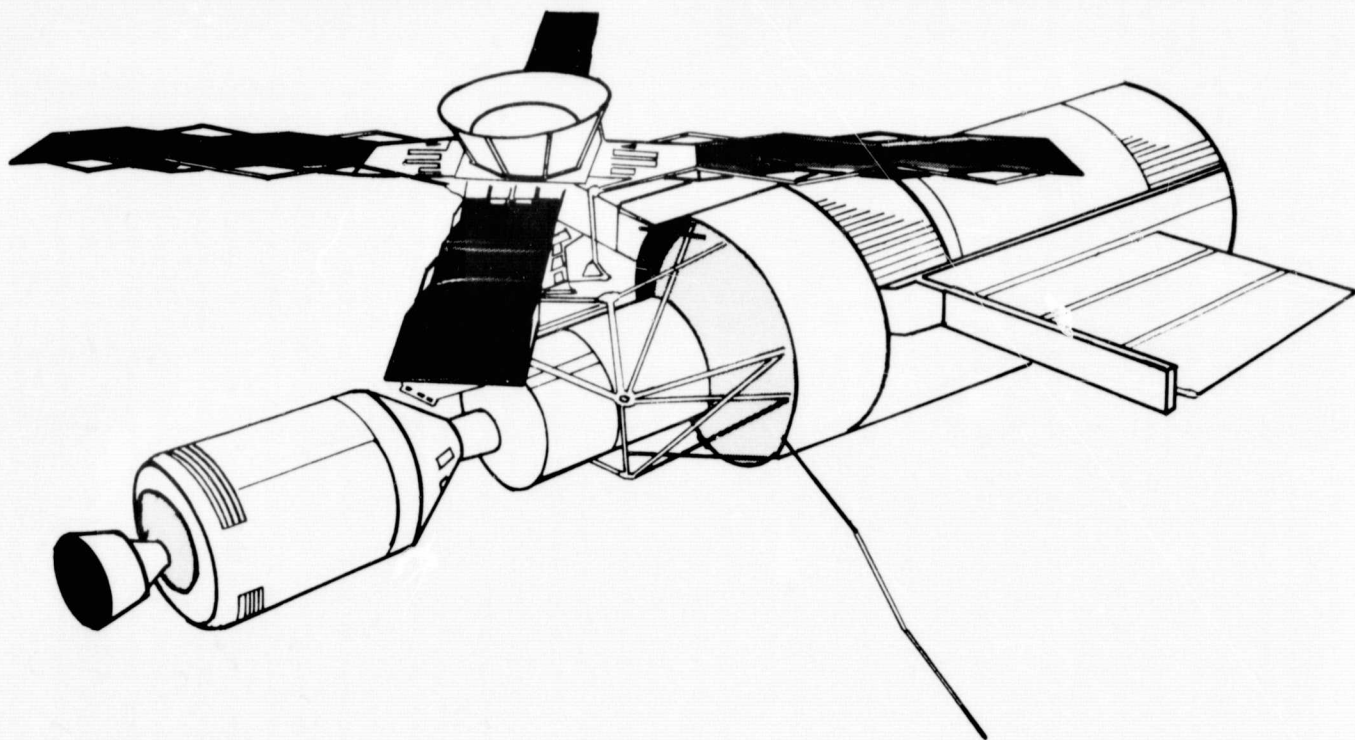
NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
18					
(25, 29)	1977				
	MAR 19	MSS	8888	10	8278715414500
	APP 15	MSS	8888	10	8280515405500
	MAY 12	MSS	8888	30	8284115385500
	MAY 30	MSS	8858	20	8285915380500
19					
(26, 27)	1972				
	AUG 28	MSS	8828	10	81036161405N0
	DEC 14	MSS	8888	30	81144161455N0
	1973				
	JUN 12	MSS	8888	30	81324161435N0
	SEP 28	MSS	8882	0	81432161255N0
	SEP 28	COL	78GR	0	81432161255N2
	1974				
	MAR 27	MSS	8888	10	81612160915N0
	MAY 20	MSS	8888	30	81666160755N0
	JUN 25	MSS	5588	10	81702160655N0
	JUL 14	COL	58GR	10	81721161155N2
	AUG 19	MSS	2888	30	81757161045N0
	SEP 5	MSS	5805	0	81774160415N0
	1975				
	MAR 31	MSS	5585	30	82068160255N0
	MAY 6	MSS	5888	30	82104160255N0
	JUN 2	MSS	5585	10	85044155305N0
	JUL 8	MSS	5555	10	8508015505500
	AUG 4	MSS	5555	20	8219416021500
	SEP 9	MSS	5555	20	8223016014500
	SEP 27	MSS	5558	0	8224816013500
	1976				
	APP 12	MSS	8888	0	8244615580500
	MAY 9	MSS	8888	0	8538615313500
	MAY 18	MSS	8558	0	8248215571500
	JUN 5	MSS	8558	10	8250015564500
	JUN 14	MSS	5888	10	8542215291500
	JUN 23	MSS	5558	10	8251815561500
	JUL 29	MSS	8888	30	8255415551500
	AUG 7	MSS	8888	0	8547615244500
	AUG 16	MSS	8588	0	8257215544500
	AUG 25	MSS	8888	30	8549415231500
	SEP 3	MSS	5888	30	8259015541500
	SEP 12	MSS	8588	20	8551215214500
	SEP 30	MSS	8888	10	8553015201500
	NOV 14	MSS	8585	10	8266215514500
	1977				
	JAN 25	MSS	8888	30	8273415485500
	MAR 2	MSS	8888	10	8277015473500
	MAR 20	MSS	5888	20	8278815463500
	APP 25	MSS	8888	0	8282415444500
	MAY 13	MSS	8885	20	8284215434500
20					
(26, 28)	1972				
	AUG 28	MSS	8828	0	81036161435N0
	DEC 14	MSS	8888	0	81144161515N0
	1973				
	AUG 5	MSS	2888	30	81378161425N0
	SEP 28	MSS	8882	30	81432161325N0

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
20					
(26, 28)					
1974	FEB 19	MSS	8888	0	81576161025N0
	MAY 2	COL	78GR	10	81648160855N2
	MAY 2	MSS	2888	0	81648160855N0
	MAY 2	MSS	8888	20	81666160825N0
	JUN 25	MSS	8588	20	81702160715N0
	JUL 13	MSS	8888	20	81720160645N0
	SEP 5	MSS	8808	10	81774160445N0
	SEP 23	MSS	5858	30	81792160355N0
1975	MAR 4	MSS	8555	10	81954155755N0
	JUL 17	MSS	5558	0	8217616030500
	AUG 4	MSS	5558	20	8219416024500
	SEP 27	MSS	5588	0	8224816015500
1976	JAN 4	MSS	5888	10	8526015402500
	FEB 9	MSS	8585	20	8529615380500
	MAR 25	MSS	8888	10	8242815590500
	APR 12	MSS	8888	0	8244615583500
	MAY 9	MSS	8888	0	8538615320500
	MAY 18	MSS	8888	0	8248215573500
	MAY 27	MSS	8888	30	8540415305500
	JUN 5	MSS	8888	10	8250015570500
	JUN 14	MSS	5858	10	8542215293500
	JUN 23	MSS	8888	30	8251815564500
	JUL 29	MSS	8888	20	8255415553500
	AUG 7	MSS	8888	0	8547615251500
	AUG 16	MSS	8888	10	8257215550500
	AUG 25	MSS	8888	10	8549415234500
	SEP 12	MSS	8888	10	8551215221500
	SEP 30	MSS	8888	0	8553015204500
	OCT 27	MSS	8888	10	8264415525500
	NOV 14	MSS	8888	0	8266215521500
	DEC 20	MSS	8888	30	8269815504500
1977	JAN 7	MSS	8808	10	8271615495500
	JAN 25	MSS	8888	30	8273415491500
	MAR 2	MSS	8888	20	8277015475500
	MAR 20	MSS	5588	10	8278815470500
	APR 25	MSS	8888	10	8282415451500
	MAY 13	MSS	8888	10	8284215441500
21					
(27, 27)					
1972	AUG 29	COL	58GR	20	81037161955N2
	AUG 29	MSS	8888	20	81037161955N0
1973	FEB 7	MSS	8888	20	81199162035N0
	FEB 25	COL	88GR	10	81217162045N2
	FEB 25	MSS	8888	0	81217162045N0
	JUN 13	COL	88GR	10	81325162025N2
	JUN 13	MSS	8882	10	81325162025N0
	JUL 19	MSS	8888	20	81361161955N0
	AUG 24	MSS	2822	30	81397161925N0
	SEP 11	COL	68GR	20	81415161905N2
	SEP 11	MSS	8888	30	81415161905N0
1974	MAR 10	MSS	8888	20	81595161525N0
	JUN 8	MSS	8888	30	81685161305N0
	JUN 26	COL	68GR	10	81703161235N2

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
21					
(27, 27)	1974				
	OCT 12	MSS	5855	30	81811160855N0
	NOV 17	MSS	8558	10	81847160745N0
	1975				
	APR 1	MSS	8885	30	82069160835N0
	MAY 7	MSS	8558	20	82105160825N0
	MAY 16	MSS	5888	0	85027155945N0
	MAY 25	MSS	5558	30	82123160825G0
	JUL 18	MSS	5555	20	8217716082500
	AUG 5	MSS	5555	20	8219516080500
	SEP 28	MSS	5555	10	8224916071500
	NOV 3	MSS	5555	20	8228516065500
	1976				
	MAR 17	MSS	8888	10	8533315410500
	APP 13	MSS	5888	10	8244716035500
	MAY 10	MSS	5888	10	8538715171500
	JUN 6	MSS	5855	10	8250116022500
	JUL 3	MSS	5558	10	8544116382500
	JUL 21	MSS	5588	20	8545915315500
	AUG 8	MSS	8888	0	8547715302500
	AUG 17	MSS	5888	20	8257316002500
	NOV 15	MSS	8888	30	8266315573500
	1977				
	FEB 13	MSS	8888	30	8275315535500
	MAR 21	MSS	8888	10	8278915522500
	APR 8	MSS	8888	10	8280715512500
	APR 26	MSS	5888	10	8282515502500
	MAY 14	MSS	8888	20	8284315493500
22					
(27, 28)	1972				
	AUG 29	MSS	8888	30	81037162015N0
	1973				
	JAN 2	MSS	8888	10	81163162045N0
	FEB 7	COL	88GR	10	81199162105N2
	FEB 7	MSS	8888	10	81199162105N0
	FEB 25	COL	78GR	0	81217162115N2
	FEB 25	MSS	8888	0	81217162115N0
	JUN 13	MSS	8888	10	81325162045N0
	SEP 29	MSS	8828	30	81433161905N0
	1974				
	MAR 20	MSS	8888	10	81595161545N0
	APR 15	MSS	2888	0	81631161505N0
	JUN 26	MSS	5588	10	81703161255N0
	JUL 14	MSS	8588	30	81721161225N0
	AUG 19	COL	88GR	10	81757161105N2
	AUG 19	MSS	2888	10	81757161105N0
	OCT 12	MSS	5858	20	81811160915N0
	NOV 17	MSS	8888	0	81847160815N0
	DEC 5	MSS	5858	0	81865160725N0
	1975				
	FEB 6	MSS	8888	20	82015160915N0
	FEB 6	REV	5555	10	82015160912N0
	MAR 14	MSS	8888	0	82051160905N0
	APR 1	MSS	8858	30	82069160855N0
	MAY 16	MSS	5888	0	85027160005N0
	JUL 18	MSS	5555	20	8217716085500
	OCT 7	MSS	5555	0	8517115514500
	1976				
	JAN 5	MSS	5888	10	8526115460500

ORIGINAL PAGE IS
OF POOR QUALITY

NOMINAL CENTER	IMAGE DATE	IMAGE TYPE	BAND QUALITY	CLOUD COVER	FRAME NUMBER
22					
(27, 28)	1976				
	MAR 17	MSS	8888	10	8533315412500
	MAY 10	MSS	8888	10	8538715374500
	JUN 6	MSS	5858	0	8250116025500
	JUL 3	MSS	5888	0	8544115334500
	JUL 21	MSS	8888	20	8545915322500
	AUG 8	MSS	8888	10	8547715305500
	AUG 17	MSS	5888	10	8257316004500
	OCT 1	MSS	5888	0	8553115262500
	OCT 28	MSS	8888	10	8264515583500
	NOV 15	MSS	0888	10	8266315575500
	DEC 21	MSS	8888	10	8269915562500
	1977				
	MAR 21	MSS	5888	10	8278915524500
	APR 8	MSS	8888	0	8280715515500
	APR 26	MSS	8888	10	8282515505500
	MAY 14	MSS	8888	20	8284315495500



SKYLAB SPACECRAFT IMAGERY

SECTION 4

SKYLAB IMAGERY

GENERAL INFORMATION

On May 14, 1973, the first orbital workshop, Skylab, was launched into a near-earth orbit at a nominal altitude of 270 miles (435 km). The spacecraft was positioned so as to pass over any given point between latitudes 50 degrees north and 50 degrees south of the equator every five days. One of the objectives of this manned spacecraft mission was to provide a synoptic survey of selected areas on the earth using the Earth Resources Experiment Package (EREP) remote sensing system.

The Skylab program consisted of four missions, with Skylab 1 being the launch of the unmanned spacecraft. Skylabs 2 through 4 were manned missions during which the sensors were operated between May 24 and June 7, 1973; July 28 and September 25, 1973; and November 16, 1973 and February 8, 1974, respectively. The sensors were operated individually or simultaneously, depending on the Skylab investigator's research requirements and other factors, such as weather and vehicle capability. Unlike Landsat (described in Section 3), only selected areas of the earth's surface that were of particular interest to the investigators were photographed.

EREP contained six remote sensing systems operating in selected spectral bands throughout the visible, infrared, and into the microwave region of the electromagnetic spectrum. Only the photographic camera systems, i.e., the Multispectral Photographic Camera (S-190A) and the Earth Terrain Camera (S-190B), are discussed in this guide. In addition to the vehicle-mounted camera imagery, the guide also covers imagery from the hand-held Hasselblad and Nikon cameras. A brief description of each system follows.

The Multispectral Photographic Camera (S-190A): This system is a composite unit of six high precision 70 mm cameras with 6 inch (152 mm) focal length lenses which are boresighted to obtain the same scene when fired simultaneously. Through the use of a different film/filter combination in each camera, a specific portion of the electromagnetic spectrum is captured and, consequently, the resultant images highlight

different features of the earth's surface (Fig. 4.1). Table 4.1 lists the spectral sensitivity, spectral range, film type and estimated ground resolution for each camera station.

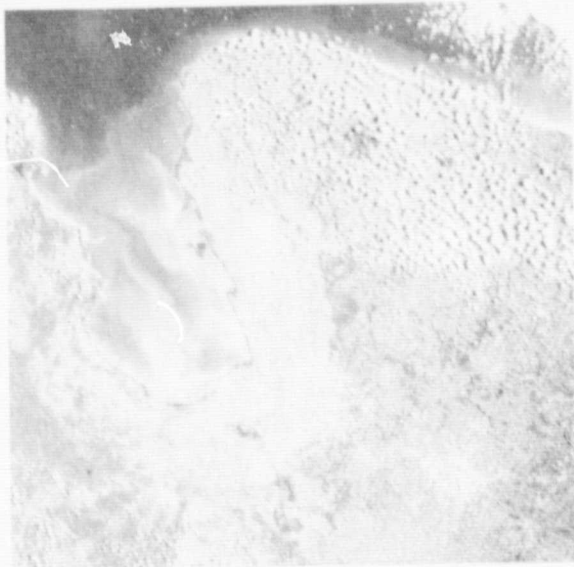
Table 4.1.--S-190A Multispectral Camera Film Characteristics.

Camera	Sensitivity (nanometers)	Spectral Range	Film Type*	Estimated Ground Resolution** Meters (Feet)	
1	700-800	infrared	EK 2424 (B&W infra- red)	76	(250)
2	800-900	infrared	EK 2424 (B&W infra- red)	76	(250)
3	500-880	green, red infrared	EK 2443 (color infrared)	76	(250)
4	400-700	blue, green, red	SO-356 high resolution color	43	(140)
5	600-700	red	SO-022 (Pan- atomic-X B&W)	34	(112)
6	500-600	green	SO-022 (Pan- atomic-X B&W)	43	(140)

* Eastman Kodak Company

** At low contrast

SOURCE: Skylab Earth Resources Data Catalog (see Appendix A).



PAN (500-600nm)



PAN (600-700nm)



BWIR (700-800nm)



BWIR (800-900nm)

Figure 4.1.--Skylab S-190A Multiband Photos of the Saginaw Bay Area.

ORIGINAL PAGE IS
OF POOR QUALITY

The exposed film was returned to the earth with the astronauts. The area covered by each processed 70 mm frame is 101 by 101 miles (163 by 163 km) at a scale of approximately 1:2,850,000. Michigan areas covered by the S-190A Multispectral Photographic Camera System are shown in Figure 4.2.

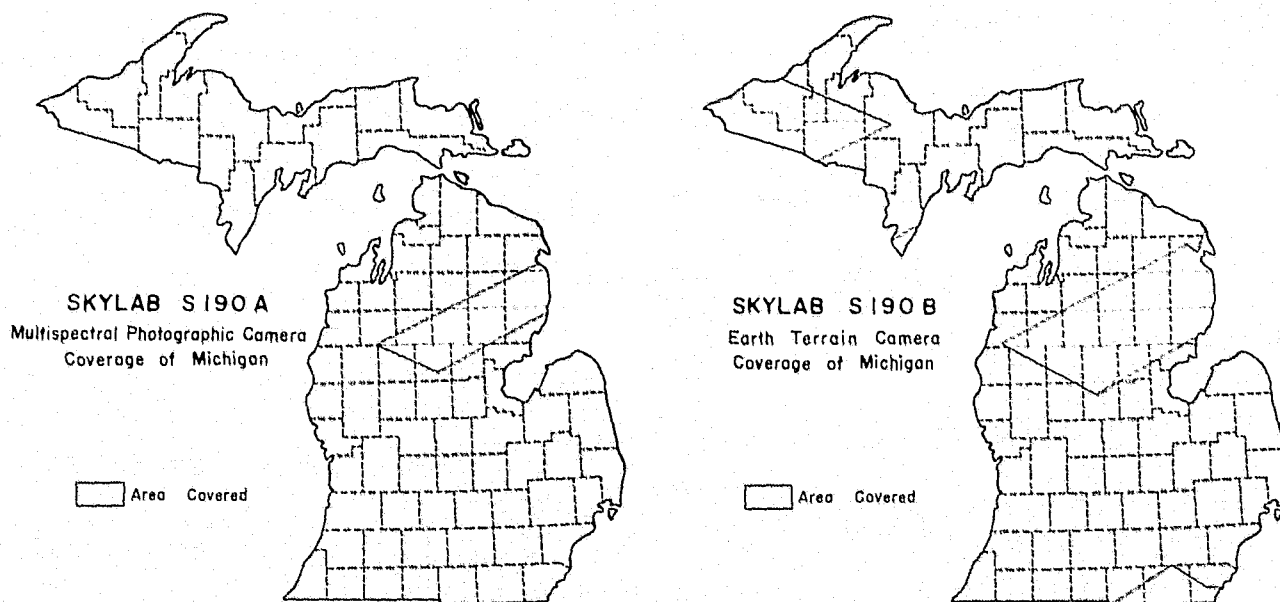


Figure 4.2.--Skylab Photographic Coverage of Michigan.

The S-190B Earth Terrain Camera: This sensor is a single-lens camera equipped with an 18 inch (460 mm) focal length lens which usually duplicates a portion of the imagery from the S-190A systems. The processed 4.5 inch (115 mm) format image (Fig. 4.3) is at a scale of approximately 1:950,000 and covers an area 68 by 68 miles (110 by 110 km). Michigan areas covered by the S-190B Earth Terrain Camera are also shown in Figure 4.2. The image characteristics of the film/filter combinations employed are presented in Table 4.2 (p. 4-8).

The Hasselblad 70 mm Format Camera: Unlike the S-190A and B cameras, this system was used by the Skylab crews to photograph individual scenes rather than continuous strips.

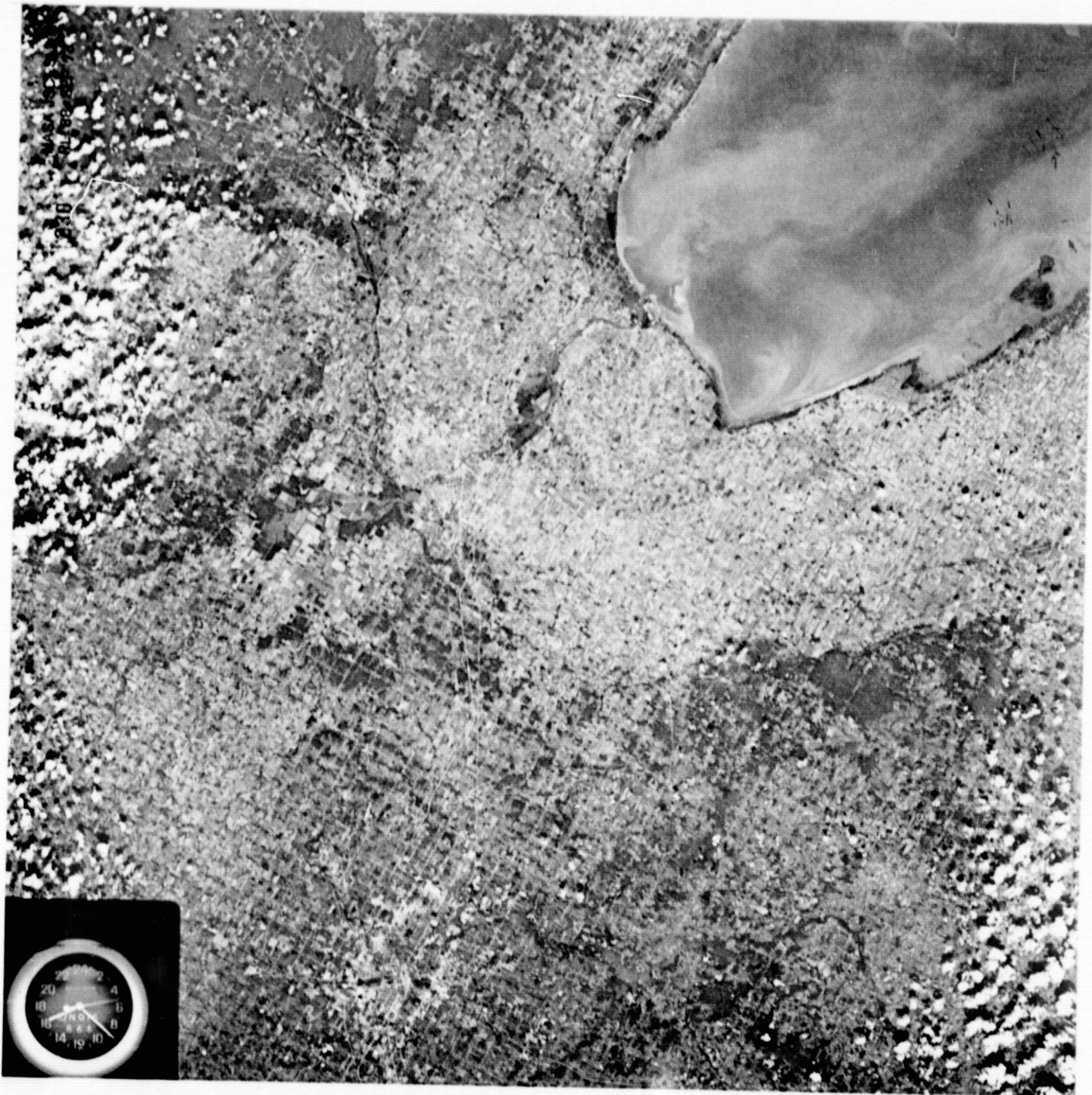


Figure 4.3.--Skylab S-190B Color Photo of the Saginaw Bay Area.

ORIGINAL PAGE IS
OF POOR QUALITY

A 100 mm lens (80 mm for Skylab 2) and color film (Ektachrome SO-368) were used exclusively and imaged scenes varied from near vertical to high oblique. Variation in image quality is also present.

Table 4.2.--S-190B Earth Terrain Camera Film Characteristics.

Sensitivity (nanometers)	Spectral Range	Film Type*	Filter	Estimated Ground Resolution** Meters (Feet)	
400-700	blue, green red	SO-242 (high resolution color)	none	21	(70)
500-700	green, red	EK 3414 (high definition B&W)	W-12	17	(55)
500-880	green, red infrared	EK 3443 (SL2 & SL3 aero- chrome color IR)	W-12	30	(100)
500-880	green, red infrared	SO-131 (SL4) (high reso- lution color IR)	W-12	23	(75)

* Eastman Kodak Company

** At low contrast

SOURCE: Skylab Earth Resources Data Catalog (see Appendix A).

The Nikon 35 mm Camera: This system, equipped with a 55/300 mm lens, was also used by the Skylab astronauts to photograph selected scenes of interest. As with the Hasselblad camera, color film was used and altitudinal variations occurred between individual frames. Image quality is highly variable and some photos are dark, hazy or blurred. This photography

may be of utility only when acceptable coverage from another camera system is not available.

HOW TO USE THE SKYLAB INDEXES

Three separate indexes have been compiled of Skylab photography. Image coverage from the Multispectral Photographic Camera (S-190A) and the Earth Terrain Camera (S-190B) is presented in the major map index while the coverage from the hand-held Hasselblad and Nikon cameras is listed in two subsequent indexes.

To select imagery from the major Skylab index, users should first refer to Table 4.3 which lists photo mission coverage by county. From this table a determination can be made as to which missions cover an area of interest. It is then possible to select the appropriate photo index maps for these missions. For ease of reference, a sequential number is assigned to each photo mission and appears at the top of Table 4.3 and in the upper right hand corner of the index maps.

The format of the index maps has been standardized to give information on photo mission identification, roll number, film type, film/filter sensitivity, frame number, date, scale and image format. Image centers and frame numbers of the color film rolls are shown, followed by the percentage of cloud cover in parentheses. Frame numbers for film types other than color film can be determined using the information supplied below the map. The frame coverage for every other photo in a flight sequence is also shown.

The indexes to the Hasselblad and Nikon photography list the photo identification number, the percentage of cloud and/or snow cover, quality evaluations and the general location of the photo coverage.

**ORIGINAL PAGE IS
OF POOR QUALITY**

HOW TO ORDER MANNED SPACECRAFT PHOTOGRAPHY

This order form is used to order all SKYLAB and APPOLLO/GEMINI PHOTOGRAPHY. Necessary order information can normally be extracted from a computer listing of available photography or from other references.

Please provide the following information in the indicated areas of the order form:

- A. List your complete NAME, ADDRESS, ZIP CODE, and name of your COMPANY if applicable.
- B. List a PHONE NUMBER where you can be contacted during business hours.
- C. If you have had previous business with that facility, please list your ACCOUNT NUMBER, if known.
- D. Enter the complete PHOTO IDENTIFICATION NUMBER. This number can be transcribed directly from the COMPUTER LISTING. If the source of information is from another source, specify the MISSION, SKYLAB 2, 3, or 4; the SYSTEM, S190A or S190B; ROLL NUMBER; and FRAME NUMBER.
- E. Review the STANDARD PRODUCTS TABLE on the order form and determine the type of product desired. CARE must be exercised in insuring that the system reflected in column 4 of the PHOTO IDENTIFICATION NO. on the computer listing correlates with the respective portion of the tables. i.e. A=S190A; B=S190B.
- F. Enter the PRODUCT CODE of the type product being ordered from the STANDARD PRODUCTS TABLE.
- G. The COMMENTS portion is completed only when a CUSTOM PRODUCT is desired and you want to specify the parameters. Refer to the current price list for custom product cost determination.
- H. Enter the number of COPIES being ordered of that product in the QUANTITY column.
- I. Enter the UNIT PRICE of the product as reflected on the current PRICE LIST.
- J. Multiply the QUANTITY being ordered by the UNIT PRICE. Enter the result in the TOTAL PRICE column.
- K. REPEAT the above for each product ordered.
- L. TOTAL the costs of all products ordered and enter the result in BLOCK A.
- M. If more than one order form is required, enter the sum of the figures in BLOCKS A in BLOCK B of the last order form.
- N. Enter the SUM of BLOCK A and BLOCK B in BLOCK C. TOTAL COSTS.
- O. Indicate the TYPE of payment being made with a CHECK MARK. Make all drafts payable to U. S. GEOLOGICAL SURVEY. DO NOT SEND CASH.
- P. Mail ORDER FORM(S) and PAYMENT to the FACILITY NEAREST YOU. If payment has been previously forwarded, the order form(s) must be mailed to the same facility.

Table 4.3.--Skylab S-190A/B Coverage By County.

INDEX NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
COUNTY																			
Alcona							P												
Alger					T	T	T					P			T	T			
Allegan	T	P		P					T	T			T	T			P*	P	P
Alpena							T	P							P*	P			
Antrim							T	T											
Arenac										P*			P*						
Baraga					P							T			P*	P*			
Barry	T	P*	P						T	P*			T	T			T	P	
Bay		P								T			T	P*			P		
Benzie							T	T											
Berrien				T					T	P			T	P*			T	P*	T
Branch	P			P*							P						T	T	P*
Calhoun	T	P		P					P				P*	P			T	T	P
Cass				T					P*				P*	P			T	T	T
Charlevoix							T	P*							P				
Cheboygan							T	T							P*	P*			
Chippewa					P*	P*	P	P							T	P*			
Clare		P											P						
Clinton	T	T	T							T			T	T			T	P	
Crawford							P*	P											
Delta					T	T									P*	P			
Dickinson					T	T						P			P				
Eaton	T	T	P*						P	P			T	P*			T	P*	
Emmet							T	P*							T	P*			
Genesee	P*	T	P*							P			T	P*			T	T	
Gladwin										P			P*						
Gogebic												T							
Grand Traverse							T	T											
Gratiot	P*	T	T							T			T	T			P		
Hillsdale	P*	P		P*							P*						T	P*	P*
Houghton												T			P	P*			
Huron										T			T	T			P*	P	
Ingham	T	T	T							P			P*	P*			T	T	
Ionia	T	T	T						P	T			T	T			P*	P	
Iosco										P			P						
Iron					P*	P						P*			P*				
Isabella	P	T	P*							P*			P*	P					
Jackson	T	P*	P*								P		P				T	T	
Kalamazoo	P*			P*					P*	P			T	P*			T	T	P*
Kalkaska							T	P*											
Kent	T	T	P*						P*	T			T	P*			P		
Keweenaw												T			P*	T			

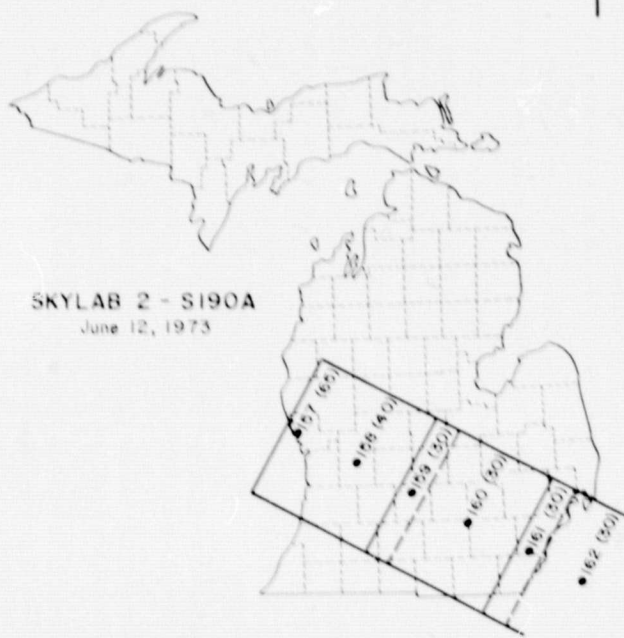
CODE: T - Total Coverage; P - Partial Coverage: 50% or less; P* - Partial Coverage: over 50%

Table 4.3.--Skylab S-190A/B Coverage By County (cont'd.).

INDEX NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
COUNTY																			
Lake	P	T	P*				P												
Lapeer	P	P*	P							P			P*	P*			T	T	
Leelanau							T	T											
Lenawee	T	P	P							T							P*	P	P
Livingston	T	T	T										P*	P			T	T	
Luce					T	T									T	P*			
Mackinac					P*	P	P	P							T	T			
Macomb	P*	T	P*							P*							T	P*	
Manistee		P*	P				T	P*											
Marquette					P*	P						P*			T	P*			
Mason	P*	T	P*				P*												
Mecosta	P*	T	P*							P			P*						
Menominee					T	P*									P				
Midland		P*	P							T			T	P*					
Missaukee							P*												
Monroe	T	T	P*							T							P		
Montcalm	T	T	T						P	T			T	P*					
Montmorency							T	P*							P	P			
Muskegon	T	T	T						P*	P			P*						
Newaygo	T	T	T						P	P			P						
Oakland	P*	T	T								P		P					T	T
Oceana	T	T	T																
Ogemaw													P						
Ontonogon												T				P			
Osceola		P*	P																
Oscoda							P*												
Otsego							T	T											
Ottawa	T	T	P						T	T			T	P*					
Presque Isle							T	T							T	P*			
Roscommon							P												
Saginaw	P	T	P							T			T	T			P*	P	
Sanilac		P								P*			T	P*			T	P*	
Schoolcraft					T	T									T	P*			
Shiawassee	P*	T	T							P*			T	T			T	P*	
St. Clair		P*									P		P				T	P*	
St. Joseph	P			T					P				P	P			T	T	T
Tuscola		P								T			T	T			T	P	
Van Buren	P			P*					T	P*			T	T			T	P*	P*
Washtenaw	T	T	P*								P*						T	P*	
Wayne	T	T	T								T						P*	P	
Wexford		P					P	P											

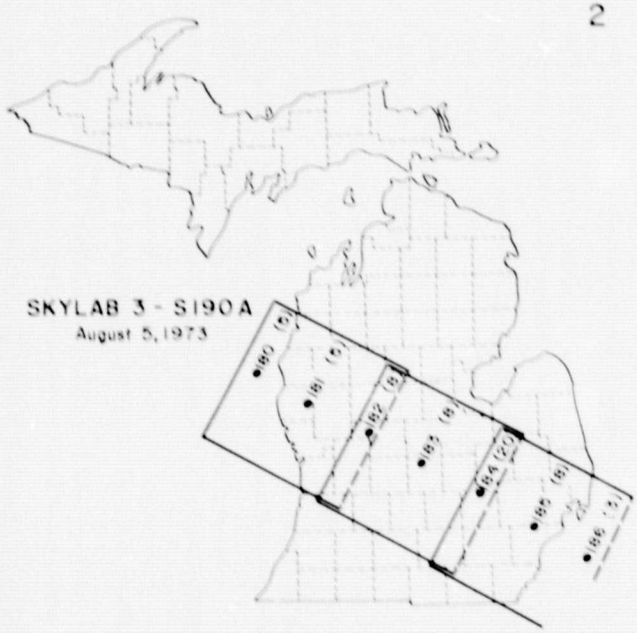
CODE: T - Total Coverage; P - Partial Coverage: 50% or less; P* - Partial Coverage: over 50%

INDEX TO SKYLAB S-190A/B PHOTOGRAPHY OF MICHIGAN



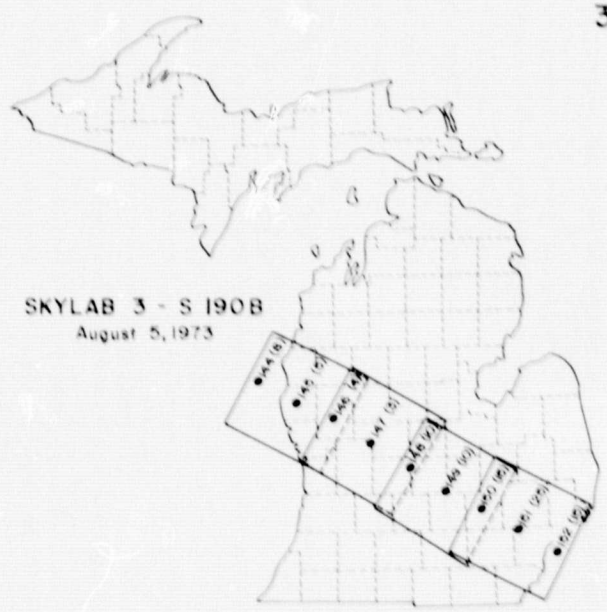
Roll #	Film Type	Sensitivity (nm)	Frames
13	BWIR	700-800	149-154
14	BWIR	800-900	149-154
15	CIR	500-880	157-162
• 16	Color	400-700	157-162
17	PAN	600-700	149-154
18	PAN	500-600	149-154

Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 8 Track 61



Roll #	Film Type	Sensitivity (nm)	Frames
19	BWIR	700-800	180-186
20	BWIR	800-900	180-186
21	CIR	800-880	180-186
• 22	Color	400-700	180-186
23	PAN	600-700	180-186
24	PAN	500-600	180-186

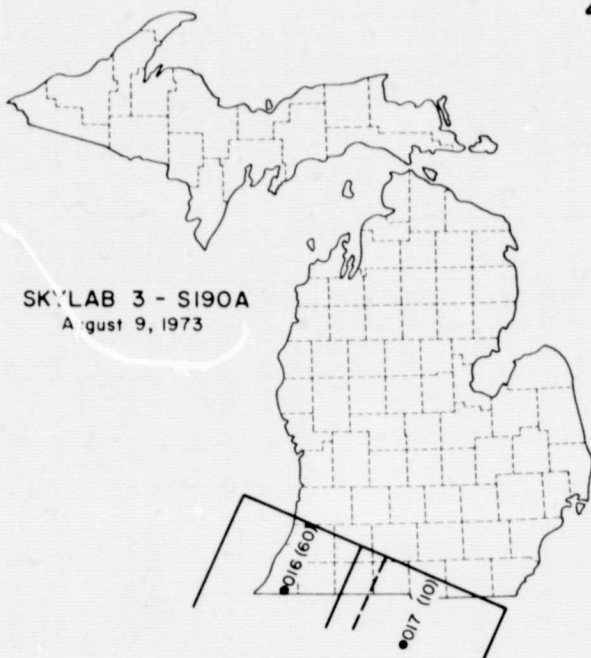
Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 3 Track 61



Roll #	Film Type	Sensitivity (nm)	Frames
• 81	Color	400-700	144-152

Scale: 1:950,000
Format: 125 mm (5 inch)
Orbit: Pass 3 Track 61

4



Roll #	Film Type	Sensitivity(nm)	Frames
25	BWIR	700-800	16-17
26	BWIR	800-900	16-17
27	CIR	500-880	16-17
●28	Color	400-700	16-17
29	Pan	600-700	16-17
30	Pan	500-600	16-17

Scale: 1:2,850,000

Format: 70 mm (2.76 inch)

Orbit: Pass 6 Track 47

5



SKYLAB 3 - S190A
September 6, 1973

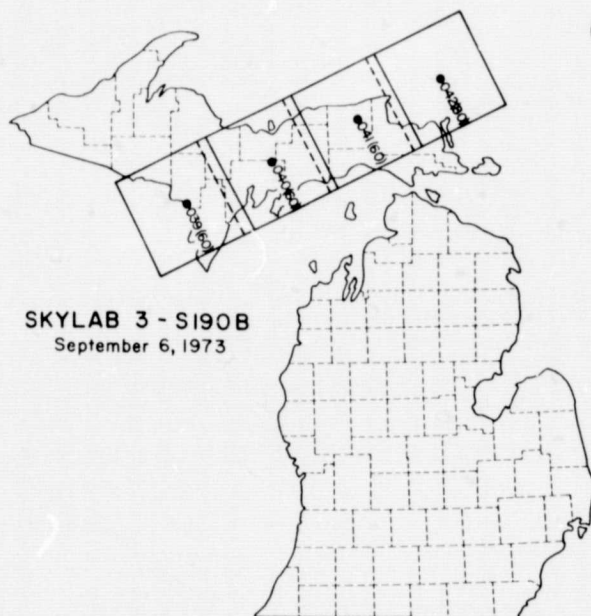
Roll #	Film Type	Sensitivity(nm)	Frames
●33	CIR	500-880	263-266

Scale: 1:2,850,000

Format: 70 mm (2.76 inch)

Orbit: Pass 16 Track 30

6



SKYLAB 3 - S190B
September 6, 1973

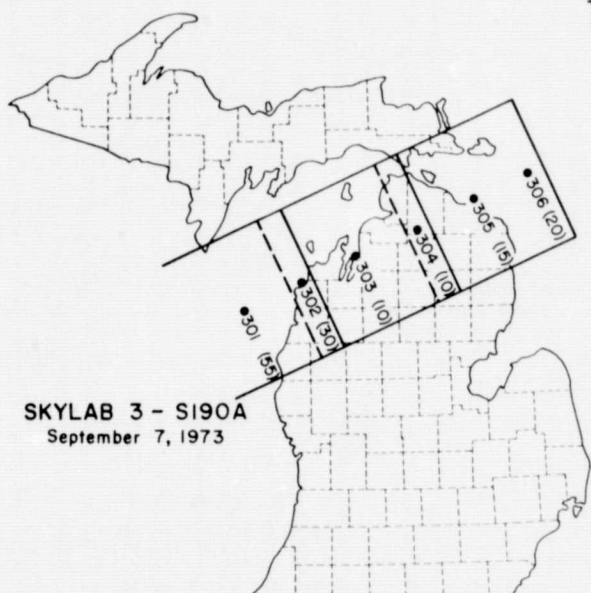
Roll #	Film Type	Sensitivity(nm)	Frames
●86	Color	400-700	39-42

Scale: 1:950,000

Format: 125 mm (5 inch)

Orbit: Pass 16 Track 30

7



SKYLAB 3 - S190A
September 7, 1973

Roll #	Film Type	Sensitivity(nm)	Frames
●34	CIR	500-880	301-306

Scale: 1:2,850,000

Format: 70 mm (2.76 inch)

Orbit: Pass 17 Track 44

8



SKYLAB 3 - S190B
September 7, 1973

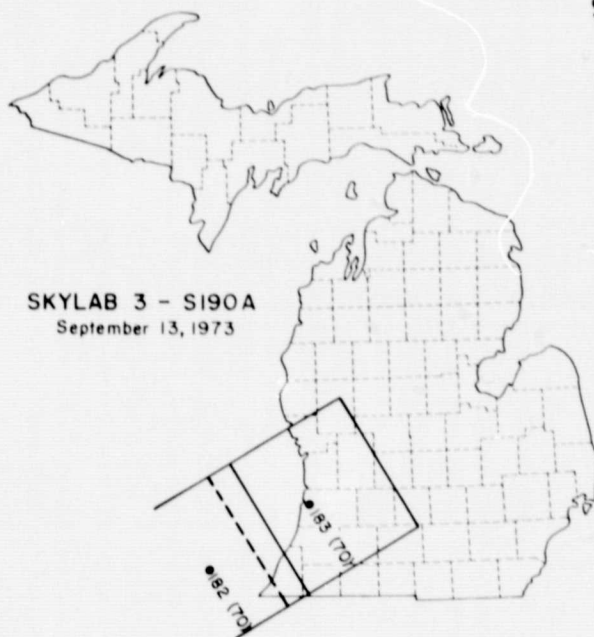
Roll #	Film Type	Sensitivity(nm)	Frames
●86	Color	400-700	105-112

Scale: 1:950,000

Format: 125 mm (5 inch)

Orbit: Pass 17 Track 44

9



SKYLAB 3 - S190A
September 13, 1973

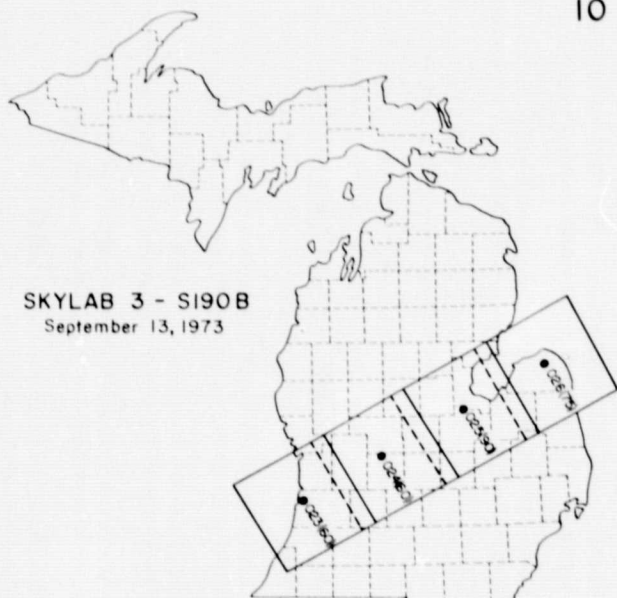
Roll #	Film Type	Sensitivity(nm)	Frames
37	BWIR	700-800	182-183
38	BWIR	800-900	182-183
39	CIR	500-880	182-183
●40	Color	400-700	182-183
41	Fan	600-700	182-183
42	Fan	500-600	182-183

Scale: 1:2,850,000

Format: 70 mm (2.76 inch)

Orbit: Pass 27 Track 58

10



SKYLAB 3 - S190B
September 13, 1973

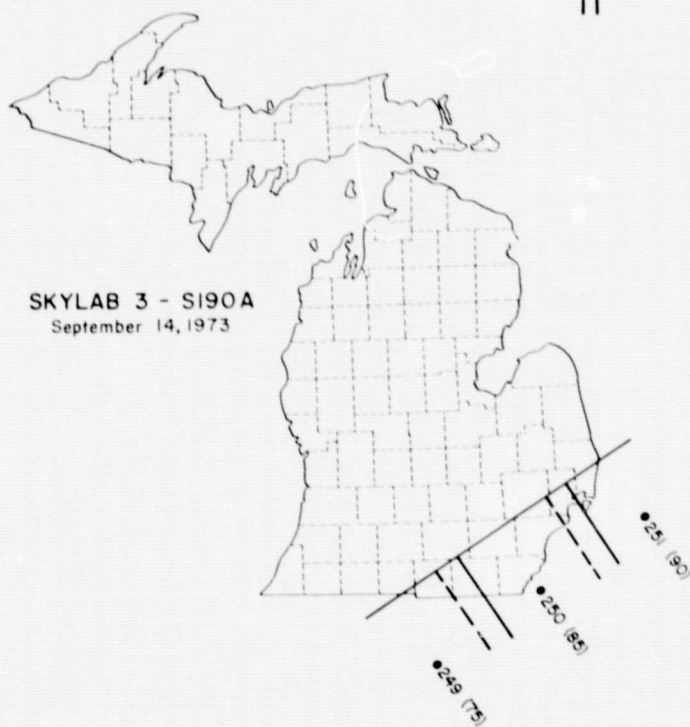
Roll #	Film Type	Sensitivity(nm)	Frames
●87	Color	400-700	23-26

Scale: 1:950,000

Format: 125 mm (5 inch)

Orbit: Pass 27 Track 58

11



SKYLAB 3 - S190A
September 14, 1973

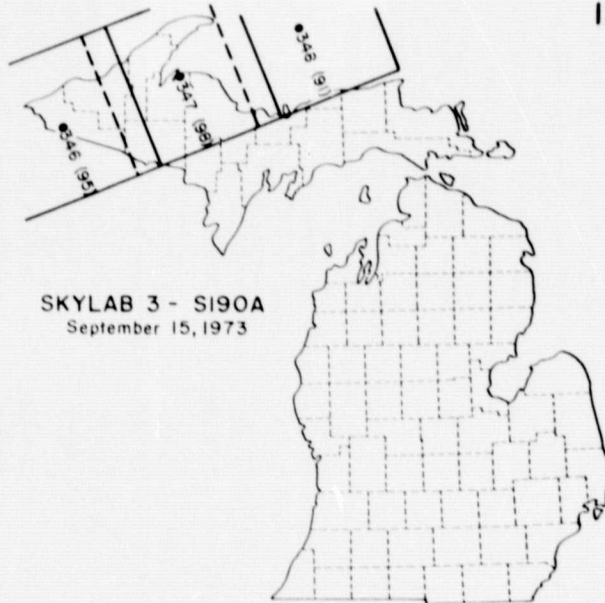
Roll #	Film Type	Sensitivity(nm)	Frames
37	BWIR	700-800	249-251
38	BWIR	800-900	249-251
39	CIR	500-880	249-251
●40	Color	400-700	249-251
41	Fan	600-700	249-251
42	Fan	500-600	249-251

Scale: 1:2,850,000

Format: 70 mm (2.76 inch)

Orbit: Pass 29 Track 1/2

12

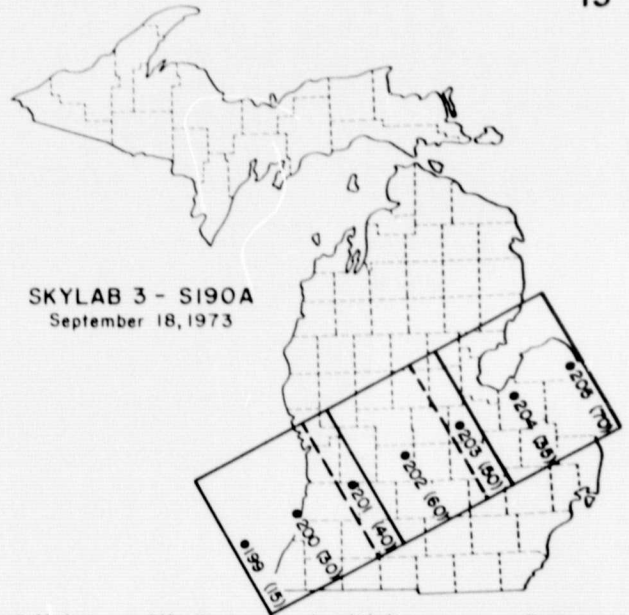


SKYLAB 3 - SI90A
September 15, 1973

Roll #	Film Type	Sensitivity (nm)	Frames
37	BWIR	700-800	146-148
38	BWIR	800-900	146-148
39	CIR	500-880	146-148
●40	Color	400-700	146-148
41	Pan	600-700	146-148
42	Pan	500-600	146-148

Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 32 Track 16/17

13

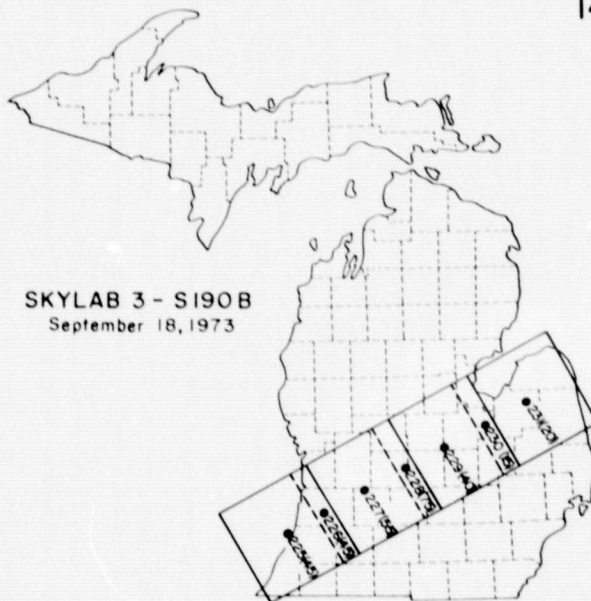


SKYLAB 3 - SI90A
September 18, 1973

Roll #	Film Type	Sensitivity	Frames
43	BWIR	700-800	199-205
44	BWIR	800-900	199-205
45	CIR	500-880	199-205
●46	Color	400-700	199-205
47	Pan	600-700	199-205
48	Pan	500-600	199-205

Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 37 Track 58

14

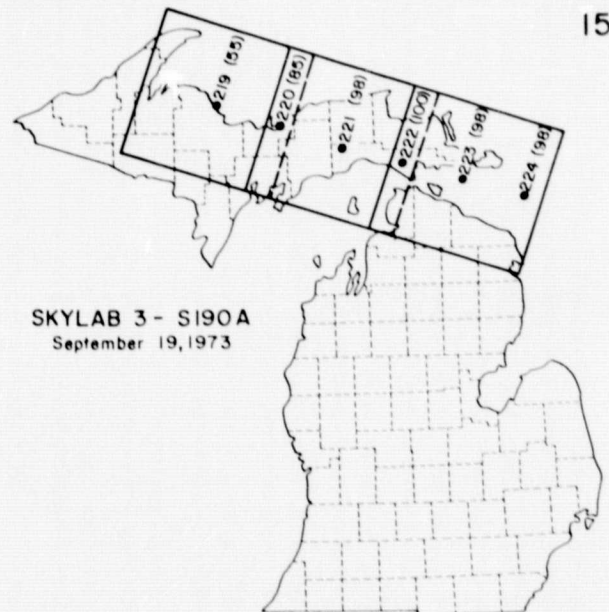


SKYLAB 3 - SI90B
September 18, 1973

Roll #	Film Type	Sensitivity (nm)	Frames
●88	Color	400-700	225-231

Scale: 1:950,000
Format: 125 mm (5 inch)
Orbit: Pass 37 Track 58

15

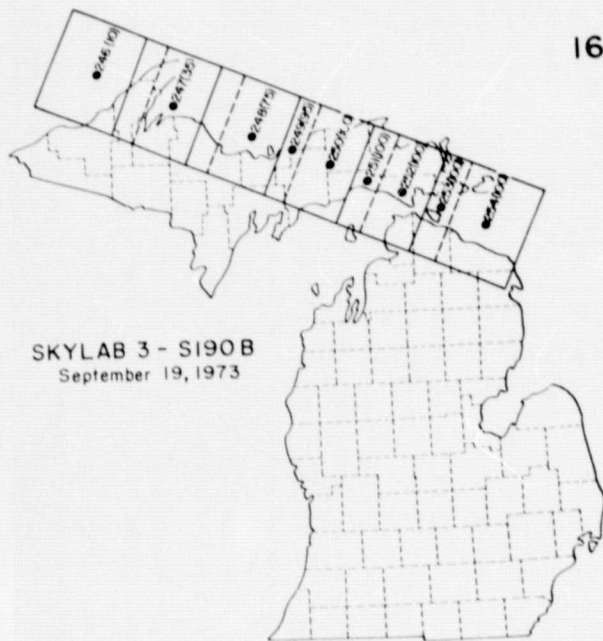


SKYLAB 3 - SI90A
September 19, 1973

Roll #	Film Type	Sensitivity	Frames
43	BWIR	700-800	219-224
44	BWIR	800-900	219-224
45	CIR	500-880	219-224
●46	Color	400-700	219-224
47	Pan	600-700	219-224
48	Pan	500-600	219-224

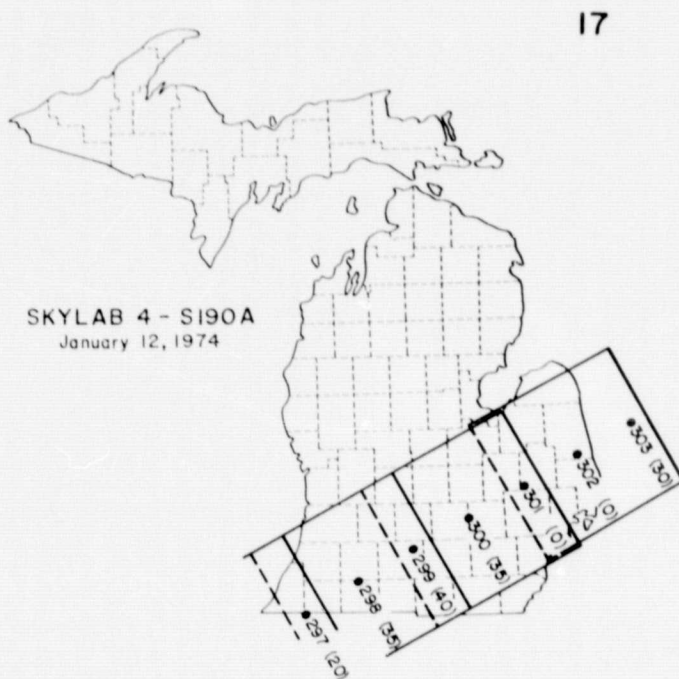
Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 39 Track 4

ORIGINAL PAGE IS
OF POOR QUALITY



Roll #	Film Type	Sensitivity	Frames
●88	Color	400-700	246-254

Scale: 1:950,000
Format: 125 mm (5 inch)
Orbit: Pass 39 Track 4



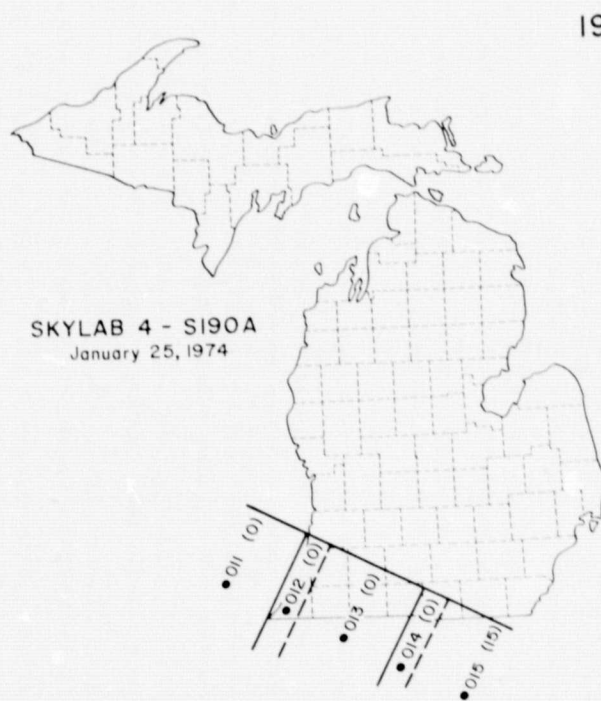
Roll #	Film Type	Sensitivity	Frames
61	BWIR	700-800	297-301
62	BWIR	800-900	297-301
63	CIR	500-880	297-301
●64	Color	400-700	297-301
65	Pan	600-700	297-301
66	Pan	500-600	297-301

Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 27 Track 1
Snow Cover: Frames 297-301(100%); 302(95%); 303(65%)



Roll #	Film Type	Sensitivity	Frames
●92	Color	400-700	127-136

Scale: 1:950,000
Format: 125 mm 5(inch)
Orbit: Pass 27 Track 1
Snow Cover: Frames 127-133(100%); 134(95%); 135(85%); 136(50%)



Roll #	Film Type	Sensitivity	Frames
73	BWIR	700-800	11-15
74	BWIR	800-900	11-15
75	CIR	500-880	11-15
●76	Color	400-700	11-15
77	Pan	600-700	11-15
78	Pan	500-600	11-15

Scale: 1:2,850,000
Format: 70 mm (2.76 inch)
Orbit: Pass 41 Track 47
Snow Cover: Frames 11 and 13(15%)

INDEX TO
SKYLAB 35 MM NIKON PHOTOGRAPHY

<u>PHOTO ID NUMBER</u>	<u>% COVER CLOUD/SNOW</u>	<u>LOCATION AND DESCRIPTION</u>
<u>SKYLAB 2 May 25-June 22, 1973</u>		
SL2-100-844	10/0	Minn., Wis., Mich., L. Superior, Duluth, pollution
845	3/0	Wis., Mich., Green Bay, Keweenaw Pen.
846	0/0	Mich., Wis., L. Michigan, Green Bay
847	0/0	Mich., Wis., L. Michigan, Green Bay
848	0/0	L. Michigan, Chicago, Wis., Ill., Mich., Ind.
SL2-103-956	0/0	Antenna, L. Michigan, Wis., Mich., Ill.
957	25/0	Lakes Michigan & Huron, Mich., (underexposed)
958	5/0	Lakes Huron, Ontario & Erie, Buffalo, Detroit
SL2-104-1051	35/0	Detroit, L. Erie
1052	35/0	Detroit, L. Erie
<u>SKYLAB 3 July 28-September 25, 1973</u>		
SL3-118-2183	50/0	Grand Rapids, Mich.
2184	10/0	Ann Arbor, Mich.
2185	5/0	Ann Arbor, Mich.
2187	0/0	Detroit (hazy)
SL3-119-2234	5/0	Grand Rapids, Mich.
2235	20/0	Mackinac Straits
2251	35/0	Mich., Sleeping Bear Point, Empire
2252	35/0	Mich., Big Sable Pt., Ludington, Little Sable Pt., (blurred)
SL3-124-2752	20/0	Sault Ste. Marie, USA, Canada
2753	20/0	L. Huron, North Channel, Drummond Island (out of focus, under- exposed)
SL3-127-2911	30/0	Straits of Mackinac
SL3-128-2995	5/0	St. Clair Lake, Mt. Clemens, Mich., Tecumseh-Ontario

<u>PHOTO ID NUMBER</u>	<u>% COVER CLOUD/SNOW</u>	<u>LOCATION AND DESCRIPTION</u>
<u>SKYLAB 4 November 16, 1973-February 8, 1974</u>		
SL4-192-7070	35/70	Ill., Ind., Mich., L. Michigan, Chicago
7071	40/70	Mich., Ontario, L. Huron, Georgian Bay, floating ice
SL4-193-7162	0/65	Great Lakes, ice in Green Bay, Menominee, Mich.

