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CATALOG OF SPACE SHUTTLE EARTH OBSERVATIONS HANDHELD PHOTOGRAPHY

SPACE TRANSPORTATION SYSTEM 39 (STS-39)

Mission Dates: April 28 Through May 6, 1991

91-16379



**Flight Science Support Office
Solar System Exploration Division
Space and Life Sciences Directorate**



National Aeronautics and
Space Administration
Lyndon B. Johnson Space Center
Houston, Texas 77058

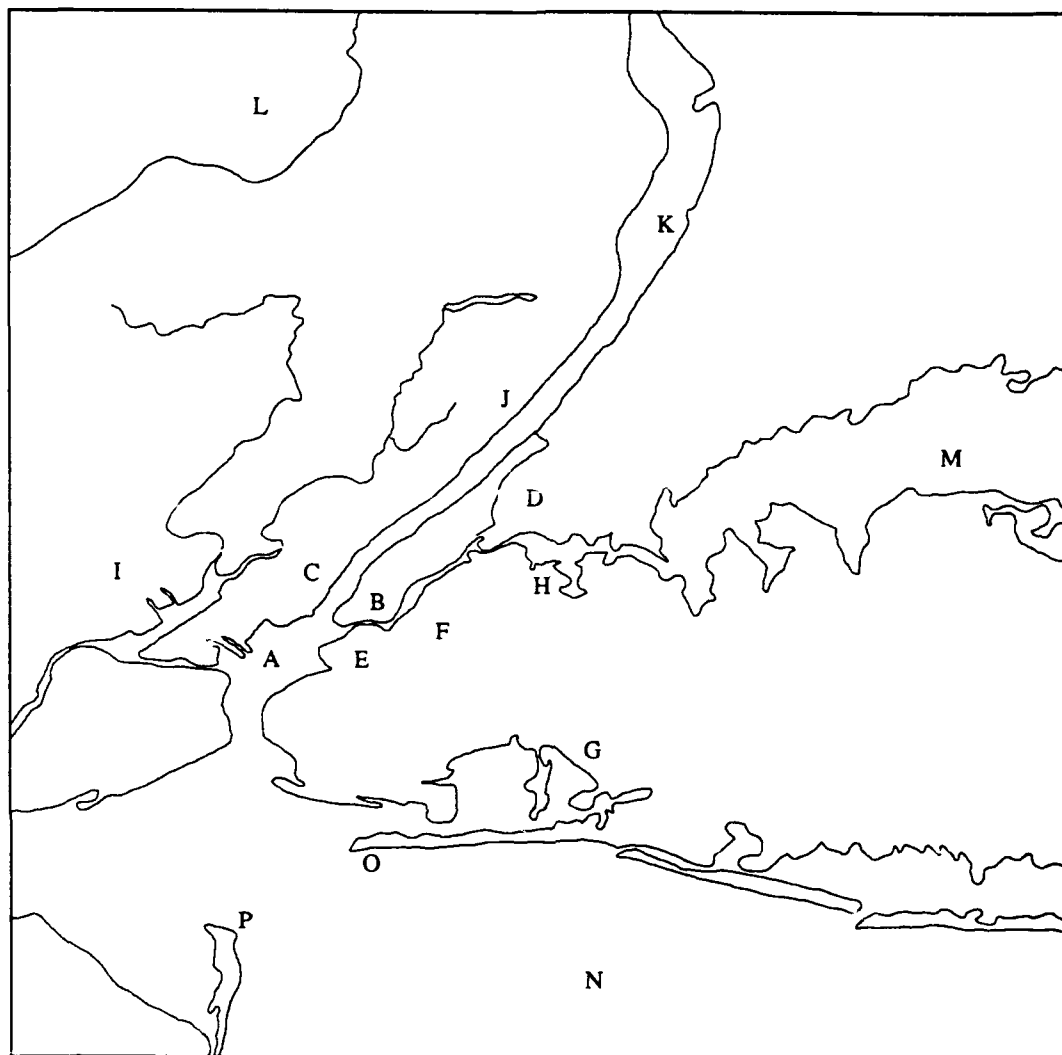
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ABOUT THE PHOTOGRAPH INSERT



S-39-088-054

New York City and Surround, New York, U.S.A.

The dense urban development of the New York metropolitan area of downstate New York, Long Island, and New Jersey shows up as gray and white in this color infrared photograph. The scene was taken on a remarkably clear day in April 1991 from the Space Shuttle *Discovery* at an altitude of 259 km (140 nmi) using a Hasselblad 70-mm camera equipped with a 250-mm lens and Kodak color infrared film (film type 2443). The distance across the photograph is approximately 57 km (35.5 mi). Almost all of the major man-made structures of the area are obvious, including ship traffic and piers in New York Harbor (A); bridges connecting Manhattan Island (B) with Newark, New Jersey (C), the Bronx (D), Brooklyn (E), and Queens (F); and three major airports, John F. Kennedy (G), LaGuardia (H), and Newark (I). Red and pink colors indicate vegetated areas. Central Park shows up clearly on Manhattan Island, as does the string of parks (J) along the cliffs bordering the west side of the Hudson River (K). The Delaware River (L) flows across the upper left corner of the photograph, marking the border between New Jersey and Pennsylvania. With the exception of the more turbid waters of the Hudson River and New York Harbor, water areas appear dark (e.g., Long Island Sound (M), seen along the right margin of the photograph, and the Atlantic Ocean (N), situated along the bottom of the photograph). The broad, sandy beaches along the shores of Long Beach, New York (O), and Sandy Hook, New Jersey (P), appear bright white.

**CATALOG OF SPACE SHUTTLE EARTH
OBSERVATIONS HANDHELD PHOTOGRAPHY**

SPACE TRANSPORTATION SYSTEM 39 (STS-39)

Mission Dates: April 28 Through May 6, 1991

Job Order J4-S10

Prepared By

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Lockheed Engineering & Sciences Company

For

**Flight Science Support Office
Solar System Exploration Division
Space and Life Sciences Directorate**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER
HOUSTON, TEXAS 77058**

October 1991

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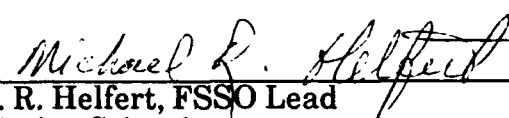
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October 1991

PREFACE

This document catalogs Space Shuttle handheld Earth observations photography acquired during the Space Transportation System 39 (STS-39) Mission flown April 28 through May 6, 1991. The country, geographic location, general quality, cloud coverage, and other descriptors of each frame are provided. The catalog is a product of the Flight Science Support Office at the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas.

The Flight Science Support Office wishes to acknowledge those STS-39 astronauts who acquired the photographs cataloged in this document: *Michael L. Coats*, commander; *L. Blaine Hammond, Jr.*, pilot; and *Gregory J. Harbaugh, Donald R. McMonagle, Guion S. Bluford, Charles L. Veach*, and *Richard J. Hieb*, mission specialists.

Any reviewer of this catalog who has questions or inquiries about the catalog, the data listings, or the Earth observations program should contact the program manager:

Dr. David E. Pitts, Manager
Flight Science Support Office
Mail Code: SN15
Lyndon B. Johnson Space Center
National Aeronautics and Space Administration
Houston, TX 77058
Telephone: (713) 483-5066
FTS: 525-5066
FAX: (713) 483-2911

Inquiries regarding the techniques, cameras, and other details related to Earth observations aboard STS-39 should be forwarded to the lead mission scientist at the address below:

Dr. Michael R. Helfert
Flight Science Support Office
Mail Code: SN15
Lyndon B. Johnson Space Center
National Aeronautics and Space Administration
Houston, TX 77058
Telephone: (713) 483-5333
FTS: 525-5333
FAX: (713) 483-2911

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ACRONYMS AND ABBREVIATIONS

a.m.	ante meridiem
ASA	American Standards Association
DRM	data recording module
EDT	eastern daylight time
EROS	Earth Resources Observation Systems
ESIC	Earth Sciences Information Center
FSSO	Flight Science Support Office
GMT	Greenwich mean time
in.	inch
JSC	Lyndon B. Johnson Space Center
km	kilometer
mm	millimeter
NASA	National Aeronautics and Space Administration
nmi	nautical mile
OV	orbital vehicle
p.m.	post meridiem
STS	Space Transportation System

1. INTRODUCTION

1.1 EARTH OBSERVATIONS PHOTOGRAPHY

In support of the acquisition of Earth observations photography by Shuttle astronauts, the Flight Science Support Office (FSSO) at the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center (NASA-JSC) coordinates and trains crews in Earth and environmental sciences, provides real-time mission support, and catalogs the handheld photography. Space Shuttle crews are briefed on geological, meteorological, oceanographic, and environmental phenomena of scientific interest and on the basic techniques used to acquire photography over specific sites. During each mission, FSSO scientists monitor the Earth for events of special interest (such as hurricanes or other major storms, floods, ice packs, fires, and active volcanoes), as well as for environmental conditions of specific interest. The FSSO receives and coordinates requests for photography of special events with Mission Control at NASA-JSC, which, in turn, relays the messages to the Shuttle crew. Inputs to FSSO scientists may be made by telephone or fax at (713) 483-5066 or (713) 483-2911, respectively.

The high orbital inclination of 57.0° and time of year, late April and early May, of the Space Transportation System 39 (STS-39) Mission afforded one of the few opportunities for a Space Shuttle crew to photograph aurora australis, the southern lights. Using a 35-mm Nikon F3 camera with high-speed (ASA 1600) film, the STS-39 crew obtained more than 200 photographs of the phenomenon. Many outstanding images recorded green curtains, red-green crowns, roll ellipses, and ionospheric glow away from the center of the energy field. Specific mission data for STS-39 are listed in table 1-1.

1.2 CATALOGING AND INDEXING

This document catalogs Space Shuttle handheld Earth observations photography acquired during Mission STS-39. The country, geographic location, general quality, cloud coverage, and other descriptors of each frame are listed by roll number and by geographic name in section 4, tables 4-3 and 4-4, respectively. This catalog is a product of the FSSO, Solar System Exploration Division, Space and Life Sciences Directorate at NASA-JSC, Houston, Texas. Support has been provided by Lockheed Engineering & Sciences Company, Houston, Texas, under Contract NAS 9-17900.

Cataloging of Earth-looking photography from this mission was accomplished by R. M. Nelson, K. J. Willis, W. J. Daley, and F. R. Brumbaugh of Lockheed Engineering & Sciences Company. Additional contributors to this report include V. S. Whitehead, D. L. Amsbury, M. R. Helfert, K. P. Lulla, and D. E. Pitts of NASA-JSC, and L. P. Boedeker, S. G. Ackleson, C. A. Evans, and M. J. Wilkinson of Lockheed Engineering & Sciences Company.

TABLE 1-1.- MISSION DATA FOR STS-39

Launch:	April 28, 1991; 1133 GMT (7:33 a.m. EDT); from John F. Kennedy Space Center, Florida	
Landing:	May 6, 1991; 1855 GMT (2:55 p.m. EDT); at John F. Kennedy Space Center, Florida	
Orbits:	134	
Vehicle:	<i>Discovery</i> (OV-103)	
Altitude:	140 nmi (255 km) nominal	
Inclination:	57.0°	
Crew:	Commander	- Michael L. Coats
	Pilot	- L. Blaine Hammond
	Mission specialists	- Gregory J. Harbaugh
		- Donald R. McMonagle
		- Guion S. Bluford
		- Charles L. Veach
		- Richard J. Hieb

2. ACQUISITION OF EARTH OBSERVATIONS PHOTOGRAPHY

The photography described in this catalog was obtained using four types of cameras: Hasselblad, Linhof, Rolleiflex, and Nikon. The NASA-modified Hasselblad 500 EL/M 70-mm cameras (figure 2-1) were equipped with Zeiss 50-mm CF Distagon f4.0, 100-mm CF Planar f3.5, and 250-mm CF Sonnar f5.6 lenses. Kodak Ektachrome natural color Professional 5017 [American Standards Association (ASA) 64], standard base film and Kodak Aerochrome Color Infrared 2443 (ASA 160) film were used in the Hasselblad cameras. The Linhof Aero Technika camera (figure 2-2) was equipped with interchangeable Linhof 90-mm Super Angulon f5.6 and 250-mm Tele-Arlon f5.6 lenses. The film used for the Linhof camera was 5-in. Kodak Ektachrome QX 868 (ASA 64), natural color (5017 emulsion), thin base.¹ The NASA-modified Rolleiflex 70-mm camera was equipped with Zeiss 50-mm Distagon f4.0 and 250-mm Sonnar f5.6 lenses. The film used in this camera was Kodak Ektachrome natural color Professional 5017 (ASA 64), standard base. The Nikon F3 and F4 35-mm cameras were provided with interchangeable 35-to-70-mm zoom, 28-mm f2.8, and 20-mm f2.8 autofocus lenses. The film used in the Nikon cameras was 35-mm Kodak Ektachrome natural color Professional 5017 (ASA 64), standard base, and Kodak natural color Ektapress 5030 (ASA 1600), standard base. This latter film was used exclusively in the Nikon F3 to photograph the aurora australis. All photographs were taken through the windows of the Shuttle Orbiter (figure 2-3).

Data recording modules (DRMs) were installed on the camera magazines. The Hasselblad and Linhof DRMs recorded the date, time to the nearest second in Greenwich mean time (GMT), DRM number, frame number, and mission number. These modules can be removed by the crew and reinstalled on other magazines when magazines are flown without a module. The DRM on the Nikon F4 camera magazine recorded the days, hours, minutes, and seconds, whereas the Nikon F3 DRM recorded only the hours, minutes, and seconds. The Rolleiflex DRM recorded only the days, hours, and minutes.

¹ QX 868 has the same emulsion as Professional 5017 film, except it is coated on a thin base material to provide more frames per roll.

The date and time imaged on each photograph by the DRM are used in conjunction with orbital mechanics data recorded during the mission to compute the Orbiter nadir position in latitude and longitude, the orbit number, the altitude, and the sun elevation and azimuth for each camera exposure. The data for the Hasselblad, Linhof, and Nikon F4 are computed for each second of time; no data for the Nikon F3 could be determined because the day was not available. The data for the Rolleiflex are computed for each recorded minute of time. Since several photographs are often exposed in close sequence and show the same time to the minute, these images will have the same set of computed data. The data are described further in section 4, table 4-2, and are listed in tables 4-3 and 4-4.

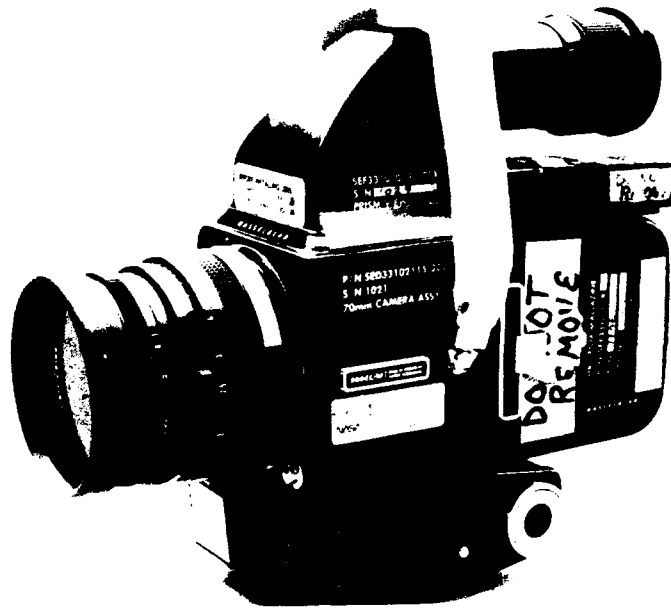


Figure 2-1.- NASA-modified Hasselblad 500 EL/M camera.

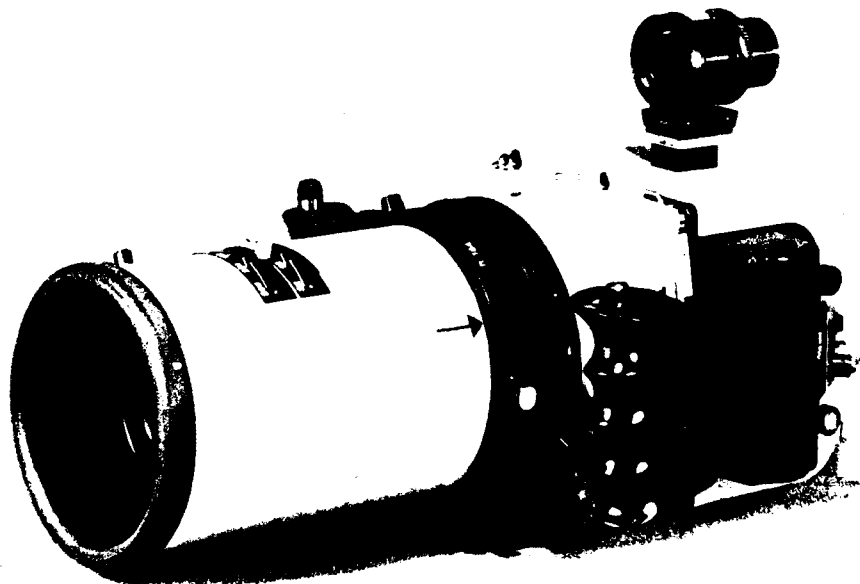


Figure 2-2.- Linhof Aero Technika camera.

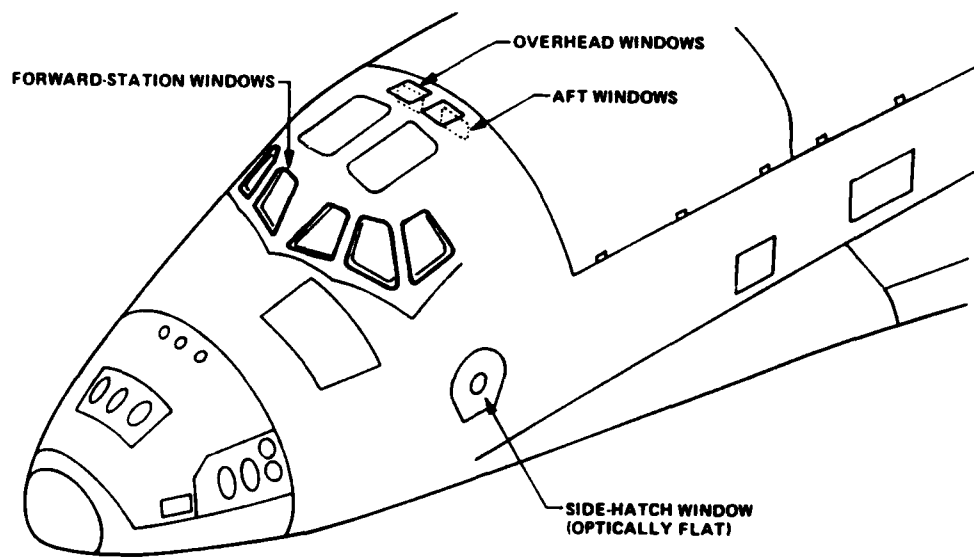


Figure 2-3.- Location of windows in the Shuttle Orbiter.

3. PHOTOGRAPHY NUMBERING, SOURCES, AND ORDERING PROCEDURES

3.1 NUMBERING OF PHOTOGRAPHY

Photographs are ordered using the mission, roll, and frame numbers as listed in section 4, tables 4-3 and 4-4. For example, STS-39-74-51 is the photo-ordering number for frame 51 of roll 74 from Mission STS-39.

3.2 PHOTOGRAPHY SOURCES AND ORDERING PROCEDURES

Earth-viewing Shuttle photography may be obtained from the following sources:

U.S. Geological Survey
EROS Data Center
Sioux Falls, SD 57198
Telephone: (605) 594-6151

Technology Applications Center
University of New Mexico
Albuquerque, NM 87131
Telephone: (505) 277-3622

Media Services Branch
Still Photography Library
NASA Lyndon B. Johnson Space Center
P.O. Box 58425, Mail Code AP3
Houston, TX 77258
Telephone: (713) 483-4231

The FSSO recommends that you visit a viewing center to select the image best satisfying your requirements before ordering a photograph. In addition to the sources listed above, table 3-1 provides a list of viewing centers. The Earth Sciences Information Center (ESIC), U.S. Geological Survey, has six branches currently equipped with Shuttle photography microfilm and catalogs. Other organizations similarly equipped are the NASA Ames Research Center, California; the Library of Congress; the University of California at Santa Barbara; the Lunar and Planetary Institute, Houston; and the Smithsonian Institution. These centers provide excellent browse/viewing capabilities helpful in ordering photographs.

TABLE 3-1.- PHOTOGRAPHY VIEWING CENTERS
[All of these centers receive microfilm and catalogs.]

NASA — NASA DATA FACILITY

Bldg. 240, Rm. 219 (M.S. 240-6)
 NASA Ames Research Center
 Moffett Field, CA 94305
 (415) 604-6252

U.S. GOVERNMENT — LIBRARY OF CONGRESS

Geography & Map Division
 Rm. B-01, Library of Congress
 Madison Memorial Bldg.
 1st and C Streets SE
 Washington, DC 20540
 (202) 707-6277

UNIVERSITY ESIC AFFILIATE

Map and Image
 Laboratory and Library
 University of California
 Santa Barbara, CA 93106
 (805) 893-2779/(805) 893-4049

LUNAR AND PLANETARY INSTITUTE

Planetary Image Center
 3303 NASA Rd. 1
 Houston, TX 77058
 (713) 486-2136

SMITHSONIAN INSTITUTION

Air and Space Museum
 Archives Division, Rm. 3100
 6th and Independence Ave., SW
 Washington, DC 20560
 (202) 357-3133

EARTH SCIENCE INFORMATION CENTERS (ESICs)

U.S. GEOLOGICAL SURVEY

Anchorage — ESIC

4230 University Dr.
 Rm. 101
 Anchorage, AK 99508-4664
 (907) 786-7011/FTS (907) 271-4320

Lakewood — ESIC

Box 25046, Federal Center (M.S. 504)
 Denver, CO 80225
 (303) 236-5829/FTS 776-5829

Menlo Park — ESIC

Bldg. 3, Rm. 3128, (M.S. 532)
 345 Middlefield Rd.
 Menlo Park, CA 94025
 (415) 329-4390/FTS 459-4390

Reston — ESIC

507 National Center
 Reston, VA 22092
 (703) 648-6045/FTS 959-6045

Rolla — ESIC

1400 Independence Rd.
 Rolla, MO 65401
 (314) 341-0851/FTS 759-0851

Stennis Space Center — ESIC

Bldg. 3101
 Stennis Space Center, MS 39529
 (601) 688-3544/FTS 494-3544

4. FILM AND CATALOG LISTINGS

A diagram illustrating time sequence per roll of film exposed during Mission STS-39 is presented in figure 4-1, and a compact photographic summary correlating roll numbers with film used during the mission is provided in table 4-1.

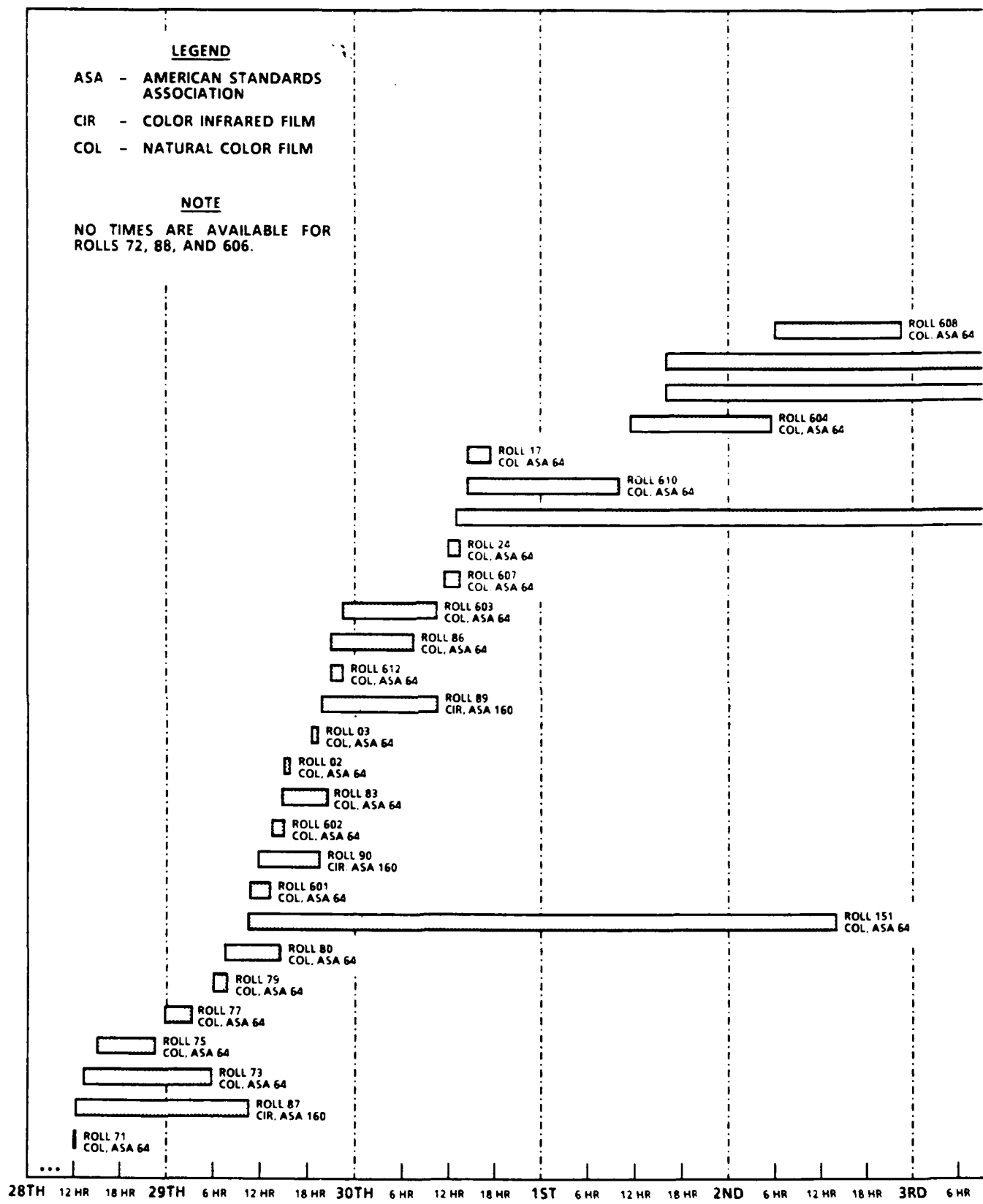
The photography is cataloged and presented in two listings, with table 4-2 providing an explanation of the column headings used in the listings in tables 4-3 and 4-4. Table 4-3 is listed by roll/frame sequence, and table 4-4 is listed by geographic name.

As depicted in figure 4-1, many of the rolls were exposed during the same time period, generally over the same subject area, often with different focal length lenses, and occasionally with different types of film. Therefore, a user can easily search table 4-3 or 4-4 either to correlate different focal length photography taken at approximately the same time over the same subject or to compare natural color with color infrared film.

**TABLE 4-1.- PHOTOGRAPHIC SUMMARY
FOR MISSION STS-39**

ROLL NUMBERS	TYPE OF FILM	COMMENTS
HASSELBLAD CAMERAS WITH DRM		
71-75, 77, 79-81, 83-86, 93-98	Kodak natural color Ektachrome Professional 5017, ASA 64, standard base	Roll 72 had no time data.
87-90	Kodak Aerochrome Color Infrared 2443, ASA 160	Roll 88 had no time data.
LINHOF CAMERA WITH DRM		
151	Kodak natural color Ektachrome QX 868 (5017 emulsion), ASA 64, thin base	
ROLLEIFLEX CAMERA WITH DRM		
601-610, 612	Kodak natural color Ektachrome Professional 5017, ASA 64, standard base	Roll 606 had no time data.
NIKON CAMERA WITH DRM		
2, 17, 24	Kodak natural color Ektachrome Professional 5017, ASA 64, standard base	Only frames with Earth observations were plotted.
22, 23, 25, 28, 332, 342, 364, 367, 377	Kodak natural color Ektapress 5030, ASA 1600, standard base	Aurora australis photography

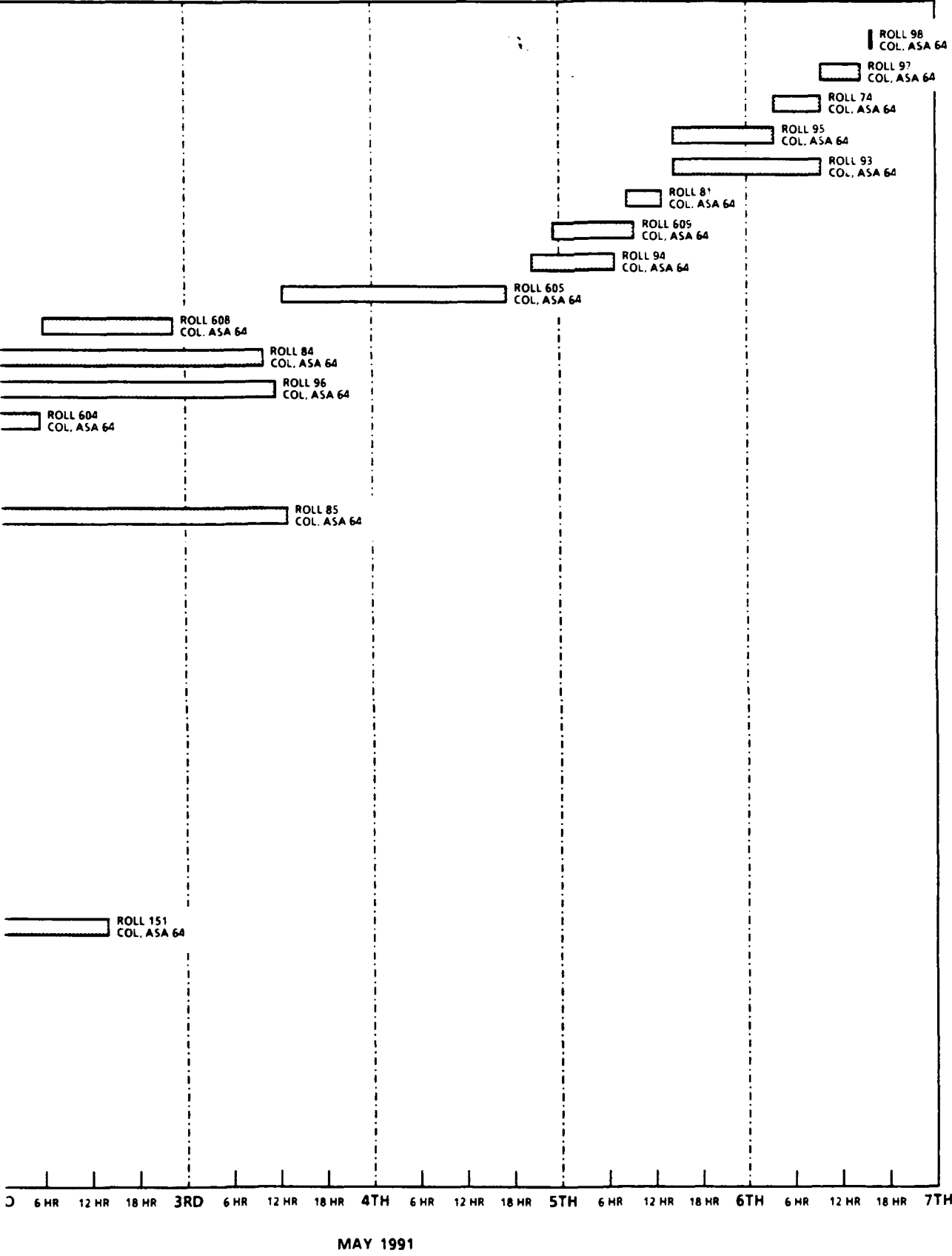
NOTE: Of the total 3628 frames of Hasselblad, Linhof, Rolleiflex, and Nikon photography acquired during Mission STS-39, 3396 frames were Earth viewing.



APRIL 1991

Figure 4-1.- Mission STS-39 time sequence

4-3 H



1 STS-39 time sequence per roll of film.

**TABLE 4-2.- EXPLANATION OF COLUMN HEADINGS USED
IN TABLES 4-3 AND 4-4**

<p>RL Number assigned to each roll of film</p> <p>FR Frame number for the photograph</p> <p>GEOGRAPHIC NAME Usually the country where the center point of the photograph is located; may also be the name of an island chain, ocean, sea, or a single island if that is the only land in the photograph</p> <p>FEATURE Feature of interest within the photograph (e.g., name of a specific landform, cloud pattern, etc.)</p> <p>CENTER LAT, LON Latitude and longitude, determined to the nearest tenth to full degree, of the center point of the photograph</p> <p>NADIR LAT, LON Coordinates, determined to the nearest tenth of a degree, of the point directly beneath the spacecraft</p> <p>CC Percentage of cloud cover</p> <p>TL Tilt of the camera from Shuttle nadir: HO - High oblique (includes the horizon) LO - Low oblique NV - Near vertical</p>	<p>FL Focal length of lens used: Hasselblad - 50 mm, 100 mm, 250 mm Linhof - 90 mm, 250 mm Rolleiflex - 50 mm, 250 mm Nikon - 20 mm, 28 mm, 35-to-70-mm zoom</p> <p>E Photographic exposure: O - Overexposed N - Normal exposure U - Underexposed F - Unsharp focus</p> <p>S Possibility of a stereopair, either adjacent frames or frames relatively near on the same roll of film: N - No Y - Yes</p> <p>DATE Year, month, and day the photograph was taken</p> <p>GMT Greenwich mean time of photographic acquisition</p> <p>AL Shuttle altitude in nautical miles</p> <p>SUN AZ At the Shuttle nadir, the horizontal angle (azimuth) measured from north clockwise to the Sun</p> <p>SUN EL Sun elevation angle at Shuttle nadir (measured from horizontal)</p> <p>OR Orbit number</p>
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TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUN
2	16	ALGERIA	TADEMAIT PLAT, GR. ERG OR.	28.5N 4.0E		10	HO	35	N	Y						
2	17	ALGERIA	TADEMAIT PLAT, MOUYDIR MT	26.0N 4.0E		5	HO	35	N	N						
2	18	ALGERIA	TASSILI MAJER, GR. ERG OR	26.5N 6.0E		10	HO	35	N	N						
2	19	ALGERIA	MOUYDIR MTNS, JET STREAM	23.0N 4.0E		40	HO	35	N	N						
2	20	OCEAN	STORMS, PROTR. CONV. CELLS			70	HO	35	N	Y						
2	21	OCEAN	STORMS, PROTR. CONV. CELLS			75	HO	35	N	Y						
2	22	OCEAN	STORMS, PROTR. CONV. CELLS			70	HO	35	N	N						
2	23	OCEAN	STORMS, PROTR. CONV. CELLS			60	HO	35	N	Y						
2	24	OCEAN	STORMS, PROTR. CONV. CELLS			60	HO	35	N	Y						
2	25	OCEAN	STORMS, SUN			70	HO	35	N	Y						
2	26	OCEAN	STORMS, SUN			70	HO	35	N	Y						
2	27	OCEAN	STORMS, SUN			70	HO	35	N	Y						
2	28	ATMOSPHERIC LIMB	SUNSET-LEFT SIDE FRAME			HO	HO	35	N	N						
2	29	ATMOSPHERIC LIMB	BRIGHT-LEFT SIDE			HO	HO	35	N	N						
2	30	ATMOSPHERIC LIMB	SUNSET-LEFT SIDE FRAME			HO	HO	35	N	N						
3	5	ATMOSPHERIC LIMB	BRIGHT-SUN AT RIGHT SIDE			HO	HO	35	O	N						
3	6	ATMOSPHERIC LIMB	BRIGHT-SUN AT RIGHT SIDE			HO	HO	35	O	N						
3	7	ATMOSPHERIC LIMB	BRIGHT-SUN AT RIGHT SIDE			HO	HO	35	O	N						
3	8	ATMOSPHERIC LIMB	SUNSET			HO	HO	35	N	N						
3	9	ATMOSPHERIC LIMB	SUNSET			HO	HO	35	N	N						
3	10	ATMOSPHERIC LIMB	FADE AT LEFT SIDE			HO	HO	35	N	N						
3	11	ATMOSPHERIC LIMB	FADE AT LEFT SIDE			HO	HO	35	N	N						
3	12	ATMOSPHERIC LIMB	FADE AT LEFT SIDE			HO	HO	35	N	N						
3	13	ATMOSPHERIC LIMB	BRIGHT-ENLARGEMENT			HO	HO	70	O	N						
3	15	PACIFIC OCEAN	LOW IN GULF OF ALASKA			85	HO	35	O	Y						
3	16	PACIFIC OCEAN	LOW IN GULF OF ALASKA			85	HO	35	O	Y						
17	1	ATMOSPHERIC LIMB	BRIGHT, MOON			HO	HO	35	O	N						
17	2	ATMOSPHERIC LIMB	BRIGHT, MOON			HO	HO	35	O	N						
17	3	ATMOSPHERIC LIMB	BRIGHT, MOON			HO	HO	35	O	N						
17	4	OCEAN	CLOUDS			95	LO	35	U	N						
17	5	OCEAN	CLOUDS, GRAVITY WAVES			95	LO	35	N	N						
17	6	CANADA-PEI	NORTHUMBERLAND STR.	46.5N 63.5W		10	LO	35	N	N						
17	7	CANADA-NS	CAPR BRETON I, G. ST LAWR.	46.0N 60.5W		15	LO	35	N	N						
17	8	OCEAN	CURRENT BOUNDARY			0	LO	35	U	N						
22	2	AURORA	AUSTRALIS			HO	HO	35	N	N						
22	6	ATMOSPHERIC LIMB	MOON			HO	HO	35	O	N						
22	7	ATMOSPHERIC LIMB	MOON			HO	HO	35	O	N						
22	8	AURORA	AUSTRALIS			HO	HO	35	O	N						
22	9	AURORA	AUSTRALIS			HO	HO	35	N	N						
22	10	AURORA	AUSTRALIS			HO	HO	35	N	N						

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
22	11	AURORA	AUSTRALIS			HO	35	N	N							
22	12	AURORA	AUSTRALIS			HO	35	N	N							
22	13	ATMOSPHERIC LIMB	MOON			HO	35	O	N							
22	14	ATMOSPHERIC LIMB	MOON			HO	35	O	N							
22	15	ATMOSPHERIC LIMB	MOON			HO	35	O	N							
22	16	ATMOSPHERIC LIMB	BRIGHT			HO	35	O	N							
22	17	AURORA	AUSTRALIS			HO	35	N	N							
22	18	AURORA	AUSTRALIS			HO	35	N	N							
22	19	AURORA	AUSTRALIS			HO	35	N	N							
22	20	AURORA	AUSTRALIS			HO	35	N	N							
22	21	AURORA	AUSTRALIS			HO	35	N	N							
22	22	AURORA	AUSTRALIS			HO	35	N	N							
22	23	AURORA	AUSTRALIS			HO	35	N	N							
22	24	AURORA	AUSTRALIS			HO	35	N	N							
22	25	AURORA	AUSTRALIS			HO	35	N	N							
22	26	AURORA	AUSTRALIS			HO	35	N	N							
22	27	AURORA	AUSTRALIS			HO	35	N	N							
22	28	AURORA	AUSTRALIS			HO	35	N	N							
22	29	AURORA	AUSTRALIS			HO	35	N	N							
22	30	AURORA	AUSTRALIS			HO	35	N	N							
22	31	AURORA	AUSTRALIS			HO	35	N	N							
22	32	AURORA	AUSTRALIS			HO	35	N	N							
22	33	AURORA	AUSTRALIS			HO	35	N	N							
22	34	AURORA	AUSTRALIS			HO	35	N	N							
22	35	ATMOSPHERIC LIMB	IONOSPHERE GLOW			HO	35	U	N							
23	4	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE			HO	35	O	N							
23	5	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE			HO	35	O	N							
23	6	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE			HO	35	O	N							
23	7	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE			HO	35	O	N							
23	8	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE			HO	35	O	N							
23	9	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE			HO	35	O	N							
23	10	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	11	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	12	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	13	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	14	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	15	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	16	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	17	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							
23	18	AURORA	AUSTRALIS-ELLIPTICAL			HO	35	N	N							

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LGN	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
23	19	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	20	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	21	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	22	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	23	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	24	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	25	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	26	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	27	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	28	AURORA	AUSTRALIS-ELLIPTICAL					HO	35	N	N							
23	29	AURORA	AUSTRALIS					HO	35	N	N							
23	30	AURORA	AUSTRALIS					HO	35	N	N							
23	31		BLACK															
23	32	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	33	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	34	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	35	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	36	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	37	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	38	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
24	1	TURKEY	EUPHRATES RIVER BASIN	37.5N	39.0E			60	LO	35	N	N						
24	2	TURKEY	EUPHRATES RIVER BASIN	37.5N	38.5E			70	LO	35	N	N						
24	3	IRAQ	AL MILH LAKE	32.5N	43.5E			50	LO	35	N	N						
24	26	SUDAN	WHITE NILE	12.0N	33.0E			50	LO	35	O	Y						
24	27	SUDAN	WHITE NILE	12.0N	32.5E			35	LO	35	O	Y						
24	28	SUDAN	WHITE NILE, VERY DARK	11.0N	33.0E			70	LO	35	U	N						
25	2	AURORA	AUSTRALIS					HO	35	N	N							
25	3	AURORA	AUSTRALIS					HO	35	N	N							
25	4	AURORA	AUSTRALIS					HO	35	N	N							
25	5	AURORA	AUSTRALIS					HO	35	N	N							
25	6	AURORA	AUSTRALIS					HO	35	N	N							
25	7	AURORA	AUSTRALIS					HO	35	N	N							
25	8	AURORA	AUSTRALIS					HO	35	N	N							
25	9	AURORA	AUSTRALIS					HO	35	N	N							
25	10	AURORA	AUSTRALIS					HO	35	N	N							
25	11	AURORA	AUSTRALIS					HO	35	N	N							
25	12	AURORA	AUSTRALIS					HO	35	N	N							
25	13	AURORA	AUSTRALIS					HO	35	N	N							
25	14	AURORA	AUSTRALIS					HO	35	N	N							
25	15	AURORA	AUSTRALIS					HO	35	N	N							

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
25	16	AURORA	AUSTRALIS					HO	35	N	N								
25	17	AURORA	AUSTRALIS					HO	35	N	N								
25	18	AURORA	AUSTRALIS					HO	35	N	N								
25	19	AURORA	AUSTRALIS					HO	35	N	N								
25	20	AURORA	AUSTRALIS-WINDOW FLARE					HO	35	N	N								
25	21	AURORA	AUSTRALIS					HO	35	N	N								
25	22	AURORA	AUSTRALIS-DARK					HO	35	U	N								
28	19	AURORA	AUSTRALIS-1/8 FRAME					HO	35	N	N								
28	20	AURORA	AUSTRALIS					HO	35	N	N								
28	21	AURORA	AUSTRALIS					HO	35	N	N								
28	22	AURORA	AUSTRALIS-SM.GREEN PROM.					HO	35	N	N								
28	23	AURORA	AUSTRALIS-SM.GREEN PROM.					HO	35	N	N								
28	24	AURORA	AUSTRALIS-SM.GREEN PROM.					HO	35	N	N								
28	25	AURORA	AUSTRALIS-GREEN/RED CRWN					HO	35	N	N								
28	26	AURORA	AUSTRALIS-GREEN/RED CRWN					HO	35	N	N								
28	27	AURORA	AUSTRALIS-3-GREEN CROWN					HO	35	N	N								
28	28	AURORA	AUSTRALIS-GREEN CROWN					HO	35	N	N								
28	29	ATMOSPHERIC LIMB	IONOSPHERIC G.O.W					HO	35	N	N								
28	30	AURORA	AUSTRALIS					HO	35	N	N								
28	31	AURORA	AUSTRALIS					HO	35	N	N								
28	32	AURORA	AUSTRALIS					HO	35	N	N								
28	33	AURORA	AUSTRALIS					HO	35	N	N								
28	34	AURORA	AUSTRALIS					HO	35	N	N								
28	35	AURORA	AUSTRALIS					HO	35	N	N								
28	36	AURORA	AUSTRALIS					HO	35	N	N								
71	0	A BRITAIN	SCOTLAND-MORY FIRTH	58.0N	4.0W	57.2N	8.3W	15	LO	250	N	Y	19910428	115256	108	167	47	2	
71	1	BRITAIN	SCOTLAND-MORY FIRTH	57.5N	4.0W	57.0N	3.4W	10	NV	250	N	Y	19910428	115312	109	169	47	2	
71	2	BRITAIN	SCOTLAND-NW PART-PETERHE	57.5N	2.0W	56.8N	4.5W	55	LO	250	N	N	19910428	115328	110	172	47	2	
71	3	BRITAIN	SCOTLAND-ARBROATH-FUNDEE	56.5N	2.5W	56.7N	4.3W	45	LO	250	N	N	19910428	115336	111	173	47	2	
71	4	GERMANY	BALTIC SEA-N OF HAMBURG	54.5N	10.5E	54.3N	10.7E	65	NV	250	N	N	19910428	115543	118	195	49	2	
71	5	DENMARK	FALSTER-HAZY	55.0N	12.0E	54.1N	11.5E	15	NV	250	N	N	19910428	115551	118	196	49	2	
71	6	GERMANY	STRALSUND	54.5N	13.0E	53.8N	12.7E	45	NV	250	N	N	19910428	115602	119	198	49	2	
71	7	POLAND	CLOUDS-AGR-EXTERNAL TANK		53.0N	15.5E		90	LO	250	N	N	19910428	115630	120	202	49	2	
71	8	POLAND	CLOUDS-AGR-EXTERNAL TANK		52.8N	16.3E		90	LO	250	N	N	19910428	115638	120	203	49	2	
71	9	POLAND	CLOUDS-EXTERNAL TANK		52.7N	16.5E		70	LO	250	N	Y	19910428	115640	121	204	49	2	
71	10	POLAND	CLOUDS-EXTERNAL TANK		52.7N	16.7E		70	LO	250	N	Y	19910428	115642	121	204	49	2	
71	11	POLAND	CLOUDS-EXTERNAL TANK		52.6N	16.9E		60	LO	250	N	Y	19910428	115645	121	204	49	2	
71	12	POLAND	CLOUDS-EXTERNAL TANK		52.2N	18.1E		50	LO	250	N	Y	19910428	115658	121	206	49	2	
71	13	POLAND	CLOUDS-EXTERNAL TANK		52.0N	18.7E		55	LO	250	N	Y	19910428	115704	122	207	49	2	
71	14	POLAND	CLOUDS-EXTERNAL TANK		51.5N	19.8E		75	LO	250	N	Y	19910428	115717	122	209	49	2	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	T _L	FL	E	S	DATE	GMT	AL	AZ	EL	OR	
				LAT	LOW	LAT	LOW												
71	15	POLAND	CLOUDS-EXTERNAL TANK	51.3N	20.5E	80	LO	250	N	Y	19910428	115724	123	210	49	2			
71	16	POLAND	CLOUDS-EXTERNAL TANK	50.5N	22.4E	95	LO	250	N	Y	19910428	115746	124	214	49	2			
71	17	CLOUDS	CLOUDS-EXTERNAL TANK	49.8N	24.1E	80	HO	250	N	N	19910428	115807	125	217	49	2			
71	18	CLOUDS	CLOUDS-EXTERNAL TANK	47.9N	28.1E	100	LO	250	N	N	19910428	115857	127	224	48	2			
71	19	CLOUDS	CUMULUS-CIRRUS	46.5N	30.6E	95	HO	250	N	N	19910428	115931	128	228	48	2			
71	20	CLOUDS	CUMULUS-CIRRUS	46.2N	31.1E	95	LO	250	N	N	19910428	115937	128	229	48	2			
71	21	BLACK SEA	CLOUDS	46.0N	31.5E	85	LO	250	N	N	19910428	115943	128	230	48	2			
71	22	USSR-EUROPEAN	SIMFEROPOL-BLACK SEA	45.0N	34.0E	43.3N	35.7E	5	LO	250	N	Y	19910428	120045	131	237	47	2	
71	23	USSR-EUROPEAN	SIVASH LAKE-SEA OF AZOV	45.5N	34.5E	43.2N	35.8E	20	LO	250	N	Y	19910428	120047	131	238	47	2	
71	24	USSR-EUROPEAN	SEVASTOPOL-BLACK SEA	44.5N	34.0E	43.1N	36.0E	0	LO	250	N	N	19910428	120050	131	238	47	2	
71	25	USSR-EUROPEAN	LAKE SIVASH-KIROVSKOYE	45.0N	35.0E	42.8N	36.3E	40	LO	250	N	Y	19910428	120055	131	239	47	2	
71	26	USSR-EUROPEAN	CRIMEAN PEN.-BLACK SEA	45.0N	35.5E	42.4N	36.9E	50	LO	250	N	Y	19910428	120105	131	240	47	2	
71	27	TURKEY	VALLEYS, RIVERS, HAZE	41.1N	38.7E	10	LO	250	N	N	19910428	120133	132	243	46	2			
71	28	TURKEY	HARSIL RIVER, MOUNTAIN	40.0N	39.5E	40.0N	40.1E	35	NV	250	N	Y	19910428	120157	133	245	45	2	
71	29	TURKEY	DOGU KARADENIZ MNTS.-CST	41.0N	39.5E	39.7N	40.3E	5	LO	250	N	Y	19910428	120202	133	246	45	2	
71	30	TURKEY	DOGU KARADENIZ MNTS.-CST	41.0N	41.0E	39.3N	40.9E	0	LO	250	N	N	19910428	120211	133	247	45	2	
71	31	TURKEY	BATUMI-SED. PLUME	41.5N	41.5E	38.9N	41.3E	5	LO	250	N	N	19910428	120219	133	248	45	2	
71	32	TURKEY	LAKE, MNTS. NE OF L. VAN	39.0N	42.0E	37.8N	42.6E	20	LO	250	N	Y	19910428	120242	134	250	44	2	
71	33	TURKEY	CALDERA, TATVAN, L. VAN	38.5N	42.0E	37.3N	43.0E	0	LO	250	N	Y	19910428	120251	134	251	44	2	
71	34	IRAQ	TIGRIS R.-RESERVOIR	37.0N	42.5E	36.9N	43.6E	10	NV	250	N	Y	19910428	120301	134	252	44	2	
71	35	IRAQ	TIGRIS R.-RESERVOIR	37.0N	42.5E	36.7N	43.7E	10	LO	250	N	Y	19910428	120304	135	252	44	2	
71	36	IRAQ	TIGRIS R.-RESERVOIR	36.5N	43.0E	36.6N	43.8E	10	NV	250	N	Y	19910428	120306	135	252	44	2	
71	37	IRAQ	TIGRIS R.-RESERVOIR	37.0N	43.0E	36.4N	44.1E	5	LO	250	N	Y	19910428	120311	135	253	43	2	
71	38	IRAQ	TIGRIS R.-RESERVOIR	36.5N	42.5E	36.2N	44.3E	10	LO	250	N	Y	19910428	120315	135	253	43	2	
71	39	IRAQ	TALL'AFAR-TIGRIS RIVER	36.5N	42.5E	36.1N	44.4E	10	LO	250	N	Y	19910428	120317	135	253	43	2	
71	40	IRAQ	TALL'AFAR	36.5N	42.5E	36.0N	44.5E	5	LO	250	N	Y	19910428	120319	135	253	43	2	
71	41	IRAQ	MOSEL-TIGRIS RIVER	36.5N	43.0E	35.8N	44.7E	5	LO	250	N	Y	19910428	120322	135	254	43	2	
71	42	IRAQ	MOSEL-TIGRIS RIVER/RES.	36.5N	43.0E	35.7N	44.8E	5	LO	250	N	Y	19910428	120325	135	254	43	2	
71	43	IRAQ	MOSEL-TIGRIS RIVER	36.0N	43.0E	35.4N	45.1E	5	LO	250	N	Y	19910428	120330	135	254	43	2	
71	44	IRAQ	TIGRIS R.-LITTLE ZAB R.	36.0N	43.5E	35.3N	45.2E	0	LO	250	N	Y	19910428	120332	135	255	43	2	
71	45	IRAQ	LITTLE ZAB R.	36.0N	44.0E	35.1N	45.4E	0	LO	250	N	Y	19910428	120336	135	255	43	2	
71	46	IRAQ	KIRKUK-LITTLE ZAB R.	35.5N	44.0E	35.0N	45.5E	0	LO	250	N	Y	19910428	120338	135	255	43	2	
71	47	IRAQ	SHARI DRY LAKE-RIDGE LNS	34.5N	44.5E	34.4N	46.1E	0	LO	250	N	Y	19910428	120350	136	256	42	2	
71	48	IRAQ	AL SHARA AIR BASE-TIGRIS	34.5N	43.5E	34.2N	46.3E	0	LO	250	N	Y	19910428	120355	136	257	42	2	
71	49	IRAQ	AS SA'DIYAH-LAKE	34.0N	45.0E	33.7N	46.9E	0	LO	250	N	N	19910428	120405	136	257	42	2	
71	50	IRAQ	TIGRIS R.-SE OF BAGHDAD	33.0N	45.0E	33.0N	47.4E	0	LO	250	N	Y	19910428	120417	136	258	41	2	
71	51	IRAQ	TIGRIS R.-BAGHDAD	33.0N	44.5E	32.9N	47.4E	0	LO	250	N	Y	19910428	120419	136	258	41	2	
71	52	IRAQ	TIGRIS R.-SALT PANS	32.5N	45.5E	32.8N	47.5E	60	LO	250	N	Y	19910428	120421	136	259	41	2	
71	53	IRAQ	TIGRIS R.-SALT PANS	32.5N	45.0E	32.5N	47.8E	20	LO	250	N	Y	19910428	120427	136	259	41	2	
71	54	IRAQ	DOVEYRIL STREAM	32.0N	47.5E	31.8N	48.5E	65	NV	250	N	N	19910428	120441	136	260	41	2	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
71	55	IRAN	AHVAZ-KARUN RIVER	31.5N 48.5E 31.0N	49.2E	60	NV	250	N	Y	19910428	120456	137	261	40	2
71	56	IRAN	NEAR AHVAZ-KARKHEH R.	31.5N 48.5E 30.9N	49.2E	70	NV	250	N	Y	19910428	120458	137	262	40	2
71	57	IRAN	NW OF AHVAZ-KARUN RIVER	31.5N 49.0E 30.5N	49.6E	80	NV	250	N	Y	19910428	120506	137	262	40	2
71	58	IRAN	OIL IN WATER,COAST-PER G	30.5N 49.5E 30.2N	49.9E	0	NV	250	N	Y	19910428	120513	137	263	39	2
71	59	IRAN	OIL IN WATER,COAST-PER G	30.0N 49.5E 30.0N	50.0E	0	NV	250	N	Y	19910428	120516	137	263	39	2
71	60	IRAN	ZOHREH STREAM-PERSIAN G	30.5N 50.0E 29.9N	50.1E	5	NV	250	N	Y	19910428	120518	137	263	39	2
71	61	KUWAIT	BURNING OIL FIELD-CLOUDS	30.0N 48.0E 29.4N	50.5E	95	LO	250	N	Y	19910428	120527	137	264	39	2
71	62	KUWAIT	BURNING OIL FIELD-CLOUDS	30.0N 48.0E 29.3N	50.7E	95	LO	250	N	Y	19910428	120530	137	264	39	2
71	63	KUWAIT	BURNING OIL FIELD-SMOKE	29.0N 48.0E 29.0N	50.9E	20	LO	250	N	Y	19910428	120536	137	264	39	2
71	64	KUWAIT	BURNING OIL FIELD-SMOKE	29.0N 48.0E 28.7N	51.1E	25	LO	250	N	Y	19910428	120541	137	265	38	2
71	65	KUWAIT	BURNING OIL FIELD-SMOKE	29.0N 48.0E 28.6N	51.2E	25	LO	250	N	Y	19910428	120543	137	265	38	2
71	66	PERSIAN GULF	OIL FIELD SMOKE-ENTIRE F	28.3N 51.4E	100	LO	250	N	N	19910428	120548	137	265	38	2	
71	67	PERSIAN GULF	OIL FIELD SMOKE-ENTIRE F	27.3N 52.3E	100	LO	250	N	N	19910428	120608	138	266	37	2	
71	68	PERSIAN GULF	SMOKE-LAND VIS.-FUZZY	27.2N 52.4E	90	LO	250	N	N	19910428	120610	138	266	37	2	
71	69	SAUDI ARABIA	PERSIAN G.-ALJUBAL-SMOKE	27.5N 50.0E 27.1N	52.4E	0	LO	250	N	N	19910428	120612	138	267	37	2
71	70	SAUDI ARABIA	KUWAIT SMOKE-CLOUDS	26.9N 52.6E	60	LO	250	N	N	19910428	120615	138	267	37	2	
71	71	PERSIAN GULF	IRANIAN CST-BUSHEHER	28.5N 51.0E 26.8N	52.6E	5	LO	250	N	N	19910428	120617	138	267	37	2
71	72	PERSIAN GULF	KUWAIT SMOKE-ENTIRE FRAM	26.7N 52.7E	100	LO	250	N	N	19910428	120619	138	267	37	2	
71	73	SAUDI ARABIA	PG CST-SMOKE-RAHIMAH	27.0N 50.0E 26.6N	52.8E	0	LO	250	N	Y	19910428	120621	138	267	37	2
71	74	SAUDI ARABIA	PG CST-SMOKE-AR RIYAS	27.0N 50.0E 26.3N	53.0E	0	LO	250	N	Y	19910428	120626	138	267	37	2
71	75	SAUDI ARABIA	PERSIAN G. CST-SMOKE	27.0N 49.5E 26.1N	53.2E	0	LO	250	N	Y	19910428	120630	138	268	37	2
71	76	BAHRAIN	KUWAIT SMOKE	26.0N 50.5E 26.0N	53.3E	0	LO	250	N	N	19910428	120632	138	268	36	2
71	77	PERSIAN GULF	QATAR-KUWAIT SMOKE	26.5N 51.5E 25.9N	53.3E	0	LO	250	N	N	19910428	120634	138	268	36	2
71	78	PERSIAN GULF	SAUDI COAST-KUWAIT SMOKE	25.7N 53.5E	15	LO	250	N	N	19910428	120638	138	268	36	2	
71	79	SAUDI ARABIA	SAUDI COAST-KUWAIT SMOKE	26.5N 50.0E 25.5N	53.6E	0	LO	250	N	N	19910428	120641	138	268	36	2
71	80	QATAR	COAST-DOHA	25.5N 51.5E 25.4N	53.7E	0	LO	250	N	Y	19910428	120644	138	269	36	2
71	81	PERSIAN GULF	QATAR COAST	26.0N 52.0E 25.3N	53.8E	0	LO	250	N	Y	19910428	120646	138	269	36	2
71	82	PERSIAN GULF	KUWAIT SMOKE, LAND	25.1N 53.9E	55	LO	250	N	N	19910428	120649	138	269	36	2	
71	83	PERSIAN GULF	NORTH COAST QATAR	26.0N 52.0E 25.0N	54.0E	0	LO	250	N	N	19910428	120651	138	269	36	2
71	84	PERSIAN GULF	INT WAVES-SMOKE-DAYYINAH	25.0N 52.5E 24.6N	54.3E	5	LO	250	N	Y	19910428	120659	138	269	35	2
71	85	UNITED ARAB EMIRATES	STR BANI YAS-PERSIAN G.	24.0N 52.5E 24.3N	54.5E	5	LO	250	N	Y	19910428	120704	138	270	35	2
71	86	UNITED ARAB EMIRATES	AL FIYYA,MARAWIH,OIL CST	24.5N 53.0E 24.1N	54.7E	10	LO	250	N	Y	19910428	120707	138	270	35	2
71	87	UNITED ARAB EMIRATES	AL JIRAB-OIL ON COAST	24.0N 53.5E 24.0N	54.7E	0	LO	250	N	Y	19910428	120709	138	270	35	2
71	88	UNITED ARAB EMIRATES	AL JIRAB-OIL ON COAST	24.0N 54.0E 23.9N	54.8E	0	NV	250	N	Y	19910428	120711	138	270	35	2
71	89	UNITED ARAB EMIRATES	COAST-AL JIRAB	24.5N 54.0E 23.7N	55.0E	0	LO	250	N	Y	19910428	120716	138	270	35	2
71	90	UNITED ARAB EMIRATES	COAST-ABU ZABY	24.5N 54.0E 23.6N	55.1E	5	NV	250	N	Y	19910428	120718	138	270	35	2
71	91	UNITED ARAB EMIRATES	COAST-PERSIAN GULF	25.0N 54.5E 23.5N	55.1E	5	LO	250	N	Y	19910428	120719	138	271	35	2
71	92	UNITED ARAB EMIRATES	DUBAY	25.5N 55.0E 23.3N	55.2E	5	LO	250	N	Y	19910428	120722	138	271	34	2
71	93	UNITED ARAB EMIRATES	ASH SHARIQAH, DUBAY	25.0N 55.5E 23.2N	55.3E	15	LO	250	N	Y	19910428	120724	138	271	34	2
71	94	UNITED ARAB EMIRATES	ABU ZABY	24.0N 54.5E 23.1N	55.4E	10	NV	250	N	N	19910428	120727	138	271	34	2

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LO	LAT	LO												
71	95	UNITED ARAB EMIRATES	DUNES-SALT PANS-ROADS	23.0N	53.5E	22.7N	55.7E	0	L0	250	N	Y	19910428	120733	138	271	34	2	
71	96	UNITED ARAB EMIRATES	DUNES-SALT PANS-K. SMOKE	23.0N	53.0E	22.6N	55.8E	0	L0	250	N	Y	19910428	120736	138	271	34	2	
72	1		LAKES, AGRICULTURE					60	L0	100	N	N							
72	2		LAKES, AGRICULTURE					50	L0	100	N	N							
72	3		LAKES, AGRICULTURE					70	L0	100	N	N							
72	4		OCEAN, CLOUDS					40	L0	100	N	N							
72	5		OCEAN, CLOUDS					25	L0	100	N	N							
72	6		OCEAN, CLOUDS					45	L0	100	N	N							
72	7		OCEAN, CLOUDS					45	L0	100	N	N							
72	8		OCEAN, CLOUDS					75	L0	100	N	N							
72	9		OCEAN, CLOUDS					15	L0	100	N	N							
72	10		OCEAN, CLOUDS					15	L0	100	N	N							
72	11		OCEAN, CLOUDS					15	L0	100	N	N							
72	12		OCEAN, CLOUDS					55	L0	100	N	N							
72	13		OCEAN, CLOUDS					55	L0	100	N	N							
72	14		OCEAN, CLOUDS					55	L0	100	N	N							
72	15		OCEAN, CLOUDS					65	L0	100	N	N							
72	16	BRAZIL	JAGUARIBE RIVER MOUTH	4.5S	37.5W			10	L0	250	N	N							
72	17	BRAZIL	COAST S. OF ARACATI	4.5S	37.5W			10	L0	250	N	Y							
72	18	BRAZIL	COAST NEAR AREIA BRANCA	5.0S	37.0W			25	L0	250	N	Y							
72	19	BRAZIL	COAST NEAR AREIA BRANCA	5.0S	37.0W			60	L0	250	N	Y							
72	20	BRAZIL	JAGUARIBE RIVER MOUTH	4.5S	38.0W			45	L0	250	N	N							
72	21	BRAZIL	JAGUARIBE RIVER MOUTH	4.5S	38.0W			55	L0	250	N	N							
72	22		OCEAN, CLOUDS					35	H0	250	O	N							
72	23		OCEAN, CLOUDS					40	L0	250	O	N							
72	24		OCEAN, CLOUDS					40	L0	250	O	N							
72	25		OCEAN, CLOUDS					35	L0	250	O	N							
72	26		OCEAN, CLOUDS					15	L0	250	O	N							
72	27		OCEAN, CLOUDS					25	L0	250	O	N							
72	28		OCEAN, CLOUDS					35	L0	250	O	N							
72	29		OCEAN, CLOUDS					30	L0	250	O	N							
72	30		OCEAN, CLOUDS					30	L0	250	O	N							
72	31		OCEAN, CLOUDS					50	L0	250	O	N							
72	32	USSR-PACIFIC	SEA OF OKHOTSK, CL. WAKE					85	L0	250	N	N							
72	33	USSR-PACIFIC	ZAVYAL IS., TAIYSK GULF	59.0N	151.5E			50	L0	250	N	N							
72	34	USSR-PACIFIC	TAYGONOS PEN., PENZHINSK	60.5N	160.0E			35	L0	250	N	N							
72	35	USSR-EUROPEAN	VOLGA R. N. OF MOSCOW	57.0N	38.0E			15	L0	250	N	N							
72	36	USSR-EUROPEAN	VOLGA R., YAROSLAVL	57.5N	40.5E			5	L0	250	N	N							
72	37	USSR-EUROPEAN	VOLGA R., GORKIY RES.	56.5N	43.5E			30	L0	250	N	N							
72	38	USSR-EUROPEAN	VOLGA R., ZELENODOLSK	56.0N	49.0E			0	NV	250	N	N							

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
72	39	USSR-EUROPEAN	VOLGA R., KUYBYSHEV RES.	55.0N 49.0E		0	LO	250	N	N						
72	40	USSR-MIDDLE	LAKE BALKHASH	46.5N 75.5E												
72	41	USSR-MIDDLE	TIEN SHAN			45	LO	250	N	N						
72	42	VIETNAM	MEKONG RIVER DELTA	10.0N 106.0E		45	LO	250	U	N						
72	43	AUSTRALIA-WA	GREY SANDY D., L. AULD	22.5S 124.5E		0	LO	250	N	N						
72	44	AUSTRALIA-WA	GREY SANDY DESERT	20.5S 123.0E		5	HO	250	N	N						
72	45	AUSTRALIA-WA	GREY SANDY D., L. AULD	22.5S 123.5E		5	LO	250	N	N						
72	46	AUSTRALIA-NT	MACDONNELL RANGES	24.0S 133.0E		5	LO	250	N	N						
72	47	AUSTRALIA-NT	MACDONNELL RANGES	24.0S 133.5E		5	LO	250	N	N						
72	48	IRAQ	EUPHRATES RIVER BASIN	31.5N 46.0E		0	LO	250	N	N						
72	49	IRAQ	EUPHRATES RIVER BASIN	31.0N 46.0E		0	LO	250	N	Y						
72	50	IRAQ	EUPHRATES RIVER BASIN	31.0N 47.0E		0	LO	250	N	Y						
72	51	IRAQ	EUPHRATES/TIGRIS RIVERS	30.5N 47.5E		0	LO	250	N	Y						
72	52	IRAQ	EUPHRATES R., BASRA	30.5N 48.0E		0	LO	250	N	Y						
72	53	KUWAIT	OIL WELL FIRES/PLUMES	30.0N 48.0E		0	LO	250	N	Y						
72	54	IRAN	TIGRIS DELTA, AGRICULT.	30.5N 48.5E		0	LO	250	N	Y						
72	55	IRAN	TIGRIS R. BASIN	31.0N 48.5E		0	LO	250	N	Y						
72	56	IRAN	TIGRIS R. BASIN	31.5N 48.5E		0	LO	250	N	Y						
72	57	IRAN	TIGRIS R. BASIN	31.5N 48.0E		0	LO	250	N	Y						
72	58	IRAN	TIGRIS R. BASIN	32.0N 48.0E		0	LO	250	N	Y						
72	59	KUWAIT	OIL WELL FIRES/PLUMES	29.5N 48.0E		0	LO	250	N	N						
72	60	KUWAIT	OIL WELL FIRES/PLUMES	29.5N 48.0E		0	LO	250	N	Y						
72	61	KUWAIT	OIL WELL FIRES/PLUMES	28.0N 48.0E		0	LO	250	N	Y						
72	62	KUWAIT	OIL WELL FIRES/PLUMES	29.5N 48.0E		0	NV	250	N	N						
72	63	PERSIAN GULF	OIL WELL FIRES/PLUMES	29.5N 48.5E		0	NV	250	N	Y						
72	64	PERSIAN GULF	OIL WELL FIRE PLUMES	29.0N 48.5E		0	NV	250	N	Y						
72	65	PERSIAN GULF	OIL WELL FIRE PLUMES	28.5N 49.5E		0	LO	250	N	N						
72	66	PERSIAN GULF	OIL WELL FIRE PLUMES	28.0N 50.0E		5	LO	250	N	N						
72	67	PERSIAN GULF	OIL WELL FIRE PLUMES	27.5N 50.5E		15	LO	250	N	N						
72	68	PERSIAN GULF	OIL WELL FIRE PLUMES	27.0N 51.0E		30	LO	250	N	N						
72	69	SAUDI ARABIA	AB JABAYL, SMOKE PLUMES	27.0N 49.5E		5	LO	250	N	N						
72	70	USA-NJ	NEWARK, NEW YORK CITY	40.5N 74.0W		0	NV	250	N	N						
72	71	USA-CT	LONG IS., NEW LONDON	41.5N 72.0W		0	NV	250	N	N						
72	72	USA	CLOUDS OVER WEST. U. S.			90	HO	250	N	N						
72	73	USA	OBL. VIEW SW WHITE SANDS			70	HO	250	N	N						
72	74	USA-TX	PALO DURO CANYON	34.0N 101.0W		60	HO	250	N	N						
72	75	USA	OK./TX. HIGH PLAINS			75	HO	250	N	N						
72	76	USA-MM	SACRAMENTO MTS. W. SANDS	33.0N 105.0W		40	HO	250	N	N						
72	77	USA-FL	KSC, ORLANDO, TAMPA	28.5N 81.0W		25	HO	250	N	N						
72	78	USA-FL	KSC, ORLANDO, TAMPA	28.0N 81.0W		30	HO	250	N	N						

TABLE 4-3- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUN	
72	79	USA-FL	KSC, ORLANDO, TAMPA	28.0N 81.0W		30	HO	250	N	N							
72	80	USA-FL	KSC, ORLANDO, TAMPA	27.5N 81.5W		25	HO	250	N	N							
72	81	USA-FL	TAMPA, L. OKEECHOBIE	27.0N 80.5W		30	HO	250	N	N							
72	82	USA-FL	KEY WEST, EVERGLADES	25.0N 80.5W		20	HO	250	N	N							
72	83	BAHAMAS	ANDROS ISLAND	24.5N 77.0W		20	HO	250	N	N							
72	84	BAHAMAS	N. PROVIDENCE CHANNEL	25.5N 77.0W		15	HO	250	N	N							
72	85	BAHAMAS	ANDROS ISLAND, EXUMA S.	23.5N 77.0W		20	HO	250	N	N							
72	86	CUBA	CAMARREOS ARCHIPELAGO	21.5N 81.0W		25	LO	250	N	N							
72	87	CUBA	CIENFUEGOS	21.5N 80.5W		35	LO	250	N	N							
72	88	CUBA	VIEW EAST OF ISLAND	22.0N 79.0W		35	HO	250	N	N							
72	89	CUBA	VIEW EAST OF ISLAND	21.0N 76.0W		35	HO	250	N	N							
72	90	BAHAMAS	TONGUE OF THE OCEAN	23.5N 76.0W		25	HO	250	N	N							
72	91	HAITI	VIEW E. OF HISPANIOLA	19.0N 72.0W		45	HO	250	N	N							
72	92	DOMINICAN REPUBLIC	VIEW E. OF HISPANIOLA	18.0N 71.0W		45	HO	250	N	N							
72	93	VENEZUELA	GULF OF VENEZUELA	10.5N 70.0W		70	HO	250	N	N							
72	94	VENEZUELA	GULF OF VENEZUELA	11.0N 70.0W		65	HO	250	N	N							
72	95	BRAZIL	T/S OVER AMAZON BASIN			85	HO	250	N	N							
72	96	BRAZIL	T/S OVER AMAZON BASIN			75	HO	250	N	N							
72	97	USSR-PACIFIC	KAMCHATKA PENINSULA	52.0N 159.0E		50	LO	250	O	N							
72	98	USSR-PACIFIC	KAMCHATKA PENINSULA	53.0N 160.0E		50	LO	250	O	N							
72	99	USSR-PACIFIC	KAMCHATKA, PETROPVLOVSK	53.0N 159.0E		0	NV	250	N	N							
72	100	USSR-PACIFIC	KAMCHATKA, PETROPVLOVSK	53.0N 159.0E		0	LO	250	N	N							
72	101	USSR-PACIFIC	KAMCHATKA, PETROPVLOVSK	53.5N 158.5E		5	LO	250	N	N							
72	102	USSR-PACIFIC	KAMCHATKA PENINSULA	52.0N 157.5E		60	HO	250	N	N							
72	103	USA-OR	CASCADES, CRATER LAKE	43.0N 122.0W		10	LO	250	N	N							
72	104	USA-OR	CASCADES, CRATER LAKE	43.0N 122.0W		15	LO	250	N	Y							
72	105	USA-CA	KLAMATH RIVER MOUTH	41.5N 121.5W		35	LO	250	N	N							
73	0	A	COFFEYVILLE, VERDIGRIS R	37.0N 95.5W	36.4N	96.0W	0	NV	250	N	Y	19910428	131029	143	85	18	3
73	1	USA-KS	COFFEYVILLE, KS-OK BORDER	37.0N 95.5W	36.8N	95.6W	0	NV	250	N	Y	19910428	131033	143	85	18	3
73	2	USA-KS	PARSONS, NEAR KS-OK BOR.	37.5N 95.0W	36.9N	95.4W	5	NV	250	N	Y	19910428	131035	143	86	18	3
73	3	USA-KS	PARSONS	37.5N 95.0W	37.0N	95.3W	10	NV	250	N	Y	19910428	131037	143	86	18	3
73	4	USA-KS	PITTSBURG-GIRARD	37.5N 95.0W	37.3N	95.0W	25	NV	250	N	Y	19910428	131043	143	86	18	3
73	5	USA-KS	PORT SCOTT-PITTSBURG	37.5N 94.5W	37.4N	94.9W	25	NV	250	N	Y	19910428	131045	143	86	19	3
73	6	USA-MO	PORT SCOTT-NEVADA	38.0N 94.5W	37.7N	94.7W	15	NV	250	N	Y	19910428	131050	143	86	19	3
73	7	USA-MO	RICH HILL-BUTLER	38.0N 94.0W	37.9N	94.4W	20	NV	250	N	Y	19910428	131054	143	86	19	3
73	8	USA-MO	APPLETON-BUTLER	38.0N 94.0W	38.0N	94.3W	40	NV	250	N	Y	19910428	131057	143	87	19	3
73	9	USA-MO	NEAR WARRENSBURG-CLOUDS	38.5N 94.0W	38.2N	94.0W	75	NV	250	N	Y	19910428	131102	143	87	19	3
73	10	USA-MO	WARRENSBURG-WHITEMAN AFB	38.5N 93.5W	38.4N	93.8W	60	NV	250	N	Y	19910428	131105	143	87	20	3
73	11	USA-MO	WHITEMAN AFB-CLOUDS	39.0N 93.5W	38.6N	93.6W	55	NV	250	N	Y	19910428	131109	143	87	20	3
73	12	USA-MO	MARSHALL-CLOUDS	39.0N 93.0W	38.7N	93.4W	50	NV	250	N	Y	19910428	131112	143	87	20	3

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	SUN			
				LAT	LONG	LAT	LONG								AZ	EL	OR	
73	13	USA-MO	MACON-CLOUDS-HAZE	39.5N	92.5W	39.4N	92.7W	50	NV	250	N	Y	19910428	131125	144	88	20	3
73	14	USA-MO	MACON-POWER-HAZE-CLOUDS	39.5N	92.5W	39.4N	92.6W	80	NV	250	N	Y	19910428	131127	144	88	21	3
73	15	USA-MO	NEAR FOWER-CLOUDS-HAZE	40.0N	92.0W	39.6N	92.4W	90	NV	250	N	Y	19910428	131130	144	88	21	3
73	16	USA-MO	NEAR FOWER-CLOUDS-HAZE	40.0N	92.0W	39.7N	92.3W	95	LO	250	N	Y	19910428	131132	144	89	21	3
73	17	USA-MO	NEAR MO-IL BORDER-HAZE	40.0N	92.0W	39.8N	92.2W	95	LO	250	N	Y	19910428	131135	144	89	21	3
73	18	USA-MO	DES MOINES R., MISS. R.	40.5N	92.0W	39.9N	92.0W	95	LO	250	N	Y	19910428	131137	144	89	21	3
73	19	USA-MO	MISS. R.-KEOKUK-VERY HZY	40.5N	91.5W	40.2N	91.7W	95	NV	250	N	Y	19910428	131142	144	89	21	3
73	20	USA-IA	MISS. R.-FT. MADISON	40.5N	91.5W	40.3N	91.6W	95	NV	250	N	Y	19910428	131145	144	89	21	3
73	21	USA-IA	FT. MADISON-BURLINTON	40.5N	91.0W	40.4N	91.5W	95	NV	250	N	Y	19910428	131147	144	89	22	3
73	22	USA-IA	NEAR BURLINTON-MISS. R.	41.0N	91.0W	40.6N	91.2W	95	NV	250	N	Y	19910428	131151	144	90	22	3
73	23	USA-WI	MILWAUKEE-VERY HAZY	43.0N	88.0W	42.6N	88.6W	90	NV	250	N	Y	19910428	131234	144	92	24	3
73	24	USA-WI	MILWAUKEE-VERY HAZY	43.0N	88.0W	42.7N	88.5W	90	NV	250	N	Y	19910428	131236	144	93	24	3
73	25	USA-WI	MILWAUKEE-VERY HAZY	43.0N	88.0W	42.8N	88.3W	90	NV	250	N	Y	19910428	131239	144	93	24	3
73	26	USA-WI	L. MICHIGAN-MILWAUKEE-HZY	43.5N	87.5W	43.0N	88.0W	90	NV	250	N	Y	19910428	131243	144	93	24	3
73	27	USA-WI	L. MICHIGAN-SHEBOGAN-HZY	43.5N	87.5W	43.1N	87.9W	95	NV	250	N	Y	19910428	131245	144	93	24	3
73	28	USA-WI	L. MICHIGAN-SHEBOGAN-HZY	44.0N	87.0W	43.3N	87.7W	95	LO	250	N	Y	19910428	131249	144	93	24	3
73	29	CANADA	AREA NORTH OF L. HURON	44.0N	86.6W	44.0N	86.6W	15	HO	250	N	Y	19910428	131306	144	95	25	3
73	30	CANADA	AREA N OF L. HURON-S TAIL	44.1N	86.4W	44.1N	86.4W	20	HO	250	N	Y	19910428	131308	144	95	25	3
73	31	CANADA	AREA N OF L. HURON-S TAIL	44.2N	86.3W	44.2N	86.3W	20	HO	250	N	Y	19910428	131310	144	95	25	3
73	32	CANADA	AREA N OF L. HURON-S TAIL	44.3N	86.2W	44.3N	86.2W	20	HO	250	N	Y	19910428	131312	144	95	26	3
73	33	CANADA	AREA N OF L. HURON-S TAIL	44.3N	86.1W	44.3N	86.1W	20	HO	250	N	Y	19910428	131313	144	95	26	3
73	34	CANADA	AREA N OF L. HURON-S TAIL	44.5N	85.9W	44.5N	85.9W	20	HO	250	N	Y	19910428	131316	144	95	26	3
73	35	USA-MI	CLOUDS-JET VAPOR TRAIL	45.3N	84.5W	45.3N	84.5W	100	LO	250	N	Y	19910428	131336	144	97	27	3
73	36	USA-MI	CLOUDS-JET VAPOR TRAIL	45.7N	83.9W	45.7N	83.9W	100	LO	250	N	Y	19910428	131345	144	98	27	3
73	37	USA-MI	CLOUDS-JET VAPOR TRAIL	45.8N	83.7W	45.8N	83.7W	100	LO	250	N	Y	19910428	131348	144	98	27	3
73	38	CANADA-O	CLOUDS-CLOUD PATTERNS	46.1N	83.2W	46.1N	83.2W	95	LO	250	O	Y	19910428	131355	144	98	28	3
73	39	CANADA-O	CLOUDS-CLOUD PATTERNS	46.2N	83.1W	46.2N	83.1W	90	LO	250	O	Y	19910428	131357	144	98	28	3
73	40	CANADA-O	CLOUDS-CLOUD PATTERNS	46.5N	82.6W	46.5N	82.6W	85	LO	250	O	Y	19910428	131403	145	99	28	3
73	41	CANADA-O	MANICOUAGAN RESERVOIR	51.5N	68.5W	49.7N	76.3W	0	LO	250	N	Y	19910428	131525	145	106	32	3
73	42	CANADA-O	MANICOUAGAN RESERVOIR	51.0N	68.5W	49.8N	76.1W	0	LO	250	N	Y	19910428	131528	145	107	32	3
73	43	CANADA-O	MANICOUAGAN RESERVOIR	51.5N	68.5W	50.1N	75.3W	0	LO	250	N	Y	19910428	131537	145	107	32	3
73	44	CANADA-O	MANICOUAGAN RESERVOIR	51.5N	68.5W	50.5N	74.4W	0	LO	250	N	Y	19910428	131548	145	109	32	3
73	45	CANADA-O	MANICOUAGAN RESERVOIR	51.5N	68.5W	53.0N	67.4W	0	LO	250	N	Y	19910428	131705	145	117	36	3
73	46	CANADA-N	SMALLWOOD RES.-FROZEN	54.0N	64.5W	53.8N	64.9W	0	NV	250	N	Y	19910428	131731	146	120	37	3
73	47	CANADA-N	SMALLWOOD RES.-FROZEN	54.0N	64.5W	53.8N	64.7W	0	NV	250	N	Y	19910428	131733	146	120	37	3
73	48	CANADA-N	SMALLWOOD RES.-FROZEN	54.0N	64.0W	53.9N	64.4W	0	NV	250	N	Y	19910428	131736	146	121	37	3
73	49	CANADA-N	SMALLWOOD RES.-FROZEN	54.0N	63.5W	54.0N	63.9W	0	NV	250	N	Y	19910428	131741	146	121	37	3
73	50	CANADA-N	SMALLWOOD RES.-FROZEN	54.0N	63.0W	54.1N	63.5W	0	NV	250	N	Y	19910428	131745	146	122	37	3
73	51	CANADA-N	KANATRIKOT R.-SNOW-ICE	54.5N	63.0W	54.3N	63.0W	0	NV	250	N	Y	19910428	131750	146	123	37	3
73	52	CANADA-N	KANATRIKOT R.-SNOW-ICE	54.5N	62.0W	54.4N	62.5W	0	NV	250	N	Y	19910428	131755	146	123	38	3

TABLE 4-3- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
73	53	CANADA-N	KANAIRIKTOK R.-SNOW-ICE	54.5N 62.0W	54.5N 62.1W	5	NV	250	N	Y	19910428	131759	146	124	38	3
73	54	CANADA-N	KANAIRIKTOK R.-SNOW-ICE	54.5N 61.5W	54.6N 61.7W	5	NV	250	N	Y	19910428	131803	146	124	38	3
73	55	CANADA-N	KANAIRIKTOK R.-SNOW-ICE	54.5N 61.0W	54.7N 61.4W	5	NV	250	N	Y	19910428	131806	146	125	38	3
73	56	CANADA-N	KANAIRIKTOK R.-SNOW-ICE	55.0N 60.5W	54.8N 60.8W	10	NV	250	N	Y	19910428	131812	146	125	38	3
73	57	CANADA-N	ENGLISH R. PD.-SNOW-ICE	55.0N 60.0W	54.9N 60.3W	40	NV	250	N	Y	19910428	131816	146	126	38	3
73	58	CLOUDS	BLACK	55.2N	58.9W					U	19910428	131830	146	128	39	3
73	59	CLOUDS	BLACK	55.3N	58.2W					U	19910428	131836	146	129	39	3
73	60	CLOUDS	BLACK	57.3N	34.0W					U	19910428	132207	146	161	46	3
73	61	CLOUDS	BLACK	57.2N	33.7W					U	19910428	132209	146	162	46	3
73	62	ATLANTIC OCEAN	CLOUDS	56.6N	24.6W	100	LO	250	O	Y	19910428	132327	146	175	47	3
73	63	ATLANTIC OCEAN	CLOUDS	56.6N	24.4W	100	LO	250	O	Y	19910428	132329	146	175	47	3
73	64	ATLANTIC OCEAN	CLOUDS	56.5N	24.2W	100	LO	250	O	Y	19910428	132331	146	176	47	3
73	65	ATLANTIC OCEAN	CLOUDS	56.5N	24.1W	100	LO	250	O	Y	19910428	132332	146	176	47	3
73	66	ATLANTIC OCEAN	CLOUDS	56.5N	23.8W	100	LO	250	O	Y	19910428	132334	146	176	47	3
73	67	ATLANTIC OCEAN	CLOUDS	56.5N	23.6W	100	LO	250	O	Y	19910428	132336	146	176	47	3
73	68	LINE ISLANDS	WASHINGTON ISLAND	4.5N 160.5W	3.8N 160.1W	20	NV	250	N	Y	19910429	030923	138	283	22	12
73	69	PACIFIC OCEAN ISLAND	MALDEN ISLAND	4.0S 155.0W	4.1S 155.5W	30	NV	250	N	Y	19910429	031144	138	286	15	12
73	70	TUAMOTU ARCHIPELAGO	RANGIROA ATOLL	15.0S 147.5W	14.0S 149.6W	15	LO	250	N	Y	19910429	031442	139	286	6	12
73	71	TUAMOTU ARCHIPELAGO	MATAIVA	15.0S 148.5W	15.0S 148.9W	20	NV	250	N	Y	19910429	031500	139	286	5	12
73	72	ATMOSPHERIC LIMB		28.3S 139.5W	28.3S 139.5W	60	HO	250	N	Y	19910429	031908	140	282	-7	12
73	73	ATMOSPHERIC LIMB		31.3S 136.9W	31.3S 136.9W	80	HO	250	N	Y	19910429	032004	141	280	-10	12
73	74	ATMOSPHERIC LIMB	SUN	37.1S 131.2W	37.1S 131.2W		HO	250	N	Y	19910429	032159	142	275	-16	12
73	75	ATMOSPHERIC LIMB		37.2S 131.1W	37.2S 131.1W		HO	250	N	Y	19910429	032201	142	275	-16	12
73	76	ATMOSPHERIC LIMB		37.3S 131.0W	37.3S 131.0W		HO	250	N	Y	19910429	032204	142	275	-16	12
73	77	ATMOSPHERIC LIMB	VERY DARK	39.5S 128.4W	39.5S 128.4W		HO	250	N	Y	19910429	032251	142	273	-18	12
73	78	TURKEY	COAST-ABAL AN MUSAYRIYAH	36.0N 36.0E	35.9N 35.9E	90	NV	250	N	Y	19910429	040619	143	82	14	13
73	79	IRAQ	TIGRIS R.-RES.-L. URMIA	37.0N 44.0E	36.5N 36.5E	15	LO	250	O	Y	19910429	040632	143	83	15	13
73	80	IRAQ	L. URMIA-GUNEY DOGU MNTS	38.0N 45.5E	37.0N 37.1E	40	HO	250	O	Y	19910429	040642	143	83	15	13
73	81	TURKEY	LAKE VAN	38.5N 43.0E	38.7N 39.0E	40	LO	250	O	N	19910429	040717	143	85	17	13
73	82	USSR-EUROPEAN	COASTLINE, CASPIAN SEA	45.0N 47.0E	43.3N 44.8E	0	LO	250	N	Y	19910429	040855	144	91	22	13
73	83	USSR-EUROPEAN	COASTLINE, CASPIAN SEA	45.5N 48.0E	44.0N 45.8E	0	LO	250	N	Y	19910429	040910	144	92	23	13
73	84	USSR-EUROPEAN	COAST-CASPIAN SEA-OLYA	45.5N 47.5E	44.7N 46.9E	0	NV	250	N	Y	19910429	040926	144	93	24	13
73	85	USSR-EUROPEAN	ASTRAKIAN-VOLGA RIVER	46.5N 48.0E	45.0N 47.3E	0	LO	250	N	Y	19910429	040933	144	93	24	13
73	86	USSR-EUROPEAN	VOLGA RIVER DELTA	46.5N 48.0E	45.3N 47.9E	0	LO	250	N	Y	19910429	040941	144	94	24	13
73	87	USSR-EUROPEAN	VOLGA RIVER DELTA	46.5N 49.0E	45.7N 48.5E	0	LO	250	N	Y	19910429	040950	144	95	25	13
73	88	USSR-MIDDLE	LAKE BAYKAL-FROZEN	55.5N 109.5E	56.3N 109.9E	0	NV	250	N	Y	19910429	041951	145	173	48	13
73	89	USSR-MIDDLE	LAKE BAYKAL-FROZEN	55.5N 109.5E	56.3N 110.3E	0	NV	250	N	Y	19910429	041954	145	174	48	13
73	90	USSR-MIDDLE	LAKE BAYKAL-FROZEN	55.0N 109.5E	56.2N 110.6E	0	LO	250	N	Y	19910429	041957	145	174	48	13
73	91	ALGERIA	GRAND ERG ORIENTAL	28.5N 6.0E	29.1N 6.9E	0	NV	250	N	Y	19910429	053344	142	77	7	14
73	92	TUNISIA	SABKHA MELAH	33.5N 11.0E	34.1N 11.4E	40	NV	250	N	Y	19910429	053521	142	81	12	14

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LONG	LAT	LONG											
73	93	ITALY	MOUNT ETNA	37.5N	15.0E	37.4N	14.8E	80	NV	250	N	Y	19910429	053627	143	84	16	14
73	94	ITALY	MOUNT ETNA	37.5N	15.0E	37.8N	15.1E	80	NV	250	N	Y	19910429	053634	143	84	16	14
73	95	ITALY	MOUNT ETNA	37.5N	15.0E	38.4N	15.8E	0	NV	250	N	Y	19910429	053646	143	84	17	14
73	96	ITALY	TARANTO-GULF OF TARANTO	40.5N	17.5E	41.0N	19.0E	35	LO	250	N	N	19910429	053742	143	88	19	14
73	97	CLOUDS		43.6N	22.5E	44.7N	24.1E	95	LO	250	N	Y	19910429	053839	144	91	22	14
73	98	ROMANIA	CARPATHIAN MOUNTAINS	44.7N	24.1E	44.7N	24.1E	95	LO	250	N	Y	19910429	053903	144	93	23	14
73	99	ROMANIA	CARPATHIAN MOUNTAINS	45.2N	24.9E	45.2N	24.9E	95	LO	250	N	Y	19910429	053914	144	93	24	14
73	100	USSR-EUROPEAN	UL'YANOVSK-VOLGA RIVER	54.5N	48.5E	54.5N	47.4E	0	NV	250	N	Y	19910429	054339	145	119	36	14
73	101	USSR-EUROPEAN	UL'YANOVSK-VOLGA RIVER	54.5N	48.5E	54.7N	48.3E	0	NV	250	N	Y	19910429	054348	145	121	36	14
73	102	USSR-EUROPEAN	VOLGA RIVER	57.0N	54.0E	55.8N	54.0E	5	LO	250	N	N	19910429	054441	145	128	38	14
73	103	USSR-MIDDLE	FIRES-DRY LAKES	57.3N	70.0E	57.3N	70.0E	0	LO	250	N	Y	19910429	054700	145	148	44	14
73	104	USSR-MIDDLE	FIRES-DRY LAKES	57.3N	73.8E	57.3N	73.8E	0	LO	250	N	Y	19910429	054732	145	153	45	14
74	0	A CHINA	LOAHA STREAM	42.5N	119.5E	41.9N	119.2E	25	NV	250	N	Y	19910506	034002	146	156	58	14
74	1	CHINA	MANCHURIAN PLAIN-STREAM	42.5N	120.0E	41.3N	120.0E	50	LO	250	N	Y	19910506	034016	146	157	58	125
74	2	SOUTH CHINA SEA	SULOYS	17.9N	117.8E	17.9N	117.8E	0	LO	250	N	N	19910506	051727	142	243	75	126
74	3	SOUTH CHINA SEA	LINEAR FEATURE-SUNGLINT	17.2N	118.2E	17.2N	118.2E	5	LO	250	N	N	19910506	051740	142	246	75	126
74	4	SOUTH CHINA SEA	LINEAR FEAT.-SUNGLINT	16.8N	118.5E	16.8N	118.5E	0	LO	250	N	N	19910506	051748	142	248	75	126
74	5	PHILIPPINES	LUZON-CORREGIDOR	14.5N	120.5E	14.0N	120.3E	20	NV	250	N	Y	19910506	051839	142	261	73	126
74	6	PHILIPPINES	LUZON-LAKE TAAL	14.0N	121.0E	13.2N	120.8E	25	NV	250	N	Y	19910506	051853	142	264	73	126
74	7	PHILIPPINES	LUZON-MANILA	14.5N	121.0E	12.8N	121.0E	40	LO	250	N	Y	19910506	051900	142	265	73	126
74	8	PHILIPPINES	LUZON-NE PART	18.0N	122.0E	11.8N	121.6E	35	LO	250	N	N	19910506	051918	142	269	72	126
74	9	PHILIPPINES	LUZON-NEAR LINGAYEN GULF	17.0N	120.5E	11.6N	121.7E	50	LO	250	N	Y	19910506	051921	142	269	72	126
74	10	PHILIPPINES	LUZON-LINGAYEN GULF	16.0N	120.0E	11.5N	121.8E	50	LO	250	N	Y	19910506	051924	141	270	72	126
74	11	PHILIPPINES	LUZON-EAST COAST	15.5N	121.0E	11.3N	121.9E	55	LO	250	N	Y	19910506	051927	141	270	72	126
74	12	PHILIPPINES	LUZON-LAGUNA DE BAY	14.5N	121.5E	11.1N	122.0E	40	LO	250	N	Y	19910506	051930	141	271	72	126
74	13	PHILIPPINES	LUZON-LOPEZ B.-TAYABAS B	14.0N	122.0E	11.0N	122.1E	30	LO	250	N	N	19910506	051933	141	271	71	126
74	14	PHILIPPINES	LUZON-MANILA SMOG	14.0N	121.0E	10.8N	122.2E	25	LO	250	N	N	19910506	051936	141	272	71	126
74	15	PHILIPPINES	MARINDUQUE ISLAND	13.5N	122.0E	10.7N	122.3E	20	LO	250	N	Y	19910506	051938	141	272	71	126
74	16	PHILIPPINES	LUZON-BONDOC PENINSULA	13.5N	122.5E	10.5N	122.4E	20	LO	250	N	Y	19910506	051941	141	273	71	126
74	17	PHILIPPINES	LUZON-SAN MIGUEL BAY	14.0N	123.0E	10.4N	122.5E	20	LO	250	N	Y	19910506	051944	141	273	71	126
74	18	PHILIPPINES	LUZON-BURIAS ISLAND	13.0N	123.5E	10.2N	122.6E	20	LO	250	N	Y	19910506	051947	141	274	71	126
74	19	PHILIPPINES	LUZON-TITCAO ISLAND	13.0N	123.5E	10.0N	122.7E	25	LO	250	N	Y	19910506	051951	141	274	71	126
74	20	PHILIPPINES	MASBATE I.-TITCAO ISLAND	12.5N	123.5E	9.9N	122.8E	30	LO	250	N	Y	19910506	051953	141	275	71	126
74	21	PHILIPPINES	PANAY	11.5N	123.0E	9.6N	123.0E	30	LO	250	N	N	19910506	051958	141	276	70	126
74	22	PHILIPPINES	LEYETE	11.5N	124.5E	8.6N	123.6E	60	LO	250	N	N	19910506	052016	141	278	70	126
74	23	PHILIPPINES	NEGROS-EASTERN COAST	10.5N	123.5E	8.0N	123.9E	70	LO	250	N	N	19910506	052027	141	280	69	126
74	24	PHILIPPINES	SIQUIJOR ISLAND	9.0N	123.5E	7.5N	124.2E	80	LO	250	N	N	19910506	052035	141	281	69	126
74	25	PHILIPPINES	BOHO-LEYTE	10.0N	125.0E	7.2N	124.4E	70	LO	250	N	Y	19910506	052041	141	282	68	126
74	26	PHILIPPINES	CAMIGUIN ISLAND-BOHO	9.0N	124.5E	6.9N	124.6E	80	LO	250	N	Y	19910506	052046	141	282	68	126
74	27	PHILIPPINES	SIARGAO I.-BUCAS GRANDE	10.0N	126.0E	6.4N	124.8E	60	LO	250	N	N	19910506	052054	141	283	68	126

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR		
74	28	PHILIPPINES	MINDANAO-DUMANQUILAS BAY	8.0N 123.0E	5.9N 125.1E	60	LO	250	N	N	19910506	052103	141	284	67	126		
74	29	PHILIPPINES	MINDANAO-MINDANAO RIVER	7.0N 124.0E	5.4N 125.4E	80	LO	250	N	Y	19910506	052112	141	285	67	126		
74	30	PHILIPPINES	MINDANAO-BULUAN RIVER	7.0N 124.5E	5.3N 125.5E	70	LO	250	N	Y	19910506	052115	141	286	67	126		
74	31	PHILIPPINES	MINDANAO-PADADA R.-DAVAO	6.5N 125.5E	5.0N 125.7E	70	LO	250	N	Y	19910506	052120	141	286	66	126		
74	32	PHILIPPINES	MINDANAO-SOUTHERN END	6.5N 125.5E	4.4N 126.0E	70	LO	250	N	Y	19910506	052130	141	287	66	126		
74	33	PHILIPPINES	MINDANAO-. . . END-MAYO BAY	7.0N 126.5E	4.1N 126.2E	60	LO	250	N	N	19910506	052136	141	288	66	126		
74	34	INDONESIA	NEW GUINEA-SELE STRAIT	1.0S 131.0E	3.4S 130.5E	25	LO	250	N	N	19910506	052350	141	298	58	126		
74	35	INDONESIA	NEW GUINEA-RIVER END	1.5S 132.0E	3.6S 130.6E	50	LO	250	N	N	19910506	052353	141	298	58	126		
74	36	INDONESIA	NEW GUINEA-RIVER EFFLUET	2.5S 132.5E	4.3S 131.0E	40	LO	250	N	N	19910506	052405	141	299	57	126		
74	37	INDONESIA	NEW GUINEA-BINTUNI BAY	2.5S 133.0E	4.5S 131.1E	70	LO	250	N	Y	19910506	052409	141	299	57	126		
74	38	INDONESIA	NEW GUINEA-BINTUNI BAY	2.0S 34.0E	4.6S 131.2E	75	LO	250	N	Y	19910506	052411	141	299	57	126		
74	39	INDONESIA	NEW GUINEA-ONIN PENINSUL	3.0S 132.0E	4.9S 131.4E	80	LO	250	N	N	19910506	052417	141	299	56	126		
74	40	INDONESIA	ARU ILS.-WORKAI ISLAND	6.5S 134.5E	8.7S 133.6E	60	LO	250	N	N	19910506	052525	141	302	52	126		
74	41	AUSTRALIA-Q	NORTH STRADBROKE ISLAND	28.0S 153.5E	29.6S 148.0E	45	LO	250	N	Y	19910506	053149	142	306	28	126		
74	42	AUSTRALIA-Q	COOLANGATTA-BURLEIGH HDS	28.0S 153.5E	30.3S 148.6E	40	LO	250	N	Y	19910506	053204	143	306	27	126		
74	43	AUSTRALIA-Q	COOLANGATTA-BURLEIGH HDS	28.0S 153.5E	31.3S 149.5E	40	LO	250	N	Y	19910506	053223	143	306	26	126		
74	44	AUSTRALIA-Q	COOLANGATTA-BURLEIGH HDS	28.0S 154.0E	31.7S 149.9E	45	LO	250	N	Y	19910506	053231	143	306	25	126		
74	45		BLANK		57.3N 22.7W					0	19910506	092934	147	96	24	129		
74	46		CARGO BAY-GAS CAN		57.3N 21.5W					250	N	Y	19910506	092944	147	97	24	129
74	47		CARGO BAY-GAS CAN		57.1N 17.8W					250	N	Y	19910506	093015	147	101	26	129
74	48		CARGO BAY-EXPERIMENT		57.1N 17.2W					250	N	N	19910506	093020	147	101	27	129
74	49		CARGO BAY-EXPERIMENT		57.1N 16.7W					250	N	N	19910506	093025	147	102	27	129
74	50		CARGO BAY-EXPERIMENT		57.0N 16.3W					250	N	N	19910506	093028	147	102	27	129
74	51		CARGO BAY-EXPERIMENT		56.9N 14.9W					250	N	N	19910506	093040	147	104	28	129
74	52		CARGO BAY-GAS CAN		56.9N 14.3W					250	N	N	19910506	093045	147	104	28	129
74	53		CARGO BAY-GAS CAN		56.3N 9.2W					250	N	N	19910506	093130	147	109	31	129
74	54		CARGO BAY-EXPERIMENT		55.7N 5.4W					250	N	N	19910506	093204	147	113	33	129
74	55		CARGO BAY-IBSS/SPAS II		55.4N 3.7W					250	N	N	19910506	093220	147	115	34	129
74	56	BRITAIN	BRISTOL-BRISTOL CHANNEL	51.5N 2.0W	54.8N .6W	75	LO	250	N	Y	19910506	093249	146	118	36	129		
74	57	BRITAIN	BRISTOL-BRISTOL CHANNEL	51.5N 2.0W	54.7N .4W	75	LO	250	N	Y	19910506	093251	146	118	36	129		
74	58	BRITAIN	EASTBOURNE-ENGLISH CHANL	51.0N 0.0	54.6N .0E	80	LO	250	N	N	19910506	093255	146	119	37	129		
74	59	BRITAIN	CLOUDS		54.4N 1.1E	85	LO	250	N	N	19910506	093306	146	120	37	129		
74	60	CLOUDS	CLOUDS		54.3N 1.5E	95	LO	250	N	N	19910506	093310	146	121	38	129		
74	61	CLOUDS	CLOUDS		53.3N 5.2E	95	LO	250	N	N	19910506	093347	146	125	40	129		
74	62	GERMANY	NEAR COBERG, MAIN RIVER	50.5N 11.0E	52.2N 8.6E	70	LO	250	N	Y	19910506	093423	146	129	42	129		
74	63	GERMANY	NEAR COBERG, MAIN RIVER	50.5N 11.5E	51.9N 9.4E	75	LO	250	N	Y	19910506	093432	146	130	43	129		
74	64	GERMANY	NORTH OF BAYREUTH	50.0N 12.0E	51.7N 10.0E	75	LO	250	N	Y	19910506	093439	146	130	43	129		
74	65	GERMANY	MARIANSKE	50.0N 12.5E	51.5N 10.6E	80	LO	250	N	Y	19910506	093445	146	131	44	129		
74	66	GERMANY	CP NORTH OF PLZEN	50.0N 14.0E	51.1N 11.5E	85	LO	250	O	Y	19910506	093456	146	132	44	129		
74	67	GERMANY	VTAVA RIVER-NEAR BECHVNE	49.5N 14.0E	51.0N 11.7E	85	LO	250	O	Y	19910506	093458	146	132	44	129		

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	ES	DATE	GMT	AL	AZ	SUN EL	OR
74	68	GERMANY	VTAVA RIVER-NEAR BECHYNE	49.5N 14.5E	50.9N 12.0E	85	LO	250	O	19910506	093502	146	133	45	129
74	69	GERMANY	BECHYNE-TABOR-VSECHOV	49.5N 14.5E	50.8N 12.3E	85	LO	250	O	19910506	093505	146	133	45	129
74	70	GERMANY	MANY LAKES-NEAR BECHYNE	49.0N 15.0E	50.6N 12.8E	85	LO	250	O	19910506	093511	146	134	45	129
74	71	GERMANY	NEAR WIEN	48.5N 15.0E	50.3N 13.4E	80	LO	250	O	19910506	093518	146	134	46	129
74	72	AUSTRIA	AGRICULTURE NEAR WIEN	48.5N 16.0E	50.1N 14.0E	70	LO	250	O	19910506	093525	146	135	46	129
74	73	CZECHOSLOVAKIA	NEAR WIEN-HAZY	48.5N 17.0E	50.0N 14.2E	45	LO	250	O	19910506	093528	146	135	46	129
74	74	AUSTRIA	WIEN-HAZY	48.5N 16.0E	49.9N 14.4E	65	LO	250	O	19910506	093530	146	136	46	129
74	75	AUSTRIA	WIEN-HAZY	48.0N 16.5E	49.8N 14.7E	75	LO	250	O	19910506	093533	146	136	47	129
74	76	AUSTRIA	BRATISLAVA-HAZY	48.0N 17.0E	49.6N 15.1E	85	LO	250	O	19910506	093538	146	137	47	129
74	77	AUSTRIA	NEAR BRATISLAVA-HAZY	48.5N 17.5E	49.5N 15.3E	80	LO	250	O	19910506	093541	146	137	47	129
74	78	CZECHOSLOVAKIA	BTWN TRNAVA AND NITRA	48.5N 18.0E	49.4N 15.4E	70	LO	250	O	19910506	093542	146	137	47	129
74	79	CZECHOSLOVAKIA	NEAR BANSKA	48.5N 19.0E	49.4N 15.6E	75	LO	250	O	19910506	093544	145	137	47	129
74	80	CZECHOSLOVAKIA	NEAR BANSKA	48.5N 19.5E	49.3N 15.7E	75	LO	250	O	19910506	093546	145	137	47	129
74	81	CZECHOSLOVAKIA	DANUBE R.	48.0N 18.0E	49.2N 15.9E	55	LO	250	O	19910506	093548	145	138	48	129
74	82	CZECHOSLOVAKIA	DANUBE R.-NEAR GYOR	48.0N 17.5E	49.1N 16.0E	60	LO	250	O	19910506	093550	145	138	48	129
74	83	HUNGARY	DANUBE R.-CZECH,HUN BOR.	47.5N 18.0E	49.1N 16.1E	70	LO	250	O	19910506	093551	145	138	48	129
74	84	HUNGARY	NEAR LAKE BALATON	47.5N 18.0E	49.0N 16.3E	70	LO	250	O	19910506	093553	145	138	48	129
74	85	HUNGARY	VESZPREM, LAKE BALATON	47.0N 18.0E	49.0N 16.4E	70	LO	250	O	19910506	093555	145	138	48	129
74	86	HUNGARY	VESZPREM, LAKE BALATON	47.0N 18.0E	48.9N 16.6E	70	LO	250	O	19910506	093557	145	138	48	129
74	87	HUNGARY	DANUBE R.-BUDAPEST	47.0N 19.0E	48.7N 17.0E	65	LO	250	N	19910506	093602	145	139	48	129
74	88	HUNGARY	DANUBE R.-VITRANYOSDULO	46.0N 19.0E	48.4N 17.5E	60	LO	250	N	19910506	093609	145	140	49	129
74	89	YUGOSLAVIA	CP BTWN DANUBE & TISA R.	46.0N 19.5E	48.3N 17.7E	70	LO	250	N	19910506	093611	145	140	49	129
74	90	YUGOSLAVIA	HODMEZOVASARHELY, SZEGED	46.5N 20.5E	48.3N 17.9E	80	LO	250	O	19910506	093613	145	140	49	129
74	91	YUGOSLAVIA	CLOUDS	45.0N 21.0E	48.2N 18.0E	85	LO	250	O	19910506	093615	145	140	49	129
74	92	EUROPE	YUGOSLAVIA, ROMANIA, HUNGARY	48.1N 18.2E	48.1N 18.2E	85	LO	250	O	19910506	093617	145	141	49	129
74	93	HUNGARY	CLOUDS-RUNWAY	48.0N 18.4E	48.0N 18.4E	80	LO	250	O	19910506	093620	145	141	50	129
74	94	ROMANIA	CLOUDS-KIKINDA	46.0N 21.0E	47.9N 18.5E	90	LO	250	O	19910506	093622	145	141	50	129
74	95	YUGOSLAVIA	TISA RIVER, ZRENJANIN	45.5N 20.5E	47.7N 18.8E	80	LO	250	N	19910506	093626	145	141	50	129
74	96	YUGOSLAVIA	TISA RIVER, DANUBE, CLOUDS	45.0N 21.0E	47.6N 19.1E	80	LO	250	N	19910506	093629	145	142	50	129
74	97	ROMANIA	CP NEAR CRAIOVA	44.5N 24.0E	46.5N 21.1E	20	LO	250	N	19910506	093656	145	144	52	129
74	98	ROMANIA	DANUBE RIVER	44.0N 23.5E	46.4N 21.2E	20	LO	250	N	19910506	093658	145	145	52	129
74	99	ROMANIA	DANUBE RIVER	44.0N 25.0E	46.2N 21.6E	40	LO	250	N	19910506	093703	145	145	52	129
75	0	A ATLANTIC OCEAN	LABRADOR SEA ICE	57.3N 61.6W	57.3N 61.6W	20	LO	250	N	19910428	145107	146	155	45	4
75	1	A ATLANTIC OCEAN	LABRADOR SEA ICE	57.3N 60.2W	57.3N 60.2W	10	LO	250	N	19910428	145119	146	156	45	4
75	2	A ATLANTIC OCEAN	LABRADOR SEA ICE-COAST	57.3N 59.2W	57.3N 59.2W	60	LO	250	N	19910428	145127	146	157	45	4
75	3	SPAIN	ST. OF GILBALTAR	36.0N 5.5W	35.8N 5.9W	25	LO	250	N	19910428	150245	142	253	44	4
75	4		MOON	25.3N 151.2W	25.3N 151.2W	250	N	250	N	19910428	160608	142	77	6	5
75	5		MOON	26.0N 150.7W	26.0N 150.7W	HO	250	N	N	19910428	160622	142	77	7	5
75	6	CANADA	LOOKING W TO MANICOUAGAN	52.3N 50.5W	52.3N 50.5W	15	HO	250	N	19910428	162554	145	205	49	5
75	7	CANADA	LOOKING W TO MANICOUAGAN	51.5N 48.2W	51.5N 48.2W	25	HO	250	N	19910428	162619	144	209	49	5

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
75	8	CANADA-N	LOOKING NE TO COAST	49.3N 43.0W	70 HO 250 N	19910428	162721	144	218	48	5				
75	9		SPACE DEBRIS	44.9N 35.0W	HO 250 N	19910428	162909	143	232	48	5				
75	10	MAURITANIA	VERY FUZZY-ADRAR DHAR	19.2N 10.2W	40 LO 250 N	19910428	163736	139	274	32	5				
75	11	WESTERN SAHARA	VIEW TO CAP BLANC	17.9N 9.3W	10 HO 250 N	19910428	163759	139	275	31	5				
75	12	MAURITANIA	VIEW W TO CAP BLANC	16.9N 8.7W	20 HO 250 N	19910428	163817	139	276	30	5				
75	13	MALI	SHUTTLE APU-DEBRIS-STREM	14.0N 7.0W	0 LO 250 N	19910428	163917	139	278	28	5				
75	14	MALI	SHUTTLE APU-DEBRIS-STREM	14.0N 7.5W	5 LO 250 N	19910428	163926	139	279	27	5				
75	15	MALI	LAC DE MANANTALI-HAZY-SG	13.0N 10.5W	50 LO 250 N	19910428	163947	138	279	26	5				
75	16	MALI	LAC DE MANANTALI-HAZY	13.0N 10.5W	70 LO 250 U	19910428	164004	138	280	26	5				
75	17	CLOUDS	TOWERING CUMULUS-HIGH CL	5.7N 1.9W	100 HO 250 O	19910428	164138	138	282	21	5				
75	18	ATLANTIC OCEAN	CUMULUS CLOUDS-BRIGHT	7.9S	70 HO 250 O	19910428	164540	138	285	9	5				
75	19	CANADA-Q	SEPT ISLES-ST LAWRENCE R	66.5W 50.3N	0 LO 250 N	19910428	175628	144	213	50	6				
75	20	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N 68.5W	0 LO 250 N	19910428	175636	144	214	49	6				
75	21	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N 68.5W	0 LO 250 N	19910428	175647	144	216	49	6				
75	22	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N 68.5W	0 LO 250 N	19910428	175655	144	217	49	6				
75	23	CANADA-Q	E END ILE D'ANTICOSTI	49.0N 62.0W	0 LO 250 N	19910428	175714	144	220	49	6				
75	24	CANADA-Q	W END ILE D'ANTICOSTI	49.5N 63.5W	0 LO 250 N	19910428	175722	144	221	49	6				
75	25	CANADA-NS	CAPE BRETON I.-SEA ICE	47.0N 60.5W	5 LO 250 N	19910428	175737	144	223	49	6				
75	26	CANADA-NS	CAPE BRETON I.-SYDNEY	46.0N 60.0W	10 LO 250 N	19910428	175752	144	225	49	6				
75	27	CANADA-N	BURIN PENINSULA	47.0N 55.5W	45 LO 250 N	19910428	175839	143	231	48	6				
75	28	CANADA-N	N PART OF AVALON PEN.	47.0N 52.0W	15 LO 250 N	19910428	175946	143	239	47	6				
75	29	CANADA-N	N PART OF AVALON PEN.	47.0N 52.0W	20 LO 250 N	19910428	175954	143	240	47	6				
75	30	CANADA-O	LAKE NIPIGON	49.5N 88.5W	45 NV 250 N	19910428	192623	144	215	50	7				
75	31	USA-MA	CAPE COD	42.0N 70.0W	70 LO 250 N	19910428	193035	142	247	46	7				
75	32		MOON-CLOUDS	4.6S	100 HO 250 N	19910428	194354	138	285	13	7				
75	33	ATLANTIC OCEAN	MOON-CLOUDS	9.7S	95 HO 250 N	19910428	194526	138	286	8	7				
75	34	ATLANTIC OCEAN	CUMULUS,LOW-HIGH CLOUDS	10.3S	95 HO 250 N	19910428	194537	138	286	7	7				
75	35	ATLANTIC OCEAN	CLOUDS-MOON	11.5S	70 HO 250 N	19910428	194559	138	286	6	7				
75	36	ATLANTIC OCEAN	CLOUDS	12.1S	95 HO 250 N	19910428	194610	138	286	6	7				
75	37	ATLANTIC OCEAN	CLOUDS	15.4S	80 HO 250 N	19910428	194709	139	285	3	7				
75	38	ATLANTIC OCEAN	CLOUDS	16.2S	80 HO 250 N	19910428	194723	139	285	2	7				
75	39	USA-AL	ISANOTSKI PEAKS-SUNGLINT	55.0N 163.5W	20 LO 250 N	19910428	204748	146	136	41	8				
75	40	USA-AK	MORZHOVOI BAY	55.0N 163.0W	40 LO 250 N	19910428	204757	146	137	41	8				
75	41	USA-AK	NUSHAGAK BAY, PENINSULA	58.5N 159.0W	0 LO 250 N	19910428	204838	146	143	42	8				
75	42	USA-AK	NUSHAGAK BAY, PENINSULA	58.5N 159.0W	5 LO 250 N	19910428	204851	146	145	43	8				
75	43	USA-AK	KVICHAK BAY	59.0N 158.5W	20 LO 250 N	19910428	204858	146	147	43	8				
75	44	USA-AK	CLOUD GYRES	57.2N 147.0W	100 LO 250 N	19910428	205021	146	160	46	8				
75	45	PACIFIC OCEAN	G OF ALASKA-SUNGLINT	56.7N 139.3W	45 LO 250 N	19910428	205127	145	171	47	8				
75	46	PACIFIC OCEAN	G OF ALASKA-SUNGLINT	56.4N 137.1W	45 LO 250 N	19910428	205146	145	174	47	8				
75	47	CANADA-BC	Q.CHARLOTTE I.S.-MASSET I	53.5N 132.5W	80 LO 250 N	19910428	205228	145	181	48	8				

TABLE 4-3- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
75	48	CANADA-BC	FROZEN RIVERS-MOUNTAINS	55.1N 129.3W	50 LO 250 N	19910428	205257	145	186	49	8					
75	49	CANADA-BC	FROZEN RIVERS-MOUNTAINS	54.9N 128.2W	30 LO 250 N	19910428	205308	145	188	49	8					
75	50	CANADA-BC	FINLAY RIVER-FROZEN	56.5N 125.0W	80 LO 250 N	19910428	205322	145	190	49	8					
75	51	CANADA-BC	WILLISTON LAKE-FINLAY R.	56.0N 124.0W	70 LO 250 N	19910428	205336	145	193	49	8					
75	52	CANADA-BC	WILLISTON LAKE-FINLAY R.	56.0N 123.5W	75 LO 250 N	19910428	205345	145	194	49	8					
75	53	CANADA-BC	FROZEN RIVER/LAKE	53.4N 122.3W	95 LO 250 N	19910428	205406	145	198	49	8					
75	54	CANADA-BC	WILLISTON LAKE	52.6N 119.7W	80 LO 250 N	19910428	205433	145	202	50	8					
75	55	CANADA-BC	FROZEN LAKES-CLOUDS	51.7N 117.2W	95 LO 250 N	19910428	205501	144	206	50	8					
75	56	CANADA-A	CALGARY-AG-CLOUDS-S TAIL	49.7N 112.3W	80 LO 250 N	19910428	205558	144	215	50	8					
75	57	USA	NORTHERN ROCKY MOUNTAINS	48.8N 110.3W	75 LO 250 N	19910428	205623	144	218	50	8					
75	58	USA	NORTHERN ROCKY MNTS.	47.0N 106.9W	75 LO 250 N	19910428	205707	144	224	49	8					
75	59	USA-UT	GREAT SALT LAKE	45.2N 103.8W	65 HO 250 N	19910428	205750	143	230	49	8					
75	60	USA-UT	GREAT SALT LAKE	44.6N 102.9W	55 HO 250 N	19910428	205804	143	232	49	8					
75	61	USA-UT	GREAT SALT LAKE	44.3N 102.4W	60 HO 250 N	19910428	205811	143	233	49	8					
75	62	USA	NEB-S.DAKOTA,AGRICULTURE	41.8N 98.9W	75 LO 250 N	19910428	205906	143	239	48	8					
75	63	USA	NEB-S.DAKOTA,AGRICULTURE	41.1N 98.0W	75 LO 250 N	19910428	205921	142	241	47	8					
75	64	USA-TX	PRAIRIE DT FORK OF RED R	34.5N 101.0W	40 HO 250 N	19910428	205946	142	244	47	8					
75	65	USA-TX	PRAIRIE DT FORK OF RED R	34.5N 101.0W	39.2N	30 HO 250 N	19910428	210002	142	246	46	8				
75	66	USA-OK	CIMARRON R. -S. WINDOW	37.0N 99.0W	38.9N	25 LO 250 N	19910428	210008	142	246	46	8				
75	67	USA-OK	CANADIAN RIVER	36.0N 99.0W	38.0N	45 LO 250 N	19910428	210026	142	248	46	8				
75	68	USA-KS	SALINA-CLOUDS	39.0N 98.0W	37.2N	65 LO 250 N	19910428	210043	142	250	45	8				
75	69	USA	TH STORMS	36.3N 92.4W	100 LO 250 N	19910428	210102	142	252	45	8					
75	70	USA	THUNDER STORM TOPS	36.0N 92.1W	95 LO 250 N	19910428	210107	141	252	45	8					
75	71	USA	CLOUDS	34.9N 91.0W	90 LO 250 N	19910428	210129	141	254	44	8					
75	72	USA	CUMULONIMBUS,HIGH CLOUDS	33.4N 89.5W	100 LO 250 N	19910428	210159	141	257	43	8					
75	73	USA	STORM FRONT-HAZE	31.8N 88.1W	80 HO 250 N	19910428	210230	141	259	42	8					
75	74	USA	THUNDERSTORMS-SHUTTL APU	31.0N 87.3W	95 LO 250 N	19910428	210246	141	260	42	8					
75	75	USA	THUNDERSTORMS-SHUTTLTAIL	29.3N 86.0W	95 HO 250 N	19910428	210317	140	263	41	8					
75	76	CUBA	PAN OF CEN.TO S.END-SMOG	22.0N 79.0W	17.7N	20 LO 250 N	19910428	210652	139	275	32	8				
75	77	JAMAICA	S.COAST-SMOKE	18.5N 77.5W	15.4N	30 LO 250 N	19910428	210735	139	277	30	8				
75	78	BRAZIL	AMAZON RIVER	3.0S 65.0W	5.3S	15 LO 250 U	19910428	211344	138	285	12	8				
75	79	BRAZIL	RIO PURUS	6.0S 64.0W	6.7S	45 LO 250 U	19910428	211408	138	286	11	8				
75	80	CHINA	WEIHAI-PANORAMA	37.5N 122.0E	34.6N 125.7E	5 LO 250 U	19910428	220733	143	82	14	9				
75	81	CHINA	PANORAMA	37.5N 122.5E	35.0N 126.0E	10 LO 250 U	19910428	220740	143	82	14	9				
75	82	NORTH KOREA	YONGHUNG BAY	39.5N 127.5E	37.3N 128.4E	50 LO 250 U	19910428	220827	143	85	17	9				
75	83	NORTH KOREA	CH'ONGJIN-SMOKE?-POLLUTI	42.0N 130.0E	38.3N 129.6E	30 LO 250 U	19910428	220848	143	86	18	9				
75	84	USSR-PACIFIC	POS'YETA BAY	42.5N 131.0E	39.1N 130.4E	30 LO 250 U	19910428	220903	143	86	19	9				
75	85	USSR-PACIFIC	LAKE KHANKA	45.0N 132.0E	40.5N 132.1E	35 LO 250 U	19910428	220933	143	88	20	9				
75	86	PACIFIC OCEAN	PAN LOOKING NE	47.8N 143.3E	95 HO 250 N	19910428	221220	144	100	28	9					
75	87	PACIFIC OCEAN	PAN LOOKING NE	50.2N 148.3E	95 HO 250 N	19910428	221323	145	106	31	9					

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	CENTER LON	MADIR LAT	MADIR LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
75	88	USSR-PACIFIC	KAMCHATKA PENINSULA	55.0N	160.0E	54.0N	159.2E	0	LO	250	N	N	19910428	221522	145	119	36	9
75	89	USSR-PACIFIC	KAMCHATKA-KAMCHATKA R.	56.5N	160.0E	54.3N	160.7E	25	LO	250	N	N	19910428	221537	145	121	37	9
75	90	USSR-PACIFIC	KAMCHATKA-SHIVELUCH VOL.	57.0N	161.0E	54.5N	161.4E	20	LO	250	N	N	19910428	221543	145	121	37	9
75	91	USSR-PACIFIC	KAMCHATKA-OZERNOY BAY	57.0N	162.0E	55.1N	164.2E	20	LO	250	N	N	19910428	221610	145	125	38	9
75	92	USSR-PACIFIC	GOVENA PENINSULA-SEA ICE	60.0N	167.0E	55.8N	167.6E	10	LO	250	N	N	19910428	221642	146	129	39	9
75	93	USSR-PACIFIC	INT. PAN.-VETVEYSKIY MNT	56.5N	173.0E	56.5N	173.0E	15	HO	250	N	N	19910428	221730	146	136	41	9
75	94	USA-NV	GREAT BASIN-SALT LAKES	40.0N	116.0W	38.8N	117.9W	0	LO	250	N	N	19910428	222947	142	246	47	9
75	95	USA-NV	PYRAMID LAKE	40.0N	119.5W	37.6N	116.6W	20	LO	250	N	N	19910428	223011	142	249	46	9
75	96	USA-UT	LAKE POWELL-GRAND CANYON	37.0N	111.0W	35.7N	114.6W	15	LO	250	N	Y	19910428	223049	141	252	45	9
75	97	USA-UT	LAKE POWELL-GRAND CANYON	37.5N	111.0W	35.0N	113.8W	20	LO	250	N	Y	19910428	223104	141	254	44	9
75	98	MEXICO	MOUNTAIN FIRES	26.0N	107.0W	26.1N	106.1W	0	LO	250	N	N	19910428	223354	140	267	39	9
75	99	MEXICO	PACIFIC COAST	22.0N	105.0W	24.8N	105.1W	50	LO	250	N	Y	19910428	223419	140	268	38	9
75	100	MEXICO	PACIFIC COAST-PUNTA MITA	21.0N	105.0W	23.0N	103.8W	40	LO	250	N	Y	19910428	223452	139	270	36	9
75	101	MEXICO	COLIMA VOLCANO-SMOKE	19.5N	103.5W	21.3N	102.6W	5	LO	250	N	Y	19910428	223523	139	272	35	9
75	102	MEXICO	COLIMA VOLCANO-SMOKE	19.5N	103.5W	20.7N	102.2W	5	LO	250	N	Y	19910428	223534	139	273	35	9
77	0	A	STANOVVOY RANGE-RIVER	51.4N	128.6E	51.4N	128.6E	25	LO	250	N	Y	19910428	234335	145	110	33	9
77	1	USSR-PACIFIC	STANOVVOY RANGE	51.7N	129.3E	51.7N	129.3E	60	LO	250	N	Y	19910428	234340	145	110	33	10
77	2	USSR-PACIFIC	STANOVVOY RANGE	52.1N	130.5E	52.1N	130.5E	55	LO	250	N	Y	19910428	234354	145	111	33	10
77	3	USSR-PACIFIC	STANOVVOY RANGE	52.7N	132.2E	52.7N	132.2E	70	LO	250	N	Y	19910428	234412	145	113	34	10
77	4	USSR-PACIFIC	CLOUDS	53.3N	134.0E	53.3N	134.0E	100	LO	250	N	N	19910428	234431	145	115	35	10
77	5	USSR-PACIFIC	STANOVVOY RANGE	53.6N	135.3E	53.6N	135.3E	45	LO	250	N	N	19910428	234444	145	117	35	10
77	6	SEA OF OKHOTSK	CLOUDS	55.2N	141.8E	55.2N	141.8E	95	LO	250	N	N	19910428	234548	145	125	38	10
77	7	USSR-PACIFIC	KAMCHATKA PEN.-COAST	56.0N	156.0E	56.5N	149.7E	30	LO	250	N	Y	19910428	234700	146	135	41	10
77	8	USSR-PACIFIC	KAMCHATKA PEN.-COAST	56.0N	156.0E	56.9N	153.5E	15	LO	250	N	Y	19910428	234733	146	140	42	10
77	9	USSR-PACIFIC	KAMCHATKA PEN.	57.0N	154.9E	57.0N	154.9E	0	LO	250	N	N	19910428	234745	146	142	42	10
77	10	USSR-PACIFIC	KAMCHATKA PEN.-VOL PLUME	56.0N	161.0E	57.1N	156.3E	30	LO	250	N	N	19910428	234757	146	144	43	10
77	11	USSR-PACIFIC	KARAGINSKIY ISLAND	58.5N	164.0E	57.2N	158.0E	50	LO	250	N	N	19910428	234811	146	146	43	10
77	12	USSR-PACIFIC	UKINSKAYA BAY-PACK ICE	58.0N	163.0E	57.2N	159.1E	60	LO	250	O	Y	19910428	234821	146	148	43	10
77	13	USSR-PACIFIC	UKINSKAYA BAY-PACK ICE	58.0N	162.0E	57.3N	160.9E	60	LO	250	O	N	19910428	234836	146	150	44	10
77	14	USSR-PACIFIC	KAMCHATSKIY PEN.-SEA ICE	56.0N	163.0E	57.3N	162.2E	30	LO	250	N	N	19910428	234847	146	152	44	10
77	15	USSR-PACIFIC	BERINGA ISLAND-CLOUDS	55.0N	166.5E	57.3N	166.2E	40	LO	250	N	N	19910428	234921	146	157	45	10
77	16	BERING SEA-SUNGLINT	CLOUDS	57.0N	171.9E	57.0N	171.9E	50	LO	250	N	N	19910428	235009	145	165	46	10
77	17	BERING SEA	CLOUDS-SUNGLINT	56.9N	173.3E	56.9N	173.3E	60	LO	250	N	N	19910428	235021	145	167	47	10
77	18	BERING SEA	CLOUDS-SUNGLINT	56.2N	179.9E	56.2N	179.9E	60	LO	250	N	N	19910428	235111	145	176	48	10
77	19	USA-AK	ALEUTIAN I.-UNNAK-CLOUDS	53.5N	168.0W	53.6N	168.4W	80	NV	250	N	Y	19910428	235311	145	196	50	10
77	20	USA-AK	ALEUTIAN ILS.-UNALASKA I	53.5N	167.0W	53.4N	167.9W	85	LO	250	N	Y	19910428	235316	145	196	50	10
77	21	PACIFIC OCEAN	CLOUDS-NEAR ALEUTIANS	52.2N	163.9W	52.2N	163.9W	100	LO	250	N	N	19910428	235358	144	203	50	10
77	22	PACIFIC OCEAN	CLOUDS-NEAR S. AMERICA	8.7S	107.3W	8.7S	107.3W	80	LO	250	N	N	19910429	001355	138	286	10	10
77	23	PACIFIC OCEAN	CUMULUS CLOUDS	14.6S	103.7W	14.6S	103.7W	55	LO	250	N	N	19910429	001542	139	286	4	10
77	24	PACIFIC OCEAN	CUMULUS CLOUDS-UNDFREXP	15.5S	103.1W	15.5S	103.1W	40	LO	250	U	N	19910429	001558	139	286	4	10

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
77	25	PACIFIC OCEAN	CLOUDS	17.5S 101.8W	50 HO 250 N N	19910429	001634	139	285	2	10					
77	26	CLOUDS	VERY DARK	19.2S 100.7W	50 LO 250 U N	19910429	001706	139	285	10	10					
77	27	PACIFIC OCEAN	CLOUDS	25.6S 96.1W	80 HO 250 N N	19910429	001905	140	283	-5	10					
77	28	PACIFIC OCEAN	CLOUDS	26.0S 95.8W	75 HO 250 N N	19910429	001912	140	282	-5	10					
77	29	ATMOSPHERIC LIMB		32.0S 90.8W	HO 250 N N	19910429	002106	141	279	-11	10					
77	30	ATMOSPHERIC LIMB		32.3S 90.5W	HO 250 N N	19910429	002112	141	279	-12	10					
77	31	ATMOSPHERIC LIMB	VERY DARK	36.4S 86.5W	HO 250 U N	19910429	002234	142	275	-16	10					
77	32	ATMOSPHERIC LIMB	VERY DARK	36.5S 86.3W	HC 250 U N	19910429	002237	142	275	-16	10					
77	33	ATMOSPHERIC LIMB	VERY DARK	38.3S 84.3W	HO 250 U N	19910429	002314	142	274	-18	10					
77	34	ATMOSPHERIC LIMB	VERY DARK	38.7S 83.8W	HO 250 U N	19910429	002323	142	273	-18	10					
77	35	INDIA	VERY DARK-UNDEREXPOSED	22.8N 70.3E	0 LO 250 U Y	19910429	010258	141	75	2	11					
77	36	INDIA	RANN OF KUTCH AREA-DARK	22.9N 70.4E	0 LO 250 U Y	19910429	010301	141	75	2	11					
77	37	INDIA	RANN OF KUTCH AREA-DARK	23.2N 70.6E	0 LO 250 U Y	19910429	010306	141	75	2	11					
77	38	INDIA	RANN OF KUTCH AREA-DARK	23.6N 70.9E	0 LO 250 U Y	19910429	010313	141	75	3	11					
77	39	INDIA	RANN OF KUTCH AREA-DARK	24.0N 71.2E	0 LO 250 U N	19910429	010320	141	76	3	11					
77	40	INDIA	RANN OF KUTCH AREA-DARK	24.2N 71.3E	0 LO 250 U N	19910429	010324	141	76	3	11					
77	41	INDIA	RANN OF KUTCH AREA-DARK	24.4N 71.5E	0 LO 250 U Y	19910429	010328	141	76	4	11					
77	42	INDIA	DRY STREAM NEAR R. OF K	25.5N 72.0E	24.9N 71.9E	0 LO 250 N Y	19910429	010338	141	76	4	11				
77	43	INDIA	DRY STREAM NEAR R. OF K	25.0N 72.0E	25.2N 72.1E	0 LO 250 N Y	19910429	010344	141	76	4	11				
77	44	INDIA	RANN OF KUTCH AREA-DARK	25.6N 72.4E	0 LO 250 N N	19910429	010351	141	76	5	11					
77	45	INDIA	AREA NEAR JODHPUR-DARK	26.0N 72.7E	10 LO 250 N N	19910429	010358	141	76	5	11					
77	46	INDIA	STREAM NEAR JODHPUR-DARK	26.0N 73.0E	26.3N 72.9E	5 LO 250 U N	19910429	010403	141	76	5	11				
77	47	INDIA	STREAM NEAR SAMBAR S.L.	27.0N 75.0E	26.8N 73.4E	0 LO 250 U Y	19910429	010414	141	77	6	11				
77	48	INDIA	STREAM NEAR SAMBAR S.L.	27.5N 75.5E	27.4N 73.8E	0 LO 250 U Y	19910429	010424	141	77	6	11				
77	49	INDIA	SAMBAR SALT LAKE	27.0N 75.0E	28.1N 74.4E	5 LO 250 U Y	19910429	010438	141	77	7	11				
77	50	INDIA	SAHARANPUR-FRONT OF HIM.	30.0N 77.0E	29.5N 75.5E	0 LO 250 U Y	19910429	010504	142	78	9	11				
77	51	INDIA	YAMUNA R.-FRONT OF HIM.	30.5N 77.0E	29.8N 75.8E	0 LO 250 U Y	19910429	010510	142	78	9	11				
77	52	INDIA	YAMUNA R.-FRONT OF HIM.	30.5N 77.0E	30.3N 76.2E	0 NV 250 U Y	19910429	010519	142	79	9	11				
77	53	INDIA	YAMUNA R.-FRONT OF HIM.	30.5N 77.5E	30.7N 76.6E	0 NV 250 U Y	19910429	010528	142	79	10	11				
77	54	INDIA	PANGONG LAKE-HIMALAYA R.	33.5N 80.0E	33.2N 78.8E	0 LO 250 N N	19910429	010616	142	81	12	11				
77	55	CHINA	TIB PLAT.-SARIGH J. LAKE	34.5N 79.5E	34.2N 79.8E	10 NV 250 N N	19910429	010636	142	81	13	11				
77	56	CHINA	ALTUN MNTS.-DUST STORM	37.0N 85.0E	37.9N 83.6E	0 LO 250 N N	19910429	010750	143	85	17	11				
77	57	CHINA	TANKLIKAN DESERT-DUNES	41.0N 87.0E	40.0N 86.0E	0 LO 250 N N	19910429	010834	143	87	19	11				
77	58	CHINA	BOSTEN LAKE-DUST	42.0N 87.0E	40.8N 86.9E	10 LO 250 N N	19910429	010849	143	88	20	11				
77	59	CHINA	KORLA-NEAR BOSTON L-DUST	42.0N 86.0E	41.4N 87.8E	15 LO 250 N N	19910429	010903	143	89	21	11				
77	60	MONGOLIA	DRY STREAM-DUST STORM	45.5N 93.5E	45.7N 94.1E	10 LO 250 N Y	19910429	011040	144	95	25	11				
77	61	CHINA	DUST STORMS-MNTS.	45.5N 93.0E	46.4N 95.2E	20 LO 250 N Y	19910429	011056	144	97	26	11				
77	62	CHINA	BARKOL LAKE-DUST	43.5N 93.0E	46.9N 96.0E	40 LO 250 N N	19910429	011107	144	97	27	11				
77	63	MONGOLIA	TELMEN LAKE	49.0N 97.5E	48.8N 99.8E	0 LO 250 N N	19910429	011157	144	102	29	11				
77	64	MONGOLIA	HOVSGOL LAKE	51.0N 100.5E	49.4N 100.9E	0 LO 250 N Y	19910429	011211	145	103	29	11				

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	CENTER LON	NADIR LAT	NADIR LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
77	65	MONGOLIA	HOVSGOL LAKE	50.5N	100.5E	49.6N	101.3E	0	L0	250	N	Y	19910429	011216	145	103	30	11
77	66	MONGOLIA	HOVSGOL LAKE	51.5N	100.5E	49.9N	102.1E	5	L0	250	N	Y	19910429	011225	145	104	30	11
77	67	MONGOLIA	HOVSGOL LAKE	50.5N	100.5E	50.4N	103.2E	0	L0	250	N	Y	19910429	011238	145	106	31	11
77	68	USSR-MIDDLE	LAKE BAYKAL-ANGARA R.	52.0N	105.0E	51.1N	105.0E	40	L0	250	N	Y	19910429	011259	145	108	32	11
77	69	USSR-MIDDLE	LAKE BAYKAL	52.0N	105.5E	51.2N	105.3E	70	NV	250	N	Y	19910429	011303	145	108	32	11
77	70	USSR-MIDDLE	LAKE BAYKAL-SUNGLINT	52.0N	106.5E	51.4N	105.8E	50	L0	250	N	Y	19910429	011309	145	109	32	11
77	71	USSR-MIDDLE	LAKE BAYKAL-OL'KHON I.	53.5N	108.0E	51.8N	106.8E	0	L0	250	N	Y	19910429	011320	145	110	33	11
77	72	USSR-MIDDLE	LAKE BAYKAL-SVYATOYNOS P	54.0N	108.5E	52.4N	108.6E	0	L0	250	N	Y	19910429	011339	145	112	33	11
77	73	USSR-MIDDLE	LAKE BAYKAL-SVYATOYNOS P	54.0N	109.0E	52.8N	109.8E	0	L0	250	N	Y	19910429	011352	145	113	34	11
77	74	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	55.5N	110.0E	53.2N	110.9E	0	L0	250	O	Y	19910429	011404	145	115	34	11
77	75	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	54.5N	109.0E	53.4N	111.8E	0	L0	250	O	Y	19910429	011413	145	116	35	11
77	76	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	55.5N	110.0E	54.2N	114.8E	0	L0	250	O	Y	19910429	011443	145	119	36	11
77	77	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	55.5N	110.0E	54.6N	116.1E	0	L0	250	O	Y	19910429	011456	145	121	37	11
77	78	USSR-PACIFIC	ZEYSKOYE RESERVOIR-FROZE	55.5N	128.0E	56.4N	128.6E	5	L0	250	N	Y	19910429	011633	145	134	40	11
77	79	USSR-PACIFIC	ZEYSKOYE RES. -ZEYA R.	54.5N	129.0E	56.6N	128.3E	5	L0	250	N	Y	19910429	011648	145	136	41	11
77	80	IRAN	LAKES TASHK&BAKHTEGAN	29.5N	54.0E	25.4N	49.5E	85	L0	250	N	N	19910429	023323	141	76	4	12
77	81	IRAN	LAKES TASHK&BAKHTEGAN	30.0N	53.5E	28.0N	51.5E	50	L0	250	N	N	19910429	023412	142	77	7	12
77	82	USSR-MIDDLE	LAKE BALKHASH-SMOKE-HAZE	46.5N	75.5E	42.2N	66.1E	15	H0	250	U	Y	19910429	023857	144	90	21	12
77	83	USSR-MIDDLE	LAKE BALKHASH-SMOKE-HAZE	46.5N	75.0E	43.1N	67.3E	0	L0	250	U	Y	19910429	023917	144	91	22	12
77	84	USSR-MIDDLE	LAKE BALKHASH-SMOKE-HAZE	46.5N	75.0E	43.5N	67.9E	0	L0	250	U	Y	19910429	023926	144	91	23	12
77	85	MONGOLIA	LAKE UVS-FROZEN	50.0N	92.5E	55.2N	96.4E	10	L0	250	U	Y	19910429	024502	145	124	38	12
77	86	MONGOLIA	LAKE UVS-FROZEN	50.0N	92.5E	55.3N	96.8E	10	L0	250	U	Y	19910429	024505	145	125	38	12
77	87	MONGOLIA	LAKE HOVSGOL-FROZEN	51.5N	100.5E	56.2N	102.2E	10	L0	250	U	Y	19910429	024555	145	132	40	12
77	88	MONGOLIA	LAKE HOVSGOL-FROZEN	51.0N	100.5E	56.5N	104.5E	10	L0	250	N	Y	19910429	024615	145	135	40	12
77	89	USSR-MIDDLE	LAKE BAYKAL	52.0N	106.0E	56.9N	108.0E	55	L0	250	N	Y	19910429	024646	145	139	42	12
77	90	USSR-MIDDLE	LAKE BAYKAL	52.5N	106.5E	56.9N	108.4E	55	L0	250	N	Y	19910429	024649	146	140	42	12
77	91	USSR-MIDDLE	LAKE BAYKAL	52.5N	106.5E	56.9N	108.7E	45	L0	250	N	Y	19910429	024652	146	140	42	12
77	92	USSR-MIDDLE	LAKE BAYKAL	53.0N	108.0E	57.0N	109.9E	30	L0	250	N	Y	19910429	024702	146	142	42	12
77	93	USSR-MIDDLE	LAKE BAYKAL	54.5N	109.0E	57.1N	111.1E	5	L0	250	N	Y	19910429	024712	146	143	42	12
77	94	USSR-MIDDLE	LAKE BAYKAL	54.5N	109.0E	57.2N	111.8E	5	L0	250	N	Y	19910429	024718	146	144	43	12
77	95	USSR-MIDDLE	LAKE BAYKAL	53.5N	108.0E	57.2N	112.7E	15	L0	250	N	Y	19910429	024726	146	145	43	12
77	96	USSR-MIDDLE	LAKE BAYKAL	55.0N	110.0E	57.3N	114.5E	0	L0	250	N	Y	19910429	024741	146	148	43	12
77	97	USSR-MIDDLE	LAKE BAYKAL	55.0N	109.0E	57.3N	119.6E	20	L0	250	N	Y	19910429	024824	146	155	45	12
77	98	USSR-MIDDLE	LAKE BAYKAL	53.5N	108.0E	57.3N	120.2E	45	H0	250	N	Y	19910429	024829	146	156	45	12
77	99	USSR-MIDDLE	LAKE BAYKAL	54.5N	108.5E	57.0N	126.8E	80	H0	250	N	Y	19910429	024925	145	165	46	12
77	100	USSR-PACIFIC	ZEYSKOYE RESERVOIR	55.0N	130.5E	55.6N	137.5E	25	L0	250	N	Y	19910429	025100	145	181	49	12
77	101	USSR-PACIFIC	ZEYSKOYE RESERVOIR	55.0N	132.0E	55.0N	140.6E	40	L0	250	N	Y	19910429	025129	145	186	49	12
77	102	USA-HI	PEARL AND HERMES REEF	28.0N	176.0E	27.9N	175.8W	20	NV	250	N	N	19910429	030207	140	264	41	12
79	0	A	LAKE BAYKAL-OL'KHON I.	53.0N	107.5E	53.8N	99.8E	65	L0	250	N	Y	19910429	055130	145	192	50	14
79	1	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.5N	106.5E	53.7N	100.3E	60	L0	250	N	Y	19910429	055139	145	193	50	14

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT. LONG.	MADIR LAT. LONG.	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
79	2	USSR-MIDDLE	LAKE BAYKAL-OY NOS PEN.	53.5N 108.5E	53.3N 101.6E	50	LO	250	N	Y	19910429	055153	144	195	50	14	
79	3	USSR-MIDDLE	LAKE BAYKAL-OL'KHON I.	53.0N 107.5E	53.2N 101.9E	60	LO	250	N	Y	19910429	055156	144	196	50	14	
79	4	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.5N 107.0E	53.1N 102.2E	45	LO	250	N	Y	19910429	055159	144	196	50	14	
79	5	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.0N 106.0E	53.0N 102.5E	45	LO	250	N	Y	19910429	055202	144	197	50	14	
79	6	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N 105.5E	52.9N 102.8E	30	LO	250	N	Y	19910429	055205	144	197	50	14	
79	7	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N 105.5E	52.6N 103.7E	15	LO	250	N	Y	19910429	055215	144	199	50	14	
79	8	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	51.5N 104.5E	52.0N 105.5E	40	LO	250	N	Y	19910429	055234	144	202	50	14	
79	9	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	51.5N 105.0E	51.8N 105.9E	30	LO	250	N	Y	19910429	055239	144	202	50	14	
79	10	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N 105.5E	51.7N 106.2E	30	NV	250	N	Y	19910429	055242	144	203	50	14	
79	11	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N 106.0E	51.6N 106.6E	10	NV	250	N	Y	19910429	055247	144	204	50	14	
79	12	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.0N 106.0E	51.4N 107.0E	10	LO	250	N	Y	19910429	055251	144	204	50	14	
79	13	USSR-MIDDLE	LAKE BAYKAL-NORTH END	55.0N 109.5E	50.9N 108.3E	5	LO	250	N	Y	19910429	055306	144	207	51	14	
79	14	USSR-MIDDLE	LAKE BAYKAL-SVYATOYNOS P	54.0N 109.0E	50.8N 108.6E	40	LO	250	N	Y	19910429	055309	144	207	51	14	
79	15	USSR-MIDDLE	LAKE BAYKAL-SVYATOYNOS P	53.0N 108.5E	50.6N 109.1E	30	LO	250	N	Y	19910429	055315	144	208	51	14	
79	16	CHINA	LIAODONG BAY-DALING R.	41.0N 121.5E	41.9N 124.5E	10	LO	250	N	Y	19910429	055646	142	237	49	14	
79	17	CHINA	LIAODONG BAY-SHAUNGTAIZ	41.0N 121.5E	41.7N 124.7E	10	LO	250	N	Y	19910429	055650	142	237	49	14	
79	18	CHINA	LIAODONG BAY-SALT PANS	40.5N 122.0E	41.5N 125.0E	10	LO	250	N	Y	19910429	055655	142	238	49	14	
79	19	CHINA	LIAODONG BAY-SALT PANS	40.5N 122.5E	41.3N 125.3E	10	LO	250	N	Y	19910429	055700	142	239	49	14	
79	20	CHINA	KOREA BAY-YALU RIVER DEL	40.5N 123.5E	40.8N 125.9E	40	LO	250	N	Y	19910429	055710	142	240	49	14	
79	21	CHINA	KOREA BAY-YALU RIVER DEL	40.0N 124.0E	40.5N 126.3E	30	LO	250	N	Y	19910429	055716	142	240	49	14	
79	22	NORTH KOREA	KOREA BAY-YALU RIVER DEL	40.0N 124.0E	40.3N 126.5E	15	LO	250	N	Y	19910429	055720	142	241	49	14	
79	23	NORTH KOREA	KOREA BAY-KA I. -SUNGLINT	39.5N 124.5E	40.1N 126.8E	5	LO	250	N	Y	19910429	055725	142	241	48	14	
79	24	NORTH KOREA	KOREA BAY-SALT PANS-SUNG	39.0N 125.0E	39.6N 127.4E	0	LO	250	N	Y	19910429	055736	142	243	48	14	
79	25	NORTH KOREA	YONGHUNG BAY-WONSAN	39.0N 127.5E	38.9N 128.2E	25	NV	250	N	Y	19910429	055750	142	244	48	14	
79	26	NORTH KOREA	COAST	39.0N 128.0E	38.6N 128.5E	10	NV	250	N	Y	19910429	055756	142	245	48	14	
79	27	SOUTH KOREA	DMZ-NORTH, SOUTH KOREA	38.5N 128.5E	38.4N 128.8E	10	NV	250	N	Y	19910429	055800	142	245	48	14	
79	28	SOUTH KOREA	NEAR SAMCHEOG-COAST	37.5N 129.0E	37.4N 129.9E	55	NV	250	N	Y	19910429	055821	142	248	47	14	
79	29	SOUTH KOREA	NAKTONG RIVER	36.0N 128.5E	36.5N 130.8E	70	LO	250	N	Y	19910429	055839	141	249	47	14	
79	30	PACIFIC OCEAN	CLOUDS		33.8N 133.6E	90	HO	250	N	Y	19910429	055933	141	255	45	14	
79	31	PACIFIC OCEAN	CLOUDS-SHUTTLE TAIL		17.5S 167.2E	80	HO	250	N	Y	19910429	061506	139	286	3	14	
79	32	PACIFIC OCEAN	CLOUDS		29.6S 176.1E	90	HO	250	N	Y	19910429	061852	141	281	-8	14	
79	33	CLOUDS	CLOUD TOP-VERY DARK		28.2N 16.6W	100	LO	250	U	N	19910429	070310	141	77	6	15	
79	34	CANARY ISLANDS	TENERIFE OR GRAN CANARIA		28.6N 16.2W	50	LO	250	U	N	19910429	070319	141	77	6	15	
79	35	CANARY ISLANDS	TENERIFE-VERY DARK		28.5N 16.5W	29.2N 15.8W	50	NV	250	U	N	19910429	070329	142	77	7	15
79	36	CANARY ISLANDS	TENERIFE-VERY DARK		28.5N 16.5W	29.6N 15.4W	50	LO	250	U	N	19910429	070338	142	78	7	15
79	37	CANARY ISLANDS	TENERIFE		28.0N 16.5W	30.7N 14.5W	55	LO	250	N	Y	19910429	070359	142	78	9	15
79	38	MOROCCO	ATLAS MOUNTAINS-HAZE		34.2N 11.3W		10	LO	250	N	Y	19910429	070506	142	81	12	15
79	39	MOROCCO	S.OF GIBRALTER-SOLITONS		35.5N 6.0W	35.6N 10.0W	30	LO	250	N	Y	19910429	070533	142	82	13	15
79	40	MOROCCO	S.OF GIBRALTER-SOLITONS		36.0N 6.0W	35.7N 9.8W	40	LO	250	N	Y	19910429	070536	142	82	14	15
79	41	MEDITERRANEAN SEA	S.OF GIBRALTER-SOLITONS		36.0N 5.0W	36.1N 9.5W	10	LO	250	N	Y	19910429	070543	143	82	14	15

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
79	42	ATLANTIC OCEAN	NEAR S. OF GIBRALTER-CLDS	36.0N	5.5W	36.8N	8.7W	60	LO	250	N	N	19910429	070558	143	83	15	15
79	43	SPAIN	GIBRALTER	37.0N	7.0W	37.2N	8.2W	20	LO	250	N	N	19910429	070607	143	83	15	15
79	44	SPAIN	HUELVA-ATLANTIC COAST	37.0N	7.0W	37.9N	7.5W	0	LO	250	U	Y	19910429	070821	143	84	16	15
79	45	SPAIN	HUELVA-ATLANTIC COAST	40.5N	5.0W	38.1N	7.2W	5	LO	250	U	Y	19910429	070825	143	84	16	15
79	46	SPAIN	CARPETOVETONICA MNTS.	42.0N	3.0W	40.6N	4.3W	0	NV	250	U	N	19910429	070716	143	87	19	15
79	47	SPAIN	CUERDA DEL POZO RES.	41.5N	2.5W	42.1N	2.4W	0	NV	250	U	Y	19910429	070748	143	89	20	15
79	48	SPAIN	CUERDA DEL POZO RES.	42.5N	1.0W	43.1N	2.2W	0	NV	250	U	Y	19910429	070752	143	89	20	15
79	49	SPAIN	YESA RESERVOIR	42.5N	1.0W	43.1N	1.0W	0	NV	250	U	N	19910429	070810	144	90	21	15
79	50	FRANCE	NEAR BORDEAUX	44.5N	1.0W	44.1N	.4E	15	NV	250	N	Y	19910429	070833	144	91	22	15
79	51	FRANCE	CAZAUX ET DESANGUINET L.	44.5N	1.0W	44.4N	.8E	15	NV	250	U	Y	19910429	070839	144	92	23	15
79	52	FRANCE	TROYES, AG LAND, SEINE R.	48.5N	4.0E	47.1N	5.5E	0	LO	250	N	Y	19910429	070945	144	97	26	15
79	53	FRANCE	TROYES, AG LAND, SEINE R	48.5N	4.0E	47.4N	5.9E	0	LO	250	N	Y	19910429	070951	144	97	26	15
79	54	GERMANY	MAIN RIVER-NEAR WURZBURG	50.0N	10.0E	49.9N	11.1E	30	LO	250	N	N	19910429	071057	145	103	29	15
79	55	GERMANY	MAIN RIVER-AG PATTERNS	50.5N	9.5E	50.2N	11.7E	20	LO	250	N	N	19910429	071104	145	104	30	15
79	56	POLAND	GDANSK-GULF OF DANZIG	54.5N	19.0E	53.3N	20.4E	10	LO	250	N	N	19910429	071240	145	114	34	15
79	57	USSR-EUROPEAN	KALININGRAD	54.5N	20.0E	53.6N	21.6E	0	LO	250	N	N	19910429	071252	145	115	34	15
79	58	USSR-EUROPEAN	VYATKA RIVER-URZHUM	57.0N	50.0E	57.3N	50.9E	10	NV	250	N	Y	19910429	071715	145	163	44	15
79	59	USSR-EUROPEAN	VYATKA RIVER-SHURMA	57.0N	50.5E	57.3N	51.8E	10	LO	250	N	Y	19910429	071723	145	154	44	15
79	60	USSR-EUROPEAN	KAMA RIVER-SARAPUL	56.5N	54.0E	57.2N	54.9E	5	NV	250	N	Y	19910429	071749	145	158	45	15
79	61	USSR-EUROPEAN	KAMA RIVER-KAMBARKA	56.0N	54.0E	57.2N	55.4E	5	LO	250	N	Y	19910429	071753	145	159	46	15
79	62	USSR-EUROPEAN	LAKE-KARMANOVO	56.5N	54.5E	57.1N	55.9E	5	LO	250	N	Y	19910429	071757	145	160	46	15
79	63	USSR-EUROPEAN	UFA RIVER-RESERVOIR	56.0N	57.0E	57.0N	58.1E	5	LO	250	N	Y	19910429	071816	145	163	46	15
79	64	USSR-EUROPEAN	UFA RIVER-RESERVOIR	55.5N	56.5E	57.0N	58.7E	5	LO	250	N	Y	19910429	071821	145	164	46	15
79	65	USSR-EUROPEAN	REVDA-PERVOURAL'SK	57.0N	59.5E	56.7N	61.1E	5	LO	250	N	N	19910429	071842	145	167	47	15
79	66	USSR-MIDDLE	SMOKE BTW PYSHMA&TOBOL R	56.5N	65.5E	56.2N	65.5E	0	NV	250	N	Y	19910429	071921	145	174	48	15
79	67	USSR-MIDDLE	SMOKEBTWN PYSHMA&TOBOL R	56.5N	65.0E	56.0N	66.7E	0	LO	250	N	Y	19910429	071932	145	175	48	15
79	68	USSR-MIDDLE	TOBOL R.-DENISOVO	56.5N	65.5E	55.7N	68.5E	0	LO	250	N	Y	19910429	071948	145	178	48	15
79	69	USSR-MIDDLE	SMOKE NEAR L. SALTAIM	56.5N	71.0E	55.1N	71.5E	0	LO	250	N	Y	19910429	072016	145	183	49	15
79	70	USSR-MIDDLE	SMOKE NEAR L. SALTAIM	56.5N	71.0E	55.0N	72.0E	0	LO	250	N	Y	19910429	072021	145	184	49	15
79	71	USSR-MIDDLE	LAKE SELETYENIZ	53.5N	73.0E	54.6N	73.8E	0	LO	250	N	Y	19910429	072038	145	186	49	15
79	72	USSR-MIDDLE	LAKE SELETYENIZ	53.0N	73.0E	54.4N	74.7E	0	LO	250	N	Y	19910429	072047	145	188	50	15
79	73	USSR-MIDDLE	LAKE BOL'SHOY AZHBULAT	53.0N	77.5E	53.4N	78.4E	0	NV	250	N	Y	19910429	072124	144	194	50	15
79	74	USSR-MIDDLE	LAKE BOL'SHOY AZHBULAT	53.0N	77.0E	53.3N	78.7E	0	LO	250	N	Y	19910429	072127	144	194	50	15
79	75	USSR-MIDDLE	NEAR VOLCHIKHA-SMALL LAK	52.0N	80.5E	52.5N	81.3E	0	NV	250	U	Y	19910429	072155	144	199	50	15
79	76	USSR-MIDDLE	SMALL LAKES-TREES	51.5N	79.5E	52.4N	81.7E	0	LO	250	U	Y	19910429	072159	144	199	50	15
79	77	USSR-MIDDLE	SMALL LAKES-TREES	51.5N	79.5E	52.2N	82.1E	0	LO	250	U	Y	19910429	072203	144	200	50	15
79	78	USSR-MIDDLE	IRTYSH RIVER	50.5N	80.0E	51.9N	83.1E	0	LO	250	N	N	19910429	072214	144	202	50	15
79	79	USSR-MIDDLE	BUKHTARMSKOYE RES.	49.5N	84.0E	50.9N	85.7E	25	LO	250	U	N	19910429	072244	144	206	51	15
79	80	CHINA	QINGHAI LAKE	37.0N	100.5E	38.1N	106.4E	15	LO	250	N	N	19910429	072743	142	246	48	15
79	81	CHINA	QILIAN MOUNTAINS-HAZE	38.0N	100.0E	36.7N	107.9E	15	LO	250	N	Y	19910429	072812	141	249	47	15