INDEX TO
SKYLAB 70 MM HASSELBLAD PHOTOGRAPHY

<u>PHOTO ID NUMBER</u>	<u>% COVER CLOUD/SNOW</u>	<u>LOCATION AND DESCRIPTION</u>
<u>SKYLAB 2 May 25-June 22, 1973</u>		
SL2-5-385	40/0	Minn., Wis., Mich., Lake Superior
386	35/0	Wis., Mich., Green Bay, L. Mich.
387	40/0	Mich., L. Huron, L. Michigan
388	30/0	Mich., L. Huron, Detroit
389	25/0	Mich., Ontario, Detroit, Windsor, Sarnia
390	40/0	Mich., Ohio, Ontario, L. Erie, Detroit
455	45/0	Wis., Mich., clouds, (dark)
456	60/0	Mich., L. Mich., Grand Traverse Bay
457	70/0	Mich., clouds
SL2-6-513	25/0	Ill., Ind., Mich., Wis., L. Mich., Chicago
514	20/0	Mich., Saginaw Bay, L. Mich., Grand Rapids
515	10/0	Mich., L. Huron, Ontario, Detroit
516	5/0	Mich., Ohio, L. Huron, L. Erie, Detroit
552	5/0	Mich., Wis., Ontario, Sault Ste. Marie
553	10/0	Mich., Ontario, L. Huron, Detroit
559	55/0	Ohio, Ind., Mich., Ontario, L. Erie, Detroit, clouds

SKYLAB 3 July 28-September 25, 1973

SL3-114-1702	0/0	Michigan & Lakes Michigan, Huron, Superior
1703	0/0	Mich., Ontario, Detroit-Windsor, L. Huron
1704	0/0	Mich., Strait of Mackinac, Lakes Huron, Michigan
1705-1706	0/0	Mich., Saginaw Bay-L. Huron (underexposed)
1707	0/0	*Mich., Ill., Wis., Chicago, Lakes Michigan & Huron, Green Bay
1708-1709	0/0	*Ill., Mich., Wis., Lakes Michigan & Huron, Green Bay

* high oblique

<u>PHOTO ID</u> <u>NUMBER</u>	<u>% COVER</u> <u>CLOUD/SNOW</u>	<u>LOCATION AND DESCRIPTION</u>
<u>SKYLAB 3 July 28-September 25, 1973 (cont'd.)</u>		
SL3-114-1710	0/0	*Ill., Wis., Mich., Ind., Lakes Michigan & Huron
1711-1712	0/0	*Ill., Mich., Ohio, Ind., Lakes Michigan & Huron
SL3-116-1943	15/0	Mich.-Ontario-Keweenaw Pen., L. Superior
1946	10/0	Chicago, L. Mich., Milwaukee, Grand Rapids
1947	5/0	Detroit, L. Erie, Toledo, Cleveland
1948	10/0	Detroit, L. Huron, Flint, Ontario-London
1949	10/0	L. Michigan., Chicago, Milwaukee, Grand Rapids
2016	20/0	Ill., Mich., Wis.-L. Michigan
2026	15/0	Ontario, Ohio, Mich.-Lakes Ontario & Michigan (hazy)
SL3-121-2335	10/0	Mich., Lakes Michigan & Huron (hazy)
2411	5/0	Canada, USA., L. Superior, Keweenaw Pen.
SL3-122-2520	30/0	L. Superior, Georgian Bay, L. Huron, Isle Royale
2521	35/0	E. end of L. Superior, Sault Ste. Marie, L. Huron, Georgian Bay
2553	35/0	L. Michigan, Muskegon, Grand Rapids
2586	40/0	Mich., L. Huron, Saginaw Bay

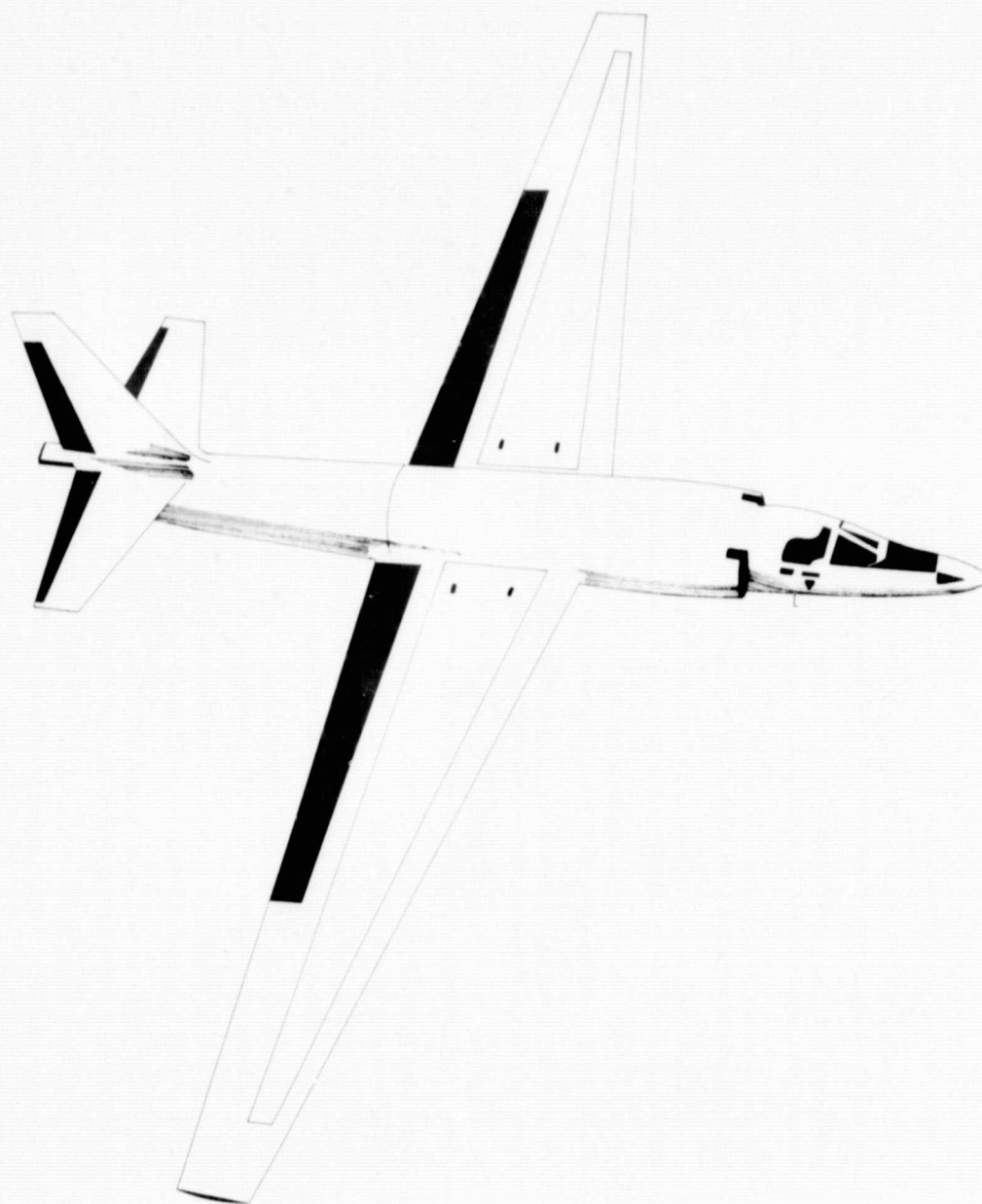
SKYLAB 4 November 16, 1973-February 8, 1974

SL4-136-3405	20/0	Mich., Ohio, Ontario, Detroit, Cleveland, L. Erie, L. Huron
SL4-139-3932	40/50	Minn., Iowa, Wis., Mich., Snow-covered, Twin Cities, Miss. R.
3952	40/60	Mich., Ohio, Ind., Ontario, Lakes Huron, Michigan, Erie, Toledo, Saginaw
3953	25/60	Wis., Mich., Ontario, L. Superior, Duluth, Miss. R., Wis. R.
3956	50/60	*Ill., Wis., Ind., Mich., L. Michigan, Chicago, Milwaukee, Green Bay

* high oblique

<u>PHOTO ID</u> <u>NUMBER</u>	<u>% COVER</u> <u>CLOUD/SNOW</u>	<u>LOCATION AND DESCRIPTION</u>
<u>SKYLAB 4 November 16, 1973-February 8, 1974 (cont'd.)</u>		
SL4-139-3985	40/40	*Mich., Ontario, L. Huron, Saginaw Bay, Sarnia
3986	25/50	*Mich., Ohio, Ontario, Lakes Huron & Erie, Saginaw Bay, St. Clair R.
4005	50/50	*Mich., Wis., L. Michigan, Green Bay, L. Superior
4006	35/60	Mich., Ontario, L. Huron, Georgian Bay, L. Erie
4007	50/70	Mich., Ontario, Lakes Huron & Erie, Detroit
4014	40/20	Minn., Wis., Ontario, L. Superior, Duluth, Isle Royale
4041	50/20	Mich., Ontario, L. Superior, White Fish Point, Michipicoten I.
4042	50/20	Mich., Ontario, L. Superior, White Fish Point, Michipicoten I.
4069	80/--	*Mich., Lakes Michigan & Huron, looking N., clouds
4098	40/60	Mich., Ontario, Lakes Superior Michigan & Huron, Sault Ste. Marie
SL4-141-4261	98/--	Mich., L. Superior, ice plumes, cloudy, Geoeble Range
4270	40/50	*L. Ontario, L. Erie, view to W., Detroit
4271	30/20	*L. Ontario, L. Erie, view to W., Detroit

* high oblique



**NASA HIGH ALTITUDE
IMAGERY**

SECTION 5

NASA HIGH ALTITUDE IMAGERY

GENERAL INFORMATION

The NASA Airborne Instrumentation Research Program is directed primarily at testing a wide range of remote sensing instruments, techniques and applications. An integral part of the Program is the acquisition of high altitude multispectral photographic imagery of pre-selected test sites within the continental United States. Missions are requested for projects that are to be undertaken by NASA-sponsored programs, such as MSU's Remote Sensing Project, and specifications of photo coverage, scale and image type are decided accordingly. Nevertheless, the imagery obtained can provide a data source for numerous other research and application activities.

Two research aircraft (General Dynamics/Martin RB-57F and Lockheed U-2) are operated and scheduled by NASA field centers. A brief description of the remote sensors aboard both platforms and the typical image products generated, follows.

RB-57 Camera Systems: RB-57 missions are usually flown at an altitude of about 60,000 feet (18,000 meters) carrying a fairly standard array of sensors. Typically, the sensor package consists of two Wild RC-8 cameras with 6 inch (152 mm) lenses, a Zeiss camera with a 12 inch (305 mm) focal length lens, and a gang arrangement of six Hasselblad cameras equipped with either 1.57 inch (40 mm) or 3.15 inch (80 mm) lenses. This equipment provides, respectively, scales of 1:120,000, 1:60,000, 1:450,000 and 1:225,000 at the normal operating altitude. Various film/filter combinations are used depending upon the objectives of the mission. Normally, however, the Zeiss camera contains color infrared film, while both true color and color infrared film are used in the RC-8 cameras. Both camera systems produce a 9 inch (229 mm) square film transparency.

The Hasselblad cameras are operated with a broad spectrum of film/filter combinations in order to provide multi-band photographic coverage on a 2.76 inch (70 mm) film base. Figures 5.1 and 5.2 are examples of NASA high altitude photography. In addition, thermal imagery is acquired using an RS-7 or RS-18 infrared scanner.

PRECEDING PAGE BLANK NOT FILMED



PAN (460-620nm)



PAN (590-725nm)



BWIR (680-925nm)



BWIR (790-925nm)

Figure 5.1.--NASA High Altitude Multiband Photos of the Gull Lake Area.

C-2



Figure 5.2.--NASA High Altitude Color Infrared Photo of the Gull Lake Area (reduced from 9 by 9 inches).

ORIGINAL PAGE IS
OF POOR QUALITY

U-2 Camera Systems: The U-2 aircraft, usually operating at 65,000 feet (20,000 meters), carries a Wild RC-10 camera system with a 6 inch (152 mm) focal length lens providing an image scale of 1:130,000. This camera is normally loaded with color infrared film, and, like the RB-57 metric cameras, provides a 9 inch square film transparency. In addition, an array of four Vinten cameras obtain multiband coverage similar to the Hasselblad system on the RB-57, except 1.75 inch (44 mm) focal length lenses are used exclusively, providing a relatively standard scale of 1:445,000 on 70 mm format film.

The primary job of the U-2 aircraft is to complement the earth resources research space flights (Landsat and Skylab), therefore, most of the multiband photography collected is compatible with the spectral bands recorded by the Landsat sensors (i.e., 475-575 nm, 580-680 nm and 690-760 nm).

Image Coverage: Since September 1969, the high-resolution camera systems aboard RB-57 and U-2 aircraft have obtained imagery of numerous test sites in Michigan. NASA-sponsored research and application programs in Michigan have requested NASA aircraft photography for a wide variety of projects in different areas of the state and over 60% of the land area of the state has been covered (Fig. 5.3).

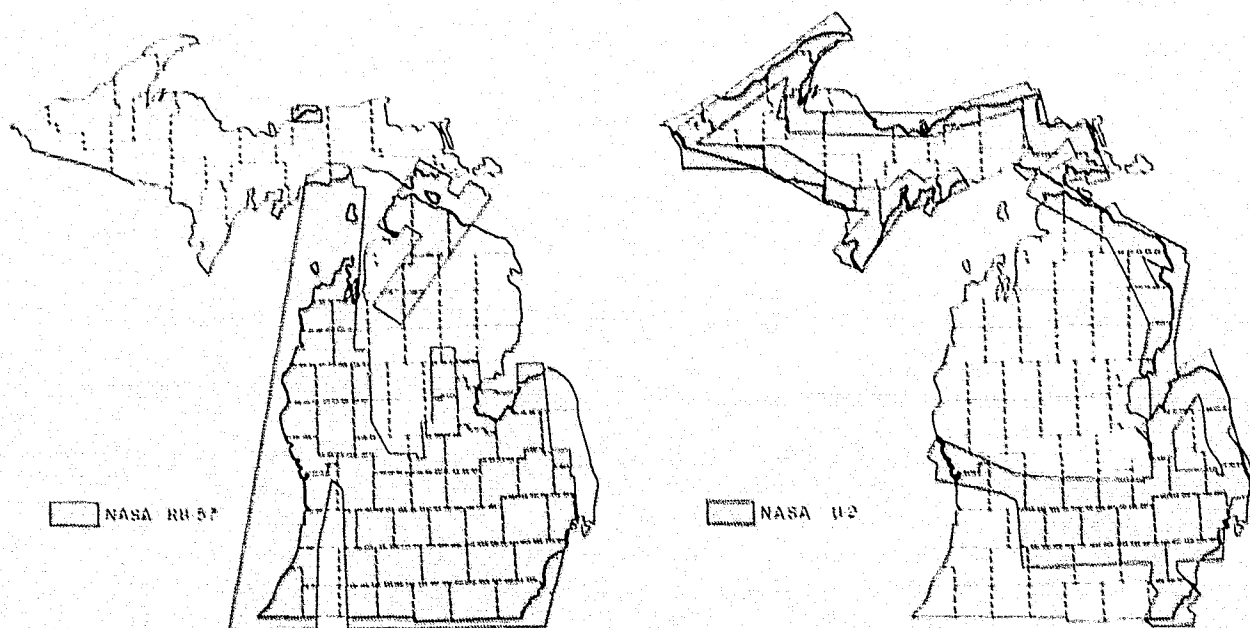


Figure 5.3.--NASA High Altitude Photographic Coverage of Michigan.

The coverage to date is concentrated in the lower peninsula where more than 70% of the area has been covered at least once and some areas have repetitive coverage. In addition, imagery from these flights is available for nearly 75% of the state's total length of shoreline. Thus, from the standpoint of developing an inventory of Michigan's resources and land use, an excellent base of imagery is available. These photographs, however, were gathered over a 7-year span during three seasons of the year, and thus differences in vegetation, water levels, and land use are evident and must be accommodated when used.

HOW TO USE THE RB-57/U-2 INDEXES

Users should first refer to Table 5.1 (p. 5-11) which lists photo mission coverage by county. Missions covering a particular area of interest can be determined from the table. It is then possible to select the appropriate photo index maps for those missions by referring to either the RB-57 or U-2 index. Specific descriptions of the imagery are given in these indexes, and the format for presentation of the specifications has been standardized to give information on location, image type, scale, quality and cloud cover as follows.

Mission Number and Date: Self-explanatory.

General Location: Locations are described in terms of flight lines and their respective orientation while image coverage is shown in approximate terms on accompanying maps. Photographic coverage by the Wild Cameras is usually planned for 60% endlap and 20 to 30% sidelap. Coverage by the Zeiss, Hasselblad and Vinten cameras usually has a 10% endlap and a 0 to 10% sidelap.

Image Type and Scale: The film/filter combinations employed and the spectral ranges recorded are indicated by an identifier code. Table 5.2 (p. 5-13) lists these combinations for the metric survey cameras and uses a Roman numeral code, while Table 5.3 (p. 5-14) lists the combinations for the multiband camera systems and uses an alphabetical capital letter code. The image scale is given as a representative fraction, based on lens focal length, and average flying altitude, and is rounded to the nearest thousandth in most cases.

ORIGINAL PAGE IS
OF POOR QUALITY

Quality: The quality of the photography is expressed in general subjective terms such as fair, good and excellent. For some missions, additional information is given concerning camera or processing malfunctions (e.g. film underexposed, scratches, film transport malfunction) which may limit the usefulness of the imagery for certain applications.

Cloud Cover: The type, extent and location of cloud cover are indicated when appropriate.

Remarks: Any additional information pertaining to the mission, such as camera failures and variations in film coverage, is given.

HOW TO ORDER NASA AIRCRAFT PHOTOGRAPHY

This order form is to be used for ordering all NASA AIRCRAFT PHOTOGRAPHY. Photo identification numbers can be transcribed directly from a computer listing. When ordering from other reference sources, be sure to specify the MISSION, ROLL, and FRAME NUMBER for the desired photograph(s).

Please provide the following information in the indicated areas of the order form:

- A. List your complete NAME, ADDRESS, ZIP CODE, and name of your COMPANY if applicable.
- B. List a PHONE NUMBER where you can be contacted during business hours.
- C. If you have had previous business with THAT FACILITY, please list your ACCOUNT NUMBER, if known.
- D. Enter the complete PHOTO IDENTIFICATION NUMBER. This can be transcribed directly from the COMPUTER LISTING. If the source of information is from another source, specify the MISSION, ROLL NUMBER and FRAME NUMBER.
- E. Review the STANDARD PRODUCTS TABLE on the order form and determine the type of product desired. CARE must be exercised in insuring that the FILM SOURCE reflected in the tables correlates with the FILM SOURCE listed on the COMPUTER LISTING.
- F. Enter the PRODUCT CODE of the type product being ordered from the STANDARD PRODUCTS TABLE.
- G. Enter the FRAME NUMBER in the FIRST FRAME column. (See instructions for interpolation of a frame from a PHOTO STRIP) If two or more consecutive frames are being ordered, enter the FIRST FRAME of the series in the FIRST FRAME column and the LAST FRAME in the LAST FRAME column.
- H. Enter the NUMBER OF UNIQUE FRAMES being ordered. Example: FIRST FRAME - 116; LAST FRAME - 119; NO. OF FRAMES is 4.
- I. Enter the NO. OF COPIES being ordered of the FRAMES you have identified.
- J. The COMMENTS portion is completed only when a CUSTOM PRODUCT is desired and you want to specify the parameters. Refer to the current price list for custom product cost determination.
- K. Multiply the NO. OF FRAMES by the NO. OF COPIES and enter the result in the QUANTITY column.
- L. Enter the UNIT PRICE of the product as reflected on the current PRICE LIST.
- M. Multiply the figure in the QUANTITY column by the figure in UNIT PRICE column and ENTER the result in the TOTAL PRICE column.
- N. REPEAT the above for each product ordered.
- O. TOTAL the costs of all products ordered on that order form and enter the NET result in BLOCK A. TOTAL ABOVE.
- P. If more than one order form is required, enter the sum of the figures in BLOCKS A in BLOCK B of the last order form.
- Q. Enter the SUM of BLOCK A and BLOCK B in BLOCK C, TOTAL COST.
- R. Indicate the TYPE of payment being made with a CHECK MARK. Make all drafts payable to U.S. GEOLOGICAL SURVEY. DO NOT SEND CASH.
- S. MAIL ORDER FORM(S) and PAYMENT to the FACILITY NEAREST YOU. If payment has been previously forwarded, the order form(s) must be mailed to the same facility.

Table 5.1.--NASA High Altitude Coverage (RB-57/P-2) By County (cont'd.).

COUNTY	103	111	128D	132	141	145	166	174	205	211	273	309	312	315	72-047	72-068	72-171	72-181	73-085A	73-136	74-123	75-056B	
Lake	P*									T													
Lapeer	P*		P*					P*	P	P		T	P	P	P		P*	P*		P	P		
Lee Isau	T				P																		
Lenawee	T			P*		P	P		T										P				
LIVINGSTON	T			P*		P*	P*		T	T		P*	P			P	P	P			T	P	
Live																						P	
Mackinac	P				P																	P	
Macomb	P*											P*	T				P	P			P*		
Manistee	T									P													
Marquette																						P	
Mason	T									P*													
Mcosta								P		P*													
Menominee																						P*	P
Midland								P				P*		P*									
Missaukee																							
Monroe	T			P		P		P	T				T		P				P			P	
Montcalm								P	P*	P*	P												
Montmorency					P																	P	
Muskegon	P*				P						P				P							P*	
Newaygo	P							P		P*	P											P	
Oakland	T		P*	P		P		P*	P*	P		P*	T		P	P	T	T		P*	P		
Oceana	T				P					P*													
Ogemaw												P		P								P	
Ontonogen																						P	
Oseola										P*													
Oseoda																							
Otsego					P*																		
Ottawa	P*				P						P				P							P	
Presque Isle					P																	P*	P*
Rosecommon												P											
Saginaw								P	P*	P		T	P*	P*								P	
Sanilac								P				P	P*									P*	
Schoolcraft	P																					P	
Shiawassee	P*							P	T	T		T		P	P*						P*		
St. Clair	P											P	T				P	P			P	P*	
St. Joseph								P*		P	P*												
Tuscola								P*				T	P	T								P*	P*
Van Buren	P				P		P*																
Washtenaw	T			P*		P*	P*		T	P*					P	P	P	P			P*	P	
Wayne	T		P					P*	P*				T		P	P	P*	P*			P	P	
Wexford	P									P*													

CODE: T - Total Coverage; P - Partial Coverage: 50% or less; P* - Partial Coverage: over 50%

Table 5.2.--Film/Filter Codes for NASA Research Aircraft
Photography: Metric Camera Systems.

Identifier	Film/Filter Combination*	Sensitivity (nanometers)
I	Color (2448+HF3)	390-700
II	Color (SO 397+2A)	410-700
III	Color (SO 397+2E)	420-700
IV	Color (SO 397+510nm)	510-700
V	Color (SO 360+2A)	410-700
VI	Color (SO 397+22AV)	400-700
VII	Color Infrared (2443+2A)	410-900
VIII	Color Infrared (2443+12)	500-900
IX	Color Infrared (2443+15)	510-900
X	Color Infrared (2443+510nm)	510-900
XI	Color Infrared (2443+520nm)	520-900
XII	Color Infrared (SO 117+500nm)	500-900
XIII	Color Infrared (SO 117+14AV)	400-900
XIV	Color Infrared (2443+515nm)	515-900

* Eastman Kodak film and filter number, except in some cases the transmittance cut-off wavelength of the filter is given.

ORIGINAL PAGE IS
OF POOR QUALITY

Table 5.2.--Film/Filter Codes for NASA Research Aircraft
Photography: Metric Camera Systems.

Identifier	Film/Filter Combination*	Sensitivity (nanometers)
I	Color (2448+HF3)	390-700
II	Color (SO 397+2A)	410-700
III	Color (SO 397+2E)	420-700
IV	Color (SO 397+510nm)	510-700
V	Color (SO 360+2A)	410-700
VI	Color (SO 397+22AV)	400-700
VII	Color Infrared (2443+2A)	410-900
VIII	Color Infrared (2443+12)	500-900
IX	Color Infrared (2443+15)	510-900
X	Color Infrared (2443+510nm)	510-900
XI	Color Infrared (2443+520nm)	520-900
XII	Color Infrared (SO 117+500nm)	500-900
XIII	Color Infrared (SO 117+14AV)	400-900
XIV	Color Infrared (2443+515nm)	515-900

* Eastman Kodak film and filter number, except in some cases the transmittance cut-off wavelength of the filter is given.

ORIGINAL PAGE IS
OF POOR QUALITY

Table 5.3.--Film/Filter Codes for NASA Research Aircraft Photography: Multiband Camera Systems.

Identifier	Film/Filter Combination*	Sensitivity (nanometers)
A	Black & White (2402+25)	590-700
B	Black & White (2402+47)	360-520
C	Black & White (2402+57)	460-620
D	Black & White (2402+58)	470-610
E	Black & White (2402+GG475+BG18)**	475-575
F	Black & White (2402+OG570+BG38)**	580-680
G	Black & White (3400+OG570+BG38)**	580-680
H	Black & White (3401+58)	470-610
I	Black & White (3401+78A)	400-700
J	Black & White (3401+25A)	590-700
K	Black & White (3401+47)	360-520
L	Black & White (SO 278+W3)	440-700
M	Black & White Infrared (2424+89B)	680-900
N	Black & White Infrared (2424+87)	740-940
O	Black & White Infrared (2424+25)	590-900
P	Black & White Infrared (2424+RG645+ 9830)***	690-760
Q	Black & White Infrared (SO 246+87B)	680-900
R	Color (SO 121+2E)	420-700
S	Color (SO 242+none)	400-700
T	Color (SO 356+2E)	420-700
U	Color Infrared (2443+15)	510-900
V	Color Infrared (2443+12)	500-900
W	Color Infrared (SO 117+15)	510-900

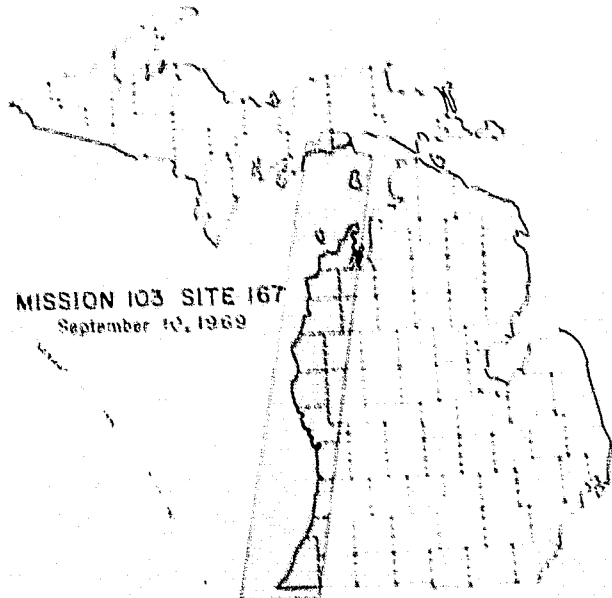
* Eastman Kodak film and filter number.

** Schott Filter.

*** Schott plus a Corning filter.

INDEX TO RB-57 IMAGERY OF MICHIGAN

MISSION 103 SITE 167 September 10, 1969



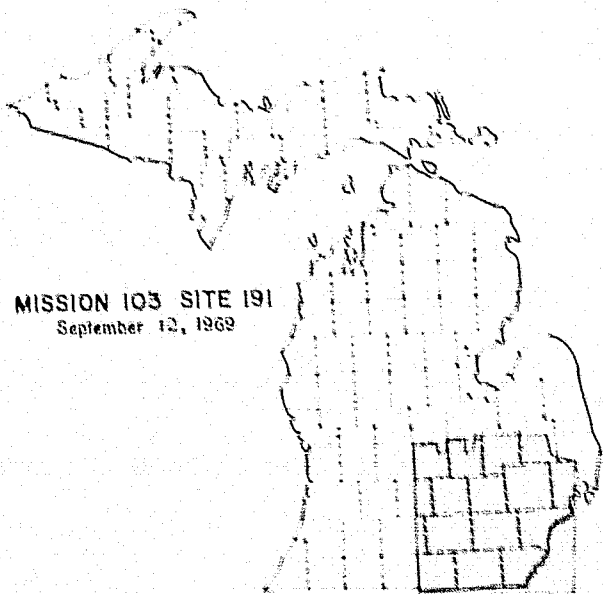
General location: Southwest to South Bend, Indiana. To West
triangle in the upper Peninsula of Michigan.
Four north-south oriented flight lines.

Image type and scale: color infrared (A11) 1:118,000 and
1:50,000, color (A1) 1:118,000 and Multi
band (A.2.1) 1:118,000.

Quality: generally good.

Cloud cover: Extensive northern end of each flight is obscured.

MISSION 103 SITE 191 September 12, 1969



General location: Southeast Michigan. Two north-south oriented
flight lines.

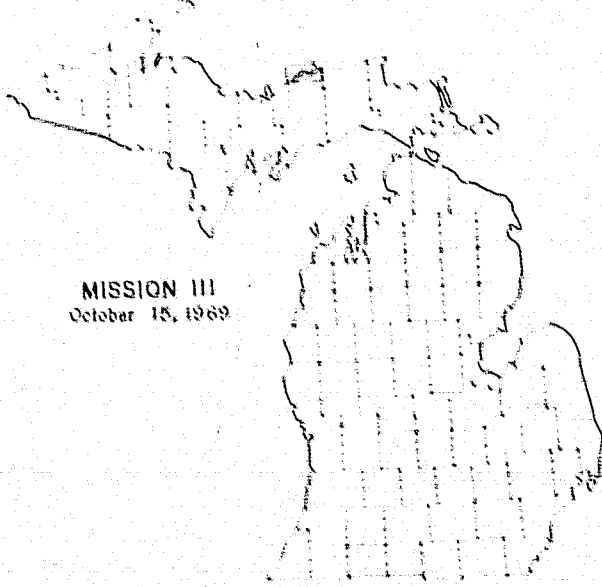
Image type and scale: color infrared (A11) 1:118,000 and 1:50,000,
color (A1) 1:118,000 and Multiband (A.2.1) 1:118,000
N.S. 1:118,000.

Quality: First two flight lines eastern half of the color
imagery is under exposed and the color infrared 1:118,000
has a dark spot in the center of each frame. Otherwise
quality is generally good.

Cloud cover: scattered minimal.

Remarks: Due to camera failure coverage in black and white, both
panchromatic and infrared, is used and only available
for four flight lines covering Washtenaw County.

MISSION 111 October 18, 1969



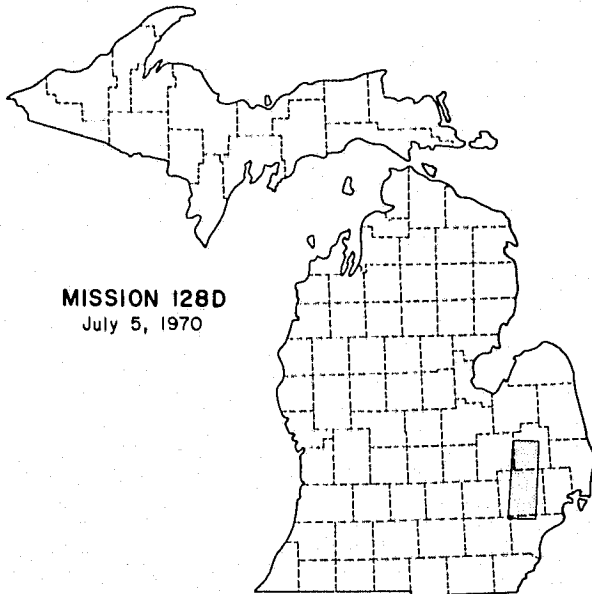
General location: Two flight lines of the Lake Superior shoreline
west of Grand Marais State Park.

Image type and scale: color infrared (A11) 1:4,400, color (A1)
1:4,400 and infrared (A.2.1) 1:4,400.

Quality: The color infrared imagery is dark but the remaining
frames are of excellent quality.

Cloud cover: clear.

Remarks: Only a few flights of imagery were denoted from this
flight because of problems with exposure due to solar
flare on the same date.



MISSION 128D
July 5, 1970

General Location: A single north-south line from Highland Park, Michigan to a few miles north of Lapeer, Michigan.

Image Type and Scale: Color Infrared (IX) 1:125,000 and 1:62,500, Color (III) 1:125,000, Multiband (A,D,M,W) 1:476,000.

Quality: Excellent.

Cloud Cover: Clear.



MISSION 132
July 5, 1970

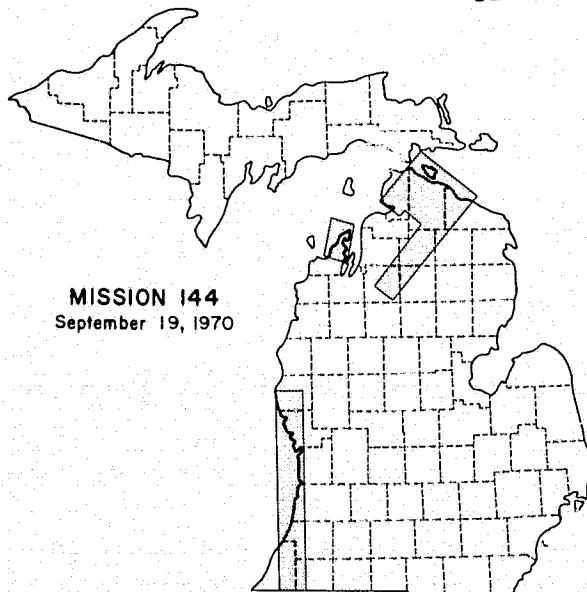
General Location: Eight north-south flight lines running from the Ohio border to the northern boundary of Livingston County, Michigan.

Image Type and Scale: Color Infrared (IX) 1:82,000 and 1:41,000, Color (III) 1:82,000 and Multiband (A,D,L,M,O,W) 1:156,000. A shortened flight line over Ann Arbor obtained Color Infrared (IX) 1:125,000 and 1:62,000 and Color (III) 1:125,000.

Quality: Excellent.

Cloud Cover: Some scattered clouds.

ORIGINAL PAGE IS
OF POOR QUALITY



MISSION 144
September 19, 1970

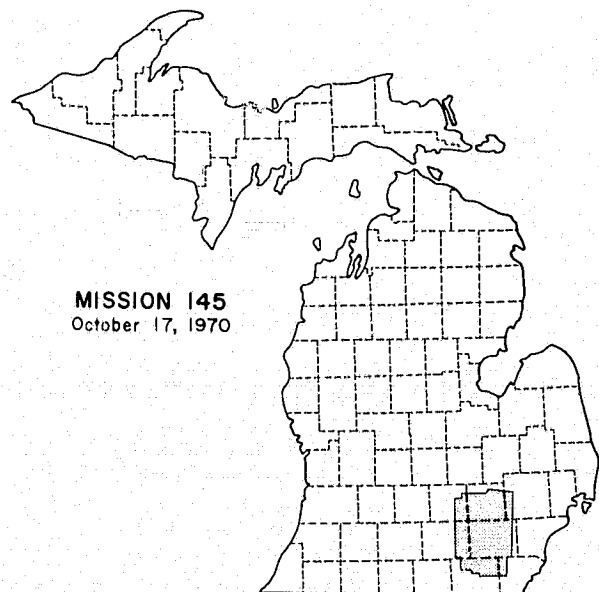
General Location: Three separate sites:

- i) one flight line from the Indiana border to north of Whitehall in Mason County, Michigan;
- ii) one flight line over the northern half of Leelanau County, Michigan;
- iii) three flight lines covering the Lake Huron shoreline from Rogers City to Mackinaw City extending inland as far as Cadillac.

Image Type and Scale: Color Infrared (IX) 1:120,000 and 1:60,000, Color (III) 1:120,000.

Quality: Excellent.

Cloud Cover: Scattered, minimal.



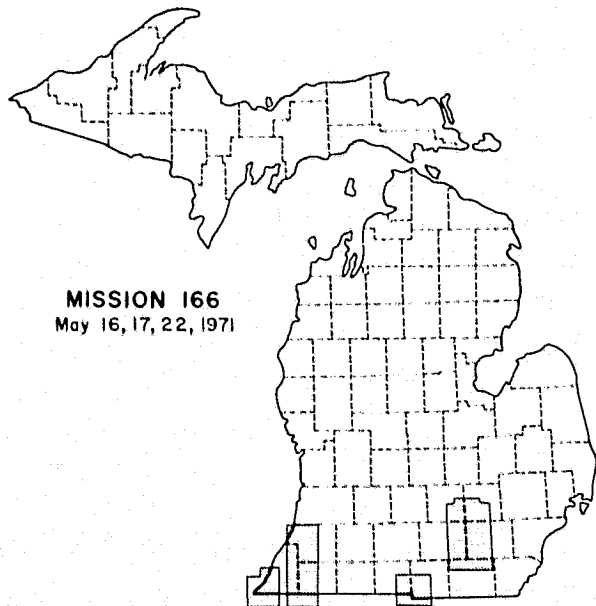
MISSION 145
October 17, 1970

General Location: Eight north-south flight lines covering an area from Tecumseh, Lenawee County in the south to Howell, Livingston County in the north.

Image Type and Scale: Color Infrared (IX) 1:118,000 and 1:59,000, Color (III) 1:118,000 and Multiband (A,D,L,M,O,W) 1:225,000.

Quality: Excellent.

Cloud Cover: Clear.



MISSION 166
May 16, 17, 22, 1971

General Location: Four sites in the southern Lower Peninsula:

- i) six north-south flight lines covering an area bounded by Tecumseh on the south and by Howell on the north;
- ii) three small areas along the southern border of Michigan.

Image Type and Scale: i) Color Infrared (XI) 1:80,000 and 1:40,000, Color (II) 1:80,000 and Multiband (A,D,M,T,U) 1:305,000.

ii) Color Infrared (XI) 1:120,000.

Quality: Fair. Usable.

Cloud Cover: Heavy clouds rendered the flight line running from Lakeside, Michigan (the most westerly site) unusable.



MISSION 174
July 7, 1971

General Location: Four flight strips:

- i) one flight line north from Stony Point, Ohio on Lake Erie, to Port Austin, Michigan on Lake Huron;
- ii) one flight line from Jackson to near Midland passing directly over Lansing;
- iii) two flight lines extending north from the Indiana border to northern Montcalm County, passing between Kalamazoo and Battle Creek, and east of Grand Rapids.

Image Type and Scale: Color Infrared (X) 1:120,000.

Quality: Excellent.

Cloud Cover: Clear.



MISSION 205
June 10, 11, 1972

General Location: Six north-south flight lines extending from Detroit to west of Battle Creek and from the Ohio border north to the latitude of Saginaw.

Image Type and Scale: Color Infrared (VIII) 1:119,000 and 1:59,500, Color (II) 1:119,000 and Multiband (A,C,M,T,V) 1:453,000 and infrared scanner.

Quality: Excellent.

Cloud Cover: Clear, except for scattered cumulus clouds in the extreme southwestern section of Lenawee County and heavy haze over eastern Oakland County.



MISSION 211
September 15, 1972

General Location: Coverage is in two sections:

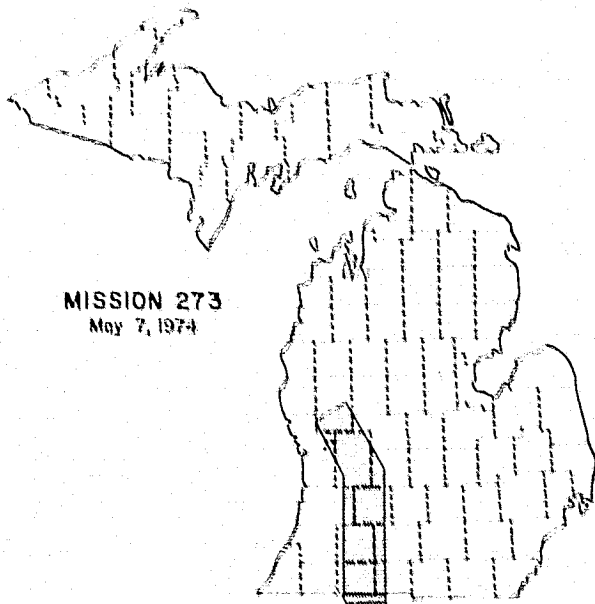
- i) eight flight lines westward from the western edge of the Detroit metro area to Battle Creek and north from the Ohio border to Flint;
- ii) four flight lines from the Oceana County boundary north to central Manistee, and from just east of Lake Michigan to central Osceola County.

Image Type and Scale: Color Infrared (VIII) 1:118,000 and 1:59,000, Color (II) 1:118,000 and Multiband (A,C,M,T,V) 1:453,000.

Quality: Excellent.

Cloud Cover: Clear, except for scattered cumulus clouds in southeastern Branch County, and heavy cumulus in central Montcalm and southern Manistee counties.

C



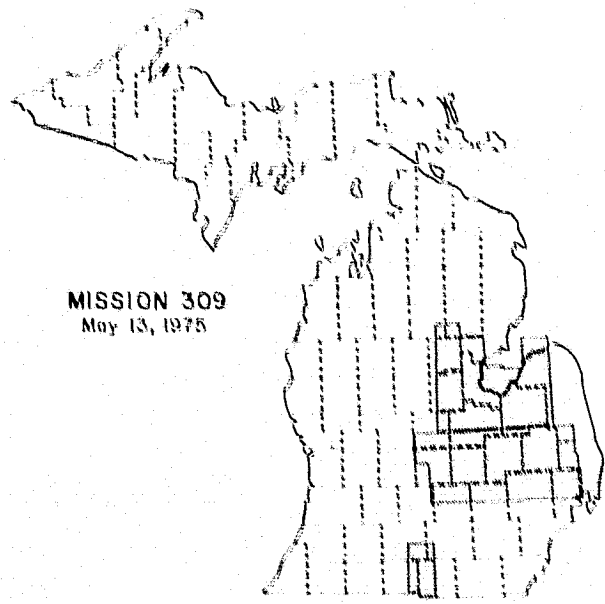
MISSION 273
May 7, 1974

General location: Two flight lines extending from the southern boundary of Michigan in St. Joseph County to the middle of Newaygo County covering portions of the Kalamazoo-Black Paw Paw River Basin, the city of Kalamazoo and the eastern suburbs of Grand Rapids.

Image type and scale: Color Infrared (VIII) 1:114,000 and 1:87,000, Multiband (A,B,C,M,N,V) 1:217,000 and 1:174,000 zoomer.

Quality: Excellent.

Cloud cover: Clear.



MISSION 309
May 13, 1975

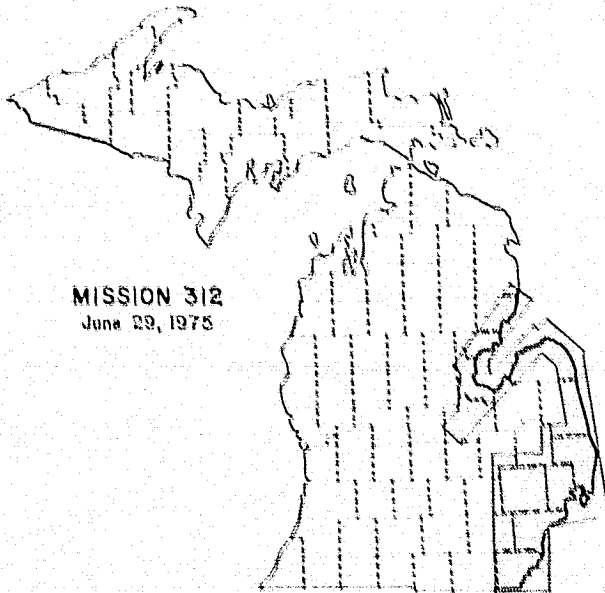
General location: Three sites:

- 1) one north-south flight line covering parts of Branch, Hilldale, Jackson and Calhoun counties;
- 2) three east-west flight lines covering Shiawassee, Genesee, and Iosco counties;
- 3) five north-south lines covering several counties around Saginaw Bay.

Image type and scale: Color Infrared (VIII) 1:120,000 and (IX) 1:60,000 and Multiband (A,B,C,M,N,V) 1:240,000.

Quality: Excellent.

Cloud cover: 20-35% cumulus over Hilldale and Branch counties.



MISSION 312
June 29, 1975

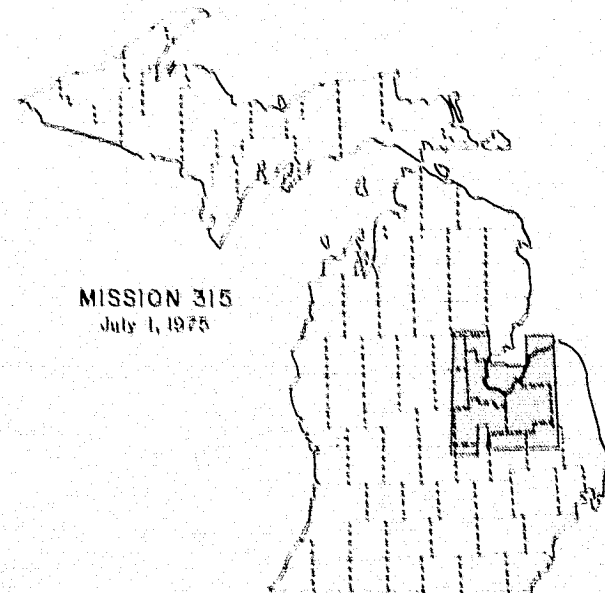
General location: Two sites:

- 1) six flight lines covering the Detroit location;
- 2) five flight lines along and inland from the southeast shore of Lake Huron from St. Clair County to Huron County and inland from the shore of Saginaw Bay from Huron to Topeka County.

Image type and scale: Color Infrared (VIII) 1:120,000 and Multiband (A,B,C,M,N,V) 1:240,000.

Quality: Good.

Cloud cover: Scattered cumulus along the western part of the Thumb and heavy to moderate haze over the western edge of the Detroit Metropolitan area.



MISSION 315
July 1, 1975

General location: Five north-south flight lines covering the Saginaw Bay area and the western portion of the Thumb.

Image type and scale: Color Infrared (VIII) 1:120,000 and (IX) 1:60,000 and Multiband (A,B,C,M,N,V) 1:240,000.

Quality: Good.

Cloud cover: Scattered.

INDEX TO U-2 IMAGERY OF MICHIGAN



MISSION 72-047
March 24, 1972

General Location: Three flight line segments:

- i) west to east from Muskegon to north of Pontiac;
- ii) south from Pontiac to Ypsilanti;
- iii) south-southeast from Detroit's Metropolitan Airport to Cleveland, Ohio.

Image Type and Scale: Multiband (E,F,P,U) 1:445,000.

Quality: Good.

Cloud Cover: Varies with flight line segments:

- i) clear, except for four frames near Flint, Michigan;
- ii) 40% cloud cover--scattered cumulus throughout;
- iii) 20-40% cloud cover, but concentrated in the Ohio end of the flight line.



MISSION 72-068
April 28, 1972

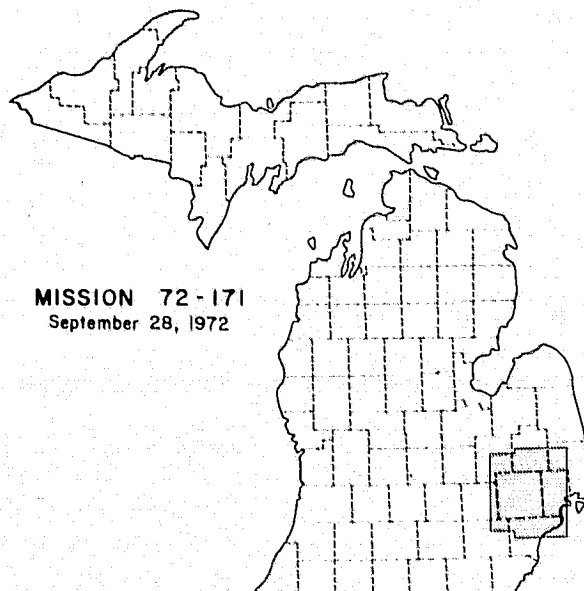
General Location: One short flight line from Ypsilanti to just south of Pontiac.

Image Type and Scale: Multiband (E,F,P,U) 1:445,000.

Quality: Good, except for some moderately heavy scratches on the "E" film and light scratches on the "P" film.

Cloud Cover: Fairly heavy cloud cover, 10-100% strato-cumulus.

Remarks: This mission produced very little usable imagery and will only be useful for isolated spotcheck purposes.



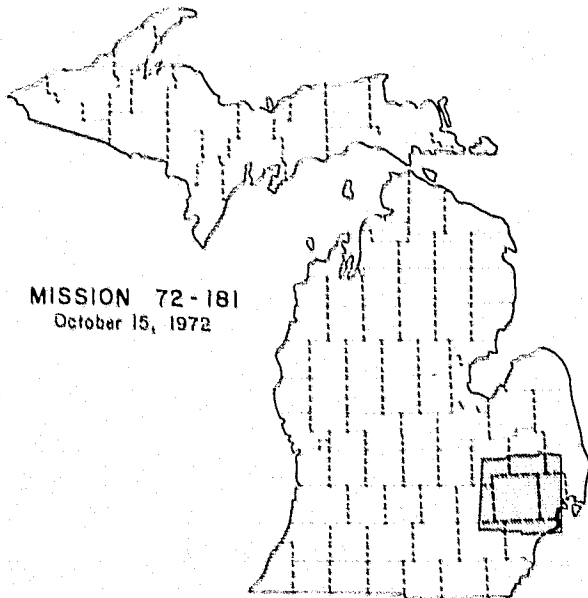
MISSION 72-171
September 28, 1972

General Location: Southeast Michigan, centered on Pontiac, four north-south flight lines.

Image Type and Scale: Color Infrared (X) 1:130,000 and Multiband (E,F,P,U) 1:445,000.

Quality: Good, except for a film transport malfunction during exposure of four frames of film "U".

Cloud Cover: Largely obscured by moderate to heavy cumulus cloud cover (20-80%).



MISSION 72-181
October 15, 1972

General Location: Southeast Michigan, centered on Pontiac, four north-south oriented flight lines.

Image Type and Scale: Color Infrared (X) 1:110,000 and Multiband (R,P,S,U) 1:445,000.

Quality: Good.

Cloud Cover: Light scattered cumulus.

Remarks: A multiband (U) film was lost due to camera malfunction. The color infrared (X) camera clock was incorrectly set on PPI instead of SMP.



MISSION 73-085A
June 2, 1973

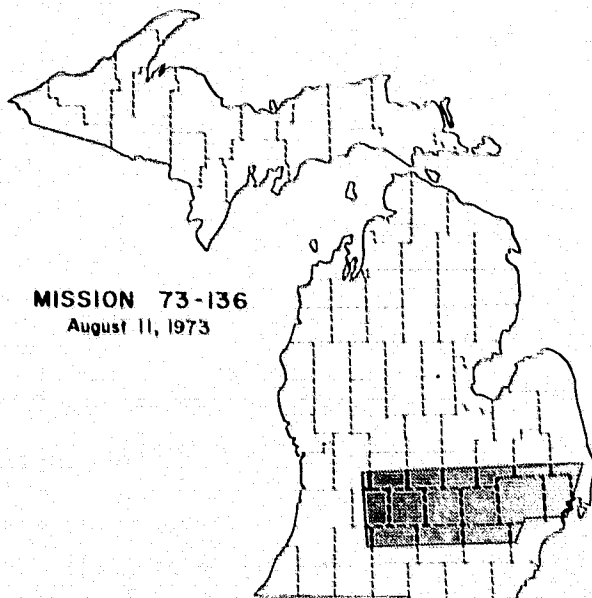
General Location: A short flight line covering southeast Monroe County.

Image Type and Scale: Color Infrared (X) 1:110,000 and Multiband (R,P,S,U) 1:445,000.

Quality: Generally good, except three frames of film "P" were partially fogged during camera loading and both film "U" and "X" are slightly under-exposed.

Cloud Cover: Scattered cumulus.

**ORIGINAL PAGE IS
OF POOR QUALITY**



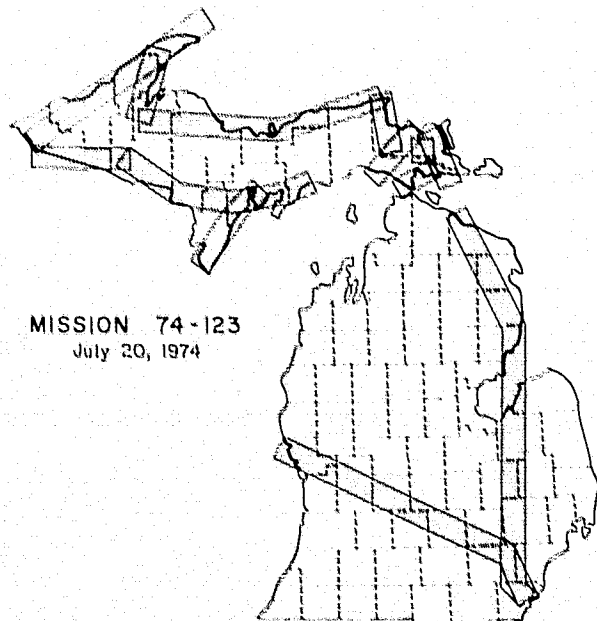
MISSION 73-136
August 11, 1973

General Location: A series of five east-west flight lines covering a large part of southeastern Michigan from western Wayne County to Battle Creek and north as far as Flint, but excluding the city of Detroit.

Image Type and Scale: Color Infrared (X) 1:110,000 and Multiband (R,P,S,U) 1:445,000.

Quality: Excellent.

Cloud Cover: Light scattered cumulus cloud cover was encountered on all flight lines, but it generally constitutes no more than 10-20% of the frame.



MISSION 74-123
July 20, 1974

General Location: Four sites:

- i) a north-south flight line from north central Monroe County to northeast Toadon County;
- ii) a flight line from southeast Alcona County to northwest Presque Isle County;
- iii) a series of flight lines along most of the shoreline of the Upper Peninsula;
- iv) a southeast oriented flight line from Muskegon to Ann Arbor.

Image Type and Scale: Color Infrared (X) 1:110,000 and Multiband (R,P,S,U) 1:445,000.

Quality: Good, except first ten frames of film "P".

Cloud Cover: Site i) 10 to 20% cumulus; site ii) clear; site iii) eastern Upper Peninsula clear to 10% with western Upper Peninsula 10-50% cumulus; site iv) 10% cumulus.

Remarks: Multiband photography was not gathered for site "i".



MISSION 75-055B
May 7, 1975

General Location: Three separate sites:

- i) two flight lines along and inland from the northwest shore of Lake Huron and southeast shore of Saginaw Bay (St. Clair County to Tuscola County);
- ii) two flight lines along and inland from the northwest shore of Lake Michigan (Arenac County to Emmet County);
- iii) one flight line along and inland from the northwest shore of Lake Michigan (Menominee County and Delta County).

Image Type and Scale: Color Infrared (N) 1:110,000 and Multiband (B,G,P,S) 1:445,000.

Quality: Good to excellent except soft focus around the edge of film "S".

Cloud Cover: i) very light scattered cumulus along Lake Huron to 10-60% heavy cumulus along Saginaw Bay; ii) clear; and iii) first four frames 10-40% cumulus with subsequent frames having 10-60% cirrus cover.

Remarks: The interframe spacing on the "B" frame sequence is inconsistent.

**ORIGINAL PAGE IS
 OF POOR QUALITY**



**REGIONAL / COUNTY
IMAGERY**

SECTION 6

REGIONAL/COUNTY IMAGERY

GENERAL INFORMATION

Aerial photography of Michigan providing regional or county-wide coverage is available from several federal agencies and from numerous public agencies within the state that have obtained regional coverage from aerial survey companies. This imagery is acquired for different purposes and consequently encompasses a variety of specifications. This section of the guide includes a short synopsis describing the characteristics of imagery available from each agency and a general discussion on how to obtain imagery, a comprehensive list of available imagery by county, and the latest map indexes showing the extent of regional coverage.

ASCS Aerial Photography: Since the 1930's the Agricultural Stabilization and Conservation Service (ASCS) has been routinely obtaining vertical aerial photography of the nation's major cropland areas. Most of the coverage is black-and-white panchromatic photography at a scale of 1:20,000 or at 1:40,000 since 1970. The photography is acquired using a 6 inch (152 mm), 8.25 inch (210 mm) or 12 inch (305 mm) focal length lens and is flown with a 65% endlap and 30% sidelap specification. Photo coverage is usually for entire counties, and is flown during the summer months for areas in the northern part of the United States such as Michigan. New photography is obtained about every six years because of changing land use patterns and is recommended by the state and local ASCS committees.

SCS Aerial Photography: The Soil Conservation Service (SCS) periodically acquires black-and-white panchromatic aerial photography of entire counties for its use in a variety of soil resource programs, most notably soil survey work. Available SCS imagery of Michigan is at a scale of 1:45,000 to 1:55,000 and is acquired using a 6 inch (152 mm) focal length lens.

FS Aerial Photography: The United States Forest Service (FS) acquires two major types of aerial photography over the four National Forest lands in Michigan for use in timber resource programs. High altitude "leaf-off" photography is acquired at scales of 1:60,000 or 1:72,000 on panchromatic or color

PRECEDING PAGE BLANK NOT FILMED

film. Lower altitude "leaf-on" photography of Michigan forests is available at a scale of 1:15,840. Most of this coverage is acquired using a 8.25 inch (210 mm) focal length lens and black-and-white infrared film during the summer months when the trees are in full foliage.

USGS Aerial Photography: The United States Geological Survey (USGS) obtains black-and-white panchromatic aerial photography prior to the preparation of topographic maps. Coverage is, therefore, acquired on a project basis and conforms to the topographic map areas under consideration without regard to county boundaries. Photography is usually obtained in the spring or fall at scales varying from 1:13,000 to 1:46,000 with a 6 inch (152 mm) or shorter focal length lens.

National Archives: All photographic coverage procured on nitrate film by ASCS from 1936 through 1941, and by SCS prior to 1942 has been transferred to the National Archives and Record Service (NARS). This photography is at a scale of 1:20,000 on panchromatic film.

Michigan Agency Photography: A variety of agencies within the state have acquired imagery, principally for tax and planning purposes. Since the 1950's, county agencies have increasingly contracted with private aerial survey firms (addresses in Appendix B) to obtain photographic coverage of their area. Most of the photography is black-and-white panchromatic at scales ranging from 1:6,000 to 1:36,000.

Regional planning agencies began to acquire aerial photography in the 1960's, e.g. the Southeast Michigan Council of Governments secured 1:36,000 panchromatic photography of its seven county region in 1966. More recently, color infrared photography (CIR) flown at medium altitudes (scales in the 1:30,000 range) has been procured for regional planning purposes. In 1973, the Michigan Department of State Highways and Transportation acquired 1:36,000 CIR photography in the northern Lower Peninsula, providing complete or partial coverage of twenty counties, and of a smaller area in the Upper Peninsula bordering the Lake Michigan shoreline of Delta, Schoolcraft and Mackinac Counties (see Fig. 6.1, p. 6-6).

The Soil Conservation Service and the MSU Remote Sensing Project acquired CIR photography at a scale of 1:31,680 for the Kalamazoo River Basin in 1974. More recently, the West Michigan Regional Planning Commission, the West Michigan Shoreline Regional Development Commission, and the

Southcentral Michigan Planning and Development Council have also acquired medium-scale color infrared photography in support of their planning programs.

The latest development in the acquisition of regional level imagery is an ambitious project coordinated by the Michigan Department of Natural Resources (DNR) to obtain 1:24,000 color infrared photography for all of the Upper Peninsula and the northern half of the Lower Peninsula. This flight is scheduled for the summer of 1977 and complete information on the photography to be acquired can be obtained from the Division of Land Resource Programs of the DNR.

Collection of imagery by public agencies in the state is difficult to monitor in a systematic manner. Acquisitions are recent, obtained on a piecemeal basis and are often locationally confined by planning jurisdictions. Inevitably, any attempt to provide a comprehensive reporting of imagery contracted by agencies in Michigan will be incomplete. Users of the guide can assist in revision of the document by supplying appropriate details on imagery unreported here to the Remote Sensing Project at Michigan State University.

HOW TO USE THE INDEX

To determine image availability, refer to the computer listing which indicates agency coverage by county. From this index a determination can be made as to which agencies or aerial survey firms have pertinent photographic coverage considering the date, scale and type of film indicated.

The most recent aerial photo coverage available for an area from federal sources is also shown on status maps included in this section (supplied by the appropriate agencies). Users can update this information themselves by securing subsequent maps from these agencies. More current imagery may be available upon a request detailing the exact location of interest.

The level of information included in this section does not enable one to directly order imagery because exact coverage, number of frames required, and frame identification numbers have to be known prior to placing an order. This information can be obtained by contacting the appropriate agency. For federal sources, photo index sheets are available for inspection and purchase at the county, district,

state or federal offices of the respective agency. A photo index is an assemblage of individual photographs copied at a reduced scale (usually 1:63,360 or 1 inch to the mile). Out-of-date imagery may be archived at various colleges and universities, e.g. the Department of Geography at Michigan State University and the School of Natural Resources at the University of Michigan.

Detailed information on ordering and cost of photo indexes or individual photographs is included after the index maps from federal sources so that users with clear requirements can determine costs and in some cases directly order imagery.

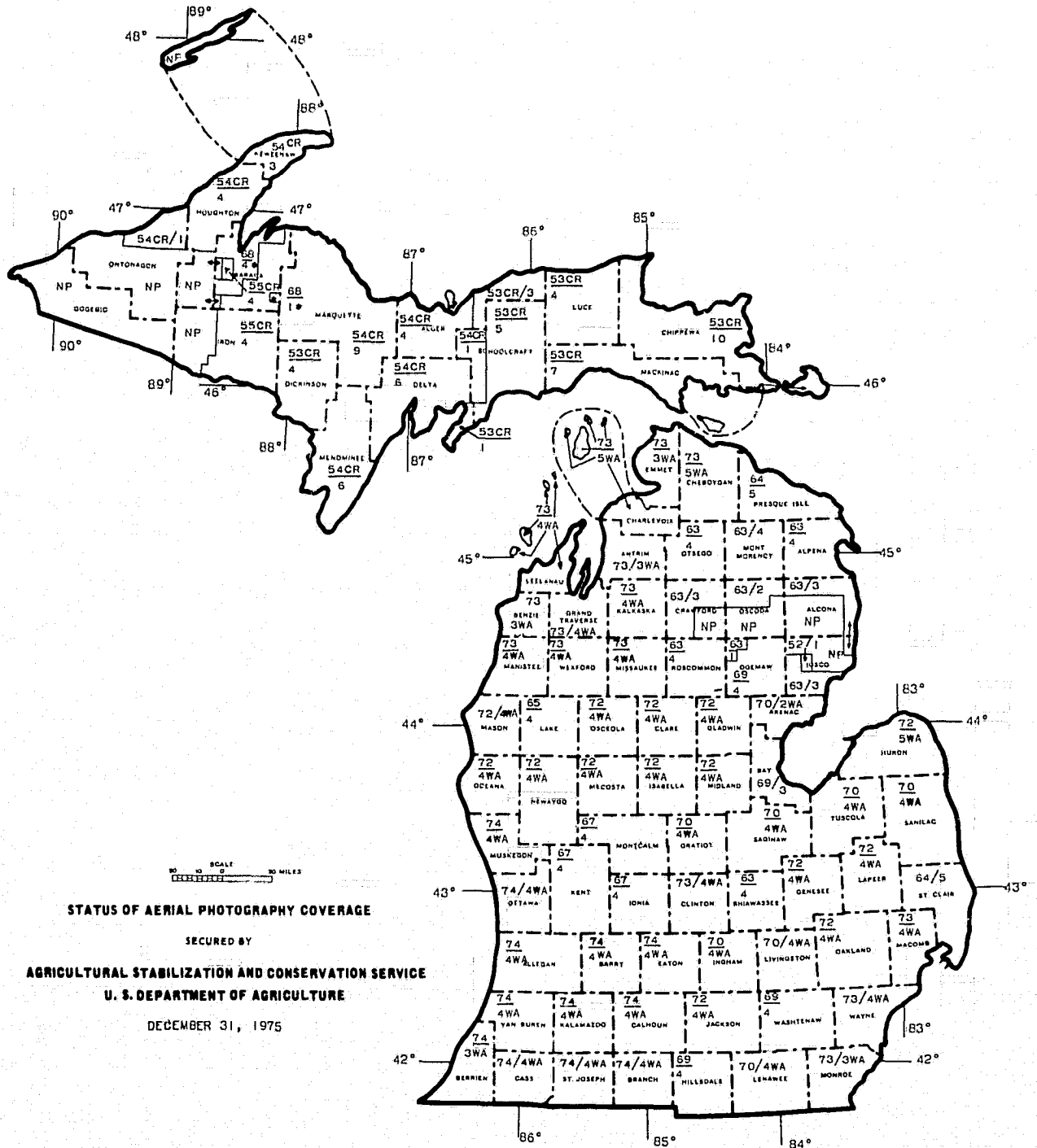


Figure 6.1.--Michigan Department of State Highways and Transportation Color Infrared Photo of the St. Ignace Area (part of original 9 by 9 inch frame).

ORIGINAL PAGE IS
OF POOR QUALITY

STATUS MAPS
OF
REGIONAL/COUNTY IMAGERY
OF MICHIGAN

MICHIGAN



STATUS OF AERIAL PHOTOGRAPHY COVERAGE
SECURED BY
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
U. S. DEPARTMENT OF AGRICULTURE
DECEMBER 31, 1975

PRECEDING PAGE BLANK NOT FILMED

LEGEND

AERIAL PHOTOGRAPHY COVERAGE SHOWN IS LATEST EXISTING COVERAGE SECURED BY ASCS (AND ITS PREDECESSOR AGENCIES, CSS, FKA, AND AAA).

OTHER ASCS PHOTOGRAPHY OLDER THAN THAT SHOWN IS AVAILABLE IN MANY INSTANCES. INQUIRIES ABOUT ITS AVAILABILITY MAY BE DIRECTED TO THE AERIAL PHOTOGRAPHY FIELD OFFICE.



OUTLINES PARTIAL COUNTY COVERAGE

IDENTIFIES AREAS UNDER CONTRACT

NP - NO ASCS COVERAGE

ALL ASCS PHOTOGRAPHY SECURED AT A SCALE OF 1:20,000 WITH 8 1/4-INCH LENS AND ON PANCHROMATIC FILM UNLESS OTHERWISE NOTED.

SYMBOLS USED TO IDENTIFY COVERAGE

INFRA-RED FILM ----- R
SCALE OF 1:10,000 ----- E
SCALE OF 1:12,000 ----- D
SCALE OF 1:15,840 ----- G
SCALE OF 1:40,000 ----- A
12-INCH LENS ----- Z
6-INCH LENS ----- W
NUMBER OF PHOTO-INDEX SHEETS ----- 4
YEAR MAJORITY COVERAGE FLOWN = (LAST TWO DIGITS OF YEAR)

EXAMPLE

75 ----- YEAR
JWA ----- 1:40,000 SCALE
L ----- 6-INCH LENS
----- NUMBER PHOTO-INDEX SHEETS

* THIS SYMBOL, FOLLOWING NUMBER OF PHOTO-INDEX SHEETS, INDICATES AREA COVERED BY SAME INDEX OR INDEXES STARRED IN THE COUNTY. OLDER COVERAGE OF AREAS PARTIALLY REPHOTOGRAPHED, IS APPROXIMATE ONLY.