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
79	82	CHINA	LENGLONG MOUNTAINS	37.0N 103.0E	36.4N 108.2E	10	LO	250	N	Y	19910429	072817	141	249	47 15
79	83	CHINA	LENGLONG MOUNTAINS	37.0N 103.0E	36.2N 108.4E	20	LO	250	N	Y	19910429	072821	141	250	47 15
79	84	CLOUDS	CUMULUS, CUMULONIMBUS		27.6N 116.1E	100	LO	250	N	M	19910429	073107	140	264	42 15
79	85	CHINA	COAST-CLOUDS-DARK		23.8N 119.1E	60	LO	250	U	N	19910429	073219	139	269	39 15
79	86	CHINA	COAST-CLOUDS-DARK		23.5N 119.3E	70	LO	250	U	Y	19910429	073224	139	269	39 15
79	87	PACIFIC OCEAN	OFF CHINESE COAST-INT W.		22.1N 120.3E	25	LO	250	N	Y	19910429	073250	139	271	38 15
79	88	PACIFIC OCEAN	OFF CHINESE COAST-INT W.		21.8N 120.5E	30	LO	250	N	Y	19910429	073255	139	271	38 15
79	83	PACIFIC OCEAN	OFF CHINESE COAST-INT W.		21.4N 120.7E	55	LO	250	N	N	19910429	073302	139	271	37 15
79	90	PACIFIC OCEAN	OFF CHINESE COAST-INT W.		21.1N 121.0E	55	LO	250	N	M	19910429	073308	139	272	37 15
79	91	PACIFIC OCEAN	OFF CHINESE COAST-INT W.		20.5N 121.4E	20	LO	250	N	N	19910429	073320	139	272	37 15
79	92	PHILIPPINE SEA	INTERNAL WAVES-SHIP WAKE		18.8N 122.5E	5	LO	250	N	N	19910429	073346	139	274	36
80	0	A PHILIPPINES	SIAGAO ISLAND	10.0N 126.0E	11.0N 127.4E	25	LO	250	N	M	19910429	073607	138	280	29 15
80	1	PHILIPPINES	BOHOL, LEYTE-SUNGLINT	10.0N 124.5E	8.9N 128.7E	35	LO	250	N	Y	19910429	073647	138	281	27 15
80	2	PHILIPPINES	BOHOL, LEYTE-SUNGLINT	10.0N 125.0E	8.7N 128.8E	35	LO	250	N	Y	19910429	073650	138	281	27 15
80	3	PHILIPPINES	CAMIGUIN I.-SUNGLINT	9.5N 125.0E	8.1N 129.2E	40	LO	250	N	M	19910429	073701	138	282	27 15
80	4	PHILIPPINES	MINDANAO-MORO GULF	6.5N 125.0E	6.5N 130.1E	80	LO	250	N	N	19910429	073729	138	282	25 15
80	5	PACIFIC OCEAN ISLAND	HELEN REEF-HALHAMERA SEA	3.0N 132.0E	3.2N 132.0E	25	NV	250	N	N	19910429	073828	138	284	22 15
80	6	INDONESIA	WEST NEW GUINEA-N COAST	1.0S 134.0E	.3S 134.0E	55	NV	250	N	M	19910429	073931	138	285	19 15
80	7	CLOUDS	CLOUDS-UNDEREXPOSED		6.9S 137.9E	30	LO	250	U	N	19910429	074129	138	286	13 15
80	8	CLOUDS	CLOUD WAVES-UNDEREXPOSED		18.1S 144.8E	100	LO	250	U	N	19910429	074451	139	286	3 15
80	9	USSR-EUROPEAN	SARATOVSKOYE RES. -BALAKO	52.5N 48.0E	54.6N 51.2E	5	LO	250	U	Y	19910429	085014	145	186	9 16
80	10	USSR-EUROPEAN	SARATOVSKOYE RES. -BALAKO	52.5N 48.0E	54.5N 51.6E	5	LO	250	U	Y	19910429	085017	145	187	49 16
80	11	USSR-EUROPEAN	SARATOVSKOYE RES.	52.0N 48.0E	54.3N 52.4E	5	LO	250	U	Y	19910429	085025	145	188	50 16
80	12	USSR-EUROPEAN	PUGACHEV-NEAR VOLGA R.	52.0N 49.0E	54.2N 52.7E	5	LO	250	U	N	19910429	085028	145	188	50 16
80	13	USSR-EUROPEAN	LAKE ARALSOR	49.0N 48.5E	53.7N 54.7E	10	LO	250	U	N	19910429	085048	145	192	50 16
80	14	USSR-EUROPEAN	UIL RIVER	49.0N 55.0E	50.9N 62.8E	5	LO	250	U	N	19910429	085216	144	206	51 16
80	15	USSR-EUROPEAN	RIV., CHELKAR NEAR ARAL	47.5N 60.5E	50.3N 64.3E	0	LO	250	U	N	19910429	085233	144	208	51 16
80	16	USSR-EUROPEAN	ARAL SEA-BARSAKEL MES I.	45.5N 59.5E	49.5N 66.3E	25	LO	250	U	Y	19910429	085257	144	212	51 16
80	17	USSR-MIDDLE	ARAL SEA-NW PART	45.5N 60.5E	49.2N 66.7E	35	LO	250	U	Y	19910429	085303	144	213	51 16
80	18	USSR-MIDDLE	LAKE SHUBAR TENGIZ	47.5N 65.0E	48.2N 68.9E	10	LO	250	N	N	19910429	085330	143	217	51 16
80	19	USSR-MIDDLE	ARYS SALT FLAT	46.0N 66.5E	46.9N 71.2E	70	LO	250	N	M	19910429	085401	143	221	51 16
80	20	CLOUDS	CLOUD HOLE		22.3N 97.4E	100	LO	250	N	N	19910429	090220	139	270	38 16
80	21	BURMA	GULF OF MARTABAN	18.0N 97.0E	17.1N 100.9E	70	HO	50	N	Y	19910429	090355	139	275	34 16
80	22	BURMA	GULF OF MARTABAN	18.0N 97.0E	16.7N 101.1E	70	HO	50	N	Y	19910429	090402	139	276	34 16
80	23	BURMA	GULF OF MARTABAN	18.0N 97.0E	15.7N 101.8E	70	HO	50	N	Y	19910429	090420	138	277	33 16
80	24	THAILAND	BIGHT OF BANGKOK	13.0N 100.0E	13.7N 103.0E	60	HO	50	N	Y	19910429	090456	138	278	32 16
80	25	BURMA	BIGHT OF BANGKOK-MALAY P	10.5N 98.5E	12.4N 103.8E	55	HO	50	N	Y	19910429	090519	138	279	31 16
80	26	BURMA	MALAY PENINSULA-SUNGLINT	10.0N 98.0E	10.3N 105.1E	55	HO	50	N	Y	19910429	090557	138	280	29 16
80	27	THAILAND	MALAY PENINSULA-SUNGLINT	9.5N 100.0E	9.4N 105.6E	50	HO	50	N	Y	19910429	090613	138	281	28 16
80	28	THAILAND	MALAY PENINSULA-SUNGLINT	9.5N 100.5E	8.4N 106.2E	50	HO	50	N	Y	19910429	090631	138	281	27 16

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR	
80	29	THAILAND	MALAY PENINSULA-SUNGLINT	8.0N 101.5E	7.5N 106.8E	50	HO	50	U	Y	19910429	090648	138	282	26	16	
80	30	MALAYSIA	MALAY PENINSULA-SUNGLINT	5.0N 104.0E	4.1N 108.8E	50	HO	50	N	Y	19910429	090749	138	283	23	16	
80	31	SOUTH CHINA SEA	NEAR COAST OF MALAY PEN.		2.9N 109.5E	50	HO	50	N	Y	19910429	090810	138	284	22	16	
80	32	SOUTH CHINA SEA	EAST OF MALAY PEN.		.1S 111.2E	60	HO	50	N	N	19910429	090903	138	285	20	16	
80	33	INDONESIA	SUMATERA-BELITUNG I.-SG	4.0S 106.0E	5.7S 114.4E	55	HO	50	N	N	19910429	091042	138	286	15	16	
80	34	BRITAIN	SCOTLAND-MORAY F.-INVERN	57.5N	4.5W 56.8N	20	LO	250	N	Y	19910429	101444	145	136	41	17	
80	35	BRITAIN	SCOTLAND-MORAY F.-INVERN		56.9N	5.8W							101450	145	137	41	17
80	36	BRITAIN	SCOTLAND-NE COAST	57.5N	2.0W 57.0N	5.0W							101457	145	138	41	17
80	37	BRITAIN	SCOTLAND-ABERDEEN	57.0N	2.5W 57.0N	4.2W							101504	145	139	42	17
80	38	BRITAIN	SCOTLAND-ORKNEY ISLANDS	58.5N	3.0W 57.2N	1.8W							101524	145	142	42	17
80	39	BRITAIN	SCOTLAND-PETERHEAD	57.5N	1.5W 57.2N	.5W							101535	145	144	43	17
80	40	USSR-EUROPEAN	RESERVOIR?-HAZY		51.3N	39.1E	70	LO	250	N	N	19910429	102141	144	203	51	17
80	41	USSR-EUROPEAN	THE DON-DUNES	49.5N	43.0E 51.0N	40.0E							102151	144	205	51	17
80	42	USSR-EUROPEAN	THE DON-DUNES	49.5N	43.5E 50.7N	40.7E							102159	144	206	51	17
80	43	USSR-EUROPEAN	VOLGOGRAD-VOLGA R.-FUZZY	49.0N	45.0E 49.8N	42.8E							102224	144	210	51	17
80	44	USSR-EUROPEAN	VOLGA R.-VOLGOGRAD	48.5N	44.5E 49.2N	44.2E							102241	144	213	51	17
80	45	USSR-EUROPEAN	THE DON-DUNES	49.0N	44.0E 48.8N	44.8E	10	NV	250	N	Y	19910429	102249	144	214	51	17
80	46	USSR-EUROPEAN	AREA NE OF VOLGOGRAD	49.0N	45.5E 48.3N	45.8E	0	NV	250	N	N	19910429	102302	143	216	51	17
80	47	USSR-EUROPEAN	SALT PANS	47.0N	46.0E 47.9N	46.7E	0	LO	250	N	N	19910429	102313	143	217	51	17
80	48	USSR-EUROPEAN	VOLGA R. DEL.-ASTRAKHAN	46.5N	48.0E 47.6N	47.3E	0	LO	250	N	N	19910429	102321	143	218	51	17
80	49	USSR-EUROPEAN	VOLGA RIVER DELTA	46.0N	49.0E 47.1N	48.1E	0	LO	250	N	Y	19910429	102332	143	220	51	17
80	50	USSR-EUROPEAN	VOLGA RIVER DELTA	49.5N	48.0E 47.0N	48.3E	0	LO	250	N	Y	19910429	102335	143	220	51	17
80	51	USSR-EUROPEAN	SARYKAMYSKOYE L.&SALTP	42.0N	57.5E 42.6N	55.3E	50	LO	250	N	N	19910429	102517	142	234	50	17
80	52	USSR-EUROPEAN	ARAL SEA-VOZROZHDENIYA I	45.0N	59.0E 41.8N	56.3E	0	LO	250	N	N	19910429	102534	142	236	50	17
80	53	PAKISTAN	MAKRAN RANGE-QUETTA	30.5N	67.0E 29.1N	69.5E	10	LO	250	N	N	19910429	102950	140	262	43	17
80	54	PAKISTAN	SULAIMAN RANGE	29.5N	68.5E 28.1N	70.3E	0	LO	250	N	N	19910429	103009	140	263	43	17
80	55	PAKISTAN	SUKKUR-INDUS RIVER	27.5N	69.0E 27.3N	70.9E	0	LO	250	N	N	19910429	103024	140	264	42	17
80	56	PAKISTAN	JAMRAO CANNAL-THAR DES.	26.0N	69.0E 25.6N	72.2E	10	LO	250	N	N	19910429	103055	140	266	41	17
80	57	PAKISTAN	THUNDERSTORMS		24.5N	73.0E	50	HO	250	N	N	19910429	103115	139	268	40	17
80	58	INDIA	SALT PAN NEAR LITTLE RAN		23.6N	73.7E	5	LO	250	N	N	19910429	103132	139	269	40	17
80	59	INDIA	COAST-NORTH SAHYADRI	20.0N	73.0E 19.7N	76.4E	0	LO	250	N	N	19910429	103244	139	273	37	17
80	60	CANADA-NS	CAPE BRETON I.-SEA ICE	45.5N	60.0W 49.4N	58.4W	30	LO	250	N	Y	19910429	113927	144	101	28	18
80	61	CANADA-NS	CAPE BRETON I.-SEA ICE	46.5N	60.5W 49.6N	57.8W	40	LO	250	N	Y	19910429	113935	144	101	28	18
80	62	CANADA-N	FORTUNE BAY-BURIN PEN.	47.5N	55.0W 50.9N	54.9W	0	LO	250	N	N	19910429	114009	145	105	30	18
80	63	CANADA-N	AVALON PEN.-EAST COAST	47.0N	52.0W 51.5N	53.1W	40	LO	250	N	Y	19910429	114029	145	107	31	18
80	64	CANADA-N	AVALON PEN.-SEA ICE	47.0N	53.0W 51.9N	52.1W	25	LO	250	N	Y	19910429	114041	145	108	31	18
80	65	CANADA-N	AVALON PEN.-SEA ICE	46.5N	52.5W 52.5N	50.3W	30	LO	250	N	Y	19910429	114100	145	110	32	18
80	66	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.		1.7N	64.6E	25	HO	250	O	Y	19910429	120742	138	284	22	18
80	67	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.		1.1N	65.0E	30	HO	250	O	Y	19910429	120753	138	285	21	18
80	68	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.		.9S	66.1E	50	HO	250	O	N	19910429	120828	138	285	20	18

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC TL FL E S	DATE	GMT	AZ	EL	SUN OR
80	69	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.	2.5S 67.0E	2.5S 67.0E	35 LO 250 O	Y 19910429	120857	138	286	18 18
80	70	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.	3.7S 67.7E	3.7S 67.7E	35 HO 250 O	Y 19910429	120919	138	286	17 18
80	71	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.	5.4S 68.7E	5.4S 68.7E	60 HO 250 O	Y 19910429	120949	138	286	16 18
80	72	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.	6.6S 69.4E	6.6S 69.4E	60 HO 250 O	Y 19910429	121011	138	286	14 18
80	73	CANADA-N	HARP LAKE	55.0N 62.0W	55.3N 62.3W	0 NV 250 N	Y 19910429	131223	145	122	37 19
80	74	CANADA-N	SHAPIO LAKE	55.0N 61.0W	55.5N 61.2W	0 NV 250 N	Y 19910429	131233	145	124	37 19
80	75	CANADA-N	GRAND LAKE	53.5N 61.0W	55.9N 59.4W	0 LO 250 N	Y 19910429	131250	145	126	38 19
80	76	MEDITERRANEAN SEA	CLOUDS	39.3N 13.9E	39.3N 13.9E	35 LO 250 N	Y 19910429	132539	142	242	49 19
80	77	MEDITERRANEAN SEA	CLOUDS	39.1N 14.2E	39.1N 14.2E	40 LO 250 N	Y 19910429	132543	142	242	49 19
80	78	MEDITERRANEAN SEA	NEAR EGADI IS. -CLOUDS	39.0N 12.5E	38.8N 14.6E	25 LO 250 N	Y 19910429	132550	142	243	49 19
80	79	MEDITERRANEAN SEA	NEAR EGADI IS. -CLOUDS	38.5N 12.5E	38.6N 14.7E	30 LO 250 N	Y 19910429	132553	142	243	49 19
80	80	SICILY	TRAPANI	38.0N 12.5E	38.4N 14.9E	40 LO 250 N	Y 19910429	132557	142	244	49 19
80	81	SICILY	TRAPANI	38.0N 12.5E	38.2N 15.2E	55 LO 250 N	Y 19910429	132602	142	244	49 19
80	82	SICILY	TRAPANI	37.5N 13.0E	38.1N 15.3E	55 LO 250 N	Y 19910429	132604	142	244	49 19
80	83	SICILY	CLOUDS-SOUTHERN COAST	37.5N 13.0E	38.0N 15.5E	70 LO 250 N	Y 19910429	132607	142	245	49 19
80	84	SICILY	CLOUDS-SOUTHERN COAST	37.5N 13.5E	37.8N 15.7E	75 LO 250 N	Y 19910429	132611	142	245	49 19
80	85	SICILY	SOUTHERN COAST-SED PLUME	36.5N 15.0E	36.4N 17.1E	30 LO 250 N	Y 19910429	132638	141	248	48 19
80	86	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	34.5N 19.1E	34.5N 19.1E	40 LO 250 N	Y 19910429	132716	141	252	47 19
80	87	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	34.4N 19.2E	34.4N 19.2E	40 LO 250 N	Y 19910429	132718	141	252	47 19
80	88	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	33.8N 19.8E	33.8N 19.8E	40 LO 250 N	Y 19910429	132730	141	253	47 19
80	89	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	33.7N 19.9E	33.7N 19.9E	40 LO 250 N	Y 19910429	132733	141	253	47 19
80	90	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	33.1N 20.4E	33.1N 20.4E	40 LO 250 N	Y 19910429	132743	141	254	46 19
80	91	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	32.7N 20.8E	32.7N 20.8E	40 LO 250 N	Y 19910429	132751	141	255	46 19
80	92	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	32.4N 21.0E	32.4N 21.0E	40 LO 250 N	Y 19910429	132757	141	256	46 19
80	93	LIBYA	COAST-DUST STORM	30.8N 22.5E	30.8N 22.5E	10 LO 250 N	Y 19910429	132828	140	258	45 19
80	94	LIBYA	DUST STORM-CLOUDS	30.2N 23.0E	30.2N 23.0E	50 LO 250 N	Y 19910429	132839	140	259	45 19
80	95	LIBYA	DUST STORM-CLOUDS	29.5N 23.6E	29.5N 23.6E	80 LO 250 N	Y 19910429	132853	140	261	44 19
80	96	USA-NV	BLACK ROCK DESERT	41.5N 119.0W	37.9N 121.3W	0 LO 250 N	Y 19910429	143417	143	83	14 20
80	97	USA-NV	BASIN RANGE-MOUNTAINS	39.0N 116.5W	38.8N 120.3W	60 LO 250 N	Y 19910429	143435	143	84	15 20
80	98	USA	CA, NV-GREAT BASIN	40.3N 118.4W	40.3N 118.4W	55 LO 250 N	N 19910429	143508	143	85	17 20
80	99	USA	CA, NV-GREAT BASIN	42.3N 115.9W	42.3N 115.9W	55 LO 250 N	N 19910429	143550	143	88	19 20
80	100	USA-ID	AMER FALLS RES.-LAVA FLS	43.0N 113.0W	44.8N 112.2W	25 LO 250 N	N 19910429	143647	144	91	22 20
81	0 A	ANGOLA	CUBANGO R,CAMUNDA R.	16.2S 17.3E	16.2S 17.3E	15 LO 250 N	N				
81	0 B	NAMIBIA	CAMUNDA R,NAT'L BORDER	17.4S 18.8E	17.4S 18.8E	0 LO 250 N	N				
81	0 C	NAMIBIA	OMURAMBA R,PALED DUNES	18.8S 18.6E	18.8S 18.6E	0 LO 250 N	N				
81	0 D	NAMIBIA	GROOTFONTEIN,AFLD,AGR.	19.3S 18.2E	19.3S 18.2E	0 LO 250 N	N				
81	0 E	REPUBLIC SOUTH AFRICA	AGR, ROADS			10 LO 250 N	N				
81	0 F	REPUBLIC SOUTH AFRICA	AGR, SALT PANS			15 LO 250 N	N				
81	0 G	REPUBLIC SOUTH AFRICA	STORMBERG, KRAAL R.	31.2S 27.7E	31.2S 27.7E	10 LO 250 N	N				
81	0 H	LAND	CLOUDS,MTN. RANGES			50 HO 250 O	Y				

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
81	0 J	LAND	CLOUDS, MTN RANGES			60	HO	250	O	Y					
81	0 K	LAND	CLOUDS, MTN RANGES			75	HO	250	O	N					
81	0 L	USSR-PACIFIC	SAKHALIN I-SE PENINSULA	46.4N 143.5E		0	LO	250	U	N					
81	0 M	USSR-PACIFIC	SAKHALIN I-L. TUNAYCHA	46.7N 143.1E		0	LO	250	U	N					
81	0 N	USSR-PACIFIC	SAKHALIN I-E. CST, AFLD	47.4N 142.8E		0	LO	250	U	N					
81	0 P	PACIFIC OCEAN	SEA ICE			10	LO	250	N	N					
81	0 Q	PACIFIC OCEAN	CLOUD WAKES OVER ISLANDS			100	LO	250	N	N					
81	0 R	PACIFIC OCEAN	CLOUD WAKES OVER ISLANDS			100	LO	250	N	N					
81	0 S	USSR-PACIFIC	KURILES-ONEKOTAN I.	49.3N 154.7E		30	LO	250	N	N					
81	0 T	USSR-PACIFIC	KURILES-PARAMUSHIR I.	50.3N 155.7E		40	LO	250	N	N					
81	0 U	USSR-PACIFIC	KAMCHATKA-SE COAST, SNOW	52.5N 158.5E		5	LO	250	N	N					
81	0 V	USSR-PACIFIC	KAMCHATKA-AVACHINSKAYA B	53.0N 158.6E		0	LO	250	N	N					
81	0 W	USSR-PACIFIC	KAMCHATKA-C. SHIPUNSKIY	53.2N 159.9E		15	LO	250	N	N					
81	0 X	USSR-PACIFIC	KAMCHATKA-C. SHIPUNSKIY	53.4N 159.3E		10	LO	250	N	N					
81	0 Y	USSR-PACIFIC	KAMCHATKA-CENT. VAL, V. DK	54.7N 158.9E		15	LO	250	U	N					
81	0 Z	PACIFIC OCEAN	SEA ICE			50	LO	250	N	N					
81	0AA	PACIFIC OCEAN	SEA ICE			60	LO	250	N	N					
81	0AB	PACIFIC OCEAN	SEA ICE			60	HO	250	N	N					
81	0AC	PACIFIC OCEAN	CLOUD FIELD			85	HO	250	O	N					
81	0AD	USSR-PACIFIC	KAMCHATKA-C. SHIPUNSKIY	52.0N 158.0E		40	HO	250	N	N					
81	0AE	OCEAN	CLOUDS-WATER			60	LO	250	N	N					
81	0AF	OCEAN	CLOUDS-WATER			25	LO	250	N	Y					
81	0AG	OCEAN	CLOUDS-WATER			20	LO	250	N	Y					
81	0AH	OCEAN	CLOUDS-WATER			25	LO	250	N	Y					
81	0AJ	OCEAN	CLOUDS-WATER			30	LO	250	N	Y					
81	0AK	OCEAN	CLOUDS-WATER			35	LO	250	N	Y					
81	0AL	OCEAN	CLOUDS-WATER			35	LO	250	N	Y					
81	0AM	OCEAN	CLOUDS-WATER			35	LO	250	N	N					
81	0AN	OCEAN	CLOUDS-WATER			20	LO	250	N	N					
81	0AP	OCEAN	CLOUDS-WATER			20	LO	250	N	N					
81	0AQ	OCEAN	CLOUDS-WATER			40	LO	250	N	N					
81	0AR	OCEAN	SNGLT, MOTTLED SURFACE			70	LO	250	O	Y					
81	0AS	OCEAN	SNGLT, MOTTLED SURFACE			60	LO	250	O	Y					
81	0AT	OCEAN	SNGLT, MOTTLED SURFACE			40	LO	250	O	Y					
81	0AU	OCEAN	SNGLT, MOTTLED SURFACE			40	LO	250	O	Y					
81	0AV	OCEAN	SNGLT, MOTTLED SURFACE			60	LO	250	O	Y					
81	0AW	OCEAN	SNGLT, MOTTLED SURFACE			60	LO	250	O	Y					
81	0AX	OCEAN	SNGLT, MOTTLED SURFACE			65	LO	250	O	Y					
81	0AY	OCEAN	SNGLT, MOTTLED SURFACE			70	LO	250	O	Y					
81	0BA	OCEAN	SNGLT, STORM			70	LO	250	N	Y					

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADRID LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
81						80	LO	250	N	Y						
81	08B	OCEAN	STORM			80	LO	250	N	Y						
81	08C	OCEAN	STORM			85	LO	250	N	Y						
81	08D	OCEAN	STORM			85	LO	250	N	Y						
81	08E	OCEAN	STORM			85	LO	250	N	Y						
81	08F	OCEAN	STORM			85	LO	250	N	Y						
81	08G	OCEAN	SCATTERED CLOUDS			60	HO	250	O	Y						
81	08H	OCEAN	SCATTERED CLOUDS			60	HO	250	O	Y						
81	08J	OCEAN	SCATTERED CLOUDS			60	LO	250	O	N						
81	08K	OCEAN	SCATTERED CLOUDS			75	LO	250	O	N						
81	08L	ARABIAN SEA	MONSOON STORM CELLS	14.1N 79.1 E		50	HO	250	N	N	19910505	082310	141	251	70	112
81	08Z	OCEAN	SNGLT, MOTTLED SURFACE			70	LO	250	N	Y						
81	1	SYRIA	EUPHRATES R., AGR, HAZY	34.5N 41.0E 35.3N	40.0E	50	LO	250	N	N	19910505	094612	144	174	63	113
81	2	IRAQ	THARTHAR L, EUPHRATES R.	33.7N 43.3E 34.8N	40.6E	0	LO	250	N	N	19910505	094623	144	176	63	113
81	3	IRAQ	MILH LAKE, EUPHRATES R.	33.1N 43.6E 34.5N	40.8E	0	LO	250	N	Y	19910505	094628	144	176	63	113
81	4	IRAQ	MILH LAKE, EUPHRATES R.	32.6N 44.1E 34.2N	41.1E	0	LO	250	N	Y	19910505	094634	144	177	64	113
81	5	IRAQ	AGR, EUPHRATES RIVER	32.3N 44.4E 34.0N	41.3E	0	LO	250	N	Y	19910505	094637	144	178	64	113
81	6	IRAQ	BAGDAD, EUPHRATES R.	33.3N 43.8E 33.6N	41.7E	0	LO	250	N	N	19910505	094646	144	179	64	113
81	7	IRAQ	MILH L, EUPHRATES R., AGR.	32.6N 44.1E 33.2N	42.1E	0	LO	250	N	N	19910505	094654	144	180	65	113
81	8	IRAQ	EUPHRATES R., AGR.	32.0N 44.5E 32.9N	42.4E	0	LO	250	N	N	19910505	094700	144	181	65	113
81	9	IRAQ	EUPHRATES R., AGR.	31.7N 44.5E 32.6N	42.6E	0	LO	250	O	Y	19910505	094705	144	182	65	113
81	10	IRAQ	EUPHRATES R., AGR.	31.5N 44.5E 32.3N	42.9E	0	LO	250	O	Y	19910505	094711	144	183	65	113
81	11	KUWAIT	OIL FIRES, CITY, SMOKE	29.5N 48.0E 31.3N	43.8E	0	LO	250	O	Y	19910505	094730	143	186	66	113
81	12	KUWAIT	OIL FIRES, CITY, SMOKE	29.0N 48.0E 30.9N	44.1E	0	LO	250	O	Y	19910505	094738	143	187	67	113
81	13	KUWAIT	OIL FIRES, CITY, SMOKE	29.0N 47.5E 30.1N	44.9E	0	LO	250	O	Y	19910505	094754	143	189	67	113
81	14	KUWAIT	OIL FIRES, CITY, SMOKE	29.0N 48.0E 29.8N	45.1E	0	LO	250	O	Y	19910505	094800	143	190	67	113
81	15	KUWAIT	OIL FIRES, BUBIYAN I., SMOKE	29.8N 47.8E 29.0N	45.7E	0	LO	250	O	N	19910505	094814	143	193	68	113
81	16	SAUDI ARABIA	MAZHUR IRRIG PROJECT	27.5N 43.5E 28.0N	46.6E	0	LO	250	O	N	19910505	094834	143	196	69	113
81	17	OMAN	WADIS, ZUFAR BASIN	19.1N 53.1E		0	LO	250	O	N	19910505	095119	142	232	72	113
81	18	OMAN	MAHRAT MTS., COAST	16.9N 53.2E 18.3N	53.6E	10	LO	250	O	N	19910505	095133	142	235	72	113
81	19	OMAN	SAMHAN MTS., COAST	17.6N 55.2E 17.4N	54.2E	30	LO	250	N	N	19910505	095149	141	239	72	113
81	20	OMAN	SAMHAN MTS., COAST	17.1N 54.9E 17.0N	54.4E	30	LO	250	O	N	19910505	095156	141	240	71	113
81	21	OMAN	KURIA MURIA ISLANDS	17.4N 55.9E 16.5N	54.8E	0	LO	250	N	N	19910505	095206	141	242	71	113
81	22	EGYPT	NILE RIVER, LAKE MASSER	25.0N 32.5E 16.2N	32.1E	5	HO	250	N	N	19910505	112151	141	244	72	114
81	23	EGYPT	NILE R., EASTERN DES., RED S	25.0N 34.0E 15.5N	32.6E	5	HO	250	O	N	19910505	112205	141	247	71	114
81	24	EGYPT	NW PAN, GILF KEBIR PLAT.	23.0N 26.0E 14.2N	33.4E	0	HO	250	O	N	19910505	112228	141	252	71	114
81	25	SUDAN	BLUE NILE, EL GEZIRA IRR.	14.5N 33.5E 12.6N	34.4E	0	LO	250	O	N	19910505	112257	141	258	70	114
81	26	INDIAN OCEAN ISLAND	ILES GLORIEUSES	11.6S 47.3E 12.1S	48.9E	0	LO	250	N	N	19910505	113019	141	299	48	114
81	27	INDIAN OCEAN	OCEAN STRUCTURE	13.3S 49.7E		10	LO	250	N	N	19910505	113040	141	300	47	114
81	28	MADAGASCAR	NO. END. CAP D'AMBRE, AFLD	12.2S 49.2E 14.1S	50.1E	20	LO	250	N	N	19910505	113054	141	300	46	114
81	29	MADAGASCAR	MAHAJAMBA BAY, NO. CST.	16.0S 46.0E 16.6S	51.8E	10	LO	250	N	N	19910505	113140	141	301	44	114

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	EL	OR
				LAT	LONG	LAT	LONG												
81	30	MADAGASCAR	BOMBETOKA BAY, NO.CST.	16.0S	46.5E	16.8S	51.9E	20	LO	250	N	N	19910505	113144	141	301	43	114	
81	31	MADAGASCAR	ONIBE R, EAST COAST	17.5S	49.5E	17.4S	52.3E	60	LO	250	N	N	19910505	113154	141	302	43	114	
81	32	USA-MT	MTNS, SNOW CAPPED, LOW SUN		46.4N	110.7W		0	LO	250	N	N	19910505	122619	146	62	-7	115	
81	33	USA-MT	MTNS, SNOW CAPPED, LOW SUN		47.3N	109.1W		10	LO	250	U	N	19910505	122841	146	63	-5	115	
81	34	ZAIRE	CONGO R, LULONGA R, RNFS.	0.8N	18.3E	1.9N	18.0E	60	LO	250	N	N	19910505	125549	140	285	63	115	
81	35	ZAIRE	CONGO R, MBANDAKA, RNFS.	0.2N	18.3E	1.6N	18.1E	70	LO	250	N	N	19910505	125553	140	285	63	115	
81	36	ZAIRE	CONGO R, RAINFOREST	0.3S	18.0E	1.1N	18.4E	70	LO	250	N	N	19910505	125602	140	286	62	115	
81	37	MAURITANIA	CAP BLANC PENIN, COAST	20.8N	16.8W			0	LO	250	O	N							
81	38	MAURITANIA	TIDRA I, ST. JEAN BAY, CST	19.7N	16.3W			0	LO	250	O	N							
81	39	ANGOLA	FIRES, SMOKE, COAST	11.0S	15.0E			25	LO	250	U	Y							
81	40	ANGOLA	FIRES, SMOKE, COAST	10.0S	15.0E			35	LO	250	U	Y							
81	41	NAMIBIA	WALVIS BAY, NAMIB DES, CST	23.0S	14.5E			0	LO	250	N	N							
83	0	A CANADA-Q	OPEN WATER LEAD, HUD. BAY	56.2N	76.5W	56.5N	77.4W	0	LO	250	N	N	19910429	144306	145	132	40	20	
83	1	CANADA-Q	TROYE R, SNOW, ICE	56.1N	75.5W	56.9N	74.2W	0	LO	250	N	N	19910429	144336	145	136	41	20	
83	2	CANADA-Q	MANICOUAGAN RES, SNOW, ICE	51.6N	86.4W	57.1N	71.7W	20	LO	250	N	N	19910429	144357	145	139	41	20	
83	3	CANADA-Q	CANIAPISCAU R, SNOW, ICE	56.3N	69.0W	57.2N	68.5W	0	LO	250	N	N	19910429	144425	145	143	42	20	
83	4	CANADA-Q	FRASER R, SNOW, ICE	56.5N	63.5W	57.1N	70.6W	0	LO	250	N	N	19910429	144407	145	140	42	20	
83	5	CANADA-Q	KINGURUTIK L, MAIN BAY	56.6N	62.1W	57.3N	62.3W	0	LO	250	N	N	19910429	144517	145	151	44	20	
83	6	CANADA-Q	VOISEY BAY, KIKKERTAVAK I	56.3N	61.6W	57.3N	61.6W	0	LO	250	N	N	19910429	144523	145	152	44	20	
83	7	CANADA-Q	HARP L, ADLATOK R, SNOW	55.2N	61.3W	57.1N	57.5W	0	LO	250	N	N	19910429	144558	145	158	46	20	
83	8	SPAIN	CADIZ, ROTA, SHTL L, FLD	36.5N	6.2W	36.6N	5.8W	15	NV	250	N	Y	19910429	145610	141	247	48	20	
83	9	SPAIN	CADIZ, HARBOR, COAST	36.4N	6.0W	36.1N	5.2W	5	NV	250	N	Y	19910429	145621	141	248	48	20	
83	10	SPAIN	STR./GIBRALTAR, CEUTA	36.1N	5.5W	35.9N	5.0W	15	NV	250	N	Y	19910429	145625	141	249	48	20	
83	11	SPAIN	STR./GIBRALTAR, CEUTA	36.1N	5.4W	35.7N	4.8W	15	NV	250	N	Y	19910429	145629	141	249	48	20	
83	12	MOROCCO	STR, CEUTA, TANGIERS	35.9N	5.5W	35.5N	4.6W	10	NV	250	N	Y	19910429	145633	141	250	48	20	
83	13	MOROCCO	STR, CEUTA, COAST	35.8N	5.4W	35.0N	4.2W	0	LO	250	N	Y	19910429	145642	141	251	48	20	
83	14	MOROCCO	STR, CEUTA, GIBRALTAR, CSTS	35.9N	5.4W	34.7N	3.9W	15	LO	250	N	Y	19910429	145648	141	251	48	20	
83	15	SPAIN	STR, CEUTA, GIBRALTAR, CSTS	36.0N	5.5W	34.4N	3.6W	15	LO	250	N	Y	19910429	145654	141	252	47	20	
83	16	MOROCCO	MOULOUYA WADI/BASIN	34.3N	3.7W	33.8N	3.0W	0	NV	250	N	N	19910429	145706	141	253	47	20	
83	17	ALGERIA	KAHAL TABELBALA, MTN FOLD	30.0N	2.5W	31.6N	.9W	0	LO	250	N	N	19910429	145749	140	257	46	20	
83	18	ALGERIA	GUITR WADI, TABLELAND, DES.	31.0N	2.5W	31.3N	.7W	0	LO	250	N	N	19910429	145755	140	257	46	20	
83	19	ALGERIA	ERG CHECH, ERG IABES	25.5N	3.0W	29.1N	1.2E	0	LO	250	N	N	19910429	145836	140	261	44	20	
83	20	ALGERIA	ERG CHECH, ERG IABES	24.5N	3.5W	28.6N	1.5E	0	LO	250	N	N	19910429	145845	140	262	44	20	
83	21	ALGERIA	WADI QUATIA, DUNE FIELD	25.0N	2.5E	25.8N	3.8E	0	LO	250	N	N	19910429	145938	140	266	42	20	
83	22	ALGERIA	WADI ABELESSA, VOLC. CONES	23.0N	4.8E	22.8N	6.0E	10	LO	250	N	N	19910429	150035	139	269	40	20	
83	23	ALGERIA	WADI ABELESSA, VOLC. CONES	22.6N	4.8E	21.9N	6.6E	0	LO	250	N	N	19910429	150050	139	270	39	20	
83	24	NIGERIA	SW VIEW, LARGE STORM			13.8N	12.0E	100	HO	250	N	Y	19910429	150318	138	278	33	20	
83	25	NIGERIA	SW VIEW, LARGE STORM			12.9N	12.5E	100	HO	250	N	Y	19910429	150334	138	279	32	20	
83	26	CAMEROON	SW VIEW, LARGE STORM			8.8N	15.0E	100	HO	250	N	N	19910429	150447	138	281	29	20	
83	27	ZAIRE	UBANGI R, IBENGA R.	2.2N	18.1E	2.6N	18.6E	20	NV	250	N	N	19910429	150637	138	284	24	20	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	OR
83	28	ZAIRE	UBANGI R, GIRI R.	0.6N 18.0E	1.2N 19.4E	20	L0	250	N	Y	19910429	150702	138	285	22	20
83	29	ZAIRE	UBANGI R-JOINS-CONGO R.	0.4S 17.8E	.2N 20.0E	20	L0	250	N	Y	19910429	150721	138	285	21	20
83	30	ZAIRE	KASAI R/BASIN, DEFOREST.	3.0S 18.5E	1.2S 20.8E	30	L0	250	N	Y	19910429	150745	138	285	20	20
83	31	ZAIRE	KASAI R, LOANGE R.	4.3S 20.2E	2.9S 21.8E	40	L0	250	N	Y	19910429	150816	138	286	19	20
83	32	ZAIRE	SANKURU R, LUBEFU R, DEFOR	4.2S 23.0E	3.9S 22.3E	15	L0	250	N	Y	19910429	150834	138	286	18	20
83	33	ZAIRE	FIRES, DEFORESTATION, HAZE	4.5S 22.5E	4.5S 22.5E	30	L0	250	N	Y	19910429	150844	138	286	17	20
83	34	ZAIRE	FIRES, DEFORESTATION, HAZE	4.5S 22.5E	5.0S 23.0E	30	L0	250	N	Y	19910429	150854	138	286	17	20
83	35	ZAIRE	FIRES, SMOKE, HAZE	6.7S 24.0E	6.7S 24.0E	5	L0	250	N	Y	19910429	150924	138	287	15	20
83	36	ZAIRE	FIRES, SMOKE, HAZE	7.2S 24.3E	7.2S 24.3E	10	L0	250	N	Y	19910429	150933	138	287	15	20
83	37	ZAIRE	FIRES, SMOKE, HAZE	7.7S 24.5E	7.7S 24.5E	20	L0	250	N	Y	19910429	150941	138	287	14	20
83	38	ZAIRE	FIRES, SMOKE, HAZE	8.1S 24.8E	8.1S 24.8E	15	L0	250	N	Y	19910429	150949	138	287	14	20
83	39	ZAIRE	FIRES, SMOKE, HAZE	8.8S 25.2E	8.8S 25.2E	25	L0	250	N	Y	19910429	151001	138	287	13	20
83	40	ZAMBIA	LAKE MWERU, HAZY	8.7S 29.0E	10.6S 26.3E	5	L0	250	N	Y	19910429	151033	138	287	12	20
83	41	ZAMBIA	LAKE MWERU, SO. END, HAZY	9.5S 28.6E	10.8S 26.4E	10	L0	250	N	Y	19910429	151037	138	287	11	20
83	42	ZAMBIA	L, MWERU, SO. END, LUAPULA R	9.7S 28.6E	11.3S 26.7E	15	L0	250	N	Y	19910429	151046	138	287	11	20
83	43	ZAMBIA	L, MWERU, SO. END, LUAPULA R	9.6S 28.7E	11.6S 26.9E	15	L0	250	N	Y	19910429	151051	138	287	11	20
83	44	ZAMBIA	LUAPULA R, FIRES, HAZY	10.2S 28.6E	11.9S 27.0E	10	L0	250	N	Y	19910429	151056	138	287	10	20
83	45	ZAMBIA	LGE AFLD, MTN RIDGES, DARK	14.2S 28.5E	14.2S 28.5E	10	L0	250	U	Y	19910429	151139	138	287	8	20
83	46	ZAMBIA	LAKE BANGEULU, SWAMP	10.5S 30.5E	15.0S 29.0E	20	L0	250	N	Y	19910429	151153	138	287	7	20
83	47	ZAMBIA	L. TANGANYIKA, SWAMP	10.0S 30.5E	15.7S 29.5E	25	L0	250	U	Y	19910429	151206	138	287	7	20
83	48	CANADA-BC	MURTL L. N. THOMPSON R.	52.1N 119.3W	52.2N 119.6W	10	NV	250	N	Y	19910429	160936	145	108	31	21
83	49	CANADA-BC	NORTH THOMPSON R, ROCKIES	52.1N 119.3W	52.5N 118.7W	5	NV	250	N	Y	19910429	160945	145	109	32	21
83	50	CANADA-BC	COLUMBIA R, ROCKY MTN TR	52.0N 118.2W	52.9N 117.3W	40	L0	250	N	Y	19910429	161000	145	110	32	21
83	51	CANADA-A	NO. SASKATCHEWAN R, AGR.	53.5N 114.2W	53.4N 115.7W	50	L0	250	U	Y	19910429	161017	145	112	33	21
83	52	CANADA-A	AGR, CLOUDY	53.5N 114.2W	54.0N 113.7W	80	L0	250	U	Y	19910429	161037	145	115	34	21
83	53	CANADA-M	L. WINNIPEG, ICE	51.0N 96.5W	56.1N 103.3W	60	L0	250	N	Y	19910429	161215	145	127	38	21
83	54	CANADA-NT	JAMES BAY, SO. END, MOOSE R	51.5N 80.0W	57.1N 79.7W	15	L0	250	N	Y	19910429	161538	145	158	46	21
83	55	CANADA-Q	MANICOUAGAN RES, SNOW/ICE	51.3N 68.9W	55.9N 69.1W	20	L0	250	N	Y	19910429	161711	145	173	48	21
83	56	CANADA-Q	ST. LAWRENCE SEAWAY, SN/IC	49.0N 89.0W	55.7N 68.1W	25	H0	250	N	Y	19910429	161720	145	175	48	21
83	57	CANADA-Q	MANICOUAGAN RES, SNOW/ICE	51.3N 68.6W	55.4N 66.1W	20	L0	250	N	Y	19910429	161738	145	178	49	21
83	58	CANADA-Q	MANICOUAGAN RES, SNOW/ICE	51.4N 68.6W	55.0N 64.6W	20	L0	250	N	Y	19910429	161752	145	180	49	21
83	59	CANADA-Q	ST. LAWRENCE SEAWAY, SN/IC	47.7N 69.6W	54.6N 62.7W	25	H0	250	N	Y	19910429	161811	145	183	50	21
83	60	CANARY ISLANDS	TENERIFE, GOMERA, CLOUDY	28.2N 16.6W	25.8N 19.0W	50	L0	250	N	Y	19910429	162914	139	265	42	21
83	61	CANARY ISLANDS	TENERIFE, GOMERA, CLOUDY	28.3N 16.6W	25.2N 18.5W	50	L0	250	N	Y	19910429	162925	139	266	42	21
83	62	CANARY ISLANDS	TENERIFE, GOMERA, CLOUDY	28.1N 16.7W	24.5N 18.0W	50	L0	250	N	Y	19910429	162938	139	267	42	21
83	63	WESTERN SAHARA	TINDOUF SYNCLINE, DESERT	26.0N 11.0W	20.6N 15.2W	5	H0	250	O	Y	19910429	163049	139	272	39	21
83	64	MAURITANIA	RICHAAT STRUCTURE, DESERT	21.1N 11.3W	18.7N 14.0W	0	L0	250	O	Y	19910429	163124	139	274	37	21
83	65	MAURITANIA	RICHAAT STRUCTURE, DESERT	21.1N 11.3W	18.1N 13.6W	0	L0	250	O	Y	19910429	163135	138	274	37	21
83	66	MAURITANIA	RICHAAT STRUCTURE, DESERT	21.1N 11.3W	17.7N 13.3W	0	L0	250	O	Y	19910429	163142	138	274	37	21
83	67	ATMOSPHERIC LIMB	MOON RISE	21.1N 11.3W	17.7N 13.3W	100	H0	250	U	Y	19910429	190356	143	85	16	23

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
83	68	USA-AK	ALASKA PEN, SANAK IS.	54.6N 163.3W	54.3N 158.2W	30	LO	250	N	Y	19910429	190957	145	115	34	23
83	69	USA-AK	ALASKA PEN, SANAK IS.	54.6N 163.3W	54.5N 157.1W	40	LO	250	N	Y	19910429	191008	145	116	35	23
83	70	USA-AK	SHUMAGIN ISLANDS	55.0N 160.0W	54.8N 155.9W	25	LO	250	N	Y	19910429	191019	145	117	35	23
83	71	USA-AK	SHUMAGIN ISLANDS	55.0N 160.0W	55.0N 154.9W	30	LO	250	N	Y	19910429	191029	145	119	35	23
83	72	CANADA-BC	VANCOUVER I., ISLAND COAST	50.7N 127.5W	57.2N 137.1W	15	HO	250	O	N	19910429	191307	145	141	42	23
83	73	CANADA-BC	COAST MTNS, COAST	50.5N 124.5W	57.3N 135.5W	15	HO	250	N	N	19910429	191320	145	143	42	23
83	74	CANADA-BC	VANCOUVER I., COAST	50.5N 127.0W	57.3N 134.3W	15	HO	250	N	N	19910429	191330	145	144	43	23
83	75	CANADA-BC	PORTLAND CANAL/INLET	55.0N 130.0W	57.3N 131.4W	0	LO	250	N	N	19910429	191355	145	148	44	23
83	76	CANADA-BC	SKEENA R, COAST MTNS.	55.0N 128.0W	57.2N 128.5W	5	LO	250	N	N	19910429	191419	145	152	45	23
83	77	CANADA-BC	WILLISTON LAKE, AGR.	56.0N 124.0W	57.2N 126.4W	20	LO	250	N	N	19910429	191437	145	155	45	23
83	78	CANADA-BC	FRASER R, QUESNEL	53.0N 122.5W	57.1N 124.8W	60	LO	250	N	N	19910429	191451	145	157	46	23
83	79	CANADA-A	LESSER SLAVE LAKE, AGR.	55.5N 115.5W	56.4N 118.2W	10	LO	250	N	N	19910429	191548	145	167	47	23
83	80	CANADA-A	ATHABASCA R/TOWN, AGR.	55.0N 113.0W	56.0N 115.4W	30	LO	250	N	N	19910429	191613	145	171	48	23
83	81	CANADA-A	EDMONTON, N. SASKATCH. R.	53.5N 113.5W	55.8N 114.0W	30	LO	250	N	N	19910429	191626	145	173	48	23
83	82	CANADA-A	LAC LA BICHE, AGR.	54.7N 112.5W	55.4N 112.0W	40	LO	250	N	N	19910429	191644	145	176	49	23
83	83	CANADA-M	L. WINNEPEG-SO. END, ICE	50.5N 97.0W	51.6N 98.1W	40	LO	250	N	N	19910429	191905	144	199	51	23
83	84	CANADA-M	L. WINNEPEG-SO. END, ICE	51.0N 97.0W	51.0N 96.6W	15	NV	250	N	N	19910429	191923	144	201	52	23
83	85	USA-MD	DELMAR PEN, CHESAPEAKE BY	38.0N 76.0W	38.5N 76.1W	60	NV	250	N	N	19910429	192417	141	242	50	23
83	86	USA-MD	DELMAR PEN, CHESAPEAKE BY	37.6N 75.8W	38.0N 75.6W	20	NV	250	N	N	19910429	192426	141	243	50	23
83	87	USA-MD	DELMAR PEN, CHESAPEAKE BY	37.0N 76.0W	37.7N 75.2W	10	LO	250	N	N	19910429	192433	141	244	50	23
83	88	USA-VA	NE COAST, (HALF PICTURE)	36.9N 76.2W	37.4N 74.9W	0	LO	250	N	N	19910429	192438	141	244	50	23
83	89	USA-NC	OUTER BANKS, ALBEM. SOUND	36.0N 76.0W	36.6N 74.0W	20	LO	250	N	N	19910429	192456	141	246	49	23
83	90	USA-NC	OUTER BANKS, C. HATTERAS	35.3N 75.8W	36.3N 73.7W	15	LO	250	N	N	19910429	192501	141	247	49	23
83	91	USA-NC	CURRENT BOUND, C. HATTERAS	35.0N 75.5W	35.9N 73.3W	5	LO	250	N	N	19910429	192510	141	248	49	23
83	92	USA-NC	CURRENT BOUND, C. HATTERAS	34.9N 75.9W	35.7N 73.1W	20	LO	250	N	N	19910429	192513	141	248	49	23
83	93	USA-NC	CURRENT BOUND, C. HATTERAS	35.0N 75.5W	35.6N 73.0W	15	LO	250	N	N	19910429	192516	141	248	49	23
83	94	ATLANTIC OCEAN	EDDIES-GULF STREAM	35.3N 72.7W	35.3N 72.7W	40	LO	250	N	N	19910429	192521	141	249	49	23
83	95	ATLANTIC OCEAN	GULF STREAM BOUNDARY	35.1N 72.5W	35.1N 72.5W	35	LO	250	N	N	19910429	192526	141	249	49	23
83	96	PUERTO RICO	EAST AREA, VIRGIN ISL.	18.0N 66.0W	19.0N 59.6W	15	LO	250	N	N	19910429	193029	139	273	38	23
83	97	CUBA	EAST END, PUERTO RICO	19.0N 69.0W	18.4N 59.3W	20	HO	250	N	N	19910429	193039	138	274	38	23
83	98	LESSER ANTILLES	BARBUDA, ST. CHRISTOPHER	17.5N 62.5W	17.7N 58.8W	15	LO	250	N	N	19910429	193053	138	274	37	23
83	99	LESSER ANTILLES	GUADELOUPE	16.3N 61.5W	16.7N 58.1W	20	LO	250	N	N	19910429	193110	138	275	36	23
83	100	BRAZIL	CANAL DO NORTE-AMAZON R.	0.6N 50.3W	.5N 48.4W	50	LO	250	N	N	19910429	193601	137	285	23	23
83	101	BRAZIL	RIO SAO FRANCISCO	12.2S 43.2W	12.2S 41.0W	25	LO	250	N	N	19910429	193948	138	287	11	23
83	102	BRAZIL	RIO SAO FRANCISCO	13.7S 43.5W	13.2S 40.4W	30	LO	250	N	N	19910429	194006	138	287	10	23
83	103	CANADA-BC	MECHAKO R/BASIN	54.0N 124.0W	53.7N 127.5W	50	LO	250	N	N	19910429	204729	144	187	50	24
83	104	CANADA-BC	FRANCOIS L, FRASER L.	54.0N 125.0W	53.5N 126.8W	40	LO	250	N	N	19910429	204736	144	188	50	24
84	0 A		HALF PORTHOLE-BLURRED	56.1N 111.0W	56.1N 111.0W	250	F	N	N	N	19910501	155739	143	104	29	53
84	1	CANADA-S	LAC LA LOCHE/TOWN, ICE	56.5N 109.5W	56.5N 108.5W	30	LO	250	N	N	19910501	155804	143	106	29	53
84	2	CANADA-S	LAC LA LOCHE/TOWN, ICE	56.5N 109.0W	56.6N 107.5W	50	LO	250	N	N	19910501	155813	143	107	30	53

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL			
84	3	CANADA-S	LAKES-CLOUDY, ICE	56.5N 108.5W	56.7N 106.9W	85	LO	250	N	N	19910501	155818	143	108	30	53		
84	4	CANADA-S	GROW L, LAKES, SNOW/ICE	56.5N 104.5W	56.9N 104.5W	20	NV	250	N	Y	19910501	155839	143	110	31	53		
84	5	CANADA-S	GROW L, LAKES, SNOW/ICE	56.5N 104.5W	57.0N 103.3W	20	NV	250	N	Y	19910501	155849	143	111	32	53		
84	6	CANADA-S	PINK L, LAKES, SNOW/ICE	56.7N 104.0W	57.1N 101.9W	35	LO	250	N	Y	19910501	155901	143	113	32	53		
84	7	CANADA-Q	G.ST.LAWR-CST ICE/FLOWS	50.8N 58.7W	51.4N 59.9W	0	NV	250	N	Y	19910501	160526	142	168	50	53		
84	8	CANADA-Q	G.ST.LAWR-CST ICE/FLOWS	50.0N 58.6W	51.1N 59.2W	0	NV	250	N	Y	19910501	160534	142	169	50	53		
84	9	CANADA-Q	G.ST.LAWR-CST ICE/FLOWS	50.9N 58.6W	50.9N 58.6W	0	NV	250	N	Y	19910501	160541	142	170	51	53		
84	10	ATLANTIC OCEAN	CARGO BAY-CIRRTS IA	48.8N	53.9W													
84	11	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	25.8N	26.7W	100	LO	250	N	N	19910501	161439	138	249	55	53		
84	12	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	25.4N	26.4W	100	LO	250	N	N	19910501	161446	138	250	55	53		
84	13	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	25.1N	26.2W	90	LO	250	N	N	19910501	161452	138	251	55	53		
84	14	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	24.1N	25.5W	85	LO	250	N	Y	19910501	161510	137	253	55	53		
84	15	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	23.9N	25.3W	75	LO	250	N	Y	19910501	161515	137	253	55	53		
84	16	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	23.5N	25.0W	60	LO	250	N	Y	19910501	161521	137	254	54	53		
84	17	GUINEA BISSAU	ORANGO-ORANGOZINHO I.	11.0N	16.0W	0	NV	250	N	N	19910501	161917	136	275	46	53		
84	18	GUINEA BISSAU	ORANGO-ORANGOZINHO I.	11.0N	16.0W	0	NV	250	N	N	19910501	161925	136	275	46	53		
84	19	ATLANTIC OCEAN	OCEAN STRUCTURE	9.7N	16.0W	10	LO	250	N	N	19910501	161932	136	276	45	53		
84	20	ATLANTIC OCEAN	HALF PORTHOLE-BLURRED	57.2N	111.8W													
84	21	CANADA-S	GROW L, DECEPTION L, ICE	56.5N 104.5W	56.5N 103.5W	15	NV	250	N	Y	19910501	173130	142	135	41	54		
84	22	CANADA-S	GROW L, DECEPTION L, ICE	56.4N 104.3W	56.4N 103.1W	25	NV	250	N	Y	19910501	173134	142	136	41	54		
84	23	CANADA-S	GROW L, DECEPTION L, ICE	56.5N 104.4W	56.3N 102.4W	25	LO	250	N	Y	19910501	173140	142	137	41	54		
84	24	CANADA-Q	L.ST.PETER, ST.LAWR.R.	46.3N	72.5W	46.6N	72.4W	30	NV	250	N	Y	19910501	173702	141	186	54	54
84	25	CANADA-Q	L.ST.PETER, ST.LAWR.R.	46.3N	72.5W	46.4N	72.1W	30	NV	250	N	Y	19910501	173707	140	186	54	54
84	26	CANADA-Q	L.ST.PETER, ST.LAWR.R.	46.2N	72.5W	46.1N	71.6W	25	LO	250	N	Y	19910501	173714	140	188	54	54
84	27	ATLANTIC OCEAN	WATER-CLOUDS	41.0N	64.1W			50	LO	250	N	Y	19910501	173908	139	205	57	54
84	28	ATLANTIC OCEAN	WATER-CLOUDS	40.8N	63.8W			50	LO	250	O	Y	19910501	173914	139	206	57	54
84	29	ATLANTIC OCEAN	WATER-CLOUDS	40.5N	63.4W			80	LO	250	O	Y	19910501	173920	139	207	57	54
84	29 A		CARGO BAY-DARK, BLURRED															
84	29 B	CLOUDS	LOW CLOUDS/SMOKE, UPP. CLD					100	LO	250	N	N						
84	29 C	CLOUDS	LOW CLDS/SMKE, UPPER CLDS					100	LO	250	N	N						
84	29 D	CLOUDS	LOW CLDS/SMKE, UPPER CLDS					100	LO	250	N	N						
84	29 E	CLOUDS	LOW CLDS/SMKE, UPPER CLDS					100	LO	250	N	N						
84	29 F	LAND	RIVER, SMOKE, CLOUDS					50	LO	250	N	N						
84	29 G	LAND	SMOKE, CLOUDS, DARK					80	LO	250	U	N						
84	29 H	LAND	STREAM, SMOKE, CLOUDS					50	LO	250	N	N						
84	29 J	LAND	SMOKE, CLOUDS					85	LO	250	N	N						
84	29 K	LAND	SMOKE, CLOUDS					90	LO	250	N	N						
84	29 L	LAND	SMOKE, CLOUDS					90	LO	250	N	N						
84	29 M	LAND	COAST, SMOKE, CLOUDS					85	LO	250	N	N						
84	29 N	TANZANIA	LAKE VICTORIA-SW COAST	1.7S	31.9E			85	LO	250	N	N						

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR	
84	29 P	TANZANIA	L.VICTORIA-KOME I,S,CST	2.4S	32.4E			60	LO	250	N	N							
84	29 Q	TANZANIA	L.VICTORIA-S.CST,CLOUDY	2.7S	32.5E			80	LO	250	N	N							
84	29 R	TANZANIA	AGRICULTURE, CLOUDS					70	LO	250	N	N							
84	29 S	TANZANIA	AGR, CLOUDY					70	LO	250	N	Y							
84	29 T	TANZANIA	AGR, CLOUDY					85	LO	250	N	Y							
84	29 U	TANZANIA	AGR, CLOUDY					75	LO	250	N	N							
84	29 V	TANZANIA	MBARIKA MTNS.	9.0S	36.5E			50	LO	250	N	Y							
84	29 W	TANZANIA	LUMEGU R,MBARIKA MTNS.	9.5S	36.6E			50	LO	250	N	Y							
84	29 X	TANZANIA	LUMEGU R,MABARANGANDU R.	9.7S	36.7E			70	LO	250	N	Y							
84	29 Y	TANZANIA	NJENJE R, AGR.	10.2S	37.0E			40	LO	250	N	Y							
84	29 Z	TANZANIA	MUHUESI R,NJENJE R,AGR.	10.5S	37.2E			15	LO	250	N	Y							
84	29AA	TANZANIA	MUHUESI R/BASIN	10.8S	37.5E			10	LO	250	N	Y							
84	29AB	TANZANIA	MUHUESI R/BASIN, AGR.	11.2S	37.5E			15	LO	250	N	Y							
84	29AC	MOZAMBIQUE	RIO ROVUMA, AGR.	11.5S	37.9E			15	LO	250	N	Y							
84	29AD	MOZAMBIQUE	RIO CHIULEZI, AGR.	11.8S	38.0E			20	LO	250	N	Y							
84	29AE	USSR-PACIFIC	CRATER, MTNS, SNOW/ICE					0	LO	250	N	N							
84	29AF	NORTH KOREA	COAST	42.0N	130.0E			30	LO	250	N	N							
84	29AG	NORTH KOREA	COAST	42.2N	130.2E			40	LO	250	N	N							
84	29AH	NORTH KOREA	COAST	42.2N	130.5E			40	LO	250	N	N							
84	29AJ	SEA OF OKHOTSK	SEA ICE/FLOWS, SUNGLINT					0	LO	250	N	N							
84	29AK	SEA OF OKHOTSK	SEA ICE/FLOWS					0	LO	250	N	Y							
84	29AL	SEA OF OKHOTSK	SEA ICE/FLOWS					0	LO	250	N	Y							
84	29AM	SEA OF OKHOTSK	SEA ICE/FLOWS					0	LO	250	N	N							
84	29AN	JAPAN	HOKKAIDO-NE CST, TESHIO R	44.5N	143.0E			15	LO	250	N	Y							
84	29AP	JAPAN	HOKKAIDO-NE CST, TESHIO R	44.5N	143.0E			20	LO	250	N	Y							
84	29AQ	JAPAN	HOKKAIDO-TESHIO R, SNOW	44.5N	142.6E			30	LO	250	N	Y							
84	29AR	PACIFIC OCEAN	CURRENT BOUNDARY, SNGLT					30	LO	250	O	N							
84	29AS	PACIFIC OCEAN	WATER-CLOUDS-BRIGHT					50	LO	250	O	N							
84	29AT	PACIFIC OCEAN	CLOUDS-SUNGLINT					90	HO	250	N	N							
84	29AU	JAPAN	HONSHU-TOKYO/HARBOR, CST	35.7N	140.1E			50	LO	250	N	Y							
84	29AV	JAPAN	HONSHU-TOKYO/HARBOR	35.8N	139.6E			40	LO	250	N	Y							
84	29AW	JAPAN	HONSHU-TOKYO/HARBOR, CST	35.6N	140.1E			40	LO	250	N	Y							
84	30	CHINA	CITY, CLOUDS	32.4N	119.8E			90	LO	250	N	N	19910503	052918	138	189	59	78	
84	31	CHINA	UHENG I, COAST	29.6N	122.1E			70	LO	250	N	N	19910503	053016	137	198	61	78	
84	32	CAROLINE ISLANDS	BABELTHUAP I/REEF	7.5N	134.5E			25	LO	250	N	N	19910503	053539	135	250	61	78	
84	33	CAROLINE ISLANDS	BABELTHUAP I/REEF	7.5N	134.6E			15	LO	250	N	N	19910503	053629	135	257	60	78	
84	34	PACIFIC OCEAN	STORM-PROTR.COMV.CELL	4.8N	138.7E			90	LO	250	N	N	19910503	053742	135	265	58	78	
84	35	BRITAIN	ISLE OF WIGHT, HAZY	50.7N	1.4W			30	NV	250	N	N	19910503	064023	141	69	-	79	
84	36	FRANCE	BEACHES, CLOUDS(3/4 FR.)	50.0N	1.5E			75	LO	250	N	N	19910503	064115	141	71	2	79	
84	37	CHINA	SHALULI MTNS	31.3N	98.0E			60	LO	250	N	N	19910503	065905	138	190	59	79	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	S	JN	EL	OR
84	38	CHINA	SHALUI MTNS	30.2N 99.0E	80 LO 250 N	19910503	065927	138	193	60	79							
84	39	CHINA	FAULT-RED R. FAULT ZONE	23.4N 104.3E	30 NV 250 N	19910503	070159	137	213	63	79							
84	40	VIETNAM	COAST	19.1N 105.7E	85 LO 250 N	19910503	070257	136	228	63	79							
84	41	VIETNAM	DA NANG, PENIN., ARFLDS	16.0N 108.2E	50 NV 250 N	19910503	070333	136	234	63	79							
84	42	VIETNAM	SE CST PANORAMA	20.5N 108.5E	40 LO 250 N	19910503	070351	136	237	63	79							
84	43	SOUTH CHINA SEA	SHIP WAKES	10.8N 112.5E	50 LO 250 N	19910503	070523	135	251	62	79							
84	44	SOUTH CHINA SEA	OCEAN STRUCTURE	10.2N 112.9E	35 LO 250 N	19910503	070533	135	252	61	79							
84	45	VIETNAM	CST, TRE I, HON I, CHONG PT	9.5N 113.3E	60 LO 250 N	19910503	070545	135	254	61	79							
84	46	INDONESIA	FLORES, PALU I., PERI VOLC.	8.8S 121.7E	15 LO 250 N	19910503	071025	135	281	50	79							
84	47	INDONESIA	FLORES, PALU I., PERI VOLC.	8.6S 121.6E	15 LO 250 N	19910503	071037	135	282	50	79							
84	48	INDONESIA	FLORES/STRAIT, SOLOR I.	8.5S 122.8E	50 LO 250 N	19910503	071052	135	283	49	79							
84	49	AUSTRALIA-SA	NORTH FLINDERS RANGES	31.0S 138.5E	0 LO 250 N	19910503	071647	137	295	30	79							
84	50	BLACK SEA	EDDIES	42.8N 40.0E	0 LO 250 N	19910503	095405	139	153	49	81							
84	51	TURKEY	TRABZON, CST, EDDIES, SGLT	41.3N 40.0E	0 LO 250 N	19910503	095417	139	154	49	81							
84	52	USSR-EUROPEAN	BATUMI, CORUH R/EFFLUENT	41.6N 41.6E	20 NV 250 N	19910503	095434	139	157	50	81							
84	53	TURKEY	VAN LAKE, WEST END	38.6N 42.6E	35 LO 250 N	19910503	095513	139	162	52	81							
85	0	A BRITAIN	NO. END SCOTLAND, ORKNEY I	60.0N 4.0W	25 HO 40 N	Y												
85	0	B BRITAIN	NO. END SCOTLAND, ORKNEY I	60.0N 4.0W	20 HO 40 N	Y												
85	0	C USSR-MIDDLE	L. TENGIZ, STEPPES	51.0N 71.0E	5 HO 40 N	N												
85	0	D USSR-MIDDLE	L. BALKASH, STEPPES	46.5N 76.5E	10 HO 40 N	Y												
85	0	E USSR-MIDDLE	L. BALKASH, STEPPES	47.0N 76.0E	5 HO 40 N	Y												
85	0	F USSR-MIDDLE	ILI R, L. BALKASH-E. END	45.5N 78.0E	20 HO 40 N	N												
85	0	G CHINA	TIBEI PLAT, NAM L, T.C.2B	30.5N 91.0E	70 HO 40 N	N												
85	0	H CHINA	TROP. CYCL. 02B-NO. BANGL.		95 HO 40 N	N												
85	0	J CHINA	TROP. CYCL. 02B-NO. BANGL.		95 HO 40 N	N												
85	0	K CHINA	TROP. CYCL. 02B, DARK		90 HO 40 N	U												
85	0	L USA-WI	MS R, WI R, SNOW/ICE	45.0N 89.0W	30 HO 250 O	N	19910430	125837	142	81	12	35						
85	1	CANADA-O	USA-MI, L. ST. CLAIR, REFLEC	43.0N 82.0W	40 HO 250 O	N	19910430	125917	142	82	14	35						
85	2	CANADA-O	USA-MI, L. ST. CLAIR, SNOW	43.0N 81.5W	40 HO 250 O	N	19910430	125935	142	83	15	35						
85	3	CANADA-O	USA-MI, L. ST. CLAIR, SNOW	43.0N 81.5W	50 HO 250 O	N	19910430	125954	142	84	16	35						
85	4	USA-MI	NE AREA, L. HURON, SNOW	45.0N 83.5W	50 HO 250 O	N	19910430	125958	142	84	16	35						
85	5	CANADA-O	USA-MI, L. ST. CLAIR, SNOW	43.0N 82.0W	50 HO 250 O	N	19910430	130011	143	85	17	35						
85	6	USA-MI	NE AREA, L. HURON, SNOW	45.5N 83.0W	50 HO 250 O	N	19910430	130017	143	86	17	35						
85	7	USA-MI	NE AREA, L. HURON, SNOW	45.5N 83.0W	50 HO 250 O	N	19910430	130039	143	87	18	35						
85	8	CANADA-C	NO. CHAN. AREA, S. STE. MARIE	46.0N 84.0W	40 LO 250 O	N	19910430	130044	143	87	18	35						
85	9	CANADA-O	USA-MI, L. HUR. L. ST. CLAIR	43.0N 82.0W	50 HO 250 O	N	19910430	130102	143	88	19	35						
85	10	CANADA-O	NO. CHAN. AREA, L. HURON, SNW	46.0N 83.0W	15 LO 250 N	19910430	130118	143	90	20	35							
85	11	USA-OR	GOOSE L, CONTRAIL	42.0N 120.5W	10 LO 250 N	19910430	142832	142	81	12	36							
85	12	USA-WA	SNAKE R., PALOUSE AREA	46.5N 117.0W	10 LO 250 N	19910430	142926	142	84	15	36							
85	13	USA-MT	L. ELWELL, MARIAS R, AGR.	48.5N 111.3W	10 LO 250 N	19910430	143038	143	88	19	36							

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL OR	
85	14	CANADA-A	S.SASKATCHEWAN R.SNOW,AGR	50.5N 110.0W	47.9N 110.9W	20	LO	250	N	N	19910430	143105	143	90	21 36	
85	15	CANADA-NS	MINAS CHAN/BASIN, AGR.	45.2N 64.4W	44.7N 65.5W	0	LO	250	N	Y	19910430	174526	142	212	54 38	
85	16	C..NADA-NS	MINAS CHAN/BASIN, AGR.	64.2N 64.4W	44.1N 64.6W	0	LO	250	N	Y	19910430	174540	142	215	55 38	
85	17	ATLANTIC OCEAN	SHIP WAKES	18.0N	62.9W	5	LO	250	N	N	19910430	192344	137	271	44 39	
85	18	PUERTO RICO	E.END,VIEQUES I, CLDS	18.1N	65.3W	30	LO	250	N	N	19910430	192352	137	271	44 39	
85	19	VIRGIN ISLANDS	SAINT CROIX	17.7N	64.7W	17.1N	62.3W	15	LO	250	N	19910430	192359	137	272	44 39
85	20	LESSER ANTILLES	SAINT CHRISTOPHER,NEVIS	17.3N	62.7W	16.1N	61.7W	20	LO	250	N	19910430	192417	137	273	43 39
85	21	LESSER ANTILLES	GUADELOUPE	16.2N	61.0W	15.4N	61.2W	40	NV	250	N	19910430	192430	137	274	42 39
85	22	LESSER ANTILLES	MARIE GALANTE I.	15.9N	61.2W	14.8N	60.8W	20	LO	250	N	19910430	192442	137	274	42 39
85	23	VENEZUELA	ORINOCO DELTA-BOCA GRAND	8.7N	60.7W	7.7N	56.6W	40	LO	250	N	19910430	192648	137	281	36 39
85	24	VENEZUELA	ORINOCO DELTA-BOCA GRAND	9.0N	60.8W	7.1N	56.2W	40	LO	250	N	19910430	192659	137	281	36 39
85	25	BRAZIL	STORM-PROTR.CONV.CELLS	.5S	51.8W	85	LO	250	N	N	19910430	192914	136	286	29 39	
85	26	USA-CO	DENVER, SNOW	39.6N	104.9W	40.6N	105.2W	5	LO	250	N	19910430	204602	141	224	55 40
85	27	USA-CO	DENVER, SNOW	39.7N	104.8W	39.6N	104.1W	0	NV	250	N	19910430	204622	141	227	55 40
85	28	USA-CO	DENVER, SNOW	39.7N	105.0W	39.2N	103.6W	15	LO	250	N	19910430	204630	140	228	55 40
85	29	USA-OK	OKLAHOMA CITY,CANADIAN R	35.5N	97.5W	35.2N	99.3W	5	LO	250	N	19910430	204752	140	239	54 40
85	30	USA-OK	OKLAHOMA CITY,CANADIAN R	35.5N	97.6W	34.7N	98.8W	5	LO	250	N	19910430	204801	140	240	54 40
85	31	USA-TX	FT.WORTH-ARLINGTON	32.7N	97.3W	33.6N	97.7W	0	NV	250	N	19910430	204824	140	243	54 40
85	32	USA-TX	ARLINGTON, LOVE FIELD	32.8N	96.9W	33.3N	97.4W	0	NV	250	N	19910430	204829	139	243	53 40
85	33	USA-TX	NO.DALLAS, RESERVOIRS	33.0N	96.7W	32.6N	96.8W	0	NV	250	N	19910430	204842	139	245	53 40
85	34	USA-TX	SE.DALLAS, TERRELL	32.7N	96.4W	32.2N	96.4W	10	NV	250	N	19910430	204851	139	246	53 40
85	35	USA-TX	NO.HOUSTON,INT.AIRPORT	30.0N	95.4W	31.2N	95.5W	20	LO	250	N	19910430	204910	139	248	53 40
85	36	USA-TX	HOUSTON, CLEAR LAKE	29.7N	96.4W	31.0N	95.3W	20	LO	250	N	19910430	204914	139	248	53 40
85	37	USA-TX	SE.HOUSTON, CLEAR LAKE	29.6N	95.1W	30.0N	94.5W	15	NV	250	N	19910430	204932	139	250	52 40
85	38	USA-TX	SE.HOUSTON, CLEAR LAKE	29.6N	95.1W	29.8N	94.4W	15	NV	250	N	19910430	204936	139	251	52 40
85	39	USA-TX	GALVESTON BAY,CLEAR LAKE	29.5N	95.0W	29.6N	94.2W	15	NV	250	N	19910430	204940	139	251	52 40
85	40	USA-TX	HOUSTON, CLEAR LAKE	29.5N	95.1W	29.0N	93.7W	15	LO	250	N	19910430	204951	139	252	52 40
85	41	USSR-EUROPEAN	KRASNOVSKIY PEN,CASP.S.	40.5N	53.5E	42.8N	59.0E	0	LO	250	O	19910501	022523	142	79	11 44
85	42	USSR-EUROPEAN	KARA-BOGAZ-GOL,(NO.HALF)	41.5N	53.5E	43.3N	59.6E	0	LO	250	O	19910501	022533	142	80	11 44
85	43	USSR-EUROPEAN	L.SARYKAMYSHKOYE	42.0N	57.4E	44.0N	60.7E	0	LO	250	O	19910501	022550	142	81	12 44
85	44	USSR-MIDDLE	DESERT, SALT PANS	48.6N	68.7E	48.6N	68.7E	0	LO	250	N	19910501	022741	143	87	18 44
85	45	USSR-EUROPEAN	L.TENGIZ, DESERT	50.4N	69.2E	50.1N	71.9E	0	LO	250	N	19910501	022821	143	90	20 44
85	46	MARSHALL ISLANDS	WOTHO ATOLL	10.1N	166.0E	11.1N	165.0E	50	LO	250	N	19910501	042259	137	277	42 45
85	47	MARSHALL ISLANDS	UJAE ATOLL	9.1N	165.8E	10.5N	165.4E	60	LO	250	N	19910501	042309	137	277	42 45
85	48	MARSHALL ISLANDS	KWAJALEIN ATOLL-CENTER	9.2N	167.3E	9.7N	165.9E	70	LO	250	N	19910501	042324	137	278	41 45
85	49	MARSHALL ISLANDS	NAMU ATOLL	7.9N	168.2E	9.3N	166.1E	50	LO	250	N	19910501	042330	137	278	41 45
85	50	MARSHALL ISLANDS	AILINGLAPALAP ATOLL	7.5N	168.9E	8.7N	166.5E	50	LO	250	N	19910501	042342	137	279	40 45
85	51	MARSHALL ISLANDS	EBON ATOLL	4.6N	168.7E	6.0N	168.0E	30	LO	250	N	19910501	042430	136	281	38 45
85	52	PAKISTAN	CAPE NUH,C.JIWANI.CST.	25.0N	62.0E	25.9N	64.2E	0	LO	250	O	19910501	101636	138	253	54 49
85	53	PAKISTAN	LAGOON,CENT.MAKRAN RA.	25.3N	64.0E	24.9N	64.9E	0	NV	250	O	19910501	101653	138	254	53 49

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUM
85	54	HUNGARY	L. BALATON-WEST END, AGR.	46.7N 17.2E	47.0N 17.8E	70	NV	250	N	19910501	113853	141	190	54	50
85	55	ROMANIA	DANUBE R, AGR.	44.0N 23.0E	43.9N 22.9E	10	NV	250	N	19910501	114006	141	201	56	50
85	56	BULGARIA	DANUBE R, AGR.	43.7N 23.6E	43.5N 23.5E	10	NV	250	N	19910501	114015	141	203	56	50
85	57	SAUDI ARABIA	RESIDUAL LAVA RIDGE	27.4N 40.0E	26.8N 40.7E	0	NV	250	N	19910501	114549	138	250	55	50
85	58	SAUDI ARABIA	TUWAYQ IRRIG. PROJECT	19.9N 45.0E	19.5N 46.0E	0	LO	250	N	19910501	114804	137	264	51	50
85	59	SAUDI ARABIA	URUQ AZ ZAYZA	17.5N 47.3E	17.5N 47.3E	5	LO	250	N	19910501	114841	137	267	49	50
85	60	YEMEN (ADEN)	WADI SARR, WADI AMD	16.0N 48.4E	16.3N 48.1E	0	NV	250	N	19910501	114902	137	268	49	50
85	61	YEMEN (ADEN)	SAND DUNES, COAST	14.0N 47.8E	14.6N 49.2E	25	LO	250	N	19910501	114933	137	271	47	50
85	62	YEMEN (ADEN)	SAND DUNES, COAST	14.1N 48.2E	14.3N 49.3E	30	LO	250	N	19910501	114938	136	271	47	50
85	63	YEMEN (ADEN)	WADI HUMAYRAH, CST, AFLD	14.5N 49.5E	13.5N 49.8E	60	LO	250	N	19910501	114952	136	272	47	50
85	64	SOCOTRA	ENTIRE ISLAND-PERSP. DIST	12.5N 53.8E	12.5N 50.5E	15	LO	250	N	19910501	115011	136	273	46	50
85	65	SOMALIA	HAFUN PENINSULA	10.5N 51.2E	11.4N 51.1E	15	NV	250	N	19910501	115030	136	275	45	50
85	66	SOMALIA	HAFUN PENINSULA	10.5N 51.2E	11.0N 51.4E	15	LO	250	N	19910501	115037	136	275	45	50
85	67	SOMALIA	HAFUN PENINSULA	10.5N 51.2E	10.5N 51.7E	15	LO	250	N	19910501	115046	136	276	44	50
85	68		BLANK	36.7N 47.9E						19910502	021522	139	69	-5	60
85	69		CARGO BAY-CIRRUS	40.9N 52.7E						19910502	021649	140	71		60
85	70		CARGO BAY-CIRRUS	41.2N 53.0E						19910502	021654	140	71		60
85	71		CARGO BAY-CIRRUS	41.5N 53.5E						19910502	021701	140	71		60
85	72		CARGO BAY-CIRRUS	41.7N 53.7E						19910502	021705	140	72		60
85	73		CARGO BAY-CIRRUS	42.6N 54.9E						19910502	021725	140	72	1	60
85	74	AUSTRALIA	BLURRED		18.7S 133.7E	25	HO	250	F	19910502	072252	135	292	26	63
85	75	USSR-EUROPEAN	KURA R/BASIN, RESERVOIR	40.0N 48.0E	35.7N 48.5E	0	LO	250	N	19910503	095635	138	174	56	81
85	76	KUWAIT	OIL FIRES, TIGRIS/EUPH. R.	29.5N 47.5E	31.2N 52.7E	20	LO	250	O	19910503	095803	137	187	59	81
85	77	IRAQ	AL BASRAH, TIG/EUPH. DELTA	30.5N 47.9E	30.3N 53.4E	80	LO	250	O	19910503	095819	137	189	59	81
85	78	KUWAIT	OIL FIRES, TIG/EUPH. DELTA	29.5N 47.5E	30.2N 53.5E	80	LO	250	O	19910503	095822	137	189	60	81
85	79	KUWAIT	SAND STORM	30.0N 53.7E	30.0N 53.7E	75	HO	250	O	19910503	095826	137	190	60	81
85	80	IRAQ	TIGRIS VALLEY, SAND STORM	29.3N 54.3E	29.3N 54.3E	50	HO	250	O	19910503	095839	137	192	60	81
85	81	QATAR	SAND STORM, E. SIDE, GULF	25.5N 52.0E	27.5N 55.8E	0	LO	250	N	19910503	095913	137	197	61	81
85	82	UNITED ARAB EMIRATES	SAND STORM, GULF COAST	24.5N 52.5E	27.0N 56.1E	0	LO	250	N	19910503	095922	137	199	61	81
85	83	UNITED ARAB EMIRATES	SAND STORM, OFFSHORE ISL.	24.5N 53.5E	26.3N 56.7E	0	LO	250	N	19910503	095935	137	201	62	81
85	84	UNITED ARAB EMIRATES	ABU DHABI, SAND ST, W. CST.	24.5N 54.5E	26.1N 56.8E	0	LO	250	N	19910503	095939	137	202	62	81
85	85	OMAN	MUSANDAM PEN. STR. HORMUZ.	25.7N 56.5E	25.3N 57.5E	0	LO	250	N	19910503	095954	137	204	62	81
85	86	OMAN	MUSANDAM PEN. STR. HORMUZ.	26.5N 56.2E	24.6N 58.0E	0	LO	250	N	19910503	100007	136	206	62	81
85	87	IRAN	STR. HORMUZ, COAST	26.0N 57.0E	24.2N 58.3E	0	LO	250	N	19910503	100014	136	207	62	81
85	88	IRAN	STR. HORMUZ, QESHM I, CST	26.8N 56.4E	24.0N 58.4E	5	LO	250	N	19910503	100018	136	208	63	81
85	89	IRAN	STR. HORMUZ, QESHM I, CST	27.0N 56.5E	23.3N 58.9E	10	LO	250	N	19910503	100030	136	210	63	81
85	90	OMAN	MUSANDAM PEN. E/W CSTS.	25.3N 56.3E	23.1N 59.1E	0	LO	250	N	19910503	100035	136	211	63	81
85	91	IRAN	STR. HORMUZ, QESHM I, CST	26.0N 57.0E	21.3N 60.3E	15	LO	250	N	19910503	100107	136	216	63	81
85	92	OMAN	RAMLAT AL WAHIBAH, S.D.	22.0N 58.5E	20.0N 61.2E	0	LO	250	N	19910503	100131	136	220	64	81
85	93	MALAWI	LAKE NYASSA COAST	11.7S 34.3E	11.4S 34.5E	20	LO	250	N	19910503	131003	139	286	48	83