REQUESTS FOR INFORMATION REGARDING ASCS AERIAL PHOTOGRAPHY SHOULD BE ADDRESSED TO:

AERIAL PHOTOGRAPHY FIELD OFFICE
USDA-ASCS-ADMINISTRATIVE SERVICES DIVISION
2505 PARLEY'S WAY
SALT LAKE CITY, UTAH 84109

REQUESTS FOR INFORMATION RELATIVE TO FOREST SERVICE AND SOIL CONSERVATION SERVICE AERIAL PHOTOGRAPHY SHOULD BE ADDRESSED TO:

ENGINEERING STAFF UNIT
FOREST SERVICE - USDA
WASHINGTON, D. C. 20250

CARTOGRAPHIC DIVISION
SOIL CONSERVATION SERVICE, USDA
FEDERAL BUILDING
HYATTSVILLE, MARYLAND 20784

ALL PHOTOGRAPHIC COVERAGE SECURED ON NITRATE FILM DURING YEARS OF 1936 THROUGH 1941 HAS BEEN TRANSFERRED TO NATIONAL ARCHIVES. REQUESTS FOR INFORMATION RELATIVE TO THIS COVERAGE SHOULD BE ADDRESSED TO:

NATIONAL ARCHIVES AND RECORDS SERVICE
CARTOGRAPHIC ARCHIVES DIVISION
GENERAL SERVICES ADMINISTRATION
6TH & PENNSYLVANIA AVENUE, N. W.
WASHINGTON, D. C. 20408



POSTAGE & FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR-101

OFFICIAL BUSINESS
Penalty for Private Use, \$300

ASCS-441
(3-17-77)

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Stabilization and Conservation Service

ORDER FOR AERIAL PHOTOGRAPHS

PURCHASER'S CHECK LIST

1. Read instructions on back of form.
2. Be sure correct entries are made in columns 1 through 5. Do not make entries in columns 6 through 10.
3. Read notice at bottom on front of form.
4. Be sure to enclose remittance.

(1) _____
PURCHASE ORDER NUMBER

(2) _____
PRINT OR TYPE - (SHIP TO)

(3) _____
(STREET ADDRESS)

(4) _____
(CITY, STATE AND ZIP CODE)

TOTAL REPRODUCTIONS	AMOUNT REMITTED \$	PHONE NUMBER
---------------------	-----------------------	--------------

IDENTIFICATION OF PHOTOGRAPHY	
STATE	COUNTY

FOR LABORATORY USE ONLY	
ORDER NO.	DATE
AMOUNT OF ORDER \$	REFUND \$

IMPORTANT: List roll and exposure numbers consecutively.

SIZE AND TYPE REPRODUCTIONS 1	QUANTITY EACH 2	CODE OR SYMBOL 3	ROLL NO. 4	EXPOSURE NO. 5	PROJECTION SETTING 6	E-W OR SWING 7	N-S OR TILT 8	CAN NO. 9
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

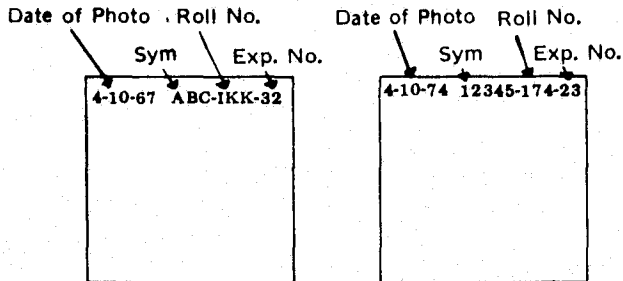
NOTICE: Normally orders will be made and shipped within 30 days after receipt.

PRINTED BY _____ INSPECTED BY _____ PAGE _____ OF _____

PLEASE DO NOT REMOVE CARBON PAPERS
(Submit This Copy With Your Order.)

GENERAL

ASCS aerial photography is generally available for about 80% of the nation, mainly in the agricultural areas. Exposures available are identified in either of the following ways:



If the photo identification is not known, you may make the coverage selection necessary to meet your requirements in any of the following ways:

- Furnish a map outlining your exact area of interest. We will then make the selection for you.
- Send a legal description of your area of interest for us to use in making the selection.
- Visit the local County ASCS Office serving your area of interest, for assistance.
- Purchase the photo index sheets covering your area and then select the individual prints best suited for your needs.

PRINT SIZES & TYPES OF REPRODUCTIONS

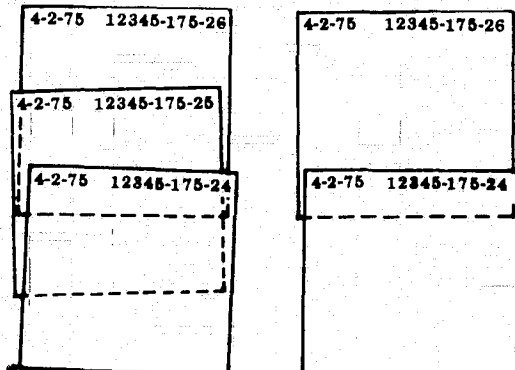
Contact Prints are the same size as aerial negatives, approximately 9 x 9 inches. ASCS aerial photography is flown at two different negative scales:

- 1:20,000 (1"=1667'), the area covered by a contact print is about 8 square miles.
- 1:40,000 (1"=3334'), the area covered by a contact print is about 32 square miles.

Prints are available with either stereoscopic or pictorial overlap.

Stereoscopic coverage requires each consecutively numbered print in the line of flight which gives an endlap of about 65% between adjacent prints.

Pictorial coverage requires alternate numbered prints in the line of flight resulting in an endlap between prints of about 30%.



Stereoscopic coverage (every photograph within line of flight).

Pictorial coverage (every other photograph within line of flight).

Contact prints are not available as sectionals or with scale accuracy

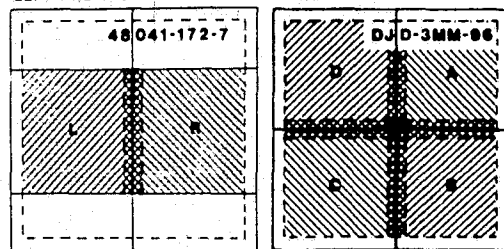
Enlargements from the aerial negative are available in the sizes and at the approximate scales shown in the following table:

SIZE	APPROX SCALE FROM 1 20 000 PHOTOGRAPHY	APPROX SCALE FROM 1 40 000 PHOTOGRAPHY
12" x 12"	1" = 1320'	1" = 2640'
12" x 12"	-----	1" = 1320' Sectional
17" x 17"	1" = 1000'	1" = 2000'
17" x 17"	-----	1" = 1000' Sectional
24" x 24"	1" = 660'	1" = 1320'
24" x 24"	1" = 330' Sectional	1" = 660' Sectional
38" x 38"	1" = 400'	1" = 800"
38" x 38"	1" = 200' Sectional	1" = 400' Sectional

Scales requiring "sectional" enlargements are made from approximately 1/4 of the negative. Standard sectional enlargements are available at no extra cost for the following portion of the negative.

APPROXIMATE AREAS OF NEGATIVE AVAILABLE AS SECTIONAL ENLARGEMENTS

LEFT AND RIGHT SECTIONAL QUADRANT SECTIONAL



The enlarged areas are indicated with crosshatch marks. There is some loss of image on the outer edge of the print due to overlap between SECTIONALS.

If you do not know your area of interest as related to the negative, we suggest a visit to the County ASCS Office in your area for assistance.

Photo indexes are available for all ASCS aerial photography. They show the assembly of prints covering each project area, generally a county or portion thereof. They are copied at a reduced scale, usually about 1" to the mile on 20 x 24 inch paper. If you are selecting a large quantity of prints or have a continuing need for this type of information, you may want to purchase the photo indexes which cover your area of interest.

Other Reproductions are available, transparencies, duplicate negatives, etc. Remittance is required before prints will be made. Make check or money order, payable to ASCS. Official purchase orders are accepted from tax supported Agencies.

IMPORTANT - On LABEL on face of order print or type items 1 thru 4 only

IDENTIFICATION OF PHOTOGRAPHY (EXAMPLE ONLY)

SIZE & TYPE OF REPRODUCTION	QUANTITY	CODE OR SYMBOL	ROLL NO	EXPOSURE NO
1	2	3	4	5
24" x 24" Enlargement	1	D J D	3 A	88
24" x 24" Transparency	1	48041	173	89

Column 1. Enter size 9 1/2" x 9 1/2", 24" x 24" etc., 2nd Type of Reproduction. When ordering indexes enter "Photo Index" and list sheet numbers and year of photography.

Column 2. Enter number of prints wanted from each exposure number.

Column 3, 4, and 5. Enter the code or symbol, roll number, and the exposure number of the negative. Exposure numbers may be listed in inclusive sequences. This information is in the upper right corner of each photograph and may be obtained from photo-index sheets or from the Agricultural Stabilization and Conservation Office in the county where the farm or area photographed is located.

ADDRESS ORDERS FOR PHOTOGRAPHS TO: Aerial Photography Field Office, ASCS-USDA, 2222 West 2300 South, P.O. Box 30010, Salt Lake City, Utah 84125

ASCS-441A
(3-10-77)

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Stabilization and Conservation Service

BLACK AND WHITE AERIAL PHOTOGRAPHY
Prices Effective May 1, 1977

INSTRUCTIONS

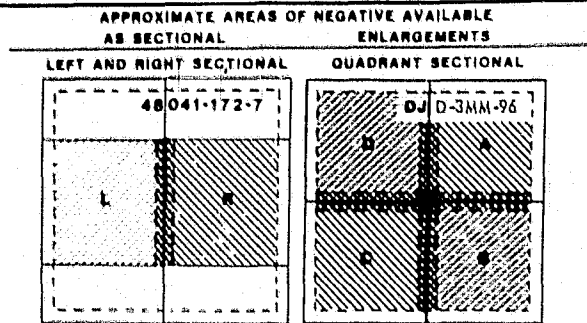
IMPORTANT - On LABEL on face of order print or type items 1 thru 4 only.

IDENTIFICATION OF PHOTOGRAPHY (EXAMPLE ONLY)				
PAPER SIZE	QUANTITY	CODE OR SYMBOL	ROLL NO	EXPOSURE NO
1	2	3	4	5
24" x 24"	1	D J D	J A	96
24" x 24"	1	48041	173	89

Column 1. Enter paper size 9 1/2" x 9 1/2", 24" x 24", etc. When ordering indexes enter "Photo Index" and list sheet numbers and year of photography.

Column 2. Enter number of prints wanted from each exposure number.

Columns 3, 4, and 5. Enter the code or symbol, roll number, and the exposure number of the negative. Exposure numbers may be listed in inclusive sequences. This information is in the upper right corner of each photograph and may be obtained from photo-index sheets or from the Agricultural Stabilization and Conservation Office in the county where the farm or area photographed is located.



The enlarged areas are indicated with crosshatch marks. There is some loss of image on the outer edge of the print due to overlap between SECTIONALS.

If you do not know your area of interest as related to the negative, we suggest a visit to the ASCS office for assistance.

PRICES (No Quantity Discount)

Remittance is required before prints will be made, and must be by check, money order, or draft payable to ASCS. Stamps will not be accepted.

TYPE OF REPRODUCTION	SIZE	APPROX SCALE FROM 1 20 000 PHOTOGRAPHY	APPROX SCALE FROM 1 40 000 PHOTOGRAPHY	COST PER PAPER PRINT	1/2 POLYESTER BASE POSITIVE TRANSPARENCIES
Contact Print ●	9 1/2" x 9 1/2"	1" = 1667'	1" = 3334'	\$ 2.00	\$3.00
Contact Print ●●	9 1/2" x 9 1/2"	1" = 1667'	1" = 3334'	3.00	
Enlargement	12" x 12"	1" = 1320'	1" = 2640'	4.00	5.00
Enlargement	12" x 12"	.....	1" = 1320' Sectional	4.00	5.00
Enlargement	17" x 17"	1" = 1000'	1" = 2000'	5.00	6.00
Enlargement	17" x 17"	.....	1" = 1000' Sectional	5.00	6.00
Enlargement	24" x 24"	1" = 660'	1" = 1320'	6.50	10.00
Enlargement	24" x 24"	1" = 330' Sectional	1" = 660' Sectional	6.50	10.00
Enlargement	38" x 38"	1" = 400'	1" = 800"	15.00	17.00
Enlargement	38" x 38"	1" = 200' Sectional	1" = 400' Sectional	15.00	17.00
Photo Index (No. of sheets per co. depends on size of co.)	20" x 24"	.....	.....	5.00	6.00

* Contact prints are not available as sectional, or with scale accuracy.

** Cronapaque or equal

1/ For screened transparencies, add \$1.50 per print. When ordering this product, specify "Transparency" on the order.

ADDRESS ORDERS FOR PHOTOGRAPHS TO:

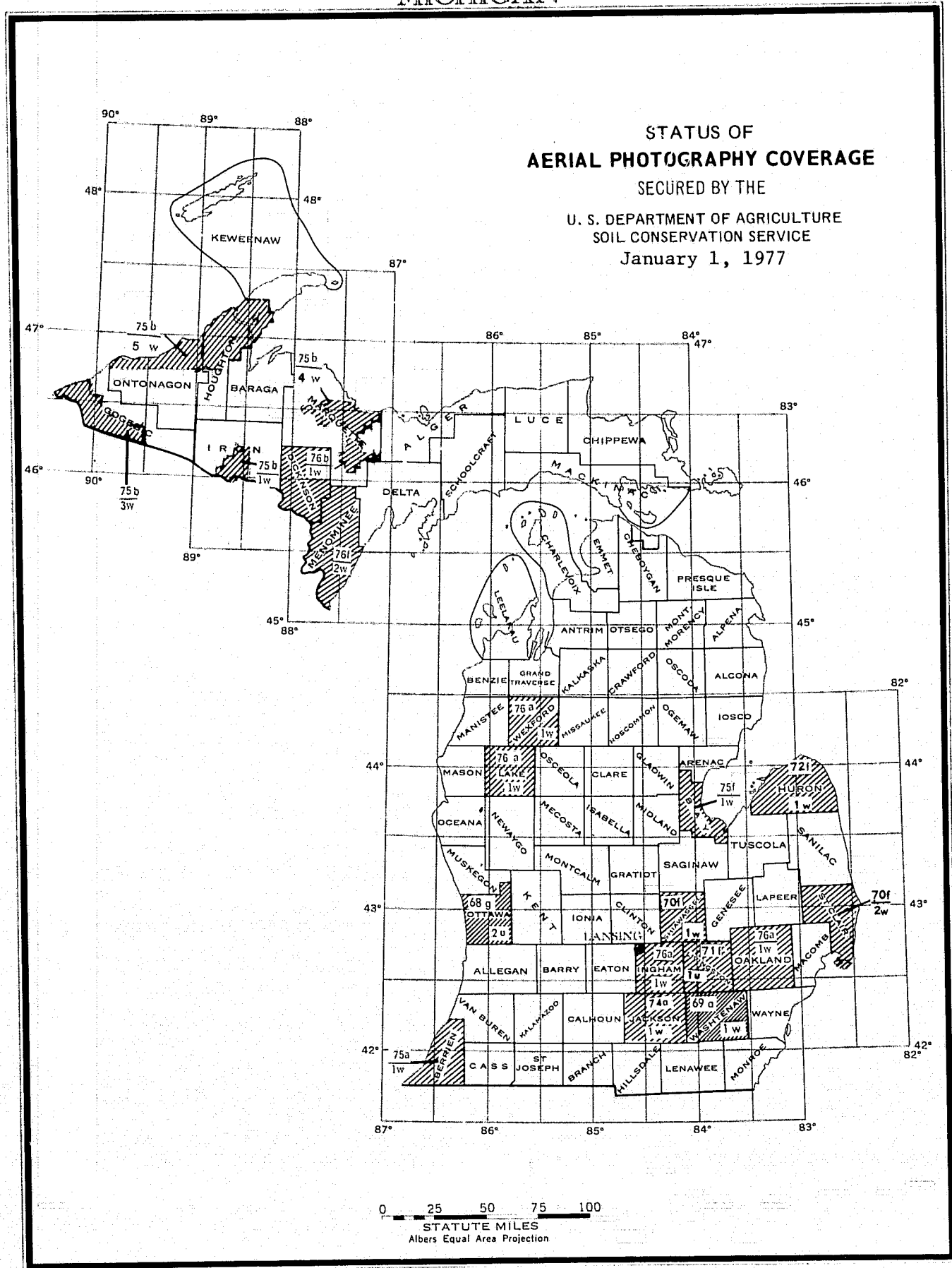
Aerial Photography Field Office
USDA-ASCS
2222 West, 2300 South
P.O. Box 30010
Salt Lake City, UT 84125

Orders for photography not held by Agricultural Stabilization and Conservation Service should be forwarded to the holding agency; if address is not known, forward to the Chief, Aerial Photography Field Office.

GPO 914-884

MICHIGAN

STATUS OF AERIAL PHOTOGRAPHY COVERAGE SECURED BY THE U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE January 1, 1977



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
STATUS OF AERIAL PHOTOGRAPHY

Areas for which aerial photography coverage has been secured by the Soil Conservation Service (SCS) are hatched or shaded on the map which appears on the reverse side. Where areas have been re flown, only the latest coverage is indicated.

Symbols used to identify the scales of surveys and the focal lengths of the camera lenses are:

<u>Symbols</u>	<u>Scale*</u>	<u>Symbol</u>	<u>Focal Length*</u>
a	1:31,680 to 1:44,000	u	3.4 to 4.0 inches
b	1:20,000	v	5.2 to 5.6 inches
c	1:15,840	w	6 inches
d	1:12,000	x	8-1/4 inches
e	1:10,000		
f	1:45,000 to 1:55,000		
g	1:56,000 to 1:65,000		
h	1:66,000 to 1:85,000		

*Where no symbol is shown for scale the scale is 1:20,000. Where no symbol is shown for focal length the focal length is 8-1/4 inches.

In addition to the above symbols, the year during which the majority of coverage was flown and the number of photo index sheets required to cover the survey project or county unit are indicated. For example, the symbols "65c" and "2w" indicate the survey was flown in 1965, the scale is 1:15,840, a 6-inch focal length lens was used, and two photo index sheets are required to cover the project or county. If a survey area does not have a year or index sheet indication, the survey is under contract but not completed.

Where two or more projects join together at boundaries other than county lines, the direction of hatch lines has been varied so that the extent of each project may be ascertained. Where only one set of symbols is shown within a hatch pattern that extends into more than one county, that set of symbols applies to the entire project, and the indicated number of index sheets will cover the entire project. But where a hatch pattern extends through two or more counties and a separate set of symbols is shown in each of the counties, the indicated number of index sheets will cover only the county in which the symbol appears.

In addition to the standard types of contact prints and enlargements projected to approximate scales, accurately scaled photographic reproductions in sheets of uniform dimension and with systematic layout are available for most of those areas flown at the smaller scales identified with symbols a, f, g and h. These reproductions are produced from negatives which have been rectified and scaled to a control network essential to obtain best average scale of imagery throughout each sheet. Sizes, scales, and cost of these reproductions are available upon request.

Address all inquiries concerning this coverage to Cartographic Division, Soil Conservation Service, Federal Building, Hyattsville, Maryland 20782.

All SCS photography flown prior to 1940, and several surveys flown through the period of 1940 to 1942, none of which appears on this status map, have been transferred to the National Archives and Records Service (NA), Cartographic Branch, General Services Administration, Washington, D. C. 20408. Inquiries and orders for reproductions from these earlier surveys should be directed to the NA.

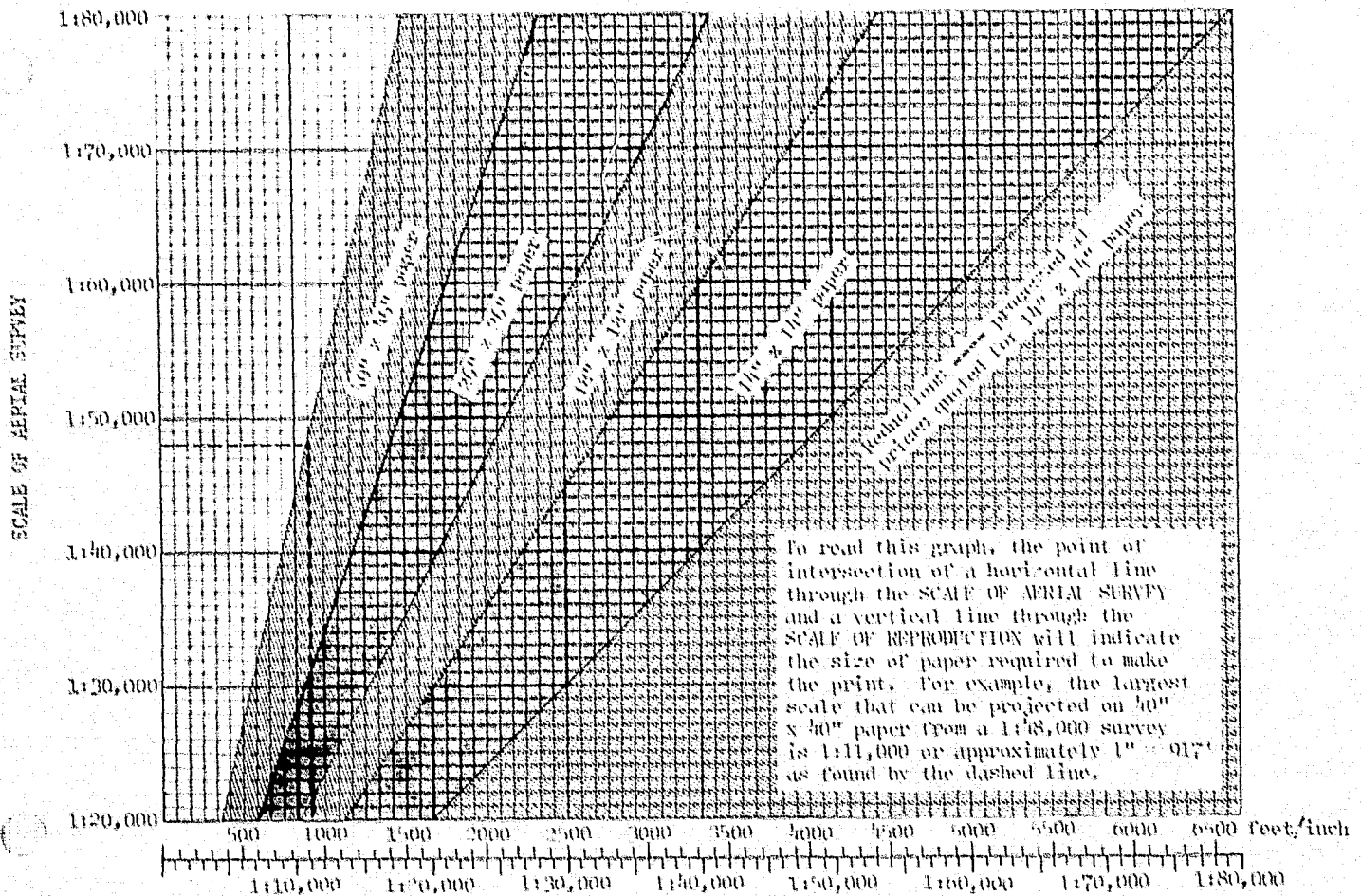
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
INSTRUCTIONS TO PURCHASERS OF AERIAL PHOTOGRAPHIC REPRODUCTIONS

The Soil Conservation Service has aerial photographic laboratories which may furnish reproductions under the following conditions:

1. Photographic reproductions will not be made until payment for them has been received. Please make check, money order, or draft payable to Soil Conservation Service, U.S.D.A. Orders or requests for information should be addressed to Cartographic Division, Soil Conservation Service, Federal Building, Hyattsville, Maryland 20782.
2. Only reproductions of aerial or other photographs, mosaics, and maps that have been obtained in connection with the authorized work of the Soil Conservation Service are available.
3. Since regular Service activities must be given precedence, there may be some delay in filling orders. Normally orders will be filled within 30 days after receipt.
4. Photographic reproductions showing classified areas will not be sold without military or other necessary clearance.
5. Purchasers shall not use photographic reproductions obtained from the Soil Conservation Service to show, by implication or otherwise, that the Soil Conservation Service endorses any commercial product. The Soil Conservation Service will not furnish reproductions when it is believed that they may be used for such purposes.
6. This Service does not distribute or require the use of order forms.
7. Shipment by parcel post or railway express is prepaid. Special charges for shipment by air express or air mail and special delivery are paid by the purchaser.

SCALES OF REPRODUCTIONS ATTAINABLE
ON STOCK SIZES OF PHOTOGRAPHIC PAPERS

**ORIGINAL PAGE IS
OF POOR QUALITY**



PRICES FOR AERIAL PHOTOGRAPHIC REPRODUCTIONS
Prices Effective May 1, 1977

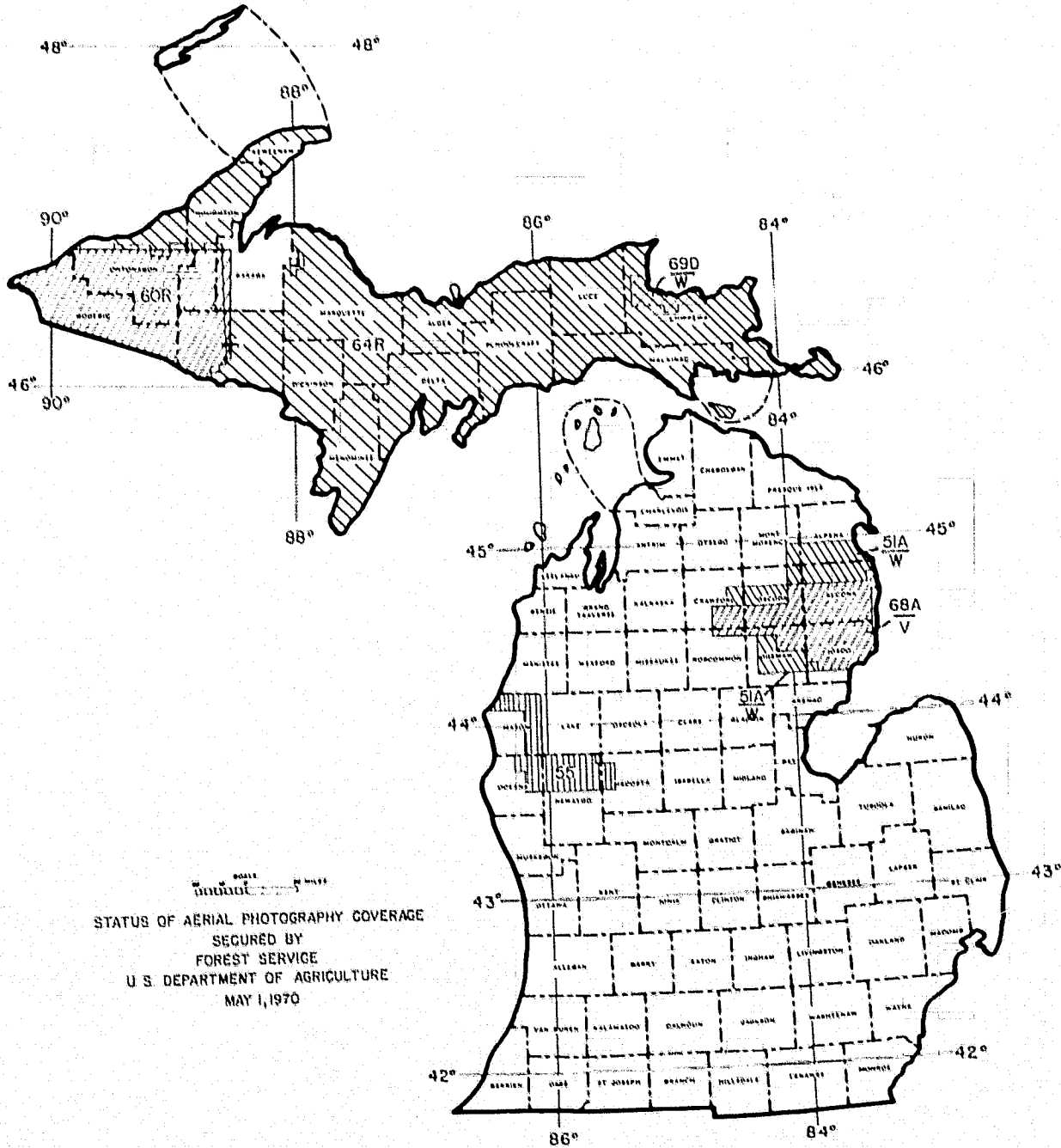
The prices listed below are effective until further notice. The prices given are for items most generally requested. Information regarding other available items will be furnished upon receipt of inquiry outlining needs.

All reproductions are furnished trimmed, and printed on double-weight semimatte paper unless otherwise specified.

In each case, the scale of reproduction set forth below refers to the largest scale generally reproduced on the size of paper indicated. The approximate scale at which enlargements are desired should be furnished with each order. See graphic portrayal of scales and sizes of prints.

Class and Size of Reproduction	Scale of Original Survey	Approximate Scale of Reproduction	Cost Each Regardless of Quantity
Photo indexes 20" x 24"	1:20,000	1" = 1 mile	\$5.00
20" x 24"	1:38,000 and smaller	1" = 2 miles	5.00
Contact prints 10" x 10"			2.00
Enlargements 14" x 14"	1:20,000 1:38,000 1:48,000 1:58,000 1:75,000	1" = 1320' 1" = 2200' 1" = 2640' 1" = 3200' 1" = 4200'	4.00
Enlargements 18" x 18"	1:20,000 1:38,000 1:48,000 1:58,000 1:75,000	1" = 1000' 1" = 1800' 1" = 2200' 1" = 2640' 1" = 3200'	5.00
Enlargements 26" x 26"	1:20,000 1:38,000 1:48,000 1:58,000 1:75,000	1" = 660' 1" = 1320' 1" = 1500' 1" = 1800' 1" = 2200'	6.50
Enlargements 40" x 40"	1:20,000 1:38,000 1:48,000 1:58,000 1:75,000	1" = 400' 1" = 800' 1" = 1000' 1" = 1320' 1" = 1500'	15.00

MICHIGAN

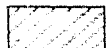


STATUS OF AERIAL PHOTOGRAPHY COVERAGE
SECURED BY
FOREST SERVICE
U. S. DEPARTMENT OF AGRICULTURE
MAY 1, 1970

ORIGINAL PAGE IS
OF POOR QUALITY

AERIAL PHOTOGRAPHY INFORMATION

Older Forest Service photography than that shown is available for some areas. Inquiries about its availability may be directed to the Regional Office serving the State involved.



Photographic Coverage



Areas Under Contract

All Forest Service photography is at a scale of 1:15,840 with 8-1/4 inch lens on panchromatic film unless otherwise noted. When an exception occurs, only the exception will be noted; thus, 1:15,840 scale taken in 1964 with 8-1/4 inch lens on infrared film will be shown as 64R.

Data about aerial projects shown on the face of the map are indicated by fractional figures. The numerator consists of two digits and a letter designating the year photography was completed and the scale of photography. An emulsion other than panchromatic is indicated by the use of an additional letter.

Key is as follows:

A - 1:31,680 or smaller scales
 B - 1:20,000
 D - 1:12,000
 E - 1:10,000
 R - Infrared photography
 C - Color photography
 CR - Color infrared photography

The denominator designates the focal length of the camera lens.

V - 3-1/2" lens
 W - 6" lens
 X - 8-1/4" lens
 Z - 12" lens

Example:

$\frac{65B}{X}$ = Photography completed 1965, scale 1:20,000
 8-1/4" focal length lens

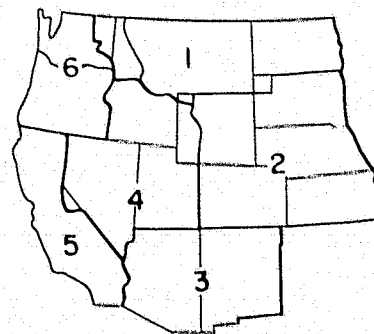
PHOTOGRAPHIC REPRODUCTIONS SHOWING CLASSIFIED AREAS
 WILL NOT BE SOLD WITHOUT MILITARY OR OTHER NECESSARY CLEARANCE

Inquiries and orders for Forest Service photography in the western United States within the respective numbered Regions as shown on the map to the right should be addressed to the Regional Forester, Forest Service, as follows:

1. Federal Building, Missoula, Montana 59801
2. Federal Center Bldg. No. 85, Denver, Colorado 80225
3. Federal Bldg., 324 - 25th St., Ogden, Utah 84401
4. Federal Bldg., 324 - 25th St., Ogden, Utah 84401
5. 630 Sansome Street, San Francisco, California 94111
6. Post Office Box 3623, Portland, Oregon 97208

For Alaska: Regional Forester, Forest Service, Box 1628, Juneau, Alaska 99801

For United States not shown on the map at right, address Division of Engineering, Forest Service, USDA, Washington, D. C. 20250.



For information concerning ASCS aerial photography, address inquiries to Aerial Photography Division, Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture, Washington, D. C. 20250.

For information concerning SCS aerial photography, address inquiries to Director, Cartographic Division, Soil Conservation Service, U. S. Department of Agriculture, Washington, D. C. 20250.

INSTRUCTIONS FOR COMPLETING ORDER FORM

NOTE BOTH BLACK & WHITE AND COLOR PRINTS ARE AVAILABLE FROM COLOR NEGATIVES.

Column 1. Enter the kind of reproductions such as black & white or color, whether contact or enlargement (state enlargement factor). Unless otherwise specified, reproductions will be on resin coated doubleweight paper.

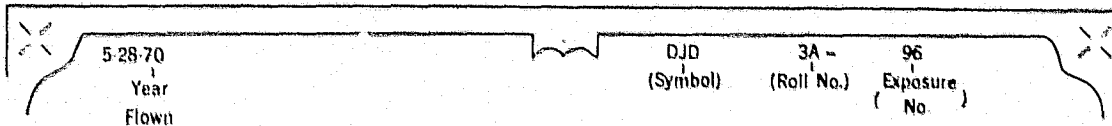
Column 2. Enter the quantity of reproductions desired from each negative on a line.

Column 3. Enter year flown (see examples below).

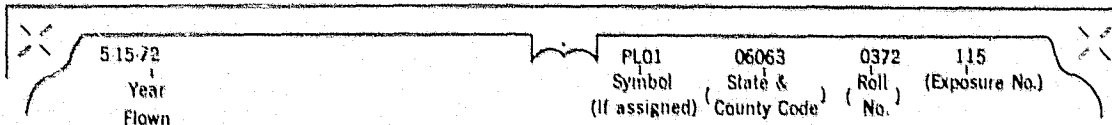
Column 4. Enter Symbol (i.e. DJD, PL 01, etc.), if assigned, as shown in examples.

Columns 5, 6, and 7 (As applicable) Enter State and County Code, roll number and exposure number of the negative. Exposure numbers should be listed in inclusive sequences. This information is in the upper right hand corner of each photograph as shown in examples, and may be obtained from Photo Indexes in the Regional Office, Forest Supervisor's Office or Ranger District Office where the area photographed is located.

Identification of Aerial Photography, 1971 and prior years

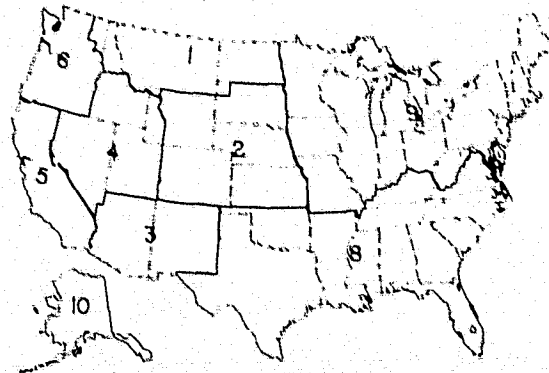


Identification of Aerial Photography, 1972 and later



PHOTOGRAPHIC REPRODUCTIONS SHOWING CLASSIFIED AREAS WILL NOT BE SOLD WITHOUT MILITARY OR OTHER NECESSARY CLEARANCE
Send Inquiries and orders for Forest Service Photography within the respective numbered regions as shown on the map at right to the following:

1. Regional Forester, U.S. Forest Service
Federal Building, Missoula, Montana 59801
2. Regional Forester, U.S. Forest Service
Federal Center, Bldg. 85, Denver, Colorado 80225
3. Regional Forester, U.S. Forest Service
Federal Building, 324-25th St., Ogden, Utah 84401
4. Regional Forester, U.S. Forest Service
Federal Building 324-25th St., Ogden, Utah 84401
5. Regional Forester, U.S. Forest Service
Printing and Reproduction Section Room 548
630 Sansome St., San Francisco, California 94111
6. Regional Forester, U.S. Forest Service
P.O. Box 3623, Portland, Oregon 97208
8. Regional Forester, U.S. Forest Service
1720 Peachtree Road N.W., Atlanta, Ga. 30309
9. Regional Forester, U.S. Forest Service
633 W. Wisconsin Ave., Milwaukee, Wisconsin 53203
10. Regional Forester, U.S. Forest Service
P.O. Box 1628, Juneau, Alaska 99801



General Information is also available from:

Division of Engineering Forest Service USDA, Washington D.C. 20250

PRICES FOR PHOTOGRAPHIC REPRODUCTIONS OTHER THAN AERIAL

MINIMUM CHARGE \$1 PER ORDER

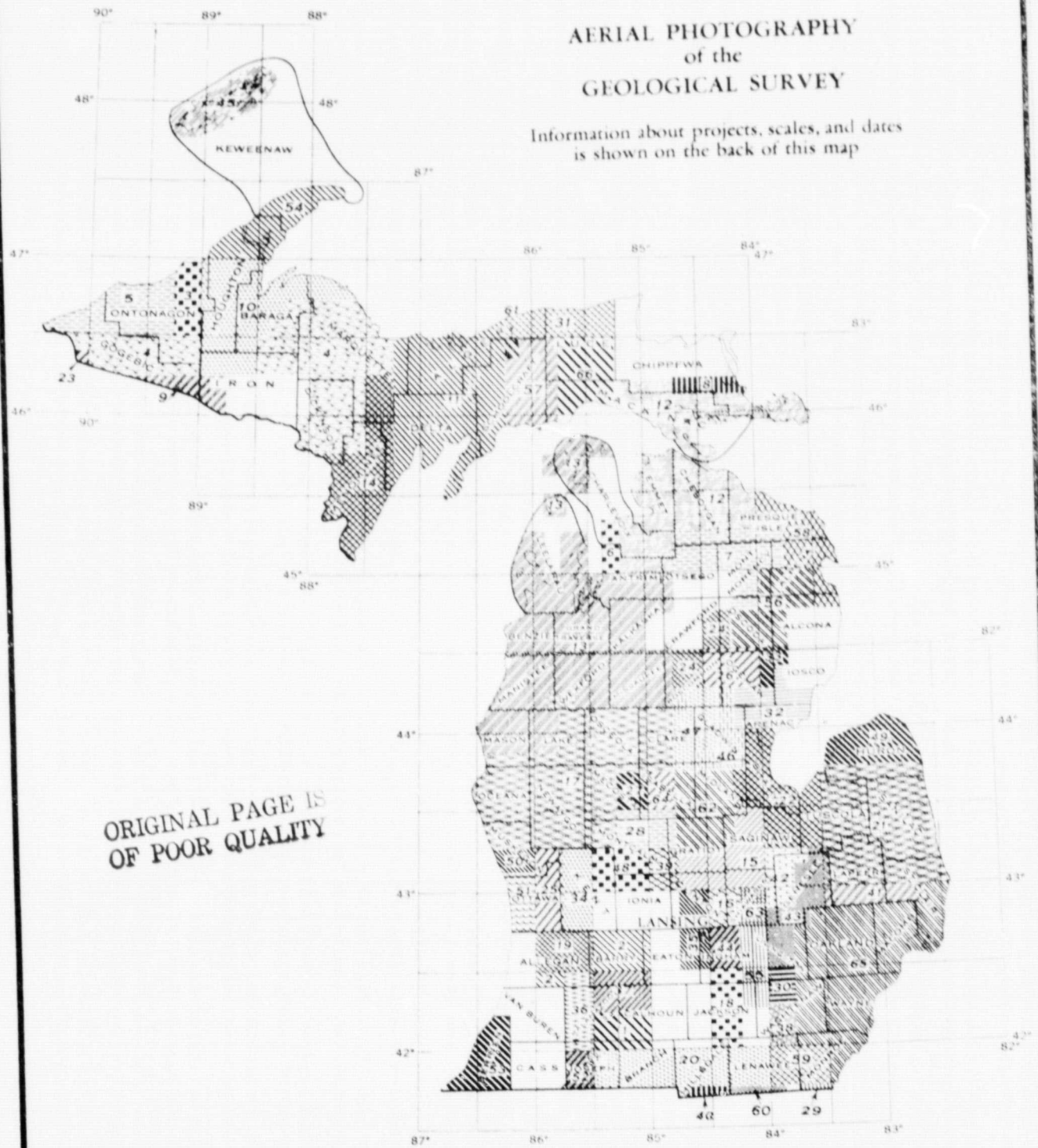
All sizes are approximate

An extra charge may be necessary for excessive laboratory time caused by any extra instructions from the purchaser.

<u>CLASS OF WORK AND SIZE</u>	<u>UNIT</u>	<u>PRICE</u>	<u>CLASS OF WORK AND SIZE</u>	<u>UNIT</u>	<u>PRICE</u>
Contact and Projection Prints			Copy Negatives and Film Positives		
Up to 8x10	Ea.	2.70	4x5	Ea.	3.60
11x14	Ea.	4.20	5x7	Ea.	3.90
Larger Sizes	Sq. Ft.	3.60	8x10	Ea.	4.50
Mounting	Sq. Ft.	2.20	11x14	Ea.	7.00

AERIAL PHOTOGRAPHY
of the
GEOLOGICAL SURVEY

Information about projects, scales, and dates
is shown on the back of this map



ORIGINAL PAGE IS
OF POOR QUALITY

Duplicate coverage, of earlier date,
is not shown.



MICHIGAN

Prints from negatives held by the Geological Survey, for the projects listed below may be obtained from the National Cartographic Information Center, U.S. Geological Survey National Center (507), Reston, Virginia 22092.

The date and scale of photography are shown as 65/24 - 1964 photography at 1:25,000 scale. The numbers listed below refer to project areas of the map on the reverse side of this sheet. The area designated by this number may contain numerous photo-indexes and also many individual prints.

(The lens focal length is 6", except as noted.)

NO.	PROJ. SYMB.	DATE/SCALE	NO.	PROJ. SYMB.	DATE/SCALE	NO.	PROJ. SYMB.	DATE/SCALE	NO.	PROJ. SYMB.	DATE/SCALE
1	CY ²	46/26	46	VBVP	68/13						
2	DE-A	47/37	47	VBVP	68/20						
3	HL ³	48/27	48	VCMT-S	69/46						
4	OI	51/24	49	VCDD	69/34						
5	MJ	54/24	50	VCNO	69/14						
6	RY	52/24	51	VCNO	69/20						
7	RE	52/24	52	VCEP	69/14						
8	UE	52/17	53	VCEV	69/21						
9	WA	52/17	54	55-AM-39	56/30						
10	ZI	53/40	55	VCHW	70/19						
11	VBL	53/17	56	VCSD	71/23						
12	WE	56/17	57	VCSC	71/15						
13	VBF	54/17	58	VCSE	71/20						
14	VDH	54/17	59	SWER	71/23						
15	VDT	54/24	60	VCRF	71/24						
16	VCLX	70/20	61	VCSC	72/15						
17	VBF	55/17	62	SWFX	72/25						
18	VGIN	70/20	63	VCZD	72/20						
19	VFW	57/18	64	SWEX	72/35						
20	VRS	58/17	65	VDTA	73/24						
21	VTV	59/17	66	VCEH	73/21						
22	VCEW	73/24									
23	VDGG	73/20									
24	VUU	60/17									
25	VDIK	73/20									
26	VAFP	61/18									
27	VANZ	63/18									
28	VAQL	63/18									
29	VARA	63/24									
30	VAUB	64/18									
31	VAUZ	64/18									
32	VAXN	65/12									
33	VAXN	65/18									
34	VCZC	72/32									
35	VDIF	73/30									
36	VDIE	73/30									
37	VDCY	73/32									
38	VBEC	66/18									
39	VBCT	66/21									
40	VDDG	73/24									
41	VBOW	67/24									
42	VBPC	67/13									
43	VBPC	67/19									
44	VBRD	67/20									
45	55-AM-37	57/36									

¹Focal length 3.5"

²Focal length 4"

³Focal length 5.2 "

MICHIGAN

Prints from the negatives held by the Geological Survey, for the projects listed below may be obtained from the Map Information Office, Washington, D.C. 2024. Instructions for ordering prints are given in the folder, AERIAL PHOTOGRAPHIC REPRODUCTIONS.

(Lens focal length 6 inches, except as noted)

NO.	PROJECT SYMBOL	DATE	SCALE	FLIGHT DIRECTION	PHOTO INDEX SIZE
1	108-M	1953	1:60,000	EW	Irregular
2	114-AB	1953	1:50,000	NS	Irregular
3	55-AM-36	1956	1:60,000	EW	Irregular
4	AF 59-35	1960	1:60,000	EW	1° X 2°
5	95A	1952	1:69,000	NS	Irregular



ORDER FORM

AERIAL MAPPING PHOTOGRAPHY

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Return
completed
form to
the facility
nearest you.

DATE _____

NAME MR _____ ACCOUNT NO. _____
MS (FIRST) (INITIAL) (LAST) (IF KNOWN)

COMPANY _____ PHONE (Bus.) _____
(IF BUSINESS ASSOCIATED)

ADDRESS _____ PHONE (Home) _____

CITY _____ STATE _____ ZIP _____ Your Ref. No. _____
(P.O. GOVT ACCT OR OTHER)

NCIC HEADQUARTERS
U.S. Geological Survey
507 National Center
Reston, VA 22092
FTS: 928-6045
COMM: 703-860-6045

PLEASE TYPE OR PRINT PLAINLY

PHOTO INDEXES

PHOTO INDEX NO.	PRODUCT CODE	QTY.	UNIT PRICE	TOTAL PRICE

EROS APPLICATIONS
FACILITY
NSTL
U.S. Geological Survey
Bay St. Louis, MS 39520
FTS: 494-3541
COMM: 688-3472

AERIAL MAPPING PHOTOGRAPHY

PHOTO IDENTIFICATION				PRODUCT CODE	NO. OF FRAMES	NO. OF COPIES	QTY.	UNIT PRICE	TOTAL PRICE
PROJECT	ROLL	FIRST FRAME	LAST FRAME						

NCIC MID-CONTINENT
U.S. Geological Survey
1400 Independence Rd.
Rolla, MO 65401
FTS: 276-9107
COMM: 314-364-3680

STANDARD PRODUCTS

BLACK AND WHITE

IMAGE SIZE	FORMAT	PRODUCT CODE
22.9cm (9 in.)	FILM POSITIVE	13
22.9cm (9 in.)	FILM NEGATIVE	03
22.9cm (9 in.)	PAPER	23
45.7cm (18 in.)	PAPER	24
68.6cm (27 in.)	PAPER	25
91.4cm (36 in.)	PAPER	26

COLOR/INFRARED

IMAGE SIZE	FORMAT	PRODUCT CODE
22.9cm (9 in.)	FILM POSITIVE	63
22.9cm (9 in.)	PAPER	53
45.7cm (18 in.)	PAPER	64
68.6cm (27 in.)	PAPER	65
91.4cm (36 in.)	PAPER	66

TOTAL ABOVE _____

TOTAL FROM PREVIOUS SHEETS _____

TOTAL COST _____

A	
B	
C	

EROS DATA CENTER
U.S. Geological Survey
Sioux Falls, SD 57198
FTS: 784-7151
COMM: 605-594-6511

BLACK AND WHITE PHOTO INDEXES

FILM SOURCE	FORMAT	PRODUCT CODE
B & W SIZE A	25.4x30.5cm (10x12 in.)	36
B & W SIZE B*	OTHER	37

NOTE: Please refer to
current price list
for cost determination.

PAYMENT MADE BY:

CHECK, MONEY ORDER

PURCHASE ORDER

GOVT. ACCOUNT

NCIC ROCKY MOUNTAIN
U.S. Geological Survey
Stop 510, Box 25046
Denver Federal Ctr.
Denver, CO 80225
FTS: 234-2326
COMM: 303-234-2326

COMMENTS: _____

NCIC WESTERN
U.S. Geological Survey
345 Middlefield Rd.
Menlo Park, CA 94025
FTS: 467-2427
COMM: 415-323-2427

HOW TO ORDER AERIAL MAPPING PHOTOGRAPHY

This order form is used to order either PHOTO INDEXES or INDIVIDUAL PHOTOGRAPHS of AERIAL MAPPING PHOTOGRAPHY.

Please provide the following information in the indicated areas of the order form:

- A. List your complete NAME, ADDRESS, ZIP CODE, and name of your COMPANY if applicable.
- B. List a PHONE NUMBER where you can be contacted during business hours.
- C. If you have had previous business with THAT FACILITY, please list your ACCOUNT NUMBER, if known.
- D. Enter the complete PHOTO IDENTIFICATION NUMBER as follows:

PHOTO INDEX: This number can be transcribed directly from a computer listing. Format size must be ordered according to available FILM SOURCE. Size A is 10" x 12". Size B is all sizes larger than 10" x 12", with most 20" x 24".

INDIVIDUAL PHOTOGRAPHS: This number can be transcribed directly from a PHOTO INDEX, by selecting the PROJECT, ROLL and FRAME NO. from the respective photographs. If only one frame of photography is being ordered, the column identified as LAST FRAME can be ignored, however, if more than one consecutive frame is required, please complete both the FIRST and LAST FRAME columns.

- E. REVIEW the STANDARD PRODUCTS TABLE on the order form and determine the type of PRODUCT desired.
- F. Enter the PRODUCT CODE of the type product being ordered from the STANDARD PRODUCTS TABLE.
- G. If you are ordering MORE than one photograph from a roll, enter the TOTAL in the NO. OF FRAMES column. Example: FIRST FRAME - 106; LAST FRAME - 112; NO. OF FRAMES = 7.
- H. The COMMENTS portion is completed only when a CUSTOM PRODUCT is desired and you want to specify the parameters. Refer to the current price list for custom product cost determination.
- I. Enter the NUMBER of copies being ordered of that product in the QUANTITY column. When the NO. OF FRAMES column reflects more than one, it will be necessary to MULTIPLY that figure times the number of copies to derive the QUANTITY figure.
- J. Enter the UNIT PRICE of the product as reflected on the current PRICE LIST.
- K. MULTIPLY the figure in the QUANTITY column by the UNIT PRICE, and enter the result in the TOTAL PRICE column.
- L. REPEAT the above for each product ordered.
- M. TOTAL the costs of all products ordered on that form and enter the result in BLOCK A. TOTAL ABOVE.
- N. If more than one order form is required, enter the sum of the figures in BLOCKS A in BLOCK B of the last order form.
- O. Enter the SUM of BLOCK A and BLOCK B in BLOCK C, TOTAL COST.
- P. Indicate the TYPE of payment being made with a CHECK MARK. Make all drafts payable to U.S. GEOLOGICAL SURVEY. DO NOT SEND CASH.
- Q. Mail ORDER FORM(S) and PAYMENT to the FACILITY NEAREST YOU. If payment has been previously forwarded, the order form(s) must be mailed to the same facility.

INDEX
TO
REGIONAL/COUNTY IMAGERY
OF MICHIGAN

REGIONAL/COUNTY IMAGERY

AGENCY CODES

<u>CODE</u>	<u>AGENCY*</u>
ABRAMS	Abrams Aerial Survey Corporation
ASCS	Agricultural Stabilization and Conservation Service
AERO	Aero Service Corporation
BENDIX	Bendix Aerospace Systems Division
CAPITOL	Capitol Air Survey
CHICAGO	Chicago Aerial Survey
DMA	Defense Mapping Agency
DNR	Michigan Department of Natural Resources
HURD	Mark Hurd Aerial Surveys, Inc.
MDSHT	Michigan Department of State Highways and Transportation
MSU/RSP	Michigan State University, Remote Sensing Project
NARS	National Archives and Record Service
SCMPDC	Southcentral Michigan Planning and Development Council
SCS	Soil Conservation Service
SEMCOG	Southeast Michigan Council of Governments
STEREO	StereoFoto, Inc.
TCRPC	Tri-County Regional Planning Commission
USFS	Forest Service, U.S. Department of Agriculture
USGS	U.S. Geological Survey
WMRPC	West Michigan Regional Planning Commission
WMSRDC	West Michigan Shoreline Regional Development Commission

* Addresses in Appendix B.

NOTE: "p" after date in the index indicates partial coverage of county.

INDEX TO REGIONAL/COUNTY IMAGERY
 COMPILED JUNE, 1977

COUNTY	YEAR	SCALE	FILM	AGENCY
ALCONA	1938	1:20000	PAN	NARS
	1951 P	1:31680	PAN	USFS
	1952 P	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1960 P P	1:15840	BWIR	USFS
	1963	1:20000	PAN	ASCS
	1968 P P	1:72000	PAN	USFS
	1971 P	1:20000	PAN	USGS
	1971 P	1:23000	PAN	USGS
	1973	1:36000	CIR	MOSHT
	1974 P	1:15840	BWIR	USFS
	ALGER	1939	1:20000	PAN	NARS
1953 P		1:17000	PAN	USGS
1953		1:60000	PAN	USGS
1953 P		1:15840	BWIR	ASCS
1954 P		1:15840	BWIR	ASCS
1961		1:9600	PAN	ABRAMS
1964		1:15840	BWIR	USFS
1970 P		1:60000	PAN	USFS
1972		1:15840	COL	USFS
1974 P		1:15840	BWIR	USFS
1975 P		1:80000	PAN	USGS
1976 P		1:15000	PAN	USGS
ALLEGAN		1938	1:20000	PAN	NARS
	1947 P	1:37000	PAN	USGS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1956	1:60000	PAN	USGS
	1957 P	1:18000	PAN	USGS
	1960	1:20000	PAN	ASCS
	1967	1:20000	PAN	ASCS
	1973 P	1:30000	PAN	USGS
	1974	1:31680	CIR	MSU/RSP
	1974	1:40000	PAN	ASCS
	1975 P	1:15000	PAN	USGS
	1975	1:33000	CIR	WMR/PC
	1975	1:80000	PAN	OMA
ALPENA	1938	1:20000	PAN	NARS
	1951 P	1:31680	PAN	USFS
	1952 P	1:24000	PAN	USGS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1963	1:20000	PAN	ASCS
	1971 P	1:23000	PAN	USGS
	1971 P	1:20000	PAN	USGS
	1972	1:19200	PAN	CAPITOL
	1973 P	1:36000	CIR	MOSHT
	1975 P	1:80000	PAN	OMA
ANTRIM	1938	1:20000	PAN	NARS
	1952 P	1:24000	PAN	USGS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1954 P P	1:17000	PAN	USGS
	1956 P	1:17000	PAN	USGS
	1962	1:15840	PAN	ABRAMS
	1963	1:20000	PAN	ASCS
	1973	1:40000	PAN	ASCS
	1973	1:36000	CIR	MOSHT
	1975	1:80000	PAN	USGS
	1975 P	1:99999	PAN	OMA

ORIGINAL PAGE IS
 OF POOR QUALITY

COUNTY	YEAR	SCALE	FILM	AGENCY
ARENAC	1938	1:20000	PAN	NARS
	1952	1:15840	BWIF	ASCS
	1953	1:60000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965	1:20000	PAN	ASCS
	1970	1:12000	PAN	USGS
	1970	1:40000	PAN	ASCS
	1973	1:36000	CIF	MDSHT
	1973	1:24000	PAN	USGS
1976	1:32000	PAN	USGS	
BARAGA	1951	1:24000	PAN	USGS
	1953	1:40000	PAN	USGS
	1953	1:60000	PAN	USGS
	1954	1:15840	BWIF	ASCS
	1960	1:15840	BWIP	USFS
	1962	1:15840	BWIP	HURD
	1968	1:20000	PAN	ASCS
	1970	1:15840	COL	USFS
	1970	1:60000	PAN	USFS
	1974	1:15840	BWIR	USFS
	1975	1:80000	PAN	USGS
BARRY	1938	1:20000	PAN	NARS
	1947	1:37000	PAN	USGS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1956	1:60000	PAN	USGS
	1957	1:18000	PAN	USGS
	1961	1:20000	PAN	ASCS
	1967	1:20000	PAN	ASCS
	1973	1:32000	PAN	USGS
	1973	1:30000	PAN	USGS
	1974	1:31680	CIR	SCMPDC
	1974	1:40000	PAN	ASCS
	1974	1:31680	CIR	MSU/RSP
	1975	1:80000	PAN	DMA
1976	1:23000	PAN	USGS	
BAY	1938	1:20000	PAN	NARS
	1950	1:20000	PAN	ASCS
	1953	1:60000	PAN	USGS
	1955	1:20000	PAN	ASCS
	1960	1:9600	PAN	ABRAMS
	1963	1:20000	PAN	ASCS
	1969	1:20000	PAN	ASCS
	1973	1:24000	PAN	USGS
	1975	1:38000	PAN	SCS
BENZIE	1938	1:20000	PAN	NARS
	1952	1:15840	BWIP	ASCS
	1953	1:60000	PAN	USGS
	1954	1:17000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965	1:20000	PAN	ASCS
	1972	1:19200	PAN	CAPITOL
	1973	1:40000	PAN	ASCS
	1973	1:36000	CIR	MDSHT
	1975	1:80000	PAN	USGS
	1976	1:80000	PAN	USGS
BERRIEN	1935	1:20000	PAN	NARS
	1938	1:20000	PAN	NARS
	1950	1:20000	PAN	ALCS
	1952	1:69000	PAN	USGS
	1955	1:20000	PAN	ASCS
	1956	1:9600	PAN	ABRAMS
	1960	1:20000	PAN	ASCS
	1960	1:7200	PAN	ABRAMS
	1967	1:20000	PAN	ASCS

COUNTY	YEAR	SCALE	FILM	AGENCY
BERRIEN	1969	1:21000	PAN	USGS
	1973	1:7920	PAN	ABRAMS
	1974	1:31680	CIR	MSU/RSP
	1974	1:40000	PAN	ASCS
	1975	1:80000	PAN	DMA
	1975	1:38000	PAN	SCS
BRANCH	1938	1:20000	PAN	NARS
	1946	1:26000	PAN	USGS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1958	1:17000	PAN	USGS
	1960	1:60000	PAN	USGS
	1961	1:20000	PAN	ASCS
	1967	1:20000	PAN	ASCS
	1974	1:31680	CIR	SCMPDC
	1974	1:40000	PAN	ASCS
1975	1:80000	PAN	DMA	
CALHOUN	1938	1:20000	PAN	NARS
	1946	1:26000	PAN	USGS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1956	1:60000	PAN	USGS
	1961	1:20000	PAN	ASCS
	1966	1:3600	PAN	ABRAMS
	1966	1:15840	PAN	ABRAMS
	1967	1:20000	PAN	ASCS
	1973	1:32000	PAN	USGS
	1974	1:31680	CIR	SCMPDC
	1974	1:40000	PAN	ASCS
	1974	1:38000	PAN	SCS
1975	1:80000	PAN	DMA	
CASS	1938	1:20000	PAN	NARS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1960	1:20000	PAN	ASCS
	1960	1:60000	PAN	USGS
	1967	1:20000	PAN	ASCS
	1974	1:31680	CIR	MSU/RSP
	1974	1:40000	PAN	ASCS
	1975	1:80000	PAN	DMA
	1975	1:38000	PAN	SCS
1976	1:23000	PAN	USGS	
CHARLEVOIX	1938	1:20000	PAN	NARS
	1952	1:24000	PAN	USGS
	1953	1:60000	PAN	USGS
	1955	1:15840	BWIR	ASCS
	1956	1:17000	PAN	USGS
	1962	1:15840	PAN	ABRAMS
	1965	1:20000	PAN	ASCS
	1973	1:36000	CIR	MOJHT
	1973	1:40000	PAN	ASCS
	1973	1:40000	PAN	SCS
1975	1:99999	PAN	DMA	
1975	1:80000	PAN	USGS	
CHEBOYGAN	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR	ASCS
	1952	1:24000	PAN	USGS
	1953	1:60000	PAN	USGS
	1956	1:17000	PAN	USGS
	1963	1:20000	PAN	ASCS
	1973	1:40000	PAN	ASCS
	1975	1:40000	COL	BENDIX
1975	1:80000	PAN	USGS	
CHIPPEWA	1939	1:20000	PAN	NARS

COUNTY	YEAR	SCALE	FILM	AGENCY
CHIPPEWA	1952	P	1:17000	PAN USGS
	1953	P	1:20000	PAN ABRAMS
	1953		1:60000	PAN USGS
	1953		1:15840	BWIR ASCS
	1953	P	1:62000	PAN USFS
	1956	P	1:17000	PAN USGS
	1964	P	1:15840	BWIR USFS
	1969	P	1:12000	PAN USFS
	1970	P	1:60000	PAN USFS
	1972	P	1:15840	COL USFS
	1973	P	1:36000	CIR MDSHT
	1974	P	1:15840	BWIR USFS
	CLARE	1938		1:20000	PAN NARS
1952			1:15840	BWIR ASCS
1953			1:60000	PAN USGS
1955		P	1:17000	PAN USGS
1958			1:20000	PAN ASCS
1965			1:20000	PAN ASCS
1968		P	1:20000	PAN USGS
1972			1:40000	PAN ASCS
1976		P	1:80000	PAN USGS
CLINTON	1938		1:20000	PAN NARS
	1950		1:20000	PAN ASCS
	1953	P	1:60000	PAN USGS
	1954	P	1:24000	PAN USGS
	1956	P	1:60000	PAN USGS
	1956		1:20000	PAN ASCS
	1962		1:15840	PAN ABRAMS
	1964		1:20000	PAN ASCS
	1964		1:36000	PAN TORR C
	1966	P	1:21000	PAN USGS
	1970	P	1:20000	PAN USGS
	1973	P	1:30000	PAN USGS
	1973		1:40000	PAN ASCS
	1973	P	1:40000	PAN SCS
	1975	P	1:80000	PAN DMA
CRAWFORD	1938		1:20000	PAN NARS
	1951	P	1:31680	PAN USFS
	1952	P	1:15840	BWIR ASCS
	1953		1:60000	PAN USGS
	1954	P	1:17000	PAN USGS
	1960	P	1:15840	BWIR USFS
	1960	P	1:17000	PAN USGS
	1961	P	1:18000	PAN USGS
	1963	P	1:20000	PAN ASCS
	1968	P	1:72000	PAN USFS
	1972		1:19200	PAN CAPITOL
	1973	P	1:36000	CIR MDSHT
	1974	P	1:15840	BWIR USFS
	1975	P	1:80000	PAN USGS
	1976	P	1:80000	PAN USGS
DELTA	1939		1:20000	PAN NARS
	1953		1:60000	PAN USGS
	1953	P	1:17000	PAN USGS
	1953	P	1:15840	BWIR ASCS
	1954	P	1:17000	PAN USGS
	1954	P	1:15840	BWIR ASCS
	1964		1:15840	BWIR USFS
	1970	P	1:60000	PAN USFS
	1972	P	1:15840	COL USFS
	1973	P	1:36000	CIR MDSHT
	1974	P	1:15840	BWIR USFS
	1975	P	1:80000	PAN USGS
DICKINSON	1939		1:20000	PAN NARS
	1951	P	1:24000	PAN USGS

COUNTY	YEAR	SCALE	FILM	AGENCY
DICKINSON	1953	1:15840	BWIR	ASCS
	1953	1:17000	PAN	USGS
	1954	1:17000	PAN	USGS
	1964	1:15840	BWIR	USFS
	1971	1:15840	CIR	AERO
	1975	1:18000	PAN	USGS
	1976	1:20000	PAN	SCS
EATON	1938	1:20000	PAN	NARS
	1947	1:37000	PAN	USGS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1956	1:60000	PAN	USGS
	1960	1:20000	PAN	ASCS
	1964	1:36000	PAN	TCREPC
	1967	1:20000	PAN	ASCS
	1973	1:30000	PAN	USGS
	1973	1:32000	PAN	USGS
	1974	1:40000	PAN	ASCS
	1974	1:38000	PAN	SCS
	1975	1:80000	PAN	DMA
1976	1:23000	PAN	USGS	
EMMET	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1953	1:62000	PAN	USFS
	1956	1:17000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965	1:20000	PAN	ASCS
	1970	1:60000	PAN	USFS
	1973	1:40000	PAN	ASCS
	1973	1:36000	CIR	MOSHT
	1975	1:40000	COL	BENDIX
	1975	1:80000	PAN	USGS
	1975	1:99999	PAN	DMA
GENESEE	1937	1:20000	PAN	NARS
	1938	1:20000	PAN	NARS
	1941	1:20000	PAN	NARS
	1950	1:20000	PAN	ASCS
	1953	1:60000	PAN	USGS
	1956	1:60000	PAN	USGS
	1957	1:20000	PAN	ASCS
	1959	1:17000	PAN	USGS
	1960	1:96000	PAN	ABRAMS
	1961	1:15840	PAN	ABRAMS
	1964	1:15840	PAN	ABRAMS
	1964	1:20000	PAN	ASCS
	1967	1:24000	PAN	USGS
	1967	1:19000	PAN	USGS
1972	1:13000	PAN	USGS	
	1972	1:40000	PAN	ASCS
GLADWIN	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965	1:20000	PAN	ASCS
	1968	1:12000	PAN	USGS
	1968	1:13000	PAN	USGS
	1972	1:20000	PAN	USGS
GOGEBIC	1939	1:20000	PAN	NARS
	1951	1:24000	PAN	USGS
	1952	1:17000	PAN	USGS
	1953	1:60000	PAN	USGS
	1954	1:24000	PAN	USGS
	1960	1:15840	BWIR	USFS

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	YEAR	SCALE	FILM	AGENCY	
GOGEBIC	1970	P	1:15840	COL	USFS
	1970	P	1:60000	PAN	USFS
	1973	P	1:20000	PAN	USGS
	1974	P	1:15840	BWIR	USFS
	1975	P	1:20000	PAN	SCS
	1975	P	1:80000	PAN	USGS
G TRAVERSE	1938		1:20000	PAN	NARS
	1953		1:60000	PAN	USGS
	1953		1:15840	BWIR	ASCS
	1954		1:17000	PAN	USGS
	1964		1:20000	PAN	ASCS
	1971		1:7920	PAN	ABRAMS
	1972		1:19200	PAN	CAPITOL
	1973		1:36000	CIR	MOSHT
	1973		1:40000	PAN	ASCS
	1973	P	1:40000	PAN	SCS
	1975	P	1:80000	PAN	USGS
	1976	P	1:80000	PAN	USGS
	GRATIOT	1938		1:20000	PAN	NARS
1950			1:20000	PAN	ASCS
1953			1:60000	PAN	USGS
1954		P	1:24000	PAN	USGS
1955			1:20000	PAN	ASCS
1963		P	1:18000	PAN	USGS
1963			1:20000	PAN	ASCS
1966		P	1:21000	PAN	USGS
1970			1:40000	PAN	ASCS
1972			1:25000	PAN	USGS
1973		P	1:40000	PAN	SCS
HILLSDALE	1938		1:20000	PAN	NARS
	1950		1:20000	PAN	ASCS
	1955		1:20000	PAN	ASCS
	1958	P	1:17000	PAN	USGS
	1960	P	1:60000	PAN	USGS
	1963		1:20000	PAN	ASCS
	1969		1:20000	PAN	ASCS
	1970	P	1:20000	PAN	USGS
	1973	P	1:24000	PAN	USGS
	1974	P	1:38000	PAN	SCS
	1975	P	1:80000	PAN	DMA
HOUGHTON	1951	P	1:24000	PAN	USGS
	1953	P	1:40000	PAN	USGS
	1953	P	1:60000	PAN	USGS
	1954	P	1:15840	BWIR	ASCS
	1960	P	1:15840	BWIR	USFS
	1964		1:15840	BWIR	USFS
	1970		1:15840	COL	USFS
	1970		1:60000	PAN	USFS
	1974	P	1:15840	BWIR	USFS
	1975	P	1:20000	PAN	SCS
	1975	P	1:80000	PAN	USGS
HURON	1938		1:20000	PAN	NARS
	1941		1:20000	PAN	NARS
	1949		1:20000	PAN	ASCS
	1953		1:60000	PAN	USGS
	1956		1:20000	PAN	ASCS
	1959	P	1:17000	PAN	USGS
	1964		1:20000	PAN	ASCS
	1969	P	1:34000	PAN	USGS
	1972		1:40000	PAN	ASCS
	1972		1:50000	PAN	SCS
	1976	P	1:36000	PAN	USGS
INGHAM	1938		1:20000	PAN	NARS
	1950		1:20000	PAN	ASCS

COUNTY	YEAR		SCALE	FILM	AGENCY
INGHAM	1955	P	1:60000	PAN	ABRAMS
	1955		1:200000	PAN	ASCS
	1956		1:600000	PAN	USGS
	1962		1:192000	PAN	ABRAMS
	1963		1:200000	PAN	ASCS
	1964		1:360000	PAN	TCRPC
	1967	P	1:200000	PAN	USGS
	1970	P	1:200000	PAN	USGS
	1970		1:400000	PAN	ASCS
	1970	P	1:192000	PAN	USGS
	1973	P	1:300000	PAN	USGS
	1974	P	1:380000	PAN	SCS
	1975	P	1:800000	PAN	OMA
	1976	P	1:360000	PAN	USGS
	1976		1:400000	PAN	SCS
IONIA	1938		1:200000	PAN	NARS
	1950		1:200000	PAN	ASCS
	1953	P	1:600000	PAN	USGS
	1955		1:200000	PAN	ASCS
	1956	P	1:600000	PAN	USGS
	1960		1:600000	PAN	ABRAMS
	1960		1:192000	PAN	ABRAMS
	1961		1:200000	PAN	ASCS
	1966	P	1:210000	PAN	USGS
	1967		1:200000	PAN	ASCS
	1969	P	1:460000	PAN	USGS
	1973	P	1:400000	PAN	SCS
	1975	P	1:800000	PAN	OMA
	1975		1:330000	CIR	WMRPC
	IOSCO	1938		1:200000	PAN	NARS
1951		P	1:316800	PAN	USFS
1952		P	1:158400	BWIR	ASCS
1953			1:600000	PAN	USGS
1960		P	1:158400	BWIR	USFS
1963		P	1:200000	PAN	ASCS
1965		P	1:120000	PAN	USGS
1965		P	1:180000	PAN	USGS
1968		P	1:720000	PAN	USFS
1973			1:360000	CIR	MOSHT
1974		P	1:158400	BWIR	USFS
1976		P	1:320000	PAN	USGS
IRON	1939		1:200000	PAN	NARS
	1943		1:270000	BWIR	ASCS
	1951	P	1:240000	PAN	USGS
	1951		1:240000	BWIR	ASCS
	1952	P	1:170000	PAN	USGS
	1953	P	1:400000	PAN	USGS
	1953	P	1:600000	PAN	USGS
	1955	P	1:158400	BWIR	ASCS
	1960	P	1:158400	BWIR	USFS
	1964	P	1:158400	BWIR	USFS
	1970	P	1:158400	COL	USFS
	1970	P	1:600000	PAN	USFS
	1974	P	1:158400	BWIR	USFS
	1975	P	1:200000	PAN	SCS
	1975	P	1:800000	PAN	USGS
ISABELLA	1938		1:200000	PAN	NARS
	1952		1:200000	PAN	ASCS
	1953		1:600000	PAN	USGS
	1955	P	1:170000	PAN	USGS
	1958		1:200000	PAN	ASCS
	1963	P	1:180000	PAN	USGS
	1965		1:200000	PAN	ASCS
	1968	P	1:200000	PAN	USGS
	1972	P	1:350000	PAN	USGS
	1972	P	1:250000	PAN	USGS

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	YEAR	SCALE	FILM	AGENCY
ISABELLA	1972	1:40000	PAN	ASCS
	1976 P	1:80000	PAN	USGS
JACKSON	1938	1:20000	PAN	NARS
	1950	1:20000	PAN	ASCS
	1956	1:60000	PAN	USGS
	1957	1:20000	PAN	ASCS
	1963	1:15840	PAN	ABRAMS
	1964	1:20000	PAN	ASCS
	1970 P	1:19200	PAN	USGS
	1970 P	1:20000	PAN	USGS
	1972	1:40000	PAN	ASCS
	1974	1:38000	PAN	SCS
	1975 P	1:80000	PAN	DMA
KALAMAZOO	1938	1:20000	PAN	NARS
	1946 P	1:26000	PAN	USGS
	1950	1:20000	PAN	ASCS
	1955	1:20000	PAN	ASCS
	1956 P	1:60000	PAN	USGS
	1960	1:20000	PAN	ASCS
	1960	1:19200	PAN	ABRAMS
	1963	1:36000	PAN	ABRAMS
	1964	1:36000	PAN	ABRAMS
	1964	1:15840	PAN	ABRAMS
	1967	1:20000	PAN	ASCS
	1973 P	1:32000	PAN	USGS
	1973 P P	1:30000	PAN	USGS
	1974 P	1:31680	CIR	NSU/RSP
	1974	1:31680	CIR	SCHPDC
1974	1:40000	PAN	ASCS	
1975	1:80000	PAN	DMA	
KALKASKA	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR P	DNR
	1953	1:15840	RWIR	ASCS
	1953	1:60000	PAN	USGS
	1954 P	1:17000	PAN	USGS
	1955	1:15840	BWIR	DNR
	1963	1:20000	PAN	ASCS
	1971	1:19200	PAN	CAPITOL
	1973	1:40000	PAN	ASCS
	1973	1:36000	CIR	MDSHT
	1973 P	1:40000	PAN	SCS
	1975 P P	1:80000	PAN	USGS
	1976 P	1:80000	PAN	USGS
KENT	1938	1:20000	PAN	NARS
	1950	1:20000	PAN	ASCS
	1953 P	1:60000	PAN	USGS
	1955	1:20000	PAN	ASCS
	1956 P	1:60000	PAN	USGS
	1960	1:20000	PAN	ASCS
	1963	1:15840	PAN	ABRAMS
	1963	1:12000	PAN	ABRAMS
	1966	1:36000	PAN	ABRAMS
	1967	1:20000	PAN	ASCS
	1975	1:33000	CIR	MMR/PC
	1975 P	1:80000	PAN	DMA
	1975 P P	1:63360	BWIR	USFS
1976 P	1:80000	PAN	USGS	
KEWEENAW	1954 P	1:15840	BWIR	ASCS
	1956	1:30000	PAN	USGS
	1957	1:36000	PAN	USGS
	1964	1:15840	BWIR	USFS
LAKE	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS

COUNTY	YEAR		SCALE	FILM	AGENCY	
LAKE	1954	P	1:17000	PAN	USGS	
	1955	P	1:17000	PAN	USGS	
	1958		1:20000	PAN	ASCS	
	1965		1:20000	PAN	ASCS	
	1965	P	1:15840	PAN	USFS	
	1971	PP	1:60000	COL	USFS	
	1974	P	1:15840	BWIF	USFS	
	1975		1:33000	CIR	WMRPG	
	1975		1:63360	BWIR	USFS	
	1976		1:80000	PAN	USGS	
	1976		1:40000	PAN	SCS	
	LAPEER	1938		1:20000	PAN	NARS
		1941		1:20000	PAN	NARS
1950			1:20000	PAN	ASCS	
1953		P	1:60000	PAN	USGS	
1956		PP	1:60000	PAN	USGS	
1957			1:20000	PAN	ASCS	
1959		P	1:17000	PAN	USGS	
1964			1:20000	PAN	ASCS	
1967		P	1:24000	PAN	USGS	
1972			1:40000	PAN	ASCS	
LEELANAU	1938		1:20000	PAN	NARS	
	1952		1:15840	BWIR	ASCS	
	1953		1:60000	PAN	USGS	
	1954		1:17000	PAN	USGS	
	1963	P	1:20000	PAN	ASCS	
	1973		1:40000	PAN	ASCS	
	1973		1:36000	CIR	MOSHT	
1975		1:80000	PAN	USGS		
LENAWEE	1938		1:20000	PAN	NARS	
	1940		1:20000	PAN	NARS	
	1949		1:20000	PAN	ASCS	
	1955		1:20000	PAN	ASCS	
	1958	P	1:17000	PAN	USGS	
	1960	PP	1:60000	PAN	USGS	
	1963		1:20000	PAN	ASCS	
	1970		1:40000	PAN	ASCS	
	1971	P	1:23000	PAN	USGS	
	1971	PPP	1:24000	PAN	USGS	
	1974	PPP	1:38000	PAN	SCS	
	1975	PPP	1:80000	PAN	OMA	
	1975	PPP	1:23000	PAN	USGS	
	1976	P	1:36000	PAN	USGS	
LIVINGSTON	1937	P	1:20000	PAN	NARS	
	1938		1:20000	PAN	NARS	
	1940		1:20000	PAN	NARS	
	1949		1:20000	PAN	ASCS	
	1955		1:20000	PAN	ASCS	
	1956		1:60000	PAN	USGS	
	1963		1:20000	PAN	ASCS	
	1964	P	1:18000	PAN	USGS	
	1965		1:15840	PAN	ABRAMS	
	1966		1:36000	PAN	SEMCOG	
	1967		1:19000	PAN	USGS	
	1970		1:20000	PAN	SEMCOG	
	1970		1:19200	PAN	CAPITOL	
	1970		1:40000	PAN	ASCS	
	1970		1:19000	PAN	USGS	
	1971		1:50000	PAN	SCS	
	1973	P	1:24000	PAN	USGS	
	1975		1:24000	PAN	SEMCOG	
	1976		1:36000	PAN	USGS	
LUCE	1939		1:20000	PAN	NARS	
	1953		1:15840	BWIR	ASCS	
	1953		1:60000	PAN	USGS	

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	YEAR	SCALE	FILM	AGENCY
LUCÉ	1964	1:15840	BWIR	USFS
	1964 P	1:18000	PAN	USGS
	1971 PP	1:15000	PAN	USGS
	1973 PP	1:36000	CIR	MDSHT
	1973 P	1:21000	PAN	USGS
MACKINAC	1939	1:20000	PAN	NARS
	1953	1:15840	PAN	ASCS
	1953	1:60000	PAN	USGS
	1953 P	1:62000	PAN	USFS
	1956 P	1:17000	PAN	USGS
	1964	1:15840	PAN	USFS
	1970 P	1:60000	PAN	USFS
	1971 PP	1:15000	PAN	USGS
	1973 PP	1:36000	CIR	MDSHT
	1973 P	1:21000	PAN	USGS
	1974 PP	1:15840	BWIR	USFS
	1975 P	1:99999	PAN	DMA
	MACOMB	1938	1:20000	PAN	NARS
1940		1:20000	PAN	NARS
1955		1:20000	PAN	ASCS
1956 P		1:60000	PAN	USGS
1961		1:6000	PAN	ABRAMS
1964		1:7920	PAN	ABRAMS
1964 P		1:20000	PAN	ASCS
1964		1:12000	PAN	ABRAMS
1966		1:36000	PAN	SEMCOG
1970		1:20000	PAN	SEMCOG
1973		1:40000	PAN	ASCS
1973		1:24000	PAN	USGS
1975		1:24000	PAN	SEMCOG
MANISTEE	1938	1:20000	PAN	NARS
	1953	1:60000	PAN	USGS
	1953	1:15840	BWIR	ASCS
	1954	1:17000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965 P	1:15840	PAN	USFS
	1965	1:20000	PAN	ASCS
	1970	1:12000	PAN	ABRAMS
	1971	1:60000	COL	USFS
	1972	1:19200	PAN	CAPITOL
	1973	1:36000	CIR	MDSHT
	1973	1:40000	PAN	ASCS
	1974 P	1:15840	BWIR	USFS
	1975	1:63360	BWIR	USFS
	1976	1:80000	PAN	USGS
MARQUETTE	1939	1:20000	PAN	NARS
	1949 P	1:6960	PAN	ABRAMS
	1951 PP	1:24000	PAN	USGS
	1953 PP	1:17000	PAN	USGS
	1953 P	1:40000	PAN	USGS
	1954	1:15840	BWIR	ASCS
	1954 P	1:17000	PAN	USGS
	1961	1:9600	PAN	ABRAMS
	1964	1:15840	BWIP	USFS
	1970 P	1:60000	PAN	USFS
	1972 PP	1:15840	COL	USFS
	1975 PP	1:20000	PAN	SCS
	1975 P	1:80000	PAN	USGS
MASON	1938	1:20000	PAN	NARS
	1952	1:20000	PAN	ASCS
	1953	1:60000	PAN	USGS
	1954 P	1:17000	PAN	USGS
	1955 PP	1:17000	PAN	USGS
	1955 P	1:15840	BWIR	USFS
	1958	1:20000	PAN	ASCS

COUNTY	YEAR	SCALE	FILM	AGENCY
MASON	1965	1:200000	PAN	ASCS
	1972	1:400000	PAN	ASCS
	1973	1:360000	CIR	MDSHT
	1974	1:120000	PAN	STEREO
	1974	1:158400	BWIR	USFS
	1975	1:330000	CIR	WMRPC
	1975	1:633600	BWIF	USFS
	1976	1:800000	PAN	USGS
MECOSTA	1938	1:200000	PAN	NARS
	1952	1:200000	PAN	ASCS
	1953	1:600000	PAN	USGS
	1955	1:170000	PAN	USGS
	1955	1:158400	BWIR	USFS
	1958	1:200000	PAN	ASCS
	1963	1:180000	PAN	USGS
	1963	1:120000	PAN	ABRAMS
	1965	1:200000	PAN	ASCS
	1965	1:158400	PAN	USFS
	1971	1:600000	COL	USFS
	1972	1:400000	PAN	ASCS
	1974	1:158400	BWIR	USFS
	1975	1:330000	CIR	WMRPC
1975	1:633600	BWIR	USFS	
1976	1:800000	PAN	USGS	
MENOMINEE	1939	1:200000	PAN	NARS
	1951	1:240000	BWIR	AERO
	1951	1:158400	IR	AERO
	1953	1:600000	PAN	USGS
	1954	1:158400	BWIP	ASCS
	1954	1:170000	PAN	USGS
	1964	1:158400	PAN	ABRAMS
	1964	1:158400	BWIR	USFS
	1975	1:800000	PAN	USGS
	1976	1:500000	PAN	SCS
MIDLAND	1938	1:200000	PAN	NARS
	1952	1:158400	BWIP	DNR
	1953	1:600000	PAN	USGS
	1954	1:158400	BWIP	ASCS
	1954	1:240000	PAN	USGS
	1958	1:200000	PAN	ASCS
	1965	1:200000	PAN	ASCS
	1967	1:360000	PAN	ABRAMS
	1967	1:158400	PAN	ABRAMS
	1968	1:130000	PAN	USGS
	1969	1:158400	PAN	ABRAMS
	1969	1:360000	PAN	ABRAMS
	1972	1:250000	PAN	USGS
	1972	1:400000	PAN	ASCS
1973	1:240000	PAN	USGS	
1975	1:380000	PAN	SCS	
MISSAUKEE	1938	1:200000	PAN	NARS
	1952	1:158400	BWIR	ASCS
	1953	1:600000	PAN	USGS
	1954	1:170000	PAN	USGS
	1963	1:200000	PAN	ASCS
	1973	1:360000	CIR	MDSHT
	1973	1:400000	PAN	ASCS
	1975	1:633600	BWIR	USFS
1976	1:800000	PAN	USGS	
MONROE	1938	1:200000	PAN	NARS
	1940	1:200000	PAN	NARS
	1950	1:200000	PAN	ASCS
	1955	1:200000	PAN	ASCS
	1960	1:600000	PAN	USGS
	1961	1:600000	PAN	ABRAMS

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	YEAR		SCALE	FILM	AGENCY	
MONROE	1963	P	1:24 000	PAN	USGS	
	1964		1:20 000	PAN	ASCS	
	1966		1:36 000	PAN	SEMCOG	
	1970		1:20 000	PAN	SEMCOG	
	1971		1:31680	PAN	CHICAGO	
	1971	P	1:23 000	PAN	USGS	
	1973	P	1:24 000	PAN	USGS	
	1973		1:40 000	PAN	ASCS	
	1975		1:24 000	PAN	SEMCOG	
	1976	P	1:36 000	PAN	USGS	
	MONTCALM	1938		1:20 000	PAN	NARS
		1950		1:20 000	PAN	ASCS
1953			1:60 000	PAN	USGS	
1955		P	1:17 000	PAN	USGS	
1955			1:20 000	PAN	ASCS	
1961			1:20 000	PAN	ASCS	
1963			1:12 000	PAN	ABRAMS	
1963		P	1:18 000	PAN	USGS	
1966		P	1:21 000	PAN	USGS	
1967			1:20 000	PAN	ASCS	
1969		P	1:46 000	PAN	USGS	
1973		P	1:40 000	PAN	SOS	
1974		P	1:15840	BWIR	USFS	
1975		P	1:63360	BWIR	USFS	
1975			1:33 000	CIR	HMSPC	
1976		P	1:80 000	PAN	USGS	
MONTMORNCY	1938		1:20 000	PAN	NARS	
	1951	P	1:31680	PAN	USFS	
	1952		1:15840	BWIR	ASCS	
	1952	P	1:24 000	PAN	USGS	
	1953		1:60 000	PAN	USGS	
	1963		1:20 000	PAN	ASCS	
	1971	P	1:23 000	PAN	USGS	
	1973	P	1:36 000	CIR	MOSHT	
	1975	P	1:80 000	PAN	USGS	
	MUSKEGON	1938		1:20 000	PAN	NARS
1950			1:20 000	PAN	ASCS	
1953			1:60 000	PAN	USGS	
1955			1:20 000	PAN	ASCS	
1955		P	1: 6 000	PAN	ABRAMS	
1961			1: 6 000	PAN	ABRAMS	
1962			1:20 000	PAN	ASCS	
1965		P	1:15840	PAN	USFS	
1968			1:15840	PAN	ABRAMS	
1968			1:20 000	PAN	ASCS	
1968			1:36 000	PAN	ABRAMS	
1969		P	1:14 000	PAN	USGS	
1971		P	1:60 000	COL	USFS	
1973			1: 3960	PAN	ABRAMS	
1973		P	1:20 000	PAN	USGS	
1974		P	1:15840	BWIR	USFS	
1974			1:40 000	PAN	ASCS	
1975		P	1:63360	BWIR	USFS	
1975		1:33 000	CIR	HMSPC		
1976	P	1:80 000	PAN	USGS		
NEWAYGO	1938		1:20 000	PAN	NARS	
	1952		1:20 000	PAN	ASCS	
	1953		1:60 000	PAN	USGS	
	1955		1:17 000	PAN	USGS	
	1955	P	1:15840	BWIR	USFS	
	1958		1:20 000	PAN	ASCS	
	1965	P	1:15840	PAN	USFS	
	1965		1:20 000	PAN	ASCS	
	1971	P	1:60 000	COL	USFS	
	1972		1:40 000	PAN	ASCS	
1974	P	1:15840	BWIR	USFS		

COUNTY	YEAR	SCALE	FILM	AGENCY
NEWAYGO	1975	1:33000	CIR	WMRPG
	1975	1:63360	BWIR	USFS
	1976	1:80000	PAN	USGS
OAKLAND	1937	1:20000	PAN	NARS
	1938	1:20000	PAN	NARS
	1940	1:20000	PAN	NARS
	1956	1:60000	PAN	USGS
	1957	1:20000	PAN	ASCS
	1963	1:120000	PAN	ABRAMS
	1963	1:360000	PAN	ABRAMS
	1964	1:200000	PAN	ASCS
	1966	1:360000	PAN	SEHCOG
	1970	1:200000	PAN	SEHCOG
	1972	1:400000	PAN	ASCS
	1973	1:240000	PAN	USGS
	1975	1:240000	PAN	SEHCOG
	1976	1:360000	PAN	USGS
	1976	1:240000	CIR	NOISHT
1976	1:400000	PAN	SCS	
OCEANA	1938	1:20000	PAN	NARS
	1951	1:20000	PAN	ASCS
	1952	1:20000	BWIR	DNR
	1953	1:60000	PAN	USGS
	1953	1:15840	BWIR	USFS
	1955	1:170000	PAN	USGS
	1958	1:200000	PAN	ASCS
	1965	1:15840	PAN	USFS
	1967	1:200000	PAN	ASCS
	1971	1:600000	COL	USFS
	1972	1:400000	PAN	ASCS
	1974	1:15840	BWIR	USFS
	1975	1:33000	CIR	WMRPG
	1975	1:63360	BWIR	USFS
	1976	1:400000	PAN	ASCS
1976	1:800000	PAN	USGS	
OGEMAW	1938	1:20000	PAN	NARS
	1951	1:31680	PAN	USFS
	1953	1:60000	PAN	USGS
	1953	1:15840	BWIR	ASCS
	1961	1:18000	PAN	USGS
	1962	1:20000	PAN	ASCS
	1962	1:18000	PAN	USGS
	1965	1:15840	PAN	USFS
	1965	1:12000	PAN	USGS
	1968	1:7920	PAN	ABRAMS
	1968	1:17000	PAN	USGS
	1969	1:20000	PAN	ASCS
	1973	1:36000	CIR	NOISHT
1976	1:32000	PAN	USGS	
ONTONAGON	1939	1:20000	PAN	NARS
	1948	1:27000	PAN	USGS
	1951	1:24000	PAN	USGS
	1953	1:40000	PAN	USGS
	1953	1:60000	PAN	USGS
	1954	1:9600	PAN	ABRAMS
	1954	1:24000	PAN	USGS
	1954	1:15840	BWIR	ASCS
	1955	1:15840	PAN	AERO
	1958	1:14400	PAN	AERO
	1960	1:15840	BWIR	USFS
	1961	1:9600	PAN	ABRAMS
	1964	1:15840	BWIR	USFS
	1970	1:15840	COL	USFS
	1970	1:60000	PAN	USFS
1974	1:15840	BWIR	USFS	
1975	1:20000	PAN	SCS	

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	YEAR	SCALE	FILM	AGENCY
ONTONAGON	1975 P	1:80000	PAN	USGS
OSCEOLA	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1955	1:17000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965	1:20000	PAN	ASCS
	1972	1:40000	PAN	ASCS
	1975	1:33000	CIR	WMSRDC
	1975 P	1:63360	BWIR	USFS
	1976	1:80000	PAN	USGS
OSCODA	1938	1:20000	PAN	NARS
	1951 P	1:31680	PAN	USFS
	1952 P P	1:15840	BWIR	ASCS
	1952 P P	1:24000	PAN	USGS
	1953	1:60000	PAN	USGS
	1960 P	1:15840	BWIR	USFS
	1960 P P	1:17000	PAN	USGS
	1961 P P P	1:18000	PAN	USGS
	1963 P P P	1:20000	PAN	ASCS
	1965 P P P	1:18000	PAN	USGS
	1968 P P P	1:72000	PAN	USFS
	1971 P P P	1:23000	PAN	USGS
	1973 P P P	1:36000	CIR	MDSHT
	1974 P P P	1:15840	BWIR	USFS
1975 P	1:80000	PAN	DMA	
OTSEGO	1938	1:20000	PAN	NARS
	1952 P	1:24000	PAN	USGS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1954 P	1:17000	PAN	USGS
	1956 P	1:17000	PAN	USGS
	1963	1:20000	PAN	ASCS
	1972	1:19200	PAN	CAPITOL
	1973 P P	1:36000	CIR	MDSHT
	1973 P P	1:40000	PAN	SCS
	1975 P	1:80000	PAN	USGS
OTTAWA	1938	1:20000	PAN	NARS
	1950	1:20000	PAN	ASCS
	1953 P	1:60000	PAN	USGS
	1954 P	1:60000	PAN	ABRAMS
	1955	1:20000	PAN	ASCS
	1956 P	1:60000	PAN	USGS
	1961	1:20000	PAN	ASCS
	1968	1:20000	PAN	ASCS
	1968	1:60000	PAN	SCS
	1969 P	1:20000	PAN	USGS
	1973 P	1:20000	PAN	USGS
	1974	1:40000	PAN	ASCS
	1974 P	1:31680	CIR	MSU/RSP
1975	1:33000	CIR	WMSRDC	
PRESQ ISLE	1938	1:20000	PAN	NARS
	1952 P	1:24000	PAN	USGS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1956 P	1:17000	PAN	USGS
	1964	1:20000	PAN	ASCS
	1971 P	1:20000	PAN	USGS
	1972 P	1:19200	PAN	CAPITOL
1975 P	1:80000	PAN	USGS	
ROSCOMMON	1938	1:20000	PAN	NARS
	1952	1:15840	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1954 P	1:17000	PAN	USGS

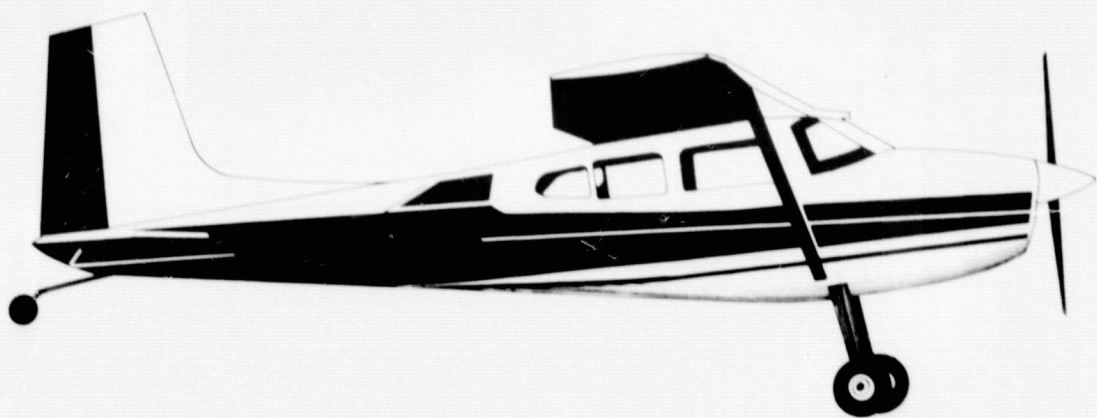
COUNTY	YEAR	SCALE	FILM	AGENCY
ROSCOMMON	1960	P	1:170000	PAN USGS
	1961	P	1:180000	PAN USGS
	1963		1:200000	PAN ASCS
	1968	P	1:200000	PAN USGS
	1968		1:7920	PAN ABRAMS
	1968	P	1:720000	PAN USFS
	1968	P	1:130000	PAN USGS
	1971		1:19280	PAN CAPITOL
	1974		1:15840	PAN ABRAMS
	1976	P	1:800000	PAN USGS
SAGINAW	1937		1:200000	PAN NARS
	1941		1:200000	PAN NARS
	1950		1:200000	PAN ASCS
	1953		1:600000	PAN USGS
	1954	P	1:240000	PAN USGS
	1955		1:200000	PAN ASCS
	1957		1:120000	PAN ABRAMS
	1963		1:200000	PAN ASCS
	1967	P	1:130000	PAN USGS
	1970		1:400000	PAN ASCS
	1972	P	1:250000	PAN USGS
	1973	P	1:240000	PAN USGS
1975	P	1:380000	PAN SCS	
ST. CLAIR	1938		1:260000	PAN NARS
	1941		1:200000	PAN NARS
	1950		1:200000	PAN ASCS
	1953	P	1:600000	PAN USGS
	1957		1:200000	PAN ASCS
	1959	P	1:170000	PAN USGS
	1964		1:200000	PAN ASCS
	1966		1:360000	PAN SEMCOG
	1967	P	1:240000	PAN USGS
	1969		1:300000	PAN ABRAMS
	1970		1:500000	PAN SCS
	1970		1:200000	PAN SEMCOG
	1973		1:300000	PAN ABRAMS
	1973	P	1:240000	PAN USGS
1975		1:240000	PAN SEMCOG	
1976	P	1:360000	PAN USGS	
ST. JOSEPH	1938		1:200000	PAN NARS
	1946	P	1:260000	PAN USGS
	1950		1:200000	PAN ASCS
	1955		1:200000	PAN ASCS
	1958	P	1:170000	PAN USGS
	1960	P	1:600000	PAN USGS
	1966		1:200000	PAN ASCS
	1967		1:200000	PAN ASCS
	1968		1:360000	PAN ABRAMS
	1968		1:300000	PAN ABRAMS
	1968		1:15840	PAN ABRAMS
	1969	P	1:140000	PAN USGS
	1973	P	1:300000	PAN USGS
	1974		1:31680	CIR SCMPDC
1975	P	1:400000	PAN ASCS	
1975		1:800000	PAN OMA	
SANILAC	1938		1:200000	PAN NARS
	1941		1:200000	PAN NARS
	1949		1:200000	PAN ASCS
	1953		1:600000	PAN USGS
	1955		1:200000	PAN ASCS
	1959		1:170000	PAN USGS
	1963		1:200000	PAN ASCS
	1976	P	1:360000	PAN USGS
SCHOOLCRAFT	1939		1:200000	PAN NARS

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	YEAR	SCALE	FILM	AGENCY
SCHOOLCRAFT	1953	P	1:15840	BWIR ASCS
	1953	P	1:17000	PAN USGS
	1953		1:60000	PAN USGS
	1954	P	1:15840	BWIR ASCS
	1964		1:15840	BWIR USFS
	1970	P	1:60000	PAN USFS
	1971	P	1:15000	PAN USGS
	1972	P	1:15840	COL USFS
	1972	P	1:15000	PAN USGS
	1973	P	1:36000	CIR MDSHT
	1974	P	1:15840	BWIR USFS
	1975	P	1:40000	PAN USGS
	1976	P	1:15000	PAN USGS
	1976	P	1:63360	CIP HURD
	SHIAWASSEE	1937		1:20000	PAN NARS
1940			1:20000	PAN NARS
1950			1:20000	PAN ASCS
1953		P	1:60000	PAN USGS
1954		P	1:24000	PAN USGS
1955			1:20000	PAN ASCS
1956		P	1:60000	PAN USGS
1963			1:20000	PAN ASCS
1967		P	1:19000	PAN USGS
1967		P	1:13000	PAN USGS
1970			1:50000	PAN SCS
1970		P	1:20000	PAN USGS
1972		P	1:20000	PAN USGS
TUSCOLA	1938		1:20000	PAN NARS
	1941		1:20000	PAN NARS
	1949		1:20000	PAN ASCS
	1953		1:60000	PAN USGS
	1955		1:20000	PAN ASCS
	1959	P	1:17000	PAN USGS
	1963		1:20000	PAN ASCS
	1967	P	1:19000	PAN USGS
	1967	P	1:13000	PAN USGS
	1970		1:40000	PAN ASCS
	1973	P	1:24000	PAN USGS
	1975	P	1:38000	PAN SCS
	VAN BUREN	1938		1:20000	PAN NARS
1950			1:20000	PAN ASCS
1955			1:20000	PAN ASCS
1956		P	1:60000	PAN USGS
1960			1:20000	PAN ASCS
1967			1:20000	PAN ASCS
1974			1:40000	PAN ASCS
1974			1:31680	CIR MSU/RSP
1975			1:80000	PAN DMA
1975		P	1:38000	PAN SCS
1976		P	1:23000	PAN USGS
WASHTENAW	1938		1:20000	PAN NARS
	1940		1:20000	PAN NARS
	1949		1:20000	PAN ASCS
	1955		1:20000	PAN ASCS
	1956		1:60000	PAN USGS
	1960		1:19200	PAN CHICAGO
	1963		1:20000	PAN ASCS
	1964	P	1:18000	PAN USGS
	1966		1:36000	PAN SEMCOG
	1966	P	1:18000	PAN USGS
	1969		1:20000	PAN ASCS
	1969		1:40000	PAN SCS
	1970		1:20000	PAN SEMCOG
	1970	T	1:19000	PAN USGS
1971		1:19200	PAN CAPITOL	
1971		1:24000	PAN CAPITOL	

COUNTY	YEAR	SCALE	FILM	AGENCY
WASHTENAW	1971	1:6000	PAN	CAPITOL
	1973	1:24000	PAN	USGS
	1975	1:23000	PAN	USGS
	1975	1:24000	PAN	SEMCOG
	1975	1:80000	PAN	DMA
	1976	1:36000	PAN	USGS
WAYNE	1937	1:20000	PAN	NARS
	1940	1:20000	PAN	NARS
	1956	1:60000	PAN	USGS
	1957	1:20000	PAN	ASCS
	1964	1:20000	PAN	ASCS
	1966	1:36000	PAN	SEMCOG
	1970	1:20000	PAN	SEMCOG
	1973	1:24000	PAN	USGS
	1973	1:40000	PAN	ASCS
	1975	1:24000	PAN	SEMCOG
WEXFORD	1938	1:20000	PAN	NARS
	1952	1:15000	BWIR	ASCS
	1953	1:60000	PAN	USGS
	1954	1:17000	PAN	USGS
	1955	1:17000	PAN	USGS
	1958	1:20000	PAN	ASCS
	1965	1:20000	PAN	ASCS
	1965	1:15840	PAN	USFS
	1971	1:60000	COL	USFS
	1972	1:19200	PAN	CAPITOL
	1973	1:36000	CIR	MOSHT
	1973	1:40000	PAN	ASCS
	1974	1:15840	BWIR	USFS
	1975	1:63360	BWIR	USFS
	1976	1:80000	PAN	USGS
1976	1:40000	PAN	SCS	

ORIGINAL PAGE IS
OF POOR QUALITY



LOCAL IMAGERY

SECTION 7 LOCAL IMAGERY

GENERAL INFORMATION

Local imagery consists mainly of site and corridor aerial photography that was obtained for a wide variety of uses. These include: city planning, large-scale photographic mapping, engineering studies, and site and corridor assessment for particular facilities, such as highways, parks, power plants, transmission lines, pipelines, and other installations. A host of public agencies and private firms have acquired large-scale photographic coverage of specific project areas in Michigan. Photographic acquisitions have been numerous and cover small areas that are frequently irregular in shape. The major sources of local imagery are described below.

Abrams Aerial Survey Corp. (ABRAMS): Abrams has acquired most of the local aerial photography of Michigan. Their voluminous holdings consist of mainly 9 by 9 inch black-and-white panchromatic photography of townships, cities, highways, rivers, shorelines, and other site or corridor areas.

Bendix Aerospace Systems Division (BENDIX): Bendix has acquired 1:40,000 color infrared photography of many inland lakes in Michigan. The firm also has multispectral scanner imagery of selected sites in the State.

Environmental Research Institute of Michigan (ERIM): Mission X252m, conducted by ERIM in 1974, provides color photography of 3,000 km of the Great Lakes shoreline of Michigan at scales of 1:10,000 or 1:16,000. ERIM has also collected aerial photography and multispectral imagery of specific study sites in Michigan.

Mark Hurd Aerial Surveys, Inc. (HURD): Numerous project areas in the Upper Peninsula of Michigan have been photographed by Mark Hurd Aerial Surveys, Inc. Most of the photography is panchromatic; however, some black-and-white infrared photography of forest areas is also available.

Michigan Department of Natural Resources (DNR): Several divisions of DNR have obtained aerial photography for their own use. The Engineering Division has the largest collection

PRECEDING PAGE BLANK NOT FILMED

which includes aerial photographs of shorelines, highways, and forest areas. Most of the photography was taken in the 1930's and 1940's. Aerial photography of state parks has been flown for the Parks Division. The Wildlife Division has acquired low altitude, 35 mm oblique photos of selected natural areas in the state. The Water Development Services Division holds photographic coverage of Michigan shoreline areas.

Michigan Department of State Highways and Transportation (MDSHT): Large-scale black-and-white panchromatic photography (1:10,000 or larger) of proposed or existing highway corridors is acquired periodically by the MDSHT. Current holdings date from 1960 and mission coverage is typically a single flight line. The MDSHT occasionally acquires coverage for larger areas and this photography is recorded in the Regional/County Index.

Michigan State University, Remote Sensing Project (MSU/RSP): The Project has acquired low-altitude oblique or near-vertical photography of several study areas in the state. These missions produced either 35 mm color or color infrared photography, or 70 mm color photography. Coverage includes Lansing, East Lansing, MSU Campus and the Detroit Riverfront (see Fig. 7.1).

Soil Conservation Service (SCS): Large-scale black-and-white panchromatic photography is available for several watershed areas in the lower peninsula of Michigan.

U.S. Army Corps of Engineers (CORPS): Michigan is divided among three Corps of Engineers Districts. The Detroit region covers all of the Lower Peninsula (with the exception of Berrien County in the extreme southwest) and the eastern half of the Upper Peninsula. The western half of the Upper Peninsula falls in the Minneapolis region and Berrien County is in the Chicago region.

Local aerial photography is acquired for reconnaissance and engineering purposes related to the Corps' responsibility for surface water and erosion control. Mission coverage is typically large-scale black-and-white panchromatic photography of lake shores, reservoirs, rivers and streams. Some color and color infrared photography is acquired in certain specific cases.

A comprehensive index of Corps photography has not been compiled, and therefore only a few photo missions available from this agency are listed in the guide.

For the addresses of these and other major agencies and firms which obtain or hold aerial imagery, see Appendix B. This list is not complete as many small commercial firms, public utilities and government agencies have coverage of specific sites and may warrant investigation in some circumstances.

HOW TO USE THE INDEX

The index lists, by county, the aerial imagery of local areas acquired by aerial survey firms and other sources which have provided information on their photographic holdings. It includes year of acquisition, photo scale, film type, description of area, and comments (e.g. project symbol). The index usually identifies the aerial survey firm and not the contracting agency, although permission to use the imagery may be required from the contracting agency. The survey firm or agency listed in the index should be contacted directly for information on purchase of the imagery.



Figure 7.1.--MSU Remote Sensing Project Color Photo of the MSU Campus (enlarged from a 70mm transparency).

INDEX
TO
LOCAL IMAGERY
OF MICHIGAN

PRECEDING PAGE BLANK NOT FILLED

LOCAL IMAGERY

AGENCY CODES

<u>CODE</u>	<u>AGENCY*</u>
ABRAMS	Abrams Aerial Survey Corporation
BENDIX	Bendix Aerospace Systems Division
CHICAGO	Chicago Aerial Survey
CORPS	U.S. Army Corps of Engineers
DNR	Michigan Department of Natural Resources
ERIM	Environmental Research Institute of Michigan
HURD	Mark Hurd Aerial Surveys, Inc.
MDSHT	Michigan Department of State Highways and Transportation
MSU/RSP	Michigan State University, Remote Sensing Project
PAS	Park Aerial Survey, Inc.
SCS	Soil Conservation Service
STEREO	StereoFoto, Inc.

* Addresses in Appendix B.

INDEX TO LOCAL IMAGERY
 COMPILED JUNE, 1977

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
ALCONA	1960	1:20000	PAN	ERIM	M-65, RELOCATION IN ALCONA AND IOSCO COS. (NO. 33-403)
	1963	1:9600	PAN	ABRAMS	HUBBARD LAKE (SYMBOL AZH)
	1965	1:3000	PAN	ERIM	M-65, HALE TO GLENINE (FILE NUMBER 1-521)
	1965	1:9600	PAN	ERIM	M-65, HALE TO GLENINE (FILE NUMBER 33-408)
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1971	1:15840	PAN	ABRAMS	PARTS OF COUNTY (SYMBOL DIP, ALSO SCALE 1:7920)
	1974	1:10000	COL	ERIM	LAKE HURON SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
	1974	1:15840	PAN	ABRAMS	AREA NEAR HUBBARD LAKE (SYMBOL FPJ)
ALGER	1957	1:24000	PAN	ABRAMS	CITY OF GRAND MARAIS (PHOTO INDEX NO. 1414)
	1960	1:4800	PAN	ABRAMS	CITY OF MUNISING (SYMBOL ALG)
	1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1967	1:24000	PAN	ABRAMS	PICTURED ROCKS (SYMBOL BZS)
	1968	1:9600	PAN	ERIM	M-28, M-94, ACCESS ROAD TO PICTURED ROCKS AT MUNISING
	1969	1:9600	PAN	ABRAMS	PICTURED ROCKS (SYMBOL CID)
	1969	1:4800	COL	MDSHT	ACCESS ROAD TO PICTURED ROCKS, MUNISING (FILE NO 2-603)
	1969	1:4800	PAN	ABRAMS	PICTURED ROCKS (SYMBOL CSF)
	1969	1:9600	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CSN)
	1969	1:9600	PAN	MDSHT	SCENIC ACCESS ROAD AT GRAND MARAIS (FILE NO. 2-602)
	1969	1:12000	PAN	ERIM	M-28, M-94, PICTURED ROCKS AT MUNISING
	1969	1:12000	PAN	ABRAMS	PICTURED ROCKS (SYMBOL CRS)
	1972	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DHH)
	1974	1:6000	PAN	ABRAMS	PICTURED ROCKS (SYMBOL EON)
	1974	1:16000	COL	ERIM	LAKE SUPERIOR SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
	ALLEGAN	1954	1:6000	PAN	ABRAMS	CITY OF ALLEGAN (PHOTO INDEX NO. 991)
1961		1:7920	PAN	ABRAMS	LAKETOWN TWP. (SYMBOL ASH)
1962		1:7920	PAN	ABRAMS	LEIGHTON TWP. (SYMBOL AUH)
1962		1:7920	PAN	ABRAMS	CITY OF WAYLAND (SYMBOL AUI)
1963		1:7920	PAN	ABRAMS	LEIGHTON TWP. (SYMBOL AZF)
1964		1:9600	PAN	MDSHT	PAW PAW TO ALLEGAN CO LINE (FILE NO 3-409)
1965		1:3000	PAN	MDSHT	I-196, HOLLAND TO GRANDVILLE (FILE NO 3-439)
1965		1:9600	PAN	MDSHT	M-40, M-89, ALLEGAN TO DUNNINGVILLE (FILE NO 03-469)
1965		1:9600	PAN	MDSHT	HAMILTON NORTH TO HOLLAND (FILE NO 03-471)
1969		1:7920	PAN	ABRAMS	S 1/2 SEC. 31 T2N, R16W GANGES TWP. (SYMBOL CUW)
1969		1:15840	PAN	ABRAMS	ALLEGAN LAKE (SYMBOL CSP)
1970		1:3000	PAN	MDSHT	M-89, PLAINWELL EAST TO RICHLAND (FILE NO 03-639)
1970		1:4800	PAN	ABRAMS	AREAS IN SAUGATUCK (SYMBOL CYU)
1970		1:6000	PAN	ABRAMS	CITY OF ALLEGAN (SYMBOL GCX)
1970		1:7920	PAN	ABRAMS	PARTS OF COUNTY (SYMBOL DES)
1970		1:7920	PAN	ABRAMS	SALEM AND MONTEREY TWP. (SYMBOL DEU)
1971		1:7920	PAN	ABRAMS	PART OF SALEM TWP. (SYMBOL DOX)
1972		UNKNOWN	PAN	ERIM	KALAMAZOO RIVER PLUME (MULTIBAND, SCANNER, ALT 5000FT)
1973		UNKNOWN	PAN	ERIM	KALAMAZOO RIVER (MULTIBAND, SCANNERS ALT 5000FT)
1973		1:3960	PAN	ABRAMS	PARTS OF COUNTY (SYMBOL ECZ)
1973		1:7920	PAN	ABRAMS	PARTS OF COUNTY (SYMBOL DZW)
1974		1:3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FLA)
1974		1:10000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
1975		1:6000	PAN	MDSHT	US-31-75 FROM SOUTH OF HOLLAND TO NORTH OF GRAND HAVEN
1976		1:3000	PAN	MDSHT	STRIP ALONG BUSINESS US-131, HOLLAND (SYMBOL FAI)
1976		1:3000	PAN	MDSHT	STRIP ALONG M-89 NEAR OTSEGO (SYMBOL FBL)
1976		1:4800	PAN	ABRAMS	ALLEGAN TWP. (SYMBOL FCH)
1976		1:7920	PAN	ABRAMS	STRIP FROM GRAND HAVEN TO SAUGATUCK (SYMBOL FCS)
1976	1:12000	PAN	ABRAMS	STRIP FROM GRAND HAVEN TO SAUGATUCK (SYMBOL FCS)	
1976	1:15840	PAN	ABRAMS	N.E. PART (SYMBOL FBQ, ALSO SCALE 1:7920)	
1976	1:15840	PAN	ABRAMS	STRIP FROM GRAND HAVEN TO SAUGATUCK (SYMBOL FCS)	
ALPENA	1954	1:6000	PAN	ABRAMS	CITY OF ALPENA (PHOTO INDEX NO. 1013)
	1957	1:4400	PAN	SCS	SANBORN CREEK W/S (SYMBOL MN-SC)
	1961	UNKNOWN	PAN	DNR	THUNDER BAY, LOW LEVEL OBLIQUE (DNR-WILDLIFE)
	1964	1:19200	PAN	ABRAMS	PIPELINE FROM ALPENA TO POGERS CITY (SYMBOL BGE)
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1970	1:3000	PAN	MDSHT	US-23, ALPENA SOUTH (FILE NO 4-659)
	1974	1:10000	COL	ERIM	LAKE HURON SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)

COUNTY	DATE	SCALE	FILM	AGENCY	ARFA/COMMENTS
ALPENA	1976	1: 3000	PAN	MDSHT	THREE STRIPS ALONG US-23 NEAR ALPENA (SYMBOL FBP)
ANTPIM	1963	1:12000	PAN	ABRAMS	CUSTER TWP. (SYMBOL BCN)
	1967	1: 7920	PAN	ABRAMS	SECTIONS IN BANK TWP. (SYMBOL CCN)
	1967	1: 7920	PAN	ABRAMS	TOPCH LAKE
	1967	1:12000	PAN	MDSHT	M-32, FROM M-66 EAST TO GAYLORD (FILE NO 5-553)
	1969	1: 7920	PAN	ABRAMS	PARTS OF CHESTONIA TWP. (SYMBOL CPF)
	1969	1:12000	PAN	ABRAMS	SCHUSS MOUNTAIN ARFA (SYMBOL CPR, ALSO SCALE: 1:3960)
	1976	UNKNOWN	PAN	ERIM	UPPER AND LOWER TRAVERSE BAY (MULTIBAND, ALT: 6000FT)
	1976	UNKNOWN	PAN	ERIM	EAST AFM, EAST SIDE OF G-AND TRAVERSE BAY (MULTIBAND)
	1971	1: 7920	PAN	ABRAMS	AREA IN TOPCH LAKE TWP. (SYMBOL CPW)
	1972	1:14400	PAN	MDSHT	M-32, CORRIDOR FROM I-75 TO WEST OF M-66 (FILE NO 693)
	1973	1: 7920	PAN	ABRAMS	AREA IN TOPCH LAKE TWP. (SYMBOL EEG)
	1974	1: 3960	PAN	ABRAMS	CENTRAL LAKE TWP. (SYMBOL EGF, ALSO SCALE: 1: 7920)
	1974	1: 9500	PAN	ABRAMS	CENTRAL LAKE TWP. (SYMBOL EGF)
	1974	1:16000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN,CIR)
	1975	1: 7920	PAN	ABRAMS	BANKS TWP. (SYMBOL FVB)
	1976	1:12000	PAN	ERIM	FOUR FLIGHT LINES BETWEEN CENTRAL LAKE AND ELMIRA
AREMAC	1952	1:12672	PAN	DNR	SHORELINE (DNR-ENG)
	1964	UNKNOWN	COL	DNP	SAGINAW BAY SHORELINE, 35 MM. OBLIQUES (DNR-WILDLIFE)
	1964	1: 3000	PAN	MDSHT	US-23, CORRIDOR TO I-75 SOUTH OF STANDISH (NO 6-399)
	1964	1: 3000	PAN	ABRAMS	STRIP ALONG I-75 FROM M-61 TO M-33 (SYMBOL BGP)
	1964	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BGI)
	1965	1: 6000	PAN	MDSHT	I-75, ALGER NORTHWEST TO COUNTY LINE (FILE NO 6-452)
	1965	1: 7920	PAN	ABRAMS	ADAM TWP. (SYMBOL CAJ)
	1965	1: 7920	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL BLE)
	1968	1:15840	PAN	PAS	CHARITY ISLANDS (DNR-ENG)
	1969	1: 7920	PAN	ABRAMS	SECTIONS IN HOFFITT TWP. (SYMBOL COM)
	1971	1: 3960	PAN	ABRAMS	VILLAGE OF STANDISH (SYMBOL CZF)
	1971	1: 3960	PAN	ABRAMS	POINT LOOKOUT AREA (SYMBOL DNW)
	1973	1: 3960	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EIR)
	1973	1:12000	PAN	ABRAMS	SITES IN COUNTY (SYMBOL EHE, ALSO SCALE: 1:14400)
	1974	1:10000	COL	ERIM	LAKE HUPON SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
BARAGA	1939	1:20000	PAN	DNP	SHORELINE (DNR-ENG)
	1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1964	1:20000	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1971	1: 7920	PAN	ABRAMS	VILLAGE OF ALBERTA AND BARAGA (SYMBOL CZI)
	1973	1: 6000	PAN	MDSHT	US-41, L'ANSE AREA (FILE NO 758)
	1973	1: 7920	PAN	ABRAMS	PART OF BARAGA TWP. (SYMBOL EFN)
	1974	1:10000	COL	ERIM	LAKE SUPERIOR SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
	1976	1: 4800	PAN	ABRAMS	PART OF L'ANSE TWP. (SYMBOL FDE)
BARPY	1958	1: 6000	PAN	ABRAMS	CITY OF MIDDLEVILLE (PHOTO INDEX NO. 1568)
	1958	1:12000	PAN	ABRAMS	CITY OF MIDDLEVILLE (PHOTO INDEX NO. 1569)
	1965	1: 7920	PAN	ABRAMS	GRANGEVILLE TWP. (SYMBOL BNY)
	1965	1: 9600	PAN	MDSHT	M-37, M-43, BATTLE CREEK TO HASTINGS (FILE NO 8-432)
	1966	1: 6000	PAN	ABRAMS	YANKEE SPRINGS TWP. (SYMBOL BUP)
	1969	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CEU)
	1969	1: 7920	PAN	ABRAMS	AREA NEAR HASTINGS (SYMBOL CES)
	1970	1: 3000	PAN	MDSHT	M-83, PLAINWELL EAST TO RICHLAND (FILE NO 8-639)
	1970	1: 7920	PAN	ABRAMS	SECTIONS OF RUTLAND AND HASTINGS TOWNS. (SYMBOL CWY)
	1971	1:15840	PAN	ABRAMS	SECTIONS OF RUTLAND AND HASTINGS TOWNS. (SYMBOL CWY)
	1971	1: 3960	PAN	ABRAMS	BARPY TWP. (SYMBOL DFY)
	1971	1: 4800	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL DND)
	1973	1: 3960	PAN	ABRAMS	GULL LAKE AREA (SYMBOL EAD)
	1973	1: 7920	PAN	ABRAMS	PART OF SECTION 16, HOPE TWP. (SYMBOL EAE)
BAY	1955	1: 4800	PAN	DNR	HIGHWAYS (DNR-ENG)
	1960	1: 4800	PAN	ABRAMS	CITY OF BAY CITY (SYMBOL ANG)
	1963	1:12000	PAN	ABRAMS	HAMPTON TWP. (NO SYMBOL GIVEN, ALSO SCALE: 1:3000)
	1964	UNKNOWN	COL	DNP	SAGINAW BAY, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1964	1: 7920	PAN	ABRAMS	FRANKENLUST TWP. (SYMBOL BNY)
	1965	1: 3000	PAN	MDSHT	I-75, M-15, BAY CITY AREA (FILE NO 9-459)
	1966	1:19200	PAN	ABRAMS	PIPELINE STRIP FROM ALMA TO BAY CITY (SYMBOL 90K)
	1967	1: 3000	PAN	MDSHT	M-25, FROM BAY-TUSCOLA CO LINE TO UNIONVILLE)
	1967	1: 4800	PAN	MDSHT	I-75, SOUTH OF FLINT TO KAWKAWLIN (FILE NO 9-561)
	1969	1: 3960	PAN	ABRAMS	BANGOR TWP. (SYMBOL CRF, ALSO SCALE: 1:7920)
	1969	1: 3960	PAN	ABRAMS	PARTS OF CITY OF BAY CITY (SYMBOL COH)