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
85	94	MALAWI	LAKE NYASSA-MAZINZI BAY	14.1S 34.9E	12.8S 35.4E	15	LO	250	N	N	19910503	131029	139	287	47	83
86	0	A USA-OK	EUFULA RESERVOIR	35.0N 95.2W	35.3N 95.5W	5	LO	250	N	N	19910429	205453	141	248	49	24
86	1	USA-LA	AREA AROUND SHREVEPORT	32.3N 93.5W	32.9N 93.1W	60	LO	250	N	N	19910429	205546	140	253	48	24
86	2	CAYMAN ISLANDS		19.3N 81.3W	19.6N 82.8W	30	LO	250	N	N	19910429	205956	138	272	39	24
86	3		PANORAMA, STORM CLOUDS		15.0N 79.8W	100	HO	250	N	N	19910429	210119	138	277	35	24
86	4		PANORAMA, STORM CLOUDS		13.5N 78.9W	100	HO	250	N	N	19910429	210145	138	278	34	24
86	5	COLUMBIA	SUNGLINT, EDDIES, ST. CLOUD		8.3N 75.7W	70	LO	250	N	N	19910429	210319	138	281	30	24
86	6	COLUMBIA	SUNGLINT, EDDIES, ST. CLOUD		7.7N 75.4W	80	LO	250	N	N	19910429	210330	138	282	29	24
86	7	COLUMBIA	SUNGLINT, EDDIES, ST. CLOUD		6.5N 74.7W	80	LO	250	N	N	19910429	210350	137	282	28	24
86	8	USSR-PACIFIC	KAMCHATKA PEN., VOLCANOS	54.8N 160.5E	55.8N 163.9E	30	LO	250	N	N	19910429	221021	145	123	37	25
86	9	USSR-PACIFIC	KAMCHATKA PEN., VOLCANOS	54.8N 160.5E	56.0N 164.8E	30	LO	250	N	N	19910429	221029	145	124	37	25
86	10	USSR-PACIFIC	KAMCHATKA PEN., KLYUCHEVS	55.6N 160.3E	56.4N 167.6E	20	LO	250	N	N	19910429	221054	145	127	38	25
86	11	USA-AL	SHUMAGIN ISLANDS	55.1N 159.5W	55.4N 157.4W	15	LO	250	N	N	19910429	221557	144	175	49	25
86	12	USA-AL	MOUNT VENIAMINOF AREA	56.0N 159.0W	55.0N 155.3W	60	LO	250	N	N	19910429	221617	144	178	49	25
86	13	USA-AL	MOUNT VENIAMINOF AREA	56.0N 159.0W	54.8N 154.4W	70	LO	250	N	N	19910429	221625	144	179	49	25
86	14	MEXICO	DARK, SMOKE INLAND	17.8N 101.2W	14.3N 102.1W	30	LO	250	N	N	19910429	223105	138	277	35	25
86	15		FRAME TOO DARK		28.8N 70.9E						19910430	005824	141	75	3	27
86	16		FRAME TOO DARK		30.1N 72.0E						19910430	005849	141	75	4	27
86	17		FRAME TOO DARK		30.9N 72.6E						19910430	005904	141	76	5	27
86	18		FRAME TOO DARK		31.8N 73.5E						19910430	005922	141	76	6	27
86	19		FRAME TOO DARK		32.4N 74.0E						19910430	005933	141	77	6	27
86	20		FRAME TOO DARK		32.8N 74.3E						19910430	005941	141	77	7	27
86	21		FRAME TOO DARK		33.2N 74.7E						19910430	005949	141	77	7	27
86	22	INDIA	PAKISTAN, HIMALAYA MTNS	35.0N 74.0E	34.3N 75.8E	0	LO	250	N	N	19910430	010011	141	78	8	27
86	23	PAKISTAN	HIMALAYA MTNS	35.0N 76.0E	35.8N 77.2E	0	LO	250	N	N	19910430	010040	142	79	10	27
86	24	CHINA	SW., AGRI., NEAR SHACHE	38.0N 77.0E	36.1N 77.6E	5	LO	250	N	N	19910430	010047	142	79	10	27
86	25	CHINA	SW., AGRI., NEAR SHACHE	38.0N 77.0E	36.5N 78.0E	5	LO	250	N	N	19910430	010054	142	80	11	27
86	26	CHINA	AREA W.OF BACHU	39.8N 77.3E	37.0N 78.5E	0	LO	250	N	N	19910430	010105	142	80	11	27
86	27	CHINA	AREA W.OF BACHU	40.1N 78.0E	37.3N 78.9E	0	LO	250	N	N	19910430	010111	142	80	12	27
86	28	CHINA	AREA N.OF BACHU	40.2N 78.6E	37.7N 79.3E	0	LO	250	N	N	19910430	010119	142	81	12	27
86	29	CHINA	SAND DUNES, TARIM BASIN		38.8N 80.5E	10	LO	250	N	N	19910430	010141	142	82	13	27
86	30	CHINA	AGRI., WENSU AREA	41.5N 79.8E	39.7N 81.6E	0	LO	250	N	N	19910430	010200	142	82	14	27
86	31	CHINA	LAKE ULUNGAR AREA	47.2N 87.2E	45.0N 88.9E	20	LO	250	N	N	19910430	010357	143	89	20	27
86	32	CHINA	LAKE ULUNGAR AREA	47.2N 87.2E	45.5N 89.7E	20	LO	250	N	N	19910430	010409	143	90	21	27
86	33	MONGOLIA	HAR US NUUR (LAKE)	48.2N 92.4E	47.6N 93.3E	0	LO	250	N	N	19910430	010458	143	94	23	27
86	34	MONGOLIA	HYARGAS NUUR (LAKE)	49.2N 93.4E	48.0N 94.0E	0	LO	250	N	N	19910430	010508	143	94	24	27
86	35	MONGOLIA	UVS NUUR (LAKE)	50.3N 92.8E	48.5N 95.0E	0	LO	250	N	N	19910430	010521	144	95	25	27
86	36	USSR	MTNS. WEST OF IRKUTSK	52.1N 102.5E	51.6N 102.3E	0	LO	250	N	N	19910430	010648	144	103	29	27
86	37	USSR	MID.PART LAKE BAYKAL, ICE	53.2N 107.5E	53.0N 106.5E	70	LO	250	N	N	19910430	010733	144	108	31	27
86	38	USSR	MID.PART LAKE BAYKAL, ICE	53.8N 108.2E	53.5N 108.2E	40	LO	250	N	N	19910430	010751	144	110	32	27

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL		
86	39		FRAME TOO DARK		27.3N 46.9E		LO	250	N	N	19910430	022730	140	74	1	28	
86	40		FRAME TOO DARK		27.9N 47.4E		LO	250	N	N	19910430	022742	140	74	1	28	
86	41		FRAME TOO DARK		28.5N 47.9E		LO	250	N	N	19910430	022753	141	74	2	28	
86	42		FRAME TOO DARK		28.9N 48.2E		LO	250	N	N	19910430	022801	141	75	2	28	
86	43		FRAME TOO DARK		29.3N 48.6E		LO	250	N	N	19910430	022808	141	75	3	28	
86	44		FRAME TOO DARK		29.7N 48.9E		LO	250	N	N	19910430	022815	141	75	3	28	
86	45		FRAME TOO DARK		29.9N 49.1E		LO	250	N	N	19910430	022820	141	75	4	28	
86	46		FRAME TOO DARK		31.6N 50.5E		LO	250	N	N	19910430	022852	141	76	5	28	
86	47		FRAME TOO DARK		31.9N 50.8E		LO	250	N	N	19910430	022857	141	76	5	28	
86	48		FRAME TOO DARK		33.0N 51.8E		LO	250	N	N	19910430	022920	141	77	7	28	
86	49		FRAME TOO DARK		33.4N 52.1E		LO	250	N	N	19910430	022926	141	77	7	28	
86	50	IRAN	ZAVVAREH AREA, SALT FLATS	33.6N 52.5E	33.9N 52.6E		0	NV	250	N	N	19910430	022936	141	77	8	28
86	51	IRAN	ZAVVAREH AREA, SALT FLATS	34.0N 53.0E	34.3N 53.0E		0	LO	250	N	N	19910430	022944	141	78	8	28
86	52	IRAN	AREA N. OF NAIN, SALT FLAT	34.2N 53.5E	34.6N 53.3E		0	NV	250	N	N	19910430	022951	141	78	8	28
86	53	IRAN	N. CENTRAL, AREA SE TEHRAN	35.0N 53.0E	34.9N 53.6E		0	LO	250	N	N	19910430	022957	141	78	9	28
86	54	IRAN	AREA S. OF DAMGHAN	35.5N 54.5E	35.3N 54.0E		0	LO	250	N	N	19910430	023004	142	78	9	28
86	55	IRAN	AREA S. OF DAMGHAN, SALT	35.9N 54.4E	36.3N 55.0E		0	LO	250	N	N	19910430	023024	142	79	10	28
86	56	IRAN	AREA AROUND EMAMRUD	36.4N 55.1E	36.7N 55.4E		0	NV	250	N	N	19910430	023032	142	79	11	28
86	57	IRAN	NE IRAN	37.0N 56.0E	37.2N 56.0E		0	LO	250	N	N	19910430	023042	142	80	11	28
86	58	IRAN	NE IRAN, NEAR GONBADE QAB	37.0N 55.0E	37.5N 56.3E		6	LO	250	N	N	19910430	023048	142	80	11	28
86	59	IRAN	USSR BORDER, CASPIAN SEA	37.0N 54.0E	37.9N 56.7E		0	LO	250	N	N	19910430	023056	142	80	12	28
86	60	IRAN	NE IRAN, MOUNTAINOUS	38.0N 57.0E	38.2N 57.1E		0	NV	250	N	N	19910430	023104	142	81	12	28
86	61	USSR-MIDDLE	BAKHARDEN AREA	38.5N 57.5E	38.7N 57.6E		0	NV	250	N	N	19910430	023113	142	81	13	28
86	62	USSR-MIDDLE	E. OF BAKHARDEN	38.2N 58.0E	38.9N 57.9E		0	LO	250	N	N	19910430	023117	142	81	13	28
86	63	USSR-MIDDLE	ASHKHABAD AREA	38.0N 58.4E	39.1N 58.1E		0	LO	250	N	N	19910430	023121	142	82	13	28
86	64	USSR-MIDDLE	KIZYLARVAT AREA	39.0N 56.3E	39.5N 58.6E		0	LO	250	N	N	19910430	023130	142	82	14	28
86	65	USSR-MIDDLE	TSENTRAL' NYE DESERT	40.0N 59.0E	40.0N 59.2E		0	LO	250	N	N	19910430	023141	142	83	14	28
86	66	USSR-MIDDLE	TSENTRAL' NYE DESERT	40.5N 59.5E	40.4N 59.6E		0	LO	250	N	N	19910430	023148	142	83	15	28
86	67	USSR-PACIFIC	OSTROV ATLASOVA (VOLCANO)	50.8N 155.5E	49.4N 153.4E		30	LO	250	N	N	19910430	024801	143	204	52	28
86	68	USSR-PACIFIC	OSTROV ONEKOTAN	49.4N 154.8E	49.2N 153.9E		40	LO	250	N	N	19910430	024807	143	205	52	28
86	69	SOCIETY ISLANDS	MAUPTI	16.5S 152.2W	16.6S 152.0W		20	NV	250	N	N	19910430	030901	138	288	9	28
86	70	SOCIETY ISLANDS	BORA-BORA	16.5S 151.8W	17.1S 151.7W		20	NV	250	N	N	19910430	030909	138	288	8	28
86	71	SOCIETY ISLANDS	UTUROA	16.7S 151.5W	17.4S 151.4W		20	NV	250	N	N	19910430	030916	138	288	8	28
86	72	USSR-EUROPEAN	AREA SW OF ASTRAKHAN	46.3N 47.5E	47.9N 48.4E		70	LO	250	N	N	19910430	040414	143	93	23	29
86	73	USSR-EUROPEAN	MOUTH OF VOLGA RIVER	46.5N 48.5E	48.5N 49.5E		40	LO	250	N	N	19910430	040429	143	95	24	29
86	74	USSR-EUROPEAN	MOUTH OF VOLGA RIVER	46.5N 49.0E	48.7N 50.0E		0	LO	250	N	N	19910430	040435	144	95	24	29
86	75	USSR-EUROPEAN	E. OF MOUTH OF VOLGA R.	46.8N 50.0E	49.0N 50.5E		0	LO	250	N	N	19910430	040441	144	96	25	29
86	76	JAPAN	ISLAND WAKE, CLOUDS	45.1N 141.2E	44.3N 139.9E		95	LO	250	N	N	19910430	041940	142	222	53	29
86	77	JAPAN	ISLAND WAKE, CLOUDS	45.1N 141.2E	43.8N 140.5E		95	LO	250	N	N	19910430	041950	142	223	53	29
86	78	PACIFIC OCEAN ISLAND	TAONGI ATOLL	14.6N 169.0E	13.6N 167.2E		30	LO	250	N	N	19910430	042930	138	277	37	29

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LO	LAT	LO										EL	OR
86	79	CHINA	YING KOU AREA	41.0N	122.0E	39.7N	123.2E	10	L0	250	N	N	19910430	055052	141	235	52	30
86	80	SOUTH KOREA	AREA SW OF SEOUL	37.0N	126.5E	36.5N	126.9E	50	L0	250	N	N	19910430	055159	141	243	51	30
86	81	SOUTH KOREA	SW S. KOREA, SUNGLINT	34.6N	126.5E	35.1N	128.3E	0	L0	250	N	N	19910430	055227	140	246	51	30
86	82	JAPAN	KYUSHU, NAGASAKI AREA	32.8N	130.2E	32.4N	130.9E	5	L0	250	N	N	19910430	055320	140	252	50	30
86	83	JAPAN	KYUSHU, SAKURA JIMA	31.5N	130.6E	31.9N	131.3E	0	L0	250	N	N	19910430	055330	140	253	49	30
86	84	JAPAN	KYUSHU, SAKURA JIMA(DARK)	31.5N	130.6E	31.0N	132.1E	0	L0	250	N	N	19910430	055346	140	254	49	30
86	85	JAPAN	KYUSHU, SAKURA JIMA(DARK)	35.5N	130.6E	30.7N	132.4E	0	L0	100	N	N	19910430	055353	140	255	49	30
86	86	JAPAN	KYUSHU, SAKURA JIMA(DARK)	31.5N	130.6E	29.3N	133.5E	0	L0	100	N	N	19910430	055419	139	257	48	30
86	87	CAROLINE ISLANDS	NEW, UNCHARTED ISLAND	7.4N	148.3E			10	L0	250	N	N	19910430	060058	137	282	32	30
86	88	CAROLINE ISLANDS	NEW, UNCHARTED ISLAND	6.9N	148.6E			30	L0	250	N	N	19910430	060107	137	282	31	30
86	89	CAROLINE ISLANDS	NEW, UNCHARTED ISLAND	6.5N	148.8E			30	L0	250	N	N	19910430	060114	137	282	31	30
86	90	CAROLINE ISLANDS	UNID. SHOAL OR BANK	5.8N	149.3E			30	L0	250	N	N	19910430	060128	137	283	30	30
86	91	CAROLINE ISLANDS	UNID. SHOAL OR BANK	5.3N	149.5E			30	L0	250	N	N	19910430	060136	137	283	30	30
86	92	PACIFIC OCEAN ISLAND	MUGURIS IS.	3.2S	154.6E			80	L0	250	N	N	19910430	060426	137	287	21	30
86	93	PACIFIC OCEAN ISLAND	MUGURIS IS.	3.2S	154.6E			80	L0	250	N	N	19910430	060436	137	287	21	30
86	94	PACIFIC OCEAN ISLAND	TULUN IS.	4.8S	155.4E			60	L0	250	N	N	19910430	060444	137	287	20	30
86	95	PACIFIC OCEAN ISLAND	TULUN IS.	4.8S	155.4E			80	L0	250	N	N	19910430	060455	137	287	20	30
86	96	AUSTRALIA-NT	WESSEL ISLANDS	11.5S	136.5E			30	NV	250	N	N	19910430	073610	137	288	15	31
86	97	AUSTRALIA-NT	WESSEL ISLANDS	11.5S	136.5E			40	L0	250	N	N	19910430	073615	137	288	15	31
87	0	A	ZAGROS MTS., DARK	33.6N	46.9E			20	L0	250	N	N	19910428	120412	136	288	42	2
87	1	IRAQ	TIGRIS R, IRRIG, SUNGLINT	32.5N	44.5E	32.9N	47.4E	5	L0	250	U	Y	19910428	120428	136	258	41	2
87	2	IRAQ	TIGRIS R, IRRIG, SUNGLINT	32.5N	44.8E	32.8N	47.5E	15	L0	250	U	Y	19910428	120430	136	259	41	2
87	3	IRAQ	TIGRIS R, IRRIG, SUNGLINT	32.5N	45.0E	32.6N	47.7E	30	L0	250	U	Y	19910428	120434	136	259	41	2
87	4	IRAQ	EUPHRATES R, IRRIG, SUNGLINT	32.1N	45.3E	32.3N	48.1E	40	L0	250	U	Y	19910428	120441	136	260	41	2
87	5	IRAQ	EUPHRATES R, IRRIG.	32.2N	44.8E	32.1N	48.2E	70	L0	250	U	Y	19910428	120445	136	260	41	2
87	6	IRAQ	EUPHRATES R, IRRIG.	32.1N	44.8E	32.0N	48.3E	70	L0	250	U	Y	19910428	120447	136	260	41	2
87	7	IRAQ	EUPHRATES R, IRRIG.	32.1N	44.7E	31.9N	48.4E	80	L0	250	U	Y	19910428	120449	136	260	41	2
87	8	IRAN	KARUN R, DARK	31.1N	48.0E	30.6N	49.5E	50	L0	250	U	Y	19910428	120513	137	262	40	2
87	9	IRAN	KARUN R, AGR.	31.0N	48.4E	30.4N	49.7E	60	L0	250	U	Y	19910428	120518	137	262	40	2
87	10	IRAN	KARUN R, AGR.	31.0N	48.3E	30.1N	50.0E	70	L0	250	U	Y	19910428	120524	137	263	39	2
87	11	KUWAIT	OIL FIRES, SUNGLINT	29.0N	48.0E	29.2N	50.7E	70	L0	250	U	Y	19910428	120540	137	264	39	2
87	12	KUWAIT	OIL FIRES, SUNGLINT	29.0N	48.0E	29.0N	50.9E	70	L0	250	U	Y	19910428	120544	137	264	39	2
87	13	KUWAIT	OIL FIRES, SUNGLINT	28.8N	48.3E	28.8N	51.1E	60	L0	250	U	Y	19910428	120549	137	264	38	2
87	14	IRAN	CST, SPITS, PERSIAN GULF	28.0N	51.5E	28.9N	52.6E	0	L0	250	U	Y	19910428	120624	138	267	37	2
87	15	IRAN	CST, SPITS, PERSIAN GULF	27.8N	51.6E	28.8N	52.7E	0	L0	250	U	Y	19910428	120627	138	267	37	2
87	16	IRAN	CST, ZAGROS MTS, GULF	27.8N	51.8E	26.5N	52.9E	0	L0	250	U	Y	19910428	120632	138	267	37	2
87	17	IRAN	CST, ZAGROS MTS, GULF	27.8N	52.0E	26.3N	53.1E	0	L0	250	U	Y	19910428	120636	138	268	37	2
87	18	SAUDI ARABIA	SALWAH BAY, G. BAHRAIN	25.5N	50.0E	25.5N	53.7E	40	L0	250	U	N	19910428	120651	138	268	36	2
87	19	SAUDI ARABIA	SALWAH BAY, SALARS, SMOKE	24.7N	50.7E	24.9N	54.1E	40	L0	250	U	Y	19910428	120702	138	269	36	2
87	20	SAUDI ARABIA	SALWAH BAY, SALARS, SMOKE	24.6N	50.7E	24.8N	54.2E	40	L0	250	U	Y	19910428	120704	138	269	36	2

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
87	21	UNITED ARAB EMIRATES	CST, C. MUSHAYRIB, C. KHUMAY	24.2N 51.5E	24.1N 54.7E	20	LO	250	N	Y	19910428	120716	138	270	35
87	22	UNITED ARAB EMIRATES	CST, C. MUSHAYRIB, C. KHUMAY	24.1N 51.7E	24.0N 54.7E	20	LO	250	N	Y	19910428	120718	138	270	35
87	23	UNITED ARAB EMIRATES	CST, C. MUSHAYRIB, C. KHUMAY	23.9N 51.8E	23.9N 54.9E	20	LO	250	N	Y	19910428	120721	138	270	35
87	24	UNITED ARAB EMIRATES	AL KIDAN DUNES-EDGE	23.0N 54.5E	22.5N 55.9E	0	LO	250	N	Y	19910428	120747	138	272	34
87	25	UNITED ARAB EMIRATES	AL KIDAN DUNES-EDGE	23.0N 54.5E	22.4N 55.9E	0	LO	250	N	Y	19910428	120749	138	272	34
87	26	UNITED ARAB EMIRATES	AL KIDAN DUNES-EDGE	23.0N 54.6E	22.3N 56.0E	0	LO	250	N	Y	19910428	120751	138	272	34
87	27	SAUDI ARABIA	URUQ AS SARIT	21.5N 55.0E	21.9N 56.2E	0	LO	250	N	Y	19910428	120757	138	272	33
87	28	SAUDI ARABIA	URUQ AS SARIT-DARK	21.5N 55.0E	21.8N 56.4E	0	LO	250	N	Y	19910428	120800	138	272	33
87	29	SAUDI ARABIA	URUQ AS SARIT-VERY DARK	21.5N 55.0E	21.7N 56.4E	0	LO	250	N	Y	19910428	120801	138	272	33
87	30		VERY, VERY DARK	19.2N	58.1E	20	LO	250	N	Y	19910428	120848	138	275	31
87	31		VERY, VERY DARK	18.7N	58.4E	0	LO	250	N	Y	19910428	120856	138	275	31
87	32		VERY, VERY DARK	18.3N	58.7E	15	LO	250	N	Y	19910428	120904	138	275	31
87	33	USA-CA	CST RA, PT. PIEDRAS BLANCO	35.7N 121.2W	37.0N 118.2W	0	LO	250	N	Y	19910428	144021	143	85	18
87	34	USA-CA	MONTEREY BAY, COMMA CLD	36.8N 121.8W	37.4N 117.7W	5	LO	250	N	Y	19910428	144029	143	86	18
87	35	USA-CA	MONO L, SIERRA NEVADAS	38.0N 119.1W	37.9N 117.1W	0	LO	250	N	Y	19910428	144040	143	86	19
87	36	USA-NV	L. WALKER, HAWTHORNE	38.7N 118.7W	38.2N 116.8W	0	LO	250	N	Y	19910428	144047	143	87	19
87	37	USA-NV	FALLON, CARSON R/SINK	39.4N 118.7W	38.6N 116.4W	0	LO	250	N	Y	19910428	144054	143	87	19
87	38	USA-NV	L. TAHOE, RENO, MTN. SNOW	39.1N 120.2W	39.1N 115.8W	0	LO	250	N	Y	19910428	144105	143	88	20
87	39	USA-NV	SMOKY VAL, TOIYABE RA.	39.4N 116.8W	39.6N 115.1W	0	LO	250	N	Y	19910428	144116	144	88	21
87	40	CANADA-M	L. WINNEPEG-MID SECT, ICE	51.7N 96.7W	49.8N 98.8W	10	LO	250	N	Y	19910428	144513	145	106	31
87	41	CANADA-M	L. WINNEPEG-NO. END, ICE	54.0N 99.5W	50.4N 97.5W	20	LO	250	N	Y	19910428	144529	145	108	32
87	42	CANADA-A	AGR, CLOUD MASS	56.6N	115.4W	90	LO	250	N	Y	19910428	192204	145	173	47
87	43	CUBA	HAVANA-CLOUDY, DARK	23.0N 82.5W	22.3N 80.6W	40	LO	250	N	Y	19910428	210533	139	271	36
87	44	CUBA	MID-WEST SECT, DARK	22.7N 82.9W	22.1N 80.4W	60	LO	250	N	Y	19910428	210537	139	271	35
87	45	CUBA	LA BROA BAY, MID SECT.	22.6N 81.5W	21.8N 80.2W	50	LO	250	N	Y	19910428	210542	139	272	35
87	46	CUBA	LA BROA BAY, MID SECT.	22.6N 81.4W	21.6N 80.1W	40	LO	250	N	Y	19910428	210546	139	272	35
87	47	CUBA	LA BROA BAY, BAY OF PIGS	22.2N 81.4W	21.2N 79.8W	40	LO	250	N	Y	19910428	210553	139	272	35
87	48	CUBA	BANKS, KEY LARGO DEL SUR	21.5N 81.5W	20.1N 79.0W	30	LO	250	N	Y	19910428	210613	139	273	34
87	49	BRAZIL	AGR, VERY DARK	9.2S	61.5W	25	LO	250	N	Y	19910428	211457	138	286	9
87	50	BRAZIL	AGR, VERY DARK	9.6S	61.3W	30	LO	250	N	Y	19910428	211504	138	286	8
87	51	CHINA	JIAOZHOU BAY, COAST	36.5N 119.0E	33.9N 124.9E	35	LO	250	N	Y	19910428	220722	142	82	13
87	52	CHINA	LAOSHAN BAY, COAST	36.0N 120.5E	34.5N 125.5E	50	LO	250	N	Y	19910428	220734	143	82	14
87	53	CHINA	SHANDON PENINSULA	37.2N 122.0E	34.9N 126.0E	15	LO	250	N	Y	19910428	220743	143	82	14
87	54	NORTH KOREA	C. CHANGSAN, AFLD.	38.2N 125.0E	36.8N 127.8E	15	LO	250	N	Y	19910428	220820	143	84	16
87	55	SOUTH KOREA	MOUNTAINS	37.1N	128.2E	30	LO	250	N	Y	19910428	220827	143	84	17
87	56	NORTH KOREA	MOUNTAINS, SNOW	38.2N	129.5E	30	LO	250	N	Y	19910428	220850	143	86	18
87	57	CHINA	PAEKU VOL., CHANGBAI SHAN	42.0N 128.0E	38.9N 130.2E	40	LO	250	N	Y	19910428	220903	143	86	18
87	58	NORTH KOREA	MOUNTAINS	39.5N	130.8E	15	LO	250	N	Y	19910428	220915	143	87	19
87	59	NORTH KOREA	HANGYONG MTN. RANGE	41.5N 129.0E	39.8N 131.2E	30	LO	250	N	Y	19910428	220922	143	87	19
87	60	NORTH KOREA	CHONGJIN, MTS.	41.6N 129.6E	40.1N 131.6E	10	LO	250	N	Y	19910428	220928	143	88	20

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
87	61	NORTH KOREA	HANGYONG MTS, COAST	42.3N 129.9E	40.5N 132.1E	0	LO	250	U	N	19910428	220937	143	88	20	8
87	62	CHINA	MOUNTAINS	41.0N 132.7E	41.0N 132.7E	40	LO	250	U	N	19910428	220947	143	89	21	9
87	63	USSR-PACIFIC	COAST, MTS.	43.2N 131.3E	41.4N 133.2E	10	LO	250	U	N	19910428	220956	144	89	21	9
87	64	USSR-PACIFIC	MOUNTAINS, CLOUD CELLS	41.9N 133.8E	41.9N 133.8E	45	LO	250	N	N	19910428	221006	144	90	22	9
87	65	CHINA	HSIAO-HSING-KAI LAKE	45.3N 132.7E	42.4N 134.7E	10	LO	250	U	N	19910428	221019	144	91	22	9
87	66	USSR-PACIFIC	LAKE KHANKA	45.1N 132.2E	42.6N 134.9E	10	LO	250	U	N	19910428	221023	144	91	22	9
87	67	USSR-PACIFIC	LAKE KHANKA	44.7N 132.6E	43.0N 135.4E	15	LO	250	U	N	19910428	221031	144	91	23	9
87	68	CHINA	AGR, RIVER BASIN	43.6N 136.2E	43.6N 136.2E	60	LO	250	N	N	19910428	221044	144	92	23	9
87	69	MEXICO	LAG.DELICIAS,IRRIG.	28.1N 105.5W	28.6N 108.1W	20	LO	250	N	N	19910428	223312	140	264	40	9
87	70	MEXICO	TORREON,GOMEZ PALACIO	25.5N 103.5W	24.1N 104.7W	0	LO	250	U	N	19910428	223435	140	269	37	9
87	71	MEXICO	VERY DARK, MTS.	20.0N 101.7W	20.0N 101.7W	5	LO	250	U	N	19910428	223551	139	273	34	9
87	72	MEXICO	VOL.PEAKS-BLURRED,DARK	19.6N 101.5W	19.6N 101.5W	5	LO	250	U	N	19910428	223558	139	274	34	9
87	73	USSR-MIDDLE	L.BAYKAL, ANGARA R.	51.9N 104.6E	51.5N 106.1E	50	LO	250	N	Y	19910429	011318	145	109	32	11
87	74	USSR-MIDDLE	L.BAYKAL, ANGARA R,SNOW	51.8N 105.2E	51.7N 106.7E	40	LO	250	N	Y	19910429	011324	145	110	32	11
87	75	USSR-MIDDLE	L.BAYKAL, SNOW/ICE	52.0N 105.6E	52.0N 107.4E	60	LO	250	N	Y	19910429	011332	145	110	33	11
87	76	USSR-MIDDLE	L.BAYKAL,SELENGA R/DELTA	52.3N 106.3E	52.3N 108.4E	45	LO	250	N	Y	19910429	011343	145	112	33	11
87	77	USSR-MIDDLE	L.BAYKAL,OLKHON I,SN/ICE	52.9N 107.5E	52.6N 109.2E	10	LO	250	N	Y	19910429	011352	145	113	34	11
87	78	USSR-MIDDLE	L.BAYKAL,OLKHON I,SN/ICE	53.3N 108.0E	53.1N 110.7E	10	LO	250	N	Y	19910429	011408	145	114	34	11
87	79	USSR-MIDDLE	L.BAYKAL,SVYATOY PEN,S/I	53.7N 108.5E	53.2N 111.1E	0	LO	250	N	Y	19910429	011412	145	115	35	11
87	80	USSR-MIDDLE	L.BAYKAL,SVYATOY PEN,S/I	54.0N 109.0E	53.5N 112.1E	10	LO	250	N	Y	19910429	011422	145	116	35	11
87	81	USSR-MIDDLE	L.BAYKAL, SNOW/ICE	54.6N 109.4E	53.8N 113.1E	10	LO	250	N	Y	19910429	011432	145	117	35	11
87	82	USSR-MIDDLE	L.BAYKAL, SNOW/ICE	55.4N 109.8E	54.1N 114.2E	5	LO	250	N	N	19910429	011443	145	119	36	11
87	83	USSR-EUROPEAN	ULYANOVSK, VOLGA R/RES.	54.3N 48.4E	55.1N 50.2E	5	LO	250	U	Y	19910429	054414	145	123	37	14
87	84	USSR-EUROPEAN	ULYANOVSK, VOLGA R/RES.	54.3N 48.5E	55.3N 51.2E	5	LO	250	U	Y	19910429	054423	145	124	37	14
87	85	USSR-EUROPEAN	AGR-BLURRED,CLOUD STRIP	55.4N 51.9E	55.4N 51.9E	15	LO	250	U	Y	19910429	054430	145	125	38	14
87	86	USSR-EUROPEAN	AGR-BLURRED,CLOUD STRIP	55.6N 52.7E	56.9E	15	LO	250	U	Y	19910429	054437	145	126	38	14
87	87	USSR-EUROPEAN	UFA R, AGR,JET STREAM	55.3N 56.5E	56.3N 56.9E	40	LO	250	N	N	19910429	054515	145	131	40	14
87	88	USSR-MIDDLE	PANORAMA, AGR, FIRES	57.2N 67.8E	57.2N 67.8E	0	LO	250	U	N	19910429	054650	145	145	43	14
87	89	USSR-MIDDLE	PANORAMA,SE,FIRES,AGR.	57.3N 68.8E	57.3N 68.8E	10	HO	250	U	N	19910429	054658	145	147	43	14
87	90	FRANCE	GIRONDE R/ESTUARY,CST	45.5N 0.9W	44.1N .4E	20	LO	250	U	N	19910429	070833	144	91	22	15
87	91	FRANCE	DOUBS R,DIJON,AGR.	47.2N 5.4E	47.1N 5.3E	0	NV	250	U	N	19910429	070943	144	97	26	15
87	92	GERMANY	REGENSBURG, DANUBE R.	49.0N 12.0E	50.3N 11.9E	15	LO	250	U	N	19910429	071106	145	104	30	15
87	93	POLAND	VISTULA R,KALININGRAD B.	54.1N 19.3E	53.6N 21.3E	10	LO	250	U	N	19910429	071249	145	115	34	15
87	94	SWEDEN	GOTEBORG,COAST,KATTEGAT	57.5N 12.0E	57.2N 7.9E	25	LO	250	N	N	19910429	101648	145	155	45	17
87	95	SWEDEN	COAST,KATTEGAT	58.1N 11.8E	57.2N 8.5E	20	LO	250	N	N	19910429	101653	145	156	45	17
87	96	SWEDEN	DALBO LAKE-KINNE BAY	58.5N 13.5E	57.2N 9.7E	50	LO	250	N	N	19910429	101703	145	158	45	17
87	97	SWEDEN	VATTERN L-SOUTH END	57.7N 14.3E	57.1N 10.4E	40	LO	250	N	N	19910429	101709	145	159	46	17
87	98	SWEDEN	VAXIO, LAKES, AGR.	57.1N 14.6E	57.1N 11.0E	30	LO	250	N	N	19910429	101714	145	160	46	17
87	99	SWEDEN	GOTLAND I,(SO,HALF)	57.3N 18.5E	57.0N 12.1E	30	LO	250	N	N	19910429	101724	145	161	46	17
87	100	SWEDEN	OLAND I,KALMAR & STRAIT	56.7N 16.5E	57.0N 13.1E	30	LO	250	N	N	19910429	101732	145	162	46	17

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
87	101	SWEDEN	GOTLAND I-SO. END.	57.0N 18.3E	56.7N 15.5E	5	LO	250	U	N	19910429	101753	145	166	47 17
87	102	SWEDEN	GOTLAND I-MID SECT.	57.3N 18.5E	56.7N 15.9E	20	LO	250	U	N	19910429	101757	145	167	47 17
87	103	POLAND	HELSKA SPIT, GDYNIA, AFLD	54.5N 18.5E	56.5N 17.7E	0	LO	250	N	N	19910429	101812	145	169	47 17
87	104	USSR-EUROPEAN	KALININGRAD, AFLD, COAST	54.7N 20.3E	56.4N 18.4E	15	LO	250	N	Y	19910429	101819	145	170	48 17
87	105	USSR-EUROPEAN	KALININGRAD, AFLD, COAST	54.7N 20.5E	56.3N 19.0E	20	LO	250	N	Y	19910429	101824	145	171	48 17
87	106	USSR-EUROPEAN	KURSKIY BAY, BARRIER BAR	55.1N 21.3E	56.1N 20.4E	50	LO	250	N	N	19910429	101836	145	173	48 17
87	107	USSR-EUROPEAN	VOLGA R/PRES, VOLGOGRAD	48.8N 44.7E	50.2N 41.9E	0	LO	250	U	N	19910429	102216	144	208	51 17
87	108	USSR-EUROPEAN	VOLGA R, KRASNQ-ARMEYSK	48.0N 45.3E	50.0N 42.3E	0	LO	250	U	N	19910429	102220	144	209	51 17
87	109	USSR-EUROPEAN	KAPUSTIN, AFLDS, AGR.	48.9N 45.8E	49.2N 44.2E	0	LO	250	N	N	19910429	102243	144	213	51 17
87	110	USSR-EUROPEAN	L. ELTON, AGR.	49.1N 46.5E	49.0N 44.4E	0	LO	250	N	N	19910429	102246	144	213	51 17
87	111	USSR-EUROPEAN	SALT LAKES, SHUNGAY	48.5N 46.8E	48.8N 44.8E	0	LO	250	N	N	19910429	102251	144	214	51 17
87	112	USSR-EUROPEAN	L. BASKUNCHAK, AGR, RR	47.9N 47.0E	48.6N 45.3E	0	LO	250	N	Y	19910429	102257	144	215	51 17
87	113	USSR-EUROPEAN	VOLGA R/CHAN, AGR.	47.7N 46.7E	48.4N 45.7E	0	LO	250	N	Y	19910429	102302	144	215	51 17
87	114	USSR-EUROPEAN	SUYUNDUK, BALKULUK, SALARS	48.1N 47.7E	48.2N 46.1E	0	LO	250	N	N	19910429	102307	143	216	51 17
87	115	USSR-EUROPEAN	L. ARALSQR, RYN DESERT	48.8N 48.4E	47.9N 46.7E	0	LO	250	N	N	19910429	102315	143	217	51 17
87	116	USSR-EUROPEAN	VOLGA R/CHAN, M.L. BASE	46.8N 48.0E	47.6N 47.2E	0	LO	250	N	Y	19910429	102322	143	218	51 17
87	117	USSR-EUROPEAN	VOLGA R/DELTA, P.L. BASE	46.7N 48.5E	47.5N 47.5E	0	LO	250	N	Y	19910429	102326	143	219	51 17
87	118	USSR-EUROPEAN	RYN DESERT		47.1N 48.1E	0	LO	250	N	N	19910429	102334	143	220	51 17
87	119	USSR-EUROPEAN	CASPIAN SEA, ZABURUNYE B.	46.8N 50.0E	46.9N 48.5E	0	LO	250	N	Y	19910429	102340	143	221	51 17
87	120	USSR-EUROPEAN	CASPIAN SEA, SENNOY BAY	47.0N 50.6E	46.7N 48.8E	0	LO	250	N	Y	19910429	102344	143	221	51 17
87	121	USSR-EUROPEAN	VOLGA DELTA, SINEYE M. BAY	46.3N 49.8E	46.5N 49.2E	0	NV	250	U	N	19910429	102349	143	222	51 17
87	122	USSR-EUROPEAN	CASPIAN SEA-EAST CST.	46.5N 52.8E	46.0N 50.1E	5	LO	250	N	N	19910429	102401	143	224	51 17
87	123	USSR-EUROPEAN	BIZACHI PEN, SALAR	45.2N 51.9E	45.8N 50.4E	20	LO	250	N	N	19910429	102406	143	224	51 17
87	124	USSR-EUROPEAN	TYUB-KARAGAN PFN, KARAGAN	44.8N 50.5E	44.7N 52.1E	25	LO	250	N	Y	19910429	102431	143	228	51 17
87	125	USSR-EUROPEAN	TYUB-KARAGAN PEN, KARAGAN	44.4N 50.8E	44.5N 52.5E	35	LO	250	N	Y	19910429	102437	143	229	51 17
87	126	USSR-MIDDLE	KAYRAKUMSKOYE RES, AGR.	37.2N 61.2E		0	LO	250	N	N					
88	1		LAKES, AGRICULTURE FIELD			5	LO	100	O	N					
88	2		AGRICULTURE, CLOUDS			55	LO	100	O	N					
88	3		AGRICULTURE, CLOUDS			65	LO	100	O	N					
88	4		AGRICULTURE, HILLS			10	LO	100	O	N					
88	5		AGRICULTURE, HILLS			0	LO	100	O	N					
88	6		AGRICULTURE, HILLS			40	LO	100	O	N					
88	7		AGRICULTURE, CLOUDS			85	LO	100	O	N					
88	8		AGRICULTURE, CLOUDS			60	LO	100	O	N					
88	9		AGRICULTURE, CLOUDS			65	LO	100	O	N					
88	10		AGRICULTURE, CLOUDS			75	LO	100	O	N					
88	11		AGRICULTURE, CLOUDS			60	LO	100	O	N					
88	12		AGRICULTURE, CLOUDS			45	LO	100	O	N					
88	13		AGRICULTURE, CLOUDS			75	LO	100	O	N					
88	14		AGRICULTURE, CLOUDS			100	LO	100	O	N					

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
88	15		CLOUDS			90	LO	100	O	N						
88	16		CLOUDS			95	LO	100	O	N						
88	17		CLOUDS			85	LO	100	O	N						
88	18		CLOUDS			75	LO	100	O	N						
88	19		CLOUDS, LAKE			65	LO	100	O	N						
88	20		CLOUDS, LAND USE PATTERN			35	LO	100	O	N						
88	21		CLOUDS, LAND USE PATTERN			50	LO	100	O	N						
88	22		CLOUDS, LAND USE PATTERN			50	LO	100	O	N						
88	23		CLOUDS, LAND USE PATTERN			70	LO	100	O	N						
88	24		CLOUDS, DESERT AREA			10	LO	100	O	N						
88	25		CLOUDS, DESERT AREA			5	LO	100	O	N						
88	26		CLOUDS, DESERT AREA			15	LO	100	O	N						
88	27		CLOUDS, DESERT AREA			20	LO	100	O	N						
88	28	INDIA	RIVER, DESERT AREA			30	LO	100	O	N						
88	29	INDIA	RIVER, DESERT AREA			40	LO	100	O	N						
88	30	INDIA	RIVER, DESERT AREA			35	LO	100	O	N						
88	31	INDIA	RIVER, DESERT AREA			45	LO	100	O	N						
88	32	INDIA	RIVER, HILLS			40	LO	100	O	N						
88	33	INDIA	DECCAN PLATEAU			65	LO	100	O	N						
88	34	INDIA	DECCAN PLATEAU			40	LO	100	O	N						
88	35	INDIA	EAST COAST			20	LO	100	O	N						
88	36	INDIA	EAST COAST			15	LO	100	O	N						
88	37	INDIA	EAST COAST			10	LO	100	O	N						
88	38	INDIA	EAST COAST			15	LO	100	O	N						
88	39	INDIA	EAST COAST			20	LO	100	O	N						
88	40	INDIA	EAST COAST			25	LO	100	O	N						
88	41	INDIA	EAST COAST			15	LO	100	O	N						
88	42	INDIA	EAST COAST			20	HO	100	O	N						
88	43	USA-AK	COAST MOUNTAINS	58.5N	136.5W	10	NV	250	U	N						
88	44	USA-AK	ICY STRAIT, GLACIER BAY	58.5N	135.5W	0	NV	250	U	N						
88	45	CANADA-BC	FINLAY R., ROCKY MTHS.	57.0N	125.5W	0	NV	250	U	N						
88	46	CANADA-BC	WILLISTON LAKE RES.	57.0N	125.0W	10	NV	250	U	N						
88	47	CANADA	CANADIAN ROCKIES	55.0N	123.0W	0	LO	250	U	N						
88	48	CANADA	CANADIAN ROCKIES	55.0N	122.0W	0	HO	250	U	N						
88	49	CANADA-O	OWEN SOUND	44.5N	81.0W	0	NV	250	U	N						
88	50	CANADA-O	NEAR KITCHENER	43.5N	81.0W	0	NV	250	U	N						
88	51	USA-NY	BUFFALO, NIAGARA FALLS	43.0N	79.0W	5	NV	250	U	N						
88	52	USA-NY	FINGER LKS. REGION	43.0N	77.0W	5	NV	250	U	N						
88	53	USA-NY	NY YORK CITY AREA	40.5N	74.0W	0	NV	250	U	N						
88	54	USA-NY	NEW YORK CITY, HUDSON R.	41.0N	74.0W	0	LO	250	U	N						

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUN
88	55	USA-NY	HUDSON RIVER	41.5N 74.0W		0	LO	250	U	N						
88	56	USA-CT	LONG ISLAND SOUND	40.5N 72.5W		0	NV	250	U	N						
88	57	USA-NY	LONG ISLAND	40.0N 72.5W		0	NV	250	U	N						
88	58	USA-NY	LONG ISLAND	40.5N 73.0W		0	NV	250	U	N						
88	59	USA-NY	LONG ISLAND, BROOKLYN	41.0N 73.5W		0	LO	250	U	N						
88	60	USA-MS	CAPE COD, NANTUCKET IS.	41.5N 70.0W		30	LO	250	U	N						
88	61	USA-MS	PROVIDENCE, BOSTON	42.0N 71.0W		20	LO	250	U	N						
88	62	USA-MS	CAPE COD	42.0N 70.0W		35	LO	250	U	N						
88	63	BERMUDA ISLANDS	HAMILTON, CLOUDS	32.5N 64.5W		70	LO	250	U	N						
88	64	BERMUDA ISLANDS	HAMILTON, CLOUDS	32.5N 64.5W		70	LO	250	U	N						
88	65		AGRICULTURE, LG. AIRPORT			55	LO	250	U	N						
88	66	USSR-PACIFIC	KUNASHIR IS., KURILE IS.	44.0N 146.0E		5	LO	250	U	N						
88	67	JAPAN	SHIRETOKO MTS., NEMURO S	43.5N 145.0E		0	LO	250	U	N						
88	68	JAPAN	NEMURO BAY, GOYOMAU STR.	43.0N 145.5E		0	LO	250	U	N						
88	69		CLOUDS, LAKE			80	NV	250	U	N						
88	70		CLOUDS, LAKE			80	NV	250	U	N						
88	71		CLOUDS			95	NV	250	U	N						
88	72		CLOUDS			95	NV	250	U	N						
88	73		CLOUDS, RIVER			75	NV	250	U	N						
88	74	BURMA	IRRAWADDY RIVER BASIN	21.0N 95.0E		0	LO	250	U	N						
88	75	BURMA	IRRAWADDY RIVER BASIN	18.5N 94.5E		10	LO	250	U	N						
88	76	BURMA	IRRAWADDY RIVER BASIN	17.5N 95.0E		20	LO	250	U	N						
88	77	BURMA	IRRAWADDY RIVER BASIN	17.0N 95.0E		15	LO	250	U	N						
88	78	BURMA	IRRAWADDY RIVER BASIN	17.0N 95.5E		10	LO	250	U	N						
88	79	BURMA	IRRAWADDY RIVER DELTA	16.5N 95.5E		15	LO	250	U	N						
88	80	BURMA	SALAWEEEN RIVER BASIN	18.0N 97.5E		10	LO	250	U	N						
88	81	BURMA	DAUNA RANGE	18.5N 97.0E		5	LO	250	U	N						
88	82	BURMA	SALAWEEEN RIVER MOUTH	16.5N 97.5E		15	LO	250	U	N						
88	83	BURMA	GULF OF MARTABAN	16.0N 97.0E		10	LO	250	U	N						
88	84	BURMA	IRRAWADDY RIVER DELTA	15.5N 95.0E		20	LO	250	U	N						
88	85	BURMA	MOUNTAINS, SALAWEEEN R.	16.5N 98.5E		40	LO	250	U	N						
88	86	THAILAND	NEAR CHIANG MAI	18.5N 99.0E		35	NV	250	U	N						
88	87	THAILAND	KAN NIM RESERVOIR	17.0N 99.0E		25	NV	250	U	N						
88	88	THAILAND	NAM PING RIVER, TAK	17.0N 99.0E		35	NV	250	U	N						
88	89	BURMA	NEAR KYAIKKAMI	16.0N 97.5E		60	LO	250	U	N						
88	90	BURMA	MOUNTAINS, STREAMS	14.5N 98.5E		55	LO	250	U	N						
88	91	THAILAND	AREA NORTH OF BANGKOK	14.5N 100.5E		30	LO	250	U	N						
88	92	THAILAND	AREA NORTH OF BANGKOK	14.5N 100.5E		40	NV	250	U	N						
88	93	THAILAND	BANGKOK	14.0N 100.5E		40	NV	250	U	N						
88	94	THAILAND	BANGKOK	14.0N 100.5E		60	NV	250	U	N						

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR		
88	95	BURMA	COASTAL MOUNTAINS	13.5N 99.0E		60	LO	250	U	N								
88	96	BURMA	COAST, MALI ISLAND	14.5N 98.5E		45	LO	250	U	N								
88	97	THAILAND	AREA WEST OF BANGKOK	14.0N 99.5E		50	LO	250	U	N								
88	98	THAILAND	AREA WEST OF BANGKOK	13.5N 99.5E		50	LO	250	U	N								
88	99	THAILAND	BIGHT OF BANGKOK	13.0N 100.0E		75	LO	250	U	N								
88	100	THAILAND	CLOUDS			90	LO	250	U	N								
88	101	THAILAND	CLOUDS			80	LO	250	U	N								
88	102	MALAYSIA	CLOUDS, COAST			85	LO	250	U	N								
88	103	INDONESIA	SINGAPORE	1.5N 104.0E		60	LO	250	U	N								
88	104	INDONESIA	RIVERS, AGRICULTURE			25	LO	250	U	N								
88	105	INDONESIA	BAY, SEDIMENT			35	LO	250	U	N								
88	106	INDONESIA	BAY, SEDIMENT			20	LO	250	U	N								
88	107	INDONESIA	COASTAL AREA, VILLAGES			65	LO	250	U	N								
88	108	INDONESIA	COASTAL AREA, VILLAGES			55	LO	250	U	N								
88	109	INDONESIA	COASTAL AREA, VILLAGES			25	LO	250	U	N								
88	110	INDONESIA	COASTAL AREA, VILLAGES			40	LO	250	U	N								
88	111	INDONESIA	COASTAL AREA, VILLAGES			25	LO	250	U	N								
88	112		RIVER, AGRICULTURE			5	LO	250	U	N								
88	113		RIVER, AGRICULTURE			0	LO	250	U	N								
88	114		RIVER, AGRICULTURE			0	LO	250	U	N								
88	115		RESERVOIR															
88	116		RESERVOIR, ESCARPMENT			5	LO	250	U	N								
88	117		SMALL RIVERS			15	LO	250	U	N								
88	118		SMALL RIVERS, LAKE			15	LO	250	U	N								
88	119		SMALL RIVERS, LAKE			5	LO	250	U	N								
88	120		SMALL RIVERS, LAKE			15	LO	250	U	N								
88	121		RESERVOIR, RIVER			25	LO	250	U	N								
89	0A	BRAZIL	VICINITY MOUTH AMAZON R.			4.6N	50.8W	90	LO	250	N	N	19910429	193446	137	284	26	23
89	1	BRAZIL	VICINITY MOUTH AMAZON R.			3.9N	50.4W	95	LO	250	N	N	19910429	193457	137	284	26	23
89	2	BRAZIL	VICINITY MOUTH AMAZON R.			3.0N	49.9W	90	LO	250	N	N	19910429	193514	137	284	25	23
89	3	BRAZIL	VICINITY MOUTH AMAZON R.			2.3N	49.5W	95	LO	250	N	N	19910429	193527	137	284	24	23
89	4	BRAZIL	VICINITY MOUTH AMAZON R.			1.9N	49.2W	95	LO	250	N	N	19910429	193534	137	285	24	23
89	5	BRAZIL	MOUTH AMAZON R.			1.2N	48.9W	80	LO	250	N	N	19910429	193545	137	285	23	23
89	6	BRAZIL	NE.BRAZIL,VRY CLOUDY			1.8S	47.1W	70	LO	250	N	N	19910429	193639	137	286	21	23
89	7	BRAZIL	NE.BRAZIL,VRY CLOUDY			2.1S	47.0W	60	LO	250	N	N	19910429	193644	137	286	20	23
89	8	BRAZIL	NE.BRAZIL,VRY CLOUDY			2.4S	46.8W	90	LO	250	N	N	19910429	193649	137	286	20	23
89	9	BRAZIL	NE.BRAZIL,FOREST,MTNS.			2.7S	46.6W	40	LO	250	N	N	19910429	193655	137	286	20	23
89	10	BRAZIL	NE.BRAZIL,FOREST,MTNS.			3.6S	46.1W	30	LO	250	N	N	19910429	193711	137	286	19	23
89	11	BRAZIL	NE.BRAZIL,FOREST,MTNS.			4.1S	45.8W	10	LO	250	N	N	19910429	193720	137	286	19	23
89	12	BRAZIL	NE.BRAZIL,FOREST,MTNS.			4.5S	45.6W	60	LO	250	N	N	19910429	193727	137	286	18	23

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
89	13	BRAZIL	NE. BRAZIL, FOREST, MTNS.	5.3S 45.1W	5.3S 45.1W	70	LO	250	N	N	19910429	193741	137	287	18	23
89	14	BRAZIL	NE. BRAZIL, FOREST, MTNS.	6.0S 44.7W	6.0S 44.7W	50	LO	250	N	N	19910429	193754	137	287	17	23
89	15	BRAZIL	NE. BRAZIL, FOREST, MTNS.	7.1S 44.0W	7.1S 44.0W	60	LO	250	N	N	19910429	193814	138	287	16	23
89	16	BRAZIL	NE. BRAZIL, FOREST, MTNS.	7.5S 43.8W	7.5S 43.8W	60	LO	250	N	N	19910429	193821	138	287	15	23
89	17	BRAZIL	SWAMPY AREAS	8.7S 43.1W	8.7S 43.1W	30	LO	250	N	N	19910429	193842	138	287	14	23
89	18	BRAZIL	AREA AROUND MORPARA	11.5S 43.4W	9.1S 42.9W	40	LO	250	N	N	19910429	193850	138	287	14	23
89	19	BRAZIL	VRY DARK FRAME	9.7S 42.5W	9.7S 42.5W	40	LO	250	N	N	19910429	193901	138	287	13	23
89	20	BRAZIL	AREA NEAR UBATA	14.2S 39.7W	14.2S 39.7W	40	LO	250	N	N	19910429	194022	138	287	9	23
89	21	BRAZIL	AREA NEAR UBATA	14.6S 39.5W	14.6S 39.5W	50	LO	250	N	N	19910429	194028	138	287	9	23
89	22	CANADA-BC	PRINCE RUPERT AREA	54.5N 130.5W	55.0N 132.5W	5	LO	250	N	N	19910429	204638	144	179	49	24
89	23	CANADA-BC	KITIMAT AREA	54.0N 129.0W	54.8N 131.8W	0	LO	250	N	N	19910429	204645	144	180	49	24
89	24	CANADA-BC	OOTSJA LAKE AREA	54.0N 126.0W	54.6N 130.9W	40	LO	250	N	N	19910429	204653	144	181	50	24
89	25	CANADA-BC	NATALKUZ LAKE AREA	53.4N 125.3W	54.5N 130.3W	60	LO	250	N	N	19910429	204659	144	182	50	24
89	26	CANADA-BC	KAMLOOPS, THOMPSON RIVER	50.5N 120.2W	51.1N 119.7W	40	LO	250	N	N	19910429	204851	144	200	52	24
89	27	CANADA-BC	VERNON, N.L.K. OKANAGAN	50.3N 119.3W	51.0N 119.3W	50	LO	250	N	N	19910429	204855	144	201	52	24
89	28	CANADA-BC	AREA N. VERNON	50.6N 119.0W	50.8N 118.9W	40	LO	250	N	N	19910429	204900	144	201	52	24
89	29	CANADA-BC	OKANAGAN LAKE, KELOWNA	49.9N 119.5W	50.5N 118.1W	50	LO	250	N	N	19910429	204910	143	203	52	24
89	30	CANADA-BC	CASTLEGAR AREA, L. ARROW L	49.3N 117.9W	50.2N 117.5W	40	LO	250	N	N	19910429	204916	143	204	52	24
89	31	USA-TX	TEXARKANA, RED RIVER	33.5N 93.9W	34.6N 94.8W	0	LO	250	N	N	19910429	205507	141	250	49	24
89	32	USA-LA	SHREVEPORT, RED RIVER	32.6N 93.6W	34.3N 94.4W	30	LO	250	N	N	19910429	205514	141	251	49	24
89	33	USA-LA	DARK, CLOUDY FRAME	32.2N 92.5W	32.2N 92.5W	60	LO	250	N	N	19910429	205554	140	255	47	24
89	34	USA-LA	CENTRAL LA, RED RIVER	32.0N 93.0W	31.9N 92.2W	50	LO	250	N	N	19910429	205600	140	255	47	24
89	35	COLOMBIA	N. CENTRAL COLOMBIA	7.9N 75.5W	7.9N 75.5W	40	LO	250	N	N	19910429	210320	138	282	30	24
89	36	COLOMBIA	N. CENTRAL COLOMBIA	6.4N 74.6W	6.4N 74.6W	20	LO	250	N	N	19910429	210347	137	282	28	24
89	37	COLOMBIA	N. CENTRAL COLOMBIA	6.1N 74.4W	6.1N 74.4W	40	LO	250	N	N	19910429	210353	137	283	28	24
89	38	COLOMBIA	E. CENTRAL COLOMBIA	4.4N 73.5W	4.4N 73.5W	60	LO	250	N	N	19910429	210423	137	283	27	24
89	39	COLOMBIA	RIO GUAYABERO	2.5N 72.6W	2.9N 72.6W	60	LO	250	N	N	19910429	210450	137	284	25	24
89	40	COLOMBIA	RIO GUAVIARE, CHAPARRAL	2.8N 71.8W	2.4N 72.3W	50	LO	250	N	N	19910429	210458	137	284	25	24
89	41	PERU	AMAZON RIVER	1.1S 70.3W	1.1S 70.3W	70	LO	250	N	N	19910429	210601	137	286	22	24
89	42	BRAZIL	CLDY, PARTIAL FRAME	2.8S 68.3W	2.8S 68.3W	80	LO	250	N	N	19910429	210632	137	286	20	24
89	43	BRAZIL	DR FRAME, RIVER, CLOUDY	5.2S 67.9W	5.2S 67.9W	60	LO	250	N	N	19910429	210714	137	287	18	24
89	44	USA-CA	CA. COASTLINE, MTNS.	40.0N 124.0W	43.6N 128.2W	40	LO	250	N	N	19910429	222133	142	227	52	25
89	45	USA-CA	CA. COASTLINE, MTNS.	40.0N 124.0W	43.4N 127.8W	20	LO	250	N	N	19910429	222139	142	228	52	25
89	46	USA-CA	CA. COASTLINE, MTNS.	40.0N 124.0W	43.1N 127.4W	0	LO	250	N	N	19910429	222145	142	228	52	25
89	47	USA-CA	CA. COASTLINE, MTNS.	39.0N 123.0W	42.1N 126.0W	0	LO	250	N	N	19910429	222208	142	231	52	25
89	48	USA-CA	AREA S. EUREKE	40.4N 124.2W	41.7N 125.5W	0	LO	250	N	N	19910429	222216	142	233	52	25
89	49	USA-CA	NEAR CORNING, FIELD PATNS	39.8N 122.3W	40.3N 123.7W	0	LO	250	N	N	19910429	222246	141	236	51	25
89	50	USA-CA	UKAIH AREA, PT. ARENA	39.0N 123.4W	39.8N 123.1W	0	LO	250	N	N	19910429	222256	141	238	51	25
89	51	USA-CA	SANTA ROSA AREA	38.4N 122.7W	39.5N 122.8W	0	LO	250	N	N	19910429	222303	141	238	51	25
89	52	USA-CA	PT. REYES, SAN RAFAEL	38.0N 122.8W	39.2N 122.4W	0	LO	250	N	N	19910429	222309	141	239	51	25

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIP LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	EL	OR
89	53	USA-CA	SAN FRANCISCO, BAY AREA	37.8N 122.5W	38.9N 122.1W	0	LO	250	N	N	19910429	222314	141	240	51	25	25
89	54	USA-CA	S. SAN FRANCISCO BAY AREA	37.8N 122.2W	38.7N 121.9W	0	LO	250	N	N	19910429	222319	141	240	51	25	25
89	55	USA-CA	MONTEREY BAY AREA	36.9N 121.8W	38.4N 121.5W	0	LO	250	N	N	19910429	222326	141	241	51	25	25
89	56	USA-CA	MONTEREY PENINSULA AREA	36.4N 121.6W	38.0N 121.1W	0	LO	250	N	N	19910429	222333	141	242	51	25	25
89	57	USA-CA	AREA NW. PASO ROBLES	36.0N 121.0W	37.7N 120.8W	0	LO	250	N	N	19910429	222339	141	243	50	25	25
89	58	USA-CA	AREA AROUND PASO ROBLES	35.4N 120.6W	37.5N 120.5W	5	LO	250	N	N	19910429	222344	141	243	50	25	25
89	59	USA-CA	SANTA MARIA AREA	35.0N 120.4W	37.1N 120.1W	10	LO	250	N	N	19910429	222352	141	244	50	25	25
89	60	USA-CA	SANTA BARBARA AREA	34.7N 119.8W	36.8N 119.8W	0	LO	250	N	N	19910429	222357	141	245	50	25	25
89	61	USA-CA	VENTURA AREA	34.3N 119.0W	36.5N 119.5W	0	LO	250	N	N	19910429	222403	141	245	50	25	25
89	62	USA-CA	LOS ANGELES AREA	34.1N 118.4W	36.0N 119.0W	0	LO	250	N	N	19910429	222413	141	246	50	25	25
89	63	USA-CA	RIVERSIDE AREA	33.8N 117.6W	35.5N 118.4W	0	LO	250	N	N	19910429	222424	141	248	49	25	25
89	64	USA-CA	BURMUDA DUNES AREA	33.8N 116.2W	34.8N 117.8W	0	LO	250	N	N	19910429	222437	140	249	49	25	25
89	65	USA-CA	SAN DIEGO AREA	32.8N 117.0W	34.3N 117.3W	0	LO	250	N	N	19910429	222447	140	250	49	25	25
89	66	MEXICO	MEXICALI AREA	32.5N 115.6W	33.9N 116.8W	0	LO	250	N	N	19910429	222456	140	251	49	25	25
89	67	MEXICO	MOUTH COLORADO RIVER	32.2N 115.2W	33.2N 116.2W	5	LO	250	N	N	19910429	222509	140	252	48	25	25
89	68	MEXICO	MOUTH COLORADO RIVER	31.7N 115.2W	32.9N 115.9W	20	LO	250	N	N	19910429	222515	140	253	48	25	25
89	69	MEXICO	BAHIA DE ADAIR	31.6N 113.9W	32.5N 115.6W	10	LO	250	N	N	19910429	222522	140	254	48	25	25
89	70	MEXICO	PUERTO PENASCO	31.2N 113.5W	32.2N 115.2W	50	LO	250	N	N	19910429	222529	140	254	48	25	25
89	71	MEXICO	BAJA CALIFORNIA	29.5N 114.5W	31.4N 114.5W	60	LO	250	N	N	19910429	222545	140	256	47	25	25
89	72	MEXICO	BAJA CALIFORNIA	28.8N 113.7W	31.0N 114.2W	50	LO	250	N	N	19910429	222552	140	256	47	25	25
89	73	MEXICO	ISLA TIBURON	29.0N 112.4W	29.9N 113.3W	60	LO	250	N	N	19910429	222612	140	258	47	25	25
89	74	MEXICO	VOLCAN LAS VIRGENES AREA	27.3N 112.6W	28.3N 112.8W	0	LO	250	N	N	19910429	222624	140	259	46	25	25
89	75	MEXICO	BAJA, LAGUNA SAN IGNACIO	26.9N 113.1W	28.8N 112.3W	30	LO	250	N	N	19910429	222634	140	260	46	25	25
89	76	MEXICO	BAJA, BAHIA CONCEPCION	26.8N 112.0W	28.1N 111.8W	50	LO	250	N	N	19910429	222647	139	261	45	25	25
89	77	MEXICO	ESTERO LOBOS AREA	27.3N 110.4W	27.3N 111.1W	60	LO	250	N	N	19910429	222702	139	262	45	25	25
89	78	MEXICO	BAHIA YABAROS AREA	26.6N 109.5W	27.0N 110.9W	80	LO	250	N	N	19910429	222708	139	263	45	25	25
89	79	MEXICO	LA MOCHIS AREA	25.8N 109.0W	26.7N 110.6W	70	LO	250	N	N	19910429	222714	139	263	44	25	25
89	80	MEXICO	CULIACAN AREA	24.6N 108.0W	25.4N 109.7W	10	LO	250	N	N	19910429	222737	139	265	44	25	25
89	81	MEXICO	ACAPONETA AREA	22.8N 106.0W	23.8N 108.5W	0	LO	250	N	N	19910429	222807	139	267	43	25	25
89	82	MEXICO	TUXPAN AREA	21.8N 105.5W	23.3N 108.1W	0	LO	250	N	N	19910429	222817	139	268	42	25	25
89	83	MEXICO	ISLAS MARIAS	21.8N 106.6W	2.5N 107.6W	0	LO	250	N	N	19910429	222831	139	269	42	25	25
89	84	MEXICO	PUERTO VALLARTA AREA	20.6N 105.5W	21.7N 107.0W	0	LO	250	N	N	19910429	222846	139	270	41	25	25
89	85	MEXICO	TOMATLAN AREA	20.0N 105.5W	21.3N 106.7W	0	LO	250	N	N	19910429	222853	138	270	41	25	25
89	86	MEXICO	MANZANILLO AREA	19.2N 104.5W	20.5N 106.2W	0	LO	250	N	N	19910429	222908	138	271	40	25	25
89	87	MEXICO	COASTLINE S. COAHUILA	18.4N 103.5W	19.4N 105.4W	5	LO	250	N	N	19910429	222929	138	272	39	25	25
89	88	MEXICO	COASTLINE, BAHIA BUFADERO	18.3N 102.7W	18.9N 105.0W	5	LO	250	N	N	19910429	222939	138	273	39	25	25
89	89	MEXICO	BAHIA PETACALCO	17.9N 102.2W	18.3N 104.6W	0	LO	250	N	N	19910429	222949	138	273	38	25	25
89	90	JAPAN	KYUSHU, SAK 4-JIMA	31.7N 130.6E	30.7N 132.4E	0	LO	250	N	N	19910430	055348	140	255	49	30	25
89	91	JAPAN	KYUSHU, SAK 1-JIMA	31.6N 130.6E	30.5N 132.5E	0	LO	250	N	N	19910430	055351	140	255	49	30	25
89	92	JAPAN	KYUSHU, SAKUKA-JIMA, DARK	31.6N 130.6E	30.1N 132.8E	0	LO	250	N	N	19910430	055358	140	256	48	30	25

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
89	93	JAPAN	KYUSHU, SAKURA-JIMA, DARK	31.6N	130.8E	29.8N	133.1E	0	LO	250	N	N	19910430	055405	140	256	48	30	30
89	94	BURMA	AREA N. OF YE	15.4N	97.4E	13.7N	99.0E	50	LO	250	N	N	19910430	085808	137	277	38	32	32
89	95	BURMA	MOUTH OF TOVOY RIVER	13.8N	98.3E	12.9N	99.6E	30	LO	250	N	N	19910430	085823	137	277	37	32	32
89	96	PAKISTAN	KARACHI AREA, INDUS DELTA	24.8N	67.6E	24.0N	69.4E	0	LO	250	N	N	19910430	102434	139	265	46	33	33
89	97	PAKISTAN	INDUS DELTA	24.0N	68.0E	23.4N	69.8E	10	LO	250	N	N	19910430	102444	138	265	45	33	33
89	98	INDIA	KUTCH PENINSULA	23.5N	69.0E	22.8N	70.3E	5	LO	250	N	N	19910430	102456	138	266	45	33	33
89	99	INDIA	GULF OF KUTCH AREA	22.9N	70.2E	22.2N	70.7E	0	LO	250	N	N	19910430	102506	138	267	45	33	33
89	100	INDIA	PORBANDAR AREA	21.8N	69.8E	21.4N	71.3E	5	LO	250	N	N	19910430	102522	138	268	44	33	33
89	101	INDIA	VERAVAL AREA	21.0N	70.5E	20.5N	71.9E	0	LO	250	N	N	19910430	102537	138	269	43	33	33
89	102	INDIA	GULF OF KAMBHAT AREA	21.6N	72.4E	19.8N	72.4E	0	LO	250	N	N	19910430	102551	138	270	43	33	33
89	103	INDIA	VALSAD AREA	20.7N	73.0E	19.3N	72.7E	5	LO	250	N	N	19910430	102600	138	271	43	33	33
89	104	INDIA	AREA AROUND TARAPUR	20.0N	73.0E	19.0N	72.9E	10	LO	250	N	N	19910430	102606	138	271	42	33	33
89	105	INDIA	BOMBAY AREA	19.2N	73.0E	18.5N	73.2E	30	LO	250	N	N	19910430	102614	138	272	42	33	33
89	106	INDIA	MURUD AREA	18.2N	73.1E	17.8N	73.7E	30	LO	250	N	N	19910430	102627	138	272	41	33	33
89	107	INDIA	AREA SE OF PUNE	18.3N	74.5E	15.9N	74.9E	0	LO	250	N	N	19910430	102702	138	275	40	33	33
89	108	INDIA	MALVAN AREA	16.0N	73.5E	15.4N	75.3E	30	LO	250	N	N	19910430	102711	138	275	40	33	33
89	109	INDIA	MANGALORE AREA	13.2N	74.9E	12.5N	77.0E	60	LO	250	N	N	19910430	102802	137	278	37	33	33
89	110	INDIA	AREA SW. MYSORE	11.8N	76.4E	11.9N	77.4E	50	LO	250	N	N	19910430	102814	137	278	37	33	33
89	111	INDIA	MTHS. N. OF COIMBATORE	11.4N	76.8E	11.4N	77.7E	10	LO	250	N	N	19910430	102822	137	279	36	33	33
89	112	INDIA	AREA AROUND TRICHUR	10.4N	76.4E	10.0N	78.6E	30	LO	250	N	N	19910430	102848	137	280	35	33	33
89	113	INDIA	AREA AROUND COCHIN	9.8N	76.5E	9.3N	79.0E	60	LO	250	N	N	19910430	102900	137	280	35	33	33
89	114	INDIA	AREA AROUND ALLEPPEY	9.4N	76.8E	8.8N	79.2E	70	LO	250	N	N	19910430	102908	137	280	34	33	33
89	115	INDIA	RAMANATHAPURAM AREA	9.3N	78.8E	8.4N	79.5E	40	LO	250	N	N	19910430	102916	137	281	34	33	33
89	116	INDIA	TUTICORIN AREA	8.7N	78.2E	8.0N	79.7E	30	LO	250	N	N	19910430	102923	137	281	34	33	33
89	117	INDIA	S. TIP OF INDIA	8.4N	77.7E	7.7N	79.9E	30	LO	250	N	N	19910430	102929	137	281	33	33	33
89	118	SRI LANKA	PUTTALAN AREA	8.2N	79.8E	6.3N	80.7E	80	LO	250	N	N	19910430	102953	137	282	32	33	33
89	119	SRI LANKA	AREA S. OF COLOMBO, CLDY	6.3N	80.9E	6.0N	80.9E	70	LO	250	N	N	19910430	102959	137	282	32	33	33
89	120	SRI LANKA	GALLE AREA, CLOUDY	6.3N	80.3E	5.7N	81.1E	80	LO	250	N	N	19910430	103004	137	283	32	33	33
89	121	SRI LANKA	AREA E. OF MATARA	6.0N	80.8E	5.4N	81.2E	60	LO	250	N	N	19910430	103009	137	283	31	33	33
89	122	SRI LANKA	AREA AROUND TANGALLA	6.0N	81.0E	5.1N	81.4E	20	LO	250	N	N	19910430	103014	137	283	31	33	33
90	0A	CANADA-N	STEPHENVILLE, DARK	48.0N	58.5W	49.2N	58.7W	0	LO	250	U	N	19910429	113922	144	101	28	18	18
90	1	CANADA-N	STEPHENVILLE, DARK FRAME	48.5N	58.5W	49.5N	58.1W	0	LO	250	N	N	19910429	113927	144	101	28	18	18
90	2	CANADA-N	RODDICKTON AREA, DK FRAME	51.0N	56.0W	51.7N	52.6W	10	LO	250	N	N	19910429	114031	145	107	31	18	18
90	3	HUNGARY	FRAME TOO DARK, CLOUDY	49.3N	21.0E	49.3N	21.0E	70	LO	250	N	N	19910429	115208	144	211	51	18	18
90	4	IRAQ	AREA NEAR AL BASRAH, DARK	30.5N	47.5E	30.7N	45.4E	30	LO	250	N	N	19910429	115851	140	259	45	18	18
90	5	IRAQ	AREA NEAR AL BASRAH, DARK	30.1N	45.8E	30.1N	45.8E	10	LO	250	N	N	19910429	115902	140	260	44	18	18
90	6	IRAQ	AREA NEAR AL BASRAH, DARK	29.3N	46.5E	29.3N	46.5E	0	LO	250	N	N	19910429	115917	140	261	44	18	18
90	7	KUWAIT	FIRES, SMOKE, N. KUWAIT, DK.	30.0N	48.0E	28.4N	47.3E	0	LO	250	N	N	19910429	115935	140	262	43	18	18
90	8	KUWAIT	FIRES, SMOKE, N. KUWAIT, DK.	30.0N	48.0E	27.8N	47.8E	0	LO	250	N	N	19910429	115946	140	263	43	18	18
90	9	KUWAIT	SMOKE, N. KUWAIT, VRY DARK	30.0N	48.0E	27.5N	48.0E	0	LO	250	N	N	19910429	115952	140	264	43	18	18

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
90	10	KUWAIT	SMOKE, KUWAIT CITY, VRY DK	29.5N 47.8E	27.3N 48.1E	0	L0	250	N	N	19910429	115954	140	264	42	18
90	11	KUWAIT	SMOKE, KUWAIT CITY, VRY DK	29.0N 48.0E	26.8N 48.5E	30	L0	250	N	N	19910429	120004	140	265	42	18
90	12	KUWAIT	FRAME TOO DARK		26.1N 49.0E		L0	250	N	N	19910429	120017	140	266	42	18
90	13	KUWAIT	FRAME TOO DARK		25.7N 49.4E		L0	250	N	N	19910429	120025	139	266	41	18
90	14	KUWAIT	EXTREMELY DARK FRAME		25.4N 49.6E		L0	250	N	N	19910429	120031	139	266	41	18
90	15	SAUDI ARABIA	DARK FRAME		24.7N 50.1E		L0	250	N	N	19910429	120043	139	267	41	18
90	16	SAUDI ARABIA	DARK FRAME, SAND DUNES		20.0N 53.4E		L0	250	N	N	19910429	120210	139	273	37	18
90	17	SAUDI ARABIA	DARK FRAME, SAND DUNES		19.3N 53.9E		L0	250	N	N	19910429	120223	139	273	37	18
90	18	SAUDI ARABIA	EXTREMELY DARK FRAMES		18.5N 54.5E		L0	250	N	N	19910429	120238	139	274	36	18
90	19	SAUDI ARABIA	DK., SHAUWAMIYA EAST AREA	17.9N 55.6E	16.5N 55.8E	40	L0	250	N	N	19910429	120314	138	276	34	18
90	20	SAUDI ARABIA	DK., JABAL SAMHAN AREA	17.0N 55.0E	16.1N 56.0E	20	L0	250	N	N	19910429	120320	138	276	34	18
90	21	USA-NM	CARLSBAD AREA, DARK FRAME	32.3N 104.2W	32.6N 103.8W	0	L0	250	N	N	19910429	130253	142	79	9	19
90	22	USA-NM	DARK FRAME, OIL FIELDS	33.0N 104.0W	32.9N 103.5W	0	L0	250	N	N	19910429	130259	142	79	10	19
90	23	USA-TX	DARK FRAME, NEAR LUBBOCK	34.0N 102.0W	33.9N 102.6W	0	L0	250	N	N	19910429	130318	142	80	11	19
90	24	USA-TX	DARK FRAME, AMARILLO AREA	35.2N 101.7W	35.2N 101.3W	0	L0	250	N	N	19910429	130344	143	81	12	19
90	25	USA-TX	DARK FRAME, TX-OK BORDER	36.0N 100.0W	36.1N 100.4W	0	L0	250	N	N	19910429	130402	143	81	13	19
90	26	USA-TX	DARK FRAME, TX-OK BORDER	37.0N 100.0W	36.8N 99.7W	0	L0	250	N	N	19910429	130416	143	82	14	19
90	27	CANADA-O	MICHIPICOTEN BAY	48.0N 85.0W	48.5N 83.0W	10	L0	250	N	N	19910429	130836	144	98	27	19
90	28	CANADA-O	KAPUSKASING AREA	49.4N 82.3W	49.2N 81.4W	0	L0	250	N	N	19910429	130856	145	100	28	19
90	29	CANADA-O	COCHRANE AREA	49.3N 81.0W	49.5N 80.8W	0	L0	250	N	N	19910429	130903	145	101	28	19
90	30	CANADA-O	IROQUOIS FALLS AREA	48.6N 80.6W	49.7N 80.3W	0	L0	250	N	N	19910429	130909	145	101	28	19
90	31	CANADA-O	LAKE ABITIBI AREA	48.8N 79.8W	50.2N 79.3W	0	L0	250	N	N	19910429	130921	145	102	29	19
90	32	CANADA-O	NE OF LAKE ABITIBI	49.0N 79.0W	50.4N 78.8W	5	L0	250	N	N	19910429	130927	145	103	29	19
90	33	CANADA-O	KESAGAMI LAKE AREA	50.2N 80.1W	50.7N 78.0W	0	L0	250	N	N	19910429	130937	145	104	30	19
90	34	CANADA-O	RUPERT, HANNAH BAYS	51.2N 79.4W	51.1N 77.1W	40	L0	250	N	N	19910429	130947	145	105	30	19
90	35	CANADA-O	BOATSWAIN BAY AREA	52.0N 78.0W	51.3N 76.6W	0	L0	250	N	N	19910429	130953	145	106	30	19
90	36	CANADA-Q	JAMES BAY, ICE FLOWS		52.0N 74.6W	20	L0	250	N	N	19910429	131015	145	108	31	19
90	37	CANADA-Q	JAMES BAY, ICE FLOWS		52.1N 74.3W	0	L0	250	N	N	19910429	131019	145	108	32	19
90	38	CANADA-Q	GLACIATED TERRAIN		52.6N 72.9W	0	L0	250	N	N	19910429	131034	145	110	32	19
90	39	CANADA-Q	MISTASSINI, ALBANEL LAKES	51.3N 73.1W	53.2N 71.1W	10	L0	250	N	N	19910429	131053	145	112	33	19
90	40	FRANCE	RHONE R., MARSEILLE AREA	43.8N 4.7E	46.0N 4.6E	5	L0	250	N	N	19910429	132307	143	223	51	19
90	41	FRANCE	RHONE R., MARSEILLE AREA	43.5N 4.9E	45.4N 5.6E	5	L0	250	N	N	19910429	132321	143	225	51	19
90	42	FRANCE	TOULON AREA	43.2N 6.3E	45.1N 6.0E	40	L0	250	N	N	19910429	132328	143	226	51	19
90	43	FRANCE	CANNES AREA	43.5N 7.0E	44.7N 6.7E	30	L0	250	N	N	19910429	132338	143	227	51	19
90	44	ITALY	GENOVA AREA	44.4N 8.7E	43.7N 8.2E	50	L0	250	N	N	19910429	132400	143	230	51	19
90	45	ITALY	LA SPEZIA AREA	44.2N 9.8E	43.1N 9.1E	50	L0	250	N	N	19910429	132414	143	232	51	19
90	46	ITALY	PISA, VIAREGGIO AREA	43.9N 10.3E	42.9N 9.4E	40	L0	250	N	N	19910429	132419	143	232	51	19
90	47	ITALY	LIVORNO, PISA AREA	43.7N 10.5E	42.6N 9.8E	20	L0	250	N	N	19910429	132425	142	233	51	19
90	48	ITALY	ELBA ISLAND	42.8N 10.4E	42.2N 10.3E	20	L0	250	N	N	19910429	132433	142	234	50	19
90	49	ITALY	PIOMBINO AREA	43.2N 10.9E	42.0N 10.6E	60	L0	250	N	N	19910429	132438	142	235	50	19

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LONG	CC	IL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
90	50	ITALY	GROSSETO AREA	42.8N	11.3E	41.8N	10.9E	50	LO	250	N	N	19910429	132443	142	235	50	19
90	51	ITALY	CIVITAVECCHIA AREA	42.3N	12.0E	41.3N	11.4E	60	LO	250	N	N	19910429	132452	142	236	50	19
90	52	ITALY	ROMA AREA	42.0N	12.2E	41.1N	11.7E	60	LO	250	N	N	19910429	132457	142	237	50	19
90	53	ITALY	ANZIO AREA	41.7N	12.8E	40.8N	12.2E	70	LO	250	N	N	19910429	132504	142	238	50	19
90	54	ITALY	VASTO AREA	41.9N	14.8E	40.0N	13.1E	60	LO	250	N	N	19910429	132520	142	240	50	19
90	55	ITALY	SAN SEVERO AREA	41.7N	15.4E	39.7N	13.5E	60	LO	250	N	N	19910429	132527	142	241	50	19
90	56	ITALY	FOGGIA AREA	41.5N	15.8E	39.4N	13.8E	40	LO	250	N	N	19910429	132533	142	241	49	19
90	57	ITALY	ANDRIA AREA	41.2N	16.4E	39.1N	14.2E	50	LO	250	N	N	19910429	132540	142	242	49	19
90	58	ITALY	MARTINA FRANCA AREA	40.7N	17.3E	38.7N	14.6E	30	LO	250	N	N	19910429	132547	142	243	49	19
90	59	ITALY	TARANTO AREA	40.6N	17.6E	38.1N	15.3E	50	LO	250	N	N	19910429	132559	142	244	49	19
90	60	ITALY	REGGIO DI CALABRIA AREA	38.1N	15.9E	37.7N	15.8E	70	LO	250	N	N	19910429	132608	142	245	49	19
90	61	LIBYA	GULF OF SIDRA, PANORAMA			34.6N	19.0E	30	LO	250	N	N	19910429	132711	141	252	47	19
90	62	LIBYA	GULF OF SIDRA, PANORAMA	31.0N	20.0E	33.8N	19.8E	60	LO	250	N	N	19910429	132726	141	253	47	19
90	63	SUDAN	WADI HALFA, NILE RIVER	21.6N	31.0E	19.3N	31.2E	0	LO	250	N	N	19910429	133159	139	273	37	19
90	64	SUDAN	NILE RIVER, S. WADI HALFA	21.4N	30.8E	18.2N	31.9E	0	LO	250	N	N	19910429	133219	139	274	36	19
90	65	SUDAN	NILE RIVER			17.9N	32.1E	0	LO	250	N	N	19910429	133225	139	275	36	19
90	66	SUDAN	NILE RIVER			17.4N	32.4E	0	LO	250	N	N	19910429	133233	139	275	36	19
90	67	SUDAN	LONGITUDINAL DUNES			16.3N	33.1E	0	LO	250	N	N	19910429	133253	138	276	35	19
90	68	SUDAN	WADI AWATIB, NILE RIVER	16.5N	33.1E	15.8N	33.4E	0	LO	250	N	N	19910429	133302	138	276	34	19
90	69	SUDAN	FIELD PATTERNS, S. KHARTOM	14.0N	34.0E	14.5N	34.3E	0	LO	250	N	N	19910429	133326	138	277	33	19
90	70	SUDAN	FIELD PATTERNS, S. KHARTOM	14.0N	34.0E	14.1N	34.5E	0	LO	250	N	N	19910429	133332	138	278	33	19
90	71	ETHIOPIA	BORDER AREA WITH SUDAN			12.9N	35.2E	10	LO	250	N	N	19910429	133354	138	279	32	19
90	72	ETHIOPIA	NO ID FEATURES			12.4N	35.6E	70	LO	250	N	N	19910429	133404	138	279	31	19
90	73	ETHIOPIA	LAKE TANA	12.0N	37.3E	10.9N	36.5E	10	LO	250	N	N	19910429	133430	138	280	30	19
90	74	ETHIOPIA	LAKE TANA	11.8N	37.1E	10.1N	36.9E	20	LO	250	N	N	19910429	133444	138	280	30	19
90	75	ETHIOPIA	LAKE TANA	12.0N	37.6E	9.7N	37.2E	60	LO	250	N	N	19910429	133452	138	281	29	19
90	76	ETHIOPIA	RUGGED MOUNTAINOUS AREA			8.7N	37.8E	50	LO	250	N	N	19910429	133510	138	281	28	19
90	77	ETHIOPIA	DEBRE ZEYT, UNNAMED LAKE	8.5N	39.0E	7.6N	38.5E	0	LO	250	N	N	19910429	133530	138	282	27	19
90	78	KENYA	DAWA WENZ, W. OF MANDERA	4.0N	41.0E	4.1N	40.5E	30	LO	250	N	N	19910429	133631	138	283	24	19
90	79	KENYA	GENERAL AREA BAMBA HILLS	3.0N	41.0E	3.1N	41.1E	30	LO	250	N	N	19910429	133650	138	284	24	19
90	80	SOMALIA	JUBA RIVER	1.0N	42.5E	1.1N	42.2E	70	LO	250	N	N	19910429	133725	138	285	22	19
90	81	SOMALIA	JUBA RIVER	1.0N	42.5E	.5N	42.6E	70	LO	250	N	N	19910429	133736	138	285	21	19
90	82	SOMALIA	BARAAWE AREA	1.0N	44.0E	.2S	43.0E	40	LO	250	N	N	19910429	133749	138	285	21	19
90	83	MADAGASCAR	LOW SUN, SHADOWS, NE. AREA	13.0S	49.6E	11.4S	49.5E	20	LO	250	N	N	19910429	134108	138	287	10	19
90	84	MADAGASCAR	LOW SUN, SHADOWS, NE. AREA	13.2S	49.9E	11.7S	49.7E	20	LO	250	N	N	19910429	134114	138	287	10	19
90	85	MADAGASCAR	LOW SUN, SHADOWS, NE. AREA	13.7S	50.0E	11.9S	49.8E	40	LO	250	N	N	19910429	134118	138	287	10	19
90	86	MADAGASCAR	LOW SUN, SHADOWS, NE. AREA	14.2S	50.1E	12.5S	50.2E	50	LO	250	N	N	19910429	134128	138	287	9	19
90	87	MADAGASCAR	LOW SUN, SHADOWS, NE. AREA	15.0S	50.5E	14.0S	51.1E	70	LO	250	N	N	19910429	134155	138	287	8	19
90	88	SPAIN	AREA JUST N. OF ROTA	37.0N	6.0W	36.5N	5.6W	10	LO	250	N	N	19910429	145609	141	248	48	20
90	89	SPAIN	SAN FERNANDO, ROTA AREA	36.8N	6.2W	36.2N	5.3W	20	LO	250	N	N	19910429	145615	141	248	48	20

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LONG	LAT	LONG										EL	OR
90	90	SPAIN	STRAIT OF GILBRALTAR	36.0N	5.5W	35.7N	4.8W	20	LO	250	N	N	19910429	145625	141	249	48	20
90	91	SPAIN	STRAIT OF GILBRALTAR	36.0N	5.5W	35.3N	4.4W	10	LO	250	N	N	19910429	145633	141	250	48	20
90	92	SPAIN	STRAIT OF GILBRALTAR	36.0N	5.4W	34.6N	3.8W	20	LO	250	N	N	19910429	145645	141	251	47	20
90	93	MOROCCO	BERGUEU AREA	34.0N	2.0W	33.6N	2.8W	0	LO	250	N	N	19910429	145706	141	253	47	20
90	94	MOROCCO	BERGUEU AREA	34.0N	2.0W	33.2N	2.4W	0	LO	250	N	N	19910429	145714	141	254	47	20
90	95	MOROCCO	BERGUEU AREA	34.0N	2.0W	32.6N	1.9W	5	LO	250	N	N	19910429	145725	141	255	46	20
90	96	ALGERIA	OASIS,AIRPORT			28.6N	1.6E	0	LO	250	N	N	19910429	145842	140	262	44	20
90	97	ALGERIA	OASIS,AIRPORT			28.1N	2.0E	0	LO	250	N	N	19910429	145851	140	262	44	20
90	98	ALGERIA	SMALL DUNES			26.7N	3.1E	0	LO	250	N	N	19910429	145918	140	264	43	20
90	99	ZAIRE	UNIDENTIFIED RIVER			2.4N	18.7E	10	LO	250	N	N	19910429	150638	138	284	23	20
90	100	ZAIRE	UNIDENTIFIED RIVER			1.9N	19.0E	10	LO	250	N	N	19910429	150647	138	284	23	20
90	101	CANADA-A	N.END MCNAUGHTON LAKE	52.5N	118.8W	52.8N	117.8W	40	LO	250	N	N	19910429	160951	145	110	32	21
90	102	CANADA-A	N.END MCNAUGHTON LAKE	52.5N	118.8W	53.0N	117.1W	40	LO	250	N	N	19910429	160958	145	111	32	21
90	103	CANADA-A	N.END MCNAUGHTON LAKE	52.5N	118.8W	53.2N	116.5W	40	LO	250	N	N	19910429	161005	145	111	33	21
90	104	CANADA-A	LAKES W.OF EDMONTON	53.6N	114.2W	54.1N	113.1W	60	LO	250	N	N	19910429	161039	145	115	34	21
90	105	CANADA-A	LESSER SLAVE LAKE AREA	55.5N	115.4W	54.7N	111.0W	40	LO	250	N	N	19910429	161100	145	118	35	21
90	106	CANADA-A	LESSER SLAVE LAKE AREA	55.5N	115.4W	54.8N	110.4W	40	LO	250	N	N	19910429	161106	145	119	35	21
90	107	CANADA-Q	E.COAST HUDSON BAY,ICE			56.8N	75.9W	10	LO	250	N	N	19910429	161606	145	163	47	21
90	108	CANADA-Q	E.COAST HUDSON BAY,ICE			56.6N	74.4W	10	LO	250	N	N	19910429	161619	145	165	47	21
90	109	CANADA-BC	COAST MTS.			57.3N	131.1W	60	LO	250	N	N	19910429	191353	145	149	44	23
90	110	CANADA-BC	AREA S. OF DEASE LAKE	57.5N	130.6W	57.3N	128.9W	0	LO	250	N	N	19910429	191412	145	152	44	23
90	111	CANADA-BC	EAGLENEST RANGE	57.6N	128.5W	57.1N	126.3W	5	LO	250	N	N	19910429	191434	145	155	45	23
90	112	CANADA-BC	THUDAKA RANGE AREA	57.5N	127.0W	57.0N	124.7W	40	LO	250	N	N	19910429	191448	145	157	46	23
90	113	CANADA-BC	N.END WILLISTON LAKE	57.0N	125.0W	56.9N	123.1W	40	LO	250	N	N	19910429	191501	145	160	46	23
90	114	CANADA-BC	WILLISTON LAKE	56.2N	124.3W	56.8N	121.6W	70	LO	250	N	N	19910429	191514	145	162	46	23
90	115	CANADA-A	VERY CLOUDY,DARK			56.1N	116.1W	70	LO	250	N	N	19910429	191603	145	170	48	23
90	116	CANADA-A	VERY DARK,GAS FIELD			55.7N	113.7W	0	LO	250	N	N	19910429	191625	145	173	48	23
90	117	CANADA-A	VERY DARK			55.1N	110.5W	50	LO	250	N	N	19910429	191654	145	178	49	23
90	118	CANADA-M	VERY CLOUDY			51.6N	98.3W	90	LO	250	N	N	19910429	191859	144	198	51	23
90	119	CANADA-M	LAKE WINNIPEG,DARK	50.9N	96.7W	51.0N	96.6W	30	LO	250	N	N	19910429	191918	144	201	52	23
90	120	CANADA-M	LAKE WINNIPEG,DARK	50.5N	96.7W	50.7N	95.9W	40	LO	250	N	N	19910429	191926	144	203	52	23
90	121	USA-MI	VERY CLOUDY			44.6N	84.1W	90	LO	250	N	N	19910429	192201	143	225	52	23
90	122	USA-PA	VERY CLOUDY,HAZY			41.1N	79.3W	90	LO	250	N	N	19910429	192317	142	235	51	23
90	123	USA-VA	VERY DARK FRAME			38.6N	76.2W	20	LO	250	N	N	19910429	192411	141	242	50	23
90	124	USA-VA	VERY DARK FRAME			38.3N	75.9W	10	LO	250	N	N	19910429	192416	141	242	50	23
93	0 A		CLOUDS, WATER			13.0S	3.9E	60	LO	250	N	N	19910505	142955	141	301	48	116
93	1	USA	CLOUDS			39.4N	101.1W	95	LO	250	N	N	19910505	184254	145	163	59	119
93	2	USA-OK	GREAT SALT PLAINS RESERV	37.0N	98.0W	37.6N	99.0W	50	NV	250	N	N	19910505	184332	144	167	62	119
93	3	USA-OK	AREA AROUND ENID	36.5N	97.6W	37.0N	98.3W	30	NV	250	N	N	19910505	184344	144	169	62	119
93	4	USA-OK	AREA N-NE OK CITY	36.3N	97.2W	36.6N	98.0W	40	NV	250	N	N	19910505	184351	144	170	63	119

TABLE 4-3- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
93	5	USA-OK	AREA NE OF OK CITY	35.8N 97.0W	36.1N 97.5W	40	LO	250	N	N	19910505	184401	144	171	63	119
93	6	USA-OK	AREA AROUND SHAWNEE	35.2N 96.3W	35.6N 96.9W	70	NV	250	N	N	19910505	184411	144	172	64	119
93	7	USA-OK	AREA AROUND MCALESTER	34.8N 96.2W	35.0N 96.3W	90	NV	250	N	N	19910505	184424	144	174	64	119
93	8	USA-OK	SE OK, VERY CLOUDY	34.5N 95.8W	34.5N 95.8W	95	LO	250	N	N	19910505	184434	144	175	65	119
93	9	USA-OK	SE OK, VERY CLOUDY	33.8N 95.1W	33.8N 95.1W	95	LO	250	N	N	19910505	184448	144	177	65	119
93	10	USA-LA	VERY CLOUDY	32.7N 94.1W	32.7N 94.1W	95	LO	250	N	N	19910505	184510	144	181	66	119
93	11	USA-LA	VERY CLOUDY	32.5N 93.9W	32.5N 93.9W	95	LO	250	N	N	19910505	184513	144	181	67	119
93	12	USA-LA	VERY CLOUDY, TOLEDO BEND	31.2N 93.2W	32.3N 93.8W	95	LO	250	N	N	19910505	184516	144	182	67	119
93	13	USA-LA	VERY CLOUDY, HAZY	31.3N 92.8W	31.3N 92.8W	95	LO	250	N	N	19910505	184536	143	185	68	119
93	14	COLUMBIA	VERY CLOUDY, HAZY, COASTAL	3.8N 74.2W	3.8N 74.2W	95	LO	250	N	N	19910505	185359	141	284	65	119
93	15	COLUMBIA	VERY CLOUDY, HAZY, COASTAL	3.2N 73.9W	3.2N 73.9W	95	LO	250	N	N	19910505	185410	141	285	64	119
93	16	BOLIVIA	VERY CLOUDY, HAZY, DARK	10.5S 65.9W	10.5S 65.9W	90	LO	250	N	N	19910505	185814	141	300	50	119
93	17	BOLIVIA	VERY CLOUDY, HAZY	11.1S 65.5W	11.1S 65.5W	80	LO	250	N	N	19910505	185826	141	300	50	119
93	18	BOLIVIA	VERY CLOUDY, HAZY	11.9S 65.1W	11.9S 65.1W	90	LO	250	N	N	19910505	185840	141	301	49	119
93	19	BOLIVIA	VERY CLOUDY, HAZY	14.1S 63.7W	14.1S 63.7W	80	LO	250	N	N	19910505	185919	141	302	47	119
93	20	BOLIVIA	LK. TITICACA, PANORAMA	16.0S 69.0W	16.4S 62.2W	95	HO	250	N	N	19910505	190002	141	303	44	119
93	21	BOLIVIA	LK. TITICACA, PANORAMA	16.0S 69.0W	17.0S 61.9W	95	LO	250	N	N	19910505	190012	141	303	43	119
93	22	PARAGUAY	JCT. PILCOMAYO & PARANA R	27.2S 58.8W	26.3S 55.3W	40	LO	250	N	N	19910505	190304	142	305	33	119
93	23	ARGENTINA	RIO PARANA, E. CORRIENTAS	28.0S 58.0W	27.0S 54.7W	40	LO	250	N	N	19910505	190318	142	305	32	119
93	24	ARGENTINA	RIO PARANA, PANORAMA	31.0S 60.0W	27.7S 54.2W	40	HO	250	N	N	19910505	190331	142	305	31	119
93	25	ARGENTINA	RIO DE LA PLATA, HAZY	34.5S 58.0W	30.5S 51.8W	20	HO	250	N	N	19910505	190425	143	305	27	119
93	26	ARGENTINA	RIO DE LA PLATA, HAZY	35.0S 57.0W	31.0S 51.4W	40	HO	250	N	N	19910505	190434	143	305	27	119
93	27	ARGENTINA	RIO DE LA PLATA, HAZY	29.0S 58.0W	31.4S 51.0W	20	HO	250	N	N	19910505	190443	143	304	26	119
93	28	ARGENTINA	RIO DE LA PLATA, HAZY	35.0S 57.0W	31.6S 50.8W	40	HO	250	N	N	19910505	190447	143	304	26	119
93	29	ARGENTINA	RIO DE LA PLATA, VRY HAZY	34.0S 58.0W	32.2S 50.3W	30	HO	250	N	N	19910505	190459	143	304	25	119
93	30	ARGENTINA	RIO DE LA PLATA, VRY HAZY	31.0S 56.0W	32.4S 50.1W	50	HO	250	N	N	19910505	190503	143	304	25	119
93	31	ARGENTINA	RIO DE LA PLATA, VRY HAZY	33.2S 49.4W	33.2S 49.4W	40	HO	250	N	N	19910505	190518	143	304	24	119
93	32	MEXICO	BAJA CALIF.	32.5N 113.5W	31.0N 115.3W	30	LO	250	N	N	19910505	201523	143	186	68	120
93	33	MEXICO	BAJA CALIF., VIZCAINO DES	28.5N 114.0W	29.5N 114.0W	20	LO	250	N	N	19910505	201552	143	191	69	120
93	34	MEXICO	BAJA CALIF., VIZCAINO DES	28.5N 114.0W	29.1N 113.7W	20	LO	250	N	N	19910505	201559	143	192	70	120
93	35	MEXICO	BAJA CALIF.	25.0N 112.0W	28.5N 113.2W	60	LO	250	N	N	19910505	201611	143	194	70	120
93	36	MEXICO	BAJA CALIF., SAN MARCOS I	28.5N 112.2W	27.3N 112.3W	5	LO	250	N	N	19910505	201633	143	198	71	120
93	37	MEXICO	BAJA CA., CONCEPCION BAY	27.0N 112.0W	26.9N 111.9W	5	LO	250	N	N	19910505	201641	143	200	71	120
93	38	MEXICO	B. JA CA., LA PAZ AREA	23.6N 110.3W	24.6N 110.2W	0	LO	250	N	N	19910505	201723	142	209	72	120
93	39	PACIFIC OCEAN	SUNGLINT	14.8N 103.6W	14.8N 103.6W	80	LO	250	N	N	19910505	202022	141	253	72	120
93	40	PACIFIC OCEAN	SUNGLINT	14.2N 103.2W	14.2N 103.2W	80	LO	250	N	N	19910505	202034	141	255	72	120
93	41	PACIFIC OCEAN	POSSIBLE SULOY NR EQUAT	1.9N 95.9W	1.9N 95.9W	50	LO	250	N	N	19910505	202413	140	288	63	120
93	42	PACIFIC OCEAN	POSSIBLE SULOY NR EQUAT	1.0N 95.4W	1.0N 95.4W	50	LO	250	N	N	19910505	202430	140	289	62	120
93	43	PACIFIC OCEAN	POSSIBLE SULOY NR EQUAT	.4N 95.1W	.4N 95.1W	40	LO	250	N	N	19910505	202440	140	290	62	120
93	44	SOUTH AMERICA	PANORAMA, SW. COAST	23.5S 80.1W	23.5S 80.1W	99	HO	250	N	N	19910505	203153	142	305	36	120

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
93	45	CHILE	ANDES, S. ALTIPLANO, COAST	28.0S	70.0W	30.2S	74.9W	60	HO	250	N	N	19910505	203359	143	305	28	120	120
93	46	CHILE	COQUIMBO, LA SERENA AREA	30.0S	71.0W	31.7S	73.5W	20	LO	250	N	N	19910505	203429	143	305	26	120	120
93	47	CHILE	COQUIMBO, LA SERENA AREA	30.0S	70.0W	33.3S	72.0W	30	LO	250	N	N	19910505	203500	143	304	24	120	120
93	48	CHILE	TALCA AREA, HAZY	35.5S	72.0W	34.9S	70.5W	30	LO	250	N	N	19910505	203532	143	304	22	120	120
93	49	ARGENTINA	ANDES, CLOUDS	36.2S	69.2W	36.2S	69.2W	70	LO	250	N	N	19910505	203558	143	304	20	120	120
93	50	ARGENTINA	PANORAMA, SMOKE S. CHILE	36.5S	71.5W	37.2S	68.0W	30	HO	250	N	N	19910505	203619	144	303	19	120	120
93	51	ARGENTINA	VALDES PENINSULA, GLARE	42.0S	64.0W	43.6S	59.8W	20	LO	250	N	N	19910505	203838	145	300	10	120	120
93	52	ARGENTINA	VALDES PENINSULA, GLARE	43.0S	64.0W	43.8S	59.5W	40	LO	250	N	N	19910505	203843	145	300	10	120	120
93	53	ARGENTINA	VALDES PEN., SEVERE GLARE	42.0S	63.0W	44.3S	58.7W	40	LO	250	N	N	19910505	203855	145	299	9	120	120
93	54	ARGENTINA	VALDES PEN., SEVERE GLARE	43.0S	63.0W	45.0S	57.6W	40	HO	250	N	N	19910505	203911	145	299	8	120	120
93	55	ARGENTINA	SEVERE GLARE	46.6S	54.7W	46.6S	54.7W	HO	250	N	N	19910505	203951	145	297	5	120	120	
93	56	ARGENTINA	SEVERE GLARE	47.1S	53.8W	47.1S	53.8W	HO	250	N	N	19910505	204003	145	297	4	120	120	
93	57	USSR	VRY HAZY, NO ID FEATURES	49.0N	72.2E	49.0N	72.2E	30	HO	250	N	N	19910506	002452	147	64	-2	123	123
93	58	USSR	VRY HAZY, NO ID FEATURES	49.2N	72.6E	49.2N	72.6E	30	HO	250	N	N	19910506	002457	147	64	-1	123	123
93	59	USSR	VRY HAZY, NC ID FEATURES	49.6N	73.4E	49.6N	73.4E	20	HO	250	N	N	19910506	002507	147	65	-1	123	123
93	60	USSR	VRY HAZY, NO ID FEATURES	49.7N	73.7E	49.7N	73.7E	20	HO	250	N	N	19910506	002511	147	65	-1	123	123
93	61	PACIFIC OCEAN ISLAND	ELLICE IS., CLOUD STREAKS	6.0S	177.0E	5.3S	177.2E	70	HO	250	N	N	19910506	022505	141	299	56	124	124
93	62	PACIFIC OCEAN	SUNGLINT, CLOUDS	7.4S	178.4E	7.0S	178.4E	70	LO	250	N	N	19910506	022542	141	300	50	124	124
93	63	PACIFIC OCEAN	SUNGLINT, CLOUDS	8.0S	178.7E	8.0S	178.7E	70	LO	250	N	N	19910506	022553	141	301	53	124	124
93	64	PACIFIC OCEAN	CLOUDS	9.2S	179.5E	9.2S	179.5E	80	HO	250	N	N	19910506	022615	141	301	52	124	124
93	65	PACIFIC OCEAN	CLOUDS, SUNGLINT	10.1S	180.0W	10.1S	180.0W	60	LO	250	N	N	19910506	022631	141	302	51	124	124
93	66	PACIFIC OCEAN	CLOUDS, SUNGLINT	10.9S	179.5W	10.9S	179.5W	60	LO	250	N	N	19910506	022645	141	302	50	124	124
93	67	PACIFIC OCEAN	CLOUDS	15.3S	176.8W	15.3S	176.8W	90	HO	250	N	N	19910506	022805	141	304	45	124	124
93	68	PACIFIC OCEAN	CLOUDS, CARGO BAY	22.5S	172.0W	22.5S	172.0W	95	LO	250	N	N	19910506	023016	142	306	37	124	124
93	69	MONGOLIA	MONGOLIAN PLAT.	46.3N	112.5E	46.3N	112.5E	70	LO	250	N	N	19910506	033823	147	145	52	125	125
93	70	MONGOLIA	MONGOLIAN PLAT.	43.7N	116.7E	43.7N	116.7E	80	HO	250	N	N	19910506	033925	146	152	55	125	125
93	71	MONGOLIA	MONGOLIAN PLAT.	43.3N	117.3E	43.3N	117.3E	80	HO	250	N	N	19910506	033934	146	153	56	125	125
93	72	AUSTRALIA-Q	NO ID FEATURES, HAZY	18.8S	140.0E	18.8S	140.0E	70	HO	250	N	N	19910506	052829	141	306	41	126	126
93	73	AUSTRALIA-Q	NO ID FEATURES, HAZY	24.9S	144.2E	24.9S	144.2E	90	HO	250	N	N	19910506	053021	142	307	34	126	126
93	74	AUSTRALIA-Q	DARLING DOWNS AREA	27.2S	146.0E	27.2S	146.0E	70	HO	250	N	N	19910506	053104	142	307	31	126	126
93	75	AUSTRALIA-Q	DARLING DOWNS AREA	27.9S	146.6E	27.9S	146.6E	60	HO	250	N	N	19910506	053118	142	307	30	126	126
93	76	BANGLADESH	VRY CLOUDY, HAZY	27.3N	88.3E	27.3N	88.3E	90	LO	250	N	N	19910506	064416	143	198	73	127	127
93	77	BANGLADESH	VRY CLOUDY, HAZY	27.0N	88.5E	27.0N	88.5E	90	LO	250	N	N	19910506	064420	143	199	73	127	127
93	78	BANGLADESH	VRY CLOUDY, HAZY	26.9N	88.6E	26.9N	88.6E	95	LO	250	N	N	19910506	064423	143	199	73	127	127
93	79	BANGLADESH	VRY CLOUDY, HAZY	26.7N	88.8E	26.7N	88.8E	95	LO	250	N	N	19910506	064426	143	200	73	127	127
93	80	BANGLADESH	VRY CLOUDY, HAZY	23.8N	90.9E	23.8N	90.9E	90	LO	250	N	N	19910506	064520	143	213	75	127	127
93	81	BANGLADESH	VRY CLOUDY, HAZY	23.5N	91.2E	23.5N	91.2E	95	LO	250	N	N	19910506	064526	143	215	75	127	127
93	82	BANGLADESH	VRY CLOUDY, HAZY	23.0N	91.6E	23.0N	91.6E	95	LO	250	N	N	19910506	064536	143	218	75	127	127
93	83	BANGLADESH	VRY CLOUDY, HAZY	22.7N	91.7E	22.7N	91.7E	95	LO	250	N	N	19910506	064540	143	219	75	127	127
93	84	BANGLADESH	VRY CLOUDY, HAZY	22.5N	91.9E	22.5N	91.9E	99	LO	250	N	N	19910506	064544	143	220	75	127	127

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR	SUN
93	85	BANGLADESH	VERY CLOUDY, HAZY	17.5N 95.0E	21.8N 92.4E	95	LO	250	N	N	19910506	064557	143	223	75	127	
93	86	BANGLADESH	VERY CLOUDY, HAZY	17.0N 95.0E	20.4N 93.4E	95	LO	250	N	N	19910506	064623	142	231	75	127	
93	87	BANGLADESH	VERY CLOUDY, HAZY	17.0N 95.2E	20.1N 93.5E	99	LO	250	N	N	19910506	064628	142	232	75	127	
93	88	BANGLADESH	VERY CLOUDY, HAZY	17.0N 95.5E	19.7N 93.8E	99	LO	250	N	N	19910506	064636	142	234	75	127	
93	89	BANGLADESH	VERY CLOUDY, HAZY	16.5N 95.0E	19.5N 94.0E	95	LO	250	N	N	19910506	064640	142	236	75	127	
93	90	BANGLADESH	VERY CLOUDY, HAZY	16.0N 95.7E	19.3N 94.1E	95	LO	250	N	N	19910506	064644	142	237	75	127	
93	91	BANGLADESH	VERY CLOUDY, HAZY	16.0N 95.8E	19.0N 94.3E	90	LO	250	N	N	19910506	064648	142	238	75	127	
93	92	BURMA	VERY CLOUDY, HAZY	18.0N 94.4E	18.7N 94.5E	90	LO	250	N	N	19910506	064654	142	240	75	127	
93	93	BURMA	VERY CLOUDY, HAZY	17.6N 94.5E	18.0N 95.0E	80	LO	100	N	N	19910506	064707	142	243	75	127	
93	94	BURMA	VERY CLOUDY, HAZY	17.5N 95.0E	17.8N 95.1E	70	LO	100	N	N	19910506	064711	142	244	75	127	
93	95	BURMA	VERY CLOUDY, HAZY	17.0N 95.0E	17.6N 95.3E	60	LO	100	N	N	19910506	064715	142	245	75	127	
93	96	BURMA	VERY CLOUDY, HAZY	17.0N 95.2E	17.3N 95.4E	50	LO	100	N	N	19910506	064720	142	247	75	127	
93	97	BURMA	VERY CLOUDY, HAZY	17.0N 95.5E	17.0N 95.6E	60	LO	100	N	N	19910506	064725	142	248	75	127	
93	98	BURMA	CLOUDY, HAZY, BRAIDED STRM	16.5N 95.0E	16.7N 95.8E	70	LO	100	N	N	19910506	064730	142	249	75	127	
93	99	BURMA	CLOUDY, HAZY, BRAIDED STRM	16.5N 95.0E	16.5N 95.9E	70	LO	100	N	N	19910506	064734	142	250	75	127	
93	100	BURMA	CLOUDY, HAZY, BRAIDED STRM	16.5N 95.0E	16.3N 96.1E	50	LO	100	N	N	19910506	064738	142	251	75	127	
93	101	BURMA	CLOUDY, HAZY, BRAIDED STRM	16.0N 95.7E	16.0N 96.2E	50	LO	100	N	N	19910506	064743	142	253	74	127	
93	102	BURMA	CLOUDY, HAZY, BRAIDED STRM	16.0N 95.8E	15.7N 96.4E	40	LO	100	N	N	19910506	064748	142	254	74	127	
93	103		CARGO BAY, VRY DARK	57.2N 28.9W	57.2N 28.9W						19910506	092842	147	91	20	129	
93	104		CARGO BAY, VRY DARK	57.3N 25.5W	57.3N 25.5W						19910506	092811	147	94	22	129	
94	0A	USA-NV	PYRAMID LAKE	40.0N 119.5W	40.6N 120.9W	0	LO	250	N	N	19910504	201714	146	160	55	104	
94	1	USA-NV	LAKE TAHOE, SIERRA NEVADA	39.0N 120.0W	40.3N 120.5W	0	LO	250	N	N	19910504	201724	146	161	55	104	
94	2	USA-NV	LAKE TAHOE, SIERRA NEVADA	39.0N 120.0W	40.0N 120.1W	0	LO	250	N	N	19910504	201730	146	162	55	104	
94	3	USA-NV	MONO LAKE AREA	38.0N 119.0W	39.2N 119.1W	0	LO	250	N	N	19910504	201747	145	164	56	104	
94	4	USA-NV	MONO LAKE AREA	38.0N 119.0W	38.7N 118.6W	0	LO	250	N	N	19910504	201756	145	165	57	104	
94	5	USA-NV	AREA SE OF MONO LAKE	37.0N 118.0W	38.4N 118.3W	0	LO	250	N	N	19910504	201802	145	166	57	104	
94	6	USA-NV	OWENS LAKE AREA	36.5N 118.0W	38.2N 118.0W	0	LO	250	N	N	19910504	201807	145	166	57	104	
94	7	USA-NV	OWENS LAKE AREA	36.5N 118.0W	38.0N 117.8W	0	LO	250	N	N	19910504	201812	145	167	58	104	
94	8	USA-NV	LAS VEGAS AREA	36.0N 115.0W	37.4N 117.1W	0	LO	250	N	N	19910504	201824	145	168	58	104	
94	9	USA-CA	SALTON SEA, IMPERIAL VAL.	33.0N 115.7W	36.7N 116.4W	0	LO	250	N	N	19910504	201837	145	170	59	104	
94	10	USA-CA	US-MEXICO BORDER	32.7N 115.0W	36.2N 115.9W	0	LO	250	N	N	19910504	201848	145	172	59	104	
94	11	MEXICO	MOUTH OF COLORADO RIVER	31.7N 114.5W	35.9N 115.6W	0	LO	250	N	N	19910504	201853	145	172	60	104	
94	12	USA-AZ	PHOENIX AREA	33.5N 112.0W	34.7N 114.4W	0	LO	250	N	N	19910504	201917	145	176	61	104	
94	13	USA-AZ	TUCSON AREA	32.2N 111.0W	34.4N 114.1W	0	LO	250	N	N	19910504	201923	145	176	61	104	
94	14	USA-AZ	SE ARIZONA, OPEN PIT MINE	31.5N 111.5W	32.7N 112.5W	0	LO	250	N	N	19910504	201957	144	181	63	104	
94	15	MEXICO	AREA NEAR SANTA ANA	31.0N 111.0W	32.1N 111.9W	0	LO	250	N	N	19910504	202009	144	183	63	104	
94	16	MEXICO	AREA NEAR SANTA ANA	31.0N 111.0W	31.0N 111.0W	0	LO	250	N	N	19910504	202029	144	186	64	104	
94	17	MEXICO	AREA NEAR SANTA ANA	31.0N 111.0W	30.6N 110.6W	0	LO	250	N	N	19910504	202038	144	187	64	104	
94	18	MEXICO	AREA AROUND LA MOCHIS	26.0N 109.0W	29.7N 109.8W	5	LO	250	N	N	19910504	202055	144	190	65	104	
94	19	MEXICO	AREA NW OF CULIACAN	25.0N 108.0W	29.5N 109.6W	40	LO	250	N	N	19910504	202059	144	191	65	104	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
94	20	MEXICO	PANORAMA, VIEW E, SE.	24.2N 105.5W	24.2N 105.5W	60	LO	250	N	N	19910504	202239	143	209	68	104
94	21	MEXICO	PANORAMA, VIEW E, SE.	37.8N 105.2W	37.8N 105.2W	60	LO	250	N	N	19910504	202246	143	210	68	104
94	22	ARGENTINA	PANORAMA, VIEW W. SMOKE PL	37.2S 63.7W	37.2S 63.7W	70	HO	250	N	N	19910504	204126	144	300	20	104
94	23	ARGENTINA	PANORAMA, VIEW W. SMOKE PL	38.2S 62.5W	38.2S 62.5W	70	HO	250	N	N	19910504	204148	144	300	19	104
94	24	USSR	SAYAN MTNS., SNOW COVERED	55.8N 98.7E	55.8N 98.7E	0	LO	250	N	N	19910505	003355	148	78	10	107
94	25	USSR	SAYAN MTNS., SNOW COVERED	56.0N 100.0E	56.0N 100.0E	0	LO	250	N	N	19910505	003407	148	78	11	107
94	26	USSR-MIDDLE	AREA AROUND NIZHNEUDINSK	54.6N 99.0E 56.3N 101.9E	54.6N 99.0E 56.3N 101.9E	0	LO	250	N	N	19910505	003424	148	80	12	107
94	27	USSR-MIDDLE	AREA S. OF BRATSK	55.6N 102.0E 56.6N 103.9E	55.6N 102.0E 56.6N 103.9E	0	LO	250	N	N	19910505	003442	148	81	13	107
94	28	USSR-MIDDLE	SWAMP, VERKHNAYA ANGARA	56.0N 111.0E 57.2N 112.5E	56.0N 111.0E 57.2N 112.5E	0	LO	100	N	N	19910505	003556	148	88	18	107
94	29	USSR-MIDDLE	SWAMP, VERKHNAYA ANGARA	56.3N 112.5E 57.3N 113.8E	56.3N 112.5E 57.3N 113.8E	0	LO	100	N	N	19910505	003607	148	88	19	107
94	30	USSR-MIDDLE	MTNS, VALLEY W. OF MUJA	56.3N 114.5E 57.3N 115.3E	56.3N 114.5E 57.3N 115.3E	0	LO	100	N	N	19910505	003620	148	90	20	107
94	31	USSR-MIDDLE	AREA AROUND CHARA	56.8N 118.3E 57.2N 121.0E	56.8N 118.3E 57.2N 121.0E	0	LO	100	N	N	19910505	003708	148	95	23	107
94	32	USSR-PACIFIC	LG. LK. N. OF ZEYA	54.5N 127.5E 56.6N 129.3E	54.5N 127.5E 56.6N 129.3E	0	LO	100	N	N	19910505	003819	149	102	27	107
94	33	USSR-PACIFIC	LG. LK. N. OF ZEYA	54.6N 127.0E 56.5N 130.8E	54.6N 127.0E 56.5N 130.8E	0	LO	100	N	N	19910505	003832	148	104	28	107
94	34	USSR-PACIFIC	COAST, KHREBET DZHUGDZHUR	55.8N 136.4E 55.6N 136.2E	55.8N 136.4E 55.6N 136.2E	5	NV	100	N	N	19910505	003921	148	109	31	107
94	35	USSR-PACIFIC	COAST, PACK ICE, SAKHALIN	53.0N 144.0E 53.6N 145.3E	53.0N 144.0E 53.6N 145.3E	0	LO	100	N	N	19910505	004049	148	120	36	107
94	36	USSR-PACIFIC	OSTROV ONEKOTAN ISLAND	49.5N 154.8E 50.1N 155.0E	49.5N 154.8E 50.1N 155.0E	10	NV	100	N	N	19910505	004236	147	133	43	107
94	37	USA-HI	LISIANSKI IS., NEVA SHOAL	26.0N 174.0W 25.5N 174.8W	26.0N 174.0W 25.5N 174.8W	5	LO	100	N	N	19910505	005118	143	205	68	107
94	38	PACIFIC OCEAN ISLAND	FLINT ISLAND	11.4S 151.8W 10.2S 152.8W	11.4S 151.8W 10.2S 152.8W	30	LO	100	N	N	19910505	010201	141	295	51	107
94	39	PACIFIC OCEAN ISLAND	TUAMOTU IS., RANGIROA	15.1S 147.8W 14.4S 150.2W	15.1S 147.8W 14.4S 150.2W	40	LO	100	N	N	19910505	010318	141	298	46	107
94	40	PACIFIC OCEAN ISLAND	TUAMOTU IS.	15.5S 146.5W 14.6S 150.1W	15.5S 146.5W 14.6S 150.1W	40	LO	100	N	N	19910505	010321	141	298	46	107
94	41	PACIFIC OCEAN ISLAND	TUAMOTU IS.	16.5S 145.0W 15.1S 149.7W	16.5S 145.0W 15.1S 149.7W	50	LO	100	N	N	19910505	010331	141	298	45	107
94	42	PACIFIC OCEAN ISLAND	TUAMOTU IS.	16.5S 145.0W 15.9S 149.3W	16.5S 145.0W 15.9S 149.3W	50	LO	100	N	N	19910505	010344	142	298	45	107
94	43	PACIFIC OCEAN ISLAND	TUAMOTU IS.	16.0S 145.5W 16.1S 149.1W	16.0S 145.5W 16.1S 149.1W	40	LO	100	N	N	19910505	010349	142	298	44	107
94	44	PACIFIC OCEAN ISLAND	TEIAROA ISLAND	17.0S 149.6W 16.8S 148.7W	17.0S 149.6W 16.8S 148.7W	20	LO	100	N	N	19910505	010401	142	299	44	107
94	45	PACIFIC OCEAN ISLAND	TAHITI	17.6S 149.5W 17.1S 148.5W	17.6S 149.5W 17.1S 148.5W	70	LO	100	N	N	19910505	010407	142	299	43	107
94	46	PACIFIC OCEAN ISLAND	TUAMOTU ISLANDS	17.0S 144.0W 20.1S 146.5W	17.0S 144.0W 20.1S 146.5W	60	LO	100	N	N	19910505	010502	142	300	40	107
94	47	USSR-MIDDLE	AREA NEAR KUSTANAY	53.0N 64.0E 53.0N 64.1E	53.0N 64.0E 53.0N 64.1E	0	LO	100	N	N	19910505	020142	148	70	3	108
94	48	USSR-MIDDLE	AREA NEAR PETROPAVLOVSK	54.0N 68.0E 54.1N 67.9E	54.0N 68.0E 54.1N 67.9E	30	LO	100	N	N	19910505	020220	148	73	6	108
94	49	USSR-MIDDLE	ANGARA RVR., N OF NEVON	58.8N 102.6E 57.0N 103.0E	58.8N 102.6E 57.0N 103.0E	0	LO	100	N	N	19910505	020730	148	99	25	108
94	50	USSR-MIDDLE	AREA AROUND NEVON	57.8N 103.2E 56.7N 105.8E	57.8N 103.2E 56.7N 105.8E	0	LO	100	N	N	19910505	020754	148	102	27	108
94	51	USSR-PACIFIC	S. TIP SAKHALIN	46.0N 142.0E 46.4N 139.5E	46.0N 142.0E 46.4N 139.5E	10	LO	100	N	N	19910505	021352	147	145	48	108
94	52	JAPAN	N. HOKKAIDO	45.2N 142.0E 46.0N 140.2E	45.2N 142.0E 46.0N 140.2E	10	LO	100	N	N	19910505	021402	147	146	49	108
94	53	JAPAN	COASTAL AREA NEAR OMU	44.6N 142.5E 45.7N 140.7E	44.6N 142.5E 45.7N 140.7E	0	LO	100	N	N	19910505	021408	147	147	49	108
94	54	JAPAN	COASTAL AREA NR. YUBETSU	44.2N 143.4E 45.6N 140.9E	44.2N 143.4E 45.6N 140.9E	0	LO	100	N	N	19910505	021412	146	147	50	108
94	55	JAPAN	RISHIRISHIMA IS.	45.2N 141.2E 44.1N 143.2E	45.2N 141.2E 44.1N 143.2E	30	LO	100	N	N	19910505	021445	146	151	51	108
94	56	JAPAN	RISHIRISHIMA IS. OV. EXPOS	45.2N 141.2E 43.6N 144.0E	45.2N 141.2E 43.6N 144.0E	30	LO	100	N	N	19910505	021457	146	152	52	108
94	57	JAPAN	HOKKAIDO, KUSHIRO AREA	42.6N 144.5E 43.1N 144.7E	42.6N 144.5E 43.1N 144.7E	0	NV	100	N	N	19910505	021509	146	154	53	108
94	58	JAPAN	ETOROFU IS. S. HALF IS.	44.6N 147.2E 42.2N 145.9E	44.6N 147.2E 42.2N 145.9E	0	LO	100	N	N	19910505	021528	146	156	54	108
94	59	JAPAN	KUNASHIRI IS. N. HALF IS.	44.4N 146.2E 42.0N 146.2E	44.4N 146.2E 42.0N 146.2E	0	LO	100	N	N	19910505	021533	146	157	54	108

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
94	60	JAPAN	KUNASHIRI IS.S.HALF IS.	44.0N 145.8E	41.8N 146.4E	0	LO	100	N	N	19910505	021536	146	157	54	108
94	61	PACIFIC OCEAN	WATER BOUNDARIES		39.6N 149.2E	20	LO	100	N	N	19910505	021624	145	163	57	108
94	62	PACIFIC OCEAN	WATER BOUNDARIES,INT.WVS		39.0N 149.9E	20	LO	100	N	N	19910505	021636	145	164	58	108
94	63	PACIFIC OCEAN	WATER BOUNDARIES,INT.WVS		38.9N 150.0E	20	LO	100	N	N	19910505	021638	145	165	58	108
94	64	PACIFIC OCEAN	WATER BOUNDARIES,INT.WVS		38.8N 150.2E	10	LO	100	N	N	19910505	021641	145	165	58	108
94	65	PACIFIC OCEAN	SUNGLINT,WATER PATTERNS		38.3N 150.7E	40	LO	100	N	N	19910505	021650	145	166	58	108
94	66	PACIFIC OCEAN	TOO DARK,OVEREXPOSED		37.9N 151.2E	LO	LO	100	N	N	19910505	021700	145	167	59	108
94	67	PACIFIC OCEAN	DRAMATIC CURRENT BOUNDARY		37.6N 151.5E	10	LO	100	N	N	19910505	021705	145	168	59	108
94	68	PACIFIC OCEAN	DARK,LITTLE VALUE		37.3N 151.9E	40	LO	100	N	N	19910505	021712	145	169	59	108
94	69	AUSTRALIA-Q	CAPE KEERWEER AREA	14.0S 141.7E	14.9S 141.8E	15	LO	100	N	N	19910505	053231	141	299	45	110
94	70	BURMA	CHINWIN R.VALLEY,NW.	23.0N 94.3E	24.1N 95.1E	80	LO	100	N	N	19910505	065029	143	211	70	111
94	71	BURMA	CHINWIN R.VALLEY,NW.	22.7N 94.4E	23.9N 95.3E	80	LO	100	N	N	19910505	065033	142	211	70	111
94	72	BURMA	CHINWIN R.VALLEY,NW.	22.4N 94.7E	23.7N 95.4E	80	LO	100	N	N	19910505	065037	142	212	70	111
94	73	BURMA	CHINWIN R.VALLEY,NW.	22.3N 94.8E	23.5N 95.5E	70	LO	100	N	N	19910505	065040	142	213	70	111
94	74	BURMA	NR. JCTN CHINDWIN/IRRADY	21.8N 95.2E	23.1N 95.8E	0	LO	100	N	N	19910505	065047	142	214	70	111
94	75	BURMA	IRRAWADDY,AT CHAUK	20.7N 94.6E	22.8N 96.1E	10	LO	100	N	N	19910505	065054	142	216	71	111
94	76	BURMA	IRRAWADDY,AT YENANGYAUNG	20.3N 94.5E	22.3N 96.4E	10	LO	100	N	N	19910505	065102	142	218	71	111
94	77	BURMA	IRRAWADDY,AT MAGWE	19.8N 94.8E	21.9N 96.7E	30	LO	100	N	N	19910505	065110	142	219	71	111
94	78	BURMA	MOUTH MIN CHAUNG R. AREA	19.8N 93.5E	21.3N 97.1E	70	LO	100	N	N	19910505	065121	142	222	71	111
94	79	BURMA	MOUTH MIN CHAUNG R. AREA	19.8N 93.7E	21.1N 97.2E	80	LO	100	N	N	19910505	065124	142	223	71	111
94	80	BURMA	RAMREE ISLAND	19.2N 93.8E	20.9N 97.4E	90	LO	100	N	N	19910505	065128	142	223	71	111
94	81	BURMA	CHEDEBA STRAIT AREA	19.0N 94.0E	20.8N 97.5E	60	LO	100	N	N	19910505	065130	142	224	71	111
94	82	BURMA	ARAKAN YOMA MTS.	19.0N 95.0E	20.6N 97.6E	60	LO	100	N	N	19910505	065133	142	225	71	111
94	83	BURMA	ARAKAN YOMA MTS.	19.0N 95.0E	20.4N 97.7E	60	LO	100	N	N	19910505	065137	142	225	71	111
94	84	BURMA	ARAKAN YOMA MTS.	19.5N 94.6E	20.1N 97.9E	70	LO	100	N	N	19910505	065142	142	227	71	111
94	85	BURMA	ARAKAN YOMA MTS.	18.5N 94.7E	19.9N 98.1E	60	LO	100	N	N	19910505	065146	142	227	71	111
94	86	BURMA	AREA W. HENZADA	17.8N 95.2E	19.1N 98.6E	50	LO	100	N	N	19910505	065202	142	231	71	111
94	87	BURMA	MOUTH OF IRRAWADDY R.	16.0N 95.0E	18.5N 99.0E	80	LO	100	N	N	19910505	065212	142	233	71	111
94	88	BURMA	MOUTH OF IRRAWADDY R.	16.0N 95.0E	18.3N 99.1E	70	LO	100	N	N	19910505	065215	142	234	71	111
94	89	BURMA	MOUTH OF IRRAWADDY R.	16.2N 95.5E	18.2N 99.2E	60	LO	100	N	N	19910505	065218	142	235	71	111
94	90	BURMA	RANGOON AREA	16.7N 96.0E	17.8N 99.4E	50	LO	100	N	N	19910505	065224	142	236	71	111
94	91	BURMA	RANGOON AREA	17.0N 96.0E	17.7N 99.6E	50	LO	100	N	N	19910505	065227	142	237	71	111
94	92	BURMA	RANGOON AREA	17.5N 96.2E	17.5N 99.7E	70	LO	100	N	N	19910505	065230	142	237	71	111
94	93	BURMA	AREA S. MOULMEIN	16.0N 97.8E	17.2N 99.9E	60	LO	100	N	N	19910505	065236	142	239	71	111
94	94	BURMA	AREA S. MOULMEIN	16.0N 98.0E	16.8N 100.1E	80	LO	100	N	N	19910505	065242	142	240	71	111
94	95	BURMA	MOUTH RANGOON RIVER	16.5N 96.5E	16.0N 100.7E	80	LO	100	N	N	19910505	065258	142	243	71	111
94	96	BURMA	VIEW TOWARDS RANGOON	17.5N 95.5E	15.6N 100.9E	90	LO	100	N	N	19910505	065305	141	245	71	111
94	97	BURMA	VIEW TOWARDS TAVOY	14.7N 98.0E	15.0N 101.2E	90	LO	100	N	N	19910505	065315	141	247	71	111
94	98	THAILAND	BIGHT OF BANGKOK	13.4N 100.1E	13.7N 102.1E	60	LO	100	N	N	19910505	065339	141	252	70	111
94	99	T-HAILAND	BIGHT OF BANGKOK	13.3N 99.9E	13.4N 102.3E	70	LO	100	N	N	19910505	065345	141	253	70	111

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR	SUM
94	100	THAILAND	BIGHT OF BANGKOK	13.0N	100.0E	13.0N	102.5E	70	LO	100	N	N	19910505	065352	141	254	70	111	
95	0A	REPUBLIC SOUTH AFRICA	CAPE TOWN AREA	33.8S	18.7E	31.7S	17.6E	60	LO	100	N	N	19910505	143545	143	304	26	116	
95	1	REPUBLIC SOUTH AFRICA	CAPE TOWN AREA, CIRRUS	33.7S	18.8E	32.2S	18.0E	60	LO	100	N	N	19910505	143552	143	304	25	116	
95	2	REPUBLIC SOUTH AFRICA	CAPE TOWN AREA, CIRRUS	34.0S	18.7E	32.4S	18.2E	70	LO	100	N	N	19910505	143557	143	304	25	116	
95	3	REPUBLIC SOUTH AFRICA	AREA NEAR WOLSELEY	33.4S	19.0E	32.9S	18.7E	60	LO	100	N	N	19910505	143606	143	304	25	116	
95	4	REPUBLIC SOUTH AFRICA	AREA NEAR WOLSELEY	33.4S	19.0E	33.6S	19.4E	60	LO	100	N	N	19910505	143621	143	303	24	116	
95	5	USA	PANORAMA, E. HALF LK ERIE	42.0N	80.0W	45.7N	87.0W	60	HO	100	N	N	19910505	171050	146	147	51	118	
95	6	USA	PANORAMA, E. HALF LK ERIE	42.0N	80.0W	45.0N	85.9W	30	LO	100	N	N	19910505	171106	146	149	52	118	
95	7	USA	PANORAMA, E. HALF LK ERIE	42.0N	79.0W	44.8N	85.7W	20	LO	100	N	N	19910505	171110	146	149	52	118	
95	8	USA	PANORAMA, E. HALF LK ERIE	42.0N	79.0W	44.7N	85.4W	10	LO	100	N	N	19910505	171114	146	150	53	118	
95	9	USA-NY	PANORAMA, E. HALF LK ERIE	42.0N	79.0W	44.4N	84.9W	10	LO	100	N	N	19910505	171121	146	151	53	118	
95	10	USA-PA	LK ERIE, ERIE, PA., LG PT.	42.0N	80.0W	44.2N	84.7W	20	LO	100	N	N	19910505	171124	146	151	53	118	
95	11	USA-PA	LK ERIE, ERIE, PA., OHIO	42.0N	80.5W	44.1N	84.4W	40	LO	100	N	N	19910505	171128	146	151	54	118	
95	12	USA-PA	LK ERIE, ERIE, PA.	42.0N	80.0W	43.6N	83.8W	20	LO	100	N	N	19910505	171138	146	152	54	118	
95	13	USA-PA	ERIE, PA., DK., HALF FRAME	42.0N	80.0W	43.5N	83.6W	0	LO	100	N	N	19910505	171141	146	153	54	118	
95	14	CANADA-O	AREA NEAR HAMILTON	43.0N	79.5W	40.5N	79.6W	40	LO	100	N	N	19910505	171246	145	160	58	118	
95	15	CANADA-O	AREA NEAR HAMILTON	43.0N	79.5W	40.2N	79.2W	40	LO	100	N	N	19910505	171253	145	161	58	118	
95	16	USA-OH	AREA NEAR ASHTABULA	42.0N	81.0W	39.6N	78.6W	30	LO	100	N	N	19910505	171304	145	162	59	118	
95	17	USA-PA	ERIE, ONLY HALF FRAME	42.0N	80.0W	39.3N	78.2W	30	LO	100	N	N	19910505	171311	145	163	59	118	
95	18	USA-WY	RIVERTON AREA	43.3N	108.3W	45.8N	109.9W	20	LO	100	N	N	19910505	184029	146	147	51	119	
95	19	USA-WY	S. BIG HORN MTS.	44.0N	107.0W	44.6N	108.1W	40	LO	100	N	N	19910505	184055	146	150	53	119	
95	20	USA-WY	S. BIG HORN MTS.	43.5N	107.0W	44.5N	107.8W	30	LO	100	N	N	19910505	184059	146	150	53	119	
95	21	USA-WY	AREA NEAR CASPER, VRYCLDY		42.9N	105.6W		80	LO	100	N	N	19910505	184134	145	154	55	119	
95	22	USA-CO	FT. COLLINS AREA	40.5N	104.8W	42.3N	104.7W	60	LO	100	N	N	19910505	184148	145	156	56	119	
95	23	USA-CO	VRY CLDY FRAME		41.5N	103.6W		90	LO	100	N	N	19910505	184205	145	158	57	119	
95	24	USA-OK	OKLAHOMA CITY AREA	35.5N	97.5W	37.4N	98.8W	5	LO	100	N	N	19910505	184330	144	168	62	119	
95	25	USA-OK	STILLWATER AREA	36.0N	97.0W	36.8N	98.2W	20	LO	100	N	N	19910505	184342	144	169	62	119	
95	26	USA-OK	LAKE TEXOMA AREA, RED R.	34.0N	97.0W	35.3N	96.6W	20	LO	100	N	N	19910505	184413	144	173	64	119	
95	27	USA-TX	LAKE TAWAKONI AREA	32.9N	95.7W	34.3N	95.6W	40	LO	100	N	N	19910505	184433	144	176	65	119	
95	28	USA-TX	TOLEDO BEND RESERVOIR	31.3N	93.7W	31.7N	93.2W	60	LO	100	N	N	19910505	184523	144	183	67	119	
95	29	USA-LA	FRAME VRY CLOUDY		31.1N	92.7W		90	LO	100	N	N	19910505	184535	143	185	68	119	
95	30	USA-LA	FRAME VRY CLOUDY, MISS. R.		29.5N	91.3W		95	LO	100	N	N	19910505	184606	143	191	69	119	
95	31	USA-LA	FRAME VRY CLOUDY, MISS. R.		29.3N	91.1W		95	LO	100	N	N	19910505	184609	143	191	69	119	
95	32	USA-LA	MISS. RIVER DELTA	29.0N	89.0W	28.8N	90.7W	30	LO	100	N	N	19910505	184619	143	193	70	119	
95	33	CUBA	SW. TIP OF ISLAND	21.8N	84.5W	23.8N	86.8W	60	LO	100	N	N	19910505	184753	142	213	72	119	
95	34	CUBA	SW. TIP OF ISLAND	21.8N	84.5W	23.4N	86.6W	70	LO	100	N	N	19910505	184800	142	214	73	119	
95	35	CUBA	SW. TIP OF ISLAND	22.0N	84.0W	23.1N	86.3W	60	LO	100	N	N	19910505	184806	142	216	73	119	
95	36	CUBA	GULF OF BATABANO	22.2N	83.0W	22.4N	85.8W	50	LO	100	N	N	19910505	184819	142	219	73	119	
95	37	CUBA	ISLE OF PINES	21.7N	82.8W	22.1N	85.6W	60	LO	100	N	N	19910505	184824	142	220	73	119	
95	38	CARIBBEAN SEA	ISLA DE PROVIDENCIA	13.4N	81.4W	14.6N	80.7W	50	LO	100	N	N	19910505	185041	141	253	72	119	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
95	39	BRAZIL	W. AMAZON BASIN, CULT. FLDS	7.8S 67.5W	7.8S 67.5W	70	L0	100	N	N	19910505	185721	141	298	53	119
95	40	BRAZIL	W. AMAZON BASIN, CULT. FLDS	8.5S 67.1W	8.5S 67.1W	60	L0	100	N	N	19910505	185734	141	299	53	119
95	41	BOLIVIA	N BORDER WITH BRAZIL	11.1S 65.6W	11.1S 65.6W	40	L0	100	N	N	19910505	185820	141	300	50	119
95	42	BOLIVIA	N BORDER WITH BRAZIL	12.0S 65.0W	12.0S 65.0W	30	L0	100	N	N	19910505	185836	141	301	49	119
95	43	BOLIVIA	SWAMP, INTERIOR DRAINAGE	13.0S 64.4W	13.0S 64.4W	30	L0	100	N	N	19910505	185855	141	301	48	119
95	44	PARAGUAY	ROAD, BRIDGE CONSTRUCTION	27.5S 56.5W	27.5S 56.5W	20	L0	100	N	N	19910505	190246	142	305	33	119
95	45	BRAZIL	LAGOS DOS PATOS	30.5S 51.0W	30.5S 51.0W	70	L0	100	N	N	19910505	190329	142	305	31	119
95	46	BRAZIL	LAGOS DOS PATOS	31.2S 51.3W	31.2S 51.3W	40	L0	100	N	N	19910505	190400	143	305	29	119
95	47	BRAZIL	AREA S. LAGUNA MERIN	32.0S 54.0W	32.0S 54.0W	40	L0	100	N	N	19910505	190419	143	305	27	119
95	48	ARGENTINA	RIO DE LA PLATA	34.6S 57.5W	34.6S 57.5W	10	L0	100	N	N	19910505	190437	143	304	26	119
95	49	ARGENTINA	RIO DE LA PLATA	35.0S 57.0W	35.0S 57.0W	20	L0	100	N	N	19910505	190449	143	304	26	119
95	50	USA-CA	AREA W. OF BAKERSFIELD	35.2N 119.4W	35.5N 119.6W	5	L0	100	N	N	19910505	201349	144	172	64	120
95	51	USA-CA	VENTURA AREA	34.3N 119.0W	34.3N 118.3W	0	L0	250	N	N	19910505	201414	144	176	65	120
95	52	USA-CA	VENTURA AREA	34.3N 119.0W	33.7N 117.8W	0	L0	250	N	N	19910505	201424	144	177	66	120
95	53	USA-CA	SANTA SUSANA AREA	34.3N 118.6W	33.5N 117.7W	0	L0	250	N	N	19910505	201428	144	178	66	120
95	54	USA-CA	LOS ANGELES, LONG BEACH	33.9N 118.2W	33.2N 117.3W	0	L0	250	N	N	19910505	201435	144	179	66	120
95	55	USA-CA	RIVERSIDE AREA	33.8N 117.4W	33.0N 117.2W	0	L0	250	N	N	19910505	201438	144	179	66	120
95	56	USA-CA	RIVERSIDE AREA	34.0N 117.4W	32.8N 117.0W	0	L0	250	N	N	19910505	201442	144	180	67	120
95	57	USA-CA	ONTARIO AREA	34.2N 117.4W	32.7N 116.9W	0	L0	250	N	N	19910505	201444	144	180	67	120
95	58	USA-CA	SAN BERNADINO AREA	34.0N 117.2W	32.6N 116.8W	0	L0	250	N	N	19910505	201447	144	181	67	120
95	59	USA-CA	RIVERSIDE AREA	33.8N 117.4W	32.3N 116.5W	0	L0	250	N	N	19910505	201453	144	182	67	120
95	60	USA-CA	RIVERSIDE AREA	33.8N 117.4W	32.1N 116.3W	0	L0	250	N	N	19910505	201457	144	182	67	120
95	61	USA-CA	SAN DIEGO AREA	32.8N 117.0W	31.6N 115.9W	0	L0	250	N	N	19910505	201505	144	183	68	120
95	62	USA-CA	SAN DIEGO AREA	33.0N 117.0W	31.5N 115.8W	0	L0	250	N	N	19910505	201508	143	184	68	120
95	63	USA-CA	MOJAVE DESERT	34.8N 118.0W	30.8N 115.2W	0	L0	250	N	N	19910505	201521	143	186	68	120
95	64	USA-CA	PANORAMA, LA BASIN, MTNS	34.4N 119.0W	30.3N 114.8W	30	L0	250	N	N	19910505	201530	143	188	69	120
95	65	USA-CA	PANORAMA, LA AREA, MOJAVE	34.3N 118.0W	30.0N 114.5W	20	L0	250	N	N	19910505	201536	143	189	69	120
95	66	USA-CA	PANORAMA, SALTON SEA AREA	33.0N 115.5W	27.4N 112.4W	10	L0	250	N	N	19910505	201626	143	198	71	120
95	67	USA-CA	PANORAMA, SAN DIEGO, MOJAV	33.0N 116.5W	27.1N 112.1W	20	H0	250	N	N	19910505	201632	143	199	71	120
95	68	USA-CA	PANORAMA, SAN DIEGO, MOJAV	33.3N 116.5W	26.7N 111.8W	20	H0	250	N	N	19910505	201639	143	201	71	120
95	69	USA-CA	PANORAMA, SALTON SEA AREA	32.7N 115.3W	26.5N 111.7W	20	H0	250	N	N	19910505	201642	143	201	71	120
95	70	USA-NM	PANORAMA, N.M., WHITE SAND	32.8N 106.2W	25.9N 111.2W	10	H0	100	N	N	19910505	201654	143	204	72	120
95	71	MEXICO	PANORAMA, NW, MEXICO	25.5N 110.9W	25.5N 110.9W	10	H0	100	N	N	19910505	201702	143	206	72	120
95	72	MEXICO	LA MOCHIS AREA	26.0N 109.0W	23.6N 109.5W	5	L0	100	N	N	19910505	201737	142	214	73	120
95	73	MEXICO	MAZATLAN AREA	23.0N 106.0W	22.2N 105.5W	5	L0	100	N	N	19910505	201802	142	220	73	120
95	74	MEXICO	GUADALAJARA AREA	20.8N 103.5W	18.3N 105.8W	0	L0	100	N	N	19910505	201914	142	238	73	120
95	75	PACIFIC OCEAN	BLUE WATER	4.2S 92.4W	4.2S 92.4W	0	L0	100	N	N	19910505	202568	140	295	57	120
95	76	SOUTH AMERICA	PANORAMA, W. COAST, ANDES	25.1S 79.0W	25.1S 79.0W	50	H0	100	N	N	19910505	203217	142	305	34	120
95	77	SOUTH AMERICA	PANORAMA, W. COAST, ANDES	25.4S 78.7W	25.4S 78.7W	60	H0	100	N	N	19910505	203223	142	305	34	120
95	78	SOUTH AMERICA	PANORAMA, W. COAST, ANDES	26.5S 77.9W	26.5S 77.9W	50	H0	100	N	N	19910505	203244	142	305	32	120

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL OR
95	79	SOUTH AMERICA	PANORAMA, CHILE, ANDES	27.0S 77.5W	50 HO 100 N	19910505	203254	142	305	32	120				
95	80	SOUTH AMERICA	PANORAMA, CHILE, ANDES	28.3S 76.4W	80 HO 100 N	19910505	203319	142	305	30	120				
95	81	SOUTH AMERICA	PANORAMA, CHILE, ANDES	29.8S 75.2W	90 HO 100 N	19910505	203347	143	305	28	120				
95	82	CHILE	ANDES MTNS.	30.9S 74.2W	70 LO 100 N	19910505	203408	143	305	27	120				
95	83	CHILE	ANDES MTNS E. OF RANCAGA	34.3S 70.0W	5 LO 100 N	19910505	203457	143	304	24	120				
95	84	ARGENTINA	ANDES MTNS, LK DIAMANTE	34.2S 69.8W	10 LO 100 N	19910505	203504	143	304	23	120				
95	85	ARGENTINA	ANDES MTNS, LK DIAMANTE	34.2S 69.8W	20 LO 100 N	19910505	203514	143	304	23	120				
95	86	ARGENTINA	ANDES MTNS.	35.0S 70.0W	5 LO 100 N	19910505	203523	143	304	22	120				
95	87	ARGENTINA	LAGUNA LLANCANELO AREA	35.6S 69.3W	30 LO 100 N	19910505	203531	143	304	22	120				
95	88	ARGENTINA	ANDES MTNS	36.0S 70.0W	0 LO 100 N	19910505	203541	143	304	21	120				
95	89	ARGENTINA	ANDES MTNS	36.5S 70.5W	0 LO 100 N	19910505	203547	143	304	21	120				
95	90	ARGENTINA	ANDES MTNS, DARK FRAME	37.0S 70.0W	0 LO 100 N	19910505	203554	144	304	20	120				
95	91	ARGENTINA	RECENTLY COMP. RESERVOIR	38.0S 68.0W	0 LO 100 N	19910505	203621	144	303	18	120				
95	92	USA-HI	PANORAMA, CLOUD PATTERNS	19.5N 155.5W	60 HO 100 N	19910505	231907	142	247	74	122				
95	93	USA-HI	PANORAMA, CLOUD PATTERNS	21.0N 156.0W	60 HO 100 N	19910505	231914	142	249	73	122				
95	94	PACIFIC OCEAN	DISSIPATING T-STORM CELL	12.2S 178.7W	50 LO 100 N	19910506	022704	141	303	48	124				
95	95	PACIFIC OCEAN	CLDS, WATER, SUNGLINT	14.5S 177.3W	70 LO 100 N	19910506	022744	141	304	46	124				
95	96	USSR-MIDDLE	TOBOLSK AREA, IRTYSH RIVR	69.0E 57.3N	0 LO 100 N	19910506	033047	148	95	23	125				
95	97	USSR-MIDDLE	MALAYA BICHA, IRTYSH RIVR	70.0E 57.3N	0 LO 100 N	19910506	033056	148	96	24	125				
95	98	USSR-MIDDLE	TOBOLSK AREA, IRTYSH RIVR	69.2E 57.3N	0 LO 100 N	19910506	033106	148	97	24	125				
95	99	USSR-MIDDLE	MALAYA BICHA, IRTYSH RIVR	71.0E 57.2N	50 LO 100 N	19910506	033116	148	99	25	125				
95	100	USSR-MIDDLE	ACHINSK AREA	56.0N 90.0E	30 LO 100 N	19910506	033339	148	115	34	125				
95	101	USSR-MIDDLE	ACHINSK AREA	56.0N 90.0E	30 LO 100 N										
96	0A		CARGO BAY	54.6N 119.1W	LO 100 N	19910501	155623	143	97	25	53				
96	1	CANADA-S	LA LOCHE, ICE ON LAKES	56.5N 108.8W	40 LO 100 N	19910501	155751	143	105	29	53				
96	2	CANADA-S	LA LOCHE, ICE ON LAKES	56.5N 109.5W	50 LO 100 N	19910501	155759	143	106	29	53				
96	3	CANADA-S	LA LOCHE, ICE ON LAKES	56.5N 109.5W	50 LO 100 N	19910501	155805	143	107	30	53				
96	4	CANADA-S	GLACIATED TERRAIN, NEW RD	56.5N 104.5W	10 LO 100 N	19910501	155833	143	110	31	53				
96	5	CANADA-S	GLACIATED TERRAIN, NEW RD	56.5N 104.5W	10 LO 100 N	19910501	155839	143	111	32	53				
96	6	CANADA-S	GLACIATED TERRAIN, NEW RD	56.4N 104.5W	10 LO 100 N	19910501	155845	143	112	32	53				
96	7	CANADA-Q	NATASHQUAN AREA	50.0N 62.0W	0 LO 100 N	19910501	160520	142	168	50	53				
96	8	CANADA-Q	NATASHQUAN AREA	50.0N 62.0W	0 LO 100 N	19910501	160526	142	169	50	53				
96	9	CANADA-Q	NATASHQUAN AREA	50.0N 62.0W	0 LO 100 N	19910501	160533	142	170	51	53				
96	10		BLANK FRAME	49.4N 55.2W	LO 100 N	19910501	160615	142	176	52	53				
96	11	ATLANTIC OCEAN	CLOUD PATTERNS	25.7N 26.6W	99 LO 100 N	19910501	161434	138	249	55	53				
96	12	ATLANTIC OCEAN	CLOUD PATTERNS	25.3N 26.3W	99 LO 100 N	19910501	161441	138	250	55	53				
96	13	ATLANTIC OCEAN	CLOUD PATTERNS	25.0N 26.1W	100 LO 100 N	19910501	161447	138	251	55	53				
96	14	ATLANTIC OCEAN	CLOUD PATTERNS	24.1N 25.4W	40 LO 100 N	19910501	161504	137	253	55	53				
96	15	ATLANTIC OCEAN	CLOUD PATTERNS	23.8N 25.2W	30 LO 100 N	19910501	161510	137	254	55	53				
96	16	ATLANTIC OCEAN	CLOUD PATTERNS	23.4N 24.9W	60 LO 100 N	19910501	161517	137	254	54	53				

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
96	17	GUINEA BISSAU	ARQUIPELAGO DOS BIJAGOS	11.0N 16.0W	10.3N 16.4W	0	LO	250	N	N	19910501	161914	136	275	46	53
96	18	GUINEA BISSAU	ARQUIPELAGO DOS BIJAGOS	11.0N 16.0W	9.9N 16.2W	0	LO	250	N	N	19910501	161921	136	275	46	53
96	19	GUINEA BISSAU	ARQUIPELAGO DOS BIJAGOS	10.6N 15.9W	9.6N 16.0W	0	LO	250	N	N	19910501	161927	136	276	45	53
96	20		CARGO BAY		57.2N 123.0W		LO	250	N	N	19910501	172837	142	113	33	54
96	21	CANADA-A	PEACE RIVER AREA	56.0N 117.0W	57.3N 115.7W	0	LO	100	N	N	19910501	172939	142	121	36	54
96	22	CANADA-S	GLACIATED AREA	56.5N 104.5W	56.5N 104.0W	10	LO	100	N	N	19910501	173119	142	135	41	54
96	23	CANADA-S	GLACIATED AREA	56.5N 104.5W	56.4N 103.3W	20	LO	100	N	N	19910501	173125	142	136	41	54
96	24	CANADA-S	GLACIATED AREA, DEEP BAY	56.2N 103.6W	56.3N 102.3W	0	LO	100	N	N	19910501	173134	142	137	41	54
96	25	CANADA-Q	ST. LAWRENCE R., LK. ST. PET	46.2N 72.8W	46.6N 72.4W	20	LO	100	N	N	19910501	173655	141	186	54	54
96	26	CANADA-Q	ST. LAWRENCE R., LK. ST. PET	46.2N 72.8W	46.4N 72.0W	20	LO	100	N	N	19910501	173701	140	187	54	54
96	27	CANADA-Q	ST. LAWRENCE R., LK. ST. PET	46.2N 72.8W	46.1N 71.5W	20	LO	100	N	N	19910501	173708	140	188	54	54
96	28	ATLANTIC OCEAN	MOSTLY CLOUDY		40.9N 64.0W	80	LO	100	N	N	19910501	173903	139	206	57	54
96	29	ATLANTIC OCEAN	MOSTLY CLOUDY		40.7N 63.7W	85	LO	100	N	N	19910501	173909	139	206	57	54
96	30	ATLANTIC OCEAN	CLOUDY		40.4N 63.3W	100	LO	100	N	N	19910501	173915	139	207	57	54
96	31		DARK FRAME		14.3N 23.0E		LO	100	N	N	19910502	131047	136	259	57	67
96	32	SUDAN	DUST, CLOUDS		10.8N 25.1E	30	LO	100	N	N	19910502	131149	135	265	55	67
96	33	SUDAN	DUST, CLOUDS		10.4N 25.4E	50	LO	100	N	N	19910502	131157	135	266	55	67
96	34	SUDAN	DUST, CLOUDS		9.9N 25.7E	50	LO	100	N	N	19910502	131205	135	267	54	67
96	35	SUDAN	DUST, CLOUDS, HAZE		9.0N 26.2E	70	LO	100	N	N	19910502	131221	135	268	54	67
96	36	SUDAN	CLOUDS, HAZE		8.8N 26.3E	80	LO	100	N	N	19910502	131225	135	269	53	67
96	37	SUDAN	CLOUDS, HAZE, DARK FRAME		8.4N 26.6E	50	LO	100	N	N	19910502	131232	135	269	53	67
96	38	SUDAN	CLOUDS		8.0N 26.8E	90	LO	100	N	N	19910502	131239	135	270	53	67
96	39	SUDAN	CLOUDS		7.6N 27.0E	100	LO	100	N	N	19910502	131246	135	271	53	67
96	40	SUDAN	CLOUDS		7.3N 27.2E	95	LO	100	N	N	19910502	131252	135	271	52	67
96	41		DARK FRAME		1.8N 30.4E		LO	100	N	N	19910502	131430	135	278	48	67
96	42		OUT OF FOCUS		1.2S 32.1E		LO	100	N	N	19910502	131522	135	281	46	67
96	43		OUT OF FOCUS		1.4S 32.3E		LO	100	N	N	19910502	131527	135	282	46	67
96	44		TOTAL CLOUD COVER		1.8S 32.5E	100	LO	100	N	N	19910502	131534	135	282	45	67
96	45	TANZANIA	S. LK VICTORIA NR. MWANZA	2.5S 32.5E	2.3S 32.7E	40	LO	100	N	N	19910502	131542	135	283	45	67
96	46	TANZANIA	CLOUDY		2.7S 33.0E	85	LO	100	N	N	19910502	131550	135	283	44	67
96	47	TANZANIA	CLOUDY, SHADOWS, HAZY		3.2S 33.3E	80	LO	100	N	N	19910502	131558	135	283	44	67
96	48	TANZANIA	CLOUDY, SHADOWS, HAZY		3.6S 33.5E	85	LO	100	N	N	19910502	131605	135	284	44	67
96	49	TANZANIA	CLOUDY, SHADOWS, HAZY		3.9S 33.7E	90	LO	100	N	N	19910502	131611	135	284	43	67
96	50	TANZANIA	CLOUDY, SHADOWS, HAZY		4.3S 33.9E	80	LO	100	N	N	19910502	131617	135	284	43	67
96	51		DARK FRAME		6.8S 35.3E		LO	100	N	N	19910502	131702	135	286	41	67
96	52	TANZANIA	MTNS. TERRAIN		8.9S 36.6E	50	LO	100	N	N	19910502	131740	135	288	39	67
96	53	TANZANIA	MTNS. TERRAIN	10.0S 37.0E	9.2S 36.8E	40	LO	100	N	N	19910502	131745	135	288	39	67
96	54	TANZANIA	MBARANGANDU RIVER AREA	10.0S 37.0E	36.9E	60	LO	100	N	N	19910502	131750	135	288	38	67
96	55	TANZANIA	NJENJE RIVER AREA	10.0S 37.0E	9.9S 37.2E	60	LO	100	N	N	19910502	131757	135	288	38	67
96	56	TANZANIA	NJENJE RIVER AREA	10.0S 37.0E	10.1S 37.3E	20	LO	100	N	N	19910502	131802	135	288	38	67

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
96	57	TANZANIA	MUHUESI DRAINAGE BASIN	11.0S	37.5E	10.5S	37.6E	15	LO	100	N	N	19910502	131809	135	289	37	67	
96	58	TANZANIA	MUHUESI DRAINAGE BASIN	11.0S	38.0E	10.9S	37.8E	15	LO	100	N	N	19910502	131816	135	289	37	67	
96	59	TANZANIA	RUVUMA R. AND DRAINAGE	11.0S	38.0E	11.2S	38.0E	20	LO	100	N	N	19910502	131822	135	289	37	67	
96	60	TANZANIA	DARK FRAME	11.0S	38.0E	11.6S	38.2E	30	LO	100	N	N	19910502	131828	135	289	36	67	
96	61	USA-WA	BELLINGHAM AREA	48.7N	122.5W	47.9N	123.9W	5	LO	100	N	N	19910502	202657	141	152	47	72	
96	62	USA-WA	SEATTLE, TACOMA AREA	47.3N	122.2W	47.7N	123.4W	5	LO	100	N	N	19910502	202703	141	153	48	72	
96	63	USA-WA	EVERETT AREA	48.0N	122.0W	47.5N	123.1W	5	LO	100	N	N	19910502	202707	141	153	48	72	
96	64	CANADA-BC	OKANAGAN LAKE AREA	49.8N	119.5W	47.2N	122.5W	0	LO	100	N	N	19910502	202715	140	154	48	72	
96	65	USA-NM	WHITE SANDS AREA	32.8N	106.0W	33.2N	104.7W	0	LO	250	N	N	19910502	203214	138	199	59	72	
96	66	USA-NM	WHITE SANDS AREA	32.7N	106.4W	33.1N	104.6W	0	LO	250	N	N	19910502	203217	138	199	59	72	
96	67	USA-NM	LAS CRUCES AREA	32.3N	106.8W	32.8N	104.3W	0	LO	250	N	N	19910502	203223	138	200	60	72	
96	68	USA-TX	EL PASO AREA	31.7N	106.5W	32.4N	104.0W	0	LO	250	N	N	19910502	203229	138	201	60	72	
96	69	USA-TX	GUADALUPE MTS AREA	31.8N	104.9W	32.2N	103.8W	0	LO	250	N	N	19910502	203234	138	202	60	72	
96	70	PERU	CLOUDY			16.4S	72.4W	100	LO	250	N	N	19910502	204714	135	291	35	72	
96	71	PERU	COAST NW OF TACNA	17.5S	71.0W	17.0S	72.0W	0	LO	250	N	N	19910502	204725	135	291	35	72	
96	72	PERU	NW OF TACNA, OV. EXPOSED	17.7S	70.5W	17.4S	71.7W	30	LO	250	N	N	19910502	204732	135	292	34	72	
96	73	ARGENTINA	INTER-MTN. BASINS	26.5S	67.5W	25.4S	66.1W	0	LO	250	N	N	19910502	205001	136	294	26	72	
96	74	ARGENTINA	INTER-MTN. BASINS	26.5S	67.5W	26.1S	65.5W	0	LO	250	N	N	19910502	205014	136	294	25	72	
96	75	USA-MI	FRAME TOO DARK			41.8N	86.0W						110506	142	63	-15	82		
96	76	USA-MI	FRAME TOO DARK			42.1N	85.6W						110513	143	63	-15	82		
96	77	USA-MI	FRAME TOO DARK			42.8N	84.7W						110528	143	64	-14	82		
96	78	USA-MI	FRAME TOO DARK			42.9N	84.5W						110530	143	64	-14	82		
96	79	USA-MI	FRAME TOO DARK			43.0N	84.3W						110533	143	64	-13	82		
96	80	USA-MI	FRAME TOO DARK			43.1N	84.2W						110536	143	64	-13	82		
96	81	USA-MI	FRAME TOO DARK			43.2N	84.0W						110538	143	64	-13	82		
96	82	USA-MI	FRAME TOO DARK			43.9N	83.1W						110552	143	64	-12	82		
96	83	USA-MI	FRAME TOO DARK			44.0N	82.9W						110555	143	64	-12	82		
96	84	USA-MI	TOO DARK, PORT HURON AREA	43.0N	82.5W	44.3N	82.5W	20	LO	250	N	N	19910503	110602	143	64	-12	82	
96	85	USA-MI	TOO DARK, LAKE ST. CLAIR	42.5N	82.8W	44.4N	82.3W	0	LO	250	N	N	19910503	110604	143	64	-12	82	
96	86	USA-MI	TOO DARK, DETROIT AREA	42.2N	82.6W	44.6N	82.0W	0	LO	250	N	N	19910503	110609	143	64	-11	82	
96	87	USA-OH	PANORAMA, LK. ERIE AREA			46.0N	79.8W	30	HO	250	N	N	19910503	110641	143	65	-9	82	
96	88	USA-OH	PANORAMA, LK. ERIE AREA			46.8N	78.3W	40	HO	250	N	N	19910503	110701	144	65	-8	82	
96	89	USA-OH	PANORAMA, LK. ERIE AREA			47.3N	77.5W	40	HO	250	N	N	19910503	110713	144	65	-7	82	
96	90	USA-OH	PANORAMA, LK. ERIE AREA			47.3N	77.4W	40	HO	250	N	N	19910503	110714	144	65	-7	82	
96	91	USA-OH	PANORAMA, LK. ERIE AREA			47.5W	77.0W	40	HO	250	N	N	19910503	110719	144	66	-7	82	
96	92	BRITAIN	CONTRAILS, HAZY, CLOUDY			51.7N	.2E	90	LO	250	N	N	19910503	111943	146	121	36	82	
96	93	FRANCE	CLOUDY, HAZY			49.6N	5.5E	90	LC	250	N	N	19910503	112044	146	129	39	82	
96	94	YUGOSLAVIA	AREA AROUND VODICE	44.0N	16.0E	43.1N	16.9E	40	LO	250	N	N	19910503	112322	144	151	48	82	
96	95	ITALY	PENINSULA NE. OF FOGGIA	41.8N	15.9E	42.2N	18.2E	40	LO	250	N	N	19910503	112342	144	153	49	82	
96	96	GREECE	PELOPONNISOS, NEAPOLIS	36.6N	23.2E	37.4N	23.9E	0	LO	250	N	N	19910503	112522	143	167	54	82	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LO	LAT	LO												
96	97	CRETE	END OF ISLAND	35.1N	26.1E	34.6N	26.8E	0	LO	250	N	N	19910503	112618	143	175	56	82	
97	1	ATLANTIC OCEAN	CLOUDY			56.8N	13.4W	95	HO	100	N	N	19910506	093054	147	105	29	129	
97	2	ATLANTIC OCEAN	CLOUDY			56.8N	13.2W	95	HO	100	N	N	19910506	093056	147	105	29	129	
97	3	ATLANTIC OCEAN	CLOUDY			56.8N	13.1W	95	HO	100	N	N	19910506	093057	147	105	29	129	
97	4	ATLANTIC OCEAN	CLOUDY, DARK			56.7N	12.5W	99	LO	100	N	N	19910506	093102	147	106	29	129	
97	5	ATLANTIC OCEAN	CLOUDY, DARK			56.6N	11.7W	99	LO	100	N	N	19910506	093109	147	107	30	129	
97	6	ATLANTIC OCEAN	CLOUDY, DARK			56.5N	10.5W	99	LO	100	N	N	19910506	093119	147	108	30	129	
97	7	ATLANTIC OCEAN	CLOUDY, DARK			56.5N	10.3W	99	LO	100	N	N	19910506	093121	147	108	31	129	
97	8	ATLANTIC OCEAN	CLOUDY, DARK			56.4N	9.5W	99	LO	100	N	N	19910506	093128	147	109	31	129	
97	9	ATLANTIC OCEAN	CLOUDY, DARK			56.3N	8.9W	99	LO	100	N	N	19910506	093134	147	110	31	129	
97	10	ATLANTIC OCEAN	CLOUDY, DARK			56.1N	8.0W	99	LO	100	N	N	19910506	093142	147	111	32	129	
97	11	ATLANTIC OCEAN	CLOUDY, DARK			56.1N	7.5W	99	LO	100	N	N	19910506	093146	147	111	32	129	
97	12		DARK FRAME			55.3N	2.8W				N	N	19910506	093229	147	116	35	129	
97	13		DARK FRAME			54.7N	.1W				N	N	19910506	093255	146	119	37	129	
97	14		DARK FRAME			54.5N	.6E				N	N	19910506	093302	146	120	37	129	
97	15		DARK FRAME			53.0N	6.1E				N	N	19910506	093358	146	126	41	129	
97	16		DARK FRAME, CARGO BAY			52.6N	7.4E				N	N	19910506	093411	146	127	41	129	
97	17		DARK FRAME, CARGO BAY			51.9N	9.5E				N	N	19910506	093434	146	130	43	129	
97	18		DARK FRAME, CARGO BAY			51.6N	10.1E				N	N	19910506	093441	146	130	43	129	
97	19		DARK FRAME, CARGO BAY			51.0N	11.9E				N	N	19910506	093501	146	133	45	129	
97	20		DARK FRAME, CARGO BAY			49.0N	16.4E				N	N	19910506	093555	145	138	48	129	
97	21		DARK FRAME, CARGO BAY			47.9N	18.5E				N	N	19910506	093622	145	141	50	129	
97	22		DARK FRAME, CARGO BAY			46.7N	20.8E				N	N	19910506	093653	145	144	52	129	
97	23		DARK FRAME, CARGO BAY			46.2N	21.6E				N	N	19910506	093704	145	145	52	129	
97	24		DARK FRAME, CARGO BAY			45.8N	22.4E				N	N	19910506	093715	145	146	53	129	
97	25		BLANK FRAME			30.1S	11.9E				N	N	19910506	142952	141	308	28	132	
98	0A	CANADA	CLOUDS			55.2N	93.4W	100	LO	250	N	N	19910506	153102	147	117	36	133	
98	1	CANADA	CLOUDS			55.0N	92.6W	100	LO	250	N	N	19910506	153106	147	117	36	133	
98	2	CANADA	CLOUDS			54.6N	90.7W	100	LO	250	N	N	19910506	153124	146	119	37	133	
98	3	CANADA	CLOUDS			54.4N	90.0W	100	LO	250	N	N	19910506	153131	146	119	37	133	
98	4	CANADA-0	CLOUDS			54.0N	88.6W	85	LO	250	N	N	19910506	153145	146	121	38	133	
98	5	CANADA-0	JAMES BAY AREA			53.7N	87.4W	60	LO	250	N	N	19910506	153157	146	122	39	133	
98	6	CANADA-0	JAMES BAY AREA			53.5N	86.7W	70	LO	250	N	N	19910506	153204	146	123	39	133	
98	7	CANADA-0	JAMES BAY AREA			53.4N	86.4W	60	LO	250	N	N	19910506	153207	146	123	39	133	
98	8	CANADA-0	BEAR ISLAND AREA			54.2N	81.4W	10	LO	250	N	N	19910506	153218	146	125	40	133	
98	9	CANADA-0	S. BEAR ISLAND, ICE			54.0N	81.0W	53.0N	85.1W	10	LO	250	N	19910506	153221	146	125	40	133
98	10	CANADA-0	NORTH TWIN ISLAND AREA			53.7N	79.8W	52.8N	84.3W	5	LO	250	N	19910506	153229	146	126	41	133
98	11	CANADA-0	N. ANU S. TWIN ISLANDS			53.0N	79.4W	52.5N	83.5W	5	LO	250	N	19910506	153238	146	127	41	133
98	12	CANADA-0	COAST JAMES BAY-QUEBEC			53.0N	78.2W	52.3N	82.8W	10	LO	250	N	19910506	153246	146	127	42	133
98	13	CANADA-0	GLACIATED TERRAIN			53.0N	77.3W	52.1N	82.2W	60	LO	250	N	19910506	153252	146	128	42	133