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	ARFA/COMMENTS
BAY	1969	1: 6000	PAN	ABRAMS	CITY OF BAY CITY (SYMBOL CPI)
	1970	UNKNOWN	PAN	EPIM	BAY CITY POWER PLANT (SCANNERS, ALT: 3000FT)
	1971	1: 4800	PAN	MDSHT	US-10, MIDLAND BYPASS IN BAY CO (FILE NO 9-669)
	1971	1: 6000	PAN	ABRAMS	SECTION 2, FRANKENLUST TWP. (SYMBOL DFV)
	1971	1: 7920	PAN	ABRAMS	PART OF SECTION 6, BAY TWP. (SYMBOL DPV)
	1971	1: 7920	PAN	ABRAMS	SECTION 5, FRANKENLUST TWP. (SYMBOL ONS)
	1972	UNKNOWN	PAN	EPIM	SAGINAW RIVER (MULTIBAND, SCANNERS ALT: 1500FT)
	1973	UNKNOWN	PAN	EPIM	SHORELINE FROM LINWOOD TO BAY CO LINE (MULTIBAND)
	1973	UNKNOWN	PAN	EPIM	RAY CITY POWER PLANT (MULTIBAND, SCANNERS ALT: 5000FT)
	1973	1: 3960	PAN	ABRAMS	AREA IN BANGOR TWP. (SYMBOL EJM)
	1973	1: 7920	PAN	ABRAMS	APFA AROUND BAY CITY (SYMBOL EDG)
	1973	1: 12000	PAN	ABRAMS	FRANKENLUST TWP. (SYMBOL EDN, ALSO SCALE: 1:3960)
	1974	1: 3960	PAN	ABRAMS	BANGOR TWP. (SYMBOL EQH)
	1974	1: 3960	PAN	ABRAMS	CITY OF BAY CITY (SYMBOL FLY)
	1974	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EQJ)
	1975	1: 16000	COL	EPIM	LAKE HURON SHORELINE (MSN. X252M, ALSO PAN, CIR, MSS)
	1975	1: 3960	PAN	ABRAMS	BANGOR TWP. (SYMBOL EWS, ALSO SCALE: 1:15840)
	1975	1: 6000	PAN	ABRAMS	BANGOR TWP. (SYMBOL EVJ, ALSO SCALE: 1:3000)
	1975	1: 12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FBV, ALSO SCALE: 1:24000)
	BENZIE	1962	1: 6000	PAN	ABRAMS	CRYSTAL LAKE AREA (SYMBOL AXG)
1971		1: 7920	PAN	ABRAMS	CRYSTAL LAKE AREA (SYMBOL CVP)
1971		1: 7920	PAN	ABRAMS	VILLAGE OF BENZIE (SYMBOL DHR, ALSO SCALE: 1:3960)
1971		1: 7920	PAN	ABRAMS	CRYSTAL LAKE (SYMBOL DJZ)
1971		1: 7920	PAN	ABRAMS	CRYSTAL LAKE AND CHANDLER LAKE (SYMBOL DEG)
1971		1: 7920	PAN	ABRAMS	PART OF BENZONIA TWP. (SYMBOL DLM)
1974		1: 16000	COL	EPIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN, CIR, MSS)
1975		1: 3960	PAN	ABRAMS	VILLAGE OF THOMPSONVILLE (SYMBOL EXD)
1975		1: 7920	PAN	ABRAMS	PART OF GILMOPE TWP. (SYMBOL EXB)
BERRIEN		1954	1: 5000	PAN	ABRAMS	CITY OF ST. JOSEPH (PHOTO INDEX NO. 947)
	1954	1: 5000	PAN	CHICAGO	CITY OF ST. JOSEPH
	1954	1: 3000	PAN	ABRAMS	BENTON HARBOR STRIP (SYMBOL AKF)
	1954	1: 7920	PAN	ABRAMS	PART OF COUNTY (SYMBOL AKL)
	1954	1: 12000	PAN	ABRAMS	CITY OF ST. JOSEPH (SYMBOL AMZ, PHOTO INDEX NO. 1729)
	1954	1: 12000	PAN	ABRAMS	CITY OF BENTON HARBOR (PHOTO INDEX NO. 1725)
	1954	1: 7920	PAN	ABRAMS	NIGHTMAN TWP. (SYMBOL AKA)
	1954	1: 3960	PAN	ABRAMS	CITY OF BERRIEN SPRINGS (SYMBOL AOK, ALSO 1:6000)
	1954	1: 6000	PAN	ABRAMS	CITY OF NILES (SYMBOL AOK, ALSO SCALE: 1:3960)
	1954	1: 3960	PAN	ABRAMS	CITY OF BENTON HARBOR (SYMBOL ATS)
	1954	1: 6000	PAN	ABRAMS	CITY OF ST. JOSEPH (SYMBOL AT2)
	1954	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BAL)
	1954	1: 15840	PAN	ABRAMS	CITY OF NILES (SYMBOL BAG, ALSO SCALE: 1:7920)
	1954	UNKNOWN	PAN	ABRAMS	CITY OF ST. JOSEPH (SYMBOL BGS)
	1954	1: 9600	PAN	MDSHT	M-62, FROM M-140 EAST TO M-40 AT DOWAGIAC (NO 11-406)
	1954	1: 3000	PAN	MDSHT	M-139, FROM I-94 NORTH TO MAIN ST (FILE NO 11-481)
	1954	1: 6000	PAN	STEPEO	WAPPEN DUNES STATE PARK, 2 SQ. MILES (DNR-PARKS)
	1954	1: 9600	PAN	MDSHT	M-60, EAST OF NILES TO NORTHEAST OF CASSOPOLIS
	1954	1: 3000	PAN	MDSHT	US-31 TO 33, FROM M-60 BYPASS NORTH TO MAIN ST IN NILES
	1954	1: 3000	PAN	MDSHT	I-94 AND LAKESHORE DRIVE INTERCHANGE (FILE NO 11-513)
	1954	1: 3000	PAN	MDSHT	M-40, FROM US-31, 33 TO NORTH OF NILES (FILE NO 11-491)
	1954	1: 12000	PAN	MDSHT	US-31 RELOCATION, FROM US-12 NORTH TO I-196 AND I-94
	1954	1: 3000	PAN	MDSHT	US-12, US-31, 33, M-60, INDIANA STATE LINE TO M-60
	1954	1: 4800	PAN	MDSHT	US-31, BUCHANAN TO NILE (FILE NO 11-563)
	1954	1: 7920	PAN	ABRAMS	AREA NEAR ST. JOSEPH (SYMBOL GBN)
	1954	1: 9600	PAN	MDSHT	M-60, NILES TO VANDALIA (FILE NO 11-560)
	1954	UNKNOWN	CIP	EPIM	ST JOSEPH HARBOR, SOUTH HAVEN HARBOR (ALSO COLOR)
	1954	1: 2400	PAN	ABRAMS	SECTION IN NILES TWP. (SYMBOL CGU)
	1954	1: 4800	PAN	ABRAMS	NILES TWP. (SYMBOL CEH)
	1954	1: 4800	PAN	MDSHT	M-62, M-140 EAST TO M-40 IN CASS CO (FILE NO 11-574)
1954	1: 7920	PAN	ABRAMS	PART OF OPOKOKO TWP. (SYMBOL CGX)	
1954	1: 7920	PAN	ABRAMS	PART OF COLOMA TWP. (SYMBOL CIE, ALSO SCALE: 1:3960)	
1954	1: 9600	PAN	MDSHT	US-31, NILES TO BERRIEN SPRINGS (FILE NO 11-573)	
1954	UNKNOWN	PAN	EPIM	SOUTH HAVEN TO STEVENSVILLE (MULTIBAND, SCANNERS)	
1954	UNKNOWN	PAN	EPIM	MICHIGAN CITY TO SOUTH HAVEN (MULTIBAND, SCANNERS)	
1954	1: 3000	COL	ABRAMS	SHORELINE NEAR ST. JOSEPH (SYMBOL CSV, OBLIQUES)	
1954	1: 3000	PAN	ABRAMS	SHORELINE NEAR ST. JOSEPH (SYMBOL CSU)	
1954	1: 3000	COL	MDSHT	SHORELINE STRIP AT ST JOSEPH (OBLIQUES, NO 11-613)	
1954	1: 3000	COL	MDSHT	SHORELINE STRIP AT ST JOSEPH (FILE NO 11-617)	
1954	1: 3000	PAN	MDSHT	I-94 BL CROSSING ST JOSEPH RIVER (FILE NO 11-604)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
BERRIEN	1969	1: 4200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CPA)	
	1969	1: 3600	PAN	MOSHT	US-31, FROM NILES NORTH TO I-94 AND I-94	
	1969	1: 3600	PAN	MOSHT	M-139 CROSSING ST JOSEPH RIVER (FILE NO 11-594)	
	1969	1: 12000	PAN	MOSHT	US-31, SOUTHEAST AND WEST OF BERRIEN SPRINGS (NO 632)	
	1970	UNKNOWN	PAN	EPIM	SHORELINE NEAR COOK POWER PLANT (SCANNERS, MULTIBAND)	
	1970	1: 3000	CCL	MOSHT	SHORELINE STRIP AT ST JOSEPH (OBLIQUES, NO 11-613)	
	1970	1: 3000	PAN	ABRAMS	STRIP ALONG I-94 IN ST JOSEPH AREA (SYMBOL CZK)	
	1970	1: 3600	PAN	MOSHT	M-62, FROM M-140 EAST TO M-40 AT DOWAGIAC (NO 646)	
	1970	1: 3960	PAN	ABRAMS	PART OF BAINBRIDGE TWP. (SYMBOL DCU)	
	1970	1: 4800	PAN	ABRAMS	CITY OF BRIDGEMAN (SYMBOL CYT)	
	1970	1: 4800	PAN	ABRAMS	CITY OF NEW BUFFALO (SYMBOL DET)	
	1971	1: 3000	CCL	MOSHT	I-94, SHORELINE STRIP AT ST JOSEPH (FILE NO 613)	
	1971	1: 3000	CCL	MOSHT	SHORELINE STRIP AT ST JOSEPH (OBLIQUES, NO 11-613)	
	1971	1: 3000	PAN	MOSHT	I-94, LAKESHORE DRIVE INTERCHANGE (FILE NO 655)	
	1971	1: 3000	PAN	MOSHT	M-139, SCOTTSDALE NORTH TO I-94 (FILE NO 663)	
	1971	1: 3000	PAN	ABRAMS	STRIP ALONG I-94 IN ST JOSEPH AREA (SYMBOL DIZ)	
	1971	1: 3600	PAN	ABRAMS	PART OF COUNTY (SYMBOL DYM)	
	1971	1: 4800	PAN	ABRAMS	ST. JOSEPH TWP. (SYMBOL DPO)	
	1971	1: 6000	PAN	ABRAMS	PART OF CROCHOKO AND BERRIEN TWP. (SYMBOL 000)	
	1971	1: 7920	PAN	ABRAMS	PARTS OF BUCHANAN AND NILES TWP. (SYMBOL 00Y)	
	1971	1: 7920	PAN	ABRAMS	PART OF BERTRAND TWP. (SYMBOL 0LO)	
	1971	1: 12000	PAN	ABRAMS	STRIP ALONG I-94 IN ST JOSEPH AREA (SYMBOL DIZ)	
	1971	1: 12000	PAN	ABRAMS	AREA NEAR BRIDGEMAN (SYMBOL DLY)	
	1972	UNKNOWN	PAN	EPIM	COOK POWER PLANT, ST JOE RIVER PLUME (MULTIBAND, SCAN)	
	1972	1: 3000	PAN	ABRAMS	STRIP ALONG I-94 IN ST JOSEPH AREA (SYMBOL DVL)	
	1972	1: 3000	CCL	MOSHT	SHORELINE STRIP AT ST JOSEPH (OBLIQUES, NO 11-613)	
	1972	1: 4800	PAN	ABRAMS	LINCOLN TWP. (SYMBOL DZE)	
	1972	1: 6000	PAN	ABRAMS	PART OF BUCHANAN TWP. (SYMBOL DUK)	
	1972	1: 6000	PAN	MOSHT	US-31, RELOCATION FROM STATE LINE TO MATTHEW ROAD	
	1972	1: 15840	PAN	ABRAMS	AREA NEAR BRIDGEMAN (SYMBOL DTO)	
	1973	UNKNOWN	PAN	EPIM	ST JOSEPH RIVER (MULTIBAND, SCANNERS ALT: 5000FT)	
	1973	UNKNOWN	PAN	EPIM	PALISADES POWER PLANT (MULTIBAND, SCANNERS ALT: 5000)	
	1973	1: 3000	CCL	MOSHT	SHORELINE STRIP AT ST JOSEPH (OBLIQUES, NO 11-613)	
	1973	1: 3000	CCL	ABRAMS	STRIP ALONG I-94 IN ST JOSEPH AREA (SYMBOL EGI)	
	1973	1: 3600	PAN	ABRAMS	PART OF COUNTY (SYMBOL ECV)	
	1973	1: 3600	PAN	ABRAMS	SHORELINE HIGH, ELECTRIC CO. (DNP-ENG)	
	1973	1: 4800	PAN	ABRAMS	PART OF COLCHA TWP. (SYMBOL EAF)	
	1973	1: 7920	PAN	ABRAMS	PART OF BENTON TWP. (SYMBOL EGZ)	
	1974	UNKNOWN	PAN	EPIM	ALONG LAKE MICHIGAN SHORELINE (SCANNERS ALT: 5000)	
	1974	1: 10000	CCL	EPIM	LAKE MICHIGAN SHORELINE (HSM, Y252M, ALSO PAN, CIP, PSS)	
	1975	1: 7920	PAN	ABRAMS	CITY OF ST. JOSEPH (SYMBOL AMZ)	
	1975	1: 3600	PAN	MOSHT	US-31, NILES TO BENTON HARBOUR (FILE NO 729)	
	1976	1: 6000	PAN	MOSHT	M-51, CITY OF NILES (FILE NO 772)	
	1976	1: 6000	PAN	EPIM	TWO STRIPS ALONG M-51, NILES AREA (SYMBOL FCT)	
	1976	1: 20000	PAN	ABRAMS	BENTON TWP. (SYMBOL FBF)	
	BRANCH	1954	1: 6000	PAN	ABRAMS	CITY OF COLDWATER (PHOTO INDEX NO. 993)
		1962	1: 6000	PAN	MOSHT	I-69, NEAR MARSHALL SOUTH TO INDIANA (FILE NO 12-307)
		1965	1: 3600	PAN	MOSHT	M-86, FROM COLCH EAST TO QUINCY (FILE NO 12-468)
		1965	1: 3000	PAN	MOSHT	US-12, FROM I-69 TO QUINCY (FILE NO 12-494)
		1965	1: 3000	PAN	MOSHT	M-86, FROM COLCH EAST TO US-12 (FILE NO 12-517)
1965		1: 6000	PAN	ABRAMS	CITY OF COLDWATER (SYMBOL CIA)	
1969		1: 7920	PAN	ABRAMS	AREA NEAR COLDWATER (SYMBOL CPC, ALSO SCALE: 1:15840)	
1970		1: 3000	PAN	MOSHT	US-12 AT I-69, EAST TO QUINCY (FILE NO 12-637)	
1973		1: 4800	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL GBC)	
1975		1: 24000	PAN	ABRAMS	STRIP FROM MARSHALL TO COLDWATER (SYMBOL EFJ)	
1975	1: 6000	PAN	MOSHT	US-12 AT I-69, EAST TO QUINCY (FILE NO 753)		
CALHOUN	1953	1: 6000	PAN	ABRAMS	CITY OF ALBION (PHOTO INDEX NO. 881)	
	1955	1: 3600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)	
	1957	1: 6000	PAN	ABRAMS	HIGHWAYS (DNP-ENG)	
	1958	1: 12000	PAN	ABRAMS	CITY OF TAYNCHA (PHOTO INDEX NO. 1520)	
	1960	1: 7920	PAN	ABRAMS	CITY OF BATTLE CREEK (SYMBOL AKG, ALSO SCALE: 1:15840)	
	1961	1: 6000	PAN	ABRAMS	CITY OF BATTLE CREEK (SYMBOLS A00, A05, ADL)	
	1962	1: 6000	PAN	ABRAMS	STRIP ALONG I-69 SOUTH OF I-94 (SYMBOL AUF)	
	1963	1: 6000	PAN	ABRAMS	STRIP ALONG I-94 WEST OF MARSHALL (SYMBOL BAY)	
	1963	1: 6000	PAN	ABRAMS	CITY OF MARSHALL (SYMBOL BBT)	
	1963	1: 7920	PAN	ABRAMS	BATTLE CREEK TWP. (SYMBOL AZL, ALSO SCALE: 1:15840)	
	1963	1: 7920	PAN	ABRAMS	CITY OF BATTLE CREEK (SYMBOL AZP)	
	1963	1: 12000	PAN	ABRAMS	VILLAGE OF TAYNCHA (SYMBOL BAE)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
CALHOUN	1963	1:115343	PAN	ABRAMS	CITY OF BATTLE CREEK (SYMBOL AZP, ALSO SCALE: 1:136000)	
	1964	1:30000	PAN	MOSHT	US-27, FROM I-94, MARSHALL TO CHARLOTTE (NO 13-425)	
	1965	1:96000	PAN	MOSHT	I-69, MARSHALL TO CHARLOTTE (FILE NO 13-440)	
	1965	1:96000	PAN	MOSHT	M-37, M-43, BATTLE CREEK TO HASTINGS (FILE NO 13-432)	
	1966	1:30000	PAN	MOSHT	US-27 RELOCATION, I-94 TO CHARLOTTE (FILE NO 13-519)	
	1966	1:33000	PAN	MOSHT	M-69, FROM M-60 TO ALBION (FILE NO 13-569)	
	1967	1:79200	PAN	ABRAMS	ROCKFORD TWP. (SYMBOL CBI)	
	1968	1:79200	PAN	ABRAMS	SECTION IN BEDFORD TWP. (SYMBOL CKY)	
	1968	1:79200	PAN	ABRAMS	ROCKFORD TWP. (SYMBOL CBY)	
	1968	1:39600	PAN	ABRAMS	PART OF BATTLE CREEK TWP. (SYMBOL CVA)	
	1969	1:48000	PAN	ABRAMS	STIP ALONG I-94 (SYMBOL CND)	
	1969	1:48000	PAN	MOSHT	I-94, TAPOUGH COUNTY (FILE NO 13-593)	
	1971	1:39600	PAN	ABRAMS	AFAS IN COUNTY (SYMBOL OFA)	
	1970	1:79200	PAN	ABRAMS	VICINITY OF MARSHALL (SYMBOL CWN)	
	1971	1:30000	PAN	ABRAMS	BATTLE CREEK TWP. (SYMBOL EPV)	
	1971	1:79200	PAN	ABRAMS	STIP ALONG I-94 IN BATTLE CREEK AREA (SYMBOL DFM)	
	1972	1:79200	PAN	ABRAMS	PARTS OF SECS. 7, 8, 17, 18, ROCKFORD TWP. (SYMBOL DSE)	
	1973	1:158400	PAN	ABRAMS	PARTS OF SECS. 7, 8, 17, 18, ROCKFORD TWP. (SYMBOL DSE)	
	1973	1:96000	PAN	ABRAMS	VILLAGE OF TEYONSHA (SYMBOL EFH)	
	1973	1:212000	PAN	ABRAMS	VICINITY OF MARSHALL AND BATTLE CREEK (SYMBOLS EIE, EHU)	
	1973	1:324000	PAN	ABRAMS	STIP FROM MARSHALL TO COLUMBIAN (SYMBOL EFJ)	
	1974	1:39600	PAN	ABRAMS	BATTLE CREEK TWP. (SYMBOLS EOT, EOE)	
	1974	1:79200	PAN	ABRAMS	CEPEAL CITY LANDFILL (SYMBOL EOP)	
	1974	1:79200	PAN	ABRAMS	CITY OF BATTLE CREEK (SYMBOL EPA)	
	1974	1:120000	PAN	ABRAMS	VILLAGE OF TEYONSHA (SYMBOL EOR)	
	1975	1:39600	PAN	ABRAMS	AREA AROUND BATTLE CREEK (SYMBOL EXL)	
	1976	1:60000	PAN	MOSHT	STIP ALONG I-94 BUS. LOOP, BATTLE CREEK (SYMBOL FBT)	
	1976	1:120000	CCL	EPIV	FIVE FLIGHT LINES IN BATTLE CREEK AREA (SYMBOL FCH)	
	CASS	1964	1:79200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BDX)
		1964	1:96000	PAN	MOSHT	M-62, FROM M-140 EAST TO M-43 AT DOWAGIAC (NO 406)
		1964	1:96000	PAN	MOSHT	M-119, FROM MARCELLUS NORTH TO LAWTON (FILE NO 405)
		1965	1:96000	PAN	MOSHT	M-60, EAST OF MILES NORTHEAST TO CASSOPOLIS NO 14-480)
		1965	1:96000	PAN	MOSHT	US-12 AT MOTTVILLE (FILE NO 523)
1966		1:96000	PAN	MOSHT	US-131, WALLOW LAKE TO STATE LINE (FILE NO 14-527)	
1967		1:39600	PAN	MOSHT	M-119, MARCELLUS TO LAWTON (FILE NO 14-542)	
1967		1:79200	PAN	ABRAMS	CITY OF DOWAGIAC (SYMBOL BYG)	
1967		1:96000	PAN	MOSHT	M-60 RELOCATION, MILES TO VANDALIA (FILE NO 14-560)	
1968		1:36000	PAN	MOSHT	M-69, MILES TO CASSOPOLIS (FILE NO 14-583)	
1968		1:48000	PAN	MOSHT	M-62, M-140 EAST TO M-40 (FILE NO 574)	
1970		1:39600	PAN	MOSHT	M-69, FROM BARDON LAKE ROAD TO CASSOPOLIS (NO 14-661)	
1972		1:39600	PAN	MOSHT	M-62, FROM M-140 EAST TO M-40 AT DOWAGIAC (NO 14-646)	
1972	1:56000	PAN	MOSHT	US-12 RELOCATION, EAST AND WEST OF MOTTVILLE (NO 686)		
CHAPLEVOIX	1967	1:60000	PAN	ABRAMS	CITY OF CHAPLEVOIX (PHOTO INDEX NO. 1471)	
	1968	1:120000	PAN	OHIO PARKS	CITY OF CHAPLEVOIX	
	1968	1:60000	PAN	STEVENSON	YOUNG STATE PARK, 1 SQ. MILE (DNR-PARKS)	
	1968	1:36000	PAN	MOSHT	M-32, CHAPLEVOIX TO EAST JORDAN (FILE NO 15-470)	
	1968	1:158400	PAN	ABRAMS	BOYNE MOUNTAIN AREA (SYMBOL BNP)	
	1968	1:79200	PAN	ABRAMS	LAKE CHAPLEVOIX (SYMBOL BRT, ALSO SCALE: 1:13960)	
	1968	1:36000	PAN	MOSHT	US-131, WALLOW LAKE TO PETOSKY (FILE NO -527)	
	1968	1:36000	PAN	ABRAMS	VICINITY OF PETOSKY (SYMBOL BVS)	
	1968	1:120000	PAN	ABRAMS	SECTION 23 OF CHAPLEVOIX (SYMBOL BSF)	
	1967	1:79200	PAN	ABRAMS	AREA NEAR WALLOW LAKE (SYMBOL CBZ)	
	1967	1:79200	PAN	ABRAMS	BOYNE CITY AREA (SYMBOL CSB)	
	1967	1:79200	PAN	ABRAMS	BEAVER ISLAND (SYMBOL BZT, ALSO SCALE: 1:15840)	
	1967	1:79200	PAN	ABRAMS	BAY TWP.	
	1968	1:79200	PAN	ABRAMS	PART OF EVALINE TWP. (SYMBOL CSH)	
	1968	1:36000	PAN	MOSHT	US-131, FROM M-75 NORTH TO STATE POLICE POST	
	1968	1:79200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CHB)	
	1968	1:158400	PAN	ABRAMS	BEAVER, GARDEN, HOG, AND HIGH ISLANDS (SYMBOL CJI)	
	1968	1:79200	PAN	ABRAMS	BOYNE CITY AREA (SYMBOL CS2)	
	1973	1:158400	PAN	OHIO PARKS	CHAPLEVOIX POWER PLANT (SCANNERS, ALT 5000FT)	
	1970	1:39600	PAN	ABRAMS	PART OF CHAPLEVOIX TWP. (SYMBOL CYS)	
1970	1:79200	PAN	ABRAMS	PART OF WILSON TWP. (SYMBOL D90)		
1971	1:79200	PAN	ABRAMS	PART OF BAY TWP. (SYMBOL EXT)		
1971	1:79200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DLH)		
1973	1:39600	PAN	ABRAMS	CITY OF CHAPLEVOIX (SYMBOL EIA)		
1973	1:79200	PAN	ABRAMS	AREA IN COUNTY (SYMBOLS EFM, EEC)		
1974	1:39600	PAN	ABRAMS	BAY TWP. (SYMBOL E9F, ALSO SCALES: 1:7920, 1:96000)		

7-13

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
CHAPLEVOIX	1974	1: 7920	PAN	ABRAMS	VICINITY OF PETOSKY (SYMBOL ENU)
	1974	1:12000	PAN	ABRAMS	PART OF EVALINE TWP. (SYMBOL EMH)
	1974	1:16000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
	1974	1:24000	PAN	ABRAMS	AREA NEAR CHAPLEVOIX (SYMBOL EOH)
	1976	1:12000	PAN	ERIM	FOUR FLIGHT LINES IN THE EAST JORDAN AREA (SYMBOL FCK)
CHEROYGAN	1956	1: 9000	PAN	SOS	CHEBOYGAN AREA (SYMBOL: BDM-A)
	1962	UNKNOWN	COL	DNR	DINGMAN MARSH, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1962	UNKNOWN	CCL	DNR	STONEY CREEK, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1962	UNKNOWN	COL	DNR	DOG LAKE FLOODING, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1962	1: 6000	PAN	ABRAMS	CHEBOYGAN STATE PARK, 3 SO. MILES (DNR-PARKS)
	1966	1: 4800	PAN	MDSHT	M-68, COLLINS ROAD TO ONAWAY (FILE NO 528)
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1969	1:15840	PAN	ABRAMS	SECTIONS IN NUNDA TWP. (SYMBOL CUA)
	1970	1: 3960	PAN	ABRAMS	AREA IN TUSCARONA TWP. (SYMBOL CYH)
	1974	1: 3000	PAN	MDSHT	BUPT LAKE REST AREA ALONG I-75 (FILE NO 711)
	1974	1: 3000	PAN	MDSHT	I-75, LEVFRING ROAD REST AREA (FILE NO 712)
	1974	1: 3960	PAN	ABRAMS	CHEBOYGAN AREA (SYMBOL EQN)
	1975	1: 6000	PAN	ABRAMS	AREA NEAR CHEBOYGAN (SYMBOL EXJ)
	1975	1:40000	COL	BENDIX	BUPT, MULLET, BLACK, DOUGLAS LAKES (LANCSAT PROJ. E2325)
	CHIPPEWA	1939	1:20000	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
1954		1: 6000	PAN	ABRAMS	CITY OF SAULT ST. MARIE (PHOTO INDEX NO. 1021)
1954		1: 6000	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
1960		1:12000	PAN	ABRAMS	ST. MARYS RIVER SHORELINE (SYMBOL ALI)
1961		UNKNOWN	PAN	DNR	ST. MARYS RIVER, LOW OBLIQUE (DNR-WILDLIFE)
1962		UNKNOWN	CCL	DNR	POTAGANNISSING BAY, 35 MM. OBLIQUES (DNR-WILDLIFE)
1965		1: 6000	PAN	STEPEO	DETOUR STATE PARK, 1 SO. MILE (DNR-PARKS)
1969		1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
1969		1: 3960	PAN	ABRAMS	AREA NEAR SAULT STE MARIE (SYMBOL CSH)
1969		1: 4800	PAN	MDSHT	SAULT SAINT MARIE AREA (FILE NO 17-600)
1969		1: 4800	PAN	ABRAMS	CITY OF SAULT STE MARIE (SYMBOLS CQY,COX)
1969		1: 9600	PAN	ABRAMS	CITY OF BRIMLEY (SYMBOL CRB)
1969		1: 9600	PAN	MDSHT	SAULT SAINT MARIE AREA (FILE NO 17-601)
1969		1: 9600	PAN	MDSHT	M-221, BRIMLEY, LAKE SHORE DRIVE (FILE NO 17-596)
1970		1: 3960	PAN	ABRAMS	VILLAGE OF DETOUR (SYMBOL ODP)
1971		1: 9600	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DK9)
1973		UNKNOWN	COL	DNR	ST. MARYS RIVER, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
1974		UNKNOWN	COL	DNR	ST. MARYS RIVER, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
1974		1: 7920	PAN	ABRAMS	SAULT STE MARIE AND VICINITY (SYMBOL EQA)
1974		1: 7920	PAN	ABRAMS	VILLAGE OF DETOUR (SYMBOL ERD)
1974		1:15000	COL	ERIM	SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
1975		1: 3960	PAN	ABRAMS	SAULT STE MARIE (SYMBOL EXA, ALSO 1:7920, 1:15840)
1975		1:24000	PAN	ABRAMS	CENTRAL PART OF BIPCH CREEK (SYMBOL EWZ)
1976		1: 4800	PAN	ABRAMS	VILLAGE OF DETOUR (SYMBOL FDK)
1976		1: 7920	PAN	ABRAMS	TOWN OF DAFTER (SYMBOL FDI, ALSO SCALE: 1:3960)
CLARE	1962	UNKNOWN	CCL	DNR	OLD FUR FARM, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1962	1: 3000	PAN	ABRAMS	CITY OF CLARE (SYMBOL AWP)
	1962	1: 7920	PAN	ABRAMS	FREEMAN TWP. (SYMBOL AXW)
	1964	1: 9600	PAN	MDSHT	US-10, RELOCATION AROUND CLARE (FILE NO 18-397)
	1964	1: 9600	PAN	ABRAMS	AREA IN COUNTY (SYMBOLS BHD,BGP)
	1965	1: 3000	PAN	MDSHT	US-10, RELOCATION FROM M-115 TO US-27 (FILE NO 18-453)
	1965	1: 9600	PAN	MDSHT	M-61, FROM M-66 EAST TO HARRISON (FILE NO 18-463)
	1965	1:15840	PAN	ABRAMS	CITY OF HARRISON (SYMBOL BOL)
	1966	1: 3000	PAN	MDSHT	M-61, FROM M-115 EAST TO HARRISON (FILE NO 18-512)
	1966	1: 7920	PAN	ABRAMS	PART OF HAYES TWP. (SYMBOL BSH)
	1967	UNKNOWN	COL	DNR	TOWNLINE CREEK, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1969	1: 7920	PAN	ABRAMS	SECTIONS IN HAMILTON TWP. (SYMBOL CUC)
	1969	1: 7920	PAN	ABRAMS	PARTS OF SECS. IN HAYES AND HAMILTON TWP. (SYMBOL CUE)
	1970	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DDx)
	1970	1: 7920	PAN	ABRAMS	CITY OF CLARE (SYMBOL DAP)
	1971	1: 7920	PAN	ABRAMS	PART OF FREEMAN AND REDDING TWPS. (SYMBOL DOR)
	1973	1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EDS)
	1975	1:40000	COL	BENDIX	BUDD LAKE (HARRISON) AREA (LANDSAT PROJ. E2325)
	1975	1: 4800	PAN	ABRAMS	HAYES TWP. (SYMBOL FCR)
	1976	1: 7920	PAN	ABRAMS	CITY OF CLARE (SYMBOL FDV, ALSO SCALES 1:3960 1:20004)
CLINTON	1955	1: 4800	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
	1961	1: 7920	PAN	ABRAMS	VILLAGE OF DEWITT AND OVID (SYMBOL ANT)

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
CLINTON	1961	1: 9600	PAN	ABRAMS	STRIP COVERAGE (SYMBOL AOU)
	1962	1: 7920	PAN	ABRAMS	SECTION 36, WATERTOWN TWP. (SYMBOL AWI)
	1963	1: 12000	PAN	ABRAMS	STRIP FROM LANSING TO ITHACA (SYMBOL AZS)
	1964	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BOY)
	1964	1: 7920	PAN	ABRAMS	DEWITT TWP. (SYMBOL BIN)
	1964	1: 9600	PAN	MOSHT	US-27, M-72, RELOCATION IN EATON AND INGHAM COS
	1965	1: 3000	PAN	MOSHT	US-27, FROM SHIAWASSEE ST IN LANSING TO WEBB ROAD
	1965	1: 3000	PAN	MOSHT	US-127, FROM KALAMAZOO ST IN LANSING TO US-27 AND CLARK
	1965	1: 3000	PAN	MOSHT	US-127, FROM TROWBRIDGE INTERCHANGE NORTH TO US-27
	1965	1: 4000	PAN	MOSHT	US-27, NEAR CO LINE BETWEEN STATE AND HERBISON ROADS
	1965	1: 7920	PAN	ABRAMS	BATH TWP. (SYMBOL BOB)
	1965	1: 7920	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL BKP)
	1966	1: 3000	PAN	MOSHT	M-21 FROM IONIA TO PEWAMO (FILE NO 19-499)
	1966	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BPU)
	1966	1: 7920	PAN	ABRAMS	BEAR CREEK (DNR-PARKS)
	1966	1: 7920	PAN	ABRAMS	SLEEPY HOLLOW STATE PARK, 7 SQ. MILES (DNR-PARKS)
	1966	1: 7920	PAN	ABRAMS	VILLAGE OF OVID (SYMBOL BXL)
	1967	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BZL)
	1967	1: 7920	PAN	ABRAMS	BATH TWP. (SYMBOL BXF)
	1967	1: 7920	PAN	ABRAMS	DEWITT TWP. (SYMBOL BXG)
	1967	1: 9600	PAN	MOSHT	US-27 LANSING TO ST JOHNS (FILE NO 19-558)
	1968	1: 7920	PAN	ABRAMS	AREA IN WATERTOWN TWP. (SYMBOL CKD)
	1968	1: 7920	PAN	ABRAMS	DEWITT TWP. (SYMBOL CEI)
	1969	1: 9600	PAN	MOSHT	I-69 CHARLOTTE TO GRAND LEDGE (FILE NO 19-608)
	1970	1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CWM)
	1970	1: 4000	PAN	MOSHT	M-99, WAVEFLY ROAD TO DEWITT (FILE NO 19-636)
	1970	1: 7920	PAN	ABRAMS	CITY OF ST. JOHNS (SYMBOL CXG)
	1970	1: 12000	PAN	ABRAMS	I-69 EXTENSION FROM I-96 EAST TO PERRY (SYMBOL DEP)
	1970	1: 12000	PAN	MOSHT	I-69 EXTENSION, FROM I-96 TO M-72 AT PERRY (NO 19-660)
	1971	1: 3000	PAN	MOSHT	I-96 FOREST HILL ROAD TO NORTH LOGAN (FILE NO 19-662)
	1971	1: 3960	PAN	ABRAMS	PART OF DEWITT TWP. (SYMBOL DLW)
	1971	1: 5400	PAN	SCS	UPPER MAPLE RIVER W/S (SYMBOL MN-UM)
	1971	1: 12000	PAN	MOSHT	I-69 EXTENSION, CLINTON AND SHIAWASSEE COS
	1972	VARIES	BWIP	EPIM	S.W. PART (MSN. 63M, ALSO 70 MM CIR/COL, 3 FLT. LINES)
	1972	VARIES	EPIM	EPIM	S.E. PART (MSN. 65M, ALSO 70 MM CIR/COL, 3 FLT. LINES)
	1973	1: 3960	PAN	ABRAMS	AREA IN EAGLE TWP. (SYMBOL EJO)
	1973	1: 4000	PAN	ABRAMS	CITY OF ST. JOHNS (SYMBOL EJC)
	1973	1: 10000	BWIP	EPIM	S.E. PART (MSN. 82M, ALSO 70 MM CIR/COL, 1 FLT. LINE)
	1974	1: 7920	PAN	ABRAMS	AREA NEAR EAGLE (SYMBOL ENG)
	1974	1: 7920	PAN	ABRAMS	AREAS IN DEWITT TWP. (SYMBOL EHK)
	1974	1: 9600	PAN	ABRAMS	SLEEPY HOLLOW STATE PARK (SYMBOL EPS)
	1974	1: 15846	PAN	DNP	TOPO MAPS (DNR-ENG)
	1975	1: 3000	PAN	MOSHT	I-69, I-96 WEST OF LANSING TO PERRY (FILE NO
	1975	1: 3960	PAN	ABRAMS	VILLAGE OF DEWITT AND VICINITY (SYMBOL EVO)
	1975	1: 7920	PAN	MOSHT	M-99, LOGAN ST IN LANSING FROM GRAND RIVER TO DEWITT
	1975	1: 12000	PAN	ABRAMS	DEWITT TWP. (SYMBOL EWO, ALSO SCALE: 1:20004)
	1975	1: 12000	PAN	MOSHT	US-27, LANSING TO ITHACA (FILE NO 739)
1976	1: 6000	PAN	MOSHT	STRIPS ALONG I-69 NEAR EAST LANSING (SYMBOL FC3)	
1976	1: 6000	PAN	EPIM	STRIP ALONG US-27, ST JOHNS TO LANSING (SYMBOL FCS)	
1976	1: 6000	PAN	MOSHT	CAPITAL CITY AIRPORT, TERMINAL AREA	
1976	1: 7920	PAN	EPIM	ST JOHNS MARSHLAND (SYMBOL FCV)	
CRAWFORD	1963	1: 3000	PAN	ABRAMS	CAMP GRAYLING (SYMBOL BCL)
	1964	1: 7920	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL BIP)
	1964	1: 12000	PAN	MOSHT	I-75, ALGER NORTHWEST TO SOUTH OF GRAYLING
	1964	1: 15843	PAN	ABRAMS	GRAYLING TWP. (SYMBOL BGJ)
	1965	1: 6000	PAN	MOSHT	I-75, ALGER NORTHWEST TO US-27 (FILE NO 20-452)
	1968	1: 15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1971	1: 7920	PAN	ABRAMS	GRAYLING TWP. (SYMBOL DJU)
	1975	1: 40000	CCL	BENDIX	LAKE MARGUERITE AREA (LANDSAT PROJ. F2325)
1976	1: 3000	PAN	MOSHT	TWO SHORT STRIPS ALONG M-72 AND I-75 NEAR GRAYLING	
DELTA	1960	1: 6000	PAN	ABRAMS	CITY OF ESCANABA (SYMBOL ALM, PHOTO INDEX NO. 1706)
	1962	UNKNOWN	COL	DNP	FRENCH FARM LAKE, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1962	UNKNOWN	COL	DNP	ONEAL LAKE FLOODING, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1963	1: 6000	PAN	ABRAMS	FAYETTE STATE PARK (SYMBOL BAW, ALSO 1:7920 DNR PARKS)
	1964	1: 15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1966	1: 7920	PAN	ABRAMS	VICINITY OF ESCANABA (SYMBOL EJP)
	1966	1: 12000	PAN	ABRAMS	CITY OF ESCANABA (SYMBOL BUB, ALSO SCALE: 1:7920)
1969	1: 7920	PAN	ABRAMS	CITY OF ESCANABA (SYMBOL CPX)	

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
DELTA	1971	1: 3000	PAN	MDSHT	US-2, ESCANABA TO MILES (FILE NO 674)	
	1972	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DWH)	
	1972	1: 7920	PAN	ABRAMS	GLADSTONE AREA (SYMBOL DZG)	
	1972	1:12000	PAN	ABRAMS	AREA NEAR GLADSTONE (SYMBOL DUC)	
	1972	1:12000	PAN	ABRAMS	WEST OF GLADSTONE (SYMBOL DWE)	
	1974	1:10000	COL	CRIT	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)	
	1975	1: 3000	PAN	MDSHT	US-2, ESCANABA TO ST IGNACE (FILE NO 742)	
	1975	1: 4800	PAN	ABRAMS	MASONVILLE TWP. (SYMBOL EWH)	
	1975	1: 7920	PAN	ABRAMS	WELLS TWP. (SYMBOL EVC)	
	1975	1: 7920	PAN	ABRAMS	SHORELINE AND STREAMS IN COUNTY (SYMBOL EVG)	
	1976	1: 6000	PAN	MDSHT	STRIP ALONG US-2 (SYMBOL FAQ)	
	DICKINSON	1962	UNKNOWN	COL	DNR	HANCOCK CREEK, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
		1962	1:14400	PAN	ABRAMS	CITY OF IRON MOUNTAIN (SYMBOL AWH)
		1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
1970		1:15840	PAN	ABRAMS	BREITUNG TWP. (SYMBOL CZJ)	
1971		1: 7920	PAN	ABRAMS	CITY OF KINGSFORD (SYMBOL DKH)	
1971		1:15840	PAN	ABRAMS	CITY OF KINGSFORD (SYMBOL OKL, ALSO SCALE: 1:7920)	
1972		1:15300	PAN	HURT	N.W. CORNER STURGEON R. STATE FOREST (SYMBOL: CSD)	
1975		1: 7920	PAN	ABRAMS	VILLAGE OF NOPWAY (SYMBOL EZE)	
1976		1: 6000	PAN	MDSHT	STRIP ALONG US-2 (SYMBOL FAQ)	
1976		1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FOS)	
EATON		1960	1: 3000	PAN	ABRAMS	SECS 6 AND 7 S OF NASHVILLE (SYMBOL AMC, ALSO 1:6000)
	1960	1: 5000	PAN	ABRAMS	CITY OF DIMONDALE	
	1961	1: 4800	PAN	ABRAMS	CITY OF CHARLOTTE (SYMBOL ASO)	
	1961	1: 5000	PAN	ABRAMS	CITY OF CHARLOTTE (SYMBOL AOR)	
	1962	1: 7920	PAN	ABRAMS	CITY OF GRAND LEDGE (SYMBOL AYI)	
	1963	1: 3000	PAN	MDSHT	I-496, LANSING FROM I-96 TO CLARE ST (FILE NO 23-422)	
	1964	1: 3000	PAN	MDSHT	US-27, FROM I-94 MARSHALL TO CHARLOTTE (NO 23-425)	
	1964	1: 9600	PAN	MDSHT	US-27, M-78, RELOCATION IN EATON CO (FILE NO 23-413)	
	1965	1: 6000	PAN	ABRAMS	AREA NEAR CHARLOTTE (SYMBOL BKJ)	
	1965	1: 7920	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL BKP)	
	1965	1: 9600	PAN	MDSHT	M-50, CHARLOTTE TO EATON RAPIDS (FILE NO 23-472)	
	1965	1: 9600	PAN	MDSHT	US-27, MARSHALL TO CHARLOTTE (FILE NO 23-440)	
	1966	1: 3000	PAN	MDSHT	M-78, FROM RELIEFUE TO US-27 RELOCATION (NO 23-500)	
	1966	1: 3000	PAN	MDSHT	US-27 RELOCATION, I-94 TO CHARLOTTE (FILE NO 23-519)	
	1966	1: 6000	PAN	MDSHT	I-496, FROM WAVERLY ROAD TO SNOW ROAD (FILE NO 23-503)	
	1966	1: 7920	PAN	ABRAMS	SECTIONS IN WINDSOR TWP. (SYMBOL BPW)	
	1966	1: 7920	PAN	ABRAMS	PART OF EATON TWP. (SYMBOL BWR)	
	1967	1: 3000	PAN	MDSHT	M-50, CHARLOTTE TO EATON RAPIDS (FILE NO 23-538)	
	1967	1: 7920	PAN	ABRAMS	BENTON TWP. (SYMBOL BXE)	
	1968	1: 3960	PAN	ABRAMS	SECTION 34, DELTA TWP. (SYMBOL GEL)	
	1968	1: 3960	PAN	ABRAMS	STRIP FROM MOORE'S PARK TO DIMONDALE (SYMBOL CKR)	
	1968	1: 7920	PAN	ABRAMS	DELTA TWP. (SYMBOL CEH)	
	1968	1: 7920	PAN	ABRAMS	WINDSOR TWP. (SYMBOL COU)	
	1968	1: 7920	PAN	ABRAMS	CITY OF CHARLOTTE (SYMBOL CKY)	
	1968	1: 7920	PAN	ABRAMS	EATON RAPIDS TWP. (SYMBOL CGU)	
	1969	1: 3000	PAN	MDSHT	M-43, FROM BROADBENT TO BELTLINE ROAD (FILE NO 23-611)	
	1969	1: 7920	PAN	ABRAMS	CITY OF EATON RAPIDS (SYMBOL CV9)	
	1969	1: 9600	PAN	MDSHT	I-69 (PROPOSED), CHARLOTTE TO GRAND LEDGE (NO 23-608)	
	1971	1: 4800	PAN	MDSHT	M-99, WAVERLY ROAD TO DEWITT (FILE NO 23-636)	
	1970	1:12000	PAN	MDSHT	M-99, EATON RAPIDS TO WAVERLY ROAD (FILE NO 23-635)	
	1971	1: 7920	PAN	ABRAMS	AREA IN WINDSOR TWP. (SYMBOLS DPU,DKA)	
	1972	VARIES	BWIP	EPIM	N.C. PART (MSN. 63M, ALSO 70 MM CIR/COL, 6 FLT. LINES)	
	1972	1: 7920	PAN	ABRAMS	WINDSOR TWP. (SYMBOL DRY)	
	1973	1: 7920	PAN	ABRAMS	SECTION 4, EATON TWP. (SYMBOL EGA)	
	1973	1: 7920	PAN	ABRAMS	AREA IN DELTA TWP. (SYMBOL EGO)	
	1973	1:12000	PAN	MDSHT	I-69, FROM CHARLOTTE TO I-496 (FILE NO 23-703)	
	1973	1:12000	PAN	ABRAMS	STRIP ALONG I-69 (SYMBOL EGG)	
1973	1:25000	BWIF	ERIM	N.C. PART (MSN. 82M, ALSO 70 MM CIR/COL, 1 FLT. LINE)		
1975	1: 6000	PAN	MDSHT	I-69, LANSING TO CHARLOTTE (FILE NO 737)		
1975	1: 7920	PAN	ABRAMS	CITY OF CHARLOTTE (SYMBOL EYP)		
1975	1:12000	PAN	ABRAMS	DELTA TWP (SYMBOL EWO, ALSO SCALE: 1:20004)		
1975	1:12000	PAN	ABRAMS	CITY OF CHARLOTTE (SYMBOL EWO, ALSO SCALE: 1:20004)		
1976	1: 6000	PAN	MDSHT	STRIP ALONG PROPOSED I-69 (SYMBOL FAT)		
EMMET	1953	1: 9600	PAN	ABRAMS	HIGHWAYS (DNR-ENG)	
	1957	1: 6000	PAN	ABRAMS	CITY OF PETOSKEY (PHOTO INDEX NO. 1470)	
	1962	1: 6000	PAN	ABRAMS	PETOSKEY STATE PARK, 480 ACRES (DNR-PARKS)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
EMMET	1964	1:15840	PAN	ABRAMS	NEAR BOYNE HIGHLANDS (SYMBOL BGW)	
	1965	1:3000	PAN	MDSHT	US-31, FROM CHARLEVOIX CO LINE TO US-131 PETOSKY	
	1966	1:9600	PAN	MDSHT	US-131, HALLOON LAKE TO PETOSKY (FILE NO 527)	
	1968	1:3000	PAN	MDSHT	US-131, FROM I-75 NORTH TO STATE POLICE FORCE	
	1968	1:6000	PAN	ABRAMS	MAPLE RIVER TWP. (SYMBOL CHW)	
	1969	1:7920	PAN	ABRAMS	PART OF PLEASANT VIEW TWP. (SYMBOL CPU)	
	1969	1:12000	PAN	ABRAMS	SECTIONS IN THE COUNTY (SYMBOL CSJ)	
	1970	1:6000	PAN	ABRAMS	PART OF PLEASANT VIEW TWP. (SYMBOL DDP)	
	1970	1:7920	PAN	ABRAMS	PART OF WEST TRAVERSE AND FRIENDSHIP TWP. (SYMBOL DAA)	
	1970	1:12000	PAN	ABRAMS	PLEASANT VIEW TWP. (SYMBOL CXQ)	
	1970	1:12000	PAN	ABRAMS	PART OF PLEASANT VIEW TWP. (SYMBOL DDP)	
	1971	1:3000	PAN	MDSHT	US-31, PETOSKY (FILE NO 671)	
	1971	1:7920	PAN	ABRAMS	PART OF LITTLE TRAVERSE TWP. (SYMBOLS DIO, DKK)	
	1972	1:3960	PAN	ABRAMS	PART OF LITTLE TRAVERSE TWP. (SYMBOL DWB)	
	1972	1:4800	PAN	ABRAMS	PARTS OF COUNTY (SYMBOL DDP)	
	1973	1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EHG)	
	1974	1:16000	COL	EPIM	LAKE MICHIGAN SHOPELINE (MSN. X252M, ALSO PAN, CIR, MSS)	
	1975	1:12000	PAN	ABRAMS	VILLAGE OF HARBOR SPRINGS (SYMBOL EXK, ALSO 1:24000)	
	1975	1:40000	COL	BENDIX	INLAND LAKES (LANDSAT PROJ. E2325)	
	1976	1:3000	PAN	MDSHT	STIPPS ALONG US-31, PETOSKY (SYMBOL FAL)	
	1976	1:12000	PAN	EPIM	FIVE FLIGHT LINES IN PETOSKY AREA (SYMBOL FCI)	
	GENESEE	1955	1:6000	PAN	ABRAMS	CITY OF DAVIDSON
		1955	1:9600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)
		1957	1:8000	PAN	SCS	MISTQUAY CREEK AREA (SYMBOL: MN-MC)
1957		1:9600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)	
1958		1:3000	PAN	ABRAMS	CITY OF FLINT (SYMBOL AME)	
1960		1:9600	PAN	ABRAMS	CITY OF FLINT (SYMBOL ALW, ALSO SCALE OF 1:3000)	
1961		UNKNOWN	PAN	ABRAMS	CITY OF FLINT (SYMBOL ARG)	
1961		1:3960	PAN	ABRAMS	CITY OF FLINT (SYMBOL APL)	
1961		1:4800	PAN	ABRAMS	CITY OF FLINT (SYMBOL ASR)	
1961		1:9600	PAN	ABRAMS	CITY OF FLINT (SYMBOL ASS)	
1962		1:7800	PAN	ABRAMS	CITY OF FENTON (SYMBOLS AUT, AUU, ALSO SCALE: 1:15840)	
1962		1:7920	PAN	ABRAMS	CITY OF GRAND BLANC (SYMBOL ATX)	
1962		1:36000	PAN	ABRAMS	CITY OF FLINT (SYMBOL AHW)	
1963		1:3300	PAN	ABRAMS	VICINITY OF FLINT (SYMBOL BCD)	
1963		1:7920	PAN	ABRAMS	VICINITY OF FENTON (SYMBOL BCF)	
1963		1:12000	PAN	ABRAMS	AREA IN FLINT (SYMBOL BCW)	
1963		1:15840	PAN	ABRAMS	CITY OF SWARTZ CREEK (SYMBOL AZO, ALSO SCALE: 1:7920)	
1963		1:15840	PAN	ABRAMS	DAVIDSON TWP. (SYMBOL BAF, ALSO SCALE: 1:7920)	
1964		1:3000	PAN	ABRAMS	STIP ALONG I-75 SOUTH OF FLINT (SYMBOL BGO)	
1964		1:7920	PAN	ABRAMS	CITY OF FENTON (SYMBOL BIU)	
1964		1:9600	PAN	MDSHT	M-57, FROM M-15 TO M-24, (FILE NO 25-414)	
1965		1:3000	PAN	MDSHT	I-75, NORTHWEST OF FLINT (FILE NO 25-431)	
1965		1:3000	PAN	ABRAMS	BURTON TWP. (SYMBOL BOG)	
1965		1:6000	PAN	ABRAMS	MT. MORRIS TWP. (SYMBOL BJP)	
1965		1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BNH)	
1965		1:9600	PAN	MDSHT	NORTHWESTN HWY EXT, ORCHARD LAKE ROAD TO US-23, I-275	
1965		1:12000	PAN	ABRAMS	CITY OF FENTON (SYMBOL BMS)	
1966		1:3000	PAN	MDSHT	M-57, M-15 TO M-24 (FILE NO 25-536)	
1966		1:3000	PAN	MDSHT	M-54, EXTEND SOUTH TO I-75, (FILE NO 25-501)	
1966		1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BRB)	
1967		1:3960	PAN	MDSHT	M-54, FROM GIBSON ROAD TO M-53 (FILE NO 25-554)	
1967		1:3960	PAN	ABRAMS	AREA EAST OF FLINT (SYMBOL CBS)	
1967		1:4800	PAN	ABRAMS	VICINITY OF SWARTZ CREEK (SYMBOL CAN)	
1967		1:4800	PAN	MDSHT	I-75, FLINT TO SAGINAW (FILE NO 25-561)	
1968		1:3960	PAN	ABRAMS	PART OF GENESEE TWP. (SYMBOL CDF)	
1968		1:6000	PAN	ABRAMS	PART OF MUNDY TWP. (SYMBOL CGY, ALSO SCALE: 1:3960)	
1968		1:7920	PAN	ABRAMS	CITY OF FLUSHING (SYMBOL CGJ)	
1968		1:7920	PAN	ABRAMS	RICHFIELD TWP. (SYMBOL CEZ)	
1968		1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CEC)	
1968		1:7920	PAN	ABRAMS	CITY OF FLUSHING (SYMBOL CGS)	
1969		1:3000	PAN	MDSHT	M-121, FROM DYE ROAD TO M-54 (FILE NO 25-609)	
1969		1:4800	PAN	MDSHT	M-78, IN FLINT (FILE NO 25-622)	
1969		1:7920	PAN	ABRAMS	N.E. OF FLINT IN RICHFIELD, GENESEE TWP. (SYMBOL COD)	
1970	1:3000	PAN	MDSHT	M-57, FROM BELSAY ROAD TO M-15 (FILE NO 25-656)		
1970	1:7920	PAN	ABRAMS	WEST 1/2, SECTION 16, FLINT TWP. (SYMBOL DAS)		
1970	1:9600	PAN	MDSHT	M-57, FROM BELSAY ROAD TO M-24 IN LAPEER (NO 25-654)		
1971	1:6000	PAN	ABRAMS	PART OF SECTION 31, THETFORD TWP. (SYMBOL DMS)		
1971	1:6000	PAN	MDSHT	I-96, FROM PERRY TO SCHWARTZ CREEK (FILE NO 25-683)		

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
GENESEE	1971	1: 7920	PAN	ABRAMS	C.S. MOTT LAKE (SYMBOL DMJ)	
	1971	1: 7920	PAN	ABRAMS	SECTION 23, MUNDY TWP. (SYMBOL DMD)	
	1971	1: 7920	PAN	ABRAMS	PART OF VIENNA TWP. (SYMBOL DNV)	
	1973	1: 3000	PAN	MOSHT	M-54, SAGINAW HIGHWAY, GRAND BLANC (FILE NO 25-708)	
	1975	1: 3000	PAN	ABRAMS	STRIP ALONG I-475 AT FLINT (SYMBOL BIS)	
	1975	1: 3960	PAN	ABRAMS	CITY OF FLINT (SYMBOL EVS)	
	1975	1: 7920	PAN	ABRAMS	MUNDY TWP. (SYMBOL EVS)	
	1975	1: 24000	PAN	ABRAMS	GRAND BLANC TWP. (SYMBOL FSM)	
	1975	1: 40000	COL	BENCIX	LAKE PONFMAN AREA (LANDSAT PROJ. E2325)	
	1976	1: 3000	PAN	MOSHT	STRIP ALONG BRISTOL ROAD, FLINT (SYMBOL FBX)	
	1976	1: 3000	PAN	MOSHT	STRIP ALONG M-121 (SYMBOL FAF)	
	1976	1: 12000	PAN	ABRAMS	CITY OF FLINT (SYMBOL FBZ, ALSO SCALES: 1: 3960, 1: 6000)	
	1976	1: 36000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FFE)	
	GLADWIN	1961	1: 6000	COL	MOSHT	PROPOSED I-75, M-30 TO M-18 (FILE NO 26-337)
		1962	UNKNOWN	COL	DNR	MOLASSES RIVER NO. 1, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
		1964	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BGU)
1968		1: 7920	PAN	ABRAMS	PUTMAN TWP. (SYMBOL CFE)	
1971		1: 3000	PAN	MOSHT	M-30, TWO MILES NORTH AND SOUTH OF WINEGARS	
1972		1: 7920	PAN	ABRAMS	AREA IN BILLINGS TWP. (SYMBOL DUI)	
1975	1: 7920	PAN	ABRAMS	PART OF CLEMENT TWP. (SYMBOL EZD)		
GOGEBIC	1962	UNKNOWN	COL	DNR	PRESQUE ISLE FLOOD, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1963	1: 7920	PAN	ABRAMS	CITY OF WAKEFIELD (SYMBOL BAQ)	
	1963	1: 7920	PAN	ABRAMS	CITY OF IRONWOOD (SYMBOL BAR)	
	1963	1: 15840	PAN	ABRAMS	CITY OF IRONWOOD (SYMBOL BAT)	
	1966	1: 8000	PAN	HURD	CHIPPEWA HILL-BLACK RIVER AREA, ALSO 1: 24000 (SYMB. ASU)	
	1966	1: 12000	PAN	HURD	WHITE CITY AREA (SYMBOL AST)	
	1966	1: 12000	PAN	HURD	AREA E. OF CENTRAL LAKE GOGEBIC (SYMBOL AST)	
	1971	1: 7920	PAN	ABRAMS	CITY OF WAKEFIELD (SYMBOL DLC)	
	1972	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DWH)	
	1972	1: 30000	PAN	HURD	BIG BATEAU LAKE AREA (SYMBOL CPJ)	
	1973	1: 6000	PAN	HURD	THOUSAND ISLAND LAKE AREA (SYMBOL DAK)	
	1973	1: 6000	PAN	HURD	L. SUPERIOR SHORE LITTLE GIRLS PT. WEST (SYMBOL DFZ)	
	1973	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EGL)	
	1973	1: 9600	PAN	HURD	HIGHWAY NORTH FROM BESSENER (SYMBOL DAF)	
	1973	1: 9600	PAN	HURD	MILL LAKE-HHY. 45 AREA (SYMBOL DAJ)	
	1973	1: 9600	PAN	HURD	THOUSAND I.-CISCO-LANGFORD LAKES AREA (SYMBOL DAJ)	
	1973	1: 12000	PAN	HURD	IRONWOOD-WAKEFIELD AREA (SYMBOL DGA)	
	1974	1: 9600	PAN	HURD	SUNDAY LAKE-WAKEFIELD AREA (SYMBOL DKE)	
	1974	1: 10000	COL	ERIM	LAKE SUPERIOR SHOPELINE (MSN. X252M, ALSO PAN, CIR)	
1974	1: 18000	PAN	HURD	IRONWOOD AREA (SYMBOL DJY)		
1975	1: 6000	PAN	HURD	AREA NORTH OF IRONWOOD CITY (SYMBOL DUY)		
1975	1: 24000	PAN	HURD	IRONWOOD AREA (SYMBOL DWK)		
G TRAVERSE	1961	1: 6000	PAN	ABRAMS	CITY OF TRAVERSE CITY (SYMBOL APZ, ALSO 1: 15840)	
	1962	UNKNOWN	COL	DNR	HEADQUARTERS LAKE, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
	1962	UNKNOWN	COL	DNR	BIG MUD LAKE, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1965	1: 6000	PAN	ABRAMS	CITY OF TRAVERSE CITY (SYMBOL B00)	
	1966	1: 19200	PAN	ABRAMS	GREEN LAKE TWP. (SYMBOL BSI, ALSO SCALE: 1: 7920)	
	1967	1: 3960	PAN	ABRAMS	CITY OF TRAVERSE CITY (SYMBOL BYT)	
	1967	1: 7920	PAN	ABRAMS	PENINSULA TWP. (SYMBOL CBY)	
	1967	1: 7920	PAN	ABRAMS	EAST TRAVERSE BAY	
	1968	1: 3000	PAN	MOSHT	M-185, FROM M-37 TO US-131 (FILE NO 28-577)	
	1969	1: 7920	PAN	ABRAMS	TWO SECTIONS IN THE COUNTY (SYMBOL CVI)	
	1969	1: 7920	PAN	ABRAMS	AREA NEAR TRAVERSE CITY (SYMBOL CPV)	
	1969	1: 7920	PAN	ABRAMS	PARTS OF SECTIONS IN GARFIELD TWP. (SYMBOL CUJ)	
	1970	UNKNOWN	PAN	ERIM	UPPER AND LOWER TRAVERSE BAY (MULTIBAND, ALT: 6000FT)	
	1970	UNKNOWN	PAN	ERIM	EAST ARM, EAST SIDE OF GRAND TRAVERSE BAY (MULTIBAND)	
	1970	UNKNOWN	PAN	ERIM	SOUTH END, WEST ARM OF GRAND TRAVERSE BAY (MULTIBAND)	
	1970	UNKNOWN	PAN	ERIM	POWER STATION AND BOARDMAN LAKE, TRAVERSE BAY	
	1970	UNKNOWN	PAN	ERIM	EAST END, WEST ARM OF GRAND TRAVERSE BAY (MULTIBAND)	
	1970	1: 3960	PAN	ABRAMS	CITY OF TRAVERSE CITY (SYMBOL DDO)	
	1970	1: 7920	PAN	ABRAMS	AREA IN GARFIELD TWP. (SYMBOL CVO)	
	1970	1: 7920	PAN	ABRAMS	PART OF WHITEWATER TWP. (SYMBOL CXB)	
1970	1: 12000	PAN	ABRAMS	AREA IN EAST BAY AND WHITEWATER THPS. (SYMBOL CZV)		
1971	1: 7920	PAN	ABRAMS	ELMWOOD TWP. (SYMBOL OJA)		
1971	1: 12000	PAN	MOSHT	M-72, FROM PLOWMAN RD IN LEELANAU CO TO US-71		
1971	1: 19200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DIP)		
1973	1: 6000	PAN	CORPS	COMPLETE SHORELINE		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
G TRAVERSE	1974	1:3960	PAN	ABRAMS	AREA NEAR TRAVERSE CITY (SYMBOL EIU, ALSO 1:7920)
	1974	1:16000	CCL	EPIT	LAKE MICHIGAN SHOPELINE (MSN. Y2524, ALSO PAN, CIR, MSS)
	1975	1:7920	PAN	ABRAMS	PART OF WHITEWATER TWP. (SYMBOL EXB)
	1975	1:7920	PAN	ABRAMS	PART OF MAYFIELD TWP. (SYMBOL EXC)
	1975	1:7920	PAN	ABRAMS	TRAVERSE CITY AND VICINITY (SYMBOL EXJ)
GRATIOT	1961	1:5000	PAN	ABRAMS	CITY OF ALMA (PHOTO INDEX NO. 1726)
	1961	1:24000	PAN	ABRAMS	CITY OF ALMA (SYMBOL AML)
	1961	1:5000	PAN	ABRAMS	CITY OF ALMA (SYMBOL AOT)
	1963	1:12000	PAN	ABRAMS	STRIP FROM LANSING TO ITHACA (SYMBOL AZS)
	1965	1:6000	PAN	ABRAMS	PART OF ADCADA TWP. (SYMBOL BLL)
	1965	1:6000	PAN	ABRAMS	AREA NEAR CITY OF ALMA (SYMBOL BLH)
	1966	1:19200	PAN	ABRAMS	PIPELINE STRIP FROM ALMA TO BAY CITY. (SYMBOL BOK)
	1973	UNKNOWN	CCL	DNR	MAPLE FIVE GAME AREA, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
	1976	1:6000	PAN	ABRAMS	CITY OF ALMA (SYMBOL CZO)
	1971	1:5400	PAN	SCS	UPPER MAPLE RIVER W/S (SYMBOL: 4N-UM)
	1972	1:7920	PAN	ABRAMS	PART OF SECTION 22, NORTH STAR TWP. (SYMBOL DUG)
	1973	1:3960	PAN	ABRAMS	VILLAGE OF MIDDLETON (SYMBOL EFF)
	1974	1:14700	PAN	DNR	TOPO MAPS (DNR-ENG)
	1975	UNKNOWN	PAN	ABRAMS	CITY OF ST. LOUIS (SYMBOL A-ES0)
	1975	1:6000	PAN	ABRAMS	CITY OF ALMA (SYMBOL ES0)
1975	1:12000	PAN	MOSHT	US-27, COUNTY LINE TO ITHACA (FILE NO 739)	
HILLSDALE	1961	1:7920	PAN	ABRAMS	VILLAGE OF SOMERSET CENTER (SYMBOL ALB)
	1961	1:3960	PAN	ABRAMS	CITY OF HILLSDALE (SYMBOL ATT)
	1961	1:6000	PAN	ABRAMS	CITY OF HILLSDALE (SYMBOL AOK, ALSO SCALE: 1:3960)
	1961	1:6000	PAN	ABRAMS	CITY OF JONESVILLE (SYMBOL AOK, ALSO SCALE: 1:3960)
	1961	1:7920	PAN	ABRAMS	VILLAGE OF SOMERSET (SYMBOL ANP)
	1962	1:7920	PAN	ABRAMS	SECTIONS IN SOMERSET TWP. (SYMBOL AWK)
	1964	1:15840	PAN	ABRAMS	CITY OF HILLSDALE (SYMBOL BOW)
	1965	1:14400	PAN	ABRAMS	STRIP FROM GARDEN TO FRONTIER (SYMBOL BNO)
	1965	1:7920	PAN	ABRAMS	PART OF AMBOY TWP. (SYMBOL BTP)
	1965	1:7920	PAN	ABRAMS	CAMPBIA TWP. (SYMBOL BUS)
	1967	1:3000	PAN	MOSHT	M-93, HILLSDALE TO JONESVILLE (FILE NO 30-543)
	1969	1:7920	PAN	ABRAMS	ALLEN TWP. (SYMBOL CND)
	1969	1:7920	PAN	ABRAMS	MOSCOW AREA (SYMBOL CPT)
	1970	1:3960	PAN	ABRAMS	AREA IN SOMERSET TWP. (SYMBOL CZU)
	1970	1:6000	PAN	MOSHT	US-12, SOMERSET ROAD TO BROOKLYN RD (FILE NO 35-65*)
	1971	1:7920	PAN	ABRAMS	AREA IN SECTION 13, WRIGHT TWP. (SYMBOL DFW)
	1972	1:3960	PAN	ABRAMS	SECTION 17, ALLEN TWP. (SYMBOL JSA)
	1973	1:12000	PAN	MOSHT	US-127, ADOLPH NORTH TO CO LINE (FILE NO 702)
	1976	1:6000	PAN	MOSHT	STRIPS ALONG US-127, JACKSON TO HUDSON (SYMBOL FA0)
	1976	1:7920	PAN	ABRAMS	PART OF SECTION 4, AMBOY TWP. (SYMBOL F0D)
1976	1:20000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FEH)	
HOUGHTON	1964	1:3600	PAN	MOSHT	M-26, HANCOCK TO DOLLAR BAY (FILE NO 31-407)
	1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1965	1:3600	PAN	MOSHT	M-26, DOLLAR BAY TO LAKE LINDEN (FILE NO 31-445)
	1965	1:3600	PAN	MOSHT	M-26, US-41 EAST TO DOLLAR BAY (FILE NO 31-455)
	1965	1:7920	PAN	ABRAMS	CITY OF HANCOCK (SYMBOL BUG)
	1965	1:3600	PAN	MOSHT	M-26, GREENLAND NORTHEAST TO RCLAND (FILE NO 31-522)
	1966	1:3960	PAN	ABRAMS	AREA NEAR HOUGHTON (SYMBOL CSH)
	1969	1:4800	PAN	ABRAMS	CITY OF CALUMET (SYMBOL CFY)
	1969	1:3600	PAN	MOSHT	M-203, CALUMET (FILE NO 31-593)
	1970	1:2400	PAN	HURD	LOWER ELY RIVER AREA (SYMBOL: CAY)
	1971	1:12000	PAN	MOSHT	M-26, HANCOCK TO DOLLAR BAY (FILE NO 31-673)
	1972	1:6000	PAN	ABRAMS	VILLAGE OF CALUMET (SYMBOL DYO, ALSO SCALE: 1:24000)
	1972	1:6000	PAN	MOSHT	M-26, PAINESDALE TO HOUGHTON (FILE NO 692)
	1972	1:6000	PAN	HURD	HIGHWAY FROM HANCOCK TO BODGEVILLE (SYMBOL: CRK)
	1973	1:3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ESK)
	1973	1:6000	PAN	MOSHT	M-26, PAINESDALE TO HOUGHTON (FILE NO 692)
	1973	1:12000	PAN	ABRAMS	CITY OF HANCOCK (SYMBOL EGO, ALSO SCALE: 1:7920)
	1973	1:15840	PAN	ABRAMS	AREAS IN CALUMET TWP. (SYMBOL EFX, ALSO SCALE: 1:7920)
1974	1:16000	CCL	EPIT	LAKE SUPERIOR SHORELINE (MSN. Y2524, ALSO PAN, CIR, MSS)	
1976	1:6000	PAN	MOSHT	STRIP ALONG M-26, HANCOCK TO DOLLAR BAY (SYMBOL FAN)	
HURON	1959	1:6000	PAN	ABRAMS	CITY OF PAD AYE (PHOTO INDEX NO. 1519)
	1961	UNKNOWN	PAN	DNR	SEAWAING P. MOUTH, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1964	UNKNOWN	CCL	DNR	MIDDLE GROUND, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
	1964	1:6000	PAN	STEPED	PORT CRESCENT STATE PARK, 3 SQ. MILES (DNR-PARKS)