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
98	14	CANADA-Q	LARGE ICE COVERED LAKES	52.7N 77.0W	51.9N 81.7W	70	LO	250	N	N	19910506	153257	146	129	43	133
98	15	CANADA-Q	LRG. LAKES E. OF JAMES BAY	52.6N 76.6W	51.8N 81.4W	40	LO	250	N	N	19910506	153301	146	129	43	133
98	16	CANADA-Q	LRG. LAKES E. OF JAMES BAY	52.0N 76.0W	51.5N 80.6W	60	LO	250	N	N	19910506	153311	146	130	44	133
98	17	CANADA-Q	PART OF RIVIERE EASTMAIN	52.2N 75.5W	51.2N 79.9W	70	LO	250	N	N	19910506	153318	146	131	44	133
98	18	CANADA-Q	PART OF RIVIERE EASTMAIN	52.0N 74.5W	50.9N 79.1W	90	LO	250	N	N	19910506	153327	146	132	45	133
98	19	CANADA-Q	PANORAMA		49.9N 76.7W	40	HO	250	N	N	19910506	153355	146	135	46	133
98	20	CANADA-Q	VRY CLOUDY		49.7N 76.1W	95	LO	250	N	N	19910506	153402	146	135	47	133
98	21	CANADA-Q	RESERVOIR MANICOUAGAN	51.4N 68.7W	49.1N 75.0W	70	LO	250	N	N	19910506	153416	146	137	48	133
98	22	CANADA-Q	SEPT-ILES AREA	50.2N 66.5W	47.5N 71.8W	70	LO	250	N	N	19910506	153457	145	141	50	133
98	23	CANADA-Q	SEPT-ILES AREA	49.6N 66.2W	47.3N 71.4W	70	LO	250	N	N	19910506	153503	145	141	51	133
98	24	CANADA-Q	PANORAMA, LONG NARROW LKS		46.9N 70.7W	20	HO	250	N	N	19910506	153512	145	142	51	133
98	25	CANADA-Q	PANORAMA, LONG NARROW LKS		46.5N 70.0W	20	HO	250	N	N	19910506	153522	145	143	52	133
98	26	CANADA-Q	ANTICOSTI ISLAND	49.7N 63.6W	46.3N 69.6W	20	LO	250	N	N	19910506	153527	145	144	52	133
98	27	CANADA-Q	ANTICOSTI ISLAND	49.5N 63.0W	46.2N 69.3W	10	LO	250	N	N	19910506	153531	145	144	52	133
98	28	CANADA	GULF OF ST. LAWRENCE	48.0N 63.0W	45.5N 68.2W	0	LO	250	N	N	19910506	153547	145	146	53	133
98	29	CANADA	GULF OF ST. LAWRENCE	48.3N 62.0W	44.9N 67.2W	0	LO	250	N	N	19910506	153601	145	147	54	133
98	30	CANADA	GULF OF ST. LAWRENCE	48.5N 60.5W	44.7N 66.9W	5	LO	250	N	N	19910506	153606	145	147	55	133
98	31	CANADA	GULF OF ST. LAWRENCE	49.0N 58.0W	44.2N 66.2W	5	LO	250	N	N	19910506	153617	145	149	55	133
98	32	CANADA	GULF OF ST. LAWRENCE	49.5N 59.5W	44.0N 66.0W	30	LO	250	N	N	19910506	153620	145	149	55	133
98	33	CANADA	GULF OF ST. LAWRENCE	49.5N 59.5W	43.8N 65.6W	30	LO	250	N	N	19910506	153626	145	149	56	133
98	34	CANADA-NS	CAPE BRETON ISLAND	47.0N 61.2W	43.3N 64.9W	10	LO	100	N	N	19910506	153636	144	150	56	133
98	35	CANADA-NS	CAPE BRETON ISLAND	47.0N 60.6W	43.1N 64.5W	20	LO	100	N	N	19910506	153642	144	151	57	133
98	36	CANADA-NS	CAPE BRETON ISLAND	46.3N 60.5W	42.3N 63.5W	20	LO	100	N	N	19910506	153658	144	153	58	133
98	37	CANADA-NS	CAPE BRETON ISLAND	46.2N 60.5W	42.1N 63.3W	20	LO	100	N	N	19910506	153702	144	153	58	133
98	38	CANADA-NS	CAPE BRETON ISLAND	46.2N 60.5W	41.9N 62.9W	30	LO	100	N	N	19910506	153708	144	154	58	133
98	39	CANADA-NS	CAPE BRETON ISLAND	46.2N 60.0W	41.4N 62.3W	30	LO	100	N	N	19910506	153718	144	155	59	133
98	40	CANADA-NS	CAPE BRETON ISLAND	46.0N 60.0W	41.3N 62.1W	20	LO	100	N	N	19910506	153721	144	155	59	133
98	41	CANADA-NS	CAPE BRETON ISLAND	46.0N 59.0W	40.8N 61.6W	20	LO	100	N	N	19910506	153730	144	156	60	133
98	42	ATLANTIC OCEAN	CLOUDS, WATER		40.2N 60.8W	70	HO	100	N	N	19910506	153743	144	157	61	133
98	43		CARGO BAY		32.7N 52.8W	LO	50	N	N	N	19910506	154016	143	175	69	133
98	44		CARGO BAY		32.1N 52.4W	LO	50	N	N	N	19910506	154026	142	177	70	133
98	45		CARGO BAY		31.7N 52.0W	LO	50	N	N	N	19910506	154034	142	178	70	133
98	46		CARGO BAY		31.3N 51.6W	LO	50	N	N	N	19910506	154042	142	179	71	133
98	47		CARGO BAY		30.3N 50.8W	LO	50	N	N	N	19910506	154101	142	183	71	133
98	48		CARGO BAY		26.9N 47.9W	LO	50	N	N	N	19910506	154207	142	196	74	133
98	49		CARGO BAY		26.1N 47.3W	LO	50	N	N	N	19910506	154221	142	199	75	133
98	50		CARGO BAY		25.0N 46.5W	LO	50	N	N	N	19910506	154241	141	204	75	133
98	51		CARGO BAY		24.5N 46.1W	LO	50	N	N	N	19910506	154251	141	207	76	133
98	52		CARGO BAY		21.9N 44.3W	LO	50	N	N	N	19910506	154339	141	221	77	133
98	53	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER		4.5S 28.2W	80	LO	100	N	N	19910506	155133	139	302	58	133

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
				LAT	LONG	LAT	LONG											
98	54	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	4.7S	28.1W	80	L0	100	N	19910506	155136	139	302	58	133			
98	55	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	5.6S	27.6W	40	L0	100	N	19910506	155153	139	303	57	133			
98	56	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	6.2S	27.2W	30	L0	100	N	19910506	155204	139	303	56	133			
98	57	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	6.5S	27.1W	30	L0	100	N	19910506	155208	139	303	56	133			
98	58	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	7.1S	26.7W	50	L0	100	N	19910506	155219	139	304	55	133			
98	59	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	7.2S	26.6W	50	L0	100	N	19910506	155222	139	304	55	133			
98	60	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	7.9S	26.3W	40	L0	100	N	19910506	155233	139	304	54	133			
98	61	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.2S	25.4W	40	L0	100	N	19910506	155258	139	305	53	133			
98	62	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.4S	25.3W	40	L0	100	N	19910506	155301	139	305	52	133			
98	63	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.5S	25.3W	40	L0	100	N	19910506	155303	139	305	52	133			
98	64	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.6S	25.2W	50	L0	100	N	19910506	155305	139	305	52	133			
98	65	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.8S	25.1W	60	L0	100	N	19910506	155307	139	305	52	133			
98	66	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.9S	25.1W	60	L0	100	N	19910506	155309	139	305	52	133			
98	67	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.0S	25.0W	60	L0	100	N	19910506	155311	139	305	52	133			
98	68	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.1S	24.9W	50	L0	100	N	19910506	155313	139	306	52	133			
98	69	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.5S	24.7W	50	L0	100	N	19910506	155321	139	306	51	133			
98	70	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.8S	24.5W	40	L0	100	N	19910506	155326	139	306	51	133			
98	71	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	12.3S	23.6W	60	L0	100	N	19910506	155352	140	307	49	133			
98	72	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	12.4S	23.5W	60	L0	100	N	19910506	155354	140	307	49	133			
98	73	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	12.6S	23.4W	50	L0	100	N	19910506	155359	140	307	49	133			
98	74	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	13.1S	23.1W	60	L0	100	N	19910506	155408	140	307	48	133			
98	75	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	13.5S	22.9W	60	L0	100	N	19910506	155415	140	307	48	133			
98	76	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	14.2S	22.4W	40	L0	100	N	19910506	155427	140	307	47	133			
98	77	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	14.6S	22.2W	70	L0	100	N	19910506	155434	140	307	47	133			
98	78	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	15.1S	21.9W	40	L0	100	N	19910506	155444	140	307	46	133			
98	79	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.3S	21.1W	10	L0	100	N	19910506	155505	140	308	45	133			
98	80	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.5S	21.0W	10	L0	100	N	19910506	155508	140	308	44	133			
98	81	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.7S	20.9W	20	L0	100	N	19910506	155512	140	308	44	133			
98	82	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.8S	20.7W	20	L0	100	N	19910506	155515	140	308	44	133			
98	83	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.2S	20.5W	20	L0	100	N	19910506	155522	140	308	44	133			
98	84	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.3S	20.4W	20	L0	100	N	19910506	155524	140	308	43	133			
98	85	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.6S	20.2W	20	L0	100	N	19910506	155529	140	308	43	133			
98	86	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.9S	20.0W	80	L0	100	N	19910506	155534	140	308	43	133			
151	0	A BRITAIN	SCOTLAND, MORAY FIRTH	57.5N	2.0W	45	L0	90	N	19910429	101456	145	139	42	17			
151	1	BRITAIN	SCOTLAND, MORAY FIRTH	58.0N	2.0W	30	L0	90	N	19910429	101512	145	141	42	17			
151	2	SWEDEN	SKAGERAK, L. DALBOSJON	58.0N	11.0E	55	L0	90	N	19910429	101658	145	158	45	17			
151	2A	SWEDEN	SKAGERAK/KATTEGAT	57.5N	12.0E	35	L0	90	N	19910429	101712	145	161	46	17			
151	3	SWEDEN	BALTIC SEA, OLAND ISLAND	57.0N	18.0E	30	H0	90	N	19910429	101730	145	163	46	17			
151	4	SWEDEN	BALTIC SEA, OLAND ISLAND	57.0N	18.0E	25	L0	90	N	19910429	101745	145	165	47	17			
151	5	SWEDEN	BALTIC SEA, GOTLAND IS.	57.5N	19.0E	40	L0	90	N	19910429	101752	145	167	47	17			

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
				LAT	LONG	LAT	LONG											
151	6	USSR	LOWER VOLGA, VOLGOGRAD	49.0N	44.0E	50.9N	40.1E	15	HO	90	N	N	19910429	102149	144	205	51	17
151	7	USSR	VOLGA RIVER DELTA	45.5N	49.0E	48.1N	46.3E	15	LO	90	N	N	19910429	102305	143	216	51	17
151	8	USSR	ARAL SEA, UST-URT PLAT.	43.0N	59.0E	44.8N	52.0E	30	HO	90	N	N	19910429	102424	143	227	51	17
151	8A	AFGHANISTAN	VIEW EAST KARAKORAM MTS.			35.0N	64.1E	60	HO	90	N	N	19910429	102753	142	252	47	17
151	8B	INDIA	PALK STRAIT, PALK BAY	10.0N	78.0E	9.5N	82.8E	40	HO	90	N	N	19910429	103545	138	281	28	17
151	9	SRI LANKA	SW LOOKING OBLIQUE VIEW	7.0N	81.0E	5.4N	85.2E	35	HO	90	N	N	19910429	103657	138	283	25	17
151	10	CANADA-0	SW TOWARD L. SUPERIOR	49.0N	83.0W	49.2N	81.5W	20	LO	250	N	N	19910429	130856	145	100	28	19
151	10A	CANADA-0	LAKE ABITIBI	49.0N	81.0W	49.7N	80.4W	10	HO	250	N	N	19910429	130910	145	102	29	19
151	10B	CANADA-0	LAKE ABITIBI	47.5N	81.0W	50.5N	78.7W	25	HO	250	N	N	19910429	130931	145	104	29	19
151	11	CANADA-0	SOUTHERN JAMES BAY	51.5N	80.0W	51.7N	75.6W	30	HO	250	N	N	19910429	131005	145	107	31	19
151	12	CANADA-Q	LKS. MISTASSINI, ALBANEL	51.0N	74.0W	52.5N	73.1W	10	LO	250	N	N	19910429	131032	145	110	32	19
151	13	CANADA-Q	ST. LAWRENCE RIVER	49.0N	69.0W	53.6N	69.7W	25	HO	250	N	N	19910429	131108	145	114	34	19
151	14	CANADA-Q	ST. LAWRENCE RIVER	48.5N	67.0W	53.9N	68.4W	25	HO	250	N	Y	19910429	131121	145	115	34	19
151	15	CANADA-Q	GULF OF ST. LAWRENCE	48.0N	61.0W	55.5N	61.6W	15	HO	250	N	N	19910429	131227	145	123	37	19
151	16	CANADA-N	GULF OF ST. LAWRENCE	48.0N	60.0W	56.0N	58.4W	35	HO	250	N	N	19910429	131256	145	127	38	19
151	16A	FRANCE	RHONE RIVER, LYON	45.5N	5.0E	45.3N	5.8E	50	LO	250	N	N	19910429	132326	143	226	51	19
151	16B	FRANCE	RHONE R. DELTA, PYRENEES	44.0N	3.5E	44.8N	6.6E	50	LO	250	N	N	19910429	132338	143	227	51	19
151	17	FRANCE	ALPS, LOMBARDI PLAINS	46.5N	5.0E	42.7N	9.6E	50	HO	250	N	N	19910429	132423	143	233	51	19
151	17A	CORSICA	LIGURIAN SEA, ELBA IS.	42.5N	9.0E	42.1N	10.5E	35	LO	250	N	N	19910429	132438	142	235	51	19
151	18	MEDITERRANEAN SEA	W. SICILY, TYRRENIAN SEA	39.0N	12.0E	38.7N	14.7E	35	LO	250	U	N	19910429	132549	142	243	49	19
151	19	SICILY	MT. ETNA, AELIAN IS.	38.5N	15.0E	37.0N	16.5E	55	LO	250	U	N	19910429	132623	141	247	48	19
151	20	ITALY	G. OF TARANTO, IONIAN S.	40.0N	16.0E	36.7N	16.9E	40	HO	250	N	N	19910429	132630	141	247	48	19
151	20A	LIBYA	JABAL, AKHDAR HILLS	32.5N	22.0E	31.5N	21.8E	30	LO	250	N	N	19910429	132812	141	258	46	19
151	21	LIBYA	GULF OF BOMBA	32.5N	23.0E	30.5N	22.8E	35	LO	250	N	N	19910429	132832	140	259	45	19
151	21A	LIBYA	GULF OF SIDRA	31.0N	21.0E	29.1N	23.9E	55	HO	250	N	N	19910429	132859	140	262	44	19
151	22	LIBYA	GULF OF SIDRA	30.0N	21.0E	28.4N	24.5E	55	HO	250	N	N	19910429	132911	140	262	44	19
151	22A	LIBYA	LIBYAN DESERT			22.1N	29.3E	55	HO	250	N	N	19910429	133110	140	271	39	19
151	23	SUDAN	NILE RIVER, L. NASSER	21.0N	30.0E	19.7N	30.9E	5	LO	250	N	N	19910429	133153	139	273	37	19
151	23A	SUDAN	NILE RIVER, NUBIAN DES.	19.5N	31.5E	18.4N	31.8E	5	LO	250	N	N	19910429	133217	139	274	37	19
151	23B	SUDAN	NILE R., BAYUDA IMP. CR.	18.0N	32.0E	16.5N	33.0E	10	LO	250	N	N	19910429	133251	139	276	35	19
151	24	SUDAN	KHARTOUM, NILE RIVER	15.5N	32.5E	15.0N	34.0E	15	LO	250	N	N	19910429	133318	138	277	34	19
151	25	SUDAN	SUDAN AGRICULTURE REGION	14.0N	33.0E	13.8N	34.7E	25	LO	250	N	N	19910429	133339	138	278	33	19
151	26	ETHIOPIA	LAKE TANA, BLUE NILE	11.5N	36.5E	11.0N	36.4E	15	LO	250	U	N	19910429	133430	138	280	30	19
151	26A	ETHIOPIA	HIGHLANDS, L. TANA	13.0N	32.0E	9.1N	37.5E	35	HO	250	U	N	19910429	133504	138	281	29	19
151	26B	ETHIOPIA	ETHIOPIAN RIFT VALLEY	9.0N	38.0E	7.3N	38.6E	30	LO	250	U	N	19910429	133537	138	282	28	19
151	27	ETHIOPIA	EASTERN MTS., DARK			3.7N	40.7E	35	LO	250	U	N	19910429	133640	138	284	24	19
151	27A	SOMALIA	VERY DARK			3.1N	41.0E	40	LO	250	U	N	19910429	133651	138	284	24	19
151	28	SOMALIA	COAST, VERY DARK			.6S	43.2E	65	LO	250	N	N	19910429	133757	138	285	20	19
151	29	KENYA	FORMOSA BAY, COAST	2.0S	39.0E	2.7S	44.4E	60	HO	250	U	N	19910429	133834	138	286	18	19
151	29A	MADAGASCAR	AMBRE CAPE	12.0S	49.0E	12.4S	50.2E	30	LO	250	N	N	19910429	134129	138	287	10	19

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN		
				LAT	LO	LAT	LO										EL	OR	
151	30	MADAGASCAR	AMBRE CAPE, EAST COAST	13.5S	50.0E	13.8S	51.0E	50	L0	250	N	N	19910429	134153	138	287	8	19	
151	30A	CANADA-O	JAMES BAY	51.0N	81.0W	54.3N	89.7W	25	H0	250	O	N	19910429	144112	145	117	35	20	
151	31	SPAIN	G. OF CADIZ, MORENA MTS.	38.0N	7.0W	34.8N	4.0W	25	H0	250	N	N	19910429	145643	141	251	48	20	
151	32	SPAIN	STRAIT OF GIBRALTER	38.0N	6.0W	33.9N	3.1W	25	H0	250	N	N	19910429	145701	141	253	47	20	
151	33	SPAIN	STRAIT OF GIBRALTER	37.0N	5.0W	33.2N	2.4W	25	H0	250	N	N	19910429	145714	141	254	47	20	
151	34	MEDITERRANEAN SEA	ALBORAN SEA, GIBALTAR	36.0N	4.0W	32.1N	1.4W	15	H0	250	N	N	19910429	145736	141	256	46	20	
151	34A	ALGERIA	ATLAS MTS., ALBORAN SEA	34.0N	1.0W	31.1N	0.5W	15	H0	250	N	N	19910429	145756	141	258	46	20	
151	34B	ALGERIA	SAHARAN ATLAS, WEST ERG	33.0N	1.0E	29.4N	0.9E	15	H0	250	N	N	19910429	145829	141	261	45	20	
151	35	PACIFIC OCEAN	G. OF ALASKA, CYCLONE			56.8N	142.8W	90	H0	250	N	N	19910429	191215	145	134	40	23	
151	35A	CANADA-BC	ROCKY MTS., WILLISTON L.	56.5N	121.0W	56.6N	120.0W	70	L0	250	N	N	19910429	191530	145	165	48	23	
151	36	CANADA-A	LESSER SLAVE LAKE	55.0N	117.0W	55.7N	113.5W	55	L0	250	N	N	19910429	191627	145	174	48	23	
151	37	CANADA-A	LESSER SLAVE LAKE	55.5N	114.0W	55.4N	111.7W	40	H0	250	N	N	19910429	191644	145	176	49	23	
151	38	CANADA-M	LAKES WINNIPEG, MANITOBA	51.5N	97.0W	50.6N	95.6W	70	L0	250	N	N	19910429	191931	144	203	52	23	
151	38A	USA-VA	DELMARVA PEN., NORFOLK	37.5N	76.0W	37.2N	74.7W	60	L0	250	N	N	19910429	192441	142	245	50	23	
151	39	USA-NC	C. HATTERAS, PAMLCO S.	35.5N	75.0W	35.2N	72.6W	55	H0	250	N	N	19910429	192521	141	249	49	23	
151	40	COLOMBIA	MAGDALENA RIVER BASIN	5.0N	74.0W	6.0N	74.4W	65	L0	250	U	N	19910429	210353	137	283	28	24	
151	40A	BRITAIN	MORAY FIRTH, ORKNEY IS.	57.0N	3.0W	54.6N	1.5W	15	L0	250	N	N	19910430	083614	145	112	33	32	
151	41	NORWAY	S. NORWAY FJORDS	60.0N	7.0E	56.2N	6.9E	50	H0	250	N	N	19910430	083731	145	121	36	32	
151	42	USSR	HIUMAA, SAAREMAA ISLAND	58.5N	22.5E	57.3N	21.7E	10	L0	250	N	N	19910430	083939	145	139	42	32	
151	43	USSR	LAKE BALKHASH	46.5N	75.5E	46.3N	68.3E	6	L0	250	N	N	19910430	084727	142	213	53	32	
151	44	CHINA	TIBET PLATEAU, CHILIN L.	32.0N	88.0E	34.3N	83.5E	25	H0	250	N	N	19910430	085143	140	246	51	32	
151	45	CHINA	TIBET PLATEAU, CHILIN L.	31.5N	88.5E	32.9N	84.9E	15	L0	250	N	N	19910430	085211	140	250	51	32	
151	45A	CHINA	TIBET PLAT., ANGTSE LAKE	31.0N	87.0E	31.9N	140.3E	5	L0	250	N	N	19910430	085232	140	252	51	32	
151	46	CHINA	TIBET PLAT., NAMU LAKE	31.0N	90.0E	30.8N	86.7E	20	L0	250	N	N	19910430	085251	140	254	50	32	
151	47	BURMA	IRRAWADDY RIVER DELTA	16.0N	95.0E	17.1N	96.9E	35	L0	250	N	N	19910430	085706	138	273	40	32	
151	48	THAILAND	BANGKOK, BIGHT OF BANGKOK	13.5N	101.0E	13.7N	99.0E	30	L0	250	N	N	19910430	085806	138	277	38	32	
151	48A	THAILAND	BIGHT OF BANGKOK	13.5N	100.5E			30	L0	250	N	Y							
151	49	THAILAND	BIGHT OF BANGKOK	12.5N	101.0E	12.3N	99.9E	20	L0	250	N	Y	19910430	085832	137	278	37	32	
151	50	VIETNAM	S. OF MEKONG DELTA	9.5N	105.5E	8.1N	102.4E	25	L0	250	N	N	19910430	085947	137	281	33	32	
151	51	INDONESIA	JAVA, REMBRANG BAY	6.5S	111.0E	5.6S	110.3E	20	L0	250	N	N	19910430	090351	137	287	21	32	
151	52	INDONESIA	JAVA, SEMARANG BAY	7.0S	110.5E	6.7S	111.0E	40	L0	250	N	N	19910430	090410	137	287	20	32	
151	52A	USSR-EUROPEAN	URAL R. DELTA, CASPIAN S	47.0N	51.0E	43.8N	49.5E	30	L0	250	N	N	19910430	101758	142	221	54	33	
151	52B	USSR-EUROPEAN	E. SHORELINE CASPIAN SEA	42.5N	52.5E	42.5N	51.4E	25	L0	250	N	N	19910430	101828	142	225	54	33	
151	53	USSR-EUROPEAN	ZALIV KARA-BOGAZ-GOL	41.5N	54.0E	41.8N	52.3E	30	L0	250	N	N	19910430	101842	141	226	54	33	
151	54	USSR-EUROPEAN	ZALIV KARA-BOGAZ-GOL	41.0N	53.5E	41.6N	52.6E	30	L0	250	N	Y	19910430	101846	141	227	54	33	
151	54A	USSR-MIDDLE	KARAKUM DESERT, KOPET MT	36.5N	61.5E	37.7N	57.3E	15	L0	250	N	N	19910430	102010	141	239	53	33	
151	54B	INDIA	GULF OF KUTCH	22.5N	70.5E	23.8N	69.6E	0	L0	250	N	Y	19910430	102437	139	265	46	33	
151	54C	INDIA	MANDA HILLS	22.0N	71.0E	23.0N	70.1E	0	L0	250	N	Y	19910430	102451	139	267	46	33	
151	54D	INDIA	GULF OF KHAMBHAT	21.5N	72.0E	22.4N	70.6E	0	L0	250	N	Y	19910430	102503	139	267	45	33	
151	55	INDIA	GULF OF KHAMBHAT	21.5N	72.5E	21.6N	71.1E	0	L0	250	N	Y	19910430	102517	138	268	44	33	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
151	56	INDIA	CITY OF SURAT	21.0N 73.0E	21.1N 71.5E	0	LO	250	N	Y	19910430	102526	138	269	44	33
151	57	INDIA	WESTERN GHATS	20.0N 73.5E	20.5N 71.9E	5	LO	250	N	Y	19910430	102537	138	269	43	33
151	58	INDIA	WESTERN GHATS, BOMBAY	19.0N 73.5E	19.7N 72.4E	5	LO	250	N	Y	19910430	102552	138	270	43	33
151	59	INDIA	WESTERN GHATS, PUNO	18.0N 74.5E	19.1N 72.8E	5	LO	250	N	Y	19910430	102602	138	271	42	33
151	60	INDIA	WESTERN GHATS	18.0N 74.5E	18.6N 73.2E	10	LO	250	N	Y	19910430	102612	138	272	42	33
151	61	INDIA	WESTERN GHATS	17.5N 75.0E	17.9N 73.6E	15	LO	250	N	Y	19910430	102624	138	272	42	33
151	62	INDIA	DECCAN PLAT., BHIMA R.	17.5N 75.5E	17.4N 73.9E	15	LO	250	N	Y	19910430	102633	138	273	41	33
151	63	INDIA	DECCAN PLAT., BHIMA R.	17.0N 76.0E	16.9N 74.3E	5	LO	250	N	Y	19910430	102642	138	273	41	33
151	64	INDIA	DECCAN PLATEAU	16.5N 76.0E	16.4N 74.6E	10	LO	250	N	Y	19910430	102652	138	274	40	33
151	65	INDIA	DECCAN PL., TUNGABHADRA	15.5N 76.0E	15.8N 75.0E	10	LO	250	N	Y	19910430	102702	138	275	40	33
151	66	INDIA	DECCAN PLATEAU	14.5N 76.5E	15.2N 75.4E	15	LO	250	N	Y	19910430	102713	138	275	39	33
151	66A	INDIA	DECCAN PLATEAU	14.0N 76.0E	14.8N 75.6E	30	LO	250	N	Y	19910430	102722	138	276	40	33
151	66B	INDIA	DECCAN PLATEAU	13.5N 76.5E	14.1N 76.1E	25	LO	250	N	Y	19910430	102734	138	277	39	33
151	66C	INDIA	BANGALORE, EASTERN GHATS	12.5N 77.0E	77.0E	5	LO	250	N	Y						
151	67	INDIA	EASTERN GHATS, STANLEY L	12.0N 77.5E	12.9N 76.8E	15	LO	250	N	Y	19910430	102754	137	277	38	33
151	67A	INDIA	EASTERN GHATS, CAUVERY R	11.5N 78.0E	78.0E	20	LO	250	N	Y						
151	68	INDIA	EASTERN GHATS, CAUVERY R	11.0N 78.0E	11.7N 77.5E	10	LO	250	N	Y	19910430	102815	137	278	37	33
151	69	INDIA	EASTERN GHATS, CAUVERY R	10.5N 78.5E	11.1N 77.9E	45	LO	250	N	Y	19910430	102826	137	279	36	33
151	70	INDIA	PALK ST., MANNAR GULF	9.5N 79.0E	10.6N 78.2E	40	LO	250	N	Y	19910430	102835	137	279	36	33
151	71	INDIA	PALK ST., MANNAR GULF	9.0N 79.5E	10.0N 78.5E	5	LO	250	N	Y	19910430	102846	137	280	35	33
151	72	SRI LANKA	PALK BAY, JAFFNA LAGOON	9.5N 80.5E	9.7N 78.7E	25	LO	250	N	Y	19910430	102852	137	280	35	33
151	73	INDIA	PALK STRAIT	10.5N 80.0E	9.3N 78.9E	55	LO	250	N	N	19910430	102858	137	280	35	33
151	74	SRI LANKA	NORTHERN THIRD OF ISLAND	9.0N 80.5E	9.0N 79.1E	15	LO	250	N	N	19910430	102904	137	280	34	33
151	75	SRI LANKA	W. HALF OF ISLAND	8.0N 80.5E	8.7N 79.3E	30	LO	250	N	N	19910430	102910	137	281	34	33
151	76	SRI LANKA	CENTRAL MOUNTAINS	7.5N 81.0E	8.2N 79.6E	60	LO	250	N	Y	19910430	102918	137	281	34	33
151	77	SRI LANKA	SE PORTION OF ISLAND	7.0N 81.5E	7.8N 79.8E	50	LO	250	N	Y	19910430	102925	137	281	33	33
151	78	SRI LANKA	S. PORTION OF ISLAND	6.5N 81.0E	7.2N 80.2E	40	LO	250	N	N	19910430	102936	137	282	33	33
151	79	SRI LANKA	E. COASTAL AREA	7.0N 82.0E	6.9N 80.4E	15	LO	250	N	N	19910430	102942	137	282	33	33
151	80	SRI LANKA	SE COASTAL AREA	6.5N 81.5E	6.7N 80.5E	10	LO	250	N	Y	19910430	102945	137	282	33	33
151	81	SRI LANKA	SE COASTAL AREA	6.5N 82.5E	6.5N 80.6E	30	LO	250	N	N	19910430	102949	137	282	32	33
151	81A		VIEW OF MOON		22.6S 98.4E						19910430	103833	139	288	6	33
151	82	USA-MI	DETROIT, L. ERIE	42.0N 84.0W	39.3N 78.1W	55	HO	250	N	N	19910430	112840	142	80	11	34
151	83	CANADA-Q	ST. LAWRENCE RIVER	47.5N 70.5W	45.6N 69.4W	65	LO	250	N	N	19910430	113059	143	87	18	34
151	84	CANADA-Q	ST. LAWRENCE RIVER	48.5N 69.0W	46.0N 68.8W	50	LO	250	N	Y	19910430	113108	143	88	19	34
151	85	CANADA-Q	ST. LAWRENCE RIVER	49.0N 68.0W	46.6N 67.6W	25	LO	250	N	Y	19910430	113124	143	89	20	34
151	86	CANADA-NB	CHALEUR BAY	48.0N 65.5W	47.3N 66.5W	5	LO	250	N	N	19910430	113139	143	90	21	34
151	87	CANADA-NB	GASPE PENINSULA	48.5N 65.0W	47.9N 65.3W	0	LO	250	N	Y	19910430	113156	143	91	21	34
151	88	CANADA-Q	S. LABRADOR, ICE PACK	51.5N 60.0W	50.0N 60.9W	20	LO	250	N	N	19910430	113250	143	95	24	34
151	89	CANADA-N	BELLE ISLAND STRAIT	52.0N 57.0W	50.5N 59.7W	70	LO	250	N	N	19910430	113305	143	97	25	34
151	90	CANADA-N	BELLE ISLAND STRAIT	51.5N 56.5W	51.0N 58.6W	70	LO	250	N	N	19910430	113317	144	98	26	34

TABLE 4-3.- STS-39 HANDHELD PHCTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
151	91	ATLANTIC OCEAN	JET CON TRAILS		57.2N 17.9W	25	LO	250	N	N	19910430	113935	144	145	43	34
151	92	ATLANTIC OCEAN	JET CON TRAILS		57.1N 16.4W	50	LO	250	N	N	19910430	113948	144	147	44	34
151	93	BRITAIN	SHETLAND ISLANDS	61.0N 3.0W	56.3N 7.6W	15	HO	250	N	N	19910430	114104	144	159	46	34
151	94	BRITAIN	SHETLAND, ORKNEY ISLANDS	59.0N 1.0W	55.8N 4.1W	10	HO	250	N	N	19910430	114136	144	164	48	34
151	95	BRITAIN	ABERDEEN SCOTLAND	57.5N 2.0W	55.5W 2.9W	5	LO	250	N	N	19910430	114147	144	166	48	34
151	96		CLOUDS OVER N. EUROPE		52.6N 8.7E	85	LO	250	N	N	19910430	114342	143	184	51	34
151	97	YUGOSLAVIA	BELGRADE, DANUBE RIVER	45.0N 20.5E	46.5N 22.5E	55	LO	250	N	N	19910430	114629	142	210	54	34
151	98	YUGOSLAVIA	BELGRADE, DANUBE RIVER	44.5N 21.0E	46.1N 23.2E	60	LO	250	N	N	19910430	114638	142	212	54	34
151	99	TURKEY	ZONGULDAK, BLACK SEA	41.0N 31.5E	41.1N 30.6E	60	LO	250	N	N	19910430	114831	141	228	54	34
151	100	TURKEY	NEAR ANKARA, BLACK SEA	40.5N 32.5E	40.8N 30.9E	50	LO	250	N	Y	19910430	114837	141	229	54	34
151	101	TURKEY	KONYA PLAIN, TUZ LAKE	39.0N 33.5E	39.9N 32.0E	10	NV	250	N	N	19910430	114855	141	231	54	34
151	102	TURKEY	KONYA PLAIN, TUZ LAKE	39.0N 33.5E	39.6N 32.4E	10	NV	250	U	Y	19910430	114903	141	232	53	34
151	103	TURKEY	KONYA PLAIN, TUZ LAKE	38.5N 34.0E	38.9N 33.2E	10	NV	250	N	Y	19910430	114917	141	234	53	34
151	104	TURKEY	G. OF ALEXANDRIA, NUR MT	36.5N 36.0E	36.9N 35.4E	20	LO	250	N	N	19910430	114957	140	239	53	34
151	105	SYRIA	EUPHRATES RIVER VALLEY	36.0N 38.5E	34.4N 38.0E	50	LO	250	N	N	19910430	115048	140	245	52	34
151	106	SYRIA	EUPHRATES RIVER VALLEY	36.0N 38.5E	34.0N 38.4E	55	LO	250	N	Y	19910430	115056	140	246	52	34
151	107	KUWAIT	CLOUDS, OIL WELL FIRES	29.5N 48.0E	27.5N 44.0E	75	LO	250	N	N	19910430	115301	139	259	48	34
151	108	KUWAIT	CLOUDS, OIL WELL FIRES	29.5N 48.0E	26.9N 44.5E	75	LO	250	N	N	19910430	115311	139	260	48	34
151	109	SAUDI ARABIA	IRRIGATION FIELDS	28.0N 47.0E	26.0N 45.2E	65	LO	250	N	N	19910430	115328	139	261	48	34
151	110	SAUDI ARABIA	IRRIGATION FIELDS	27.5N 47.0E	25.5N 45.6E	60	LO	250	N	N	19910430	115338	139	262	47	34
151	111	QATAR	SMOKE PLUMES, BAHRAIN	26.0N 51.0E	24.0N 46.7E	10	HO	250	N	N	19910430	115406	138	264	46	34
151	112	SAUDI ARABIA	SMOKE PLUMES, BAHRAIN	25.0N 49.0E	23.2N 47.2E	20	HO	250	N	N	19910430	115420	138	265	46	34
151	113	SAUDI ARABIA	IRRIGATION FIELDS	24.0N 49.0E	22.3N 47.9E	5	LO	250	N	N	19910430	115437	138	267	45	34
151	114	SAUDI ARABIA	EMPTY QUARTER, DUNES		18.5N 50.5E	30	LO	250	N	N	19910430	115546	138	271	42	34
151	115	SAUDI ARABIA	EMPTY QUARTER, DUNES		17.5N 51.2E	40	LO	250	N	N	19910430	115605	138	273	42	34
151	116	OMAN	MUSQAT, MATRAH, OMAN G.	24.0N 58.0E	15.1N 52.6E	40	LO	250	N	N	19910430	115647	137	275	40	34
151	117	OMAN	WESTERN TIP MASIRAH IS.	20.5N 59.0E	12.5N 54.3E	10	LO	250	U	N	19910430	115735	137	278	38	34
151	118	USA-MI	PANORAMA, MICH., L. ERIE	43.0N 83.0W	45.9N 91.7W	60	HO	250	O	N	19910430	130038	143	87	18	35
151	119	USA-MI	L. ONTARIO, SAGINAW BAY	45.0N 82.5W	49.1N 85.7W	25	HO	250	N	N	19910430	130158	143	93	23	35
151	120	CANADA-N	SNOW PACK, CLOUDS		56.8N 56.4W	50	HO	250	O	N	19910430	130654	144	124	37	35
151	121	CANADA-N	SNOW PACK, CLOUDS		56.9N 55.1W	50	HO	250	U	N	19910430	130705	144	126	38	35
151	122	FRANCE	G. OF LYONS, PERPIGNAN	43.0N 3.5E	43.8N 4.1E	15	LO	250	N	N	19910430	131705	142	219	54	35
151	123	SPAIN	G. OF LYONS, CAPE CREUS	42.0N 4.0E	43.4N 4.7E	15	LO	250	N	N	19910430	131714	141	220	54	35
151	124	SPAIN	G. OF LYONS, CAPE CREUS	42.0N 4.0E	43.0N 5.2E	15	LO	250	N	N	19910430	131722	141	221	54	35
151	125	SARDINIA	SW PORTION OF ISLAND	39.5N 8.5E	39.8N 9.3E	25	LO	250	N	N	19910430	131830	141	231	54	35
151	126	TUNISIA	G. OF TUNIS, CAPE BON	37.0N 10.5E	37.6N 11.9E	40	LO	250	N	N	19910430	131916	140	237	53	35
151	127	TUNISIA	G. OF TUNIS, CAPE BON	36.5N 11.0E	37.3N 12.2E	40	LO	250	N	N	19910430	131922	140	237	53	35
151	128	TUNISIA	QARQANWAH IS., GABES G.	35.0N 11.5E	35.5N 14.1E	15	LO	250	N	N	19910430	131958	140	242	53	35
151	129	LIBYA	AL HASHIYAH MARSH	31.5N 16.0E	32.3N 17.2E	30	LO	250	N	N	19910430	132102	140	249	51	35
151	130	LIBYA	COAST NEAR SURT, SITRE D	31.0N 16.5E	31.8N 17.7E	20	LO	250	N	Y	19910430	132112	139	250	51	35

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
				LAT	LONG	LAT	LONG											
151	131	LIBYA	COAST NEAR SURT, SITRE D	31.0N	17.0E	31.4N	18.0E	20	LO	250	N	Y	19910430	132119	139	251	51	35
151	132	LIBYA	COAST NEAR RAS LANUF	30.5N	19.0E	29.8N	19.4E	25	LO	250	N	N	19910430	132150	139	254	50	35
151	133	LIBYA	ZALTAN MTN.	28.5N	20.0E	28.5N	20.5E	15	NV	250	N	N	19910430	132215	139	257	49	35
151	134	SUDAN	DUST STORM, UWAYNAT MTN.	22.5N	25.0E	22.0N	25.3E	0	LO	250	N	N	19910430	132415	138	267	45	35
151	134A	SUDAN	DUST STORM, UWAYNAT MTN.	22.0N	25.0E			0	LO	250	N	N						
151	135	SUDAN	DUST STORM, KISSU MTN.	20.5N	25.0E	20.8N	26.2E	5	LO	250	N	N	19910430	132437	138	268	45	35
151	136	SUDAN	JEBEL ABYAD PLATEAU	18.0N	26.0E	18.9N	27.5E	0	LO	250	N	N	19910430	132512	138	271	43	35
151	137	KENYA	OMO R. DELTA, L. RUDOLF	4.5N	36.0E	5.1N	36.0E	15	NV	250	N	N	19910430	132920	137	283	32	35
151	138	KENYA	OMO R. DELTA, L. RUDOLF	4.5N	36.5E	4.6N	36.2E	15	NV	250	N	Y	19910430	132928	137	283	32	35
151	139	KENYA	OMO R. DELTA, L. RUDOLF	4.0N	36.5E	4.2N	36.5E	10	NV	250	N	Y	19910430	132936	137	283	31	35
151	140	KENYA	RIFT VALLEY	2.0N	36.5E	2.8N	37.3E	15	NV	250	N	N	19910430	133000	136	284	30	35
151	141	KENYA	MERI PLATEAU	0.5N	40.0E	1.0N	38.3E	35	LO	250	N	N	19910430	133032	136	285	29	35
151	142	KENYA	MERI PLATEAU	0.0N	40.5E	.9N	38.4E	45	LO	250	N	Y	19910430	133035	136	285	28	35
151	143	KENYA	FORMOSA BAY, NGOMENI PT.	3.0S	40.0E	1.4S	39.7E	25	LO	250	N	N	19910430	133115	136	286	26	35
151	144	KENYA	FORMOSA BAY, NGOMENI PT.	3.0S	40.0E	1.8S	39.9E	20	NV	250	N	Y	19910430	133122	136	286	26	35
151	145	KENYA	FORMOSA BAY, NGOMENI PT.	3.0S	40.5E	2.3S	40.2E	15	LO	250	N	Y	19910430	133131	136	286	26	35
151	146	KENYA	FORMOSA BAY, NGOMENI PT.	2.5S	40.0E	3.9S	41.1E	25	LO	250	N	Y	19910430	133159	136	287	24	35
151	147	KENYA	GALANA R., NGOMENI PT.	3.5S	40.0E	4.4S	41.4E	25	LO	250	N	Y	19910430	133208	136	287	24	35
151	148	MADAGASCAR	BETSIBOKA RIVER DELTA	16.0S	46.5E	15.4S	48.1E	10	LO	250	N	N	19910430	133527	137	289	13	35
151	148A	MADAGASCAR	BETSIBOKA RIVER DELTA	16.5S	47.0E			20	LO	250	N	N						
151	149	MADAGASCAR	BETSIBOKA RIVER DELTA	16.5S	47.0E	16.3S	48.6E	10	LO	250	U	N	19910430	133542	137	289	12	35
151	150	MADAGASCAR	BETSIBOKA RIVER	17.0S	47.5E	17.2S	49.2E	20	LO	250	U	N	19910430	133558	137	289	11	35
151	151	MADAGASCAR	EAST COAST			18.0S	49.7E	35	LO	250	U	N	19910430	133613	137	289	11	35
151	152	MADAGASCAR	EAST COAST			18.4S	50.0E	50	LO	250	U	N	19910430	133621	137	289	10	35
151	153	INDIAN OCEAN	CLOUDS, VERY DARK			25.1S	54.7E	40	LO	250	U	N	19910430	133824	138	287	4	35
151	153A	CANADA-BC	COAST MOUNTAINS	58.0N	131.0W	57.1N	129.7W	35	LO	250	N	N	19910430	190735	144	143	43	39
151	154	CANADA-BC	COAST MOUNTAINS	56.0N	131.0W	56.9N	126.9W	20	LO	250	N	N	19910430	190758	144	146	44	39
151	155	CANADA-BC	ROCKY MTS., WILLISTON L.	56.5N	126.0W	56.5N	122.6W	0	LO	250	N	N	19910430	190836	144	152	45	39
151	156	CANADA-BC	ROCKY MTS., WILLISTON L.	56.0N	124.0W	56.4N	121.7W	10	LO	250	N	Y	19910430	190844	144	153	45	39
151	157	CANADA-A	LESSER SLAVE LAKE	55.5N	116.0W	55.1N	114.1W	10	NV	250	U	N	19910430	190953	144	164	48	39
151	158	CANADA-S	LAKES, AGRICULTURE FIELD			53.5N	107.8W	15	LO	250	U	N	19910430	191055	143	174	50	39
151	159	CANADA-O	L. ERIE, PELEE PT., IS.	41.5N	82.5W	40.6N	82.6W	30	LO	250	U	N	19910430	191623	141	225	55	39
151	160	USA-OH	L. ERIE, CLEVELAND	41.5N	82.0W	39.7N	81.4W	10	LO	250	U	Y	19910430	191644	141	227	55	39
151	161	USA-OH	COLUMBUS	39.5N	83.0W	39.1N	80.8W	10	LO	250	U	N	19910430	191655	141	229	55	39
151	162	USA-OH	PORTSMOUTH, OHIO RIVER	39.0N	83.0W	38.8N	80.4W	5	LO	250	U	N	19910430	191701	141	230	55	39
151	163	CANADA-BC	VANCOUVER, FRASER RIVER	49.5N	122.5W	50.7N	122.5W	5	LO	250	N	N	19910430	204155	143	187	52	40
151	164	CANADA-BC	VANCOUVER, FRASER RIVER	49.0N	123.0W	50.4N	121.9W	5	LO	250	N	N	19910430	204202	143	188	52	40
151	165	USA-MT	FLATHEAD LAKE	47.5N	114.0W	46.9N	114.7W	60	LO	250	N	N	19910430	204333	142	202	54	40
151	166	USA-CO	NEAR FORT COLLINS	40.5N	105.0W	40.4N	105.0W	75	LO	250	N	N	19910430	204601	141	224	55	40
151	167	USA-CU	DENVER	40.0N	105.0W	39.8N	104.4W	20	NV	250	N	N	19910430	204612	141	226	55	40

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
151	168	USA-CO	DENVER	39.5N 104.5W	39.6N 104.0W	20	LO	250	N	N	19910430	204618	141	227	55	40
151	169	USA-NM	SANGRE DE CRISTO RANGE	36.5N 104.0W	37.9N 102.1W	60	LO	250	N	N	19910430	204652	140	231	55	40
151	170	USA-OK	LAWTON, RED RIVER	34.5N 99.0W	35.6N 99.7W	0	NV	250	N	N	19910430	204739	140	238	54	40
151	171	USA-TX	WICHITA FALLS, RED RIVER	34.0N 98.5W	34.5N 98.6W	10	LO	250	N	Y	19910430	204800	140	240	54	40
151	172	USA-TX	DALLAS-FORT WORTH AREA	32.5N 97.0W	33.2N 97.3W	5	NV	250	N	N	19910430	204827	139	244	53	40
151	173	USA-TX	CORSICANA, RICHLAND RES.	32.0N 96.0W	32.2N 96.4W	15	LO	250	N	N	19910430	204845	139	246	53	40
151	174	USA-TX	HOUSTON-GALVESTON AREA	30.0N 95.5W	31.0N 95.3W	10	LO	250	N	N	19910430	204909	139	248	53	40
151	175	USA-TX	HOUSTON-GALVESTON AREA	29.5N 95.5W	30.4N 94.8W	5	LO	250	N	Y	19910430	204920	139	250	52	40
151	176	USA-TX	HOUSTON-GALVESTON AREA	29.5N 95.0W	29.5N 94.0W	5	LO	250	N	Y	19910430	204938	139	252	52	40
151	177	USA-TX	BEAUMONT-PORT ARTHUR	29.5N 94.0W	29.0N 93.7W	25	LO	250	N	N	19910430	204947	139	253	52	40
151	178	BOLIVIA	RIO GRANDE, VERY DARK	18.5S 63.0W	18.4S 63.7W	25	LO	250	U	N	19910430	210403	137	289	13	40
151	178A	BOLIVIA	RIO GRANDE, VERY DARK	18.5S 63.0W	19.2S 63.2W	30	LO	250	U	N	19910430	210419	138	290	12	40
151	179	USSR-PACIFIC	BEZMYIARUY VOLCANO	56.0N 160.5E	56.0N 160.8E	60	NV	250	N	N	19910430	220312	144	113	33	41
151	180	USSR-PACIFIC	BEZMYIARUY VOLCANO	56.0N 160.0E	56.1N 161.7E	65	LO	250	N	N	19910430	220320	144	114	33	41
151	181	USA-CA	SAN FRANCISCO BAY AREA	37.5N 122.0W	38.1N 125.1W	40	LO	250	N	N	19910430	221620	140	230	55	41
151	181A	USA-CA	SAN FRANCISCO BAY AREA	37.5N 122.0W	37.5N 124.4W	35	LO	250	N	N	19910430	221633	140	232	55	41
151	182	USA-CA	PT. CONCEPTION, S. MARIA	35.0N 120.5W	34.7N 121.5W	30	LO	250	N	N	19910430	221729	140	239	54	41
151	183	USA-CA	PT. CONCEPTION, S. MARIA	35.0N 120.5W	34.3N 121.1W	30	LO	250	N	Y	19910430	221737	140	240	54	41
151	184	USA-CA	LOS ANGELES BASIN AREA	34.0N 118.5W	33.1N 120.0W	5	LO	250	N	N	19910430	221800	139	243	54	41
151	185	USA-CA	SAN DIEGO AREA	32.5N 117.0W	31.9N 118.9W	15	NV	250	N	N	19910430	221824	139	246	53	41
151	186	USA-CA	SAN DIEGO AREA	32.5N 118.0W	31.4N 118.4W	15	LO	250	N	Y	19910430	221833	139	247	53	41
151	187	MEXICO	BAJA PEN., C.S. QUINTIN	30.5N 116.0W	30.3N 117.4W	10	NV	250	N	N	19910430	221855	139	249	53	41
151	188	MEXICO	BAJA PEN., C.S. QUINTIN	30.5N 116.0W	29.7N 117.0W	10	LO	250	N	Y	19910430	221906	139	251	52	41
151	189	MEXICO	L. OJO DE LIEBTE, BAJA P	28.0N 114.0W	28.7N 116.1W	5	LO	250	N	N	19910430	221925	139	253	52	41
151	190	MEXICO	L. OJO DE LIEBTE, BAJA P	28.0N 114.0W	28.1N 115.7W	0	LO	250	N	N	19910430	221936	139	254	52	41
151	191	MEXICO	L. OJO DE LIEBTE, BAJA P	27.5N 114.5W	27.2N 115.0W	0	NV	250	N	N	19910430	221952	139	255	51	41
151	192	MEXICO	SEBESTIAN VISCAINO BAY	28.0N 115.0W	24.3N 112.7W	15	LO	250	N	N	19910430	222047	138	261	50	41
151	193	SPAIN	STRAIT OF GIBRALTAR	36.5N 4.5W	34.0N 11.0W	15	HO	250	N	N	19910501	144227	139	230	57	52
151	193A	SPAIN	STRAIT OF GIBRALTAR	37.0N 3.0W	33.7N 10.7W	20	HO	250	N	N	19910501	144234	139	231	57	52
151	194	SPAIN	ALBORAN SEA, BAETIC MTS.	37.0N 2.0W	33.1N 10.1W	15	HO	250	N	N	19910501	144246	139	232	57	52
151	195	MEDITERRANEAN SEA	ALGERIAN COAST	37.0N 1.0W	32.8N 9.8W	15	HO	250	N	N	19910501	144252	139	233	57	52
151	196	MEDITERRANEAN SEA	ALBORAN SEA	37.0N 1.0W	32.5N 9.5W	15	HO	250	N	N	19910501	144258	139	234	57	52
151	197	MOROCCO	CAPE RHIR, AGADIR	30.5N 9.5W	30.5N 7.8W	5	NV	250	N	N	19910501	144335	138	239	57	52
151	198	MOROCCO	ATLAS MTNS.	29.5N 8.5W	29.6N 7.0W	0	NV	250	N	N	19910501	144353	138	241	56	52
151	199	AFRICA	OBLIQUE V. W. SAHARA D.	27.0N 27.6N	27.6N 5.4W	5	HO	250	N	N	19910501	144430	138	246	56	52
151	200	USA-VA	APPALACHIAN MTNS.	37.0N 81.0W	36.8N 81.9W	60	NV	250	N	N	19910501	191001	139	217	58	55
151	201	USA-VA	ROANOKE, SMITH MTN. RES.	37.0N 80.0W	35.2N 80.3W	40	LO	250	N	N	19910501	191032	139	222	58	55
151	202	USA-SC	CHARLESTON, L. MOOLTRIE	33.5N 80.0W	34.1N 79.2W	30	LO	250	N	N	19910501	191055	139	225	58	55
151	203	USA-SC	CHARLESTON, HUNTING IS.	32.5N 80.5W	33.6N 78.7W	5	LO	250	N	N	19910501	191104	139	227	58	55
151	204	USA-SC	CHARLESTON, FT. SUMTER	33.0N 80.0W	33.3N 78.5W	5	LO	250	N	N	19910501	191109	139	227	58	55

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LONG	LAT	LONG										EL	OR
151	205	USA-SC	CHARLESTON, FT. SUMTER	33.0N	80.0W	33.0N	78.2W	5	LO	250	N	N	19910501	191116	139	228	58	55
151	206	USA-FL	CAPE CANAVERAL	28.0N	81.5W	31.4N	76.7W	45	HO	250	N	N	19910501	191147	139	233	58	55
151	206A	BAHAMAS	CAICOS ISLANDS	22.0N	71.5W	23.1N	70.1W	15	LO	250	N	N	19910501	191424	138	253	55	55
151	208B	DOMINICAN REPUBLIC	SANTA DOMINGO, PT. SALINA	18.5N	70.5W	19.8N	67.9W	40	LO	250	N	N	19910501	191524	138	260	54	55
151	207	PUERTO RICO	SAN JUAN, ROOSEVELT RDS.	18.5N	66.0W	17.6N	66.4W	35	LO	250	N	N	19910501	191604	137	263	52	55
151	208	SOUTH AMERICA	DEFOREST., BRAZIL, GUYANA			4.3N	58.3W	55	LO	250	N	N	19910501	192001	136	280	42	55
151	209	BRAZIL	TOCANTINS RIVER BASIN	12.0S	49.0W	9.3S	50.4W	20	LO	250	N	N	19910501	192405	137	299	30	55
151	210	BRAZIL	TRES MARIAS RESERVOIR	18.5S	45.5W	17.5S	45.3W	5	LO	250	N	N	19910501	192632	138	291	21	55
151	211	BRAZIL	FURNAS RESERVOIR	21.0S	45.0W	18.5S	44.7W	10	LO	250	N	N	19910501	192651	138	291	22	55
151	211A	BRAZIL	RIO DE JANEIRO	22.5S	43.5W	20.7S	43.2W	25	LO	250	N	N	19910501	192732	138	292	19	55
151	212	BRAZIL	RIO DE JANEIRO	23.0S	43.5W	21.8S	42.4W	10	LO	250	N	N	19910501	192752	138	292	18	55
151	213	BRAZIL	C. ARRAIAL, ARARUAMA L.	23.0S	42.0W	22.5S	41.9W	5	LO	250	N	N	19910501	192805	138	292	17	55
151	214	BOLIVIA	S. END LAKE TIICACA	16.5S	69.0W	17.0S	68.4W	5	NV	250	N	N	19910501	205554	136	291	23	56
151	215	BOLIVIA	ANDES MTS.	17.0S	68.0W	17.5S	68.0W	10	NV	250	N	N	19910501	205603	137	291	23	56
151	216	BOLIVIA	ANDES MTS., ALTIPLANO	18.0S	68.0W	18.0S	67.7W	5	NV	250	N	N	19910501	206612	137	291	22	56
151	216A	BOLIVIA	LAKE POOPO, ALTIPLANO	18.5S	67.5W			0	NV	250	N	Y						
151	217	BOLIVIA	LAKE POOPO	19.0S	67.0W	18.6S	67.4W	0	NV	250	N	Y	19910501	205622	137	292	22	56
151	218	BOLIVIA	LAKE COIPASA	19.5S	68.0W	19.0S	67.1W	0	NV	250	N	Y	19910501	205630	137	292	21	56
151	219	BOLIVIA	UYUNI SALAR	20.0S	68.0W	19.4S	66.8W	0	NV	250	N	Y	19910501	205637	137	292	21	56
151	220	BOLIVIA	UYUNI SALAR	20.0S	68.0W	19.6S	66.7W	0	NV	250	N	Y	19910501	205641	137	292	21	56
151	221	BOLIVIA	UYUNI SALAR	20.5S	67.5W	20.2S	66.3W	0	NV	250	N	Y	19910501	205651	137	292	20	56
151	222	USA	CLOUDS CENT. GREAT PLAINS			41.6N	105.5W	70	LO	250	U	N	19910502	124317	140	69	-4	67
151	222A	USA-SD	OAHE RES., MISSOURI R.	45.0N	100.5W	44.5N	101.4W	10	LO	250	N	N	19910502	124422	141	71		67
151	223	USA-SD	AG. NEAR ABERDEEN	45.5N	99.5W	45.0N	100.6W	25	LO	250	N	N	19910502	124433	141	71		67
151	223A	USA-SD	AG. NEAR ABERDEEN	45.5N	99.0W	45.4N	100.0W	25	NV	250	N	N	19910502	124443	141	71		67
151	224	USA-SD	CLOUDS S.D./N.D. BORDER	46.0N	98.5W	45.9N	99.1W	60	NV	250	N	N	19910502	124454	141	71		67
151	224A	USA-ND	CLOUDS S.D./N.D. BORDER	46.5N	98.0W	46.2N	98.7W	60	NV	250	N	N	19910502	124501	141	72		67
151	224B	EUROPE	CLOUDS, VIEW S. TO AFRICA			43.5N	2.9W	85	HO	250	O	N	19910502	130126	141	176	54	67
151	225	SPAIN	VIEW S. TOWARDS AFRICA			41.0N	.4E	50	HO	250	O	N	19910502	130219	140	184	56	67
151	225A	ALGERIA	TELL ATLAS MTNS.	36.0N	6.0E	40.3N	1.3E	60	HO	250	O	N	19910502	130235	140	186	56	67
151	225B	TUNISIA	TELL ATLAS MTNS., COAST	36.5N	8.5E	39.4N	2.4E	50	HO	250	O	N	19910502	130255	140	189	57	67
151	226	ALGERIA	TELL ATLAS, NEMENCHA MTS	35.0N	7.5E	38.5N	3.5E	40	HO	250	O	N	19910502	130313	139	192	57	67
151	227	ALGERIA	GRAND ERG EASTERN	33.0N	8.0E	38.3N	3.7E	40	HO	250	O	N	19910502	130316	139	192	57	67
151	228	ALGERIA	NEMENCHA MTS., MELRHIR L	34.5N	8.5E	37.6N	4.5E	25	LO	250	O	N	19910502	130331	139	195	58	67
151	228A	TUNISIA	DJERID LAKE, EASTERN ERG	34.0N	8.5E	37.1N	5.0E	30	LO	250	O	N	19910502	130342	139	197	58	67
151	228B	TUNISIA	GRAND ERG EASTERN	32.5N	9.0E	36.5N	5.6E	60	LO	250	O	N	19910502	130353	139	198	59	67
151	229	TUNISIA	GRAND ERG EASTERN	31.5N	10.0E	36.0N	6.2E	80	LO	250	O	N	19910502	130404	139	200	59	67
151	229A	LIBYA	AL HAMRA PLATEAU	30.0N	12.0E			65	LO	250	O	N						
151	230	LIBYA	AL HAMRA PLATEAU	31.0N	13.5E	35.2N	7.0E	35	LO	250	O	N	19910502	130419	139	202	59	67
151	231	LIBYA	AL HAMRA PLATEAU	30.0N	14.5E	34.8N	7.4E	15	LO	250	O	N	19910502	130427	139	203	59	67

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
151	232	LIBYA	AL HAMRA PLATEAU	31.0N 13.5E 34.0N	8.1E	0	LO	250	0	N	19910502	130442	138	206	59	67
151	233	LIBYA	AL HAMRA PLATEAU	31.5N 12.5E 33.8N	8.3E	0	LO	250	0	N	19910502	130446	138	206	59	67
151	234	LIBYA	COAST, GULF OF SIDRA	32.0N 13.5E 33.6N	8.5E	0	LO	250	0	N	19910502	130450	138	207	59	67
151	235	LIBYA	COAST, GULF OF SIDRA	30.0N 15.5E 33.4N	8.8E	0	HO	250	0	N	19910502	130455	138	208	60	67
151	236	LIBYA	COAST, GULF OF SIDRA	30.0N 17.0E 32.6N	9.5E	0	HO	250	0	N	19910502	130510	138	210	60	67
151	237	LIBYA	LIBYAN DESERT	29.0N 18.0E 32.2N	9.8E	10	HO	250	0	N	19910502	130518	138	211	60	67
151	238	USA-WA	MOUNT ADAMS, COLUMBIA R.	46.0N 121.0W 46.9N	120.2W	5	NV	250	N	N	19910502	141445	141	72	2	68
151	239	USA-WA	YAKIMA	46.0N 120.5W 47.1N	119.9W	5	NV	250	N	N	19910502	141449	141	72	2	68
151	240	USA-ID	SMITH PK., KOOTENAY L.	49.0N 115.0W 48.7N	116.8W	0	NV	250	N	N	19910502	141529	141	73	4	68
151	241	CANADA-A	ROCKY MTS., HIGH PLAINS	50.2N 113.5W		80	LO	250	N	N	19910502	141610	142	75	7	68
151	242	CANADA	HIGH PLAINS, AGRICULTURE			30	NV	250	N	N						
332	11	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	12	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	13	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	14	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	15	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	16	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	17	AURORA	AUSTRALIS-BACK SH.TAIL				HO	35	N	N						
332	18	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	19	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	20	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	21	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	22	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	23	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	24	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	25	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	26	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N						
332	27	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-BACK SH				HO	35	N	N						
332	28	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-BACK SH				HO	35	N	N						
332	34	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						
332	35	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						
332	36	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						
332	37	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						
342	1	AURORA	AUSTRALIS				HO	35	N	N						
342	2	AURORA	AUSTRALIS				HO	35	N	N						
342	3	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						
342	4	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						
342	5	AURORA	AUSTRALIS-RED/GREEN PROM				HO	35	N	N						
342	6	AURORA	AUSTRALIS-RED/GREEN PROM				HO	35	N	N						
342	7	AURORA	AUSTRALIS-GREEN PROM.				HO	35	N	N						

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
342	8	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	9	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	10	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	11	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	12	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	13	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	14	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	15	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	16	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	17	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	18	AURORA	AUSTRALIS			HO	35	N	N							
342	19	AURORA	AUSTRALIS-DARK			HO	35	U	N							
342	20	AURORA	AUSTRALIS-DARK			HO	35	N	N							
342	21	AURORA	AUSTRALIS-DARK			HO	35	N	N							
342	22	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	23	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	24	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	25	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	26	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	27	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	28	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	29	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	30	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	31	AURORA	AUSTRALIS-RED/GREEN PROM			HO	35	N	N							
342	32	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	33	AURORA	AUSTRALIS-GREEN PROM.			HO	35	N	N							
342	34	AURORA	AUSTRALIS-DARK			HO	35	U	N							
342	35	AURORA	AUSTRALIS-VERY DARK			HO	35	U	N							
342	36	AURORA	AUSTRALIS-DARK			HO	35	N	N							
364	2	AURORA	AUSTRALIS			HO	35	N	N							
364	3	AURORA	AUSTRALIS			HO	35	N	N							
364	4	AURORA	AUSTRALIS			HO	35	N	N							
364	5	AURORA	AUSTRALIS			HO	35	N	N							
364	6	AURORA	AUSTRALIS			HO	35	N	N							
364	7	AURORA	AUSTRALIS			HO	35	N	N							
364	8	AURORA	AUSTRALIS			HO	35	N	N							
364	9	AURORA	AUSTRALIS			HO	35	N	N							
364	10	AURORA	AUSTRALIS			HO	35	N	N							
364	11	AURORA	AUSTRALIS			HO	35	N	N							
364	12	AURORA	AUSTRALIS			HO	35	N	N							

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
364	13	AURORA	AUSTRALIS			HO	35	N	N							
364	14	AURORA	AUSTRALIS			HO	35	N	N							
364	15	AURORA	AUSTRALIS			HO	35	N	N							
364	16	AURORA	AUSTRALIS			HO	35	N	N							
364	17	AURORA	AUSTRALIS			HO	35	N	N							
364	18	AURORA	AUSTRALIS			HO	35	N	N							
364	19	AURORA	AUSTRALIS			HO	35	N	N							
364	20	AURORA	AUSTRALIS			HO	35	N	N							
364	21	AURORA	AUSTRALIS			HO	35	N	N							
364	22	AURORA	AUSTRALIS			HO	35	N	N							
364	23	AURORA	AUSTRALIS			HO	35	N	N							
364	24	AURORA	AUSTRALIS			HO	35	N	N							
364	25	AURORA	AUSTRALIS			HO	35	N	N							
364	26	AURORA	AUSTRALIS			HO	35	N	N							
364	27	AURORA	AUSTRALIS-FLARE			HO	35	N	N							
364	28	AURORA	AUSTRALIS-FLARE			HO	35	N	N							
364	29	AURORA	AUSTRALIS-FLARE			HO	35	N	N							
364	30	AURORA	AUSTRALIS-FLARE			HO	35	N	N							
364	31	AURORA	AUSTRALIS-FLARE			HO	35	N	N							
364	32	AURORA	AUSTRALIS-FLARE			HO	35	N	N							
364	33	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK			HO	35	U	N							
364	34	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK			HO	35	U	N							
364	35	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-V-DARK			HO	35	U	N							
364	36	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-V-DARK			HO	35	U	N							
367	22	AURORA	AUSTRALIS			HO	35	N	N							
367	23	AURORA	AUSTRALIS			HO	35	N	N							
367	24	AURORA	AUSTRALIS			HO	35	N	N							
367	25	AURORA	AUSTRALIS			HO	35	N	N							
367	26	AURORA	AUSTRALIS			HO	35	N	N							
367	27	AURORA	AUSTRALIS			HO	35	N	N							
367	28	AURORA	AUSTRALIS			HO	35	N	N							
367	29	AURORA	AUSTRALIS			HO	35	N	N							
377	1	ATMOSPHERIC LIMB	DARK			HO	35	U	N							
377	2	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK			HO	35	U	N							
377	3	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK			HO	35	U	N							
377	4	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK			HO	35	U	N							
377	5	AURORA	AUSTRALIS-DAY RIGHT SIDE			HO	35	N	N							
377	6	AURORA	AUSTRALIS-DAY RIGHT SIDE			HO	35	N	N							
377	7	AURORA	AUSTRALIS-DAY RIGHT SIDE			HO	35	N	N							
377	8	AURORA	AUSTRALIS-DAY RIGHT SIDE			HO	35	N	N							

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUN	OR			
377	9	ATMOSPHERIC LIMB	BRIGHT			HO	35	O	N											
377	10	ATMOSPHERIC LIMB	BRIGHT			HO	35	O	N											
377	11	ATMOSPHERIC LIMB	BRIGHT			HO	35	O	N											
377	12	ATMOSPHERIC LIMB	BRIGHT			HO	35	O	N											
377	13	AURORA	AUSTRALIS			HO	35	N	N											
377	14	AURORA	AUSTRALIS			HO	35	N	N											
377	15	AURORA	AUSTRALIS			HO	35	N	N											
377	16	AURORA	AUSTRALIS			HO	35	N	N											
377	17	AURORA	AUSTRALIS			HO	35	N	N											
377	18	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	19	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	20	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	21	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	22	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	23	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	24	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	25	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	26	AURORA	AUSTRALIS-RED/GREEN CRWN			HO	35	N	N											
377	27	AURORA	AUSTRALIS-SPRAL			HO	35	N	N											
377	28	AURORA	AUSTRALIS-SPRAL			HO	35	N	N											
377	29	AURORA	AUSTRALIS-SPRAL			HO	35	N	N											
377	30	AURORA	AUSTRALIS-SPRAL			HO	35	N	N											
377	31	AURORA	AUSTRALIS-SPRAL			HO	35	N	N											
377	32	AURORA	AUSTRALIS			HO	35	N	N											
377	33	AURORA	AUSTRALIS			HO	35	N	N											
377	34	AURORA	AUSTRALIS			HO	35	N	N											
377	35	AURORA	AUSTRALIS-DARK			HO	35	N	N											
601	1	USSR-EUROPEAN	CLOUDS			HO	35	U	N											
601	2	USSR-EUROPEAN	CLOUDS			HO	35	U	N											
601	3	USSR-MIDDLE	CLOUDS OVER KARAKUM			HO	35	U	N											
				54.1N	29.7E	85	HO	100	N	N	19910429	102000	138	188	50	16				
				54.1N	29.7E	95	HO	100	N	N	19910429	102000	138	188	50	16				
				43.3N	54.3E	90	LO	100	N	N	19910429	102500	138	233	51	16				
601	4	USSR-MIDDLE	ARAL SEA			43.0N	60.0E	40.5N	58.0E	60	HO	100	N	N	19910429	102600	138	240	50	16
601	5	USSR-MIDDLE	ARAL SEA			43.0N	60.0E	40.5N	58.0E	55	HO	100	N	N	19910429	102600	138	240	50	16
601	6	USSR-MIDDLE	AP'AL SEA			43.0N	60.5E	40.5N	58.0E	55	HO	100	N	N	19910429	102600	138	240	50	16
601	7	USSR-MIDDLE	AMUDAR RIVER			41.0N	62.0E	40.5N	58.0E	55	LO	100	N	N	19910429	102600	138	240	50	16
601	8	USSR-MIDDLE	KARAKUM, MURGAB RIVER			37.5N	61.0E	37.7N	61.4E	15	LO	100	N	N	19910429	102700	138	247	49	16
601	9	USSR-MIDDLE	KARAKUM, MURGAB RIVER			37.0N	62.5E	37.7N	61.4E	10	LO	100	N	N	19910429	102700	138	247	49	16
601	10	USSR-MIDDLE	KARAKUM, MURGAB RIVER			37.0N	61.0E	37.7N	61.4E	20	LO	100	N	N	19910429	102700	138	247	49	16
601	11	USSR-MIDDLE	KARAKUM, AMUDAR RIVER			38.0N	63.0E	37.7N	61.4E	15	LO	100	N	N	19910429	102700	138	247	49	16
601	12	USSR-MIDDLE	KARAKUM, AMUDAR RIVER			40.0N	63.0E	37.7N	61.4E	15	HO	100	N	N	19910429	102700	138	247	49	16
601	13	USSR-MIDDLE	KARAKUM, AMUDAR RIVER			41.0N	63.0E	34.7N	64.5E	40	HO	100	N	N	19910429	102800	138	253	47	16

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
601	14	AFGHANISTAN	HINDU KUSH, HEIHAND R.	32.0N 65.0E	34.7N 64.5E	60	LO	100	N	N	19910429	102800	138	253	47	16
601	15	AFGHANISTAN	MARGOW DESERT, HEIHAND R	30.5N 63.5E	31.6N 67.3E	40	HO	100	N	N	19910429	102900	138	258	45	16
601	16	AFGHANISTAN	MARGOW DESERT, HEIHAND R	30.0N 64.0E	31.6N 67.3E	35	HO	100	N	N	19910429	102900	138	258	45	16
601	17	PAKISTAN	MAKRAN/SULAIMAN RANGES	30.0N 67.0E	31.6N 67.3E	25	LO	100	N	N	19910429	102900	138	258	45	16
601	18	PAKISTAN	SULAIMAN RA., INDUS R.	28.0N 69.0E	28.5N 70.0E	30	HO	100	N	N	19910429	103000	138	263	43	16
601	19	PAKISTAN	INDUS RIVER, THAR DESERT	26.0N 70.0E	28.5N 70.0E	20	HO	100	N	N	19910429	103000	138	263	43	16
601	20	INDIA	INDUS R., RANN OF KUTCH	24.0N 70.0E	25.3N 72.5E	15	HO	100	N	N	19910429	103100	138	267	41	16
601	21	PAKISTAN	INDUS RIVER, THAR DESERT	26.0N 70.0E	25.3N 72.5E	20	HO	100	N	N	19910429	103100	138	267	41	16
601	22	INDIA	RANN OF KUTCH, INDUS R.	23.0N 72.0E	25.3N 72.5E	10	HO	100	N	N	19910429	103100	138	267	41	16
601	23	INDIA	RANN OF KUTCH, W. GHATS	22.0N 71.0E	25.3N 72.5E	10	HO	100	N	N	19910429	103100	138	267	41	16
601	24	INDIA	RANN OF KUTCH, W. GHATS	23.0N 71.0E	25.3N 72.5E	10	HO	100	N	N	19910429	103100	138	267	41	16
601	25	INDIA	GULF OF CAMBAY, KUTCH	21.0N 71.0E	22.1N 74.8E	5	HO	100	N	N	19910429	103200	138	271	39	16
601	26	INDIA	GULF OF CAMBAY, KUTCH	21.0N 72.0E	22.1N 74.8E	5	HO	100	N	N	19910429	103200	138	271	39	16
601	27	INDIA	GULF OF CAMBAY, W. GHATS	20.5N 73.0E	22.1N 74.8E	5	HO	100	N	N	19910429	103200	138	271	39	16
601	28	INDIA	GULF OF CAMBAY, W. GHATS	19.5N 74.0E	22.1N 74.8E	25	HO	100	N	N	19910429	103200	138	271	39	16
601	29	INDIA	GULF OF CAMBAY, W. GHATS	20.0N 74.0E	18.8N 77.1E	20	HO	100	N	N	19910429	103300	138	274	36	16
601	30	INDIA	WESTERN GHATS	18.0N 75.0E	18.8N 77.1E	40	HO	100	N	N	19910429	103300	138	274	36	16
601	31	INDIA	WEST. GHATS, DECCAN PLAT	16.0N 75.0E	15.5N 79.2E	30	HO	100	N	N	19910429	103400	138	277	34	16
601	32	INDIA	WEST. GHATS, DECCAN PLAT	15.0N 75.5E	15.5N 79.2E	45	HO	100	N	N	19910429	103400	138	277	34	16
601	33	INDIA	WEST. GHATS, DECCAN PLAT	14.0N 76.5E	12.1N 81.3E	40	HO	100	N	N	19910429	103500	138	280	31	16
601	34	INDIA	WEST. GHATS, DECCAN PLAT	13.0N 78.0E	12.1N 81.3E	50	HO	100	N	N	19910429	103500	138	280	31	16
601	35	INDIA	DECCAN PLAT., E. GHATS	12.0N 78.0E	12.1N 81.3E	45	HO	100	N	N	19910429	103500	138	280	31	16
601	36	INDIA		9.0N 79.0E	12.1N 81.3E						19910429	103500	138	280	31	16
601	37	INDIA	PALK STRAIT	9.0N 79.0E	12.1N 81.3E	60	HO	100	N	N	19910429	103500	138	280	31	16
601	38	SRI LANKA	PALK STRAIT	9.0N 80.0E	12.1N 81.3E	50	HO	100	N	N	19910429	103500	138	280	31	16
601	39	SRI LANKA	PALK STRAIT	8.5N 80.5E	8.7N 83.3E	60	HO	100	N	N	19910429	103600	138	282	28	16
601	40	INDIA	GULF OF MANNAR	8.0N 78.0E	8.7N 83.3E	55	HO	100	N	N	19910429	103600	138	282	28	16
601	41	SRI LANKA	GULF OF MANNAR, CLOUDS	6.5N 81.0E	8.7N 83.3E	55	HO	100	N	N	19910429	103600	138	282	28	16
601	42		SUNSET TERMINATOR		37.2S 114.8E	0	HO	100	N	N	19910429	105000	138	277	-15	16
601	43		SUNSET TERMINATOR		37.2S 114.8E	0	HO	100	N	N	19910429	105000	138	277	-15	16
601	44		SUNSET TERMINATOR		37.2S 114.8E	0	HO	100	N	N	19910429	105000	138	277	-15	16
601	45		SUNSET TERMINATOR		37.2S 114.8E	0	HO	100	N	N	19910429	105000	138	277	-15	16
601	46		SUNSET TERMINATOR		37.2S 114.8E	0	HO	100	N	N	19910429	105000	138	277	-15	16
601	47	CANADA-NS	S. NOVA SCOTIA	44.5N 63.0W	45.9N 64.9W	55	HO	100	N	N	19910429	113800	138	94	24	17
601	48	ATLANTIC OCEAN	JET STREAM, ICE FLOWS		45.9N 64.9W	55	HO	100	N	N	19910429	113800	138	94	24	17
601	49	CANADA-N	JET STREAM, ICE FLOWS		48.4N 60.4W	50	HO	100	N	N	19910429	113900	138	99	27	17
601	50	CANADA-N	AVALON PEN., PLACENTIA B	46.0N 55.0W	50.6N 55.5W	50	HO	100	N	N	19910429	114000	138	104	30	17
601	51	CANADA-N	AVALON PEN., PLACENTIA B	48.0N 56.0W	50.6N 55.5W	55	HO	100	N	N	19910429	114000	138	104	30	17
601	52	BRITAIN	SCOTLAND, ORKNEY ISLANDS	57.5N 3.0W	56.1N 3.3W	55	HO	100	N	N	19910429	114800	138	172	48	17
601	53	SAUDI ARABIA	NAFUD DESERT, SMOKE PLS.	28.0N 46.0E	30.4N 45.7E	40	LO	100	N	N	19910429	115900	138	260	45	17

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
601	54	SAUDI ARABIA	TUWAYQ PLAIN, SMOKE PLS.	26.0N	47.0E	27.2N	48.2E	55	LO	100	N	N	19910429	120000	138	265	43	17
601	55	SAUDI ARABIA	CLOUDS, SMOKE PLUMES		27.2N	48.2E		65	HO	100	U	N	19910429	120000	138	265	43	17
601	56	SAUDI ARABIA	EMPTY QUARTER, HAZE	18.0N	52.0E	24.0N	50.7E	10	HO	100	N	N	19910429	120100	138	269	41	17
601	57	SAUDI ARABIA	EMPTY QUARTER, HAZE	17.0N	49.0E	24.0N	50.7E	10	HO	100	N	N	19910429	120100	138	269	41	17
601	58	SAUDI ARABIA	EMPTY QUARTER, HAZE	17.0N	52.0E	24.0N	50.7E	10	HO	100	N	N	19910429	120100	138	269	41	17
601	59	SAUDI ARABIA	EMPTY QUARTER, HAZE	16.0N	52.0E	20.8N	53.0E	10	HO	100	N	N	19910429	120200	138	272	38	17
601	60	SAUDI ARABIA	DISSECTED PLATEAU	15.0N	51.0E	20.8N	53.0E	10	HO	100	N	N	19910429	120200	138	272	38	17
601	61	OMAN	AL QAMAR BAY, AL'UMR MTS	17.0N	54.0E	20.8N	53.0E	20	LO	100	N	N	19910429	120200	138	272	38	17
601	62	OMAN	AL QAMAR BAY, SALALAH	16.5N	53.0E	20.8N	53.0E	10	HO	100	N	N	19910429	120200	138	272	38	17
601	63	OMAN	AL'UMR MTS., SALALAH	17.0N	55.0E	20.8N	53.0E	25	LO	100	N	N	19910429	120200	138	272	38	17
601	64	OMAN	QAMAR BAY, DISSECTED PL.	15.5N	52.0E	17.5N	55.2E	10	HO	100	N	N	19910429	120300	138	276	36	17
601	65	OMAN	AL'UMR MTS., SALALAH	17.0N	54.0E	17.5N	55.2E	20	LO	100	N	N	19910429	120300	138	276	36	17
601	66	MEXICO	COAST, VERY DARK	25.5N	109.5W	26.7N	108.9W	10	LO	100	U	N	19910429	130100	139	76	4	18
601	67	MEXICO	COAST, VERY DARK	26.0N	109.0W	26.7N	108.9W	10	LO	100	U	N	19910429	130100	139	76	4	18
601	68	MEXICO	VIEW S. OF COAST, FIRES	23.0N	106.0W	26.7N	108.9W	15	HO	100	U	N	19910429	130100	139	76	4	18
602	1	FRANCE	FR. RIVIERA, LIGURIAN S.	43.0N	6.0E	46.4N	3.9E	30	LO	100	N	N	19910429	132300	138	222	52	18
602	2	FRANCE	GULF OF LIONS, PYRENNES	43.0N	3.0E	46.4N	3.9E	45	HO	100	N	N	19910429	132300	138	222	52	18
602	3	FRANCE	FR. RIVIERA, ALPS, PO V.	43.5N	7.0E	46.4N	3.9E	30	LO	100	N	N	19910429	132300	138	222	52	18
602	4	ITALY	GENOA, PO RIVER VALLEY	44.5N	9.0E	43.8N	8.0E	40	LO	100	N	N	19910429	132400	138	230	51	18
602	5	CORSICA	LIGURIAN SEA, IT. COAST	42.5N	9.0E	43.8N	8.0E	45	HO	100	N	N	19910429	132400	138	230	51	18
602	6	ITALY	WESTERN COAST, CORSICA	42.5N	11.0E	43.8N	8.0E	45	LO	100	N	N	19910429	132400	138	230	51	18
602	7	ITALY	COAST IN ROME VICINITY	42.0N	12.5E	41.1N	11.8E	55	LO	100	N	N	19910429	132500	138	238	51	18
602	8	ITALY	TYRRHENIAN SEA	41.0N	12.0E	41.1N	11.8E	55	LO	100	N	N	19910429	132500	138	238	51	18
602	9	SICILY	VIEW LOOKING WEST	38.0N	12.5E	41.1N	11.8E	60	HO	100	N	N	19910429	132500	138	238	51	18
602	10	SICILY	VIEW LOOKING WEST, MALTA	37.5N	13.5E	38.3N	15.2E	55	HO	100	N	N	19910429	132600	138	245	49	18
602	11	SICILY	VIEW LOOKING WEST	37.5N	15.0E	38.3N	15.2E	60	HO	100	N	N	19910429	132600	138	245	49	18
602	12	SICILY	VIEW LOOKING WEST	37.0N	15.0E	38.3N	15.2E	60	HO	100	N	N	19910429	132600	138	245	49	18
602	13	MEDITERRANEAN SEA	MALTA, AFRICAN COASTLINE	35.0N	14.0E	35.3N	18.3E	25	HO	100	N	N	19910429	132700	138	251	48	18
602	14	LIBYA	AL AKHDAR MTS.	32.0N	21.5E	35.3N	18.3E	35	LO	100	N	N	19910429	132700	138	251	48	18
602	15	LIBYA	BOMBA GULF	32.0N	22.5E	32.3N	21.2E	60	LO	100	N	N	19910429	132800	138	257	46	18
602	16	LIBYA	CLOUDS			32.3N	21.2E	90	LO	100	N	N	19910429	132800	138	257	46	18
602	17	LIBYA	BOMBA GULF	32.5N	22.0E	32.3N	21.2E	55	HO	100	N	N	19910429	132800	138	257	46	18
602	18	LIBYA	BOMBA GULF, AKHDAR MTS.	32.0N	22.0E	29.2N	23.9E	70	HO	100	N	N	19910429	132900	138	262	44	18
602	19	LIBYA	BOMBA GULF, AKHDAR MTS.	31.0N	22.0E	29.2N	23.9E	70	HO	100	N	N	19910429	132900	138	262	44	18
602	20	SUDAN	E. SAHARA DESERT			26.0N	26.5E	40	LO	100	N	N	19910429	133000	138	266	42	18
602	21	SUDAN	NILE R., L. MASSER	21.0N	30.0E	22.7N	28.9E	15	HO	100	N	N	19910429	133100	138	270	40	18
602	22	ETHIOPIA	ETHIOPIAN PLAT., HAZE			6.1N	39.4E	40	LO	100	N	N	19910429	133600	138	283	27	18
602	23	ETHIOPIA	ETHIOPIAN PLAT., HAZE			6.1N	39.4E	45	HO	100	N	N	19910429	133600	138	283	27	18
602	24	SOMALIA	SHUTTLE PAYLOAD BAY			2.7N	41.3E	60	NV	100	N	N	19910429	133700	138	285	24	18
602	25	SOMALIA	BENADIR COAST			2.7N	41.3E	65	HO	100	N	N	19910429	133700	138	285	24	18

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC TL FL E S	DATE	GMT	AL	AZ	SUN EL OR	
602	26	PACIFIC OCEAN	CLOUDS, SUNRISE	21.5N 135.4W	80 HO 100 N	19910429	142900	139	74	-2	19	
602	27	PACIFIC OCEAN	CLOUDS, SUNRISE	27.9N 130.6W	80 HO 100 N	19910429	143100	139	76	5	19	
602	28	PACIFIC OCEAN	APPROACH, CALIF. COAST	31.1N 128.0W	65 HO 100 N	19910429	143200	139	78	8	19	
602	29	PACIFIC OCEAN	APPROACH, CALIF. COAST	31.1N 128.0W	55 HO 100 N	19910429	143200	139	78	8	19	
602	30	PACIFIC OCEAN	APPROACH, CALIF. COAST	35.0N 120.0W	45 HO 100 N	19910429	143200	139	78	8	19	
602	31	PACIFIC OCEAN	CALIF. COAST, CHANNEL IS	33.0N 120.0W	50 HO 100 N	19910429	143200	139	78	8	19	
602	32	USA-CA	SIERRA NEVADA, HAZE	36.0N 118.0W	35 HO 100 N	19910429	143200	139	78	8	19	
602	33	USA-CA	COAST MTS., MONTEREY	36.5N 121.0W	30 LO 100 N	19910429	143300	139	80	11	19	
602	34	USA-CA	SAN FRANCISCO BAY AREA	37.5N 120.5W	15 LO 100 N	19910429	143300	139	80	11	19	
602	35	USA-CA	SAN JOAQUIN VALLEY	37.0N 120.5W	15 LO 100 N	19910429	143300	139	80	11	19	
602	36	USA-CA	SAN JOAQUIN VALLEY	37.0N 121.0W	10 LO 100 N	19910429	143300	139	80	11	19	
602	37	USA-CA	SAN JOAQUIN V., MONO LK.	38.0N 120.0W	37.1N 122.1W	5 LO 100 N	19910429	143400	139	82	14	19
602	38	USA-NV	SIERRA NEVADA, MONO LK.	38.5N 119.0W	37.1N 122.1W	5 LO 100 N	19910429	143400	139	82	14	19
602	39	USA-NV	SIERRA NEVADA, GR. BASIN	37.5N 117.0W	37.1N 122.1W	5 HO 100 N	19910429	143400	139	82	14	19
602	40	USA-CA	VIEW S. SAN JOAQUIN VAL.	35.0N 118.0W	37.1N 122.1W	10 HO 100 N	19910429	143400	139	82	14	19
602	41	USA-CA	VIEW S. SAN JOAQUIN VAL.	35.0N 117.0W	37.1N 122.1W	10 HO 100 N	19910429	143400	139	82	14	19
602	42	USA-CA	VIEW S. SAN JOAQUIN VAL.	34.0N 118.0W	37.1N 122.1W	20 HO 100 N	19910429	143400	139	82	14	19
602	43	USA-CA	VIEW S. SAN JOAQUIN VAL.	36.0N 120.0W	37.1N 122.1W	15 LO 100 N	19910429	143400	139	82	14	19
602	44	USA-CA	VIEW S. SIERRA NEVADA	37.5N 119.0W	37.1N 122.1W	5 LO 100 N	19910429	143400	139	82	14	19
602	45	USA-CA	VIEW S. SIERRA NEVADA	34.0N 117.0W	37.1N 122.1W	10 HO 100 N	19910429	143400	139	82	14	19
602	46	USA-NV	MONO AND WALKER LAKES	38.5N 118.5W	37.1N 122.1W	5 LO 100 N	19910429	143400	139	82	14	19
602	47	USA-NV	VIEW S. GREAT BASIN	35.5N 117.5W	40.0N 118.8W	10 HO 100 N	19910429	143500	139	85	17	19
602	48	USA-ID	SNAKE RIVER VALLEY	42.0N 114.5W	40.0N 118.8W	65 LO 100 N	19910429	143500	139	85	17	19
602	49	USA-ID	SNAKE RIVER VALLEY	42.5N 114.0W	40.0N 118.8W	65 LO 100 N	19910429	143500	139	85	17	19
602	50	CANADA-M	LKS. WINNIPEG, MANITOBA	50.0N 97.5W	47.9N 106.9W	60 HO 100 N	19910429	143800	138	97	26	19
602	51	CANADA-M	LKS. WINNIPEG, MANITOBA	51.0N 97.5W	50.1N 102.1W	50 LO 100 N	19910429	143900	138	103	29	19
602	52	CANADA-M	LAKE WINNIPEG	50.0N 96.0W	50.1N 102.1W	60 HO 100 N	19910429	143900	138	103	29	19
602	53	CANADA-O	VIEW EAST JAMES BAY	54.0N 83.0W	52.1N 96.8W	65 HO 100 N	19910429	144000	138	109	32	19
602	54	CANADA-O	VIEW EAST JAMES BAY	53.0N 82.0W	53.9N 91.1W	40 HO 100 N	19910429	144100	138	115	35	19
602	55	CANADA-Q	JAMES BAY, ICE FLOWS	54.0N 79.0W	53.9N 91.1W	20 HO 100 U	19910429	144100	138	115	35	19
602	56	CANADA-Q	JAMES BAY, ICE FLOWS	54.0N 80.0W	53.9N 91.1W	30 LO 100 U	19910429	144100	138	115	35	19
602	57	CANADA-Q	HUDSON BAY, ICE FLOWS	56.0N 78.0W	55.3N 84.8W	25 LO 100 U	19910429	144200	138	123	37	19
602	58	CANADA-Q	HUDSON BAY, ICE FLOWS	56.0N 77.0W	55.3N 84.8W	20 LO 100 U	19910429	144200	138	123	37	19
602	59	CANADA-Q	LAURENTIAN UPLAND	55.3N 84.8W	55.3N 84.8W	25 HO 100 N	19910429	144200	138	123	37	19
602	60	CANADA-N	CHURCHILL RIVER	53.0N 63.0W	56.3N 78.2W	25 HO 100 N	19910429	144300	138	131	40	19
602	61	CANADA-Q	HOPE MTS., MANICOUGAN LK	53.0N 67.0W	56.3N 78.2W	25 HO 100 N	19910429	144300	138	131	40	19
602	62	CANADA-Q	HOPE MTS., MANICOUGAN LK	52.0N 69.0W	56.9N 71.3W	25 HO 100 N	19910429	144400	138	140	42	19
602	63	CANADA	VIEW NORTH UNGAVA BAY	59.0N 66.0W	57.1N 64.2W	75 HO 100 N	19910429	144500	138	149	44	19
602	64	PORTUGAL	LISBON, SETUBAL BAY	38.5N 9.0W	40.0N 9.6W	45 LO 100 N	19910429	145500	138	240	50	19
602	65	PORTUGAL	LISBON, ST. VINCENT CAPE	37.5N 9.0W	40.0N 9.6W	35 LO 100 N	19910429	145500	138	240	50	19

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
				LAT	LONG	LAT	LONG											
602	66	PORTUGAL	LISBON, CAPE ESPICHEL	38.5N	9.0W	40.0N	9.6W	40	LO	100	N	N	19910429	145500	138	240	50	19
602	67	PORTUGAL	CAPE ST. VINCENT	37.0N	8.5W	40.0N	9.6W	15	LO	100	N	N	19910429	145500	138	240	50	19
603	1	MEXICO	W. COAST, G. OF CALIF.	27.0N	110.0W	31.1N	114.2W	60	LO	100	N	N	19910429	222600	138	257	47	24
603	2	MEXICO	SIERRA MADRE OCCIDENTAL	24.0N	106.0W	31.1N	114.2W	30	HO	100	N	N	19910429	222600	138	257	47	24
603	3	MEXICO	S. BAJA, G. OF CALIF.	24.0N	110.0W	27.9N	111.6W	40	HO	100	N	N	19910429	222700	138	262	46	24
603	4	MEXICO	FIRES, WESTERN MTNS.	23.0N	105.0W	27.9N	111.6W	30	HO	100	N	N	19910430	005800	139	75	2	26
603	5	PAKISTAN	INDUS RIVER VALLEY	29.0N	71.0E	27.3N	69.5E	20	LO	100	U	N	19910430	005800	139	75	2	26
603	6	PAKISTAN	INDUS RIVER VALLEY	30.0N	72.0E	27.3N	69.5E	15	LO	100	U	N	19910430	005800	139	75	2	26
603	7	PAKISTAN	FRONT RANGE OF HIMALAYAS	32.5N	74.5E	30.4N	72.1E	5	LO	100	U	N	19910430	005900	139	76	5	26
603	8	INDIA	VALE OF KASHMIR	33.5N	75.0E	33.5N	74.9E	5	LO	100	U	N	19910430	010000	139	78	8	26
603	9	INDIA	KARAKORAM RANGE	32.0N	79.0E	36.5N	77.9E	5	HO	100	N	N	19910430	010100	139	80	12	26
603	10	CHINA	VIEW W. TAKLA MAKAN DES.	40.0N	79.0E	39.4N	81.2E	25	HO	100	N	N	19910430	010200	139	83	15	26
603	11	CHINA	ALTAI, TIEN SHAN MTS.	44.5N	91.0E	44.9N	88.6E	25	LO	100	N	N	19910430	010400	138	90	21	26
603	12	MONGOLIA	ALTAI MTS., V. OF LAKES	47.5N	93.0E	44.9N	88.6E	0	LO	100	N	N	19910430	010400	138	90	21	26
603	13	USSR-MIDDLE	LAKE BAYKAL, IRKUTSK	53.0N	107.0E	51.7N	102.8E	20	LO	100	N	N	19910430	010700	138	105	30	26
603	14	USSR-MIDDLE	LAKE BAYKAL, ICE FLOWS	53.5N	109.5E	53.8N	109.6E	20	LO	100	N	N	19910430	010800	137	113	33	26
603	15	USSR-MIDDLE	LAKE BAYKAL, ICE FLOWS	54.0N	108.5E	53.8N	109.6E	25	LO	100	N	N	19910430	010800	137	113	33	26
603	16	USSR-MIDDLE	LAKE BAYKAL, ICE FLOWS	54.5N	108.5E	53.8N	109.6E	20	LO	100	N	N	19910430	010800	137	113	33	26
603	17	USSR-MIDDLE	LAKES, PAT. SE. BARNAUL	52.0N	80.5E	52.9N	83.6E	0	LO	100	N	N	19910430	023700	137	109	32	27
603	18	USSR-MIDDLE	KUZNETS MTNS.	54.5N	89.0E	52.9N	83.6E	0	LO	100	N	N	19910430	023700	137	109	32	27
603	19	USSR-MIDDLE	KUZNETS MTNS.	54.5N	86.0E	54.5N	89.5E	5	HO	100	N	N	19910430	023800	137	115	34	27
603	20	USSR-PACIFIC	LENA RIVER, VILYUY PLAIN	61.0N	125.0E	57.1N	109.7E	25	HO	100	N	N	19910430	024100	137	140	42	27
603	21	USSR-PACIFIC	LENA RIVER, VILYUY PLAIN	61.0N	124.0E	57.1N	109.7E	25	HO	100	N	N	19910430	024100	137	140	42	27
603	22	SOCIETY ISLANDS	BORA-BORA, UTUROA IS.	16.5S	151.5W	13.6S	153.9W	30	LO	100	N	N	19910430	030800	137	288	12	27
603	23	PACIFIC OCEAN	VIEW OF MOON			20.3S	149.6W	35	HO	100	U	N	19910430	031000	137	288	5	27
603	24	USSR-PACIFIC	KARMA VORTICES, TATAR S	46.0N	142.0E	45.8N	137.5E	85	LO	100	N	N	19910430	041900	137	219	54	28
603	25	USSR-PACIFIC	KARMA VORTICES, TATAR S			43.2N	141.5E	85	HO	100	N	N	19910430	042000	137	228	53	28
603	26	USSR-PACIFIC	KARMA VORTICES, TATAR S			43.2N	141.5E	85	HO	100	N	N	19910430	042000	137	228	53	28
603	27	JAPAN	TSUGARN STRAIT	41.0N	141.0E	43.2N	141.5E	70	HO	100	N	N	19910430	042000	137	228	53	28
603	28	JAPAN	N. HONSHU ISLAND	38.0N	141.0E	40.4N	145.2E	60	HO	100	N	N	19910430	042100	137	236	53	28
603	29	BURMA	GULF OF MARTABAN	16.0N	97.0E	17.5N	96.7E	30	LO	100	N	N	19910430	085700	137	275	41	31
603	30	THAILAND	BIGHT OF BANGKOK	13.0N	101.0E	14.2N	98.8E	55	HO	100	N	N	19910430	085800	137	278	38	31
603	31	THAILAND	BIGHT OF BANGKOK	13.0N	102.0E	14.2N	98.8E	60	HO	100	N	N	19910430	085800	137	278	38	31
603	32	THAILAND	MALAY PEN., THAILAND G.	7.0N	103.0E	7.5N	102.8E	30	HO	100	N	N	19910430	090000	137	283	32	31
603	33	MALAYSIA	MALAY PEN., THUNDERSTORM	3.0N	104.0E	2.7S	108.6E	40	HO	100	N	N	19910430	090300	137	287	23	31
603	34	INDONESIA	JAVA, THUNDERSTORMS			6.1S	110.6E	55	HO	100	N	N	19910430	090400	137	288	20	31
603	35	INDONESIA	JAVA, THUNDERSTORMS			9.5S	112.6E	60	HO	100	N	N	19910430	090500	137	289	17	31
603	36	INDONESIA	JAVA, THUNDERSTORMS			9.5S	112.6E	55	HO	100	N	N	19910430	090500	137	289	17	31
603	37	BRITAIN	SCOTLAND, MORAY FIRTH	57.5N	2.5W	57.1N	2.7W	40	LO	100	N	N	19910430	100900	137	140	42	32
603	38	BRITAIN	ORKNEY, SHETLAND ISLANDS	59.0N	3.0W	57.1N	2.7W	25	HO	100	N	N	19910430	100900	137	140	42	32

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DFIE	GMT	AL	AZ	SUN EL	OR
603	39	BRITAIN	ORKNEY, SHETLAND, FAROE	60.0N 4.0W	57.1N 2.7W	15	HO	100	N	N	19910430	100900	137	140	42	32
603	40	SWEDEN	GOTLAND IS., BALTIC SEA	57.5N 18.5E	56.6N 11.4E	55	HO	100	N	N	19910430	101100	137	158	47	32
603	41	USSR-EUROPEAN	CLOUDS OVER UKRAINE		52.8N 30.5E	90	HO	100	N	N	19910430	101400	137	187	55	32
603	42	USSR-EUROPEAN	KREMENCHUG RES., DNEPER	49.0N 32.0E	46.4N 45.5E	50	HO	100	N	N	19910430	101700	137	215	54	32
603	43	USSR-EUROPEAN	KREMENCHUG RES., DNEPER	48.0N 32.0E	46.4N 45.5E	60	HO	100	N	N	19910430	101700	137	215	54	32
603	44	USSR-EUROPEAN	KREMENCHUG RES., DNEPER	47.0N 31.0E	46.4N 45.5E	60	HO	100	N	N	19910430	101700	137	215	54	32
603	45	USSR-EUROPEAN	CASPIAN SEA, MAKHACHKALA	44.0N 48.0E	46.4N 45.5E	60	LO	100	N	N	19910430	101700	137	215	54	32
603	46	USSR-EUROPEAN	CAUCASUS MTS., CASPIAN S	43.0N 44.0E	43.8N 49.6E	50	LO	100	N	N	19910430	101800	137	224	54	32
603	47	USSR-EUROPEAN	CAUCASUS MTS., CASPIAN S	43.0N 46.0E	43.8N 49.6E	50	HO	100	N	N	19910430	101800	137	224	54	32
603	48	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	42.5N 52.5E	43.8N 49.6E	45	LO	100	N	N	19910430	101800	137	224	54	32
603	49	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	41.0N 52.0E	41.1N 53.3E	55	LO	100	N	N	19910430	101900	137	232	54	32
603	50	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	40.5N 52.0E	41.1N 53.3E	50	LO	100	N	N	19910430	101900	137	232	54	32
603	51	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	40.0N 53.0E	41.1N 53.3E	55	LO	100	N	N	19910430	101900	137	232	54	32
603	52	USSR-EUROPEAN	CASPIAN SEA, BALKAN RA.	39.0N 54.5E	41.1N 53.3E	45	LO	100	N	N	19910430	101900	137	232	54	32
603	53	IRAN	ELBURZ, KOPEZ MTS.	38.0N 56.0E	41.1N 53.3E	55	LO	100	N	N	19910430	101900	137	232	54	32
603	54	IRAN	ELBURZ, KOPEZ MTS.	37.0N 55.0E	38.2N 56.8E	40	LO	100	N	N	19910430	102000	137	240	53	32
603	55	IRAN	KOPEZ MTS., KARA KUM DES	37.5N 58.0E	38.2N 56.8E	25	HO	100	N	N	19910430	102000	137	240	53	32
603	56	IRAN	KOPEZ MTS.	36.0N 59.5E	38.2N 56.8E	20	LO	100	N	N	19910430	102000	137	240	53	32
603	57	IRAN	DARYACHEN YE SISTAN	31.0N 61.0E	32.2N 62.8E	20	LO	100	N	N	19910430	102200	137	253	51	32
603	58	PAKISTAN	INDUS DELTA, KARACHI	25.5N 66.0E	25.9N 68.0E	15	HO	100	N	N	19910430	102400	137	264	47	32
603	59	INDIA	GULF OF KHAMBHAT	21.0N 71.0E	19.4N 72.7E	15	HO	100	N	N	19910430	102600	137	273	42	32
603	60	INDIA	WESTERN GHATS	14.5N 75.5E	16.1N 74.8E	20	LO	100	N	N	19910430	102700	137	276	40	32
603	61	INDIA	WESTERN GHATS	14.0N 75.5E	16.1N 74.8E	30	LO	100	N	N	19910430	102700	137	276	40	32
603	62	INDIA	WESTERN GHATS	12.0N 75.0E	12.7N 76.9E	35	HO	100	N	N	19910430	102800	137	279	37	32
603	63	INDIA	WESTERN GHATS, S. COAST	10.0N 77.0E	9.4N 78.9E	35	HO	100	N	N	19910430	102900	137	281	34	32
603	64	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		6.0N 80.9E	25	HO	100	N	N	19910430	103000	137	284	31	32
603	65	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		2.6N 82.9E	25	HO	100	N	N	19910430	103100	137	285	28	32
603	66	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		0.8S 84.8E	30	HO	100	N	N	19910430	103200	137	287	25	32
603	67	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		0.8S 84.8E	35	HO	100	N	N	19910430	103200	137	287	25	32
603	68	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		0.8S 84.8E	45	HO	100	N	N	19910430	103200	137	287	25	32
603	69	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		4.2S 86.8E	55	HO	100	N	N	19910430	103300	137	288	22	32
603	70	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		14.3S 92.8E	35	HO	100	N	N	19910430	103600	137	289	13	32
603	71	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS		17.6S 94.9E	80	HO	100	N	N	19910430	103700	137	289	10	32
603	72	VIEW OF MOON			20.9S 97.1E	0	HO	100	N	N	19910430	103800	137	288	6	32
604	1	BRITAIN	LUCE BAY, STRANREAR	55.0N 5.0W	55.7N 8.7W	5	LO	250	N	N	19910501	113400	136	159	48	49
604	2	BULGARIA	BLACK SEA COAST, VARNA	43.0N 28.0E	41.2N 26.6E	20	LO	250	N	N	19910511	114100	136	224	57	49
604	3	TURKEY	DARDANELLES	40.5N 27.0E	41.2N 26.6E	25	LO	250	N	N	19910511	114100	136	224	57	49
604	4	EGYPT	SUEZ CANAL-EL-TINA BAY	30.5N 32.5E	35.4N 33.2E	35	LO	250	N	N	19910511	114300	136	240	57	49
604	5	ISRAEL	HAFIA	32.5N 35.0E	35.4N 33.2E	45	LO	250	N	N	19910511	114300	136	240	57	49
604	6	EGYPT	GAZA STRIP, EL-ARISH	31.0N 34.0E	32.4N 36.1E	45	LO	250	N	N	19910501	114400	136	248	56	49

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	INADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
604	7	EGYPT	SUEZ CANAL, GR. BITTER L	30.5N 32.0E	32.4N 36.1E	35	LO	250	N	N	19910501	114400	136	248	56	49
604	8	EGYPT	SUEZ CANAL, NILE R. VAL.	30.0N 31.5E	32.4N 36.1E	30	LO	250	N	N	19910501	114400	136	248	56	49
604	9	PERSIAN GULF	KUWAIT OIL FIRES/PLUMES	29.0N 49.0E	29.2N 38.8E	5	HO	250	N	N	19910501	114500	137	255	54	49
604	10	KUWAIT	KUWAIT OIL FIRES/PLUMES	30.0N 48.0E	29.2N 38.8E	5	HO	250	N	N	19910501	114500	137	255	54	49
604	11	PERSIAN GULF	KUWAIT OIL FIRES/PLUMES	29.0N 49.5E	29.2N 38.8E	5	HO	250	N	N	19910501	114500	137	255	54	49
604	12	USA-CO	SAN JUAN MTS.	37.5N 107.5W	37.2N 107.1W	5	LO	250	U	N	19910501	125000	136	76	6	50
604	13	USA-CO	COLO. SPRINGS, PIKES PK.	39.0N 105.0W	37.2N 107.1W	5	LO	250	U	N	19910501	125000	136	76	6	50
604	14	USA-CO	PUEBLO	38.5N 104.5W	40.1N 103.8W	0	LO	250	U	N	19910501	125100	136	78	9	50
604	15	USA-NE	NORTH PLATTE RIVER	41.5N 104.0W	40.1N 103.8W	15	LO	250	N	N	19910501	125100	136	78	9	50
604	16	USA-SD	MISSOURI RIVER, L. OAH	44.5N 100.5W	42.9N 100.1W	0	LO	250	N	N	19910501	125200	136	81	13	50
604	17	USA-SD	AREA NORTH SIOUX FALLS	45.0N 98.0W	42.9N 100.1W	10	LO	250	N	N	19910501	125200	136	81	13	50
604	18	USA-MN	CLOUDS, AGRICULTURE	45.5N 96.1W	45.5N 96.1W	85	LO	250	N	N	19910501	125300	136	85	16	50
604	19	USA-MN	CLOUD PATTERNS	45.5N 96.1W	45.5N 96.1W	100	LO	250	N	N	19910501	125300	136	85	16	50
604	20	CANADA	CLOUDS, ICE HUDSON BAY	52.2N 81.6W	52.2N 81.6W	45	LO	250	N	N	19910501	125600	136	99	26	50
604	21	CANADA	CLOUDS, ICE HUDSON BAY	52.2N 81.6W	52.2N 81.6W	45	HO	250	N	N	19910501	125600	136	99	26	50
604	22	FRANCE	TOULON, MARSEILLE	43.5N 5.5E	39.9N 5.6E	0	LO	250	N	N	19910501	131100	135	227	58	50
604	23	FRANCE	TOULON, SHIP WAKES	43.0N 6.0E	39.9N 5.6E	0	LO	250	N	Y	19910501	131100	135	227	58	50
604	24	TUNISIA	QARQANNAH ISLANDS	34.5N 11.5E	37.0N 8.9E	0	LO	250	N	N	19910501	131200	135	236	57	50
604	25	LIBYA	TRIPOLI	33.0N 13.0E	34.0N 11.9E	0	NV	250	N	N	19910501	131300	135	244	56	50
604	26	LIBYA	TRIPOLI	33.0N 13.5E	34.0N 11.9E	0	NV	250	N	Y	19910501	131300	135	244	56	50
604	27	SUDAN	THUNDERSTORMS	7.9N 30.5E	7.9N 30.5E	100	NV	250	N	N	19910501	132100	136	283	39	50
604	28	KENYA	LAKE RUDOLF; RIFT VALLEY	3.5N 36.0E	4.5N 32.5E	10	LO	250	N	N	19910501	132200	136	285	36	50
604	29	KENYA	LAKE RUDOLF; RIFT VALLEY	4.0N 36.0E	4.5N 32.5E	5	LO	250	N	Y	19910501	132200	136	285	36	50
604	30	KENYA	LAKE RUDOLF; RIFT VALLEY	4.0N 36.0E	4.5N 32.5E	15	LO	250	N	Y	19910501	132200	136	285	36	50
604	31	KENYA	L. RUDOLF, OMO R. DELTA	4.5N 36.0E	4.5N 32.5E	30	LO	250	N	Y	19910501	132200	136	285	36	50
604	32	MADAGASCAR	WESTERN COAST	16.5S 44.5E	15.8S 44.4E	25	NV	250	N	N	19910501	132800	136	292	17	50
604	33	USA-WA	COLUMBIA PLATEAU	47.5N 119.5W	44.2N 120.9W	0	NV	250	N	N	19910501	142200	136	83	14	51
604	34	USA-WA	COLUMBIA, SNAKE RIVERS	46.0N 119.0W	44.2N 120.9W	0	NV	250	N	N	19910501	142200	136	83	14	51
604	35	USA-ID	BEND OREILLE LAKE	48.0N 116.5W	46.7N 116.7W	15	NV	250	N	N	19910501	142300	136	86	17	51
604	36	USA-MT	BEAR PAW MTS., MO. R.	48.5N 109.5W	49.1N 112.1W	10	LO	250	N	N	19910501	142400	136	91	21	51
604	37	CANADA-S	N. SASKATCHEWAN RIVER	52.5N 107.5W	51.2N 107.1W	0	LO	250	N	N	19910501	142500	136	96	24	51
604	38	MOROCCO	COAST	35.5N 12.3W	35.5N 12.3W	35	HO	250	N	N	19910501	144200	135	239	57	51
604	39	MOROCCO	COAST, TELL ATLAS MTS.	34.5N 2.0W	32.4N 9.4W	20	HO	250	N	N	19910501	144300	135	247	56	51
604	40	MOROCCO	TELL ATLAS MTS.	34.0N 2.0W	32.4N 9.4W	10	HO	250	N	Y	19910501	144300	135	247	56	51
604	41	MOROCCO	DRY RIVER CHANNEL	33.5N 2.0W	32.4N 9.4W	10	LO	250	N	Y	19910501	144300	135	247	56	51
604	42	MOROCCO	DRY RIVER CHANNEL	33.5N 2.5W	32.4N 9.4W	10	LO	250	N	Y	19910501	144300	135	247	56	51
604	43	MOROCCO	DRY RIVER CHANNEL	33.0N 3.0W	32.4N 9.4W	10	LO	250	N	Y	19910501	144300	135	247	56	51
604	44	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 7.0W	29.3N 6.7W	0	LO	250	N	N	19910501	144400	136	254	55	51
604	45	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 7.0W	29.3N 6.7W	0	LO	250	N	Y	19910501	144400	136	254	55	51
604	46	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 6.5W	29.3N 6.7W	0	NV	250	N	Y	19910501	144400	136	254	55	51

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
604	47	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 6.5W	29.3N 6.7W	0	NV	250	N	Y	19910501	144400	136	254	55	51
604	48	USSR-PACIFIC	COAST, KORYAK RANGE	61.0N 172.0E	56.9N 167.5E	30	LO	250	N	Y	19910501	215700	135	125	37	56
604	49	USSR-PACIFIC	COAST, KORYAK RANGE	61.5N 173.0E	57.1N 174.6E	15	LO	250	N	Y	19910501	215800	135	133	40	56
604	50	USSR-MIDDLE	ARAL SEA, AMUDAR R. DEL.	44.0N 59.5E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12	59
604	51	USSR-MIDDLE	ARAL SEA, CHERNYSH BAY	46.0N 59.5E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12	59
604	52	USSR-MIDDLE	ARAL SEA, SYRDAR R. DEL.	46.0N 61.0E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12	59
604	53	USSR-MIDDLE	NORTHERN ARAL SEA	46.5N 61.0E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12	59
604	54	USSR-MIDDLE	NORTHERN ARAL SEA	46.5N 60.5E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12	59
604	55	USSR-MIDDLE	ARAL SEA, SHEVCHENKO BAY	46.5N 60.0E	46.7N 61.3E	0	NV	250	N	Y	19910502	021900	136	84	16	59
604	56	USSR-MIDDLE	DUST STORM SOURCE	49.0N 63.0E	49.1N 65.9E	30	LO	250	N	Y	19910502	022000	136	88	19	59
604	57	USSR-MIDDLE	ARKALYK, MINING OPS.	50.0N 67.0E	49.1N 65.9E	0	NV	250	N	Y	19910502	022000	136	88	19	59
604	58	USSR-MIDDLE	TENGIZ LAKE	50.5N 69.0E	49.1N 65.9E	5	NV	250	N	Y	19910502	022000	136	88	19	59
604	59	USSR-MIDDLE	IRTYSH RIVER, KACHIRY	53.0N 76.0E	53.1N 76.5E	10	NV	250	N	Y	19910502	022200	135	99	26	59
604	60	USSR-MIDDLE	LAKE BAYKAL	53.5N 107.5E	57.1N 110.4E	20	LO	250	N	Y	19910502	022700	135	137	42	59
604	61	USSR-MIDDLE	LAKE BAYKAL	54.0N 108.5E	57.1N 110.4E	15	LO	250	N	Y	19910502	022700	135	137	42	59
604	62	CHINA	YANGTZE RIVER DELTA	31.5N 122.0E	35.2N 120.7E	10	LO	250	N	Y	19910502	053700	135	236	60	61
604	63	CHINA	HANG-CHOU BAY	30.5N 121.0E	35.2N 120.7E	5	LO	250	N	Y	19910502	053700	135	236	60	61
604	64	EAST CHINA SEA	SEDIMENT PLUME, YANGTZE	32.1N 123.6E	32.1N 123.6E	0	LO	250	N	Y	19910502	053800	135	244	59	61
604	65	EAST CHINA SEA	SEDIMENT PLUME, YANGTZE	32.1N 123.6E	32.1N 123.6E	0	LO	250	N	Y	19910502	053800	135	244	59	61
604	66	CORAL SEA	THUNDERSTORMS	14.4S 153.6E	100 LO 250 N	100	LO	250	N	Y	19910502	055200	135	293	22	61
604	67	CORAL SEA	THUNDERSTORMS	14.4S 153.6E	100 LO 250 N	100	LO	250	N	Y	19910502	055200	135	293	22	61
605	1	CANADA	SHUTTLE PAYLOAD BAY	50.2N 94.0W	80 HO 250 N	80	HO	250	N	Y	19910503	123800	134	84	16	82
605	2	ATLANTIC OCEAN	PAYLOAD BAY, CLOUDS	36.6N 43.3W	40 HO 250 N	40	HO	250	N	Y	19910503	155400	135	219	65	84
605	3	ATLANTIC OCEAN	PAYLOAD BAY, CLOUDS	33.6N 40.3W	40 HO 250 N	40	HO	250	N	Y	19910503	155500	135	229	65	84
605	4	ATLANTIC OCEAN	SUNGLINT, SHIP DUMP	33.6N 40.3W	15 LO 250 N	15	LO	250	N	Y	19910503	155500	135	229	65	84
605	5	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	33.6N 40.3W	20 LO 250 N	20	LO	250	N	Y	19910503	155500	135	229	65	84
605	6	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	30.5N 37.5W	15 LO 250 N	15	LO	250	N	Y	19910503	155600	135	239	65	84
605	7	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	24.1N 32.4W	15 LO 250 N	15	LO	250	N	Y	19910503	155800	135	258	63	84
605	8	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	24.1N 32.4W	15 LO 250 N	15	LO	250	N	Y	19910503	155800	135	258	63	84
605	9	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	24.1N 32.4W	20 LO 250 N	20	LO	250	N	Y	19910503	155800	135	258	63	84
605	10	ATLANTIC OCEAN	CLOUD VORT., CAPE VERDES	15.0N 21.0W	17.5N 27.9W	45	HO	250	N	Y	19910503	160000	135	272	59	84
605	11	ATLANTIC OCEAN	CLOUD VORT., CAPE VERDES	14.0N 21.0W	14.2N 25.8W	55	HO	250	N	Y	19910503	160100	135	277	56	84
605	12	SEA OF OKHOTSK	VIEW N., ICE FLOWS, COAST	57.0N 143.0E	54.0N 140.5E	55	HO	250	N	Y	19910503	213800	139	93	22	88
605	13	USSR-MIDDLE	N. LK. BAYKAL, BRATSK RES	54.0N 107.0E	51.1N 108.7E	50	HO	250	N	Y	19910503	230600	139	84	16	89
605	14	USSR-PACIFIC	DZHUGZHUR RANGE	56.0N 136.0E	57.1N 140.4E	15	LO	250	N	Y	19910503	231100	139	116	34	89
605	15	SEA OF OKHOTSK	ICE FLOW, W. COAST	56.0N 143.0E	57.1N 140.4E	50	HO	250	N	Y	19910503	231100	139	116	34	89
605	16	SEA OF OKHOTSK	ICE FLOW, AMUR R. DELTA	55.0N 143.0E	57.1N 147.5E	45	HO	250	N	Y	19910503	231200	139	123	37	89
605	17	SEA OF OKHOTSK	ICE FLOW, CLOUDS	57.1N 147.5E	60 LO 250 N	60	LO	250	N	Y	19910503	231200	139	123	37	89
605	18	USSR-PACIFIC	TAUYSK GULF, ICE FLOWS	59.0N 153.0E	56.7N 154.5E	40	LO	250	N	Y	199-0503	231300	139	131	41	89
605	19	USSR-PACIFIC	KAMCHATKA PEN., W. COAST	57.0N 156.0E	56.7N 154.5E	35	LO	250	N	Y	19910503	231300	139	131	41	89

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
605	20	USSR-PACIFIC	KAMCHATKA PEN., W. COAST	56.0N 156.5E	56.7N 154.5E	25	LO	250	N	Y	19910503	231300	139	131	41	89
605	21	USSR-MIDDLE	LK. BALKHASH, KARATAL R.	46.5N 77.5E	47.5N 78.2E	0	LO	250	N	N	19910504	003400	139	77	10	90
605	22	USSR-MIDDLE	EASTERN LK. BALKHASH	46.5N 78.5E	47.5N 78.2E	0	LO	250	N	N	19910504	003400	139	77	10	90
605	23	USSR-MIDDLE	LK. ZAYSAN, IRTYSH RIVER	48.5N 83.5E	49.8N 82.9E	0	LO	250	N	N	19910504	003500	139	81	13	90
605	24	USSR-MIDDLE	LK. ZAYSAN, IRTYSH RIVER	49.0N 84.0E	49.8N 82.9E	0	LO	250	N	Y	19910504	003500	139	81	13	90
605	25	USSR-MIDDLE	N. ALTAI MTS.	50.0N 86.0E	49.8N 82.9E	10	NV	250	N	N	19910504	003500	139	81	13	90
605	26	USSR-MIDDLE	LK. TELETSK, SAYAN MTS.	51.0N 87.5E	51.8N 88.1E	15	LO	250	N	N	19910504	003600	139	86	17	90
605	27	PACIFIC OCEAN	CLOUDS, ATMOSPHERIC LIMB	28.0N 176.0E	37.9N 178.6E	45	HO	250	N	N	19910504	005200	142	210	66	90
605	28	USA-HI	PEARL AND HERMES REEF	28.0N 176.0E	37.9N 178.6E	10	LO	250	N	N	19910504	005200	142	210	66	90
605	29		SHUTTLE PAYLOAD BAY	39.7N 24.6W	39.7N 24.6W	0	LO	250	U	N	19910504	063000	142	67	-2	94
605	30	AFGHANISTAN	HINDU KUSH	33.7N 68.9E	33.7N 68.9E	40	NV	250	N	N	19910504	082200	142	221	68	95
605	31	INDIA	EASTERN GHATS, KISTNA R.	15.0N 80.0E	21.0N 79.0E	45	HO	250	N	N	19910504	082600	143	263	65	95
605	32	INDIA	EASTERN GHATS, KISTNA R.	15.0N 79.0E	21.0N 79.0E	20	LO	250	N	N	19910504	082600	143	263	65	95
605	33	INDIA	EASTERN GHATS, PENNER R.	14.5N 80.0E	21.0N 79.0E	5	LO	250	N	N	19910504	082600	143	263	65	95
605	34	INDIA	EASTERN COAST, SH. ARM	21.0N 79.0E	21.0N 79.0E	10	LO	250	N	N	19910504	082600	143	263	65	95
605	35	INDIA	EASTERN GHATS, KISTNA R.	16.0N 81.0E	21.0N 79.0E	65	HO	250	N	N	19910504	082600	143	263	65	95
605	36	INDIA	EASTERN COAST, B. BENGAL	14.4N 83.3E	14.4N 83.3E	55	HO	250	N	N	19910504	082800	143	277	60	95
605	37	IRAN	ZAGROS MTS., AGRICULTURE	33.5N 50.0E	35.9N 43.9E	15	LO	250	N	N	19910504	095100	142	212	67	96
605	38	IRAN	ZAGROS MTS., AGRICULTURE	33.5N 49.0E	35.9N 43.9E	5	LO	250	N	Y	19910504	095100	142	212	67	96
605	39	IRAN	ZAGROS MTS., DEZ R. RES.	33.0N 48.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	40	IRAN	DEZ R. RES., DEZFUL	32.5N 48.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	41	IRAN	AREA N. OF AHVAZ	32.0N 48.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	42	IRAN	RES., LKS. NE OF AHVAZ	32.0N 50.0E	32.9N 46.9E	0	LO	250	N	N	19910504	095200	142	224	68	96
605	43	IRAN	ZAGROS MTS., IZEH	32.0N 50.0E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	44	IRAN	ZAGROS MTS., IZEH	31.5N 50.0E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	45	IRAN	ALLUVIAL FAN, RAMHORMOZ	31.5N 49.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	46	IRAN	ZAGROS MTS.	31.0N 51.0E	32.9N 46.9E	0	LO	250	N	N	19910504	095200	142	224	68	96
605	47	IRAN	ZAGROS MTS.	30.5N 51.0E	29.8N 49.6E	0	LO	250	N	N	19910504	095300	143	235	68	96
605	48	IRAN	RUD-E KOR RIVER, RESER.	30.0N 52.0E	29.8N 49.6E	0	LO	250	N	N	19910504	095300	143	235	68	96
605	49	IRAN	RUD-E KOR RIVER, RESER.	30.0N 52.0E	29.8N 49.6E	0	LO	250	N	Y	19910504	095300	143	235	68	96
605	50	IRAN	POINT MAY BAND, ZAGROS	27.5N 52.5E	29.8N 49.6E	5	NV	250	N	N	19910504	095300	143	235	68	96
605	51	IRAN	LAVAN IS., ZAGROS MTS.	27.0N 53.0E	29.8N 49.6E	0	NV	250	N	Y	19910504	095300	143	235	68	96
605	52	IRAN	LAVAN IS., ZAGROS MTS.	26.5N 53.5E	29.8N 49.6E	0	NV	250	N	Y	19910504	095300	143	235	68	96
605	53	IRAN	KISH ISLAND, ZAGROS MTS.	26.5N 54.0E	29.8N 49.6E	0	NV	250	N	Y	19910504	095300	143	235	68	96
605	54	IRAN	KISH ISLAND, ZAGROS MTS.	26.5N 54.0E	26.6N 52.2E	0	NV	250	N	Y	19910504	095400	143	246	67	96
605	55	PERSIAN GULF	QESHM, TUNB ISLANDS	26.5N 55.0E	26.6N 52.2E	5	LO	250	N	N	19910504	095400	143	246	67	96
605	56	UNITED ARAB EMIRATES	DUBAI	25.5N 55.5E	26.6N 52.2E	0	LO	250	N	N	19910504	095400	143	246	67	96
605	57	UNITED ARAB EMIRATES	DUBAI	25.5N 55.5E	26.6N 52.2E	0	LO	250	N	Y	19910504	095400	143	246	67	96
605	58	UNITED ARAB EMIRATES	DESERT AREA S. OF DUBAI	24.0N 55.5E	26.6N 52.2E	0	LO	250	N	N	19910504	095400	143	246	67	96
605	59	ATLANTIC OCEAN	CLOUD FORMATIONS	24.0N 55.5E	26.6N 52.2E	70	HO	250	N	N	19910504	155800	142	285	57	100

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
605	60	ATLANTIC OCEAN	CLOUD FORMATIONS		9.4N 27.5W	70	HO	250	N	N	19910504	158800	142	285	57	100
605	61	PACIFIC OCEAN	CLOUD FORMATIONS		50.0N 167.2W	75	HO	250	N	N	19910504	170200	141	79	12	101
605	62	CANADA-0	NOTTAWASAGA BAY, MIDLAND	44.5N 79.5W	45.6N 82.4W	10	LO	250	N	N	19910504	171600	141	175	61	101
605	63	CANADA-0	LK. SIMCOE, BARRIE	44.5N 79.5W	45.6N 82.4W	5	LO	250	N	Y	19910504	171600	141	175	61	101
605	64	CANADA-0	LK. SIMCOE, BALSAM LK.	44.5N 79.0W	45.6N 82.4W	0	LO	250	N	Y	19910504	171600	141	175	61	101
605	65	CANADA-0	HAMILTON, LK. ONTARIO	43.0N 80.0W	45.6N 82.4W	0	LO	250	N	N	19910504	171600	141	175	61	101
606	1		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	2		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	3		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	4		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	5		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	6		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	7		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	8		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	9		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	10		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	11		SHUTTLE PAYLOAD BAY				HO	250	N	N						
606	12		ATMOSPHERIC LIMB				HO	250	N	N						
606	13	INDIA	DUST STORM				15	LO	100	N	N					
606	14	INDIA	LAND USE, RIVER CHANNELS				5	LO	100	N	N					
606	15	INDIA	LAND USE, RIVER CHANNELS				10	LO	100	N	N					
606	16	INDIA	LAND USE, RIVER CHANNELS				15	LO	100	N	N					
606	17	INDIA	MAHANADI R., HIRAKUD RES	21.5N 82.5E			20	LO	100	N	N					
606	18	INDIA	CHILKA LK., BERHAMPUR	19.0N 84.5E			20	LO	100	N	N					
606	19	INDIAN OCEAN	SUNGLINT, CLOUDS				20	LO	100	N	N					
606	20	INDIAN OCEAN	SUNGLINT, INT. WAVES				20	LO	100	N	N					
606	21	INDIAN OCEAN	SUNGLINT, CLOUDS				25	LO	100	N	N					
606	22	INDIAN OCEAN	SUNGLINT, CLOUDS				25	LO	100	N	N					
606	23	AUSTRALIA-WA	EXMOUTH GULF, LK. MACLEOD	24.0S 114.0E			35	HO	100	N	N					
606	24	AUSTRALIA-WA	LK. MACLEOD, SHARK BAY	25.5S 114.0E			65	HO	100	N	N					
606	25	AUSTRALIA-WA	SHARK BAY, THUNDERSTORMS	26.5S 114.5E			65	HO	100	N	N					
606	26	AUSTRALIA-WA	WEST COAST, THUNDERSTORMS				85	HO	100	N	N					
606	27	OCEAN	CLOUDS, PLUMES				50	HO	100	N	N					
606	28	USSR-EUROPEAN	AGRICULTURE, UKRAINE				70	LO	100	N	N					
606	29	USSR-EUROPEAN	AGRICULTURE, UKRAINE				75	LO	100	N	N					
606	30	USSR-EUROPEAN	KARKINITSK GULF, ODESSA	46.0N 32.0E			55	HO	100	N	N					
606	31	USSR-EUROPEAN	KARKINITSK GULF, CRIMEA	46.0N 34.0E			45	LO	100	N	N					
606	32	USSR-EUROPEAN	CRIMEA, SEA OF AZOV	45.5N 35.0E			40	LO	100	N	N					
606	33	USSR-EUROPEAN	KERCH STRAIT, BLACK SEA	45.0N 37.0E			40	LO	100	N	N					
606	34	USSR-EUROPEAN	PT. PITTSUNDA, SOCHI	43.0N 40.0E			30	LO	100	N	N					

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR		
606	35	BLACK SEA	EDDIES OFF COAST TURKEY	41.5N 40.0E		35	LO	100	N	N								
606	36	USSR-EUROPEAN	SED. PLUME NEAR BATUMI	41.5N 41.5E		45	LO	100	N	N								
606	37	TURKEY	LAKE VAN	39.0N 43.5E		30	LO	100	N	N								
606	38	IRAN	LAKE URMIA	38.0N 46.0E		25	LO	100	N	N								
606	39	IRAN	ZAGROS MTNS.	36.0N 47.0E		5	LO	100	N	N								
606	40	IRAN	ZAGROS MTNS.	34.0N 49.0E		10	LO	100	N	N								
606	41	IRAN	ZAGROS MTNS., ARAK	34.0N 50.0E		30	LO	100	N	N								
606	42	IRAN	ZAGROS MTNS., ARAK	33.5N 50.5E		35	LO	100	N	N								
606	43	IRAN	ZAGROS MTNS.	33.0N 51.0E		60	LO	100	N	N								
606	44	IRAN	ZAGROS MTNS.	32.5N 51.5E		65	LO	100	N	N								
606	45	IRAN	MASJED SOIYMAN RESER.	32.0N 50.0E		55	LO	100	N	N								
606	46	IRAN	MASJED SOIYMAN RESER.	31.5N 49.5E		40	LO	100	N	N								
606	47	IRAN	ZAGROS MTNS., QESHM IS.	28.0N 55.0E		15	LO	100	N	N								
606	48	IRAN	STRAIT OF HORMUZ, QESHM I	27.0N 56.0E		5	LO	100	N	Y								
606	49	OMAN	STRAIT OF HORMUZ, QESHM I	26.0N 56.5E		5	LO	100	N	Y								
606	50	IRAN	STRAIT OF HORMUZ, ZAGROS	26.0N 57.5E		5	LO	100	N	Y								
606	51	GULF OF OMAN	SHIP WAKES, SPIRAL EDDY	25.0N 56.5E		0	LO	100	N	Y								
606	52	GULF OF OMAN	SHIP WAKES, INT. WAVES	24.5N 58.0E		10	LO	100	N	Y								
606	53	OMAN	SHIP WAKES, OMAN MTS.	23.5N 58.5E		10	LO	100	N	Y								
606	54	OMAN	WAHIBAH SANDS, OMAN MTS.	22.5N 59.0E		5	LO	100	N	Y								
606	55	OMAN	WAHIBAH SANDS	22.0N 60.0E		10	LO	100	N	Y								
606	56	OMAN	WAHIBAH SANDS, MASIRAH IS	21.0N 59.0E		25	LO	100	N	Y								
606	57	ARABIAN SEA	JET STREAM CLOUDS			45	LO	100	N	N								
606	58	USA-FL	ORLANDO, KSC	28.5N 81.0W		25	LO	100	N	N								
606	59	USA-FL	ORLANDO, KSC	28.5N 80.5W		35	LO	100	N	Y								
606	60	USA-FL	FT. MEYERS	26.5N 82.0W		30	LO	100	N	N								
606	61	USA-FL	LK. OKEECHOBEE	27.0N 80.5W		35	LO	100	N	N								
606	62	USA-FL	SW COAST, SEDIMENT PLUME	26.0N 81.5W		55	LO	100	N	N								
607	1	CANADA	GRAND MANAN IS., JET ST.		45.6N	69.5W	80	HO	100	N	N	19910430	113100	138	89	20	33	
607	2	CANADA	GRAND MANAN IS., JET ST.		45.6N	69.5W	80	HO	100	N	N	19910430	113100	138	89	20	33	
607	3	CANADA-NB	CHALEUR BAY, SHIPPEGAN I	47.0N	66.0W	48.0N	65.1W	45	HO	100	N	N	19910430	113200	138	94	23	33
607	4	CANADA-PEI	NORTHUMBERLAND STRAIT	46.5N	64.0W	48.0N	65.1W	45	HO	100	N	N	19910430	113200	138	94	23	33
607	5	CANADA-Q	GASPE PEN., NOTRE DAME M	48.5N	65.0W	48.0N	65.1W	20	LO	100	N	N	19910430	113200	138	94	23	33
607	6	CANADA-Q	ANTICOSTIA ISLAND	49.0N	62.0W	48.0N	65.1W	0	LO	100	N	N	19910430	113200	138	94	23	33
607	7	CANADA-Q	ANTICOSTIA ISLAND	49.5N	64.0W	48.0N	65.1W	25	HO	100	N	N	19910430	113200	138	94	23	33
607	8	CANADA-Q	GULF OF SAINT LAWRENCE	49.0N	61.0W	48.0N	65.1W	5	LO	100	N	N	19910430	113200	138	94	23	33
607	9	CANADA	PR. EDWARD I., NOVA SCOT	44.0N	63.0W	50.2N	60.3W	30	HO	100	N	N	19910430	113300	137	99	26	33
607	10	CANADA	G. ST. LAW., ANTICOSTIA	48.0N	63.0W	50.2N	60.3W	35	HO	100	N	N	19910430	113300	137	99	26	33
607	11	ATLANTIC OCEAN	CON TRAILS		57.1N	22.3W	55	LO	100	N	N	19910430	113900	137	143	43	33	
607	12	ATLANTIC OCEAN	CON TRAILS		56.9N	15.2W	55	HO	100	N	N	19910430	114000	137	153	45	33	

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
607	13	BRITAIN	NE SCOTLAND, MORAY FIRTH	56.0N 3.0W	55.2N 1.7W	55	LO	100	N	N	19910430	114200	137	172	49	33
607	14	BRITAIN	NE SCOTLAND, ORKNEY IS.	57.0N 3.0W	55.2N 1.7W	40	HO	100	N	N	19910430	114200	137	172	49	33
607	15	EUROPE	CLOUDS		52.0N 10.2E	95	LO	100	N	N	19910430	114400	137	191	52	33
607	16	EUROPE	HUNGARY, YUGOSLAVIA AREA		47.7N 20.2E	80	LO	100	N	N	19910430	114600	137	210	54	33
607	17	TURKEY	PONTIC MTNS.		39.9N 32.1E	70	LO	100	N	N	19910430	114900	137	235	54	33
607	18	TURKEY	PONTIC MTNS., L. AKSEHIR	39.5N 31.0E	39.9N 32.1E	60	LO	100	N	N	19910430	114900	137	235	54	33
607	19	TURKEY	KONYA PL., TUZ LAKE	39.0N 33.0E	39.9N 32.1E	30	LO	100	N	N	19910430	114900	137	235	54	33
607	20	TURKEY	KONYA PL., TUZ LAKE	38.0N 32.0E	39.9N 32.1E	35	HO	100	N	N	19910430	114900	137	235	54	33
607	21	TURKEY	KONYA PL., TUZ LAKE	37.0N 31.0E	37.0N 35.4E	55	HO	100	N	N	19910430	115000	137	242	53	33
607	22	TURKEY	G. OF ALEXANDRIA, NUR MT	37.0N 36.0E	37.0N 35.4E	55	LO	100	N	N	19910430	115000	137	242	53	33
607	23	TURKEY	TAURIS, NUR MTNS.	38.0N 36.0E	37.0N 35.4E	60	LO	100	N	N	19910430	115000	137	242	53	33
607	24	TURKEY	NUR MTS., EUPHARTES R. R	37.0N 37.0E	37.0N 35.4E	65	HO	100	N	N	19910430	115000	137	242	53	33
607	25	IRAQ	VIEW NE TOWARD BAGHDAD	33.0N 44.0E	30.9N 41.3E	80	HO	100	N	N	19910430	115200	137	256	50	33
607	26	SAUDI ARABIA	VIEW NE TOWARD KUWAIT	28.0N 48.0E	24.5N 46.4E	70	HO	100	N	N	19910430	115400	137	266	46	33
607	27	SAUDI ARABIA	AN MAFUD DES., IRRIGAT.		24.5N 46.4E	50	LO	100	N	N	19910430	115400	137	266	46	33
607	28	SAUDI ARABIA	VIEW EAST TOWARD QATAR	26.0N 51.0E	21.3N 48.7E	20	HO	100	N	N	19910430	115500	137	270	44	33
607	29	SAUDI ARABIA	VIEW EAST TOWARD QATAR	25.0N 51.0E	21.3N 48.7E	15	HO	100	N	N	19910430	115500	137	270	44	33
607	30	SOCOTRA	ARABIAN SEA	12.5N 54.0E	14.6N 53.0E	55	LO	100	N	N	19910430	115700	137	277	39	33
607	31	SOCOTRA	ARABIAN SEA	13.0N 55.0E	14.6N 53.0E	45	LO	100	N	N	19910430	115700	137	277	39	33
607	32	INDIAN OCEAN	THUNDERSTORMS		9.0S 66.8E	45	HO	100	N	N	19910430	120400	137	289	18	33
607	33	INDIAN OCEAN	THUNDERSTORMS		12.4S 68.9E	40	HO	100	N	N	19910430	120500	137	289	15	33
607	34	INDIAN OCEAN	THUNDERSTORMS		12.4S 68.9E	35	HO	100	N	N	19910430	120500	137	289	15	33
607	35	INDIAN OCEAN	CLOUDS, SUNGLINT		15.8S 70.9E	40	HO	100	N	N	19910430	120600	137	289	12	33
607	36	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		40.8S 92.3E	0	HO	100	N	N	19910430	121400	137	277	-14	33
607	37	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		40.8S 92.3E	0	HO	100	N	N	19910430	121400	137	277	-14	33
607	38	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		40.8S 92.3E	0	HO	100	N	N	19910430	121400	137	277	-14	33
607	39	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		43.5S 96.0E	0	HO	100	N	N	19910430	121500	137	274	-18	33
607	40	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		43.5S 96.0E	0	HO	100	N	N	19910430	121500	137	274	-18	33
607	41	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		43.5S 96.0E	0	HO	100	N	N	19910430	121500	137	274	-18	33
607	42	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		43.5S 96.0E	0	HO	100	N	N	19910430	121500	137	274	-18	33
607	43	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET		43.5S 96.0E	0	HO	100	N	N	19910430	121500	137	274	-18	33
607	44	USA-KS	MISSOURI R., KANSAS CITY	39.0N 95.0W	41.5N 98.2W	20	HO	100	N	N	19910430	125900	137	83	15	34
607	45	USA-NE	MISSOURI R., KANSAS CITY	40.0N 95.5W	41.5N 98.2W	45	HO	100	N	N	19910430	125900	137	83	15	34
607	46	USA-KS	MISSOURI R., KANSAS CITY	39.5N 95.5W	41.5N 98.2W	35	HO	100	N	N	19910430	125900	137	83	15	34
607	47	USA-MI	LAKES HURON, MICHIGAN	44.0N 85.0W	46.7N 90.2W	70	HO	100	N	N	19910430	130100	137	91	21	31
607	48	USA-MI	LAKES HURON, MICHIGAN	44.0N 84.0W	46.7N 90.2W	60	HO	100	N	N	19910430	130100	137	91	21	34
607	49		IN CABIN VIEW		49.1N 85.6W	0	LO	100	N	N	19910430	130200	137	96	24	34
607	50		IN CABIN VIEW		49.1N 85.6W	0	LO	100	N	N	19910430	130200	137	96	24	34
607	51	CANADA	L. HURON, OJT OF FOCUS	45.0N 82.0W	49.1N 85.6W	75	HO	100	N	N	19910430	130200	137	96	24	34
607	52	CANADA	CLOUDS, OUT OF FOCUS		51.2N 80.6W	90	HO	100	N	N	19910430	130300	137	101	28	34

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	S ^u	CL	OR
607	53	SPAIN	E. PYRENEES, OUT OF FOCUS	42.0N 2.0E	44.0N 3.8E	50	LO	100	N	N	19910430	131700	136	222	51	51	34
607	54	SPAIN	E. PYRENEES, OUT OF FOCUS	42.0N 3.0E	44.0N 3.8E	45	LO	100	N	N	19910430	131700	136	222	55	51	34
607	55	BALEARIC ISLANDS	MAJORCA, OUT OF FOCUS	40.0N 3.0E	44.0N 3.8E	25	HO	100	N	N	19910430	131700	136	222	55	51	34
607	56	BALEARIC ISLANDS	MAJORCA, OUT OF FOCUS	39.5N 4.0E	44.0N 3.8E	15	HO	100	N	N	19910430	131700	136	222	55	51	34
607	57	BALEARIC ISLANDS	MAJORCA, OUT OF FOCUS	39.0N 3.0E	44.0N 3.8E	20	HO	100	N	N	19910430	131700	136	222	55	51	34
607	58	SARDINIA	SW COAST, OUT OF FOCUS	39.5N 8.5E	41.3N 7.5E	40	LO	100	N	N	19910430	131800	136	230	54	51	34
607	59	TUNISIA	TUNIS, OUT OF FOCUS	37.0N 11.0E	38.5N 11.0E	20	LO	100	N	N	19910430	131900	136	238	54	51	34
607	60	TUNISIA	G. OF GABES, OUT OF FOCUS	35.0N 11.0E	38.5N 11.0E	20	LO	100	N	N	19910430	131900	136	238	54	51	34
607	61	TUNISIA	G. OF GABES, OUT OF FOCUS	33.0N 11.0E	38.5N 11.0E	15	LO	100	N	N	19910430	131900	136	238	54	51	34
607	62	LIBYA	COAST, OUT OF FOCUS	32.5N 15.0E	35.5N 14.2E	15	LO	100	N	N	19910430	132000	137	245	53	51	34
607	63	LIBYA	COAST, OUT OF FOCUS	31.0N 16.0E	32.5N 17.1E	10	LO	100	N	N	19910430	132100	137	252	51	51	34
607	64	LIBYA	COAST, OUT OF FOCUS	31.0N 16.5E	32.5N 17.1E	15	LO	100	N	N	19910430	132100	137	252	51	51	34
607	65	LIBYA	COAST, OUT OF FOCUS	31.0N 17.0E	32.5N 17.1E	15	LO	100	N	N	19910430	132100	137	252	51	51	34
607	66	LIBYA	G. OF SIDRA, OUT OF FOCUS	30.5N 18.0E	32.5N 17.1E	20	LO	100	N	N	19910430	132100	137	252	51	51	34
607	67	LIBYA	G. OF SIDRA, OUT OF FOCUS	30.0N 19.0E	29.4N 19.8E	15	LO	100	N	N	19910430	132200	137	258	50	51	34
607	68	LIBYA	CLOUDS, OUT OF FOCUS		29.4N 19.8E	80	LO	100	N	N	19910430	132200	137	258	50	51	34
607	69	EGYPT	DUST STORM, OUT OF FOCUS	22.0N 25.0E	23.0N 24.7E	5	LO	100	N	N	19910430	132400	137	268	45	51	34
607	70	EGYPT	DUST STORM, OUT OF FOCUS	22.5N 25.5E	23.0N 24.7E	5	LO	100	N	N	19910430	132400	137	268	45	51	34
607	71	SUDAN	NILE RIVER, OUT OF FOCUS	20.0N 30.0E	19.7N 27.0E	5	HO	100	N	N	19910430	132500	137	272	43	51	34
607	72	SUDAN	NILE RIVER, OUT OF FOCUS	19.0N 31.0E	16.4N 29.2E	0	HO	100	N	N	19910430	132600	137	276	41	51	34
608	1		SHUTTLE PAYLOAD BAY		40.5N 16.0W	0	250	N	N	N	19910502	064500	136	76	7	62	62
608	2		SHUTTLE PAYLOAD BAY		40.5N 16.0W	0	250	N	N	N	19910502	064500	136	76	7	62	62
608	3		SHUTTLE PAYLOAD BAY		43.2N 12.4W	0	250	N	N	N	19910502	064600	135	79	10	62	62
608	4		SHUTTLE PAYLOAD BAY		43.2N 12.4W	0	250	N	N	N	19910502	064600	135	79	10	62	62
608	5		SHUTTLE PAYLOAD BAY		56.4N 25.2E	0	250	N	N	N	19910502	065300	135	116	34	62	62
608	6		BLACK		55.0N 59.8E	0					19910502	065800	135	158	49	62	62
608	7		BLACK		51.8N 71.6E	0					19910502	070000	135	176	54	62	62
608	8		BLACK		49.7N 76.8E	0					19910502	070100	135	185	56	62	62
608	9		BLACK		49.7N 76.8E	0					19910502	070100	135	185	56	62	62
608	10		BLACK		49.7N 76.8E	0					19910502	070100	135	185	56	62	62
608	11		BLACK		26.0S 138.8E	0					19910502	072500	135	292	10	62	62
608	12		BLACK		26.0S 138.8E	0					19910502	072500	135	292	10	62	62
608	13		BLACK		48.5N 56.6E	0					19910502	083100	135	189	57	63	63
608	14		BLACK		48.5N 56.6E	0					19910502	083100	135	189	57	63	63
608	15		BLACK		12.4N 92.4E	0					19910502	084300	136	279	47	63	63
608	16		BLACK		12.4N 92.4E	0					19910502	084300	136	279	47	63	63
608	17		BLACK		12.4N 92.4E	0					19910502	084300	136	279	47	63	63
608	18		BLACK		5.7N 96.4E	0					19910502	084500	136	285	42	63	63
608	19		BLACK		2.3N 98.3E	0					19910502	084600	136	288	39	63	63
608	20		BLACK		21.3S 112.6E	0					19910502	085300	135	293	15	63	63

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LONG	CC	IL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
608	21		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63
608	22		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63
608	23		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63
608	24		BLACK			24.5S	114.9E	0					19910502	085400	135	293	12	63
608	25		BLACK			24.5S	114.9E	0					19910502	085400	135	293	12	63
608	26		BLACK			27.7S	117.3E	0					19910502	085500	135	292	8	63
608	27		BLACK			27.7S	117.3E	0					19910502	085500	135	292	8	63
608	28		BLACK			27.7S	117.3E	0					19910502	085500	135	292	8	63
608	29		BLACK			30.9S	120.0E	0					19910502	085600	135	291	5	63
608	30		BLACK			34.0S	122.8E	0					19910502	085700	135	289	1	63
608	31		BLACK			56.8N	1.2E	0					19910502	095500	135	140	43	64
608	32		BLACK			51.7N	26.4E	0					19910502	095900	135	175	54	64
608	33	USSR	THUNDERSTORMS, V. DARK			42.1N	44.4E	75	NV	250	O	N	19910502	100300	135	212	60	64
608	34		BLACK			30.3N	57.0E	0					19910502	100700	136	248	59	64
608	35		BLACK			10.7N	70.7E	0					19910502	101300	136	281	46	64
608	36		BLACK			7.3N	72.7E	0					19910502	101400	136	284	43	64
608	37		BLACK			7.3N	72.7E	0					19910502	101400	136	284	43	64
608	38		BLACK			7.3N	72.7E	0					19910502	101400	136	284	43	64
608	39		BLACK			43.4N	20.0E	0					19910502	113200	135	207	60	65
608	40		BLACK			40.7N	23.7E	0					19910502	113300	135	216	61	65
608	41		BLACK			40.7N	23.7E	0					19910502	113300	135	216	61	65
608	42		BLACK			49.5N	13.5W	0					19910502	125900	135	183	56	66
608	43	SPAIN	DUERO RIVER VALLEY			42.0N	0.7W	60	LO	250	N	N	19910502	130200	135	211	60	66
608	44	FRANCE	GARONNE RIVER MOUTH	43.0N	2.0E	39.2N	2.8E	75	LO	250	N	N	19910502	130300	135	221	61	66
608	45	ALGERIA	MELHIR CHOTT	34.5N	6.5E	36.2N	6.0E	5	LO	250	N	N	19910502	130400	135	230	61	66
608	46	TUNISIA	NE ERG ORIENTAL	32.5N	10.0E	33.2N	9.0E	0	NV	250	N	N	19910502	130500	135	239	61	66
608	47	LIBYA	ZEGHER PLATEAU, DUNES	28.0N	13.0E	30.1N	11.8E	0	NV	250	N	N	19910502	130600	135	248	60	66
608	48	LIBYA	MARZUCHIA SANDDUNES	26.0N	15.0E	30.1N	11.8E	0	NV	250	N	N	19910502	130600	135	248	60	66
608	49	AFRICA	CONGO R. BASIN LARGE T/S			7.0N	27.4E	100	LO	250	N	N	19910502	131300	135	285	44	66
608	50	UGANDA	LAKE ALBERT, RIFT VALLEY	1.5N	31.0E	0.3N	31.3E	40	LO	250	N	N	19910502	131500	135	289	38	66
608	51	MOZAMBIQUE CHANNEL	CLOUDS			9.9S	37.2E	35	HO	250	N	N	19910502	131800	135	293	28	66
608	52	MOZAMBIQUE	PORT AMELIA	13.0S	40.5E	9.9S	37.2E	15	LO	250	N	N	19910502	131800	135	293	28	66
608	53	MOZAMBIQUE	FERNAO VELOSO BAY	14.5S	40.5E	9.9S	37.2E	15	LO	250	N	N	19910502	131800	135	293	28	66
608	54	MADAGASCAR	MANGOKY RIVER MOUTH	21.5S	43.5E	13.3S	39.2E	45	HO	250	N	N	19910502	131900	135	294	24	66
608	55	MOZAMBIQUE CHANNEL	JUAN DE NOVA ISLAND	17.0S	43.0E	13.3S	39.2E	15	LO	250	N	N	19910502	131900	135	294	24	66
608	56	MADAGASCAR	MANGOKY R. D., L. IHOTRY	21.5S	43.5E	16.6S	41.3E	10	NV	250	N	N	19910502	132000	135	294	21	66
608	57		BLACK			26.4S	48.2E	0					19910502	132300	135	293	11	66
608	58	PERU	LAKE TITICACA	16.0S	69.5W	12.1S	75.1W	15	LO	250	N	N	19910502	204600	135	295	27	71
608	59	PERU	LAKE TITICACA	15.5S	70.0W	12.1S	75.1W	15	LO	250	N	Y	19910502	204600	135	295	27	71
608	60	BOLIVIA	LAKE TITICACA	16.5S	69.0W	15.5S	73.0W	15	LO	250	N	Y	19910502	204700	135	295	24	71

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
608	61		SHUTTLE PAYLOAD EXPER.	7.4S 100.7W	7.4S 100.7W	0	250	N	N	N	19910502	221400	135	293	32	72
608	62		SHUTTLE PAYLOAD EXPER.	7.4S 100.7W	7.4S 100.7W	0	250	N	N	N	19910502	221400	135	293	32	72
608	63		SHUTTLE PAYLOAD EXPER.	24.0S 90.0W	24.0S 90.0W	0	250	N	N	N	19910502	221900	134	295	15	72
608	64		SHUTTLE PAYLOAD EXPER.	24.0S 90.0W	24.0S 90.0W	0	250	N	N	N	19910502	221900	134	295	15	72
608	65		SHUTTLE PAYLOAD EXPER.	24.0S 90.0W	24.0S 90.0W	0	250	N	N	N	19910502	221900	134	295	15	72
608	66	PACIFIC OCEAN	SHUTTLE PAYLOAD EXPER.	27.2S 87.6W	27.2S 87.6W	0	250	N	N	N	19910502	222000	134	294	11	72
608	67	PACIFIC OCEAN	SHUTTLE PAYLOAD EXPER.	36.5S 79.2W	36.5S 79.2W	75	HO	250	N	N	19910502	222300	134	290	1	72
608	68	PACIFIC OCEAN	SHUTTLE PAYLOAD EXPER.	36.5S 79.2W	36.5S 79.2W	75	HO	250	N	N	19910502	222300	134	290	1	72
608	69		IN CABIN VIEW, ASTRONAUT	36.5S 79.2W	36.5S 79.2W	0	250	U	N	N	19910502	222300	134	290	1	72
608	70		IN CABIN VIEW, ASTRONAUT	36.5S 79.2W	36.5S 79.2W	0	250	U	N	N	19910502	222300	134	290	1	72
609	1	USSR-PACIFIC	KAMCHATKA, KLYUCHEVSK V.	56.0N 160.0E	55.1N 161.4E	10	LO	250	N	N	19910504	231000	141	137	45	105
609	2	USSR-PACIFIC	KAMCHATKA, KRONOTSK PEN.	54.5N 161.5E	55.1N 161.4E	25	LO	250	N	N	19910504	231000	141	137	45	105
609	3	USSR-PACIFIC	KAMCHATKA, SHIPUNSK PEN.	53.0N 160.0E	55.1N 161.4E	15	LO	250	N	N	19910504	231000	141	137	45	105
609	4	USA-HI	PEARL AND HERMES REEF	28.0N 176.0W	29.7N 178.1W	5	LO	250	N	N	19910505	005000	142	229	71	106
609	5	USA-HI	LISIANSKI IS., NEVA SHOAL	26.0N 174.0W	26.5N 175.5W	5	NV	250	N	N	19910505	005100	142	242	70	106
609	6	USA-HI	LISIANSKI IS., NEVA SHOAL	26.0N 174.0W	26.5N 175.5W	5	NV	250	Y	N	19910505	005100	142	242	70	106
609	7	KOREA	SE COAST, BANGEQJIN	35.5N 129.5E	39.9N 126.2E	0	NV	250	N	N	19910505	034600	141	188	66	108
609	8	JAPAN	SHIMOSEKI STRAIT	34.0N 131.5E	37.0N 129.5E	0	LO	250	N	N	19910505	034700	141	199	68	108
609	9	JAPAN	KUJU, ASO VOLCANOES	33.5N 131.0E	37.0N 129.5E	0	LO	250	N	N	19910505	034700	141	199	68	108
609	10	JAPAN	HIROSHIMA, KURE	34.0N 132.5E	37.0N 129.5E	0	LO	250	N	N	19910505	034700	141	199	68	108
609	11	JAPAN	INLAND SEA	34.5N 133.5E	37.0N 129.5E	0	LO	250	N	N	19910505	034700	141	199	68	108
609	12	JAPAN	TOSA BAY	33.5N 133.5E	37.0N 129.5E	0	LO	250	N	N	19910505	034700	141	199	68	108
609	13	AUSTRALIA-Q	GREAT BARRIER REEF	12.5S 143.5E	13.3S 140.7E	15	LO	250	N	N	19910505	053200	141	302	37	109
609	14	AUSTRALIA-Q	CAIRNS, CAPE GRAFTON	17.0S 146.0E	16.7S 142.8E	35	LO	250	N	N	19910505	053300	141	303	33	109
609	15	AUSTRALIA-Q	CAPE MELVILLE AREA	14.5S 144.5E	16.7S 142.8E	40	LO	250	N	N	19910505	053300	141	303	33	109
609	16	AUSTRALIA-Q	PORT OF ST. LAWRENCE	22.0S 150.0E	20.0S 145.0E	25	LO	250	N	N	19910505	053400	141	303	30	109
609	17	AUSTRALIA-Q	FAIRBAIN RESERVOIR	23.5S 148.0E	23.2S 147.2E	5	LO	250	N	N	19910505	053500	141	303	26	109
609	18	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	24.5S 148.5E	23.2S 147.2E	0	NV	250	N	N	19910505	053500	141	303	26	109
609	19	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	25.0S 149.0E	23.2S 147.2E	0	NV	250	N	N	19910505	053500	141	303	26	109
609	20	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	26.0S 149.5E	23.2S 147.2E	5	NV	250	N	N	19910505	053500	141	303	26	109
609	21	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	26.5S 150.5E	26.5S 149.6E	5	NV	250	N	N	19910505	053600	141	302	22	109
609	22	AUSTRALIA-Q	COAST NEAR MT. WARNING	28.5S 153.5E	26.5S 149.6E	5	LO	250	N	N	19910505	053600	141	302	22	109
609	23	TASMAN SEA	CLOUDS/THUNDERSTORMS	32.7S 154.9E	32.7S 154.9E	90	HO	250	N	N	19910505	053800	141	300	15	109
609	24	TASMAN SEA	CLOUDS, VERY DARK	38.7S 161.0E	38.7S 161.0E	60	LO	250	U	N	19910505	054000	140	297	7	109
609	25	TASMAN SEA	CLOUDS, VERY DARK	38.7S 161.0E	38.7S 161.0E	60	LO	250	U	N	19910505	054000	140	297	7	109
609	26		DARK	41.5S 164.5E	41.5S 164.5E	0					19910505	054100	140	295	3	109
609	27		DARK	41.5S 164.5E	41.5S 164.5E	0					19910505	054100	140	295	3	109
609	28		DARK	41.5S 164.5E	41.5S 164.5E	0					19910505	054100	140	295	3	109
609	29		DARK	41.5S 164.5E	41.5S 164.5E	0					19910505	054100	140	295	3	109
609	30	BRITAIN	GRAMPIAN MTS., ARRAN IS.	56.0N 5.5W	56.9N 4.1W	5	LO	250	N	N	19910505	080400	141	105	28	111