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
MURCEN	1968	1:12700	PAN	PAS	TOPO MAPS USGS (DNP-ENG)
	1969	UNKNCWN	COL	DNP	MIDDLE GROUNDS, 35 MM. LOW OBLIQUE (DNP-WILDLIFE)
	1970	1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DUU)
	1973	1: 6000	PAN	CORPS	PARTIAL SHORELINE (DNP-WDS)
	1974	1:18000	COL	EPIM	LAKE HURON SHORELINE (MSN. X252M, ALSO PAN,CIR,MSS)
INGHAM	1954	1: 6000	PAN	ABRAMS	CITY OF OKEMOS
	1954	1: 6000	PAN	ABRAMS	CITY OF MASON (PHOTO INDEX NO. 980)
	1958	1: 6000	PAN	ABRAMS	CITY OF EAST LANSING (PHOTO INDEX NO. 1570)
	1960	1: 6000	PAN	ABRAMS	CITY OF LANSING (SYMBOL AMP)
	1961	1: 6000	PAN	ABRAMS	STRIP COVERAGE IN OKEMOS (SYMBOL ALZ)
	1961	1: 6000	PAN	ABRAMS	STRIP FROM LANSING TO MASON (SYMBOL AOG)
	1961	1: 6000	PAN	ABRAMS	CITIES OF LANSING AND EAST LANSING (SYMBOL AQK)
	1961	1: 7920	PAN	ABRAMS	CITY OF WILLIAMSTON (SYMBOL ASL)
	1961	1: 7920	PAN	ABRAMS	TACOMA HILLS SUBDIVISION (SYMBOL APB)
	1961	1: 9600	PAN	ABRAMS	STRIP COVERAGE (SYMBOL AQU)
	1962	UNKNCWN	PAN	ABRAMS	OBLIQUES OF LANSING AREA (SYMBOL BBH)
	1963	1: 3000	PAN	ABRAMS	VICINITY OF HOLY (SYMBOL BCB)
	1963	1: 3960	PAN	MDSHT	I-496, IN LANSING, I-96 TO CLARE ST (FILE NO 33-422)
	1963	1: 4800	PAN	MDSHT	US-27, GRAND RIVER NORTH TO CLARK ROAD (FILE 33-482)
	1963	1: 6000	PAN	MDSHT	M-43, TROWBRIDGE TO GRAND RIVER (FILE NO 33-401)
	1963	1:12000	PAN	ABRAMS	STRIP FROM LANSING TO ITHACA (SYMBOL AZS)
	1963	1:12000	PAN	DNP	ROADS (DNP-ENG)
	1964	1: 7920	PAN	ABRAMS	VICINITY OF OKEMOS (SYMBOL BHF)
	1964	1: 7920	PAN	ABRAMS	VILLAGE OF OKEMOS (SYMBOL BOF)
	1964	1: 9600	PAN	MDSHT	US-27, M-78, RELOCATION IN COUNTY (FILE NO 33-413)
	1964	1:15840	PAN	ABRAMS	MSU CAMPUS (SYMBOL BFV)
	1964	1: 3000	PAN	MDSHT	US-27, SHIAWASSEE ST TO WEBB ROAD IN CLINTON CO
	1964	1: 3000	PAN	ABRAMS	STRIP ALONG I-496 (SYMBOL BOJ)
	1964	1: 3000	PAN	MDSHT	M-43, MICHIGAN STATE UNIVERSITY (FILE NO 33-488)
	1964	1: 3000	PAN	MDSHT	US-127, TROWBRIDGE ROAD TO US-27 (FILE NO 33-435)
	1964	1: 3000	PAN	MDSHT	M-99, CITY OF LANSING (FILE NO 33-457)
	1964	1: 3000	PAN	MDSHT	US-127, RELOCATION, KALAMA 700 ST TO US-27 (NO 33-462)
	1964	1: 3000	PAN	MDSHT	M-43, VAN ATTA ROAD (FILE NO 33-487)
	1964	1: 4800	PAN	MDSHT	GRAND RIVER AND SHERIDAN ST IN LANSING (FILE 33-478)
	1964	1: 6000	PAN	ABRAMS	THREE ARFAS IN CITY OF LANSING (SYMBOL BJC)
	1964	1: 6000	PAN	ABRAMS	STRIPS ALONG WAVERLY AND JOLLY ROADS (SYMBOL BKS)
	1964	1: 6000	PAN	ABRAMS	ARFA IN LANSING (SYMBOL BNJ)
	1964	1: 6000	PAN	ABRAMS	ARFAS IN LANSING (SYMBOL BKL)
	1964	1: 7920	PAN	ABRAMS	PORTION OF COUNTY (SYMBOL BLO)
	1964	1: 7920	PAN	ABRAMS	SECTION 20, IN WILLIAMSTON TWP. (SYMBOL BNZ)
	1964	1:15840	PAN	ABRAMS	MSU CAMPUS (SYMBOL BMD)
	1964	1:19200	PAN	ABRAMS	CITY OF LANSING (SYMBOL BNK)
	1964	1: 3000	PAN	MDSHT	M-43, US-27 TO WOOD ST, LANSING (FILE NO 533)
	1964	1: 3960	PAN	ABRAMS	DELHI TWP. (SYMBOL BOJ)
	1964	1: 6000	PAN	MDSHT	I-496, WAVERLY TO SNOW ROAD (FILE NO 33-503)
	1964	1: 6000	PAN	ABRAMS	LANSING AND SURROUNDING AREAS (SYMBOL BTJ)
	1964	1: 7920	PAN	ABRAMS	DOBIE ROAD AREA (SYMBOL BRC)
	1964	1: 7920	PAN	ABRAMS	SECTIONS IN DELHI TWP. (SYMBOL BRW)
	1964	1: 7920	PAN	ABRAMS	SECTION IN MERIDIAN TWP. (SYMBOL BTH)
	1964	1: 3000	PAN	MDSHT	M-43, M-143, CHARLES ST TO BOGUE ST (FILE NO 33-564)
	1964	1: 4800	PAN	ABRAMS	SECTIONS IN DELHI TWP. (SYMBOL CCT)
	1964	1: 6000	PAN	ABRAMS	MSU CAMPUS (SYMBOL BXY, ALSO SCALE: 1:15840)
	1964	1: 7920	PAN	ABRAMS	AREA NEAR LAKE LANSING (SYMBOL CBO)
	1964	1: 9600	PAN	ABRAMS	VICINITY OF LANSING (SYMBOL BZZ)
	1964	1:12000	PAN	ABRAMS	VILLAGE OF MASON (SYMBOL CCV)
	1964	1:15840	PAN	ABRAMS	MSU CAMPUS (SYMBOL BZD)
	1964	1: 7920	PAN	ABRAMS	MERIDIAN TWP. (SYMBOL CEJ)
	1964	1: 3000	PAN	MDSHT	M-43, BROADBENT ROAD TO BELTLINE (FILE NO 33-611)
	1964	1: 3000	PAN	ABRAMS	CITY OF LANSING (SYMBOL CSQ)
	1964	1: 3000	PAN	MDSHT	M-43, PARK LAKE ROAD TO VANATTA ROAD (FILE NO 33-619)
	1964	1: 4800	PAN	ABRAMS	MERIDIAN TWP. (SYMBOL CNH)
	1964	1: 6000	PAN	ABRAMS	CITY OF EAST LANSING (SYMBOL CRO)
1964	1:15840	PAN	ABRAMS	MSU CAMPUS (SYMBOL CSG, OBLIQUES)	
1970	UNKNCWN	PAN	ABRAMS	OBLIQUES OF I-96 AND I-496 (SYMBOL DAZ)	
1970	1: 4800	PAN	MDSHT	M-99, WAVERLY ROAD TO DEWITT (FILE NO 33-636)	
1970	1:12000	PAN	ABRAMS	I-69 EXTENSION FROM I-96 EAST TO PERRY (SYMBOL DEB)	
1971	1: 3000	PAN	MDSHT	I-96, FOREST HILL ROAD TO NORTH LOGAN ST (NO 33-662)	
1971	1: 7920	PAN	ABRAMS	CITY OF WILLIAMSTON (SYMBOL DHJ)	
1971	1: 7920	PAN	ABRAMS	PART OF VEVAW TWP. (SYMBOL DOC)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
INGHAM	1972	VARIES	BWIP	ERIM	N.W. PART (MSN. 63M, ALSO 70 MM CIR/COL, 3 FLT. LINES)
	1972	VARIES	PAN	ERIM	N.W. PART (MSN. 65M, ALSO 70 MM CIR/COL, 3 FLT. LINES)
	1972	1: 3960	PAN	ABRAMS	TWO SECTIONS IN COUNTY (SYMBOL DYM)
	1972	1: 7200	PAN	ABRAMS	CITY OF LANSING (SYMBOL DZA)
	1972	1: 7920	PAN	ABRAMS	PART OF SECTION 3, LANSING TWP. (SYMBOL DYM)
	1972	1: 7920	PAN	ABRAMS	AREA NORTH OF DANSVILLE (SYMBOL DVJ)
	1972	1: 7920	PAN	ABRAMS	DELHI TWP. (SYMBOL DTJ)
	1972	1: 7920	PAN	ABRAMS	BEAR LAKE BOG AREA (SYMBOL DYG)
	1972	1: 13200	PAN	ABRAMS	CITY OF LANSING (SYMBOL DYA)
	1973	1: 3960	PAN	ABRAMS	THE GRAND RIVER (SYMBOL EJD)
	1973	1: 4800	PAN	ERIM	EAST PART (MSN. 85M, ALSO 70 MM CIR/COL, 5 FLT. LINES)
	1973	1: 4800	PAN	ABRAMS	MERIDIAN TWP. (SYMBOL ECC)
	1973	1: 7920	PAN	ABRAMS	CITY OF HERRERVILLE (SYMBOL ETG, ALSO SCALE: 1:12000)
	1973	1: 7920	PAN	ABRAMS	AREA IN LANSING TWP. (SYMBOL EGP)
	1973	1: 7920	PAN	ABRAMS	WEST 1/2 OF SECTION 19, ALAIEDON TWP. (SYMBOL OZY)
	1973	1: 7920	PAN	ABRAMS	CITY OF HOLT (SYMBOL OVE)
	1973	1: 10000	BWIP	ERIM	N.C. PART (MSN. 82M, ALSO 70 MM CIR/COL, 1 FLT. LINE)
	1974	1: 15840	PAN	ABRAMS	MSU CAMPUS (SYMBOL EOK, ALSO SCALE: 1:6000)
	1975	1: 4800	PAN	MOSHT	M-43-75, MSU CAMPUS (FILE NO 33-743)
	1975	1: 7920	PAN	MOSHT	M-93-75, LOSAN ST FROM GRAND RIVER TO DEWITT
	1975	1: 12000	PAN	ABRAMS	CITY OF LANSING (SYMBOL EWO, ALSO SCALE: 1:20004)
	1975	1: 12000	PAN	ABRAMS	LANSING TWP. (SYMBOL EOW, ALSO SCALE: 1:20004)
	1975	1: 12000	PAN	ABRAMS	VILLAGE OF MASON (SYMBOL EUB, ALSO SCALE: 1:7920)
	1975	1: 12000	PAN	ABRAMS	MERIDIAN TWP. (SYMBOL EOW, ALSO SCALE: 1:20004)
	1975	1: 10000	COL	MSU/RSP	CITY OF LANSING, EAST LANSING, MSU (70 MM NEAR VERTICAL)
	1975	1: 40000	COL	BENCIX	LAKE LANSING AREA (LANDSAT PROJ. E2325)
	1976	1: 3000	PAN	ERIM	STRIPS ALONG I-69, LANSING AREA (SYMBOL FCP)
	1976	1: 3000	PAN	MOSHT	STRIP ALONG GRAND RIVER (SYMBOL FAA)
	1976	1: 3960	PAN	ABRAMS	DELHI TWP (SYMBOL FCL)
	1976	1: 3960	PAN	ABRAMS	LANSING AREA (SYMBOL FEE)
	1976	1: 6000	PAN	ERIM	STRIP ALONG OAKLAND AVE. LANSING (SYMBOL FCO)
	1976	1: 6000	PAN	MOSHT	STRIPS ALONG I-69 NEAR EAST LANSING (SYMBOL FCB)
	1976	1: 6000	PAN	ABRAMS	LANSING AREA (SYMBOL FAX)
1976	1: 7920	PAN	ABRAMS	MSU CAMPUS (SYMBOL FAX)	
1976	1: 15840	PAN	ABRAMS	DELHI TWP (SYMBOL EOJ)	
1976	1: 24000	PAN	ERIM	STRIPS ALONG I-69, LANSING (SYMBOL FCN)	
IONIA	1960	1: 6000	PAN	ABRAMS	CITY OF PORTLAND (SYMBOL AKP)
	1960	1: 6000	PAN	ABRAMS	CITY OF PORTLAND (PHOTO INDEX NO. 1573)
	1960	1: 6000	PAN	ABRAMS	CITY OF IONIA (PHOTO INDEX NO. 1688)
	1964	1: 3000	PAN	ABRAMS	CITY OF BELDING (SYMBOL BEP)
	1964	1: 15840	PAN	ABRAMS	CITY OF BELDING (SYMBOL BEP, ALSO SCALE: 1:7920)
	1965	1: 3000	PAN	MOSHT	M-44, BOSTWICK LAKE TO IONIA (FILE NO 34-443)
	1965	1: 3000	PAN	MOSHT	M-66, GRAND RIVER TO PARAMETER ROAD (FILE NO 34-436)
	1965	1: 7920	PAN	ABRAMS	AREA IN IOSCO TWP. (SYMBOL BMV)
	1966	1: 3000	PAN	MOSHT	M-21, IONIA TO PEWAMO (FILE NO 34-499)
	1966	1: 3000	PAN	MOSHT	M-44, KENT-IONIA LINE TO M-66 (FILE NO 34-505)
	1966	1: 7920	PAN	ABRAMS	IONIA RECREATION AREA, 6 SQ. MILES (DNR-PARKS)
	1967	1: 7920	PAN	ABRAMS	CITY OF PORTLAND (SYMBOL BYV)
	1969	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CMV)
	1970	1: 4800	PAN	ABRAMS	VILLAGE OF LYONS (SYMBOL ODC)
	1970	1: 7920	PAN	ABRAMS	PART OF SECTIONS IN IONIA AND EASTON TWP. (SYMBOL CZO)
	1970	1: 15840	PAN	ABRAMS	PART OF SECTIONS IN IONIA AND EASTON TWP. (SYMBOL CZO)
	1972	VARIES	BWIP	ERIM	S.E. PART (MSN. 63M, ALSO 70 MM CIR/COL, 3 FLT. LINES)
	1972	1: 3960	PAN	ABRAMS	VICINITY OF IONIA (SYMBOL DTH)
	1973	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EFG)
	1974	1: 3960	PAN	ABRAMS	IONIA AND VICINITY (SYMBOL ENO)
1975	1: 7920	PAN	ABRAMS	BOSTON TWP. (SYMBOL EUS)	
1975	1: 40000	COL	BENCIX	LONG LAKE AREA (LANDSAT PROJ. E2325)	
1975	1: 40000	COL	BENCIX	LAKE OCESSA AREA (LANDSAT PROJ. E2325)	
IOSCO	1960	1: 15840	PAN	MOSHT	M-65, RELOCATION IN IOSCO CO (FILE NO 35-403)
	1962	1: 6000	PAN	ABRAMS	TAWAS STATE PARK (SYMBOL AUZ, ALSO CNP PARKS)
	1964	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BGO)
	1964	1: 9600	PAN	MOSHT	M-65, HALE TO GLENINE (FILE NO 35-408)
	1966	1: 3000	PAN	MOSHT	M-65, HALE TO GLENINE (FILE NO 35-521)
	1966	1: 4800	PAN	ABRAMS	OSCODA TWP. (SYMBOL BUP)
	1966	1: 4800	PAN	ABRAMS	OSCODA TWP. (SYMBOL BVA)
	1966	1: 12000	PAN	ABRAMS	AREA WEST OF TAWAS CITY (SYMBOL BTZ)
	1968	1: 15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)

7-21

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
IOSCO	1969	1:6000	PAN	ABRAMS	SECTIONS IN ALABASTER TWP. (SYMBOL CPG)
	1971	1:15843	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DIY, ALSO SCALE 1:7920)
	1972	UNKNOWN	PAN	EPIM	PINE RIVER PLUME (MULTIRAND, SCANNERS ALT 1000FT)
	1973	1:6000	PAN	COPPS	PARTIAL SHOPELINE
	1973	1:12000	PAN	ABRAMS	SITES IN COUNTY (SYMBOL FHE, ALSO SCALE 1:14400)
	1974	1:7920	PAN	ABRAMS	PART OF PLAINFIELD TWP. (SYMBOL EKV)
	1974	1:10000	COL	EPIM	LAKE HURON SHORELINE (MSH, X252M, ALSO PAN, CIP, MSS)
	1975	1:7920	PAN	ABRAMS	TANAS CITY AREA (SYMBOL EVA)
	1976	1:3000	PAN	MDSHT	SHORT STRIP NEAR OSCODA (SYMBOL FBN)
	IPON	1963	1:9600	PAN	ABRAMS	STRIP IN COUNTY (SYMBOL B9W)
1964		1:6000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL B8G)
1964		1:15843	PAN	ABRAMS	FOREST COVER (ONP-ENG)
1965		1:9600	PAN	MDSHT	US-141, CRYSTAL FALLS NORTHWEST TO AMASA (NO 36-450)
1966		1:7920	PAN	ABRAMS	BEWAHIC STATE PARK, 1 SQ. MILE (ONP-PARKS)
1966		1:15843	BWIP	HURC	IRON RANGE STATE FOREST (SYMBOL ATI)
1966		1:4800	PAN	ABRAMS	TOWN OF CRYSTAL FALLS (SYMBOL CJJ)
1968		1:7920	PAN	ABRAMS	TOWN OF IPON RIVER (SYMBOL CJC)
1969		1:19200	PAN	ABRAMS	PIPELINE FROM CRYSTAL FALLS TO STATE LINE (SYMBOL CTL)
1973		1:9600	PAN	HURC	SMOKY LAKE AREA (SYMBOL OAJ)
1976	1:6000	PAN	MDSHT	STRIP ALONG US-2 (SYMBOL FAQ)	
ISABELLA	1957	1:4800	PAN	ABRAMS	CITY OF MOUNT PLEASANT (PHOTO INDEX NO. 1413)
	1960	1:3960	PAN	ABRAMS	CITY OF MOUNT PLEASANT (ALSO SCALE OF 1:12000)
	1960	1:3960	PAN	ABRAMS	CENTRAL MICHIGAN UNIVERSITY (SYMBOL ALV)
	1960	1:12000	PAN	ABRAMS	CENTRAL MICHIGAN UNIVERSITY (SYMBOL ALV)
	1965	1:7920	PAN	ABRAMS	CENTRAL MICHIGAN UNIVERSITY (SYMBOL B0S, ALSO 1:14400)
	1965	1:9600	PAN	MDSHT	M-23, M-56 TO DEAFFIELD CENTER (FILE NO 37-479)
	1966	1:6000	PAN	ABRAMS	CITY OF MT. PLEASANT (SYMBOL BUL)
	1966	1:14400	PAN	MDSHT	M-23, WHITE CLOUD TO RMUS (FILE NO 534)
	1967	1:3000	PAN	MDSHT	M-23, M-56 ALMOST TO MEGOSTA CO LINE (FILE NO 37-540)
	1967	1:7920	PAN	ABRAMS	BROOMFIELD AND SHEPHERD TWP. (SYMBOL B8Z)
	1970	1:12000	PAN	ABRAMS	CENTRAL MICHIGAN UNIVERSITY (SYMBOL DEL)
	1971	1:7920	PAN	ABRAMS	PART OF SECTIONS 6 AND 17, VERNON TWP. (SYMBOL DMR)
	1971	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DJP)
	1971	1:7920	PAN	ABRAMS	PART OF GILMOFF TWP. (SYMBOL DMQ)
	1972	1:7920	PAN	ABRAMS	AREAS IN BROOMFIELD TWP. (SYMBOL CIM)
	1972	1:3960	PAN	ABRAMS	CENTRAL MICHIGAN UNIVERSITY (SYMBOL DTT, ALSO 1:7920)
	1972	1:3960	PAN	ABRAMS	UNION TWP. (SYMBOL DVJ)
	1972	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DUO)
	1973	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DUF)
	1973	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DUA)
1974	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EDY)	
1974	1:7920	PAN	ABRAMS	CITY OF MT. PLEASANT (SYMBOL EK7)	
1974	1:7920	PAN	ABRAMS	DEEPFIELD TWP. (SYMBOL EPY)	
JACKSON	1957	1:6000	PAN	ABRAMS	CITY OF MICHIGAN CENTER
	1960	1:6000	PAN	ABRAMS	SECTION 5, SUMMITT TWP. (SYMBOL AKO)
	1961	1:9600	PAN	ABRAMS	CITY OF JACKSON (SYMBOL ANV)
	1961	1:19200	PAN	ABRAMS	CITY OF JACKSON (SYMBOL APB, ALSO SCALE 1:6000)
	1962	1:6000	PAN	ABRAMS	WATERLOO RECREATION AREA, 850 ACRES (DNR-PARKS)
	1962	1:6000	PAN	ABRAMS	RECREATION AREAS (SYMBOL AYJ)
	1963	1:12000	PAN	MDSHT	US-127, JACKSON SOUTH TO STATE LINE (FILE NO 38-352)
	1963	1:15843	PAN	ABRAMS	CITY OF JACKSON (SYMBOL BCY)
	1964	1:6000	PAN	ABRAMS	CITY OF JACKSON (SYMBOL BCS)
	1966	1:3000	PAN	MDSHT	I-94, AT M-106 AND FLM ROAD (FILE NO 38-504)
	1966	1:7920	PAN	ABRAMS	WATERLOO RECREATION AREA, 300 ACRES (DNR-PARKS)
	1966	1:9600	PAN	MDSHT	M-106, PARNELL ROAD TO COUNTY LINE (FILE NO 530)
	1968	1:3960	PAN	MDSHT	US-127, FROM US-12 TO M-50 (FILE NO 38-581)
	1968	1:4800	PAN	MDSHT	I-94, JACKSON AREA, ALSO SCALE 1:9600 (FILE NO 38-568)
	1968	1:4800	PAN	ABRAMS	STRIP ALONG I-94 IN JACKSON AREA (SYMBOL CJZ)
	1968	1:3600	PAN	ABRAMS	STRIP ALONG I-94 IN JACKSON AREA (SYMBOL CJ7)
	1968	1:15843	PAN	ABRAMS	CONCORD TWP. (SYMBOL C6G)
	1968	1:24000	PAN	ABRAMS	CITY OF JACKSON (SYMBOL CII)
	1969	1:3000	PAN	MDSHT	I-94 AND US-127, AT JACKSON (FILE NO 38-624)
	1970	1:4800	PAN	ABRAMS	CITY OF JACKSON (SYMBOL CY7)
1970	1:4800	PAN	ABRAMS	PARTS OF COUNTY (SYMBOL CZ8)	
1971	1:3000	PAN	MDSHT	M-106, FROM FRANKLIN ST IN JACKSON TO PARNELL ROAD	
1971	1:4800	PAN	ABRAMS	PARTS OF LEONI AND NAPOLEON TWPS. (SYMBOL DPO)	
1972	1:3960	PAN	ABRAMS	PART OF SECTIONS 26 AND 35, NAPOLEON TWP. (SYMBOL DSS)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
JACKSON	1972	1:15840	PAN	ABRAMS	STATE PRISON (SYMBOL DTR, ALSO SCALE: 1:7920)	
	1973	1:6000	PAN	ABRAMS	CITY OF JACKSON (SYMBOL EDI)	
	1973	1:7920	PAN	ABRAMS	PART OF GRASS LAKE TWP. (SYMBOL EFB)	
	1973	1:12000	PAN	MDSHT	US-127, FROM ADDISON NORTH TO JACKSON (FILE NO 702)	
	1973	1:15840	PAN	ABRAMS	PART OF GRASS LAKE TWP. (SYMBOL EFB)	
	1974	1:3960	PAN	ABRAMS	PART OF SUMMIT TWP. (SYMBOL EKR)	
	1974	1:3960	PAN	ABRAMS	PART OF SPRING ARBOP, AND NAPOLEON TWPS. (SYMBOL EKR)	
	1975	1:4000	CCL	BENCIX	PLEASANT LAKE AREA (LANDSAT PROJ. E2325)	
	1976	1:3000	PAN	MDSHT	BUSINESS LOOP 94, JACKSON (SYMBOL FCD)	
	1976	1:6000	PAN	MDSHT	STRIPS ALONG US-127, JACKSON TO HUDSON (SYMBOL FA0)	
	1976	1:7920	PAN	MDSHT	STRIP ALONG I-94 NEAR JACKSON (SYMBOL FAH)	
	1976	1:12000	PAN	MDSHT	STRIP ALONG US-127 TO US-12 (SYMBOL FAG)	
	1976	1:12000	PAN	ABRAMS	CITY OF JACKSON (SYMBOL FBO, ALSO SCALE: 1:24000)	
	1976	1:20004	PAN	ABRAMS	SOUTHERN PART OF COUNTY (SYMBOL FEH)	
	KALAMAZOO	1955	1:4800	PAN	ABRAMS	CITY OF KALAMAZOO
		1955	1:9600	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
		1960	1:6000	PAN	ABRAMS	KALAMAZOO AREA (SYMBOL AMS)
1961		1:9600	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL ANN)	
1963		1:3960	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL BAA)	
1963		1:7920	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL BOC)	
1964		1:5000	PAN	MDSHT	I-94, KALAMAZOO AREA (FILE NO 39-400)	
1964		1:7920	PAN	ABRAMS	KALAMAZOO TWP. (SYMBOL BEG, ALSO SCALE: 1:3960)	
1964		1:9600	PAN	MDSHT	M-43, FROM M-40 TO M-131 (FILE NO 39-424)	
1965		1:3960	PAN	MDSHT	I-94, PORTAGE-KILGORE ROAD INTERCHANGE (NO 39-454)	
1965		1:9600	PAN	MDSHT	M-37 AND M-43, BATTLE CREEK TO HASTINGS (NO 39-432)	
1965		1:15840	PAN	ABRAMS	CITY OF SPRINGFIELD (SYMBOL BLM, ALSO SCALE: 1:7920)	
1966		1:3000	PAN	MDSHT	M-43, FROM M-43 TO US-131 RELOCATION (FILE NO 39-495)	
1966		1:4800	PAN	MDSHT	I-94, AT I-94 BL (FILE NO 532)	
1966		1:7920	PAN	ABRAMS	SECTIONS 33 AND 34, CHARLESTON TWP. (SYMBOL BRD)	
1967		1:3960	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL BXM)	
1967		1:3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CBP)	
1967		1:3960	PAN	ABRAMS	CENTRAL PARKWAY AREA OF KALAMAZOO (SYMBOL CBG)	
1967		1:3960	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL CBO)	
1967		1:7920	PAN	ABRAMS	PART OF SECTION 13, KALAMAZOO TWP. (SYMBOL BZW)	
1967		1:7920	PAN	ABRAMS	AREA IN KALAMAZOO (SYMBOL BZQ)	
1968		1:6000	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL CFI)	
1968		1:6000	PAN	ABRAMS	PORTAGE TWP. (SYMBOL COA)	
1969		1:3960	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL COP)	
1970		UNKNCHN	PAN	ERIM	KALAMAZOO POWER PLANT (SCANNERS, ALT: 5000FT)	
1970		1:3000	PAN	MDSHT	M-69, PLAINWELL TO RICHLAND (FILE NO 639)	
1970		1:3000	PAN	MDSHT	M-89 AND M-43, RELOCATION AT RICHMOND (FILE NO 653)	
1970		1:3960	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL CVK)	
1970		1:7920	PAN	ABRAMS	AREAS IN KALAMAZOO AND OSHTENO TWPS. (SYMBOL CXS)	
1970		1:7920	PAN	DNR	FORT CUSTER RECREATION AREA, 4,000 ACRES (DNR-PARKS)	
1970		1:7920	PAN	ABRAMS	PART OF BLUE LAKE TWP. (SYMBOL DDY)	
1970		1:9600	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL DBE)	
1970		1:9600	PAN	MDSHT	CITY OF KALAMAZOO (FILE NO 650)	
1971		1:3960	PAN	ABRAMS	AREA IN OSHTENO TWP. (SYMBOL DGA)	
1971		1:7920	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL DGJ, ALSO SCALE: 1:3960)	
1972		1:2400	PAN	ABRAMS	PORTAGE, RICHLAND, ROSS, COMSTOCK TWPS. (SYMBOL DTN)	
1972		1:6000	PAN	ABRAMS	PORTAGE, RICHLAND, ROSS, COMSTOCK TWPS. (SYMBOL DTN)	
1972		1:6000	PAN	ABRAMS	PART OF ALAMO TWP. (SYMBOL DVO)	
1972		1:21600	PAN	ABRAMS	PORTAGE, RICHLAND, ROSS, COMSTOCK TWPS. (SYMBOL DTN)	
1973		1:2400	PAN	ABRAMS	AREA IN PORTAGE TWP. (SYMBOL EGN, ALSO SCALE: 1:14400)	
1973		1:3960	PAN	ABRAMS	PART OF KALAMAZOO (SYMBOL EDX)	
1973		1:3960	PAN	ABRAMS	PART OF KALAMAZOO (SYMBOL ECO)	
1973		1:3960	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EGE)	
1973		1:3960	PAN	ABRAMS	AREA IN ROSS TWP. (SYMBOL EBP)	
1973		1:3960	PAN	ABRAMS	KALAMAZOO TWP. (SYMBOL EDY)	
1973		1:7920	PAN	ABRAMS	AREAS IN TEXAS TWP. (SYMBOL ERZ)	
1973		1:24000	PAN	ABRAMS	CITY OF KALAMAZOO (SYMBOL EEW)	
1974		1:3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FLA)	
1975		1:3000	PAN	MDSHT	M-43, KALAMAZOO NORTHEAST TO RICHLAND (FILE NO 730)	
1975		1:3960	PAN	ABRAMS	AREAS IN CROPPER AND KALAMAZOO TWPS. (SYMBOL EXP)	
1975	1:3960	PAN	ABRAMS	STRIP FROM CLIMAX TO FULTON (SYMBOL EXS)		
1975	1:3960	PAN	ABRAMS	PORTAGE TWP. (SYMBOL EYO)		
1975	1:6000	PAN	MDSHT	BIKE TRAIL, SOUTH HAVEN TO KALAMAZOO (FILE NO 732)		
1975	1:9600	PAN	MDSHT	M-89, FOUR MILES EAST AND WEST OF RICHLAND (NO 756)		
1976	1:7200	PAN	MDSHT	STRIP ALONG M-43 NEAR KALAMAZOO (SYMBOL FBK)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
KALAMAZOO	1976	1:12000	COL	ERIM	FIVE FLIGHT LINES IN BATTLE CREEK AREA (SYMBOL FCH)	
	1976	1:58500	PAN	ABRAMS	KALAMAZOO AREA (SYMBOL FAG)	
KALKASKA	1954	1: 9600	PAN	ABRAMS	CITY OF KALKASKA (PHOTO INDEX NO. 1004)	
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)	
	1969	1: 7920	PAN	ABRAMS	AREAS IN BEAR LAKE TWP. (SYMBOL CVH)	
	1971	1:19200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DIR)	
	1971	1:24000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL DLS)	
	1972	1:20004	PAN	ABRAMS	STRIP FROM KALKASKA TO MECOSTA COUNTY (SYMBOL DVV)	
	1973	1: 6000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ECU, ALSO SCALE: 1:7920)	
	1973	1: 6000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EBN, ALSO SCALE: 1:7920)	
	1973	1:10320	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ECU)	
	1973	1:15840	PAN	ABRAMS	VILLAGE OF KALKASKA (SYMBOL EBX, ALSO SCALE: 1:4800)	
	1974	1: 3960	PAN	ABRAMS	KALKASKA TWP. (SYMBOL EOF, ALSO SCALES: 1:7920, 1:9600)	
	KENT	1954	1: 6000	PAN	ABRAMS	CITY OF GRAND RAPIDS
		1957	1: 9600	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
1959		1:14400	PAN	ABRAMS	CITY OF WYOMING	
1960		1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ALO)	
1961		1: 7920	PAN	ABRAMS	PARIS TWP. (SYMBOL ARM)	
1962		1:12000	PAN	ABRAMS	PLAINFIELD TWP. (SYMBOL AWG)	
1962		1:15840	PAN	ABRAMS	ADA TWP. (SYMBOL AYF)	
1963		1: 3960	PAN	ABRAMS	CITY OF WYOMING (SYMBOL BAY, ALSO SCALE: 1:7920)	
1963		1: 3960	PAN	ABRAMS	CITY OF WYOMING (SYMBOL BBX)	
1963		1: 7920	PAN	ABRAMS	CITY OF GRANDVILLE (SYMBOL BCE)	
1964		1: 3000	PAN	MOSHT	US-131 AND I-196, NORTH TO FOURTEEN MILE ROAD	
1964		1: 6000	PAN	ABRAMS	CITY OF EAST GRAND RAPIDS (SYMBOL BFU)	
1965		1: 3000	PAN	MOSHT	I-196, HOLLAND TO GRANDVILLE (FILE NO 41-439)	
1965		1: 3000	PAN	MOSHT	M-44, BOSTHICK LAKE TO IONIA CO LINE (FILE NO 41-443)	
1965		1: 3000	PAN	MOSHT	US-131, I-96 NORTH TO FIVE MILE ROAD (FILE NO 41-438)	
1965		1: 6000	PAN	MOSHT	US-131 FRONTAGE ROADS FROM 11 MILE TO 13 MILE ROAD	
1966		1: 3000	PAN	MOSHT	M-44, FROM 28TH ST TO I-96 (FILE NO 41-514)	
1968		1: 3960	PAN	ABRAMS	GAINES TWP. (SYMBOL COC)	
1968		1: 7920	PAN	ABRAMS	CITY OF GRANDVILLE (SYMBOL CLP)	
1968		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CLP)	
1969		1: 3960	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL CUT)	
1969		1: 6000	PAN	MOSHT	M-21, I-96 TO ADA (FILE NO 41-605)	
1969		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL COS)	
1970		1: 3000	PAN	MOSHT	US-131 AND M-45, GRAND RAPIDS (FILE NO 41-638)	
1970		1: 3960	PAN	ABRAMS	PLAINFIELD TWP. (SYMBOL C7T)	
1970		1: 3960	PAN	ABRAMS	SECTIONS IN LOWELL AND BOWNE TWS. (SYMBOL DDI)	
1970		1: 6000	PAN	ABRAMS	NW 114, SECTION 35, VERGENNES TWP. (SYMBOL CWH)	
1970		1: 7920	PAN	ABRAMS	AREA IN GRAND RAPIDS (SYMBOL DEV)	
1971		1: 3000	PAN	ABRAMS	PART OF SECTION 2, GRAND RAPIDS TWP. (SYMBOL DMO)	
1971		1: 3000	PAN	ABRAMS	AREA NORTH OF GRAND RAPIDS (SYMBOL DHZ)	
1971		1: 3600	PAN	ABRAMS	AREA IN GRAND RAPIDS (SYMBOL DLP)	
1971		1: 3960	PAN	ABRAMS	CASCADE TWP. (SYMBOL DHO)	
1971		1: 3960	PAN	ABRAMS	PART OF SECTION 7, PLAINFIELD TWP. (SYMBOL DMP)	
1971		1: 4800	PAN	MOSHT	M-91, LOWELL (FILE NO 41-675)	
1971		1: 7920	PAN	ABRAMS	NEAR ZIEGENFUSS LAKE (SYMBOL DDO)	
1971		1:12000	PAN	ABRAMS	AREA IN GRAND RAPIDS (SYMBOL DPK, ALSO SCALE: 1:3960)	
1972		1: 3960	PAN	ABRAMS	SE 1/4, SECTION 33, WYOMING TWP. (SYMBOL DZD)	
1972		1: 6000	PAN	ABRAMS	PART OF CALEDONIA TWP. (SYMBOL OZF)	
1972		1: 6000	PAN	ABRAMS	AREAS IN PLAINFIELD AND CANNON TWS. (SYMBOL DYJ)	
1972		1: 7920	PAN	ABRAMS	PART OF CALEDONIA TWP. (SYMBOL OZF)	
1972		1:14400	PAN	ABRAMS	PART OF CASCADE TWP. (SYMBOL DSV)	
1973		1: 3960	PAN	ABRAMS	CITY OF KENTWOOD (SYMBOL EIL)	
1973		1: 6000	PAN	ABRAMS	AREA IN CASCADE TWP. (SYMBOL EGB)	
1973	1: 7920	PAN	ABRAMS	CITY OF GRANDVILLE (SYMBOL EET)		
1974	1: 4800	PAN	ABRAMS	SECTION 28, CANNON TWP. (SYMBOL EKY)		
1974	1: 7920	PAN	ABRAMS	WEST 1/2, SECTION 24, PLAINFIELD TWP. (SYMBOL ENH)		
1974	1: 7920	PAN	ABRAMS	PART OF BYRON TWP. (SYMBOL EQV)		
1974	1: 9600	PAN	MOSHT	M-37, FROM LEONARD ST IN GRAND RAPIDS TO 11 MILE ROAD		
1974	1:15840	PAN	ABRAMS	CITY OF GRAND RAPIDS (SYMBOL ENN, ALSO SCALE: 1:7920)		
1974	1:20004	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EPE)		
1974	1:24000	PAN	ABRAMS	AREA IN GRAND RAPIDS AND ADA (SYMBOL ELC)		
1975	1:40000	COL	BENDIX	REEDS LAKE AREA (LANDSAT PROJ. E2325)		
1976	1: 3960	PAN	ABRAMS	CITY OF ROCKFORD (SYMBOL FDA)		
1976	1: 4800	PAN	ABRAMS	PART OF COUNTY (SYMBOL FDU)		
1976	1: 6000	PAN	MOSHT	STRIPS ALONG M-37, GRAND RAPIDS AREA (SYMBOL FAP)		

7-25

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
KEMEFNAM	1976	1:15840	PAN	ARRAMS	GRAND RAPIDS APFA (SYMBOL FRO, ALSO SCALE: 1:17920)
	1938	1:26000	PAN	DNP	SHORELINE (DNP-ENG)
	1943	1:25000	PAN	DNP	SHORELINE (DNP-ENG)
	1944	1:15840	PAN	ARRAMS	FOREST COVER (DNP-ENG)
	1953	1:15840	PAN	MOSHT	M-25, US-41 TO EAGLE RIVER (FILE NO 42-446)
	1953	1:15840	PAN	ARRAMS	VILLAGE OF EAGLE HARBOR (SYMBOL CPJ)
	1953	1:15840	PAN	MOSHT	M-25, EAGLE HARBOR (FILE NO 42-507)
	1973	1:15840	PAN	ARRAMS	APFA IN ALLOUET TWP. (SYMBOL EFY, ALSO SCALE: 1:17920)
	1974	UNKNOWN	PAN	MOSHT	WISCONSIN TO WISNETTE ALONG SHOPELINE OF LAKE SUPERIOR
	1974	1:16000	COL	MOSHT	LAKE SUPERIOR SHOPELINE (MSN, Y252M, ALSO PAN, CIR)
LAKE	1967	1:17920	PAN	ARRAMS	STRIPE FROM EAGLE RIVER TO PHOENIX (SYMBOL FAX)
	1968	1:17920	PAN	ARRAMS	SECTIONS IN ELLSWORTH TWP. (SYMBOL CAP)
	1970	1:17920	PAN	ARRAMS	STRIPE FROM LUDINGTON TO REED CITY (SYMBOL COZ)
	1971	1:17920	PAN	ARRAMS	APFA IN COUNTY (SYMBOL JEF)
	1972	1:17920	PAN	ARRAMS	APFA IN NEWKIRK AND LAKE TOWNS. (SYMBOL DHY)
	1973	1:17920	PAN	ARRAMS	APFA IN COUNTY (SYMBOL JRC)
	1973	1:17920	PAN	ARRAMS	APFA IN ELY TWP. (SYMBOL EBF)
LAPEER	1957	1:13700	PAN	ARRAMS	HIGHWAYS (DNP-ENG) (DNP-PARKS)
	1961	1:13700	PAN	ARRAMS	METAMORPHA-HATLEY
	1962	1:13700	PAN	ARRAMS	APFA IN COUNTY (SYMBOL AXV)
	1962	1:13700	PAN	ARRAMS	CITY OF LAPEER (SYMBOL AXI)
	1962	1:13700	PAN	MOSHT	M-57, FROM M-15 TO M-24 (FILE NO 44-414)
	1964	1:13700	PAN	MOSHT	M-57, FROM M-15 TO M-24 (FILE NO 44-535)
	1966	1:13700	PAN	ARRAMS	CITY OF LAPEER (SYMBOL PMS)
	1966	1:13700	PAN	MOSHT	M-21, LAPEER TO COUNTY LINE (FILE NO 44-499)
	1966	1:13700	PAN	ARRAMS	SECTIONS IN COUNTY (SYMBOL BTG)
	1966	1:13700	PAN	MOSHT	M-21, INLAY CITY EAST TO CO LINE (FILE NO 44-535)
	1966	1:13700	PAN	MOSHT	M-21, LAPEER TO INLAY CITY (FILE NO 44-590)
	1966	1:13700	PAN	MOSHT	M-21, LAPEER TO INLAY CITY (FILE NO 44-590)
	1966	1:13700	PAN	MOSHT	OPUSIN TWP. (SYMBOL CEM, ALSO SCALE: 1:16000)
	1966	1:13700	PAN	MOSHT	M-33, RELOCATION FROM WACOMB CO LINE TO INLAY CITY
	1966	1:13700	PAN	MOSHT	M-33, WACOMB CO LINE TO M-24 (FILE NO 44-554)
	1970	1:13700	PAN	ARRAMS	APFA IN COUNTY (SYMBOL DRU)
	1970	1:13700	PAN	ARRAMS	MAYFIELD TWP. (SYMBOL JKH, ALSO SCALE: 1:17920)
	1971	1:13700	PAN	ARRAMS	PARTS OF SECTION 9, ATTICA TWP. (SYMBOL EGG)
	1973	1:13700	PAN	ARRAMS	SITES IN COUNTY (SYMBOL FOM, ALSO SCALE: 1:17920)
	1974	1:13700	PAN	ARRAMS	M-21, FROM M-21 IN LAPEER TO M-21 FREEWAY IN PORT HURON
1975	1:13700	PAN	MOSHT	M-21, WASHINGTON TOWN NORTH TO INLAY CITY (NO 735)	
1976	1:13700	PAN	MOSHT	M-21, BRISTON ROAD APFA, LAPEER (SYMBOL FCF)	
1976	1:13700	PAN	MOSHT	STRIPE ALONG M-21 CORRIDOR, LAPEER (SYMBOL FBJ)	
1976	1:13700	PAN	MOSHT	STRIPE ALONG M-21 CORRIDOR, LAPEER (SYMBOL FBE)	
1976	1:13700	PAN	MOSHT	STRIPE ALONG M-21, LAPEER (ALSO SCALE: 1:14400)	
LEELANAU	1960	1:12000	PAN	ARRAMS	FOX ISLAND (SYMBOL ALC)
	1963	1:12000	PAN	ARRAMS	LEELANAU TWP. (SYMBOL PCO)
	1964	1:12000	PAN	MOSHT	M-234, FROM M-22 TO LAKE LEELANAU (FILE NO 45-393)
	1964	1:12000	PAN	ARRAMS	LEELANAU STATE PARK, 1 SQ. MILES (DNP-PARKS)
	1964	1:12000	PAN	ARRAMS	NORTH SHORE OF LAKE LEELANAU (SYMBOL BGM)
	1964	1:12000	PAN	ARRAMS	NORTH SHORE OF LAKE LEELANAU (SYMBOL BLP)
	1965	1:12000	PAN	ARRAMS	DAY FOREST AT GLEN ARBOUR (SYMBOL BOP)
	1965	1:12000	PAN	ARRAMS	APFA IN COUNTY (SYMBOL BMN)
	1965	1:12000	PAN	ARRAMS	VILLAGE OF GLEN LAKE (SYMBOL CFY)
	1965	1:12000	PAN	ARRAMS	ELMWOOD TWP. (SYMBOL CHA)
	1965	1:12000	PAN	ARRAMS	GLEN LAKE (SYMBOL GIM, ALSO SCALE: 1:17000)
	1965	1:12000	PAN	ARRAMS	VILLAGE OF EMPIRE (SYMBOL CLZ)
	1965	1:12000	PAN	ARRAMS	APFA IN COUNTY (SYMBOL CPH)
	1965	1:12000	PAN	ARRAMS	SOUTH 1/2, SECTION 13, GLEN ARBOUR TWP. (SYMBOL CON)
	1965	1:12000	PAN	ARRAMS	UPPER AND LOWER TRAVEPSE BAY (MULTIBAND, ALT: 6008FT)
	1965	1:12000	PAN	ARRAMS	WEST SHORE OF THE WEST ARM OF GRAND TRAVEPSE BAY
	1965	1:12000	PAN	ARRAMS	PART OF LEELANAU TWP. (SYMBOL DRP)
	1965	1:12000	PAN	ARRAMS	PART OF LEELANAU TWP. (SYMBOL CVI)
	1965	1:12000	PAN	ARRAMS	PART OF LEELANAU TWP. (SYMBOL CVR, ALSO SCALE: 1:14400)
	1965	1:12000	PAN	ARRAMS	GLEN LAKE APFA (SYMBOL CWR, ALSO SCALE: 1:14400)
1965	1:12000	PAN	ARRAMS	PART OF GLEN ARBOUR TWP. (SYMBOL DEH)	
1965	1:12000	PAN	ARRAMS	APFA NORTHEAST OF LAKE LEELANAU (SYMBOL DAG)	
1965	1:12000	PAN	ARRAMS	PART OF LEELANAU TWP. (SYMBOL CDS)	
1965	1:12000	PAN	ARRAMS	PART OF BINGHAM AND LEELANAU TOWNS. (SYMBOL JOT)	
1965	1:12000	PAN	ARRAMS	M-72, FROM PLOCHMAN ROAD EAST TO CO LINE (NO 572)	
1965	1:12000	PAN	ARRAMS	COMPLETE SHOPELINE	

ORIGINAL PAGE IS OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
LEELANAU	1973	1:19200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EBK, ALSO SCALE: 1:7920)
	1974	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ERH)
	1974	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EOD)
	1974	1:16000	COL	ERIM	LAKE MICHIGAN SHOPELINE (MSN. X252M, ALSO PAN, CIR, MSS)
	1976	1: 6000	PAN	MDSHT	STRIPS ALONG M-72, TRAVERSE CITY TO EMPIRE (SYMBOL FAN)
	1976	1: 7920	PAN	ABRAMS	VILLAGE OF NORTHPOPT (SYMBOL FOV, ALSO SCALE: 1:3960)
	1976	1:15840	PAN	ABRAMS	NORTH MANITOU ISLAND (SYMBOL FEI)
	1976	1:20004	PAN	ABRAMS	VILLAGE OF NORTHPOPT (SYMBOL FOV)
LENAWEE	1959	1: 6000	PAN	ABRAMS	CITY OF ADRIAN (PHOTO INDEX NO. 1389)
	1960	1: 7920	PAN	ABRAMS	VILLAGE OF TECUMSEH (SYMBOL AKQ, ALSO SCALE: 1:15840)
	1961	1: 7920	PAN	ABRAMS	VILLAGE OF CEMENT CITY (SYMBOL ANS)
	1965	1: 9600	PAN	MDSHT	US-12, FROM HILLSDALE CO LINE TO M-52 (FILE NO 46-475)
	1966	1: 3960	PAN	ABRAMS	VILLAGE OF MANITOU BEACH (SYMBOL BRT, ALSO 1:7920)
	1966	1: 9600	PAN	ABRAMS	SECTION 6, PALMYRA TWP. (SYMBOL BSN)
	1967	1: 7920	PAN	ABRAMS	CAMBRIDGE TWP. (SYMBOL BYD)
	1968	1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CDX)
	1968	1: 3960	PAN	MDSHT	US-127, FROM US-12 TO JACKSON CO LINE (FILE NO 46-581)
	1969	1: 3960	PAN	ABRAMS	SECTIONS IN CAMBRIDGE TWP. (SYMBOL CUM)
	1969	1: 6000	PAN	MDSHT	US-12, FROM BROOKLYN HIGHWAY TO M-52 (FILE NO 46-626)
	1969	1: 7920	PAN	ABRAMS	SECTION 6, FRANKLIN TWP. (SYMBOL COB)
	1969	1: 7920	PAN	ABRAMS	HUDSON TWP. (SYMBOL CPJ)
	1970	1: 3000	PAN	MDSHT	M-52, FROM ALBERT ST IN ADRIAN TO MOORE ROAD NO 657)
	1970	1: 6000	PAN	ABRAMS	CITY OF ADRIAN (SYMBOL AAY)
	1970	1: 6000	PAN	MDSHT	US-12, FROM SOMERSET ROAD TO BROOKLYN ROAD (NO 46-658)
	1970	1:20000	PAN	DNR	TOPO MAPS (DNR-ENG)
	1971	1:15840	PAN	ABRAMS	AREA IN SOUTHERN PART OF COUNTY (SYMBOL DOD)
	1973	1: 3960	PAN	ABRAMS	CITY OF ADRIAN (SYMBOL EEA)
	1973	1: 4000	PAN	ERIM	TEST SITE (MSN. 85M, ALSO 70 MM CIR/COL)
	1973	1:12000	PAN	MDSHT	US-127, FROM ADDISON TO JACKSON CO LINE (NO 792)
	1974	1: 3960	PAN	ABRAMS	HUDSON TWP. (SYMBOL EQF, ALSO SCALES: 1:7920, 1:96000)
	1974	1: 6000	PAN	MDSHT	M-156, FROM MORENCI TO M-54 (FILE NO 717)
	1974	1: 7920	PAN	ABRAMS	AREA IN CAMBRIDGE TWP. (SYMBOL EOT)
	1974	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EOI, ALSO SCALE: 1:15840)
	1975	1: 3960	PAN	ABRAMS	VILLAGES OF WFSION, JASPER AND FAIRFIELD (SYMBOL ESI)
	1975	1: 9600	PAN	MDSHT	US-12, FROM US-127 TO M-52 (FILE NO 746)
	1975	1: 9600	PAN	MDSHT	M-52-75, FROM ADRIAN NORTH (FILE NO 745)
1975	1:12000	PAN	ABRAMS	VILLAGE OF HARBOR SPRINGS (SYMBOL EXK, ALSO 1:24000)	
1976	1: 3000	PAN	MDSHT	STRIPS ALONG M-52 NEAR ADRIAN (SYMBOL FAF)	
1976	1: 6000	PAN	MDSHT	STRIPS ALONG US-127, JACKSON TO HUDSON (SYMBOL FAO)	
1976	1:20004	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FEH)	
LIVINGSTON	1954	1: 6000	PAN	ABRAMS	CITY OF HOWELL
	1955	1: 9600	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
	1960	1: 6000	PAN	ABRAMS	CITY OF HOWELL (SYMBOL AMK)
	1960	1: 9600	PAN	ABRAMS	STRIP FROM BRIGHTON TO PONTIAC (SYMBOL ANC)
	1964	1: 6000	PAN	STEFEO	ISLAND LAKE RECREATION AREA, 7 SO. MILES (DNR-PARKS)
	1964	1: 6000	PAN	STEFEO	PINCKNEY RECREATION AREA (DNR-PARKS)
	1964	1: 7920	PAN	ABRAMS	PORTIONS OF COUNTY (SYMBOL BGA)
	1965	1: 9600	PAN	MDSHT	NORTHWESTERN HGWY EXT FROM ORCHARD LK RD TO US-23
	1966	1:12000	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL BTO)
	1967	1:12000	PAN	ABRAMS	GREEN OAK TWP. (SYMBOL CCI, ALSO SCALE: 1:30000)
	1969	1: 7920	PAN	ABRAMS	TYRONE TWP. (SYMBOL CMS)
	1969	1: 7920	PAN	ABRAMS	PART OF GENOA TWP. (SYMBOL CNJ)
	1969	1: 9600	PAN	MDSHT	I-96, FROM KENSINGTON ROAD TO OAKLAND CO LINE
	1970	1: 7920	PAN	ABRAMS	NW 1/4, SECTION 8, TYRONE TWP. (SYMBOL CWE)
	1970	1:12000	PAN	ABRAMS	PART OF GREEN OAK TWP. (SYMBOL DBT)
	1971	1: 3960	PAN	ABRAMS	PART OF OSCEOLA TWP. (SYMBOL DNF)
	1971	1: 7920	PAN	ABRAMS	PART OF BRIGHTON TWP. (SYMBOL DNE)
	1972	VARIABLES	PAN	ERIM	E. BORDER (MSN. 63M, ALSO 70 MM CIR/COL, 1 FLT. LINES)
	1972	VARIABLES	PAN	ERIM	E. BORDER (MSN. 65M, ALSO 70 MM CIR/COL, 1 FLT. LINES)
	1972	1: 3960	PAN	ABRAMS	CITY OF BRIGHTON (SYMBOL EQT)
	1972	1: 7920	PAN	ABRAMS	PART OF BRIGHTON TWP. (SYMBOL DYV)
	1972	1: 7920	PAN	ABRAMS	PART OF HOWELL TWP. (SYMBOL DRF)
	1972	1: 7920	PAN	ABRAMS	PARTS OF SECS. 26 AND 27, HARTLAND TWP. (SYMBOL DYU)
	1972	1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DYM)
	1972	1:12000	PAN	ABRAMS	PART OF BRIGHTON TWP. (SYMBOL DQV)
	1973	1: 3000	PAN	MDSHT	M-59, FROM US-23 TO WILLIAMS LAKE ROAD (NO 47-704)
	1973	1: 3960	PAN	ABRAMS	CITY OF FOWLerville (SYMBOL DZZ)
	1973	1: 3960	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL ECM)

COUNTY	DATE	SCALE	FILEM	AGENCY	AREA/COMMENTS
LIVINGSTON	1973	1:7920	PAN	ABRAMS	PART OF BRIGHTON TWP. (SYMBOL EDU)
	1973	1:10000	BWIR	ERIM	E. BORDER (MSN. 82M, ALSO 70 MM CIR/COL, 1 FLT. LINE)
	1973	1:18000	PAN	ABRAMS	PART OF GREEN OAK TWP. (SYMBOL EID)
	1974	1:3960	PAN	ABRAMS	CITY OF BRIGHTON (SYMBOL DQT)
	1974	1:4800	PAN	ABRAMS	VILLAGE OF HAMBURG (SYMBOL EQD)
	1974	1:12000	PAN	ABRAMS	SITES IN COUNTY (SYMBOL EOH, ALSO SCALE: 1:7920)
	1975	1:12000	PAN	ABRAMS	PART OF GREEN OAK TWP. (SYMBOL EYB)
	1976	1:3000	PAN	MDSHT	STRIPS ALONG M-59 FROM PONTIAC TO US-23 (SYMBOL FBP)
	1976	1:7920	PAN	ABRAMS	AREA NEAR HOWELL (SYMBOL FCO)
	1976	1:12000	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL FBV)
LUCE	1962	UNKNOWN	COL	DNR	BLIND SUCKER FLOOD, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1969	1:12000	PAN	ABRAMS	PIPELINE FROM ENGADINE TO NEWBERRY (SYMBOL CQU)
	1974	UNKNOWN	PAN	ERIM	FROM SAULT STE MARIE TO GRAND MARAIS (SCANNERS)
	1974	1:7920	PAN	ABRAMS	LAKEFIELD TWP. (SYMBOL EOL, ALSO SCALE: 1:3960)
	1974	1:10000	COL	ERIM	LAKE SUPERIOR SHORELINE (MSN. X252M, ALSO PAN, CIR)
	1976	1:12000	PAN	MDSHT	TWO STRIPS IN NEWBERRY AREA (SYMBOL FBG)
MACKINAC	1953	1:4800	PAN	ABRAMS	CITY OF CEDARVILLE (PHOTO INDEX NO. 907)
	1962	UNKNOWN	COL	DNR	BLACK CR. FLOODING, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1964	1:3960	PAN	ABRAMS	VILLAGE OF CEDARVILLE (SYMBOL BDJ)
	1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)
	1966	1:7920	PAN	ABRAMS	STRAITS STATE (DNP-PARKS)
	1967	1:7920	PAN	ABRAMS	MACKINAC ISLAND (SYMBOL BYX)
	1967	1:12000	PAN	ABRAMS	MACKINAC ISLAND (SYMBOL BYX, ALSO SCALE: 1:15840)
	1969	1:12000	PAN	ABRAMS	PIPELINE FROM ENGADINE TO NEWBERRY (SYMBOL CQU)
	1971	1:3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DKU)
	1971	1:12000	PAN	ABRAMS	PART OF MARQUETTE TWP. (SYMBOL DNX)
	1972	1:7920	PAN	ABRAMS	PART OF NEWTON TWP. (SYMBOL DVV)
	1972	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DWG)
	1974	1:3960	PAN	ABRAMS	PART OF MARQUETTE TWP. (SYMBOL ENP)
	1974	1:16000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN, CIR)
	1975	1:3000	PAN	MDSHT	US-2 FROM SCHOOLCRAFT CO LINE TO ST IGNACE (NO 742)
	1976	1:3000	PAN	MDSHT	STRIP FROM EPOUFETTE TO POINTE AUX CHENES (SYMBOL FAS)
	1976	1:7920	PAN	ABRAMS	CITY OF ST. IGNACE (SYMBOL FDV, ALSO SCALE 1:3960)
1976	1:20000	PAN	ABRAMS	CITY OF ST. IGNACE (SYMBOL FDI)	
MACOMB	1941	UNKNOWN	PAN	DNR	SHORELINE (DNP-ENG) DETROIT EDISON
	1952	UNKNOWN	PAN	DNR	SHORELINE (DNR-ENG) DETROIT EDISON
	1954	1:6000	PAN	ABRAMS	CITY OF ROMEO
	1954	1:9600	PAN	DNR	HIGHWAYS (DNP-ENG)
	1955	1:9600	PAN	DNR	HIGHWAYS (DNR-ENG)
	1957	1:9600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)
	1961	1:3000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL AOF)
	1961	1:6000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL AOF, ALSO SCALE: 1:3960)
	1961	1:15840	PAN	ABRAMS	CITY OF ST. CLAIR SHORES (SYMBOL ASO)
	1962	1:12000	PAN	ABRAMS	CITY OF CENTERLINE (SYMBOL AST)
	1963	1:6000	PAN	ABRAMS	CITY OF UTICA (SYMBOL AZQ)
	1963	1:15840	PAN	ABRAMS	CITY OF WARREN (SYMBOL BCK)
	1963	1:19200	PAN	ABRAMS	AREA AROUND RICHMOND (SYMBOL AZM)
	1964	1:3000	PAN	MDSHT	I-696, I-75 TO I-94 (FILE NO 50-420)
	1965	1:3000	PAN	MDSHT	M-29, I-94 INTERCHANGE (FILE NO 50-490)
	1965	1:4800	PAN	MDSHT	M-97, FROM 8 MILE TO 2 MILE ROAD (FILE NO 50-473)
	1965	1:4800	PAN	MDSHT	MOUND ROAD, CANIFF ST TO M-53 (FILE NO 50-476)
	1965	1:9600	PAN	MDSHT	M-29, NEW BALTIMORE BYPASS (FILE NO 50-451)
	1966	1:3000	PAN	MDSHT	M-53, DAVIDSON HWY TO 18 MILE ROAD (FILE NO 50-508)
	1966	1:12000	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL BTO)
	1967	UNKNOWN	PAN	ERIM	TOLEDO TO PORT HURON SHORELINE (BWIR, SCANNERS)
	1967	1:3000	PAN	MDSHT	M-97, 8 MILE ROAD TO 15 MILE ROAD (FILE NO 50-550)
	1967	1:4800	PAN	MDSHT	US-25, MT CLEMENS BRIDGE (FILE NO 50-565)
	1967	1:4800	PAN	MDSHT	M-53, 16 MILE ROAD TO M-59 (FILE NO 50-545)
	1968	1:3000	PAN	MDSHT	I-696, I-94 AND 11 MILE ROAD (FILE NO 50-571)
	1968	1:3000	PAN	MDSHT	M-102, 8 MILE ROAD, GRATIOT TO KELLEY (FILE NO 50-579)
	1968	1:3000	PAN	MDSHT	M-29, AT ST CLAIR SHORES (FILE NO 50-572)
	1968	1:6000	PAN	ABRAMS	AREA IN WARREN (SYMBOL CJO)
	1968	1:7920	PAN	ABRAMS	IN CLINTON TWP. SOUTHWEST OF MT. CLEMENS (SYMBOL CFL)
	1969	1:3000	PAN	MDSHT	M-29, BAKER ROAD EAST TO COUNTY LINE (FILE NO 50-595)
1969	1:3000	PAN	ABRAMS	CITY OF NEW BALTIMORE (SYMBOL CSI)	
1969	1:3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CRK)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
MACOMB	1969	1: 7923	PAN	ARRAMS	NORTH 1/2, SECTION 1, STERLING TWP. (SYMBOL CVL)	
	1969	1: 7923	PAN	ARRAMS	CITY OF STERLING HEIGHTS (SYMBOL CPY)	
	1969	1: 3697	PAN	MCSHT	M-59, RELOCATION IN COUNTY (FILE NO 50-521)	
	1969	1:12000	PAN	ARRAMS	SHELBY AND CLINTON TWP. (SYMBOL COL)	
	1969	1:12000	PAN	ARRAMS	NORTH 1/2, SECTION 1, STERLING TWP. (SYMBOL CVL)	
	1969	1:14400	PAN	MCSHT	M-53, RELOCATION FROM 24 MILE ROAD TO LAPEER CP LINE	
	1969	1:15840	PAN	ARRAMS	CITY OF STERLING HEIGHTS (SYMBOL CPY)	
	1970	1: 3000	PAN	MCSHT	US-25, MT CLEMENS (FILE NO 50-641)	
	1971	1: 4800	PAN	ARRAMS	WASHINGTON TWP. (SYMBOL CWL, ALSO 1:3950)	
	1971	1: 4800	PAN	ARRAMS	WASHINGTON TWP. (SYMBOL CWU)	
	1971	1:19920	PAN	ARRAMS	AREA IN COUNTY (SYMBOL DBU)	
	1971	1: 7923	PAN	ARRAMS	SITE IN MACOMB BASIN (SYMBOL DTG)	
	1971	1: 7923	PAN	ARRAMS	SITES ON CLINTON RIVER, COON CREEK (SYMBOL DTG)	
	1972	1: 3000	PAN	MCSHT	US-25, FROM 11 MILE TO 15 MILE ROAD (FILE NO 627)	
	1972	1: 3950	PAN	ARRAMS	SHELBY TWP. (SYMBOL DTZ)	
	1972	1: 3950	PAN	ARRAMS	CITY OF STERLING HEIGHTS (SYMBOL DTK)	
	1972	1: 7923	PAN	ARRAMS	EAST 1/2, SECTION 7, BRUCE TWP. (SYMBOL DXX)	
	1972	1: 7923	PAN	ARRAMS	BRIGHTON TWP. (SYMBOL DUA)	
	1972	1: 7923	PAN	ARRAMS	PART OF SECTION 19, WASHINGTON TWP. (SYMBOL DYY)	
	1972	1:12000	PAN	ARRAMS	AREA IN COUNTY (SYMBOL DYM)	
	1972	1:14400	PAN	MCSHT	M-59, RELOCATION FROM MOUND ROAD EAST TO I-94 (NO 691)	
	1973	1: 3950	PAN	ARRAMS	CITY OF ST. CLAIR SHORES (SYMBOL E20)	
	1973	1: 3950	PAN	ARRAMS	CITY OF STERLING HEIGHTS (SYMBOL E5V)	
	1973	1: 4800	PAN	ARRAMS	AREAS IN COUNTY (SYMBOL EFC)	
	1973	1: 7923	PAN	ARRAMS	CITY OF STERLING HEIGHTS (SYMBOL F8A, ALSO 1:15840)	
	1973	1: 9600	PAN	MCSHT	I-94, AT SHOOK ROAD AND METROPOLITAN PARKWAY (NO 707)	
	1973	1:24000	PAN	ARRAMS	PART OF CLINTON TWP. (SYMBOL F4A)	
	1974	1: 3000	PAN	MCSHT	I-696, I-75 TO I-94 (FILE NO 719)	
	1974	1: 7923	PAN	ARRAMS	AREAS IN COUNTY (SYMBOL EMU)	
	1974	1:10000	COL	ERTM	LAKE ST. CLAIR SHOPELINE (MSN. X252M, ALSO PAN,CIR)	
	1974	1:12000	PAN	ARRAMS	SITES IN COUNTY (SYMBOL EOH, ALSO SCALE: 1:7920)	
	1975	1: 3000	PAN	MCSHT	M-122-75, FROM WEST OF GROESBECK TO EAST OF GRATIOT	
	1975	1: 3000	PAN	MCSHT	M-53-75, 6 MILE ROAD TO M-59 (FILE NO 750)	
	1975	1: 3000	PAN	MCSHT	M-53, RELOCATION FROM MOUND ROAD TO M-53 (FILE NO 724)	
	1975	1: 4800	PAN	ARRAMS	STIP ALONG I-96 (SYMBOL ESN)	
	1975	1: 9600	PAN	MCSHT	M-53, WASHINGTON TOWN NORTH TO CO LINE (NO 738)	
	1975	1:12000	PAN	ARRAMS	PART OF WASHINGTON TWP. (SYMBOL EYB)	
	1976	1: 7923	PAN	ARRAMS	CLINTON RIVER PROJECT (SYMBOL F0Z)	
	1976	1:12000	PAN	ARRAMS	CITY OF WARREN HEIGHTS (SYMBOL F8C, ALSO 1:24000)	
	1976	1:12800	PAN	ARRAMS	CITIES OF WARREN AND ROYAL OAK (SYMBOL F8C)	
	1976	1:24000	PAN	ARRAMS	CITIES OF WARREN AND ROYAL OAK (SYMBOL F8C)	
	MANISTEE	1968	1:12000	PAN	ARRAMS	SECTION IN FILE TWP. (SYMBOL CFC)
		1969	1: 7923	PAN	ARRAMS	BEAR CREEK AREA (SYMBOL CUB)
		1971	1: 7923	PAN	ARRAMS	PART OF SPRINGDALE TWP. (SYMBOL C7V)
		1973	VARIES	PAN	ERTM	TEST SITE (MSN. 35M, ALSO 70 MM CIR/COL)
		1973	1: 6000	PAN	COFFE	PARTIAL SHOPELINE
		1974	1: 3950	PAN	ARRAMS	AREA NEAR MANISTEE (SYMBOL FNJ)
		1974	1:16000	COL	ERTM	LAKE MICHIGAN SHOPELINE (MSN. X252M, ALSO PAN,CIR, MSS)
		1975	1: 3950	PAN	ARRAMS	VILLAGE OF COPEMISH (SYMBOL EXD)
		1976	1: 7923	PAN	ARRAMS	PORTAGE LAKE HARBOUR (SYMBOL FEJ)
		MARQUETTE	1953	1: 6000	PAN	ARRAMS	HIGHWAYS (DNR-ENG)
	1954		1: 6000	PAN	ARRAMS	CITY OF MEGAUNEE (PHOTO INDEX NO. 1023)
	1959		1: 6000	PAN	ARRAMS	CITY OF ISHPeming (SYMBOL ALP, PHOTO INDEX NO. 1699)
	1960		1: 7200	PAN	ARRAMS	CITY OF MARQUETTE
	1960		1: 7923	PAN	ARRAMS	VILLAGE OF REPUBLIC (SYMBOL AMH)
1960	1:12000		PAN	ARRAMS	AREA IN COUNTY (SYMBOL AMY)	
1960	1:14400		PAN	ARRAMS	VILLAGE OF REPUBLIC (SYMBOL AMX)	
1963	1: 6000		PAN	ARRAMS	VAN PIPE STATE PARK (SYMBOL BAW, ALSO DNR PARKS)	
1963	1: 6000		PAN	ARRAMS	CITY OF MARQUETTE (SYMBOL B20)	
1964	1:15840		PAN	ARRAMS	FOREST COVER (DNR-ENG)	
1966	1: 3000		PAN	MCSHT	PORTION OF NORTHERN MICHIGAN UNIVERSITY (FILE NO 524)	
1967	1: 4800		PAN	MCSHT	US-41 BYPASS, MARQUETTE (FILE NO 52-628)	
1964	1:12000		PAN	HURF	AREA BETWEEN ISHPeming AND MARQUETTE (SYMBOL: BJH)	
1963	1:15840		PAN	ARRAMS	CITY OF ISHPeming (SYMBOL C19, ALSO SCALE: 1:7920)	
1969	1: 4800		PAN	MCSHT	US-41, FROM M-28 TO MARQUETTE BYPASS (FILE NO 52-614)	
1969	1: 6000		PAN	MCSHT	M-35, WEST OF PRINCETON TO EAST OF LITTLE LAKE	
1969	1: 6000		PAN	MCSHT	US-41, M-28 TO MARQUETTE BYPASS (FILE NO 52-629)	
1970	1:12000	PAN	HURF	HWYS. 95,41 REPUBLIC-CHAMPION-ISHPeming (SYMBOL: CAH)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
MARQUETTE	1971	1:12000	PAN	HURC	PALMER CITY AREA (SYMBOL: CCP)	
	1976	1:13200	PAN	HURC	PALMER-CASCADE MT. AREA (SYMBOL: CCO)	
	1971	1:13200	PAN	HURC	MICHIGAN STATE FOREST (SYMBOL: CCO)	
	1970	1:15840	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL DAL, ALSO SCALE: 1:7920)	
	1970	1:15840	PAN	MDSHT	M-35, GWINN TO PALMER (FILE NO 52-651)	
	1971	UNKNOWN	COL	DNP	S.E. CYPRESS SWAMP, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1971	1:3000	PAN	MDSHT	M-28 BR, ISHPEMING AND NEGAUNEE (FILE NO 52-677)	
	1972	1:3960	PAN	ABRAMS	AREA IN WEST BRANCH TWP. (SYMBOL DZJ)	
	1972	1:3960	PAN	ABRAMS	AREA SOUTH OF MARQUETTE (SYMBOL DZH)	
	1972	1:7920	PAN	ABRAMS	PART OF POWELL TWP. (SYMBOL DVH)	
	1974	1:3960	PAN	MDSHT	US-41, ONE MILE STRIP NEAR TEAL LAKE (FILE NO 52-722)	
	1971	1:10000	COL	EPIM	LAKE SUPERIOR SHOPELINE (MSN. X252M, ALSO PAN, CIR, MSS)	
	1975	1:3960	PAN	ABRAMS	MARQUETTE TWP. (SYMBOL FVL)	
	1975	1:7920	PAN	ABRAMS	PART OF MARQUETTE TWP. (SYMBOL FWH)	
	1975	1:12000	PAN	ABRAMS	PART OF CHOCLAY TWP. (SYMBOL FHW)	
	1976	1:3000	PAN	MDSHT	STRIPS ALONG US-41 AND 28, MARQUETTE TO NEGAUNEE	
	1976	1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FDS)	
	MASON	1961	1:7920	PAN	ABRAMS	CITY OF LUDINGTON (SYMBOL APY)
		1964	1:6000	PAN	STEFFO	LUDINGTON STATE PARK, 6 SQ. MILES (DNP-PARKS)
		1965	1:14400	PAN	MDSHT	US-31, WHITEHALL TO LUDINGTON (FILE NO 467)
1967		1:12000	PAN	MDSHT	US-31, LUDINGTON (FILE NO 53-547)	
1968		1:7920	PAN	MDSHT	US-31, THROUGH COUNTY (FILE NO 53-585)	
1968		1:19200	PAN	ABRAMS	STRIP FROM LUDINGTON TO REED CITY (SYMBOL CCZ)	
1969		1:7920	PAN	ABRAMS	CITY OF LUDINGTON (SYMBOL CHL)	
1969		1:7920	PAN	ABRAMS	PART OF SECTION 10, T. 19N., R. 18W. (SYMBOL CU7)	
1970		1:3960	PAN	ABRAMS	LUDINGTON SHOPELINE (SYMBOL CZX)	
1970		1:6000	PAN	ABRAMS	LUDINGTON SHOPELINE (SYMBOL DBB, ALSO SCALE: 1:3960)	
1970		1:6000	PAN	ABRAMS	PART OF PERPE MARQUETTE TWP. (SYMBOL DAY)	
1970		1:7920	PAN	ABRAMS	PART OF VICTORY TWP. (SYMBOL CZW)	
1970		1:12000	PAN	ABRAMS	LUDINGTON SHOPELINE (SYMBOL DBR, ALSO SCALE: 1:7920)	
1971		1:3960	PAN	ABRAMS	LUDINGTON SHOPELINE (SYMBOL DIT)	
1971		1:3960	PAN	ABRAMS	CITY OF LUDINGTON (SYMBOL DNC)	
1972		1:7920	PAN	ABRAMS	PART OF CUSTER TWP. (SYMBOL -DUJ, ALSO SCALE: 1:12000)	
1972		1:15840	PAN	ABRAMS	EDFN TWP. (SYMBOL DUB)	
1973		1:4800	PAN	ABRAMS	VICINITY OF SCOTTSVILLE (SYMBOL EBI)	
1973		1:6000	PAN	CORPS	PARTIAL SHOPELINE	
1973		1:24000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EFV)	
1974	1:16000	COL	EPIM	LAKE MICHIGAN SHOPELINE (MSN. X252M, ALSO PAN, CIR, MSS)		
1975	1:3000	PAN	MDSHT	US-31, OCEANA COUNTY LINE TO LUDINGTON (NO 53-726)		
1975	1:7920	PAN	ABRAMS	PART OF SECTION 4, VEVA TWP. (SYMBOL EUC)		
1976	1:6000	PAN	MDSHT	SHORT STRIP ALONG M-35 NEAR GWINN (SYMBOL FBB)		
MECOSTA	1954	1:6000	PAN	ABRAMS	CITY OF BIG RAPIDS (PHOTO INDEX NO. 1001)	
	1954	1:6000	PAN	ABRAMS	HIGHWAYS (DNP-ENG)	
	1962	UNKNOWN	COL	DNP	FEATHER BED FLOODING, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
	1962	UNKNOWN	COL	DNP	PICKEREL CP. FLOOD., 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1962	UNKNOWN	COL	DNP	HAYMARSH LAKE, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1962	UNKNOWN	COL	DNP	LITTLEJOHN FLOODING, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1962	UNKNOWN	COL	DNP	MARTINY LAKES, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1962	1:6000	PAN	MDSHT	M-66, SIX LAKES TO REMUS (FILE NO 54-485)	
	1962	1:9600	PAN	MDSHT	M-20, M-66 TO DEERFIELD CENTER (FILE NO 54-479)	
	1966	1:14400	PAN	MDSHT	M-20, WHITE CLOUD TO REMUS (FILE NO 534)	
	1966	1:14400	PAN	ABRAMS	STRIP FROM WHITE CLOUD TO REMUS (SYMBOL BVR)	
	1967	1:3000	PAN	MDSHT	M-20, M-66 EAST TO COUNTY LINE (FILE NO 54-540)	
	1968	1:9600	PAN	MDSHT	M-20, AT BIG RAPIDS (FILE NO 54-586)	
	1968	1:9600	PAN	MDSHT	US-131, RELOCATION AT BIG RAPIDS (FILE NO 54-589)	
	1969	1:7920	PAN	ABRAMS	AREAS IN MORTON TWP. (SYMBOL GVM)	
	1969	1:7920	PAN	ABRAMS	PART OF GRANT TWP. (SYMBOL CUY)	
	1970	1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL GCX)	
	1970	1:14400	PAN	ABRAMS	MUSKEGON RIVER FROM NEWAYGO TO BIG RAPIDS (SYMBOL CSY)	
	1970	1:15840	PAN	ABRAMS	MUSKEGON RIVER FROM NEWAYGO TO BIG RAPIDS (SYMBOL CSY)	
	1971	1:7920	PAN	ABRAMS	AREA IN GRAND TWP. (SYMBOL DIL)	
1971	1:7920	PAN	ABRAMS	PART OF MORTON AND AUSTIN TWP. (SYMBOL DKC)		
1971	1:9600	PAN	MDSHT	US-131, 5 MILE ROAD NORTH TO STATE LINE (FILE NO 676)		
1971	1:2000	PAN	MDSHT	US-131, RELOCATION, MORLEY NORTH TO ASHTON (NO 684)		
1972	1:6000	PAN	MDSHT	US-131, EDGAR ROAD NORTH TO 19 MILE ROAD (NO 688)		
1972	1:7920	PAN	ABRAMS	PART OF COUNTY (SYMBOL GYB)		
1972	1:14400	PAN	ABRAMS	PART OF AUSTIN TWP. (SYMBOL DPC)		
1973	1:6000	PAN	MDSHT	US-131, CROSS FLIGHTS, EDGAR ROAD TO 19 MILE ROAD		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
MECOSTA	1974	1: 3960	PAN	ABRAMS	CITY OF BIG RAPIDS (SYMBOL EOG)
	1974	1: 7920	PAN	ABRAMS	LOST CANYON NUMBER TWO, MECOSTA (SYMBOL EMP)
	1975	1: 3000	PAN	MOSHT	M-20, BRIDGE SITE IN BIG RAPIDS (FILE NO 728)
	1975	1: 6000	PAN	MOSHT	US-131, 11 MILE ROAD TO 19 MILE ROAD (FILE NO 727)
	1975	1: 6000	PAN	MOSHT	M-66, SIX LAKES TO REMUS (FILE NO 741)
	1976	1: 6000	PAN	MOSHT	STRIP ALONG US-131, NORTH OF REED CITY TO BIG RAPIDS
	1976	1: 7920	PAN	ABRAMS	CITY OF BIG RAPIDS (SYMBOL FCZ)
	MENOMINEE	1962	UNKNOWN	COL	DNR	HAYWARD LAKES, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
1968		UNKNOWN	COL	DNR	HAYWARD LAKE AREA, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
1969		1: 7920	PAN	ABRAMS	NORTH 1/2, SECTION 19, LAKE TWP. (SYMBOL COT)
1970		1: 6000	PAN	HURD	MENOMINEE CITY AREA, ALSO 1:12000 (SYMBOL BZX)
1971		1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DNB)
1973		1:15840	BWIP	HURD	MENOMINEE RIVER AREA (SYMBOL DCC)
1974		1:10000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN, CIR, MSS)
1976		1: 6000	PAN	MOSHT	STRIP ALONG US-2 (SYMBOL FAO)
MIDLAND	1962	UNKNOWN	COL	DNR	KAWKAWLIN FLOODING, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1962	1: 9600	PAN	ABRAMS	MIDLAND TWP. (SYMBOL AUB)
	1966	1:19200	PAN	ABRAMS	MIDLAND TWP. (SYMBOL BTE, ALSO SCALE: 1:9600)
	1967	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BYR)
	1968	1: 7920	PAN	ABRAMS	CITY OF MIDLAND (SYMBOL BKF, ALSO SCALE: 1:3960)
	1970	1: 3600	PAN	MOSHT	M-20, FROM MERIDIAN ROAD TO US-10 (FILE NO 56-655)
	1971	1: 4800	PAN	MOSHT	US-10, MIDLAND BYPASS AREA (FILE NO 56-669)
	1972	1: 2400	PAN	ABRAMS	CITY OF MIDLAND (SYMBOL DVK)
	1972	1: 3960	PAN	ABRAMS	ROAD SITES IN COUNTY (SYMBOL DVS)
	1972	1: 7920	PAN	ABRAMS	PARK SITES IN COUNTY (SYMBOL DTP)
	1972	1: 7920	PAN	ABRAMS	CITY OF MIDLAND (SYMBOL DVK, ALSO SCALE: 1:3960)
	1974	1: 2400	PAN	ABRAMS	CITY OF MIDLAND (SYMBOL ECO)
	1974	1:15840	PAN	DNR	TOPO MAPS
	1975	UNKNOWN	PAN	ABRAMS	CITY OF MIDLAND (SYMBOL ETF)
	1975	1: 7920	PAN	ABRAMS	INGERSOLL TWP. (SYMBOL ESE)
MISSAUKEE	1962	UNKNOWN	COL	DNR	CANNON CP. FLOODING, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1966	1: 3000	PAN	MOSHT	M-55, CADILLAC TO M-66 (FILE NO 57-492)
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNP-ENG)
	1969	1: 7920	PAN	ABRAMS	SECTION 20, CLAM UNION TWP. (SYMBOL CVC)
	1970	1: 7920	PAN	ABRAMS	LAKE MISSAUKEE AND VICINITY (SYMBOL DOZ, ALSO 1:36000)
	1970	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DDX)
	1972	1: 2496	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DXN)
	1972	1:20000	PAN	ABRAMS	STRIP FROM KALKASKA TO MECOSTA COUNTY (SYMBOL DVV)
	1974	1: 6000	PAN	ABRAMS	SECTION 34, LAKE TWP. (SYMBOL EOP)
1976	1: 4800	PAN	ABRAMS	VILLAGE OF MCBAIN (SYMBOL FDU)	
MONROE	1961	UNKNOWN	PAN	DNR	SWAN CREEK MAPSH, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1961	UNKNOWN	PAN	DNR	MONROE MARSH, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1961	UNKNOWN	COL	DNR	PTE. MOUILLEE AREA, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
	1961	1:14400	PAN	MOSHT	WHITEFORD, SEDFORD, AND ERIE TOWNS (FILE NO 58-404)
	1963	1: 7920	PAN	ABRAMS	CITY OF TEMPERANCE (SYMBOL AZD)
	1964	UNKNOWN	COL	DNR	PTE. MOUILLEE AREA, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
	1964	1: 3000	PAN	MOSHT	I-275, I-94 TO I-96 (FILE NO 58-419)
	1964	1: 9600	PAN	MOSHT	US-223 AND M-151, IN COUNTY (FILE NO 58-415)
	1964	1: 9600	PAN	MOSHT	I-75, FROM STATE LINE TO I-275 (FILE NO 58-394)
	1964	1: 9600	PAN	MOSHT	I-75, IN COUNTY (FILE NO 58-421)
	1965	1: 3000	PAN	MOSHT	US-23 AND M-151, INTERCHANGE (FILE NO 58-466)
	1965	1: 3000	PAN	MOSHT	I-75, OHIO LINE TO SIBLEY ROAD (FILE NO 58-449)
	1966	UNKNOWN	PAN	ERIM	PEACH ISLAND TO MONROE (MULTIBAND, SCANNERS ALT: 2000)
	1966	UNKNOWN	PAN	ERIM	PEACH ISLAND TO LUNAR PIER (MULTIBAND SCANNERS)
	1966	UNKNOWN	PAN	ERIM	GIRALTER TO OHIO (MULTIBAND, SCANNERS ALT: 2000FT)
	1966	1: 7920	PAN	ABRAMS	CITY OF MONROE (SYMBOL BRA)
	1967	UNKNOWN	PAN	ERIM	TOLEDO TO PORT HURON SHORELINE (BWIP, SCANNERS)
	1967	1: 3960	PAN	ABRAMS	BLAKELY AND BROWNSTOWN DRAINS (SYMBOL CCU)
	1968	1: 7920	PAN	ABRAMS	MONROE AREA (SYMBOL CIL, ALSO SCALES: 1:3960, 1:6000)
	1969	UNKNOWN	PAN	ERIM	SIX MILES ALONG THE RAISIN RIVER (MULTIBAND, SCANNERS)
1969	1:12000	PAN	ABRAMS	ASH AND BEPLIN TOWNS. (SYMBOL COL)	
1969	1:15840	PAN	ABRAMS	AREA NEAR DUNDEE (SYMBOL CPR, ALSO SCALE: 1:7920)	
1970	UNKNOWN	PAN	ERIM	MONROE POWER PLANT (SCANNERS, ALT: 5000FT)	
1971	1: 7920	PAN	ABRAMS	PART OF ERIE TWP. (SYMBOL DLR)	
1971	1:15840	PAN	ABRAMS	AREA IN SOUTHERN PART OF COUNTY (SYMBOL DOD)	
1972	UNKNOWN	PAN	ERIM	ENPICO FERMI PLANT (MULTIBAND, SCANNERS ALT: 5000FT)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
MONROE	1972	UNKNOWN	PAN	ERIM	DETROIT EDISON PLANT ON RAISIN RIVER (ALT: 5000FT)	
	1972	UNKNOWN	PAN	ERIM	PLUME OF RAISIN RIVER (MULTIBAND, SCANNERS ALT: 5000)	
	1972	UNKNOWN	PAN	ERIM	POINTE MOUILLEE (SCANNERS, MULTIBAND, ALT: 2000FT)	
	1972	1: 4000	CTR	ERIM	PTE. MOUILLEE (MSN. 63M, ALSO SCALE: 1:4000, 70MM BW)	
	1972	1: 7920	PAN	ABRAMS	NEAR MONROE (SYMBOL DXE)	
	1972	1: 8000	CIR	MSU/RSP	PTE. MOUILLEE AREA (ALSO SCALE OF 1:4000)	
	1973	UNKNOWN	PAN	ERIM	POINTE MOUILLEE, MONROE (MULTIBAND, SCANNERS)	
	1973	UNKNOWN	PAN	ERIM	MONROE CO FLOODING (MULTIBAND, SCANNERS ALT: 10000FT)	
	1973	1: 6000	PAN	MOSHT	M-151, US-223 TO US-23, FILE NO 50-699)	
	1973	1: 7920	PAN	ABRAMS	AREA SOUTH OF MONROE (SYMBOL EAW, ALSO SCALE: 1:3960)	
	1974	1: 3000	PAN	MOSHT	M-53, TELEGRAPH TO I-75, MONROE AREA (FILE NO 714)	
	1974	1:10000	COL	ERIM	LAKE ERIE SHORELINE (MSN. 7252M, ALSO PAN, CIR)	
	1974	1:12000	PAN	ABRAMS	PART OF EPIE TWP. (SYMBOL EPT, ALSO SCALE: 1:7920)	
	1975	1: 4800	PAN	ABRAMS	MILAN TWP. (SYMBOL ESH)	
	1975	1:24000	PAN	ABRAMS	CITY OF MONROE (SYMBOL ERC, ALSO SCALE: 1:7920)	
	1976	1: 7920	PAN	ABRAMS	CITY OF MONROE (SYMBOL FCH, ALSO SCALE: 1:3960)	
	1976	1: 7920	PAN	ABRAMS	MONROE HARBOR (SYMBOL FFJ)	
	1976	1:12000	PAN	ERIM	ONE STRIP IN DETROIT EDISON PLANT AREA (SYMBOL FCX)	
	MONTCALM	1961	1: 9600	PAN	ABRAMS	CITY OF GREENVILLE (SYMBOL ARF)
		1965	1: 6000	PAN	MOSHT	US-131, 14 MILE ROAD TO M-46 (FILE NO 59-486)
1965		1: 6000	PAN	MOSHT	M-66, SIX LAKES TO REMUS (FILE NO 59-485)	
1966		1: 7920	PAN	ABRAMS	PART OF WINFIELD AND REYNOLDS TOWNS. (SYMBOL BPT)	
1966		1: 7920	PAN	ABRAMS	STRIPS ALONG RAILROADS IN GREENVILLE (SYMBOL BSK)	
1969		1: 7920	PAN	ABRAMS	PART OF PIERSON TWP. (SYMBOL CNX)	
1971		1: 3960	PAN	ABRAMS	PART OF CRYSTAL AND EVERGREEN TOWNS. (SYMBOL DGT)	
1971		1: 7920	PAN	ABRAMS	PART OF EUPEKA TWP. (SYMBOL DMT)	
1971		1: 7920	PAN	ABRAMS	PART OF CATO TWP. (SYMBOL DGB)	
1971		1:12000	PAN	ABRAMS	SHERIDAN AND LAKE THIRTEEN AREA (SYMBOL DJP)	
1971		1:12000	PAN	MOSHT	US-131 RELOCATION, GATES ROAD TO MORELY AND ASHTON	
1971		1:15840	PAN	ABRAMS	SHERIDAN AND LAKE THIRTEEN AREA (SYMBOL DJP)	
1972		1: 6000	PAN	MOSHT	US-131, EDGAR ROAD TO 19 MILE ROAD (FILE NO 59-698)	
1973		1: 6000	PAN	MOSHT	US-131, CROSS FLIGHTS, EDGAR ROAD TO 19 MILE ROAD	
1975		1: 6000	PAN	MOSHT	M-66, SIX LAKES TO REMUS (FILE NO 741)	
1975		1:40000	COL	BENDIX	TOWNLINE LAKE AREA (LANDSAT PROJ. E2325)	
1976		1: 4800	PAN	ABRAMS	VILLAGE OF MCBRIDE (SYMBOL FDU)	
MONTMORNCY		1962	UNKNOWN	COL	DNR	RAINEY RIVER FLOODS, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
		1964	1: 3000	PAN	MOSHT	M-32, ATLANTA TO HILLMAN (FILE NO 60-395)
		1966	1: 6000	PAN	MOSHT	M-32, GAYLORD TO ATLANTA (FILE NO 60-502)
	1966	1: 7920	PAN	ABRAMS	CLEAR LAKE STATE PARK, 1 SQ. MILE (DNR-PARKS)	
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)	
	1971	1: 7920	PAN	ABRAMS	PART OF ALBERT TWP. (SYMBOL DPS)	
	1975	1:40000	COL	BENDIX	VALENTINE LAKE AREA (LANDSAT PROJ. E2325)	
	1976	1:14400	CIR	MOSHT	FOUR FLIGHT LINES BETWEEN GAYLORD AND ATLANTA	
	MUSKEGON	1959	1: 6000	PAN	ABRAMS	CITY OF MUSKEGON
		1961	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ASI)
1961		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL AOZ, ALSO 1:15840)	
1962		1: 6000	PAN	ABRAMS	HOFFMASTER STATE PARK, 2 SQ. MILES (DNR-PARKS)	
1964		1:15840	PAN	ABRAMS	CITY OF MUSKEGON (SYMBOL BJM)	
1965		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BLJ)	
1965		1:15840	PAN	ABRAMS	CITY OF MONTAGUE (SYMBOL BLI, ALSO SCALE: 1:7920)	
1965		1:15840	PAN	ABRAMS	SOUTH SHORE OF LAKE MUSKEGON (SYMBOL BKH)	
1966		1: 4800	PAN	ABRAMS	NOPTON TWP. (SYMBOL BSJ)	
1966		1: 4800	PAN	MOSHT	I-96 BL, GETTY ST TO M-46 IN MUSKEGON (FILE NO 531)	
1966		1: 6000	PAN	SYPECO	MUSKEGON STATE PARK, 2 SQ. MILES (DNR-PARKS)	
1966		1: 7920	PAN	ABRAMS	CITY OF MUSKEGON, BUSINESS DISTRICT (SYMBOL BRM)	
1966		1: 9600	PAN	MOSHT	M-46, MAPLE ISLAND ROAD TO RAVENNA ROAD (FILE NO 515)	
1966		1:14400	PAN	MOSHT	US-31, IN MUSKEGON COUNTY (FILE NO 496)	
1967		1: 7920	PAN	ABRAMS	SECTION IN COUNTY (SYMBOL CBT)	
1968		1: 3000	PAN	MOSHT	US-31 RELOCATION, IN NORTHERN PART OF COUNTY (NO 585)	
1968		1: 4800	PAN	ABRAMS	VILLAGE OF RAVENNA (SYMBOL CFO)	
1969		1: 3000	PAN	MOSHT	US-31 BUSINESS ROUTE FROM WHITEHALL TO MONTAGUE	
1970		1:15840	PAN	ABRAMS	AREA IN MUSKEGON (SYMBOL CTM)	
1970		UNKNOWN	PAN	ERIM	MUSKEGON POWER PLANT AND PAPER MILL, MONTAGUE	
1970	1: 3960	PAN	ABRAMS	CITY OF WHITEHALL (SYMBOL DEQ)		
1971	1: 3960	PAN	ABRAMS	MUSKEGON AND VICINITY (SYMBOL DBS)		
1971	1:15840	PAN	ABRAMS	WETLAND AND GAME AREA (SYMBOL DPJ, ALSO SCALE: 1:7920)		
1972	UNKNOWN	PAN	ERIM	MUSKEGON RIVER PLUME (MULTIBAND, SCANNERS ALT: 5000FT)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
MUSKEGON	1972	1: 3000	PAN	MDSHT	M-120, CAUSEWAY TO RIVER ROAD IN MUSKEGON (NO 685)	
	1972	1: 3000	PAN	MDSHT	M-37, STRUCTURE OVER C O RR SOUTH OF BAILEY	
	1972	1: 9600	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DTM)	
	1973	UNKNOWN	PAN	EPIM	MUSKEGON RIVER (MULTIBAND, SCANNERS ALT: 5000FT)	
	1973	1: 6000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EGN)	
	1973	1: 6000	PAN	CORPS	PARTIAL SHORELINE	
	1973	1: 7920	PAN	ABRAMS	PART OF FRUITPORT TWP. (SYMBOL EEF)	
	1973	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EGN)	
	1974	1: 6000	PAN	ABRAMS	CITY OF MUSKEGON HEIGHTS (SYMBOL EQQ)	
	1974	1: 7920	PAN	STEFEO	DUCK LAKE STATE PARK, (DNR-PARKS)	
	1974	1: 7920	PAN	ABRAMS	PART OF MONTAGUE TWP. (SYMBOL ENS)	
	1974	1:10000	COL	EPIM	LAKE MICHIGAN SHORELINE (MSN. X252M, ALSO PAN, CIR, MSS)	
	1974	1:12000	PAN	ABRAMS	CITY OF MUSKEGON HEIGHTS (SYMBOL EQQ, ALSO 1:12000)	
	1974	1:12000	PAN	ABRAMS	CITY OF MUSKEGON (SYMBOL EQF)	
	1975	1:12000	PAN	ABRAMS	CITY OF MUSKEGON (SYMBOL EQE)	
	NEWAYGO	1955	1: 6000	PAN	ABRAMS	CITY OF FREMONT (PHOTO INDEX NO. 1110)
		1963	1: 7920	PAN	ABRAMS	VICINITY OF WHITE CLOUD (SYMBOL BAK)
1964		1: 6000	PAN	STEFEO	NEWAYGO STATE PARK, 6 SQ. MILES (DNR-PARKS)	
1964		1: 7920	PAN	ABRAMS	PART OF GOODFELL TWP. (SYMBOL BGI)	
1965		1: 7920	PAN	ABRAMS	CITY OF FREMONT (SYMBOL BOA)	
1966		1:14400	PAN	ABRAMS	STRIP FROM WHITE CLOUD TO REMUS (SYMBOL BVR)	
1966		1:14400	PAN	MDSHT	M-23, WHITE CLOUD TO REMUS (FILE NO 534)	
1968		1: 7920	PAN	ABRAMS	DENVER TWP. (SYMBOL CFU)	
1969		1: 7920	PAN	ABRAMS	BRIDGETON TWP. (SYMBOL CNY)	
1969		1: 9600	PAN	MDSHT	M-37, M-46 TO M-82 (FILE NC 610)	
1969		1: 9600	PAN	ABRAMS	CITY OF NEWAYGO (SYMBOL CSR)	
1970		1: 4800	PAN	ABRAMS	VILLAGE OF HESPERIA (SYMBOL DDC)	
1970		1: 7920	PAN	ABRAMS	PART OF CROTON TWP. (SYMBOL DCR)	
1970		1:14400	PAN	ABRAMS	MUSKEGON RIVER FROM NEWAYGO TO BIG RAPIDS (SYMBOL CSV)	
1970		1:15840	PAN	ABRAMS	MUSKEGON RIVER FROM NEWAYGO TO BIG RAPIDS (SYMBOL CSV)	
1975		1:48000	COL	BENDIX	FREMONT LAKE AREA (LANDSAT PROJ. E2325)	
1975		1: 3000	PAN	MDSHT	STRIPS NEAR M-37 BRIDGE SITE, NEWAYGO (SYMBOL FAJ)	
OAKLAND	1953	1:12000	PAN	ABRAMS	CITY OF LAKE OPION	
	1955	1: 9600	PAN	ABRAMS	HIGHWAYS (DNF-ENG)	
	1957	1: 4800	PAN	ABRAMS	CITY OF PONTIAC (PHOTO INDEX NO. 1511)	
	1957	1: 9900	PAN	ABRAMS	HIGHWAYS (DNF-ENG)	
	1960	1: 9600	PAN	ABRAMS	STRIP FROM BRIGHTON TO PONTIAC (SYMBOL ANC)	
	1961	1: 6000	PAN	STEFEO	HOLLY PRECATION AREA, 6 SQ. MILES (DNR-PARKS)	
	1961	1: 6000	PAN	STEFEO	PROUD LAKE RECREATION AREA (DNR-PARKS)	
	1961	1: 7920	PAN	ABRAMS	CITY OF PONTIAC (SYMBOL APC)	
	1961	1:12000	PAN	ABRAMS	CITY OF BIRMINGHAM (SYMBOL ARS)	
	1961	1:12000	PAN	ABRAMS	CITY OF SOUTHFIELD (SYMBOL ART)	
	1961	1:15840	PAN	ABRAMS	CITY OF OXFORD (SYMBOL APU, ALSO SCALE: 1:7920)	
	1961	1:15840	PAN	ABRAMS	CITY OF SOUTHFIELD (SYMBOL ASN)	
	1962	1: 3960	PAN	ABRAMS	CITY OF PONTIAC (SYMBOL AUC)	
	1962	1: 4800	PAN	ABRAMS	CITY OF FARMINGTON (SYMBOL ATO)	
	1962	1: 6000	PAN	ABRAMS	RECREATION AREAS (SYMBOL AYJ)	
	1962	1: 6000	PAN	STEFEO	PROUD LAKE RECREATION AREA (DNR-PARKS)	
	1962	1: 7920	PAN	ABRAMS	VILLAGE OF KEFEO HARBOR (SYMBOL AUR)	
	1962	1: 7920	PAN	ABRAMS	CITY OF BLOOMFIELD HILLS (SYMBOL AUS)	
	1962	1: 7920	PAN	ABRAMS	CITY OF TROY (SYMBOL AXF)	
	1963	1: 6000	PAN	STEFEO	PROUD LAKE RECREATION AREA (DNR-PARKS)	
	1963	1: 6000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL BBD)	
	1963	1: 6000	PAN	ABRAMS	PROUD LAKE (SYMBOL AZT)	
	1963	1: 7920	PAN	ABRAMS	PART OF COUNTY (SYMBOL BBE)	
	1963	1:19200	PAN	ABRAMS	AREA AROUND CLAWSON (SYMBOL AZH)	
	1964	1: 3000	PAN	MDSHT	I-696, I-75 TO I-94 (FILE NO 63-420)	
	1964	1: 3960	PAN	ABRAMS	CLINTON RIVER IN PONTIAC (SYMBOL BFW)	
	1964	1: 4200	PAN	MDSHT	I-96, AT KENT LAKE (FILE NO 63-411)	
	1964	1: 6000	PAN	MDSHT	M-24 AND I-75, INTERCHANGE AREA (FILE NO 63-428)	
	1964	1: 6000	PAN	STEFEO	ORTONVILLE RECREATION AREA, 2 SQ MILES (DNR-PARKS)	
	1964	1: 6000	PAN	MDSHT	RACKHAM MUNICIPAL GOLF COURSE (FILE 63-416)	
	1964	1:24000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BHI)	
	1965	1: 3000	PAN	MDSHT	TELEGRAPH ROAD, US-10 TO I-75 INTERCHANGE (NO 63-447)	
	1965	1: 3000	PAN	MDSHT	I-96, 5 MILE ROAD TO I-696 (FILE NO 63-464)	
1965	1: 3600	PAN	MDSHT	US-24 IN COUNTY (FILE NO 63-489)		
1965	1: 3600	PAN	MDSHT	TELEGRAPH ROAD, 11 MILE ROAD TO US-10 (FILE NO 63-483)		
1965	1: 6000	PAN	ABRAMS	VILLAGE OF WIXOM (SYMBOL BKU)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
OAKLAND	1965	1: 6000	PAN	MDSHT	I-96, BETWEEN 10 AND 12 MILE ROADS (FILE NO 63-429)
	1965	1: 9600	PAN	ABRAMS	VICINITY OF ROCHESTER (SYMBOL BPN)
	1965	1: 9600	PAN	MDSHT	I-696, FROM LASHER ROAD TO COOLIDGE ROAD (NO 63-444)
	1965	1:19200	PAN	ABRAMS	CITY OF SOUTHFIELD (SYMBOL BPA)
	1966	UNKNOWN	PAN	ABRAMS	CITY OF PONTIAC (SYMBOL BUJ)
	1966	1: 3000	PAN	MDSHT	I-696, NEAR FARMINGTON (FILE NO 63-493)
	1966	1: 3000	PAN	MDSHT	I-96 11 MILE ROAD TO 12 1/2 MILE ROAD (FILE NO 63-523)
	1966	1: 3000	PAN	MDSHT	I-696, LASHER ROAD TO I-75 INTERCHANGE (FILE NO 516)
	1966	1: 4800	PAN	MDSHT	WOODWARD AVE, M-102 TO 10 MILE ROAD (FILE NO 63-506)
	1966	1: 4800	PAN	MDSHT	US-10, M-102 TO SOUTH BLVD (FILE NO 63-506)
	1966	1: 6000	PAN	ABRAMS	AVON TWP. (SYMBOL BSC)
	1966	1: 7920	PAN	ABRAMS	SECTIONS 17 AND 20, SPRINGFIELD TWP. (SYMBOL BSY)
	1966	1: 7920	PAN	ABRAMS	SECTION IN PONTIAC TWP. (SYMBOL BSZ)
	1966	1: 7920	PAN	ABRAMS	SECTIONS IN LYONS TWP. (SYMBOL BVZ)
	1966	1: 7920	PAN	ABRAMS	BALD MT. RECREATION AREA, 4 SQ. MILES (DNR-PARKS)
	1966	1: 9600	PAN	MDSHT	I-96, SCHOOLCRAFT ROAD TO MEADOWBROOK AND NEWBERG ROAD
	1966	1:12000	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL BTO)
	1966	1:19200	PAN	ABRAMS	CITY OF SOUTHFIELD (SYMBOL BTA)
	1967	1: 3000	PAN	MDSHT	NORTHWESTERN HIGHWAY (FILE NO 63-556)
	1967	1: 3000	PAN	MDSHT	I-275 EXT, 12 MILE ROAD TO OAKLEY PARK ROAD (NO 555)
	1967	1: 7920	PAN	ABRAMS	CITY OF TROY (SYMBOL CBR)
	1967	1: 7920	PAN	ABRAMS	PONTIAC TWP. (SYMBOL CAE)
	1967	1: 7920	PAN	ABRAMS	NEAR SOUTH LYONS (SYMBOL CAC)
	1967	1: 9600	PAN	MDSHT	I-96, WIXOM ROAD TO I-696 (FILE NO 63-556)
	1968	1: 3000	PAN	MDSHT	I-96 AND 10 MILE ROAD (FILE NO 63-573)
	1968	1: 3000	PAN	MDSHT	I-696, LASHER TO COOLIDGE ROAD (FILE NO 63-590)
	1968	1: 3000	PAN	MDSHT	I-75, ROCHESTER ROAD AND I-75 (FILE NO 63-567)
	1968	1: 3000	PAN	MDSHT	I-96 AND FARMINGTON ROAD (FILE NO 63-569)
	1968	1: 3000	PAN	MDSHT	I-96 AND MILFORD ROAD (FILE NO 63-568)
	1968	1: 3960	PAN	ABRAMS	CITY OF PONTIAC (SYMBOL CFJ)
	1968	1: 7920	PAN	ABRAMS	SECTIONS IN MILFORD TWP. (SYMBOL CEX)
	1968	1: 7920	PAN	ABRAMS	NOVI TWP. (SYMBOL CHF)
	1968	1: 7920	PAN	ABRAMS	FARMINGTON TWP. (SYMBOL CFM)
	1968	1: 7920	PAN	ABRAMS	BLOOMFIELD TWP. (SYMBOL CEE, ALSO SCALE: 1:15840)
	1968	1: 7920	PAN	ABRAMS	SECTION IN NOVI TWP. (SYMBOL CGH)
	1968	1: 7920	PAN	ABRAMS	BLOOMFIELD TWP. (SYMBOL CHE, ALSO SCALE: 1:12000)
	1969	1: 3000	PAN	MDSHT	M-59, FORD ROAD TO WILLIAMS LAKE ROAD (FILE NO 63-615)
	1969	1: 3960	PAN	ABRAMS	NE 1/4, SECTION 21, NOVI TWP. (SYMBOL CNP)
	1969	1: 7920	PAN	ABRAMS	SOUTH 1/2, SECTION 6, FARMINGTON TWP. (SYMBOL CTU)
	1969	1: 7920	PAN	ABRAMS	WEST BLOOMFIELD TWP. (SYMBOL CUJ)
	1969	1: 9600	PAN	MDSHT	I-96, FROM WEST CO LINE TO SOUTH HILL ROAD (NO 620)
	1969	1: 9600	PAN	ABRAMS	STRIP ALONG I-96 (SYMBOL CTO)
	1969	1:12000	PAN	ABRAMS	SOUTH 1/2, SECTION 6, FARMINGTON TWP. (SYMBOL CTU)
	1969	1:12000	PAN	ABRAMS	CITY OF PONTIAC (SYMBOL CCR, ALSO SCALE: 1:19200)
	1970	1: 3000	PAN	MDSHT	M-275, M-59 TO I-75 AT CLARKSTON (FILE NO 63-649)
	1970	1: 3000	PAN	MDSHT	I-96 AND NOVI ROAD INTERCHANGE (FILE NO 63-640)
	1970	1:12000	PAN	ABRAMS	PART OF OXFORD TWP. (SYMBOL DBT)
	1970	1:15840	PAN	ABRAMS	NOVI TWP. (SYMBOL CZZ, ALSO SCALE: 1:7920)
	1970	1:19200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DBU)
	1971	1: 3960	PAN	ABRAMS	SECTION 25, FARMINGTON TWP. (SYMBOL DGK)
	1971	1: 6000	PAN	ABRAMS	WEST BLOOMFIELD TWP. (SYMBOL DMI)
	1971	1: 6000	PAN	MDSHT	I-696, NORTHWESTERN AND TELEGRAPH ROAD INTERCHANGE
	1971	1: 7920	PAN	ABRAMS	PART OF PONTIAC TWP. (SYMBOL DKQ)
	1971	1: 7920	PAN	ABRAMS	PART OF OXFORD TWP. (SYMBOL DNG)
	1972	VARIES	CIR	MSU/RSP	PTE. MOUILLEE (35 MM OBLIQUE, ALSO 70 MM BW)
	1972	1: 3000	PAN	MDSHT	M-59, CASS LAKE ROAD TO US-10 (FILE NO 63-694)
	1972	1: 3960	PAN	ABRAMS	PARTS OF CITY OF SOUTHFIELD (SYMBOL DSU)
	1972	1: 3960	PAN	ABRAMS	PART OF SECTION 24, AVON TWP. (SYMBOL DSB)
	1972	1: 3960	PAN	ABRAMS	PARTS OF AVON, BRANDON, AND OXFORD TWP. (SYMBOL DUN)
	1972	1: 3960	PAN	ABRAMS	PART OF NOVI TWP. (SYMBOL DRA)
	1972	1: 3960	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL DST)
	1972	1: 4800	PAN	ABRAMS	PART OF SECTION 21, ROSE TWP. (SYMBOL DYT)
	1972	1: 7920	PAN	ABRAMS	WEST BLOOMFIELD TWP. (SYMBOL DTA)
	1972	1: 7920	PAN	ABRAMS	PART OF BLOOMFIELD TWP. (SYMBOL DXA)
	1973	1: 8000	CIR	ERIM	PONTIAC AREA (MSN, 63M, ALSO SCALE: 1:4000, 70 MM BW)
	1973	1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DYW)
	1973	1:15840	PAN	ABRAMS	WEST BLOOMFIELD TWP. (SYMBOL DTA, ALSO SCALE: 1:3960)
	1973	1:24000	PAN	ABRAMS	PART OF COUNTY (SYMBOL DXB)
	1973	1: 3000	PAN	MDSHT	M-59, US-23 TO WILLIAMS LAKE ROAD (FILE NO 63-704)
	1973	1: 3960	PAN	ABRAMS	CITY OF PONTIAC (SYMBOL EAD)

7-33

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
OAKLAND	1973	1: 6000	PAN	ABRAMS	GUN LAKE VICINITY (SYMBOL EGF)	
	1973	1: 7920	PAN	ABRAMS	PART OF SECTION 29, AVON TWP. (SYMBOL EAA)	
	1973	1: 7920	PAN	ABRAMS	AREA IN FARMINGTON (SYMBOL FAX, ALSO SCALE: 1:3960)	
	1973	1: 7920	PAN	ABRAMS	PART OF COUNTY (SYMBOL EGD, ALSO SCALE: 1:3960)	
	1973	1:12000	PAN	ABRAMS	OXFORD AREA (SYMBOL EII, ALSO SCALE: 1:7920)	
	1974	1: 3000	PAN	MDSHT	I-696, GREENFIELD ROAD TO GRAND TRUNK RR (NO 63-709)	
	1974	1: 3960	PAN	ABRAMS	PART OF COUNTY (SYMBOL EOU)	
	1974	1: 7920	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EMU)	
	1974	1: 7920	PAN	ABRAMS	VICINITY OF OXFORD LAKE (SYMBOL EL7)	
	1974	1:12000	PAN	ABRAMS	SITES IN COUNTY (SYMBOL EOH, ALSO SCALE: 1:7920)	
	1974	1:12000	PAN	ABRAMS	PART OF OXFORD TWP. (SYMBOL EPK, ALSO SCALE: 1:6000)	
	1974	1:12000	PAN	ABRAMS	AREA IN MILFORD TWP. (SYMBOL EMO)	
	1974	1:15840	PAN	ABRAMS	CITY OF FARMINGTON (SYMBOL EQ7, ALSO SCALE: 1:7920)	
	1974	1:24000	PAN	ABRAMS	PARTS OF AVON AND OAKLAND TOWNS. (SYMBOL EMN)	
	1975	1: 3000	PAN	MDSHT	I-75-M-275, DAVISBURG ROAD (FILE NO 754)	
	1975	1: 3000	PAN	MDSHT	I-275, MICHIGAN AVE TO I-696 (FILE NO 733)	
	1975	1: 3000	PAN	MDSHT	M-39, I-75 TO 12 MILE ROAD (FILE NO 757)	
	1975	1: 3960	PAN	ABRAMS	I-75, BIG BEAVER TO 16 MILE ROAD (FILE NO 747)	
	1975	1: 3960	PAN	ABRAMS	PART OF A SECTION IN COUNTY (SYMBOL EVZ)	
	1975	1: 7920	PAN	ABRAMS	VILLAGE OF NOVI (SYMBOL EVZ)	
	1975	1: 9600	PAN	MDSHT	CITY OF TROY (SYMBOL EUT, ALSO SCALE: 1:12000)	
	1975	1:12000	PAN	ABRAMS	M-275 AND NORTHWESTERN HWY, I-36 TO M-59 (NO 731)	
	1975	1:12000	PAN	ABRAMS	PONTIAC AND VICINITY (SYMBOL FXZ, ALSO SCALE: 1:24000)	
	1975	1:12000	PAN	ABRAMS	PART OF OXFORD TWP. (SYMBOL EYB)	
	1975	1:12000	PAN	ABRAMS	PART OF MILFORD TWP. (SYMBOL EYB)	
	1975	1:15840	PAN	ABRAMS	CITY OF TROY (SYMBOL FUI)	
	1975	1:20000	PAN	ABRAMS	CITY OF FARMINGTON (SYMBOL ESG)	
	1976	1: 3000	PAN	ERIM	STRIPS ALONG US-24, SOUTHFIELD TO PONTIAC (SYMBOL FCL)	
	1976	1: 3000	PAN	ERIM	STRIPS ALONG I-696, SOUTHFIELD TO HAZEL PARK	
	1976	1: 3000	PAN	MDSHT	STRIPS ALONG M-59 FROM PONTIAC TO US-23 (SYMBOL FBP)	
	1976	1: 3000	PAN	MDSHT	FARMINGTON AREA (SYMBOL FAB)	
	1976	1: 6000	PAN	ERIM	STRIP ALONG POCHESTER ROAD (SYMBOL FCR)	
	1976	1: 7920	PAN	ABRAMS	NEAR HOLLY (SYMBOL FCP)	
	1976	1: 9600	PAN	MDSHT	STRIP ALONG HOWI ROAD (SYMBOL FBF)	
	1976	1:12000	PAN	ABRAMS	CITY OF BEVERLY (SYMBOL FCY, ALSO SCALE: 1:24000)	
	1976	1:12000	PAN	ABRAMS	CITY OF FARMINGTON (SYMBOL FCY, ALSO SCALE: 1:24000)	
	1976	1:15840	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL FDN, ALSO SCALE: 1:7920)	
	1976	1:35000	CIP	MDSHT	STRIP ALONG PROPOSED I-275	
	OCEANA	1961	1: 7200	PAN	ABRAMS	SILVER LAKE (SYMBOL AP7)
		1962	1: 6000	PAN	ABRAMS	MEARS STATE PARK, 150 ACRES (ONR-PARKS)
		1964	UNKNCWN	PAN	STEFEO	SILVER LAKE STATE PARK, 7 SQ. MILES (ONR-PARKS)
		1965	1:14400	PAN	MDSHT	US-31, WHITEHALL TO LUDINGTON (FILE NO 467)
		1966	UNKNOWN	PAN	STEFEO	SILVER LAKE STATE PARK, 7 SQ. MILES (ONR-PARKS)
		1966	1: 7920	PAN	ABRAMS	SECTIONS IN GOLDEN TWP. (SYMBOL BSU)
		1966	1:14400	PAN	MDSHT	US-31, IN COUNTY (FILE NO 496)
1968		1: 3000	PAN	MDSHT	US-31, THROUGH COUNTY (FILE NO 505)	
1969		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CGP)	
1970		1: 7920	PAN	ABRAMS	PART OF SECTION 34, FERRY TWP. (SYMBOL DAX)	
1972		1: 6000	PAN	MDSHT	US-31, RELOCATION FROM BUCHANAN ROAD TO POLK ROAD	
1973		1: 6000	PAN	COPPS	PARTIAL SHORELINE	
1973		1: 7920	PAN	ABRAMS	PART OF SECTION 27, FERRY TWP. (SYMBOL EBB)	
1974		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FOC)	
1974		1:10000	COL	ERIM	LAKE MICHIGAN SHOPELINE (MSH, X252M, ALSO PAN, ER, MSS)	
1975		1: 7920	PAN	ABRAMS	AREA IN COLFAX TWP. (SYMBOL EXH)	
1976		1: 7920	PAN	ABRAMS	PENTWATER HARBOR (SYMBOL FEJ)	
OGEMAW		1963	1: 7920	PAN	ABRAMS	CHURCH AND MILLS TWP. (SYMBOL BBC)
		1964	1: 6000	PAN	STEFEO	PIFLE RIVER RECREATION AREA, 7 SQ. MILES (ONR-PARKS)
		1964	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BCU)
	1965	1: 6000	PAN	MDSHT	I-75, ALGER TO US-27 (FILE NO 65-452)	
	1968	1:15840	PAN	ABRAMS	FOREST COVER (ONF-ENG)	
	1971	1: 7920	PAN	ABRAMS	PART OF OGEMAW TWP. (SYMBOL DNT)	
	1971	1:15840	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DIY, ALSO SCALE: 1:7920)	
	1972	1: 6000	PAN	ABRAMS	WEST BRANCH AND OGEMAW TWP. (SYMBOL DTS)	
	1972	1: 7920	PAN	ABRAMS	AREA IN HORTON AND MILLS TWP. (SYMBOL DWF)	
	1973	1: 3960	PAN	ABRAMS	AREA IN CUMMING TWP. (SYMBOL EGV)	
ONTONAGON	1946	1:12000	PAN	ABRAMS	HIGHWAYS (ONF-ENG)	
	1954	1: 9600	PAN	ABRAMS	HIGHWAYS (ONF-ENG)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
ONTONAGON	1962	1: 7920	PAN	ABRAMS	VILLAGE OF ONTONAGON (SYMBOL AWL)	
	1963	1: 7920	PAN	ABRAMS	VILLAGE OF ONTONAGON (SYMBOL BAS)	
	1963	1: 9600	PAN	ABRAMS	STIP COVERAGE IN COUNTY (SYMBOL BBV)	
	1964	1: 7920	PAN	ABRAMS	VILLAGE OF ROCKLAND (SYMBOL BGF)	
	1964	1:15840	PAN	ABRAMS	FOPES COVER (DNR-ENG)	
	1965	1: 7920	PAN	ABRAMS	VICINITY OF ROCKLAND (SYMBOL BMJ)	
	1966	1: 9600	PAN	MDSHT	M-26, GREENLAND TO ROLAND (FILE NO 66-522)	
	1966	1:12000	PAN	HURD	N.E. BERGLAND, S.E. CARP L., N.W. MATCHWOOD TOWNSHIP (AST)	
	1968	1:12000	PAN	HURC	N.F. CARP L., W. ONTONAGON TOWNSHIP (SYMBOL BNV)	
	1969	1: 9600	PAN	MDSHT	M-107, SILVER CITY (FILE NO 66-606)	
	1969	1: 9600	PAN	ABRAMS	SILVER CITY (SYMBOL CPV)	
	1969	1:12000	PAN	HURD	E. 1/3 CARP LAKE TOWNSHIP (SYMBOL BUZ)	
	1970	1:12000	PAN	HURC	S.E. CARP L., W. ONTONAGON TOWNSHIP (SYMBOL CCN)	
	1970	1:24000	PAN	HURC	LAKE SUPERIOR SHORELINE (SYMBOL CAY)	
	1971	UNKNOWN	COL	DNR	NW WHITE PINE AREA, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
	1971	1:12000	PAN	HURD	WHITE PINE-SILVER CITY AREA (SYMBOL CLS)	
	1972	1:12000	PAN	HURC	PINE RIVER AREA (SYMBOL CVD)	
	1973	UNKNOWN	CCL	ONE	NW WHITE PINE AREA, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
	1973	1: 7920	PAN	STEREO	POPCUPINE MTS. STATE PARK (DNR-PARKS)	
	1973	1:24000	PAN	HURD	WHITE PINE-SILVER CITY AREA (SYMBOL DED)	
	1974	1:10000	COL	ERIM	LAKE SUPERIOR SHORELINE (MSN, X252H, ALSO PAN, CIR, MSS)	
	OSCEOLA	1965	1: 7920	PAN	ABRAMS	CITY OF EVART (SYMBOL BOM)
		1966	1: 3000	PAN	MDSHT	M-61, M-115 TO HAPPISON (FILE NO 18-512)
		1967	1: 7920	PAN	ABRAMS	MARION TWP. (SYMBOL BXK)
		1968	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CGT)
		1968	1:19200	PAN	ABRAMS	STRIP FROM LUDINGTON TO REED CITY (SYMBOL CCZ)
		1969	1: 7920	PAN	ABRAMS	RIVER STRIP IN MIDDLE BRANCH TWP. (SYMBOL CSA)
1969		1: 7920	PAN	ABRAMS	PART OF HERSHEY TWP. (SYMBOL CUV)	
1969		1: 7920	PAN	ABRAMS	CITY OF EVART (SYMBOL COM)	
1969		1: 7920	PAN	ABRAMS	AREA IN CEDAR TWP. (SYMBOL CVD)	
1970		1: 4800	PAN	ABRAMS	VILLAGE OF HAPION (SYMBOL DDC)	
1970		1: 7920	PAN	ABRAMS	PART OF SHEPHERD TWP. (SYMBOL DDB)	
1970		1: 7920	PAN	ABRAMS	NEAR HICKS LAKE, HARTWICK TWP. (SYMBOL DEE)	
1971		1: 7920	PAN	ABRAMS	AREAS IN HARTWICK TWP. (SYMBOL DHG)	
1971		1: 7920	PAN	ABRAMS	PART OF HARTWICK TWP. (SYMBOL DJG)	
1971		1: 7920	PAN	ABRAMS	AREA IN HERSHEY TWP. (SYMBOL DIL)	
1971		1: 9600	PAN	MDSHT	US-131, FROM MECOSTA CO LINE TO 4 MILE ROAD (NO 676)	
1971		1:12000	PAN	MDSHT	US-131, RELOCATION, MORLEY TO ASHTON (FILE NO 684)	
1972		1:20000	PAN	ABRAMS	STIP FROM KALKASKA TO MECOSTA COUNTY (SYMBOL DVY)	
1973		1: 6000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL EBN, ALSO SCALE: 1:7920)	
1973		1: 7920	PAN	ABRAMS	PART OF SECTION 12, RICHMOND TWP. (SYMBOL EBC)	
1973		1:12000	PAN	MDSHT	US-131, REFLIGHT FROM 20 MILE ROAD TO ASHTON (NO 684)	
1976		1: 6000	PAN	MDSHT	STRIP ALONG US-131, NORTH OF REED CITY TO BIG RAPIDS	
1976		1: 7200	PAN	MDSHT	STRIP ALONG US-131 NEAR TUSTIN (SYMBOL FBJ)	
OSCOJA		1963	1:19200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL AZG)
		1968	1:15840	PAN	ABRAMS	FOREST COVER (DNP-ENG)
		1969	1: 4800	PAN	MDSHT	M-33, CROSSING AU SAUBLE RIVER AT MIG (FILE NO 68-687)
		1970	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CZE)
	1974	1: 6000	PAN	ABRAMS	OSCODA TWP. (SYMBOL EDB, ALSO SCALE: 1:12000)	
	1976	1: 3000	PAN	MDSHT	STRIP ALONG M-33 MID BRIDGE SITE (SYMBOL FAK)	
OTSFRO	1963	1:12000	PAN	ABRAMS	HAYES TWP. (SYMBOL BBB)	
	1966	1: 6000	PAN	MDSHT	M-32, GAYLORD TO ATLANTA (FILE NO 69-502)	
	1967	1:12000	PAN	MDSHT	M-32, M-66 TO GAYLORD (FILE NO 69-553)	
	1967	1:14400	PAN	ABRAMS	GAYLORD AREA (SYMBOL CCM)	
	1968	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CHC)	
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNP-ENG)	
	1969	1: 7920	PAN	ABRAMS	OTSEGO LAKE AND GREENWOOD TOWNSHIP (SYMBOL CTY)	
	1969	1: 7920	PAN	ABRAMS	SE 1/4, SECTION 34, DOVER TWP, SYMBOL (CTZ)	
	1971	1: 7920	PAN	ABRAMS	PART OF LIVINGSTON TWP. (SYMBOL DPT)	
	1971	1:19200	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DIR)	
	1972	1: 7920	PAN	ABRAMS	PART OF COPWITH AND LIVINGSTON TOWNSHIP (SYMBOL DVR)	
	1972	1: 7920	PAN	ABRAMS	PART OF HAYES TWP. (SYMBOL DVP)	
	1972	1:14400	PAN	MDSHT	M-32, I-75 TO M-66 IN ANTRIM CO (FILE NO 693)	
	1973	1: 3900	COL	ABRAMS	OTSEGO LAKE AREA (SYMBOL EGS)	
	1973	1: 6000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ECU, ALSO SCALE: 1:7920)	
	1973	1: 6000	PAN	ABRAMS	PART OF COPWITH TWP. (SYMBOL EBH)	
	1973	1: 7920	PAN	ABRAMS	PARTS OF SECTIONS 30 AND 31, BAGELY TWP. (SYMBOL EBD)	

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
OTSEGO	1973	1:7920	PAN	ABRAMS	PART OF BAGLEY TWP. (SYMBOL EEE)
	1973	1:10320	PAN	ABRAMS	AREA IN COUNTY (SYMBOL FCU)
	1974	1:3000	PAN	MDSHT	I-75, PEST AREA, WINTER'S ROAD (FILE NO 716)
	1974	1:3960	PAN	ABRAMS	BAGLEY TWP. (SYMBOL EQF, ALSO SCALES: 1:7920, 1:96000)
	1976	1:6000	PAN	ABRAMS	OTSEGO LAKE AREA (SYMBOL FCN)
	1976	1:14400	CIP	MDSHT	FOUR FLIGHT LINES BETWEEN GAYLORD AND ATLANTA
	OTTAWA	1955	1:6000	PAN	ABRAMS	CITY OF GRAND HAVEN (PHOTO INDEX NO. 1997)
1957		1:9700	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
1959		1:6000	PAN	ABRAMS	CITY OF HOLLAND (PHOTO INDEX NO. 1629)
1959		1:6000	PAN	ABRAMS	CITY OF GRANDVILLE (PHOTO INDEX NO. 1632)
1961		1:6000	PAN	ABRAMS	STRIP FROM GRANDVILLE TO HOLLAND (SYMBOL APU)
1961		1:9600	PAN	ABRAMS	CITY OF HOLLAND (SYMBOL AQQ)
1962		1:6000	PAN	ABRAMS	CITY OF GRAND HAVEN (SYMBOL ATO)
1962		1:7920	PAN	ABRAMS	CITY OF GRAND HAVEN (SYMBOL AUA)
1963		1:14400	PAN	ABRAMS	STRIP FROM GRAND RAPIDS TO HOLLAND (SYMBOL AZX)
1964		1:24000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BHI)
1965		1:3000	PAN	MDSHT	I-96, HOLLAND TO GRANDVILLE (FILE NO 70-439)
1965		1:6000	PAN	MDSHT	US-31, HOLLAND (FILE NO 70-437)
1965		1:7920	PAN	ABRAMS	HOLLAND STATE PARK, 2 SQ. MILES (DNR-PARKS)
1965		1:7920	PAN	ABRAMS	GEORGETOWN TWP. (SYMBOL BKY)
1965		1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BKK)
1965		1:19200	PAN	ABRAMS	HOLLAND STATE PARK (SYMBOL BOZ)
1966		1:3000	PAN	MDSHT	US-31, BRIDGE IN HOLLAND (FILE NO 70-511)
1966		1:7920	PAN	ABRAMS	SPRING LAKE TWP. (SYMBOL BRR)
1966		1:7920	PAN	ABRAMS	HOLLAND STATE PARK (SYMBOL BOT)
1967		1:3960	PAN	ABRAMS	AREA IN HOLLAND (SYMBOL BYH)
1967		1:4800	PAN	ABRAMS	GEORGETOWN TWP. (SYMBOL CCP)
1967		1:15840	PAN	ABRAMS	VILLAGE OF COOPERSVILLE (SYMBOL BXY, ALSO SCALE 1:7920)
1968		UNKNCWN	BWIP	ERIM	GRAND HAVEN HARBOR (COLOP, SCANNERS ALT: 2700FT)
1968		1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CLP)
1969		UNKNCWN	PAN	ERIM	SHORELINE NEAR GRAND HAVEN (MULTIBAND, SCANNERS)
1969		1:7920	PAN	ABRAMS	GRAND HAVEN AREA (SYMBOL CNI)
1970		1:4800	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL OCC)
1970		1:7920	PAN	ABRAMS	SITES IN HOLLAND AND GEORGETOWN TOWNS. (SYMBOL DCV)
1971		1:3960	PAN	ABRAMS	SECTION 23, GRAND HAVEN TWP. (SYMBOL DGO)
1971		1:3960	PAN	ABRAMS	PART OF HOLLAND TWP. (SYMBOL DPO)
1971		1:3960	PAN	ABRAMS	PART OF HOLLAND TWP. (SYMBOL DGL)
1971		1:3960	PAN	ABRAMS	FERRYSBURG, GRAND HAVEN AREA (SYMBOL DIX)
1971		1:3960	PAN	ABRAMS	PART OF CROCKERY TWP. (SYMBOL DON)
1971		1:3960	PAN	ABRAMS	AREA NEAR GRAND HAVEN (SYMBOL DOW)
1971		1:7920	PAN	ABRAMS	TUNNEL PARK (SYMBOL DIU)
1971		1:7920	PAN	ABRAMS	PART OF GEORGETOWN TWP. (SYMBOL DOP)
1972		1:3960	PAN	ABRAMS	PART OF PARK TWP. (SYMBOL DVN)
1972		1:15840	PAN	ABRAMS	CITY OF ZEELAND (SYMBOL DTI)
1973		UNKNCWN	PAN	ERIM	GRAND RIVER (MULTIBAND, SCANNERS ALT: 5000FT)
1973		1:6000	PAN	CORPS	PARTIAL SHORELINE
1973		1:7920	PAN	ABRAMS	PART OF SPRING LAKE TWP. (SYMBOL EEF)
1973		1:7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EGN)
1974		1:3960	PAN	ABRAMS	PART OF PARK TWP. (SYMBOL EML)
1974		1:7920	PAN	ABRAMS	PART OF WRIGHT TWP. (SYMBOL EMG)
1974		1:10000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN, X252M, ALSO PAN, CIR, MSS)
1975		1:4800	PAN	ABRAMS	ALLENDALE AND PART OF TALLMADGE TWP. (SYMBOL FYC)
1975		1:6000	PAN	MDSHT	US-31-75, FROM HOLLAND TO GRAND HAVEN (FILE NO 752)
1976	1:3000	PAN	MDSHT	STRIP ALONG BUSINESS US-131, HOLLAND (SYMBOL FAI)	
1976	1:7920	PAN	ABRAMS	HOLLAND HARBOR (SYMBOL FEJ)	
1976	1:7920	PAN	ABRAMS	STRIP FROM GRAND HAVEN TO SAUGATUCK (SYMBOL FCS)	
1976	1:12000	PAN	ABRAMS	STRIP FROM GRAND HAVEN TO SAUGATUCK (SYMBOL FCS)	
1976	1:15840	PAN	ABRAMS	STRIP FROM GRAND HAVEN TO SAUGATUCK (SYMBOL FCS)	
1976	1:15840	PAN	ABRAMS	ZEELAND AREA (SYMBOL FBQ, ALSO SCALE: 1:7920)	
PRESQ ISLE	1958	1:12000	PAN	ABRAMS	ROGERS CITY (PHOTO INDEX NO. 1515)
	1962	UNKNCWN	COL	DNR	TOMAHAWK CR. FLOOD., 35 MM. LOW OBLIQUE (DNR-WILDLIFE)
	1963	1:15840	PAN	ABRAMS	ROGERS CITY (SYMBOL BAV)
	1964	1:3960	PAN	ABRAMS	ROGERS CITY (SYMBOL BOJ)
	1964	1:15840	PAN	ABRAMS	ROGERS CITY (SYMBOL BEX)
	1964	1:19200	PAN	ABRAMS	PIPELINE FROM ALPENA TO ROGERS CITY (SYMBOL BGE)
	1965	1:9600	PAN	ABRAMS	ROGERS CITY (SYMBOL BLA)
	1965	1:12000	PAN	ABRAMS	ROGERS CITY (SYMBOL BJO, ALSO SCALE 1:3960)
1965	1:15840	PAN	ABRAMS	QUARPY AREA, ROGERS CITY (SYMBOL BLD)	

C-3

ORIGINAL PAGE IS
OF POOR QUALITY

7-37

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
PPESQ ISLE	1966	1: 4800	PAN	MOSHT	M-63, COLLINS ROAD TO ONAWAY (FILE NO 528)	
	1966	1: 7920	PAN	ABRAMS	ROGERS CITY (SYMBOL BRP)	
	1966	1:15840	PAN	ABRAMS	QUARRY AREA, ROGERS CITY (SYMBOL BRQ)	
	1967	1: 7920	PAN	ABRAMS	ROGERS CITY (SYMBOL CCO, ALSO SCALE: 1:3960)	
	1967	1: 7920	PAN	ABRAMS	QUARRY AREA, ROGERS CITY (SYMBOL BYU, ALSO 1:15840)	
	1968	1: 3960	PAN	ABRAMS	QUARRY AREA, ROGERS CITY (SYMBOL CEY, ALSO 1:7920)	
	1968	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)	
	1968	1:15840	PAN	ABRAMS	QUARRY AREA, ROGERS CITY (SYMBOL CEY)	
	1971	1: 7920	PAN	ASPAMS	ALLIS AND CASE TWP. (SYMBOL DKY)	
	1973	1: 6000	PAN	CORPS	PARTIAL SHORFLINE	
	1974	1:10000	COL	EPIM	LAKE HURON SHORELINE (MSN, X252M, ALSO PAN, CIR, MSS)	
	1975	1: 3000	PAN	EPIM	STRIP IN ROGERS CITY BUSINESS LOOP (SYMBOL FCW)	
	POSCOMMON	1961	1: 4800	PAN	ABRAMS	STRIP ALONG I-75 NEAR HIGGINS LAKE (SYMBOL ARV)
		1961	1: 6000	COL	MOSHT	PROPOSED I-75, 4-30 TO M-18 (FILE NO 72-337)
1962		UNKNOWN	COL	DNR	DENTON CREEK, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1962		UNKNOWN	COL	DNR	MARSH CREEK, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1962		UNKNOWN	COL	DNR	BEAR CREEK, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1962		UNKNOWN	COL	DNR	LITTLE MUD LAKE, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1962		UNKNOWN	COL	DNR	BACKUS CREEK, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1962		UNKNOWN	COL	DNR	ROBINSON CREEK, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1962		UNKNOWN	COL	DNP	DEAD STREAM FLOODING, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1964		1: 6000	PAN	STEFEO	N. HIGGINS LAKE STATE PARK, 2 SQ. MILES (DNR-PARKS)	
1964		1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BCU)	
1964		1: 7920	PAN	ABRAMS	PART OF POSCOMMON (SYMBOL BFO)	
1964		1:12000	PAN	MOSHT	I-75, ALGER TO SOUTH OF GRAYLING (FILE NO 72-387)	
1965		1: 6000	PAN	MOSHT	I-75, ALGER TO US-27 (FILE NO 72-452)	
1967		UNKNOWN	COL	DNR	PIKE MARSH, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
1968		1: 5000	PAN	ABRAMS	N 1/2, SECTION 11, POSCOMMON TWP. (SYMBOL CLO)	
1968		1: 7920	PAN	ABRAMS	AREA NEAR GLADWIN CO. (SYMBOL CFE)	
1968		1:15840	PAN	ABRAMS	FOREST COVER (DNP-ENG)	
1969		1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CPN)	
1969		1: 7920	PAN	ABRAMS	SECTION 33, DENTON TWP. (SYMBOL CQQ)	
1970		1: 4800	PAN	ABRAMS	AREA AROUND HOUGHTON LAKE (SYMBOL DAC)	
1972		1: 2495	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DXN)	
1973		1: 7920	PAN	ABRAMS	AREA AROUND HOUGHTON LAKE (SYMBOL EFR)	
1974		1: 3960	PAN	ABRAMS	AREA AROUND HOUGHTON LAKE (SYMBOL ENY)	
1974		1: 7920	PAN	ABRAMS	PART OF GERFISH TWP. (SYMBOL EMF)	
1975		1: 7920	PAN	MOSHT	HLSA-75, HOUGHTON LAKE STATE AIRPORT (FILE NO 755)	
1975		1: 4800	COL	BENDIX	HOUGHTON-HIGGINS LAKES AREA (LANDSAT PROJ. E2325)	
1976		1: 4800	PAN	ABRAMS	VILLAGE OF HIGGINS LAKE (SYMBOL FDU)	
SAGINAW		1956	1: 9600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)
		1957	1: 8000	PAN	SCS	MISTEQUAY CREEK AREA (SYMBOL: MN-MC)
		1957	1: 9600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)
	1958	1: 6000	PAN	ABRAMS	CITY OF FRANKENMUTH (PHOTO INDEX NO. 1513)	
	1961	1: 7920	PAN	ABRAMS	VILLAGE OF FRANKENMUTH (SYMBOL ARR, ALSO 1:15840)	
	1962	1: 3960	PAN	ABRAMS	CITY OF SAGINAW (SYMBOL AUD)	
	1962	1: 9600	PAN	ABRAMS	STRIP ALONG I-675 AT SAGINAW (SYMBOL AUG)	
	1962	1: 9600	PAN	ABRAMS	STRIP ALONG I-675 AT SAGINAW (SYMBOL ATC)	
	1962	1: 9600	PAN	ABRAMS	CITY OF SAGINAW (SYMBOL ATU)	
	1964	1: 3000	PAN	ABRAMS	SAGINAW BUSINESS LOOP (SYMBOL BGO)	
	1965	1: 4800	PAN	MOSHT	M-13, M-81 TO I-75 (FILE NO 73-456)	
	1965	1: 9600	PAN	MOSHT	M-83, M-54 TO FRANKENMUTH (FILE NO 73-474)	
	1966	1:19200	PAN	ABRAMS	PIPELINE STRIP FROM ALMA TO BAY CITY (SYMBOL BOK)	
	1967	1: 3960	PAN	MOSHT	M-54, GENESEE LINE TO M-83 (FILE NO 73-554)	
	1967	1: 4800	PAN	MOSHT	I-75, GENESEE LINE TO SAGINAW AND KAWKAWLIN (NO 561)	
	1970	UNKNOWN	PAN	DNR	SHAWASSEE R. GAME AREA, 35 MM. OBLIQUES (DNR-WILDLIFE)	
	1970	1: 3000	PAN	MOSHT	I-75, ZILWAUKEE BRIDGE (FILE NO 73-647)	
	1971	1: 3960	PAN	ABRAMS	SAGINAW AREA (SYMBOL DNW)	
	1971	1: 3960	PAN	ABRAMS	PART OF SECTION 6, SAGINAW TWP. (SYMBOL DMK)	
	1971	1: 5400	PAN	SCS	UPPER MAPLE RIVER W/S (SYMBOL: MN-UM)	
	1972	UNKNOWN	PAN	EPIM	SAGINAW RIVER (MULTIBAND, SCANNERS ALT: 1500FT)	
	1972	1: 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DZB)	
	1972	1: 3960	PAN	ABRAMS	CITY OF ZILWAUKEE (SYMBOL DUJ, ALSO SCALE: 1:7920)	
	1973	1: 6000	PAN	ABRAMS	CITY OF SAGINAW (SYMBOL EDI)	
	1974	1: 3000	PAN	ABRAMS	CITY OF SAGINAW (SYMBOL ERI)	
	1974	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EQJ)	
	1974	1:15840	PAN	DNP	TOPO MAPS (DNP-ENG)	
1975	1: 3000	PAN	MOSHT	I-75 AND HIGH LEVEL BRIDGE (FILE NO 735)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
ST. CLAIR	1957	1: 9600	PAN	ABRAMS	HIGHWAYS (DNR-ENG)	
	1961	UNKNCWN	PAN	DNP	LAKE ST. CLAIR, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1961	UNKNCWN	PAN	DNP	ST. CLAIR RIVER, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1962	1: 3960	PAN	ABRAMS	CITY OF PORT HURON (SYMBOL ATY)	
	1963	1: 9600	PAN	ABRAMS	VICINITY OF MARYSVILLE (SYMBOL BCH)	
	1964	UNKNCWN	COL	DNP	ST. CLAIR FLATS AREA, 35 MM. LOW OBLIQUE (DNR-WILDLIFE)	
	1964	1: 6000	PAN	STEEED	LAKESIDE STATE PARK, 1 SQ. MILE (DNR-PARKS)	
	1964	1:12000	PAN	ABRAMS	CITY OF PORT HURON (SYMBOL BEZ)	
	1964	1: 7920	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL CDF)	
	1970	1: 7920	PAN	ABRAMS	PORT HURON AND VICINITY (SYMBOL DQH)	
	1972	1: 3000	PAN	MOSHT	US-25, SOUTH OF PORT SANILAC SHORE PROTECTION STUDY	
	1972	1: 6000	PAN	MOSHT	M-53, SHABONA ROAD TO PRINGLE ROAD (FILE NO 59C)	
	1972	1: 7920	PAN	ABRAMS	COLUMBUS TWP. (SYMBOL DWA)	
	1973	1: 6000	PAN	COPPS	PARTIAL SHOPELINE	
	1973	1: 7920	PAN	ABRAMS	PORT HURON AND VICINITY (SYMBOL EFO)	
	1973	1:12000	PAN	ABRAMS	PART OF SECTION 32, KIMBALL TWP. (SYMBOL EHF)	
	1973	1:15840	PAN	ABRAMS	PORT HURON AND VICINITY (SYMBOL EFO)	
	1974	1:10000	COL	ERIN	ST. CLAIR RIVER, L. HURON (MSN. X252M, ALSO PAN, CIR, MSS)	
	1975	UNKNCWN	COL	DNP	ST. CLAIR MARSH, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1975	UNKNCWN	COL	DNP	ST. JOHNS MARSH, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
	1975	1: 7920	PAN	ABRAMS	CITY OF ALGONAC AND VICINITY (SYMBOL EXW)	
	1976	1: 6000	PAN	ABRAMS	PART OF KIMBALL AND CLYDE TOWNS. (SYMBOL FCJ)	
	1976	1: 6000	PAN	ABRAMS	ST. JOHNS MARSH (SYMBOL FCO, ALSO 117920, 1112000)	
	ST. JOSEPH	1961	1: 6000	PAN	ABRAMS	CITY OF STURGIS (SYMBOL AOK, ALSO SCALE: 1:3960)
		1964	1: 7920	PAN	ABRAMS	SHERMAN TWP. (SYMBOL BIC)
		1966	1: 6000	PAN	ABRAMS	VICINITY OF STURGIS (SYMBOL BVV)
		1971	1: 3000	PAN	MOSHT	US-2, PART OF MANISTIQUE (FILE NO 678 AND 679)
1971		1: 9600	PAN	MOSHT	M-94, MANISTIQUE TO HIAWATHA (FILE NO 681)	
1971		1: 9600	PAN	MOSHT	US-2, CITY OF MANISTIQUE (FILE NO 680)	
1975		1: 3000	PAN	MOSHT	US-2, THROUGH THE COUNTY (FILE NO 742)	
1976		1: 3000	PAN	MOSHT	TWO SHORT STRIPS ALONG M-28 (SYMBOLS FAZ, FAB)	
SANILAC	1964	1: 6000	PAN	STEEED	SANILAC STATE PARK, 2 SQ. MILES (DNR-PARKS)	
	1964	1: 9600	PAN	MOSHT	US-27 AND M-78, RELOCATION IN COUNTY (FILE NO 76-413)	
	1970	1:12000	PAN	MOSHT	I-69 EXTENSION, I-96 TO PERRY (FILE NO 76-660)	
	1971	1: 6000	PAN	MOSHT	I-69 EXTENSION, PERRY TO SCHWARTZ CREEK (FILE NO 683)	
	1971	1: 7920	PAN	ABRAMS	VILLAGE OF FOFESTER (SYMBOL DHS)	
	1971	1:12000	PAN	MOSHT	I-69 EXTENSION, IN COUNTY (FILE NO 76-663)	
	1973	1: 3960	PAN	ABRAMS	PART OF SECTION 29, WORTH TWP. (SYMBOL EJK)	
	1973	1:24000	PAN	ABRAMS	TOWN OF CROSWELL (SYMBOL EDH, ALSO SCALE: 1:7920)	
	1974	1:10000	COL	ERIN	LAKE HURON SHORELINE (MSN. X252M, ALSO PAN, CIR)	
	1975	1: 3000	PAN	MOSHT	I-69 EXTENSION, LANSING TO PERRY (FILE NO 736)	
	1976	1: 6000	PAN	MOSHT	STIP ALONG I-69, PERRY TO COUNTY LINE (SYMBOL FBI)	
SCHOOLCRAFT	1961	1:12000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL AQR)	
	1962	UNKNCWN	COL	DNP	LITTLE FOX P. FLOODING, 35 MM. OBLIQUES (DNR-WILDLIFE)	
	1963	1: 6000	PAN	ABRAMS	INDIAN LAKE STATE PARK (SYMBOL BAH, ALSO DNR PARKS)	
	1963	1: 9600	PAN	MOSHT	M-29, MACOMB LINE TO MARYSVILLE (FILE NO 77-368)	
	1963	1:19200	PAN	ABRAMS	SENEY WILDLIFE REFUGE (SYMBOL BAN)	
	1964	1:12000	PAN	ABRAMS	CITY OF MANISTIQUE (SYMBOL BGG)	
	1964	1:15840	PAN	ABRAMS	FOREST COVER (DNR-ENG)	
	1965	1: 3000	PAN	MOSHT	M-29, NEW BALTIMORE TO MARYSVILLE (FILE NO 77-441)	
	1965	1: 4800	PAN	ABRAMS	CITY OF ALGONAC (SYMBOL BKX)	
	1965	1: 9600	PAN	MOSHT	M-29, NEW BALTIMORE BYPASS (FILE NO 77-451)	
	1965	1: 9600	PAN	MOSHT	M-19, M-13E TO YALE (FILE NO 77-477)	
	1966	1:14400	PAN	MOSHT	M-21, LAPEER LINE TO PORT HURON (FILE NO 77-535)	
	1966	1:19200	PAN	ABRAMS	BELLE RIVER MILLS PROJECT (SYMBOL BVI)	
	1967	UNKNCWN	PAN	ERIN	TOLEDO TO PORT HURON SHORELINE (BWIR, SCANNERS)	
	1967	1: 3000	PAN	MOSHT	M-19, YALE (FILE NO 77-544)	
	1969	1: 3000	PAN	MOSHT	M-29, MACOMB LINE TO PERCH ROAD (FILE NO 77-595)	
	1970	1: 3000	PAN	MOSHT	M-29, ALGONAC TO COX CREEK (FILE NO 77-642)	
	1970	1:60000	PAN	ABRAMS	IRA TWP. (SYMBOL CCH)	
	1972	UNKNCWN	PAN	ERIN	BLACK RIVER FROM MOUTH OF ST CLAIR RIVER TO I-94)	
	1972	UNKNCWN	PAN	ERIN	BELLE RIVER PLUME (MULTIBAND, SCANNERS ALT: 1000)	
	1972	UNKNCWN	PAN	ERIN	DETROIT EDISON PLANT ON ST CLAIR RIVER (MULTIBAND)	
	1972	UNKNCWN	PAN	ERIN	ST CLAIR RIVER, MARYSVILLE TO PORT HURON (MULTIBAND)	
	1972	1: 7920	PAN	ABRAMS	AREA IN THOMPSON TWP. (SYMBOL DZI)	
	1973	UNKNCWN	PAN	ERIN	MARYSVILLE ALONG RIVER (MULTIBAND, SCANNERS ALT: 1000)	
1974	UNKNCWN	PAN	ERIN	ST CLAIR RIVER TO PORT HURON (SCANNERS ALT: 5000FT)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
SCHODLCPFT	1974	UNKNOWN	PAN	ERIM	ALONG SHORELINE OF LAKE HURON (SCANNERS ALT: 5000FT)
	1974	1: 3960	PAN	ABRAMS	AREA IN HIAWATHA TWP. (SYMBOL ENW, ALSO SCALE: 1:7920)
	1974	1:15840	PAN	ABRAMS	IRA TWP. (SYMBOL FOZ, ALSO SCALE: 1:7920)
	1975	1: 3000	PAN	MDSHT	M-21, LAPEER LINE TO PORT HURON (FILE NO 740)
	1975	1: 9600	PAN	ABRAMS	ALGONAC AREA (SYMBOL EXV)
	1976	1: 6000	PAN	ERIM	TWO STRIPS IN ALGONAC (SYMBOL FCU)
	1976	1:15996	PAN	ABRAMS	SENEY NATIONAL WILDLIFE REFUGE (SYMBOL FFP)
SHIAWASSEE	1956	1: 6000	PAN	ABRAMS	CITY OF OWOSSO (PHOTO INDEX NO. 1243)
	1957	1: 8000	PAN	SCS	MISTEQUAY CREEK APFA (SYMBOL: MN-MC)
	1961	1: 6000	PAN	ABRAMS	CITY OF DURAND (SYMBOL ARK)
	1962	1: 7920	PAN	ABRAMS	CITY OF COPUNNA (SYMBOL AXO)
	1965	1: 9600	PAN	MDSHT	M-86, COLON TO BRANCH CO LINE (FILE NO 468)
	1965	1:15840	PAN	ABRAMS	OWOSSO AND CALEDONIA TOWNS. (SYMBOL BOH)
	1966	1: 3000	PAN	MDSHT	M-86, COLON TO US-12 (FILE NO 78-517)
	1966	1: 6000	PAN	MDSHT	US-12, MOTTVILLE (FILE NO 529)
	1966	1: 7920	PAN	ABRAMS	CITY OF DURAND (SYMBOL BWC)
	1967	1: 3000	PAN	MDSHT	US-12, MOTTVILLE (FILE NO 78-551)
	1967	1: 7920	PAN	ABRAMS	PERPY TWP. (SYMBOL BYJ)
	1968	1: 7920	PAN	ABRAMS	SECTION IN PERPY TWP. (SYMBOL CIO)
	1969	1: 4800	PAN	MDSHT	M-86, CENTERLINE TO NOTTAWA (FILE NO 78-627)
	1969	1:19200	PAN	ABRAMS	VERNON TWP. (SYMBOL CSZ, CBLIQUES)
	1969	1:30000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CRZ)
	1970	1: 7920	PAN	ABRAMS	SECTION 22, WOODHULL TWP. (SYMBOL DBY)
	1970	1:12000	PAN	ABRAMS	I-69 EXTENSION FROM I-96 EAST TO PERRY (SYMBOL DEB)
	1971	1: 3960	PAN	ABRAMS	PART OF CALEDONIA TWP. (SYMBOL DPC)
	1971	1: 3960	PAN	ABRAMS	CITY OF OWOSSO (SYMBOL DPV)
	1971	1: 3960	PAN	ABRAMS	PAPTS OF OWOSSO (SYMBOL DJB)
	1971	1: 5400	PAN	SCS	UPPER MAPLE RIVER W/S (SYMBOL: MN-UM)
	1972	1: 3960	PAN	ABRAMS	CITY OF OWOSSO (SYMBOL DRX)
	1972	1: 6000	PAN	MDSHT	US-12, RELOCATION EAST AND WEST OF MOTTVILLE (NO 688)
	1973	1: 6000	PAN	ABRAMS	AREAS IN OWOSSO AND CALEDONIA TOWNS. (SYMBOL EBU)
	1973	1: 7920	PAN	ABRAMS	AREAS IN OWOSSO AND CALEDONIA TOWNS. (SYMBOL EBU)
	1973	1: 7920	PAN	ABRAMS	AREA IN HAZELTON TWP. (SYMBOL EFP)
	1973	1:15840	PAN	ABRAMS	AREAS IN OWOSSO AND CALEDONIA TOWNS. (SYMBOL EBU)
1974	1:15840	PAN	DNR	TOPO MAPS (DNR-ENG)	
1976	1: 6000	PAN	MDSHT	STRIP ALONG US-12 NEAR MOTTVILLE (SYMBOL FBY)	
TUSCOLA	1955	1: 6000	PAN	ABRAMS	CITY OF CAPO (PHOTO INDEX NO. 1111)
	1962	1: 9600	PAN	ABRAMS	GARNER ROAD EAST OF UNIONVILLE (SYMBOL AXO)
	1964	UNKNOWN	COL	DNR	FISH POINT, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)
	1964	UNKNOWN	COL	DNR	SAGINAW BAY SHORELINE, 35 MM. OBLIQUES (DNR-WILDLIFE)
	1967	1: 3000	PAN	MDSHT	M-25, FROM BAY CO LINE TO UNIONVILLE (FILE NO 79-539)
	1968	1: 7920	PAN	ABRAMS	THETFORD TWP. (SYMBOL CEZ)
	1969	1: 3960	PAN	ABRAMS	PART OF SECTION 7, VASSAR TWP. (SYMBOL CVF)
	1971	1: 7920	PAN	ABRAMS	VILLAGE OF CAPO (SYMBOL DHM)
	1973	UNKNOWN	PAN	ERIM	SHORELINE FROM BAY CO TO SEBEWAING (MULTIBAND, SCAN)
	1973	1: 6000	PAN	CORPS	PARTIAL SHORELINE
	1974	1:16000	COL	ERIM	LAKE HURON SHORELINE (MSN, X252M, ALSO PAN, CIR, MSS)
	1975	1: 7920	PAN	ABRAMS	SOUTH OF VASSAR (SYMBOL EXT, ALSO SCALE: 1:24000)
	1976	1: 6000	PAN	MDSHT	STRIP FROM UNIONVILLE TO CARO (SYMBOL FAR)
VAN BUREN	1954	1: 9600	PAN	ABRAMS	CITY OF WATERVLIET (PHOTO INDEX NO. 1054)
	1956	1: 9600	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
	1963	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BAL)
	1964	1: 9600	PAN	MDSHT	M-119, MARCELLUS TO LAWTON (FILE NO 80-405)
	1964	1: 9600	PAN	MDSHT	M-40, PAW PAW TO ALLEGAN CO LINE (FILE NO 80-409)
	1964	1: 9600	PAN	MDSHT	M-43, M-40 TO US-131 (FILE NO 80-424)
	1965	1: 6000	PAN	MDSHT	I-196 BR, M-43 TO SOUTH HAVEN (FILE NO 80-484)
	1965	1: 7920	PAN	ABRAMS	SOUTH HAVEN TWP. (SYMBOL BPF)
	1965	1: 9600	PAN	MDSHT	PHOENIX ST IN SOUTH HAVEN (FILE NO 80-442)
	1966	1: 3000	PAN	MDSHT	M-43, M-40 TO US-131 RELOCATION (FILE NO 80-495)
	1966	1: 4800	PAN	ABRAMS	PART OF COUNTY (SYMBOL BVE)
	1967	1: 3000	PAN	MDSHT	I-196, BL, BROADWAY ST NORTH (FILE NO 80-541)
	1967	1: 3000	PAN	MDSHT	M-119, MARCELLUS TO LAWTON (FILE NO 80-542)
	1968	UNKNOWN	CIP	ERIM	ST JOSEPH HARBOR, SOUTH HAVEN HARBOR (ALSO COLOR)
	1968	1: 3000	PAN	MDSHT	M-40, PAW PAW NORTH TO CO LINE (FILE NO 80-578)
	1969	UNKNOWN	PAN	ERIM	MICHIGAN CITY TO SOUTH HAVEN (MULTIBAND, SCANNERS)
	1969	UNKNOWN	PAN	ERIM	SOUTH HAVEN TO STEVENSVILLE (MULTIBAND, SCANNERS)
	1969	1:14400	PAN	MDSHT	M-40, PAW PAW NORTH TO CO LINE (FILE NO 80-630)

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
VAN BUREN	1973	UNKNOWN	PAN	ERIM	SHORELINE ALONG PALISADES (MULTIBAND, SCANNERS)	
	1971	UNKNOWN	PAN	EPIM	PALISADES POWER PLANT (SCANNERS, MULTIBAND, ALT: 5000)	
	1971	1: 7920	PAN	ABRAMS	CITY OF SOUTH HAVEN (SYMBOL DPN, ALSO SCALE: 1:15840)	
	1972	UNKNOWN	PAN	ERIM	PALISADES POWER PLANT (MULTIBAND, SCANNER, ALT 5000FT)	
	1973	UNKNOWN	PAN	ERIM	PALISADES POWER PLANT (MULTIBAND, SCANNERS ALT: 5000)	
	1973	UNKNOWN	PAN	ERIM	COOK POWER PLANT (MULTIBAND, SCANNERS ALT: 5000FT)	
	1973	1: 6000	PAN	CORPS	PARTIAL SHORELINE	
	1974	1:10000	COL	ERIM	LAKE MICHIGAN SHORELINE (MSN, X252M, ALSO PAN, CIR, MSS)	
	1975	1: 6000	PAN	MDSHT	BIKE TRAIL, SOUTH HAVEN TO KALAMAZOO CO LINE (NO 732)	
	1975	1: 7920	PAN	ABRAMS	CITY OF SOUTH HAVEN (SYMBOL EYM)	
	1976	1:12000	PAN	AERAMS	VILLAGE OF COVERT (SYMBOL FBO, ALSO SCALE: 1:24000)	
	WASHTENAW	1954	1: 3000	PAN	ABRAMS	HIGHWAYS (DNR-ENG)
		1960	1: 6000	PAN	CHICAGO	CITY OF ANN ARBOR
1961		1: 4800	PAN	ABRAMS	CITY OF ANN ARBOR (SYMBOL AQY, ALSO SCALE: 1:9600)	
1961		1: 6000	PAN	ABRAMS	CITY OF SALINE (SYMBOL AOK, ALSO SCALE: 1:3960)	
1961		1: 7920	PAN	ABRAMS	PART OF CITY OF ANN ARBOR (SYMBOL AOP)	
1963		1: 2400	PAN	ABRAMS	STIP ALONG M-14 (SYMBOL AVZ)	
1963		1: 6000	PAN	ABRAMS	CITY OF YPSILANTI (SYMBOL BBO)	
1964		1: 3000	PAN	MDSHT	US-23, ANN ARBOR (FILE NO 81-418)	
1964		1: 6000	PAN	ABRAMS	STRIP ALONG I-94 IN ANN ARBOR AREA (SYMBOL BIP)	
1964		1: 6000	PAN	MDSHT	I-94, SALINE ROAD, ANN ARBOR (FILE NO 81-426)	
1964		1: 6000	PAN	MDSHT	I-94, STATE ROAD, ANN ARBOR (FILE NO 81-427)	
1964		1: 7920	PAN	ABRAMS	FOUR LOCATIONS IN CEXTER TWP. (SYMBOL BFT)	
1964		1:15840	PAN	ABRAMS	CITY OF YPSILANTI (SYMBOL BIE)	
1965		1: 3000	PAN	MDSHT	M-17, YPSILANTI AREA (FILE NO 81-461)	
1965		1: 3000	PAN	MDSHT	M-17, US-23 TO YPSILANTI (FILE NO 81-433)	
1965		1: 7920	PAN	ABRAMS	CITY OF ANN ARBOR (SYMBOL BKT)	
1965		1:15840	PAN	ABRAMS	YPSILANTI TWP. (SYMBOL BPS)	
1966		1: 9600	PAN	MDSHT	AREA NEAR ANN ARBOR (FILE NO 497)	
1966		1: 9600	PAN	ABRAMS	AREA NEAR CITY OF ANN ARBOR (SYMBOL BQX)	
1967		1: 3960	PAN	ABRAMS	BLAKELY AND BROWNSTOWN DRAINS (SYMBOL CCU)	
1967		1: 7920	PAN	ABRAMS	AUGUSTA TWP. (SYMBOL BZE)	
1967		1:12000	PAN	ABRAMS	THREE AREAS IN COUNTY (SYMBOL CAQ)	
1967		1:12000	PAN	ABRAMS	VILLAGE OF MANCHESTER (SYMBOL BXI)	
1967		1:14400	PAN	MDSHT	M-14, IN COUNTY (FILE NO 81-457)	
1968		1: 3000	PAN	MDSHT	M-14, M-153 TO I-96 (FILE NO 81-582)	
1968		1: 3000	PAN	MDSHT	M-17, US-23 TO WHITTAKER ROAD (FILE NO 81-591)	
1968		1: 3000	PAN	ABRAMS	PART OF M-14 (SYMBOL CHJ)	
1968		1: 3960	PAN	ABRAMS	POND AREA, HURON RIVER NEAR ANN ARBOR (SYMBOL CJG)	
1968		1: 7920	PAN	ABRAMS	AREA AROUND CITY OF ANN ARBOR (SYMBOL CFO)	
1968		1: 7920	PAN	ABRAMS	POND AREA, HURON RIVER NEAR ANN ARBOR (SYMBOL CJG)	
1968		1:24000	PAN	ABRAMS	CITY OF ANN ARBOR (SYMBOL CII)	
1969		1: 3000	PAN	MDSHT	M-14, M-153 TO HAGGERTY ROAD (FILE NO 81-616)	
1969		1: 3960	PAN	ABRAMS	HURON RIVER NEAR ANN ARBOR (SYMBOL CON)	
1969		1: 6000	PAN	ABRAMS	FREEDOM TWP. (SYMBOL CMC)	
1969		1: 6000	PAN	MDSHT	US-12, BROOKLYN HWY TO M-52 (FILE NO 626)	
1969		1: 6000	PAN	MDSHT	M-17, US-23 TO I-94 AT YPSILANTI (FILE NO 81-618)	
1969		1: 7920	PAN	ABRAMS	SECTIONS 18 AND 19, YORK TWP. (SYMBOL CUL)	
1969		1: 7920	PAN	ABRAMS	CITY OF ANN ARBOR (SYMBOL CMB)	
1969		1: 7920	PAN	ABRAMS	SOUTH ANN ARBOR (SYMBOL CNT)	
1969		1: 7920	PAN	ABRAMS	HURON RIVER NEAR ANN ARBOR (SYMBOL CON)	
1969		1: 7920	PAN	ABRAMS	SECTION 31, MANCHESTER TWP. (SYMBOL COB)	
1970		1: 2400	PAN	ABRAMS	AUGUSTA TWP. (SYMBOL CWO)	
1970		1: 3960	PAN	ABRAMS	CITY OF YPSILANTI (SYMBOL CZC)	
1970		1: 3960	PAN	ABRAMS	AREA NEAR CHELSEA (SYMBOL ODA)	
1970		1: 7920	PAN	ABRAMS	PART OF YPSILANTI TWP. (SYMBOL CXH)	
1970		1:24000	PAN	ABRAMS	GREAT ANN ARBOR AREA (SYMBOL CZK)	
1971		UNKNOWN	PAN	ABRAMS	PART OF SEC. 18, ANN ARBOR TWP. (SYMBOL DHP, OBLIQUES)	
1971		1: 3000	PAN	MDSHT	I-94 AND US-12 INTERCHANGE AREA (FILE NO 81-664)	
1971		1: 3960	PAN	ABRAMS	AREA IN ANN ARBOR TWP. (SYMBOL DJA)	
1971		1: 4800	PAN	ABRAMS	CITY OF ANN ARBOR (SYMBOL DFN)	
1972		1: 3000	PAN	MDSHT	I-94 AND PLATT ROAD INTERCHANGE AREA (FILE NO 697)	
1972		1: 3960	PAN	ABRAMS	GEDDES POND AREA, ANN ARBOR (SYMBOL DXZ, ALSO 1:6000)	
1972		1: 7920	PAN	ABRAMS	PART OF SECTION 14, SYLVAN TWP. (SYMBOL OSQ)	
1972	1: 7920	PAN	ABRAMS	AREA IN COUNTY (SYMBOL DQZ)		
1972	1: 7920	PAN	ABRAMS	PART OF SECTIONS 25 AND 36, LYNDON TWP. (SYMBOL OSO)		
1972	1: 7920	PAN	ABRAMS	LYNDON TWP. (SYMBOL DHQ)		
1973	1: 3960	PAN	ABRAMS	PART OF PITTSFIELD TWP. (SYMBOL EGH)		
1973	1: 6000	PAN	ABRAMS	CITY OF ANN ARBOR (SYMBOL EDI)		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
WASHTENAW	1974	1: 3960	PAN	ABRAMS	PART OF SECTION 33, SUPERIOR TWP. (SYMBOL EMO)	
	1974	1:12000	PAN	ABRAMS	SITES IN COUNTY (SYMBOL EQH, ALSO SCALE: 1:7920)	
	1974	1: 3000	PAN	MCSHT	I-94 AND M-17 INTERCHANGE AREA (FILE NO 723)	
	1975	1: 3000	PAN	ABRAMS	WEBSTER TWP. (SYMBOL EYJ)	
	1975	1: 3960	PAN	ABRAMS	CITY OF SALINE (SYMBOL EVP)	
	1975	1: 7920	PAN	ABRAMS	CITY OF SALINE (SYMBOL FUG)	
	1975	1: 6000	PAN	ABRAMS	NEAR CITY OF ANN ARBOR (SYMBOL FFF)	
	1976	1: 7920	PAN	ABRAMS	PART OF PITTSFIELD TWP. (SYMBOL EYU)	
	1976	1: 7920	PAN	ABRAMS	PART OF NORTHFIELD TWP. (SYMBOL FEM)	
	1976	1:12000	PAN	ABRAMS	SECTIONS IN COUNTY (SYMBOL FBV)	
	1976	1:12000	PAN	ABRAMS	AREA NEAR CITY OF ANN ARBOR (SYMBOL FEX)	
	MAYNE	1954	1: 6336	PAN	DNR	HIGHWAYS (DNP-ENG)
		1955	1: 4800	PAN	ABRAMS	CITY OF ECORSE (PHOTO INDEX NO. 1164)
		1955	1: 9600	PAN	ABRAMS	HIGHWAYS (DNP-ENG)
1955		1: 4800	PAN	ABRAMS	HIGHWAYS (DNP-ENG)	
1955		1: 4800	PAN	ABRAMS	HIGHWAYS (DNP-ENG)	
1955		1:10560	PAN	DNR	HIGHWAYS (DNP-ENG)	
1955		1: 6000	PAN	ABRAMS	TELEGRAPH ROAD NEAR DETROIT (SYMBOL ALY)	
1956		1: 6000	PAN	ABRAMS	CITY OF DEARBORN (SYMBOL ANA, PHOTO INDEX NO. 1733)	
1956		1: 9600	PAN	ABRAMS	VICINITY OF PLYMOUTH (SYMBOL ANB)	
1961		UNKNOWN	PAN	DNR	DETROIT RIVER, LOW OBLIQUES (DNR-WILDLIFE)	
1961		1: 3000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL AOF)	
1961		1: 4800	PAN	ABRAMS	STRIP ALONG I-96 (SYMBOL ARX)	
1961		1: 4800	PAN	ABRAMS	CITY OF DEARBORN (SYMBOL ARW)	
1961		1: 6000	PAN	ABRAMS	AREAS IN COUNTY (SYMBOL AOF, ALSO SCALE: 1:3960)	
1961		1: 7920	PAN	ABRAMS	CANTON TWP. (SYMBOL AOC)	
1961		1:15840	PAN	ABRAMS	CITY OF INKSTER (SYMBOL AOP, ALSO SCALE: 1:6000)	
1961		UNKNOWN	COL	DNR	DETROIT RIVER, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
1961		1: 2400	PAN	ABRAMS	COUNTY HIGHWAYS (SYMBOL AWR)	
1961		1: 6000	PAN	ABRAMS	STRIP ALONG I-696 (SYMBOL ATA)	
1962		1: 7920	PAN	ABRAMS	VILLAGE OF WOODHAVEN (SYMBOL AUY)	
1962		1: 7920	PAN	ABRAMS	CITY OF SOUTHGATE (SYMBOL AUV)	
1962		1: 7920	PAN	ABRAMS	CITY OF HARPER WOODS (SYMBOL AUX)	
1962		1: 9600	PAN	ABRAMS	STRIP FROM FARMINGTON TO BELLEVILLE (SYMBOL ATE)	
1962		1:12000	PAN	ABRAMS	CITY OF SOUTHGATE (SYMBOL AUW)	
1963		1: 7920	PAN	ABRAMS	TAYLOR TWP. (SYMBOL BDB)	
1963		1: 7920	PAN	ABRAMS	CITY OF LIVONIA (SYMBOL BBM)	
1964		UNKNOWN	COL	DNR	DETROIT RIVER, 35 MM. LOW OBLIQUES (DNR-WILDLIFE)	
1964		1: 3000	PAN	MCSHT	M-39, I-94 TO M-85 (FILE NO 82-417)	
1964		1: 3000	PAN	MCSHT	I-275, I-94 TO I-96 (FILE NO 82-419)	
1964		1: 3000	PAN	ABRAMS	STRIP ALONG I-96 (SYMBOL BEO)	
1964		1: 3960	PAN	ABRAMS	CITY OF DETROIT (SYMBOL BFC)	
1964		1: 4800	PAN	MCSHT	8 MILE ROAD, US-25 TO I-94 (FILE NO 82-140)	
1964		1: 4800	PAN	ABRAMS	TAYLOR TWP. (SYMBOL BEJ)	
1964		1: 4800	PAN	MCSHT	M-39, I-94 TO M-85 (FILE NO 82-412)	
1964		1: 9600	PAN	MCSHT	I-75, MONROE CO LINE TO PENNSYLVANIA ROAD (NO 421)	
1964		1:24000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL BHI)	
1965		1: 3000	PAN	ABRAMS	PART OF I-96 NEAR NOVIE (SYMBOL BNF)	
1965		1: 3000	PAN	MCSHT	M-102, US-25 TO I-94 (FILE NO 82-434)	
1965		1: 3000	PAN	MCSHT	I-75, MONROE CO LINE TO SIBLEY ROAD (FILE NO 82-669)	
1965		1: 3000	PAN	MCSHT	I-94, WASHTENAW CO LINE TO HANNAN ROAD (FILE NO 458)	
1965		1: 3000	PAN	MCSHT	I-96, 5 MILE ROAD TO I-696 (FILE NO 82-448)	
1965		1: 3960	PAN	MCSHT	I-96, I-696 TO AMBASSADOR BRIDGE (FILE NO 82-438)	
1965		1: 3960	PAN	ABRAMS	AREAS IN DETROIT (SYMBOL BMH)	
1965		1: 4800	PAN	MCSHT	ROUND ROAD, CANIFF ST TO M-53 (FILE NO 82-476)	
1965		1: 6000	PAN	ABRAMS	STRIP ALONG I-696 (SYMBOL BJJ, BMF)	
1965		1: 6000	PAN	ABRAMS	AREA WEST OF DETROIT (SYMBOL BPG)	
1965		1:36000	PAN	ABRAMS	AREA IN DETROIT (SYMBOL BMY)	
1966		UNKNOWN	PAN	ERIM	GIBRALTER TO OHIO (MULTIBAND, SCANNERS ALT: 2000FT)	
1966		UNKNOWN	PAN	ERIM	PEACH ISLAND TO MONROE (MULTIBAND, SCANNERS ALT: 2000)	
1966		1: 3000	PAN	MCSHT	M-53, DAVIDSON HWY TO 18 MILE ROAD (FILE NO 82-588)	
1966	1: 3000	PAN	MCSHT	I-94, WARD ROAD TO HANNAN ROAD (FILE NO 82-520)		
1966	1: 3000	PAN	MCSHT	I-96, 5 MILE TO 8 MILE ROAD (FILE NO 82-587)		
1966	1: 3960	PAN	ABRAMS	DETROIT AREA (SYMBOL BWH)		
1966	1: 3960	PAN	MCSHT	I-94, TELEGRAPH ROAD TO WYOMING (FILE NO 82-526)		
1966	1: 3960	PAN	ABRAMS	AREAS IN DETROIT (SYMBOL BTU)		
1966	1: 3960	PAN	MCSHT	I-94 AND SOUTHFIELD ROAD NEAR ECORSE (FILE NO 82-525)		
1966	1: 6000	PAN	ABRAMS	AREA IN COUNTY SOUTH OF METRO AIRPORT (SYMBOL BUA)		
1966	1: 9600	PAN	MCSHT	I-96, SCHOOLCRAFT RD TO MEADOWBROOK AND NEWBURG ROAD		

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
WAYNE	1966	1:1 9600	PAN	MOSHT	ANN ARBOR TO PLYMOUTH (FILE NO 82-497)
	1967	UNKNOWN	PAN	ERIM	TOLEDO TO PORT HURON SHORELINE (BWIP, SCANNERS)
	1967	1:1 2400	PAN	MOSHT	US-24 AND M-85, TRENTON TO M-102 (FILE NO 82-576)
	1967	1:1 3000	PAN	MOSHT	M-39, ECORSE RIVER TO I-94 (FILE NO 82-549)
	1967	1:1 3960	PAN	MOSHT	M-85, DETROIT, SIBLEY RD TO SCHAEFFER (FILE NO 546)
	1967	1:1 3960	PAN	ABRAMS	BLAKELY AND BROWNSTOWN DRAINS (SYMBOL CCU)
	1967	1:1 3960	PAN	ABRAMS	VAN BUPEN TWP. (SYMBOL CAA)
	1967	1:1 3960	PAN	ABRAMS	DETROIT AREA (SYMBOL BXY)
	1967	1:1 3960	PAN	ABRAMS	CELERON ISLAND (SYMBOL BYM)
	1967	1:1 4800	PAN	MOSHT	US-24, ECORSE ROAD TO M-102 (FILE NO 82-562)
	1967	1:1 6000	PAN	MOSHT	DAVISON-NICHOLS INTERCHANGE AREA (FILE NO 559)
	1967	1:1 7920	PAN	ABRAMS	CITY OF WESTLAND (SYMBOL BYH)
	1967	1:1 12000	PAN	ABRAMS	SECTION 2, NORTHVILLE TWP. (SYMBOL BZX)
	1967	1:1 14400	PAN	MOSHT	M-14, RELOCATION IN COUNTY (FILE NO 82-557)
	1967	1:1 15840	PAN	ABRAMS	DETROIT RIVER AREA (SYMBOL CAH)
	1968	1:1 2400	PAN	MOSHT	I-75, SCHAEFFER TO FORT ST (FILE NO 82-587)
	1968	1:1 2400	PAN	MOSHT	US-24, WEST ROAD TO ECORSE ROAD (FILE NO 82-575)
	1968	1:1 3000	PAN	MOSHT	M-14, M-153 TO I-96 (FILE NO 82-582)
	1968	1:1 3000	PAN	MOSHT	M-102, GRATIOT TO KELLEY (FILE NO 82-579)
	1968	1:1 3960	PAN	ABRAMS	AREAS IN DETROIT (SYMBOL CCH)
	1968	1:1 3960	PAN	ABRAMS	POMULUS TWP. (SYMBOL CHD)
	1968	1:1 3960	PAN	ABRAMS	PART OF TWELVE MILE ROAD IN DETROIT (SYMBOL CKH)
	1968	1:1 6000	PAN	ABRAMS	AREA IN POMULUS AND WOODHAVEN TOWNS. (SYMBOL CHX)
	1968	1:1 6000	PAN	ABRAMS	PART OF BROWNSTOWN TWP. (SYMBOL CSI)
	1968	1:1 7920	PAN	ABRAMS	PART OF VAN BUPEN TWP. (SYMBOL CIP)
	1968	1:1 7920	PAN	ABRAMS	AREA IN SOUTHERN PART OF COUNTY (SYMBOL CFH)
	1969	UNKNOWN	PAN	ERIM	SEGMENTS OF ROUGE AND DETROIT RIVERS (MULTIBAND)
	1969	UNKNOWN	PAN	ERIM	ZUG ISLAND TO GIBRALTER AND OUT INTO LAKE ERIE
	1969	1:1 3000	PAN	ABRAMS	DAVISON HWY. (SYMBOL CUN)
	1969	1:1 3000	PAN	MOSHT	DAVISON AVE, PROPOSED I-94 TO OAKLAND AVE (NO 612)
	1969	1:1 3000	PAN	MOSHT	M-14, M-153 TO HAGGERTY ROAD (FILE NO 82-616)
	1969	1:1 3000	PAN	MOSHT	DAVISON HWY, LIVERNOIS TO CAKLAND (FILE NO 82-633)
	1969	1:1 3000	PAN	ABRAMS	CITY OF HIGHLAND PARK (SYMBOL CSS)
	1969	1:1 3960	PAN	ABRAMS	CITY OF WAYNE (SYMBOL C*G)
	1969	1:1 3960	PAN	ABRAMS	AREAS IN DETROIT (SYMBOL CMW)
	1969	1:1 3960	PAN	ABRAMS	AREA IN COUNTY (SYMBOL CSE)
	1969	1:1 6000	PAN	ABRAMS	AREA NEAR FLAT ROCK (SYMBOL CTH)
	1969	1:1 7920	PAN	ABRAMS	SECTION IN CANTON TWP. (SYMBOL CMA)
	1969	1:1 9600	PAN	ABRAMS	STFIP ALONG I-96 (SYMBOL CTO)
	1970	UNKNOWN	PAN	ERIM	DETROIT RIVER AND INLAND (SCANNERS ALT: 2000FT)
	1970	1:1 3000	PAN	MOSHT	I-94, VAN DYKE INTERCHANGE (FILE NO 82-645)
	1970	1:1 3000	PAN	MOSHT	M-39, I-94 TO M-85 (FILE NO 82-644)
	1970	1:1 3000	PAN	MOSHT	I-94, MT ELLIOT INTERCHANGE (FILE NO 82-648)
	1970	1:1 3000	PAN	MOSHT	I-94, AT LIVERNOIS INTERCHANGE (FILE NO 82-643)
	1970	1:1 3000	COL	MOSHT	I-96, SOUTHFIELD INTERCHANGE (FILE NO 652)
	1970	1:1 3960	PAN	ABRAMS	AREA IN DEARBORN (SYMBOL OBL)
	1970	1:1 3960	PAN	ABRAMS	DETROIT AREA (SYMBOL O3Z)
	1970	1:1 4800	PAN	MOSHT	I-75, AT WEST ROAD (FILE NO 82-634)
	1970	1:1 6000	PAN	ABRAMS	FRANK AND POET DRAIN (SYMBOL CXN)
	1970	1:1 6000	PAN	ABRAMS	PLYMOUTH TWP. (SYMBOL CYM)
	1970	1:1 7920	PAN	ABRAMS	MAYBURY STATE PARK, 1225 ACRES (DNR-PARKS)
	1971	1:1 3960	PAN	ABRAMS	VICINITY OF RIVERVIEW (SYMBOL OLI)
	1971	1:1 3960	PAN	ABRAMS	PART OF POMULUS (SYMBOL OIC)
	1971	1:1 3960	PAN	ABRAMS	AREA IN CANTON TWP. (SYMBOL OHI)
	1971	1:1 3960	PAN	ABRAMS	DETROIT AREA (SYMBOL OLF)
	1971	1:1 3960	PAN	ABRAMS	AREAS IN DETROIT (SYMBOL OKE)
	1971	1:1 6000	PAN	MOSHT	US-12, HAGGERTY ROAD TO MERRIMAN ROAD (FILE NO 670)
	1971	1:1 6000	PAN	ABRAMS	CANTON TWP. (SYMBOL OIV)
	1971	1:1 7920	PAN	ABRAMS	PART OF FIGHTING ISLAND (SYMBOL DHU)
	1971	1:1 12000	PAN	ABRAMS	GROSSE ISLE AREA (SYMBOL OMB)
	1971	1:1 12000	PAN	ABRAMS	PART OF SUMPTER TWP. (SYMBOL OMC)
	1971	1:1 19200	PAN	ABRAMS	PART OF FIGHTING ISLAND (SYMBOL DHU)
	1972	UNKNOWN	PAN	ERIM	DETROIT RIVER FROM MONSANTO TO END OF BELLE ISLE
	1972	1:1 3960	PAN	ABRAMS	PART OF SUMPTER TWP. (SYMBOL OYM)
	1972	1:1 3960	PAN	ABRAMS	DETROIT AREA (SYMBOL OHS, ALSO SCALE OF 1:24000)
	1972	1:1 3960	PAN	ABRAMS	CITY OF DETROIT (SYMBOL OVG)
	1972	1:1 3960	PAN	ABRAMS	PART OF COUNTY (SYMBOL OUL)
	1972	1:1 6000	PAN	MOSHT	M-39, POTUNDA DRIVE TO FORD ROAD (FILE NO 788)
	1973	UNKNOWN	PAN	ERIM	DETROIT RIVER (MULTIBAND, SCANNERS ALT: 1000FT)
	1973	UNKNOWN	PAN	ERIM	CONSUMERS POWER AND DETROIT EDISON PLANTS ON DETROIT RIVER

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS	
WAYNE	1973	UNKNOWN	PAN	EPIM	DETROIT (MULTIRAND, SCANNERS ALT: 12000FT)	
	1973	1: 3000	PAN	MCSHT	M-79, POTUNDA DRIVE TO FORC ROAD (FILE NO 706)	
	1973	1: 3000	PAN	MCSHT	I-94 AND US-10 IN DETROIT (FILE NO 701)	
	1973	1: 3960	PAN	ABRAMS	VILLAGE OF WOODHAVEN (SYMBOL EHY, ALSO SCALE: 1:12000)	
	1973	1: 3960	PAN	ABRAMS	CITY OF TAYLOR (SYMBOL EES, ALSO SCALE: 1:17320)	
	1973	1: 3960	PAN	ABRAMS	PART OF SECTION 11 AND 12, RIVERVIEW TWP. (SYMBOL EGG)	
	1973	1: 6000	PAN	MCSHT	I-275, WEST ALONG TOQUISH CREEK AND RIVER POUCE	
	1973	1: 6000	PAN	CORFS	PARTIAL SHOPELINE	
	1973	1: 7920	PAN	ABRAMS	PART OF SECTION 11 AND 12, RIVERVIEW TWP. (SYMBOL EGG)	
	1973	1: 7920	PAN	ABRAMS	CITY OF INKSTER (SYMBOL ECK)	
	1973	1: 15840	PAN	ABRAMS	CITY OF TAYLOR (SYMBOL EES)	
	1973	1: 24480	PAN	ABRAMS	PART OF COUNTY (SYMBOL FFW)	
	1974	1: 3000	PAN	MCSHT	I-95, EVERGREEN TO SOUTHFIELD (FILE NO 715)	
	1974	1: 3000	PAN	MCSHT	I-94, HEPPIMAN TO MIDDLEBELT (FILE NO 721)	
	1974	1: 3960	PAN	ABRAMS	HUFON TWP. (SYMBOL ENF)	
	1974	1: 3960	PAN	ABRAMS	CITY OF RIVERVIEW (SYMBOL EPR)	
	1974	1: 3960	PAN	ABRAMS	AREAS IN WESTLAND AND WAYNE (SYMBOL ENB)	
	1974	1: 10000	CCL	EPIM	DETROIT RIVERFRONT (MSW, X252M, ALSO PAN, CIR, MSS)	
	1975	VARIES	CCL	MSU/RSP	WAYNE CO. RIVERFRONT (35 MM OBLIQUE, ALSO PAN, CIR)	
	1975	1: 3000	PAN	MCSHT	M-39, I-75 TO 12 MILE ROAD (FILE NO 757)	
	1975	1: 3000	PAN	MCSHT	I-275, MICHIGAN AVE TO I-696 (FILE NO 733)	
	1975	1: 3000	PAN	MCSHT	M-153-75, I-275 TO TELEGRAPH ROAD (FILE NO 744)	
	1975	1: 3000	PAN	MCSHT	M-53-75, 6 MILE ROAD TO M-59 (FILE NO 750)	
	1975	1: 3000	PAN	MCSHT	M-102-75, GROESBECK TO GRATIOT (FILE NO 751)	
	1975	1: 3000	PAN	MCSHT	US-12, WYOMING TO LIVERNOIS (FILE NO 734)	
	1975	1: 3960	PAN	ABRAMS	CITY OF NORTHVILLE (SYMBOL ETV)	
	1975	1: 3960	PAN	ABRAMS	VICINITY OF DETROIT (SYMBOL EWT)	
	1975	1: 4800	PAN	MCSHT	MOUND AND DAVISON STUDY IN COUNTY (FILE NO 725)	
	1975	1: 4800	PAN	ABRAMS	STRIP ALONG I-95 (SYMBOL ESN)	
	1975	1: 6000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL EYL)	
	1975	1: 7920	PAN	ABRAMS	CANTON TWP. (SYMBOL EYJ)	
	1975	1: 10320	PAN	ABRAMS	CITY OF FLAT ROCK (SYMBOL EYA, ALSO SCALE: 1:14000)	
	1975	1: 3000	PAN	EPIM	TELEGRAPH ROAD, FLAT ROCK TO SOUTHFIELD (SYMBOL FCE)	
	1975	1: 3000	PAN	EPIM	FIVE SHORT STRIPS NEAR POTUNDA DR., DEARBORN	
	1975	1: 3960	PAN	ABRAMS	NEAR CITY OF WAYNE (SYMBOL FEA)	
	1975	1: 3960	PAN	ABRAMS	PART OF WOODHAVEN (SYMBOL FFA)	
	1975	1: 4800	PAN	ABRAMS	DETROIT AREA (SYMBOL FAZ)	
	1975	1: 4800	PAN	ABRAMS	DETROIT AREA (SYMBOL FAY)	
	1975	1: 6000	PAN	EPIM	AMBASSADOR BRIDGE AREA (SYMBOL FCJ)	
	WEXFORD	1966	1: 6000	PAN	ABRAMS	CITY OF CADILLAC (SYMBOL ARY)
		1966	1: 7920	PAN	ABRAMS	ANTIOG TWP. (SYMBOL ROK)
		1966	1: 3000	PAN	MCSHT	M-55, CADILLAC TO M-66 (FILE NO 83-492)
		1969	1: 7920	PAN	ABRAMS	AREAS IN CHERRY GROVE TWP. (SYMBOL CVW)
1970		1: 3960	PAN	ABRAMS	CITY OF MANTON (SYMBOL DEC)	
1970		1: 4800	PAN	ABRAMS	CADILLAC AREA (SYMBOL DER)	
1970		1: 7920	PAN	ABRAMS	AREAS IN MANTON (SYMBOL CXC)	
1971		1: 7920	PAN	ABRAMS	AREA IN CLAM LAKE TWP. (SYMBOL DOU)	
1972		1: 18000	PAN	ABRAMS	AREA IN ANTIOG TWP. (SYMBOL DUF)	
1973		1: 6000	PAN	ABRAMS	CADILLAC AREA (SYMBOL EBJ)	
1973		1: 6000	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ECU, ALSO SCALE: 1:17320)	
1973		1: 10320	PAN	ABRAMS	AREA IN COUNTY (SYMBOL ECU)	
1974		1: 6000	PAN	ABRAMS	SECTION 16, HARRING TWP. (SYMBOL EOP)	
1975		1: 3960	PAN	ABRAMS	VILLAGE OF MESICK (SYMBOL EXD)	
1975		1: 19200	PAN	ABRAMS	CITY OF CADILLAC (SYMBOL EYC)	
1975		1: 6000	PAN	EPIM	ONE STRIP OVER HARRIETT FISH HATCHERY (SYMBOL FCV)	
OTHER		1966	1: 12000	PAN	ABRAMS	HIDDEN LAKE AREA (SYMBOL AMV)
	1966	1: 15840	PAN	ABRAMS	LAKE MICHIGAN SHOPELINE (SYMBOL BKE)	
	1966	1: 7920	PAN	ABRAMS	LAKE LOUISE (SYMBOL BRT, ALSO SCALE: 1:3960)	
	1968	1: 12000	PAN	ABRAMS	LAKE MICHIGAN SHOPELINE (SYMBOL BKF)	
	1968	1: 12000	PAN	ABRAMS	LAKE MICHIGAN SHOPELINE (SYMBOL BKE)	
	1968	1: 13200	PAN	ABRAMS	LAKE MICHIGAN SHOPELINE (SYMBOL CHZ)	
	1968	1: 19200	PAN	ABRAMS	LAKE MICHIGAN SHOPELINE (SYMBOL CHZ)	
	1970	1: 4800	PAN	ABRAMS	LAKE MICHIGAN SHOPELINE (SYMBOL BKE)	
	1970	1: 4800	PAN	ABRAMS	HOPKINSON LAKE (SYMBOL DDC)	
	1970	1: 7920	PAN	ABRAMS	AREA IN LEROY AND FRANKLIN TOWNS. (SYMBOL DEM)	
	1971	1: 3000	PAN	ABRAMS	I-94 AND LAKESHORE DRIVE (SYMBOL OJL)	
	1971	1: 7920	PAN	ABRAMS	MYSTIC ISLAND (SYMBOL DOI)	
	1971	1: 7920	PAN	ABRAMS	9TILEY AND MITCHELL TOWNS. (SYMBOL DOK)	
1973	1: 3960	PAN	ABRAMS	BOLLEYS HARBOR (SYMBOL EFF)		

7-43

ORIGINAL PAGE IS
OF POOR QUALITY

COUNTY	DATE	SCALE	FILM	AGENCY	AREA/COMMENTS
OTHER	1973	11 7 3200	34N	ABRAMS	AREA IN HIGHLAND TWP. (SYMBOL EJB)
	1974	11 7 3200	34N	ABRAMS	VAN EYAN LAKE (SYMBOL - EOC)
	1974	11 7 3200	34N	ABRAMS	BLUE LAKE AND CHESTER TWP. (SYMBOL EOK)
	1974	11 7 3200	34N	ABRAMS	HABINGTON TWP. (SYMBOL EAZ, ALSO SCALE 1:7928)
	1975	11 7 3200	CC	GENCO	SACONNA BAY ISLANDS, POLY, P2325
	1975	11 7 3200	CC	ABRAMS	BOLLES MARSH (SYMBOL EJJ)

APPENDICES

APPENDIX A

SELECTED REFERENCES: AERIAL IMAGERY CATALOGS

Apollo Synoptic Photography Catalog (2nd ed.). October 1971: Technology Application Center, University of New Mexico, Albuquerque, New Mexico 87106.

ASCS Aerial Photography Status Maps. December 1975: Agricultural Stabilization and Conservation Service, USDA, 2511 Parley's Way, Salt Lake City, Utah 84109.

ASCS Aerial Photography Coverage. 1973: Aerial Photography Field Office, Administrative Services Division, ASCS-USDA, 2511 Parley's Way, Salt Lake City, Utah 84109.

Catalog of Operational Satellite Products. Eugene R. Hoppe and Abraham L. Ruiz (eds.). March 1974: NOAA Technical Memorandum NESS 53, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite Service, Washington, D.C. 20235.

Color Aerial Stereograms of Selected Coastal Areas of the United States. Harland R. Cravat and Raymond Glaser. 1971: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Survey; (Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402).

Data Catalog of Satellite Experiments. October 1973: Supplement No. 1 to NSSCD 71-20, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771.

LANDSAT Cumulative U.S. Standard Catalog. 1972-1976: NASA Goddard Space Flight Center; (Available from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161).

LANDSAT Cumulative Non-U.S. Standard Catalog. 1972-1976: NASA Goddard Space Flight Center; (Available from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161).

Everyone's Space Handbook. Dick Kroeck. 1976: Pilot Rock, Inc., P.O. Box 470 Arcata, California 95521.

Forest Service Aerial Photography Status Maps. May 1970:
Technical Report ETR-7100-4a; Engineering Technical
Information System, Forest Service, USDA, Washington,
D.C. 20250.

Gemini Synoptic Photography Catalog (3rd ed.). May 1975:
Technology Application Center, University of New Mexico,
Albuquerque, New Mexico 87106.

Landsat Data Users Handbook. September 1976: Document No.
765D54258. NASA Goddard Space Flight Center, Greenbelt,
Maryland 20771.

Landsat Index of the Developing Countries of the World.
February 1976: The World Bank, Washington, D.C. 20433.

SCS Status of Aerial Photography. January 1977: Soil Con-
servation Service, USDA, Hyattsville, Maryland 20782.

Skylab Earth Resources Data Catalog. 1974: National Aero-
nautics and Space Administration, Lyndon B. Johnson
Space Center, Houston, Texas; (Available from the
Superintendent of Documents, U.S. Government Printing
Office, Washington, D.C. 20402, Stock No. 3300-00586).

Skylab-2 Photography Catalogs. June 1974: Technology Appli-
cation Center (TAC), University of New Mexico,
Albuquerque, New Mexico 87131.

Skylab-3 Photography Catalog. August 1974: TAC, New Mexico.

Skylab-4 Photography Catalog. March 1975: TAC, New Mexico.

State Indexes

The MSU Remote Sensing Project presently has informa-
tion on availability of aerial imagery of the follow-
ing states: California, Colorado, Florida, Idaho, Iowa,
Kansas, Missouri, Montana, New Mexico, New York, Oregon,
Utah, Washington, West Virginia, Wisconsin and Wyoming.
The Project also retains copies of imagery catalogs
listed in Appendix A.

APPENDIX B
MAILING ADDRESSES

GOVERNMENT AND UNIVERSITY

Agricultural Stabilization and Conservation Service

Michigan State ASCS Office
1405 South Harrison Road
East Lansing, Michigan 48823
Phone: (517) 372-1910, ext. 224

Western Aerial Photography Laboratory
ASCS-USDA
2505 Parley's Way
Salt Lake City, Utah 84109
Phone: (801) 524-5856

Canada Centre for Remote Sensing

2464 Sheffield Road
Ottawa, Ontario
Canada K1A 0Y7
Phone: (613) 993-0121

Defense Mapping Agency

Bldg. 56, U.S. Naval Observatory
Washington, D.C. 20305
Phone: (202) 254-4406

EROS Data Center

Sioux Falls, South Dakota 57198
Phone: (605) 594-6511, ext. 151

Environmental Protection Agency

Remote Sensing Branch
EPA National Environmental Research Center
P.O. Box 15027
Las Vegas, Nevada 89114
Phone: (702) 736-2969

Forest Service

Division of Engineering
Forest Service, USDA
Washington, D.C. 20250
Phone: (703) 235-8638

Forest Service, Eastern Region
633 West Wisconsin Avenue
Milwaukee, Wisconsin 53203
Phone: (414) 224-3693, ext. 3193

Laboratory for Applications of Remote Sensing (LARS)

Continuing Education Administration
116 Stewart Center
Purdue University
West Lafayette, Indiana 47907
Phone: (317) 749-2052

Michigan Department of Natural Resources

Division of Land Resource Programs
Stevens T. Mason Building
P.O. Box 30028
Lansing, Michigan 48909
Phone: (517) 373-3328

Michigan Department of State Highways and Transportation

Environmental Liaison Section
State Highways Building
Lansing, Michigan 48904
Phone: (517) 373-0146

National Aeronautics & Space Administration

NASA-Ames Research Center
AIRP Data Facility
Mail Stop 211-8
Moffett Field, California 94035
Phone: (415) 965-6252

NASA-Audio Visual Facility
918 North Rengstorff Avenue
Mountain View, California 94040
Phone: (415) 965-6270

NASA-Goddard Space Flight Center
INTRALAB
Greenbelt, Maryland 20771
Phone: (301) 982-2658

NASA-Johnson Space Center
REDAF, Code TF 121
Houston, Texas 77058
Phone: (713) 483-6323

NASA-Office of Applications
State & Local User Affairs Office
400 Maryland Avenue, S.W.
Washington, D.C. 20546
Phone: (202) 755-8613

National Archives and Records Service

Cartographic Branch
General Services Administration
Washington, D.C. 20408
Phone: (202) 523-3006

National Cartographic Information Center

NCIC-Reston (Headquarters)
U.S. Geological Survey
National Center
Reston, Virginia 22092
Phone: (703) 860-6059

NCIC-Mid-Continent
U.S. Geological Survey
1400 Independence Road
Rolla, Missouri 65401
Phone: (314) 364-3680, ext. 107

National Oceanic and Atmospheric Administration

National Climatic Center, NOAA
Federal Building
Asheville, North Carolina 28801
Phone: (704) 258-2850, ext. 620

National Ocean Survey, NOAA
6001 Executive Blvd.
Rockville, Maryland 20852
ATTN: Coastal Mapping Division
Phone: (301) 655-4000

National Technical Information Service (NTIS)

U.S. Department of Commerce
Springfield, Virginia 22161
Phone: (703) 557-4630

Photographic Services

University of Illinois at Urbana-Champaign
713 S. Wright Street
Champaign, Illinois 61820
Phone: (217) 333-1000

Remote Sensing Project

201 UPLA Building
Michigan State University
East Lansing, Michigan 48824
Phone: (517) 353-7195

Soil Conservation Service

Cartographic Division
Soil Conservation Service, USDA
Hyattsville, Maryland 20782
Phone: (301) 436-8187

Soil Conservation Service, USDA
1405 South Harrison Road
East Lansing, Michigan 48823
Phone (517) 372-1910

Southcentral Michigan Planning and Development Council of
Region III

Connors Hall
Nazareth College at Kalamazoo
Nazareth, Michigan 49074
Phone: (616) 343-1678

Southeast Michigan Council of Governments

8th Floor, Book Building
1249 Washington Blvd.
Detroit, Michigan 48226
Phone: (313) 961-4266

Technology Application Center (TAC)

University of New Mexico, Code 10
Albuquerque, New Mexico 87131
Phone: (505) 277-3622

Tri-County Regional Planning Commission

2722 E. Michigan Avenue
Lansing, Michigan 48912
Phone: (517) 487-9424

U.S. Army Corps of Engineers

U.S. Army Engineer District, Detroit
P.O. Box 1027
Detroit, Michigan 48231
Phone: (313) 226-6816

U.S. Army Corps of Engineers

U.S. Army Engineer District, Chicago
219 S. Dearborn Street
Chicago, Illinois 60604
Phone: (312) 353-6460

U.S. Army Engineer District, St. Paul
1210 USPO & Custom House
St. Paul, Minnesota 55101
Phone: (612) 725-7233

U.S. Geological Survey

Branch of Distribution
1200 South Eads Street
Arlington, Virginia 22202
Phone: (703) 357-2751

West Michigan Regional Planning Commission

1204 People's Building
Monroe at Ionia
Grand Rapids, Michigan 49502
Phone: (616) 454-9375

West Michigan Shoreline Regional Development Commission

Torrent House
315 West Webster Avenue
Muskegon, Michigan 49440
Phone: (616) 722-7878

PRIVATE

Abrams Aerial Survey Corporation

124 North Larch Street
Lansing, Michigan 48901
Phone: (517) 372-8100

Aerial Photo and Survey

780 South Ridge Street
Lake Forest, Illinois 60045
Phone: (312) 234-3205

Aero Service Corporation

4219 Van Kirk Street
Philadelphia, Pennsylvania 19135
Phone: (215) 533-3900

Bendix Aerospace Systems Division

3621 South State Road
Ann Arbor, Michigan 48107
Phone: (313) 665-7766

Capitol Air Survey

215 East Twelve Mile Road
Madison Heights, Michigan 48071
Phone: (313) 564-4820

Chicago Aerial Survey

2150 South Wolf Road
Des Plaines, Illinois 60131
Phone: (312) 298-1480

Daedalus Enterprises, Inc.

P.O. Box 1869
Ann Arbor, Michigan 48106
Phone: (313) 769-5649

Environmental Research Institute of Michigan

P.O. Box 618
Ann Arbor, Michigan 48107
Phone: (313) 994-1200

Goospectra Corporation

202 East Washington, Suite 504
Ann Arbor, Michigan 48108
Phone: (313) 994-3450

General Electric Engineering Laboratory

5030 Herzog Place
Beltsville, Maryland 20705
Phone: (301) 345-6000

Goodyear Aerospace Corporation

Department 408A Building 13-2S
Litchfield Park, Arizona 85340
Phone: (602) 932-3232, ext. 406

Mark Hurd Aerial Surveys, Inc.

345 Pennsylvania Avenue, South
Minneapolis, Minnesota 55426
Phone: (612) 545-2583

Park Aerial Surveys, Inc.
606 Harding Avenue
P.O. Box 21379
Louisville, Kentucky 40221
Phone: (502) 366-4571

Photo Science, Inc.
7840 Airpark Road
Gaithersburg, Maryland 20760
Phone: (301) 948-8550

Pilot Rock, Inc.
P.O. Box 470
Arcata, California 95521
Phone: (707) 822-4851

Space Photos
2608 Sunset Boulevard
Houston, Texas 77005

StereoFoto, Inc.
6071 South Logan
Lansing, Michigan 48910
Phone: (517) 882-2868