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL OR
609	31	BRITAIN	FIRTH OF FORTH	56.0N 4.0W 56.9N	4.1W 56.9N	30	LO	250	N	N	19910505	080400	141	105	28 111
609	32	NORWAY	SOUTHERN COAST	58.5N 7.0E 56.9N	10.0E 56.9N	15	LO	250	N	N	19910505	080600	141	119	36 111
609	33	NORWAY	SO. COAST NEAR ARENDAL	58.0N 8.5E 56.9N	10.0E 56.9N	15	LO	250	N	Y	19910505	080600	141	119	36 111
609	34	NORWAY	NEAR SANDEFJORD	59.0N 10.0E 56.9N	10.0E 56.9N	15	LO	250	N	N	19910505	080600	141	119	36 111
609	35	NORWAY	JUST SOUTH OF OSLO	59.5N 10.5E 56.9N	10.0E 56.9N	15	LO	250	N	Y	19910505	080600	141	119	36 111
609	36	NORWAY	AREA EAST OF OSLO	59.5N 12.0E 56.9N	10.0E 56.9N	25	LO	250	N	Y	19910505	080600	141	119	36 111
609	37	USSR-EUROPEAN	VOLGA R., AKHTUBINSK	48.5N 46.0E 50.2N	40.8E 50.2N	0	NV	250	N	N	19910505	081100	141	154	54 111
609	38	USSR-EUROPEAN	VOLGA R., AKHTUBINSK	48.0N 46.5E 50.2N	40.8E 50.2N	0	NV	250	N	Y	19910505	081100	141	154	54 111
609	39	INDIA	DECCAN PLATEAU	18.3N 76.4E	18.3N 76.4E	10	LO	250	N	N	19910505	082200	142	268	68 111
609	40	INDIA	KISTNA RIVER DELTA	16.5N 80.5E 18.3N	76.4E 18.3N	5	LO	250	N	N	19910505	082200	142	268	68 111
609	41	INDIA	KISTNA RIVER DELTA	16.0N 80.5E 18.3N	76.4E 18.3N	5	LO	250	N	Y	19910505	082200	142	268	68 111
609	42		BLACK	55.6N 38.5W	38.5W 55.6N	0					19910505	093200	141	93	22 112
609	43		BLACK	55.6N 38.5W	38.5W 55.6N	0					19910505	093200	141	93	22 112
609	44	GREENLAND	SE COAST	61.0N 43.0W 55.6N	38.5W 55.6N	75	HO	250	N	N	19910505	093200	141	93	22 112
609	45	BRITAIN	KILBRANNIAN SOUND	55.5N 5.5W 56.8N	10.7W 56.8N	0	NV	250	N	N	19910505	093600	141	120	37 112
609	46	BRITAIN	KILBRANNIAN SOUND	55.5N 5.5W 56.8N	10.7W 56.8N	0	NV	250	N	Y	19910505	093600	141	120	37 112
609	47	SYRIA	EUPHRATES RIVER BASIN	36.5N 38.0E 39.2N	35.8E 39.2N	30	LO	250	N	N	19910505	094500	141	187	67 112
609	48	SYRIA	EUPHRATES RIVER BASIN	36.5N 38.5E 36.3N	39.0E 36.3N	30	LO	250	N	Y	19910505	094600	141	197	69 112
609	49	IRAQ	EUPHRATES RIVER BASIN	34.0N 42.5E 36.3N	39.0E 36.3N	0	LO	250	N	N	19910505	094600	141	197	69 112
609	50	IRAQ	EUPHRATES RIVER BASIN	33.5N 43.5E 36.3N	39.0E 36.3N	0	LO	250	N	Y	19910505	094600	141	197	69 112
609	51	IRAQ	BAGHDAD, EUPHRATES R.	33.5N 44.0E 36.3N	39.0E 36.3N	0	LO	250	N	Y	19910505	094600	141	197	69 112
609	52	IRAQ	TIGRIS, N. BAGHDAD	34.0N 44.0E 36.3N	39.0E 36.3N	0	LO	250	N	Y	19910505	094600	141	197	69 112
609	53	IRAQ	EUPHRATES R., SYRIAN DES	33.5N 43.0E 36.3N	39.0E 36.3N	0	LO	250	N	Y	19910505	094600	141	197	69 112
609	54	IRAQ	SYRIAN DESERT	33.0N 42.5E 36.3N	39.0E 36.3N	0	LO	250	N	Y	19910505	094600	141	197	69 112
609	55	IRAQ	MILH AL LAKE	32.5N 43.0E 36.3N	39.0E 36.3N	0	LO	250	N	N	19910505	094600	141	197	69 112
609	56	IRAQ	EUPHRATES R., AL HILLAH	32.5N 44.5E 33.3N	42.0E 33.3N	0	LO	250	N	N	19910505	094700	142	209	71 112
609	57	IRAQ	EUPHRATES R., AL KUFAH	32.0N 44.5E 33.3N	42.0E 33.3N	0	LO	250	N	Y	19910505	094700	142	209	71 112
609	58	IRAQ	EUPHRATES R., AL KUFAH	32.0N 44.5E 33.3N	42.0E 33.3N	0	LO	250	N	Y	19910505	094700	142	209	71 112
609	59	KUWAIT	RAWDATAYN OIL FIELD FIRES	30.0N 48.0E 33.3N	42.0E 33.3N	0	LO	250	N	N	19910505	094700	142	209	71 112
609	60	KUWAIT	WAFRAH OIL FIELD FIRES	28.5N 48.0E 33.3N	42.0E 33.3N	0	LO	250	N	N	19910505	094700	142	209	71 112
609	61	SAUDI ARABIA	IRRIGATION PLOTS	33.3N 42.0E	33.3N 42.0E	0	LO	250	N	N	19910505	094700	142	209	71 112
609	62	KUWAIT	BURQAN, WAFRAH FIRES	29.0N 48.0E 33.3N	42.0E 33.3N	0	LO	250	N	N	19910505	094700	142	209	71 112
609	63	KUWAIT	RAWDATAYN, SABIRYAH FIR	29.5N 48.0E 30.2N	44.8E 30.2N	0	LO	250	N	N	19910505	094800	142	222	72 112
609	64	KUWAIT	BURQAN, WAFRAH FIRES	29.0N 48.0E 30.2N	44.8E 30.2N	0	LO	250	N	N	19910505	094800	142	222	72 112
609	65	SAUDI ARABIA	IRRIGATION PLOTS	30.2N 44.8E	30.2N 44.8E	0	LO	250	N	N	19910505	094800	142	222	72 112
609	66	KUWAIT	KUWAIT CITY, OIL FIRES	29.5N 48.0E 30.2N	44.8E 30.2N	0	LO	250	N	N	19910505	094800	142	222	72 112
609	67	KUWAIT	AL BURQAN OIL FIRES	29.0N 48.0E 30.2N	44.8E 30.2N	0	LO	250	N	Y	19910505	094800	142	222	72 112
609	68	KUWAIT	AL BURQAN OIL FIRES	28.5N 48.0E 30.2N	44.8E 30.2N	0	LO	250	N	Y	19910505	094800	142	222	72 112
610	1	USA	GREAT BASIN LK.	40.0N 122.9W	40.0N 122.9W	0	LO	250	N	N	19910430	142800	137	82	13 35
610	2	USA-OR	HARNEY BASIN, CRUMP LK.	42.5N 120.0W	42.7N 119.2W	0	NV	250	N	N	19910430	142900	137	85	16 35

TABLE 4-3. STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	OR
				LAT	LO	LAT	LO											
610	3	USA-OR	HARNEY BASIN	47.0N	119.0W	42.7N	119.2W	5	L0	250	N	N	19910430	142900	137	85	16	35
610	4	USA-WA	COLUMBIA PL., POTHOLE S R	46.0N	119.0W	42.7N	119.2W	0	L0	250	N	N	19910430	142900	137	85	16	35
610	5	USA-WA	COLUMBIA/SNAKE RIVERS	46.5N	118.0W	42.7N	119.2W	0	L0	250	N	Y	19910430	142900	137	85	16	35
610	6	USA-WA	SNAKE RIVER	46.5N	118.0W	42.7N	119.2W	0	L0	250	N	Y	19910430	142900	137	85	16	35
610	7	USA-ID	SNAKE RIVER, LEWISTON	46.5N	117.0W	42.7N	119.2W	0	L0	250	N	Y	19910430	142900	137	85	16	35
610	8	USA-ID	SALMON RIVER MTS.	48.5N	111.0W	45.4N	115.3W	5	NV	250	N	N	19910430	143000	137	88	19	35
610	9	USA-MT	MARIAS RIVER	48.5N	111.0W	45.4N	115.3W	0	NV	250	N	N	19910430	143000	137	88	19	35
610	10	USA-MT	MARIAS RIV., LK. ELWELL	48.5N	111.5W	47.8N	110.9W	5	NV	250	N	Y	19910430	143100	137	93	23	35
610	11	USA-MT	BEAR PAW MTS.	48.5N	109.5W	47.8N	110.9W	10	NV	250	N	N	19910430	143100	137	93	23	35
610	12	USA-MT	MOUNTAINS/SNOW COVER	47.0N	110.5W	47.8N	110.9W	25	L0	250	N	N	19910430	143100	137	93	23	35
610	13	USA-MT	YELLOWSTONE RIVER	47.0N	105.0W	47.8N	110.9W	30	L0	250	N	N	19910430	143100	137	93	23	35
610	14	USA-MT	LAKE ELWELL	48.5N	111.0W	50.1N	106.1W	30	L0	250	N	N	19910430	143200	137	98	26	35
610	15	CANADA-N	MASKAUPI R., L. MELVILLE	53.5N	61.0W	56.3N	54.3W	25	L0	250	N	N	19910430	144000	136	160	47	35
610	16	NIGERIA	CITY OF KANO	12.0N	8.5E	14.8N	7.4E	20	NV	250	N	N	19910430	145600	137	277	40	35
610	17	CONGO	NGOKO RIVER, LAND USE	2.0N	15.0E	1.3N	15.4E	25	NV	250	N	N	19910430	150000	137	286	28	35
610	18	ZAIRE	S. ZAIRE RIVER BASIN	5.4S	19.3E	5.4S	19.3E	5	NV	250	N	N	19910430	150200	137	288	22	35
610	19	ANGOLA	FIRES, PLUMES	8.8S	21.2E	8.8S	21.2E	10	L0	250	N	N	19910430	150300	137	289	19	35
610	20	ANGOLA	FIRES, PLUMES	8.8S	21.2E	8.8S	21.2E	0	L0	250	N	N	19910430	150300	137	289	19	35
610	21	ZAMBIA	LAKE KARIBA	17.5S	27.5E	15.5S	25.3E	5	L0	250	N	N	19910430	150500	137	289	12	35
610	22	ATLANTIC OCEAN	CANARY CURRENT, SHIP WA.	16.7N	16.5W	16.7N	16.5W	0	L0	250	N	N	19910430	162500	137	275	42	36
610	23	SENEGAL	DAKAR, INTERNAL WAVES	14.5N	17.5W	16.7N	16.5W	0	L0	250	N	N	19910430	162500	137	275	42	36
610	24	SENEGAL	LK. DE GUIERS, SENEGAL R	16.5N	16.0W	16.7N	16.5W	5	L0	250	N	N	19910430	162500	137	275	42	36
610	25	SENEGAL	SALOUM RI., KADLACK	14.0N	16.5W	16.7N	16.5W	0	L0	250	N	N	19910430	162500	137	275	42	36
610	26	SENEGAL	SALOUM RI., MANGROVES	14.0N	16.5W	16.7N	16.5W	0	L0	250	N	Y	19910430	162500	137	275	42	36
610	27	GAMBIA	GAMBIA RIVER, BANJUL	13.5N	16.5W	13.3N	14.4W	0	L0	250	N	Y	19910430	162600	137	278	39	36
610	28	GUINEA BISSAU	CACINE RI., TRISTAO IS.	11.0N	15.0W	13.3N	14.4W	55	L0	250	N	N	19910430	162600	137	278	39	36
610	29	SIERRA LEONE	SHERBO IS., INT. WAVES	7.5N	13.5W	10.0N	12.4W	5	L0	250	N	N	19910430	162700	137	281	36	36
610	30	SIERRA LEONE	SHERBO IS., INT. WAVES	7.5N	13.5W	10.0N	12.4W	10	L0	250	N	Y	19910430	162700	137	281	36	36
610	31	GULF OF GUINEA	SUNGLINT, OCEAN FEATURES	6.6N	10.4W	6.6N	10.4W	10	L0	250	N	N	19910430	162800	137	283	33	36
610	32	GULF OF GUINEA	SUNGLINT, SHIP WAKE	6.6N	10.4W	6.6N	10.4W	15	L0	250	N	N	19910430	162800	137	283	33	36
610	33	GULF OF GUINEA	SUNGLINT, SHIP WAKE	3.2N	8.4W	3.2N	8.4W	30	L0	250	N	N	19910430	162900	137	285	30	36
610	34	GULF OF GUINEA	SUNGLINT, SHIP WAKE	3.2N	8.4W	3.2N	8.4W	25	L0	250	N	N	19910430	162900	137	285	30	36
610	35	GULF OF GUINEA	SUNGLINT, SHIP WAKE	3.2N	8.4W	3.2N	8.4W	5	L0	250	N	N	19910430	162900	137	285	30	36
610	36	GULF OF GUINEA	SUNGLINT, SHIP WAKE	0.2S	6.5W	0.2S	6.5W	5	L0	250	N	N	19910430	163000	137	287	27	36
610	37	AFRICA	SUNSET, EARTH LIMB	41.9S	25.5E	41.9S	25.5E	0	H0	250	N	N	19910430	164300	136	277	-15	36
610	38	LESSER ANTILLES	ANGUILLA, SAN MARTIN IS.	18.0N	63.0W	23.5N	66.6W	15	L0	250	N	N	19910430	192200	137	267	47	38
610	39	LESSER ANTILLES	BARBUDA ISLAND	17.5N	62.0W	20.2N	64.3W	5	L0	250	N	N	19910430	192300	137	271	45	38
610	40	LESSER ANTILLES	ST CHRISTOPHER/NEVIS IS.	17.5N	61.5W	20.2N	64.3W	15	L0	250	N	N	19910430	192300	137	271	45	38
610	41	LESSER ANTILLES	ANTIGUA ISLAND	17.0N	62.0W	20.2N	64.3W	5	L0	250	N	N	19910430	192300	137	271	45	38
610	42	LESSER ANTILLES	GUADELOUPE/M. GALANTE IS	16.0N	61.5W	20.2N	64.3W	25	L0	250	N	N	19910430	192300	137	271	45	38

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
610	43	LESSER ANTILLES	MARIE GALANTE ISLAND	16.0N 61.0W	20.2N 64.3W	20	LO	250	N	N	19910430	192300	137	271	45	38	
610	44	LESSER ANTILLES	DOMINICA ISLAND	15.5N 61.5W	16.9N 62.2W	35	LO	250	U	N	19910430	192400	137	275	42	38	
610	45	LESSER ANTILLES	BARBADOS ISLAND	13.0N 59.5W	16.9N 62.2W	5	NV	250	N	N	19910430	192400	137	275	42	38	
610	46	USSR-PACIFIC	KAMCHATKA, VOLCANOES	56.5N 161.5E	54.3N 152.9E	45	LO	250	N	N	19910430	220200	137	110	32	40	
610	47	USSR-PACIFIC	KAMCHATKA, VOLCANOES	56.5N 161.5E	54.3N 152.9E	50	LO	250	N	Y	19910430	220200	137	110	32	40	
610	48	USSR-PACIFIC	KAMCHATKA, VOLCANOES	56.5N 161.5E	55.6N 159.2E	45	LO	250	N	Y	19910430	220300	137	117	35	40	
610	49	PACIFIC OCEAN	SULOYS, SUNGLINT	27.0N	114.7W	0	LO	250	N	N	19910430	222000	137	261	50	40	
610	50	PACIFIC OCEAN ISLAND	SOCORRO ISLAND	19.0N	111.0W	27.0N	114.7W	35	LO	250	N	19910430	222000	137	261	50	40
610	51	PACIFIC OCEAN	CLOUDS, SUNGLINT	32.6S	75.7W	60	HO	250	N	N	19910430	223800	137	285	-3	40	
610	52	CHINA	SOUTHERN GOBI DESERT	41.0N	97.0E	36.3N	96.6E	0	LO	250	U	19910430	232400	137	77	7	41
610	53	CHINA	SOUTHERN GOBI DESERT	40.0N	99.0E	36.3N	96.6E	0	LO	250	U	19910430	232400	137	77	7	41
610	54	CHINA	GOBI DESERT	39.2N	99.8E	39.2N	99.8E	55	LO	250	U	19910430	232500	137	79	11	41
610	55	CHINA	GOBI DESERT	39.2N	99.8E	39.2N	99.8E	0	LO	250	U	19910430	232500	137	79	11	41
610	56	CHINA	GOBI DESERT, SOGO LK.	42.0N	102.0E	39.2N	99.8E	0	LO	250	N	19910430	232500	137	79	11	41
610	57	CHINA	GOBI DESERT, GAXUN LK.	42.5N	100.5E	39.2N	99.8E	0	LO	250	N	19910430	232500	137	79	11	41
610	58	CHINA	CLOUDS, MOON	44.7N	107.2E	44.7N	107.2E	75	HO	250	N	19910430	232700	137	86	17	41
610	59	CHINA	GOBI DESERT	46.3N	110.0E	46.3N	110.0E	45	LO	250	N	19910501	054100	136	209	56	45
610	60	CHINA	GOBI DESERT	46.3N	110.0E	46.3N	110.0E	35	LO	250	N	19910501	054100	136	209	56	45
610	61	CHINA	GOBI DESERT	46.3N	110.0E	46.3N	110.0E	10	LO	250	N	19910501	054100	136	209	56	45
610	62	CHINA	GOBI DESERT	43.7N	114.1E	43.7N	114.1E	46	LO	250	N	19910501	054200	136	218	57	45
610	63	CHINA	GOBI DESERT	43.7N	114.1E	43.7N	114.1E	15	LO	250	N	19910501	054200	136	218	57	45
610	64	CHINA	GOBI DESERT	43.7N	114.1E	43.7N	114.1E	40	LO	250	N	19910501	054200	136	218	57	45
610	65	CHINA	CITIES OF DALIAN, LUSHUN	39.0N	121.5E	38.1N	121.3E	10	LO	250	N	19910501	054400	136	235	56	45
610	66	CHINA	GULF OF LIAOTUNG	39.5N	121.5E	38.1N	121.3E	40	LO	250	N	19910501	054400	136	235	56	45
610	67	CHINA	KOREA BAY	39.5N	123.5E	38.1N	121.3E	25	LO	250	N	19910501	054400	136	235	56	45
610	68	KOREA	ANMYEON IS., WEST COAST	36.5N	126.5E	35.1N	124.4E	10	LO	250	N	19910501	054500	136	243	55	45
610	69	KOREA	SW COAST, MOGPO, JIN IS.	34.5N	126.5E	35.1N	124.4E	5	LO	250	N	19910501	054500	136	243	55	45
610	70	KOREA	S. KOREA, YELLOW SEA	36.0N	125.0E	32.1N	127.3E	50	HO	250	N	19910501	054600	136	250	54	45
610	71	BRITAIN	W COAST OF SCOTLAND	56.0N	8.5W	57.0N	10.2W	0	LO	250	N	19910501	100100	136	128	39	48
612	1	USA	CLOUDS, DARK	48.8N	114.5W	100	LO	100	U	N	19910429	205000	138	211	53	23	
612	2	USA-TX	OBL. UPPER TEXAS COAST	30.0N	97.0W	32.3N	92.5W	50	HO	100	N	19910429	205600	138	255	48	23
612	3	USA-TX	OBL. UPPER TEXAS COAST	30.0N	96.0W	29.2N	89.8W	55	HO	100	N	19910429	205700	138	261	46	23
612	4	USA-TX	OBL. UPPER TEXAS COAST	31.0N	95.0W	29.2N	89.8W	55	HO	100	N	19910429	205700	138	261	46	23
612	5	USA-TX	OBL. UPPER TEXAS COAST	31.0N	95.0W	29.2N	89.8W	60	HO	100	N	19910429	205700	138	261	46	23
612	6	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	54.0N	159.0E	55.2N	161.3E	25	LO	100	N	19910429	221000	138	121	36	24
612	7	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	54.0N	158.0E	55.2N	161.3E	30	LO	100	N	19910429	221000	138	121	36	24
612	8	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	54.0N	159.0E	55.2N	161.3E	30	LO	100	N	19910429	221000	138	121	36	24
612	9	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N	160.0E	55.2N	161.3E	30	LO	100	N	19910429	221000	138	121	36	24
612	10	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N	161.0E	55.2N	161.3E	30	LO	100	N	19910429	221000	138	121	36	24
612	11	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N	160.0E	55.2N	161.3E	35	LO	100	N	19910429	221000	138	121	36	24

TABLE 4-3.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY ROLL AND FRAME (Concluded)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	
				LAT	LO	LAT	LO										EL	OR
612	12	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N	162.0E	55.2N	161.3E	35	LO	100	N	N	19910429	221000	138	121	36	24
612	13	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.5N	162.0E	55.2N	161.3E	35	LO	100	N	N	19910429	221000	138	121	36	24
612	14	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.5N	162.5E	55.2N	161.3E	30	LO	100	N	N	19910429	221000	138	121	36	24
612	15	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.5N	163.0E	55.2N	161.3E	30	LO	100	N	N	19910429	221000	138	121	36	24
612	16	USSR-PACIFIC	BERINGA/MEDNYY ISLANDS	55.0N	167.0E	55.2N	161.3E	35	LO	100	N	N	19910429	221000	138	121	36	24
612	17	USSR-PACIFIC	BERINGA/MEDNYY ISLANDS	54.0N	168.0E	55.2N	161.3E	35	LO	100	N	N	19910429	221000	138	121	36	24
612	18	USSR-PACIFIC	BERINGA/MEDNYY ISLANDS	54.0N	168.0E	55.2N	161.3E	35	LO	100	U	N	19910429	221000	138	121	36	24
612	19	USSR-PACIFIC	BERINGA IS., KAMCHATKA	54.0N	163.0E	56.3N	168.0E	50	HO	100	N	N	19910429	221100	138	129	39	24
612	20	USSR-PACIFIC	BERINGA IS., KAMCHATKA	54.0N	163.0E	56.3N	168.0E	50	HO	100	N	N	19910429	221100	138	129	39	24
612	21	USSR-PACIFIC	BERINGA IS., KAMCHATKA	54.0N	163.0E	56.3N	168.0E	50	HO	100	U	N	19910429	221100	138	129	39	24
612	22	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.3N	168.0E	56.3N	168.0E	55	LO	100	N	N	19910429	221100	138	129	39	24
612	23	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.3N	168.0E	56.3N	168.0E	55	LO	100	N	N	19910429	221100	138	129	39	24
612	24	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.3N	168.0E	56.3N	168.0E	50	LO	100	U	N	19910429	221100	138	129	39	24
612	25	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.3N	168.0E	56.3N	168.0E	50	LO	100	N	N	19910429	221100	138	129	39	24
612	26	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.3N	168.0E	56.3N	168.0E	55	HO	100	N	N	19910429	221100	138	129	39	24
612	27	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.9N	174.9E	56.9N	174.9E	55	HO	100	U	N	19910429	221200	138	138	41	24
612	28	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.9N	174.9E	56.9N	174.9E	75	HO	100	N	N	19910429	221200	138	138	41	24
612	29	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.9N	174.9E	56.9N	174.9E	75	HO	100	N	N	19910429	221200	138	138	41	24
612	30	PACIFIC OCEAN	SUNGLINT, CLOUDS	56.9N	174.9E	56.9N	174.9E	75	HO	100	U	N	19910429	221200	138	138	41	24
612	31	PACIFIC OCEAN	SUNGLINT, CLOUDS	57.1N	178.0W	57.1N	178.0W	75	LO	100	N	N	19910429	221300	138	147	44	24
612	32	PACIFIC OCEAN	SUNGLINT, CLOUDS	57.1N	178.0W	57.1N	178.0W	75	LO	100	O	N	19910429	221300	138	147	44	24
612	33	PACIFIC OCEAN	SUNGLINT, CLOUDS	57.1N	178.0W	57.1N	178.0W	75	LO	100	U	N	19910429	221300	138	147	44	24
612	34	USA-CA	SACRAMENTO VAL., BAY AREA	39.5N	122.5W	42.8N	127.0W	0	LO	100	N	N	19910429	222200	138	231	52	24
612	35	USA-CA	SACRAMENTO VAL., BAY AREA	39.0N	122.0W	42.8N	127.0W	0	LO	100	N	Y	19910429	222200	138	231	52	24
612	36	USA-CA	SAN FRANCISCO BAY AREA	38.0N	122.0W	40.0N	123.4W	0	LO	100	N	Y	19910429	222300	138	238	52	24
612	37	USA-CA	SAN JOAQUIN VAL., TAHOE	38.0N	121.0W	40.0N	123.4W	0	LO	100	N	Y	19910429	222300	138	238	52	24
612	38	USA-CA	SAN JOAQUIN VAL., CARMEL	36.0N	120.5W	40.0N	123.4W	10	HO	100	N	Y	19910429	222300	138	238	52	24
612	39	USA-CA	SAN JOAQUIN VAL., L. A.	35.5N	119.0W	40.0N	123.4W	5	LO	100	N	Y	19910429	222300	138	238	52	24

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	
23	31		BLACK													
72	1	LAKES, AGRICULTURE				60	LO	100	N	N						
72	2	LAKES, AGRICULTURE				50	LO	100	N	N						
72	3	LAKES, AGRICULTURE				70	LO	100	N	N						
72	4	OCEAN, CLOUDS				40	LO	100	N	N						
72	5	OCEAN, CLOUDS				25	LO	100	N	N						
72	6	OCEAN, CLOUDS				45	LO	100	N	N						
72	7	OCEAN, CLOUDS				45	LO	100	N	N						
72	8	OCEAN, CLOUDS				75	LO	100	N	N						
72	9	OCEAN, CLOUDS				15	LO	100	N	N						
72	10	OCEAN, CLOUDS				15	LO	100	N	N						
72	11	OCEAN, CLOUDS				15	LO	100	N	N						
72	12	OCEAN, CLOUDS				55	LO	100	N	N						
72	13	OCEAN, CLOUDS				55	LO	100	N	N						
72	14	OCEAN, CLOUDS				55	LO	100	N	N						
72	15	OCEAN, CLOUDS				65	LO	100	N	N						
72	22	OCEAN, CLOUDS				35	HO	250	O	N						
72	23	OCEAN, CLOUDS				40	LO	250	O	N						
72	24	OCEAN, CLOUDS				40	LO	250	O	N						
72	25	OCEAN, CLOUDS				35	LO	250	O	N						
72	26	OCEAN, CLOUDS				15	LO	250	O	N						
72	27	OCEAN, CLOUDS				25	LO	250	O	N						
72	28	OCEAN, CLOUDS				35	LO	250	O	N						
72	29	OCEAN, CLOUDS				30	LO	250	O	N						
72	30	OCEAN, CLOUDS				30	LO	250	O	N						
72	31	OCEAN, CLOUDS				50	LO	250	O	N						
74	45	BLANK				57.3N		22.7W			19910506	092934	147	96	24	129
74	46	CARGO BAY-GAS CAN				57.3N		21.5W			19910506	092944	147	97	24	129
74	47	CARGO BAY-GAS CAN				57.1N		17.8W			19910506	093015	147	101	26	129
74	48	CARGO BAY-EXPERIMENT				57.1N		17.2W			19910506	093020	147	101	27	129
74	49	CARGO BAY-EXPERIMENT				57.1N		16.7W			19910506	093025	147	102	27	129
74	50	CARGO BAY-EXPERIMENT				57.0N		16.3W			19910506	093028	147	102	27	129
74	51	CARGO BAY-EXPERIMENT				56.9N		14.9W			19910506	093040	147	104	28	129
74	52	CARGO BAY-GAS CAN				56.9N		14.3W			19910506	093045	147	104	28	129
74	53	CARGO BAY-GAS CAN				56.3N		9.2W			19910506	093130	147	109	31	129
74	54	CARGO BAY-EXPERIMENT				55.7N		5.4W			19910506	093204	147	113	33	129
74	55	CARGO BAY-IBSS/SPAS II				55.4N		3.7W			19910506	093220	147	115	34	129
75	4	MOON				25.3N		151.2W			19910428	160609	142	77	6	5
75	5	MOON				26.0N		150.7W		HO	19910428	160622	142	77	7	5
75	9	SPACE DEBRIS				44.9N		35.0W		HO	19910428	162909	143	232	48	5

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	EL	OR
75	32		MOON-CLOUDS	4.6S	41.5W	100	HO	250	N	N	N	N	19910428	194354	138	285	13	7	
84	0	A	HALF PORTHOLE-BLURRED	56.1N	111.0W			250	F	N	N	N	19910501	155739	143	104	29	53	
84	10		CARGO BAY-CIRRUS IA	48.8N	53.9W			250	N	N	N	N	19910501	160638	142	179	53	53	
84	20		HALF PORTHOLE-BLURRED	57.2N	111.8W			250	F	N	N	N	19910501	173019	142	125	37	54	
84	29	A	CARGO BAY-DARK, BLURRED					250	F	N									
85	68		BLANK	36.7N	47.9E								19910502	021522	139	69	-5	60	
85	69		CARGO BAY-CIRRUS	40.9N	52.7E			250	N	Y	N	Y	19910502	021649	140	71		60	
85	70		CARGO BAY-CIRRUS	41.2N	53.0E			250	N	Y	N	Y	19910502	021654	140	71		60	
85	71		CARGO BAY-CIRRUS	41.5N	53.5E			250	N	Y	N	Y	19910502	021701	140	71		60	
85	72		CARGO BAY-CIRRUS	41.7N	53.7E			250	N	Y	N	Y	19910502	021705	140	72		60	
85	73		CARGO BAY-CIRRUS	42.6N	54.9E			250	N	Y	N	Y	19910502	021725	140	72		1	60
86	3		PANORAMA, STORM CLOUDS	15.0N	79.8W	100	HO	250	N	N	N	N	19910429	210119	138	277	35	24	
86	4		PANORAMA, STORM CLOUDS	13.5N	78.9W	100	HO	250	N	N	N	N	19910429	210145	138	278	34	24	
86	15		FRAME TOO DARK	28.8N	70.9E			LO	250	N	N	N	19910430	005824	141	75	3	27	
86	16		FRAME TOO DARK	30.1N	72.0E			LO	250	N	N	N	19910430	005849	141	75	4	27	
86	17		FRAME TOO DARK	30.9N	72.6E			LO	250	N	N	N	19910430	005904	141	76	5	27	
86	18		FRAME TOO DARK	31.8N	73.5E			LO	250	N	N	N	19910430	005922	141	76	6	27	
86	19		FRAME TOO DARK	32.4N	74.0E			LO	250	N	N	N	19910430	005933	141	77	6	27	
86	20		FRAME TOO DARK	32.8N	74.3E			LO	250	N	N	N	19910430	005941	141	77	7	27	
86	21		FRAME TOO DARK	33.2N	74.7E			LO	250	N	N	N	19910430	005949	141	77	7	27	
86	39		FRAME TOO DARK	27.3N	46.9E			LO	250	N	N	N	19910430	022730	140	74	1	28	
86	40		FRAME TOO DARK	27.9N	47.4E			LO	250	N	N	N	19910430	022742	140	74	1	28	
86	41		FRAME TOO DARK	28.5N	47.9E			LO	250	N	N	N	19910430	022753	141	74	2	28	
86	42		FRAME TOO DARK	28.9N	48.2E			LO	250	N	N	N	19910430	022801	141	75	2	28	
86	43		FRAME TOO DARK	29.3N	48.6E			LO	250	N	N	N	19910430	022808	141	75	3	28	
86	44		FRAME TOO DARK	29.7N	48.9E			LO	250	N	N	N	19910430	022815	141	75	3	28	
86	45		FRAME TOO DARK	29.9N	49.1E			LO	250	N	N	N	19910430	022820	141	75	4	28	
86	46		FRAME TOO DARK	31.6N	50.5E			LO	250	N	N	N	19910430	022852	141	76	5	28	
86	47		FRAME TOO DARK	31.9N	50.8E			LO	250	N	N	N	19910430	022857	141	76	5	28	
86	48		FRAME TOO DARK	33.0N	51.8E			LO	250	N	N	N	19910430	022920	141	77	7	28	
86	49		FRAME TOO DARK	33.4N	52.1E			LO	250	N	N	N	19910430	022926	141	77	7	28	
87	30		VERY, VERY DARK	19.2N	58.1E	20	LO	250	U	N	N	N	19910428	120848	138	275	31	2	
87	31		VERY, VERY DARK	18.7N	58.4E	0	LO	250	U	N	N	N	19910428	120856	138	275	31	2	
87	32		VERY, VERY DARK	18.3N	58.7E	15	LO	250	U	N	N	N	19910428	120904	138	275	31	2	
88	1		LAKES, AGRICULTURE FIELD			5	LO	100	O	N									
88	2		AGRICULTURE, CLOUDS			55	LO	100	O	N									
88	3		AGRICULTURE, CLOUDS			65	LO	100	O	N									
88	4		AGRICULTURE, HILLS			10	LO	100	O	N									
88	5		AGRICULTURE, HILLS			0	LO	100	O	N									
88	6		AGRICULTURE, HILLS			40	LO	100	O	N									

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
88	7		AGRICULTURE, CLOUDS					85	LO	100	O	N							
88	8		AGRICULTURE, CLOUDS					60	LO	100	O	N							
88	9		AGRICULTURE, CLOUDS					65	LO	100	O	N							
88	10		AGRICULTURE, CLOUDS					75	LO	100	O	N							
88	11		AGRICULTURE, CLOUDS					60	LO	100	O	N							
88	12		AGRICULTURE, CLOUDS					45	LO	100	O	N							
88	13		AGRICULTURE, CLOUDS					75	LO	100	O	N							
88	14		AGRICULTURE, CLOUDS					100	LO	100	O	N							
88	15		CLOUDS					90	LO	100	O	N							
88	16		CLOUDS					95	LO	100	O	N							
88	17		CLOUDS					85	LO	100	O	N							
88	18		CLOUDS					75	LO	100	O	N							
88	19		CLOUDS, LAKE					65	LO	100	O	N							
88	20		CLOUDS, LAND USE PATTERN					35	LO	100	O	N							
88	21		CLOUDS, LAND USE PATTERN					50	LO	100	O	N							
88	22		CLOUDS, LAND USE PATTERN					50	LO	100	O	N							
88	23		CLOUDS, LAND USE PATTERN					70	LO	100	O	N							
88	24		CLOUDS, DESERT AREA					10	LO	100	O	N							
88	25		CLOUDS, DESERT AREA					5	LO	100	O	N							
88	26		CLOUDS, DESERT AREA					15	LO	100	O	N							
88	27		CLOUDS, DESERT AREA					20	LO	100	O	N							
88	65		AGRICULTURE, LG. AIRPORT					55	LO	250	U	N							
88	69		CLOUDS, LAKE					80	NV	250	U	N							
88	70		CLOUDS, LAKE					80	NV	250	U	N							
88	71		CLOUDS					95	NV	250	U	N							
88	72		CLOUDS					95	NV	250	U	N							
88	73		CLOUDS, RIVER					75	NV	250	U	N							
88	112		RIVER, AGRICULTURE					5	LO	250	U	N							
88	113		RIVER, AGRICULTURE					0	LO	250	U	N							
88	114		RIVER, AGRICULTURE					0	LO	250	U	N							
88	115		RESERVOIR					LO	250	U	N								
88	116		RESERVOIR, ESCARPMENT					5	LO	250	U	N							
88	117		SMALL RIVERS					15	LO	250	U	N							
88	118		SMALL RIVERS, LAKE					15	LO	250	U	N							
88	119		SMALL RIVERS, LAKE					5	LO	250	U	N							
88	120		SMALL RIVERS, LAKE					15	LO	250	U	N							
88	121		RESERVOIR, RIVER					25	LO	250	U	N							
93	0 A		CLOUDS, WATER					13.0S	3.9E	60	LO	250	N	19910505	142955	141	301	48	116
93	103		CARGO BAY, VRY DARK					57.2N	28.9W	LO	100	N	N	19910506	092842	147	91	20	129
93	104		CARGO BAY, VRY DARK					57.3N	25.5W	LO	100	N	N	19910506	092911	147	94	22	129

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
96	0 A		CARGO BAY	54.6N 119.1W		L0	100	N	N	N	19910501	155623	143	97	25	53
96	10		BLANK FRAME	49.4N 55.2W		L0	100	N	N	N	19910501	160615	142	176	52	53
96	20		CARGO BAY	57.2N 123.0W		L0	250	N	N	N	19910501	172837	142	113	33	54
96	31		DARK FRAME	14.3N 23.0E		L0	100	N	N	N	19910502	131047	136	259	57	67
96	41		DARK FRAME	1.8N 30.4E		L0	100	N	N	N	19910502	131430	135	278	48	67
96	42		OUT OF FOCUS	1.2S 32.1E		L0	100	N	N	N	19910502	131522	135	281	46	67
96	43		OUT OF FOCUS	1.4S 32.3E		L0	100	N	N	N	19910502	131527	135	282	46	67
96	44		TOTAL CLOUD COVER	1.8S 32.5E	100	L0	100	N	N	N	19910502	131534	135	282	45	67
96	51		DARK FRAME	6.8S 35.3E		L0	100	N	N	N	19910502	131702	135	286	41	67
97	12		DARK FRAME	55.3N 2.8W		L0	100	N	N	N	19910506	093229	147	116	35	129
97	13		DARK FRAME	54.7N .1W		L0	100	N	N	N	19910506	093255	146	119	37	129
97	14		DARK FRAME	54.5N .6E		L0	100	N	N	N	19910506	093302	146	120	37	129
97	15		DARK FRAME	53.0N 6.1E		L0	100	N	N	N	19910506	093358	146	126	41	129
97	16		DARK FRAME, CARGO BAY	52.6N 7.4E		L0	100	N	N	N	19910506	093411	146	127	41	129
97	17		DARK FRAME, CARGO BAY	51.9N 9.5E		L0	100	N	N	N	19910506	093434	146	130	43	129
97	18		DARK FRAME, CARGO BAY	51.6N 10.1E		L0	100	N	N	N	19910506	093441	146	130	43	129
97	19		DARK FRAME, CARGO BAY	51.0N 11.9E		L0	100	N	N	N	19910506	093501	146	133	45	129
97	20		DARK FRAME, CARGO BAY	49.0N 16.4E		L0	100	N	N	N	19910506	093555	145	138	48	129
97	21		DARK FRAME, CARGO BAY	47.9N 18.5E		L0	100	N	N	N	19910506	093622	145	141	50	129
97	22		DARK FRAME, CARGO BAY	46.7N 20.8E		L0	100	N	N	N	19910506	093653	145	144	52	129
97	23		DARK FRAME, CARGO BAY	46.2N 21.6E		L0	100	N	N	N	19910506	093704	145	145	52	129
97	24		DARK FRAME, CARGO BAY	45.8N 22.4E		L0	100	N	N	N	19910506	093715	145	146	53	129
97	25		BLANK FRAME	30.1S 11.9E		L0	100	N	N	N	19910506	142952	141	308	28	132
98	43		CARGO BAY	32.7N 52.8W		L0	50	N	N	N	19910506	154016	143	175	69	133
98	44		CARGO BAY	32.1N 52.4W		L0	50	N	N	N	19910506	154026	142	177	70	133
98	45		CARGO BAY	31.7N 52.0W		L0	50	N	N	N	19910506	154034	142	178	70	133
98	46		CARGO BAY	31.3N 51.6W		L0	50	N	N	N	19910506	154042	142	179	71	133
98	47		CARGO BAY	30.3N 50.8W		L0	50	N	N	N	19910506	154101	142	183	71	133
98	48		CARGO BAY	26.9N 47.9W		L0	50	N	N	N	19910506	154207	142	196	74	133
98	49		CARGO BAY	26.1N 47.3W		L0	50	N	N	N	19910506	154221	142	199	75	133
98	50		CARGO BAY	25.0N 46.5W		L0	50	N	N	N	19910506	154241	141	204	75	133
98	51		CARGO BAY	24.5N 46.1W		L0	50	N	N	N	19910506	154251	141	207	76	133
98	52		CARGO BAY	21.9N 44.3W		L0	50	N	N	N	19910506	154339	141	221	77	133
151	81A		VIEW OF MOON	22.6S 98.4E		250					19910430	103833	139	288	6	33
151	96		CLOUDS OVER N. EUROPE	52.6N 8.7E	85	L0	250	N	N	N	19910430	114342	143	184	51	34
601	36		SUNSET TERMINATOR	9.0N 79.0E	12.1N 81.3E	0	HO	100	N	N	19910429	103500	138	280	31	16
601	42		SUNSET TERMINATOR	37.2S 114.8E		0	HO	100	N	N	19910429	105000	138	277	-15	16
601	43		SUNSET TERMINATOR	37.2S 114.8E		0	HO	100	N	N	19910429	105000	138	277	-15	16
601	44		SUNSET TERMINATOR	37.2S 114.8E		0	HO	100	N	N	19910429	105000	138	277	-15	16
601	45		SUNSET TERMINATOR	37.2S 114.8E		0	HO	100	N	N	19910429	105000	138	277	-15	16

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR	
				LAT	LO	LAT	LO												
601	46		SUNSET TERMINATOR																
603	72		VIEW OF MOON			37.2S	114.8E	0	HO	100	N	N	19910429	105000	138	277	-15	16	
605	29		SHUTTLE PAYLOAD BAY			20.9S	97.1E	0	HO	100	N	N	19910430	103800	137	288	6	32	
606	1		SHUTTLE PAYLOAD BAY			39.7N	24.6W	0	LO	250	U	N	19910504	063000	142	67	-2	94	
606	2		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	3		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	4		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	5		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	6		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	7		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	8		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	9		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	10		SHUTTLE PAYLOAD BAY						HO	250	N	N							
606	11		ATMOSPHERIC LIMB						HO	250	N	N							
607	49		IN CABIN VIEW			49.1N	85.6W	0	LO	100	N	N	19910430	130200	137	96	24	34	
607	50		IN CABIN VIEW			49.1N	85.6W	0	LO	100	N	N	19910430	130200	137	96	24	34	
608	1		SHUTTLE PAYLOAD BAY			40.5N	16.0W	0	250	N	N	N	19910502	064500	136	76	7	62	
608	2		SHUTTLE PAYLOAD BAY			40.5N	16.0W	0	250	N	N	N	19910502	064500	136	76	7	62	
608	3		SHUTTLE PAYLOAD BAY			43.2N	12.4W	0	250	N	N	N	19910502	064600	135	79	10	62	
608	4		SHUTTLE PAYLOAD BAY			43.2N	12.4W	0	250	N	N	N	19910502	064600	135	79	10	62	
608	5		SHUTTLE PAYLOAD BAY						250	N	N	N	19910502	065300	135	116	34	62	
608	6		BLACK			55.0N	59.8E	0					19910502	065800	135	158	49	62	
608	7		BLACK			51.8N	71.6E	0					19910502	070000	135	176	54	62	
608	8		BLACK			49.7N	76.8E	0					19910502	070100	135	185	56	62	
608	9		BLACK			49.7N	76.8E	0					19910502	070100	135	185	56	62	
608	10		BLACK			49.7N	76.8E	0					19910502	070100	135	185	56	62	
608	11		BLACK			26.0S	138.8E	0					19910502	072500	135	292	10	62	
608	12		BLACK			26.0S	138.8E	0					19910502	072500	135	292	10	62	
608	13		BLACK			48.5N	56.6E	0					19910502	083100	135	189	57	63	
608	14		BLACK			48.5N	56.6E	0					19910502	083100	135	189	57	63	
608	15		BLACK										19910502	084300	136	279	47	63	
608	16		BLACK			12.4N	92.4E	0					19910502	084300	136	279	47	63	
608	17		BLACK			12.4N	92.4E	0					19910502	084300	136	279	47	63	
608	18		BLACK			5.7N	96.4E	0					19910502	084500	136	285	42	63	
608	19		BLACK			2.3N	98.3E	0					19910502	084600	136	288	39	63	
608	20		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63	
608	21		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63	
608	22		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63	
608	23		BLACK			21.3S	112.6E	0					19910502	085300	135	293	15	63	
608	24		BLACK			24.5S	114.9E	0					19910502	085400	135	293	12	63	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN		
				LAT	LONG	LAT	LONG										EL	OR	
608	25		BLACK			24.5S	114.9E	0					19910502	085400	135	293	12	63	
608	26		BLACK			27.7S	117.3E	0					19910502	085500	135	292	8	63	
608	27		BLACK			27.7S	117.3E	0					19910502	085500	135	292	8	63	
608	28		BLACK			27.7S	117.3E	0					19910502	085500	135	292	8	63	
608	29		BLACK			30.9S	120.0E	0					19910502	085600	135	291	5	63	
608	30		BLACK			34.0S	122.8E	0					19910502	085700	135	289	1	63	
608	31		BLACK			56.8N	1.2E	0					19910502	095500	135	140	43	64	
608	32		BLACK			51.7N	26.4E	0					19910502	095900	135	175	54	64	
608	34		BLACK			30.3N	57.0E	0					19910502	100700	136	248	59	64	
608	35		BLACK			10.7N	70.7E	0					19910502	101300	136	281	46	64	
608	36		BLACK			7.3N	72.7E	0					19910502	101400	136	284	43	64	
608	37		BLACK			7.3N	72.7E	0					19910502	101400	136	284	43	64	
608	38		BLACK			7.3N	72.7E	0					19910502	101400	136	284	43	64	
608	39		BLACK			43.4N	20.0E	0					19910502	113200	135	207	60	65	
608	40		BLACK			40.7N	23.7E	0					19910502	113300	135	216	61	65	
608	41		BLACK			40.7N	23.7E	0					19910502	113300	135	216	61	65	
608	42		BLACK			49.5N	13.5W	0					19910502	125900	135	183	56	66	
608	57		BLACK			26.4S	48.2E	0					19910502	132300	135	293	11	66	
608	61		SHUTTLE PAYLOAD EXPER.			7.4S	100.7W	0				250 N	19910502	221400	135	293	32	72	
608	62		SHUTTLE PAYLOAD EXPER.			7.4S	100.7W	0				250 N	19910502	221400	135	293	32	72	
608	63		SHUTTLE PAYLOAD EXPER.			24.0S	90.0W	0				250 N	19910502	221900	134	295	15	72	
608	64		SHUTTLE PAYLOAD EXPER.			24.0S	90.0W	0				250 N	19910502	221900	134	295	15	72	
608	65		SHUTTLE PAYLOAD EXPER.			24.0S	90.0W	0				250 N	19910502	221900	134	295	15	72	
608	66		SHUTTLE PAYLOAD EXPER.			27.2S	87.6W	0				250 N	19910502	222000	134	294	11	72	
608	69		IN CABIN VIEW, ASTRONAUT			36.5S	79.2W	0				250 U	19910502	222300	134	290	1	72	
608	70		IN CABIN VIEW, ASTRONAUT			36.5S	79.2W	0				250 U	19910502	222300	134	290	1	72	
609	26		DARK			41.5S	164.5E	0					19910505	054100	140	295	3	109	
609	27		DARK			41.5S	164.5E	0					19910505	054100	140	295	3	109	
609	28		DARK			41.5S	164.5E	0					19910505	054100	140	295	3	109	
609	29		DARK			41.5S	164.5E	0					19910505	054100	140	295	3	109	
609	42		BLACK			55.6N	38.5W	0					19910505	093200	141	93	22	112	
609	43		BLACK			55.6N	38.5W	0					19910505	093200	141	93	22	112	
151	8A	AFGHANISTAN	VIEW EAST KARAKORAM MTS.			35.0N	64.1E	60	HO	80	N		19910429	102753	142	252	47	17	
601	14	AFGHANISTAN	HINDU KUSH, HEIMAND R.		32.0N	65.0E	34.7N	64.5E	60	LO	100	N	19910429	102800	138	253	47	16	
601	15	AFGHANISTAN	MARGOW DESERT, HEIHAND R		30.5N	63.5E	31.6N	67.3E	40	HO	100	N	19910429	102900	138	258	45	16	
601	16	AFGHANISTAN	MARGOW DESERT, HEIHAND R		30.0N	64.0E	31.6N	67.3E	35	HO	100	N	19910429	102900	138	258	45	16	
605	30	AFGHANISTAN	HINDU KUSH			33.7N	68.9E	40	NV	250	N	19910504	082200	142	221	68	95		
151	199	AFRICA	OBLIQUE V. W. SAHARA D.			27.6N	5.4W	5	HO	250	N	19910501	144430	138	246	56	52		
608	49	AFRICA	CONGO R. BASIN LARGE T/S			7.0N	27.4E	100	LO	250	N	19910502	131300	135	285	44	66		
610	37	AFRICA	SUNSET, EARTH LIMB			41.9S	25.5E	0	HO	250	N	19910430	164300	136	277	-15	36		

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
2	16	ALGERIA	TADEMAIT PLAT, GR. ERG OR.	28.5N 4.0E		10 HO	35	N	Y						
2	17	ALGERIA	TADEMAIT PLAT, MOUYDIR MT	26.0N 4.0E		5 HO	35	N	N						
2	18	ALGERIA	TASSILI NAJER, GR. ERG OR	26.5N 6.0E		10 HO	35	N	N						
2	19	ALGERIA	MOUYDIR MTS., JET STREAM	23.0N 4.0E		40 HO	35	N	N						
73	91	ALGERIA	GRAND ERG ORIENTAL	28.5N 6.0E	29.1N 6.9E	0 NV	250	N	N	19910429	053344	142	77	7	14
83	17	ALGERIA	KAHAL TABELBALA, MTN FOLD	30.0N 2.5W	31.6N .9W	0 LO	250	N	N	19910429	145749	140	257	46	20
83	18	ALGERIA	GUIR WADI, TABLELAND, DES.	31.0N 2.5W	31.3N .7W	0 LO	250	N	N	19910429	145755	140	257	46	20
83	19	ALGERIA	ERG CHECH, ERG IABES	25.5N 3.0W	29.1N 1.2E	0 LO	250	N	N	19910429	145836	140	261	44	20
83	20	ALGERIA	ERG CHECH, ERG IABES	24.5N 3.5W	28.6N 1.5E	0 LO	250	N	N	19910429	145845	140	262	44	20
83	21	ALGERIA	WADI QUATIA, DUINE FIELD	25.0N 2.5E	25.8N 3.8E	0 LO	250	N	N	19910429	145938	140	266	42	20
83	22	ALGERIA	WADI ABELESSA, VOLC. CONES	23.0N 4.8E	22.8N 6.0E	10 LO	250	N	N	19910429	150035	139	269	40	20
83	23	ALGERIA	WADI ABELESSA, VOLC. CONES	22.6N 4.8E	21.9N 6.6E	0 LO	250	N	N	19910429	150050	139	270	39	20
90	96	ALGERIA	OASIS, AIRPORT		28.6N 1.6E	0 LO	250	N	N	19910429	145842	140	262	44	20
90	97	ALGERIA	OASIS, AIRPORT		28.1N 2.0E	0 LO	250	N	N	19910429	145851	140	262	44	20
90	98	ALGERIA	SMALL DUNES		26.7N 3.1E	0 LO	250	N	N	19910429	145918	140	264	43	20
151	34A	ALGERIA	ATLAS MTS., ALBORAN SEA	34.0N 1.0W	31.1N 0.5W	15 HO	250	N	N	19910429	145756	141	258	46	20
151	34B	ALGERIA	SAHARAN ATLAS, WEST ERG	33.0N 1.0E	29.4N 0.9E	15 HO	250	N	N	19910429	145829	141	261	45	20
151	225A	ALGERIA	TELL ATLAS MTS.	36.0N 6.0E	40.3N 1.3E	60 HO	250	O	N	19910502	130235	140	186	56	67
151	226	ALGERIA	TELL ATLAS, NEMENCHA MTS	35.0N 7.5E	38.5N 3.5E	40 HO	250	O	N	19910502	130313	139	192	57	67
151	227	ALGERIA	GRAND ERG EASTERN	33.0N 8.0E	38.3N 3.7E	40 HO	250	O	N	19910502	130316	139	192	57	67
151	228	ALGERIA	NEMENCHA MTS., MELRHIR L	34.5N 8.5E	37.6N 4.5E	25 LO	250	O	N	19910502	130331	139	195	58	67
604	44	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 7.0W	29.3N 6.7W	0 LO	250	N	N	19910501	144400	136	254	55	51
604	45	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 7.0W	29.3N 6.7W	0 LO	250	N	Y	19910501	144400	136	254	55	51
604	46	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 6.5W	29.3N 6.7W	0 NV	250	N	Y	19910501	144400	136	254	55	51
604	47	ALGERIA	DRAA PLATEAU, DRAA WADI	29.5N 6.5W	29.3N 6.7W	0 NV	250	N	Y	19910501	144400	136	254	55	51
608	45	ALGERIA	MELRHIR CHOTT	34.5N 6.5E	36.2N 6.0E	5 LO	250	N	N	19910502	130400	135	230	61	66
81	0	A	CUBANGO R, CAMUNDA R.	16.2S 17.3E		15 LO	250	N	N						
81	39	ANGOLA	FIRES, SMOKE, COAST	11.0S 15.0E		25 LO	250	U	Y						
81	40	ANGOLA	FIRES, SMOKE, COAST	10.0S 15.0E		35 LO	250	U	Y						
610	19	ANGOLA	FIRES, PLUMES		8.8S 21.2E	10 LO	250	N	N	19910430	150300	137	289	19	35
610	20	ANGOLA	FIRES, PLUMES		8.8S 21.2E	0 LO	250	N	N	19910430	150300	137	289	19	35
81	OBL	ARABIAN SEA	MONSOON STORM CELLS		14.1N 79.1E	50 HO	250	N	N	19910505	082310	141	251	70	112
608	57	ARABIAN SEA	JET STREAM CLOUDS			45 LO	100	N	N						
93	23	ARGENTINA	RIO PARANA, E-CORRIENTAS	28.0S 58.0W	27.0S 54.7W	40 LO	250	N	N	19910505	190318	142	305	32	119
93	24	ARGENTINA	RIO PARANA, PANORAMA	31.0S 60.0W	27.7S 54.2W	40 HO	250	N	N	19910505	190331	142	305	31	119
93	25	ARGENTINA	RIO DE LA PLATA, HAZY	34.5S 58.0W	30.5S 51.8W	20 HO	250	N	N	19910505	190425	143	305	27	119
93	26	ARGENTINA	RIO DE LA PLATA, HAZY	35.0S 57.0W	31.0S 51.4W	40 HO	250	N	N	19910505	190434	143	305	27	119
93	27	ARGENTINA	RIO DE LA PLATA, HAZY	29.0S 58.0W	31.4S 51.0W	20 HO	250	N	N	19910505	190443	143	304	26	119
93	28	ARGENTINA	RIO DE LA PLATA, HAZY	35.0S 57.0W	31.6S 50.8W	40 HO	250	N	N	19910505	190447	143	304	26	119
93	29	ARGENTINA	RIO DE LA PLATA, VRY HAZY	34.0S 58.0W	32.2S 50.3W	30 HO	250	N	N	19910505	190459	143	304	25	119

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	
				LAT	LO	LAT	LO										EL	OR
93	30	ARGENTINA	RIO DE LA PLATA, VRY HAZY	31.0S	56.0W	32.4S	50.1W	50	HO	250	N	N	19910505	190503	143	304	25	119
93	31	ARGENTINA	RIO DE LA PLATA, VRY HAZY			33.2S	49.4W	40	HO	250	N	N	19910505	190518	143	304	24	119
93	49	ARGENTINA	ANDES, CLOUDS			36.2S	69.2W	70	LO	250	N	N	19910505	203558	143	304	20	120
93	50	ARGENTINA	PANORAMA, SMOKE S. CHILE	36.5S	71.5W	37.2S	68.0W	30	HO	250	N	N	19910505	203619	144	303	19	120
93	51	ARGENTINA	VALDES PENINSULA, GLARE	42.0S	64.0W	43.6S	59.8W	20	LO	250	N	N	19910505	203838	145	300	10	120
93	52	ARGENTINA	VALDES PENINSULA, GLARE	43.0S	64.0W	43.8S	59.5W	40	LO	250	N	N	19910505	203843	145	300	10	120
93	53	ARGENTINA	VALDES PEN., SEVERE GLARE	42.0S	63.0W	44.3S	58.7W	40	LO	250	N	N	19910505	203855	145	299	9	120
93	54	ARGENTINA	VALDES PEN., SEVERE GLARE	43.0S	63.0W	45.0S	57.6W	40	HO	250	N	N	19910505	203911	145	299	8	120
93	55	ARGENTINA	SEVERE GLARE			46.6S	54.7W						19910505	203951	145	297	5	120
93	56	ARGENTINA	SEVERE GLARE			47.1S	53.8W						19910505	204003	145	297	4	120
94	22	ARGENTINA	PANORAMA, VIEW W. SMOKE PL			37.2S	63.7W	70	HO	250	N	N	19910504	204126	144	300	20	104
94	23	ARGENTINA	PANORAMA, VIEW W. SMOKE PL			38.2S	62.5W	70	HO	250	N	N	19910504	204148	144	300	19	104
95	48	ARGENTINA	RIO DE LA PLATA	34.6S	57.5W	31.4S	51.0W	10	LO	100	N	N	19910505	190437	143	304	26	119
95	49	ARGENTINA	RIO DE LA PLATA	35.0S	57.0W	32.0S	50.5W	20	LO	100	N	N	19910505	190449	143	304	26	119
95	84	ARGENTINA	ANDES MTNS, LK DIAMANTE	34.2S	69.8W	33.7S	71.6W	10	LO	100	N	N	19910505	203504	143	304	23	120
95	85	ARGENTINA	ANDES MTNS, LK DIAMANTE	34.2S	69.8W	34.2S	71.1W	20	LO	100	N	N	19910505	203514	143	304	23	120
95	86	ARGENTINA	ANDES MTNS.	35.0S	70.0W	34.7S	70.7W	5	LO	100	N	N	19910505	203523	143	304	22	120
95	87	ARGENTINA	LAGUNA LLANCANELO AREA	35.6S	69.3W	35.1S	70.3W	30	LO	100	N	N	19910505	203531	143	304	22	120
95	88	ARGENTINA	ANDES MTNS	36.0S	70.0W	35.6S	69.8W	0	LO	100	N	N	19910505	203541	143	304	21	120
95	89	ARGENTINA	ANDES MTNS	36.5S	70.5W	35.9S	69.5W	0	LO	100	N	N	19910505	203547	143	304	21	120
95	90	ARGENTINA	ANDES MTNS, DARK FRAME	37.0S	70.0W	36.2S	69.1W	0	LO	100	N	N	19910505	203554	144	304	20	120
95	91	ARGENTINA	RECENTLY COMP. RESERVOIR	38.0S	68.0W	37.5S	67.7W	0	LO	100	N	N	19910505	203621	144	303	18	120
96	73	ARGENTINA	INTER-MTN. BASINS	26.5S	67.5W	25.4S	66.1W	0	LO	250	N	N	19910502	205001	136	294	26	72
96	74	ARGENTINA	INTER-MTN. BASINS	26.5S	67.5W	26.1S	65.5W	0	LO	250	N	N	19910502	205014	136	294	25	72
73	62	ATLANTIC OCEAN	CLOUDS			56.6N	24.6W	100	LO	250	O	Y	19910428	132327	146	175	47	3
73	63	ATLANTIC OCEAN	CLOUDS			56.6N	24.4W	100	LO	250	O	Y	19910428	132329	146	175	47	3
73	64	ATLANTIC OCEAN	CLOUDS			56.5N	24.2W	100	LO	250	O	Y	19910428	132331	146	176	47	3
73	65	ATLANTIC OCEAN	CLOUDS			56.5N	24.1W	100	LO	250	O	Y	19910428	132332	146	176	47	3
73	65	ATLANTIC OCEAN	CLOUDS			56.5N	23.8W	100	LO	250	O	Y	19910428	132334	146	176	47	3
73	67	ATLANTIC OCEAN	CLOUDS			56.5N	23.6W	100	LO	250	O	Y	19910428	132336	146	176	47	3
75	0	A	LABRADOR SEA ICE			57.3N	61.6W	20	LO	250	N	N	19910428	145107	146	155	45	4
75	1	ATLANTIC OCEAN	LABRADOR SEA ICE			57.3N	60.2W	10	LO	250	N	N	19910428	145119	146	156	45	4
75	2	ATLANTIC OCEAN	LABRADOR SEA ICE-COAST			57.3N	59.2W	60	LO	250	N	N	19910428	145127	146	157	45	4
75	18	ATLANTIC OCEAN	CUMULUS CLOUDS-BRIGHT			7.9S	6.0E	70	HO	250	O	N	19910428	164540	138	285	9	5
75	33	ATLANTIC OCEAN	MOON-CLOUDS			9.7S	38.4W	95	HO	250	N	Y	19910428	194526	138	286	8	7
75	34	ATLANTIC OCEAN	CUMULUS, LOW-HIGH CLOUDS			10.3S	38.1W	95	HO	250	N	Y	19910428	194537	138	286	7	7
75	35	ATLANTIC OCEAN	CLOUDS-MOON			11.5S	37.3W	70	HO	250	N	N	19910428	194559	138	286	6	7
75	36	ATLANTIC OCEAN	CLOUDS			12.1S	37.0W	95	HO	250	N	Y	19910428	194610	138	286	6	7
75	37	ATLANTIC OCEAN	CLOUDS			15.4S	34.9W	80	HO	250	N	Y	19910428	194709	139	285	3	7
75	38	ATLANTIC OCEAN	CLOUDS			16.2S	34.4W	80	HO	250	N	Y	19910428	194723	139	285	2	7

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
79	42	ATLANTIC OCEAN	NEAR S. OF GIBRALTER-CLDS	36.8N 8.7W	60 LO 250 N	19910429	070558	143	83	15	15					
83	94	ATLANTIC OCEAN	EDDIES-GULF STREAM	35.3N 72.7W	40 LO 250 N	19910429	192521	141	249	49	23					
83	95	ATLANTIC OCEAN	GULF STREAM BOUNDARY	35.1N 72.5W	35 LO 250 N	19910429	192526	141	249	49	23					
84	11	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	25.8N 26.7W	100 LO 250 N	19910501	161439	138	249	55	53					
84	12	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	25.4N 26.4W	100 LO 250 N	19910501	161446	138	250	55	53					
84	13	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	25.1N 26.2W	90 LO 250 N	19910501	161452	138	251	55	53					
84	14	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	24.1N 25.5W	85 LO 250 N	19910501	161510	137	253	55	53					
84	15	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	23.9N 25.3W	75 LO 250 N	19910501	161515	137	253	55	53					
84	16	ATLANTIC OCEAN	TWO LAYER CLOUDS-LOW/MED	23.5N 25.0W	60 LO 250 N	19910501	161521	137	254	54	53					
84	19	ATLANTIC OCEAN	OCEAN STRUCTURE	9.7N 16.0W	10 LO 250 N	19910501	161932	136	276	45	53					
84	27	ATLANTIC OCEAN	WATER-CLOUDS	41.0N 64.1W	50 LO 250 N	19910501	173908	139	205	57	54					
84	28	ATLANTIC OCEAN	WATER-CLOUDS	40.8N 63.8W	50 LO 250 O	19910501	173914	139	206	57	54					
84	29	ATLANTIC OCEAN	WATER-CLOUDS	40.5N 63.4W	80 LO 250 O	19910501	173920	139	207	57	54					
85	17	ATLANTIC OCEAN	SHIP WAKES	18.0N 62.9W	5 LO 250 N	19910430	192344	137	271	44	39					
96	11	ATLANTIC OCEAN	CLOUD PATTERNS	25.7N 26.6W	99 LO 100 N	19910501	161434	138	249	55	53					
96	12	ATLANTIC OCEAN	CLOUD PATTERNS	25.3N 26.3W	99 LO 100 N	19910501	161441	138	250	55	53					
96	13	ATLANTIC OCEAN	CLOUD PATTERNS	25.0N 26.1W	100 LO 100 N	19910501	161447	138	251	55	53					
96	14	ATLANTIC OCEAN	CLOUD PATTERNS	24.1N 25.4W	40 LO 100 N	19910501	161504	137	253	55	53					
96	15	ATLANTIC OCEAN	CLOUD PATTERNS	23.8N 25.2W	30 LO 100 N	19910501	161510	137	254	55	53					
96	16	ATLANTIC OCEAN	CLOUD PATTERNS	23.4N 24.9W	60 LO 100 N	19910501	161517	137	254	54	53					
96	28	ATLANTIC OCEAN	MOSTLY CLOUDY	40.9N 64.0W	80 LO 100 N	19910501	173903	139	206	57	54					
96	29	ATLANTIC OCEAN	MOSTLY CLOUDY	40.7N 63.7W	85 LO 100 N	19910501	173909	139	206	57	54					
96	30	ATLANTIC OCEAN	CLOUDY	40.4N 63.3W	100 LO 100 N	19910501	173915	139	207	57	54					
97	1	ATLANTIC OCEAN	CLOUDY	56.8N 13.4W	95 HO 100 N	19910506	093054	147	105	29	129					
97	2	ATLANTIC OCEAN	CLOUDY	56.8N 13.2W	95 HO 100 N	19910506	093056	147	105	29	129					
97	3	ATLANTIC OCEAN	CLOUDY	56.8N 13.1W	95 HO 100 N	19910506	093057	147	105	29	129					
97	4	ATLANTIC OCEAN	CLOUDY, DARK	56.7N 12.5W	99 LO 100 N	19910506	093102	147	106	29	129					
97	5	ATLANTIC OCEAN	CLOUDY, DARK	56.6N 11.7W	99 LO 100 N	19910506	093109	147	107	30	129					
97	6	ATLANTIC OCEAN	CLOUDY, DARK	56.5N 10.5W	99 LO 100 N	19910506	093119	147	108	30	129					
97	7	ATLANTIC OCEAN	CLOUDY, DARK	56.5N 10.3W	99 LO 100 N	19910506	093121	147	108	31	129					
97	8	ATLANTIC OCEAN	CLOUDY, DARK	56.4N 9.5W	99 LO 100 N	19910506	093128	147	109	31	129					
97	9	ATLANTIC OCEAN	CLOUDY, DARK	56.3N 8.9W	99 LO 100 N	19910506	093134	147	110	31	129					
97	10	ATLANTIC OCEAN	CLOUDY, DARK	56.1N 8.0W	99 LO 100 N	19910506	093142	147	111	32	129					
97	11	ATLANTIC OCEAN	CLOUDY, DARK	56.1N 7.5W	99 LO 100 N	19910506	093146	147	111	32	129					
98	42	ATLANTIC OCEAN	CLOUDS, WATER	40.2N 60.8W	70 HO 100 N	19910506	153743	144	157	61	133					
98	53	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	4.5S 28.2W	80 LO 100 N	19910506	155133	139	302	58	133					
98	54	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	4.7S 28.1W	80 LO 100 N	19910506	155136	139	302	58	133					
98	55	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	5.6S 27.6W	40 LO 100 N	19910506	155153	139	303	57	133					
98	56	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	6.2S 27.2W	30 LC 100 N	19910506	155204	139	303	56	133					
98	57	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	6.5S 27.1W	30 LO 100 N	19910506	155208	139	303	56	133					

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LO	LAT	LO										EL	OR
98	58	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	7.1S	26.7W	50	LO	100	N	19910506	155219	139	304	55	133			
98	59	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	7.2S	26.6W	50	LO	100	N	19910506	155222	139	304	55	133			
98	60	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	7.9S	26.3W	40	LO	100	N	19910506	155233	139	304	54	133			
98	61	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.2S	25.4W	40	LO	100	N	19910506	155258	139	305	53	133			
98	62	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.4S	25.3W	40	LO	100	N	19910506	155301	139	305	52	133			
98	63	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.5S	25.3W	40	LO	100	N	19910506	155303	139	305	52	133			
98	64	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.6S	25.2W	50	LO	100	N	19910506	155305	139	305	52	133			
98	65	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.8S	25.1W	60	LO	100	N	19910506	155307	139	305	52	133			
98	66	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	9.9S	25.1W	60	LO	100	N	19910506	155309	139	305	52	133			
98	67	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.0S	25.0W	60	LO	100	N	19910506	155311	139	305	52	133			
98	68	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.1S	24.9W	50	LO	100	N	19910506	155313	139	306	52	133			
98	69	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.5S	24.7W	50	LO	100	N	19910506	155321	139	306	51	133			
98	70	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	10.8S	24.5W	40	LO	100	N	19910506	155326	139	306	51	133			
98	71	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	12.3S	23.6W	60	LO	100	N	19910506	155352	140	307	49	133			
98	72	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	12.4S	23.5W	60	LO	100	N	19910506	155354	140	307	49	133			
98	73	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	12.6S	23.4W	50	LO	100	N	19910506	155359	140	307	49	133			
98	74	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	13.1S	23.1W	60	LO	100	N	19910506	155408	140	307	48	133			
98	75	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	13.5S	22.8W	60	LO	100	N	19910506	155415	140	307	48	133			
98	76	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	14.2S	22.4W	40	LO	100	N	19910506	155427	140	307	47	133			
98	77	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	14.6S	22.2W	70	LO	100	N	19910506	155434	140	307	47	133			
98	78	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	15.1S	21.8W	40	LO	100	N	19910506	155444	140	307	46	133			
98	79	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.3S	21.1W	10	LO	100	N	19910506	155505	140	308	45	133			
98	80	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.5S	21.0W	10	LO	100	N	19910506	155508	140	308	44	133			
98	81	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.7S	20.8W	20	LO	100	N	19910506	155512	140	308	44	133			
98	82	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	16.8S	20.7W	20	LO	100	N	19910506	155515	140	308	44	133			
98	83	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.2S	20.5W	20	LO	100	N	19910506	155522	140	308	44	133			
98	84	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.3S	20.4W	20	LO	100	N	19910506	155524	140	308	43	133			
98	85	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.6S	20.2W	20	LO	100	N	19910506	155529	140	308	43	133			
98	86	ATLANTIC OCEAN	CLOUDS, SHADOWS, WATER	17.9S	20.0W	80	LO	100	N	19910506	155534	140	308	43	133			
151	91	ATLANTIC OCEAN	JET CON TRAILS	57.2N	17.9W	25	LO	250	N	19910430	113935	144	145	43	34			
151	92	ATLANTIC OCEAN	JET CON TRAILS	57.1N	16.4W	50	LO	250	N	19910430	113948	144	147	44	34			
601	48	ATLANTIC OCEAN	JET STREAM, ICE FLOWS	45.9N	64.9W	55	HO	100	N	19910429	113800	138	94	24	17			
605	2	ATLANTIC OCEAN	PAYLOAD BAY, CLOUDS	36.6N	43.3W	40	HO	250	N	19910503	155400	135	219	65	84			
605	3	ATLANTIC OCEAN	PAYLOAD BAY, CLOUDS	33.6N	40.3W	40	HO	250	N	19910503	155500	135	229	65	84			
605	4	ATLANTIC OCEAN	SUNGLINT, SHIP DUMP	33.6N	40.3W	15	LO	250	N	19910503	155500	135	229	65	84			
605	5	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	33.6N	40.3W	20	LO	250	N	19910503	155500	135	229	65	84			
605	6	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	30.5N	37.5W	15	LO	250	N	19910503	155600	135	239	65	84			
605	7	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	24.1N	32.4W	15	LO	250	N	19910503	155800	135	258	63	84			
605	8	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	24.1N	32.4W	15	LO	250	N	19910503	155800	135	258	63	84			
605	9	ATLANTIC OCEAN	SUNGLINT, OCEAN FEATURES	24.1N	32.4W	20	LO	250	N	19910503	155800	135	258	63	84			

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
605	10	ATLANTIC OCEAN	CLOUD VORT., CAPE VERDES	15.0N 21.0W	17.5N 27.9W	45	HO	250	N	N	19910503	160000	135	272	59 84
605	11	ATLANTIC OCEAN	CLOUD VORT., CAPE VERDES	14.0N 21.0W	14.2N 25.8W	55	HO	250	N	N	19910503	160100	135	277	56 84
605	59	ATLANTIC OCEAN	CLOUD FORMATIONS		9.4N 27.5W	70	HO	250	N	N	19910504	155800	142	285	57 100
605	60	ATLANTIC OCEAN	CLOUD FORMATIONS		9.4N 27.5W	70	HO	250	N	N	19910504	155800	142	285	57 100
607	11	ATLANTIC OCEAN	CON TRAILS		57.1N 22.3W	35	LO	100	N	N	19910430	113900	137	143	43 33
607	12	ATLANTIC OCEAN	CON TRAILS		56.9N 15.2W	55	HO	100	N	N	19910430	114000	137	153	45 33
610	22	ATLANTIC OCEAN	CANARY CURRENT, SHIP WA.		16.7N 16.5W	0	LO	250	N	N	19910430	162500	137	275	42 36
2	28	ATMOSPHERIC LIMB	SUNSET-LEFT SIDE FRAME				HO	35	N	N					
2	29	ATMOSPHERIC LIMB	BRIGHT-LEFT SIDE				HO	35	N	N					
2	30	ATMOSPHERIC LIMB	SUNSET-LEFT SIDE FRAME				HO	35	N	N					
3	5	ATMOSPHERIC LIMB	BRIGHT-SUN AT RIGHT SIDE				HO	35	O	N					
3	6	ATMOSPHERIC LIMB	BRIGHT-SUN AT RIGHT SIDE				HO	35	O	N					
3	7	ATMOSPHERIC LIMB	BRIGHT-SUN AT RIGHT SIDE				HO	35	O	N					
3	8	ATMOSPHERIC LIMB	SUNSET				HO	35	N	N					
3	9	ATMOSPHERIC LIMB	SUNSET				HO	35	N	N					
3	10	ATMOSPHERIC LIMB	FADE AT LEFT SIDE				HO	35	N	N					
3	11	ATMOSPHERIC LIMB	FADE AT LEFT SIDE				HO	35	N	N					
3	12	ATMOSPHERIC LIMB	FADE AT LEFT SIDE				HO	35	N	N					
3	13	ATMOSPHERIC LIMB	BRIGHT-ENLARGEMENT				HO	70	O	N					
17	1	ATMOSPHERIC LIMB	BRIGHT, MOON				HO	35	O	N					
17	2	ATMOSPHERIC LIMB	BRIGHT, MOON				HO	35	O	N					
17	3	ATMOSPHERIC LIMB	BRIGHT, MOON				HO	35	O	N					
22	6	ATMOSPHERIC LIMB	MOON				HO	35	O	N					
22	7	ATMOSPHERIC LIMB	MOON				HO	35	O	N					
22	13	ATMOSPHERIC LIMB	MOON				HO	35	O	N					
22	14	ATMOSPHERIC LIMB	MOON				HO	35	O	N					
22	15	ATMOSPHERIC LIMB	MOON				HO	35	O	N					
22	16	ATMOSPHERIC LIMB	BRIGHT				HO	35	O	N					
22	35	ATMOSPHERIC LIMB	IONOSPHERE GLOW				HO	35	U	N					
23	4	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE				HO	35	O	N					
23	5	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE				HO	35	O	N					
23	6	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE				HO	35	O	N					
23	7	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE				HO	35	O	N					
23	8	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE				HO	35	O	N					
23	9	ATMOSPHERIC LIMB	BRIGHT-RIGHT SIDE				HO	35	O	N					
28	29	ATMOSPHERIC LIMB	IONOSPHERIC GLOW				HO	35	N	N					
73	72	ATMOSPHERIC LIMB			28.3S 139.5W	60	HO	250	N	N	19910429	031906	140	282	-7 12
73	73	ATMOSPHERIC LIMB			31.3S 136.9W	80	HO	250	N	N	19910429	032004	141	280	-10 12
73	74	ATMOSPHERIC LIMB	SUN		37.1S 131.2W		HO	250	N	N	19910429	032159	142	275	-16 12
73	75	ATMOSPHERIC LIMB			37.2S 131.1W		HO	250	N	N	19910429	032201	142	275	-16 12

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIP		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	EL	OR
				LAT	LONG	LAT	LONG												
73	76	ATMOSPHERIC LIMB		37.3S	131.0W			HO	250	N	N	N	19910429	032204	142	275	-16	12	
73	77	ATMOSPHERIC LIMB	VERY DARK	39.5S	128.4W			HO	250	U	N	N	19910429	032251	142	273	-18	12	
77	29	ATMOSPHERIC LIMB		32.0S	90.8W			HO	250	N	N	N	19910429	002106	141	279	-11	10	
77	30	ATMOSPHERIC LIMB		32.3S	90.5W			HO	250	N	N	N	19910429	002112	141	279	-12	10	
77	31	ATMOSPHERIC LIMB	VERY DARK	36.4S	86.5W			HO	250	U	N	N	19910429	002234	142	275	-16	10	
77	32	ATMOSPHERIC LIMB	VERY DARK	36.5S	86.3W			HO	250	U	N	N	19910429	002237	142	275	-16	10	
77	33	ATMOSPHERIC LIMB	VERY DARK	38.3S	84.3W			HO	250	U	N	N	19910429	002314	142	274	-18	10	
77	34	ATMOSPHERIC LIMB	VERY DARK	38.7S	83.8W			HO	250	U	N	N	19910429	002323	142	273	-18	10	
83	67	ATMOSPHERIC LIMB	MOON RISE	40.5N	173.5E	100		HO	250	U	N	N	19910429	190356	143	85	16	23	
332	18	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	19	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	20	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	21	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	22	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	23	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	24	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	25	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	26	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	27	ATMOSPHERIC LIMB	IONOSPHERIC GLOW					HO	35	N	N								
332	28	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-BACK SH					HO	35	N	N								
364	33	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK					HO	35	U	N								
364	34	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK					HO	35	U	N								
364	35	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-V.DARK					HO	35	U	N								
364	36	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-V.DARK					HO	35	U	N								
377	1	ATMOSPHERIC LIMB	DARK					HO	35	U	N								
377	2	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK					HO	35	U	N								
377	3	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK					HO	35	U	N								
377	4	ATMOSPHERIC LIMB	IONOSPHERIC GLOW-DARK					HO	35	U	N								
377	9	ATMOSPHERIC LIMB	BRIGHT					HO	35	O	N								
377	10	ATMOSPHERIC LIMB	BRIGHT					HO	35	O	N								
377	11	ATMOSPHERIC LIMB	BRIGHT					HO	35	O	N								
377	12	ATMOSPHERIC LIMB	BRIGHT					HO	35	O	N								
22	2	AURORA	AUSTRALIS					HO	35	N	N								
22	8	AURORA	AUSTRALIS					HO	35	N	N								
22	9	AURORA	AUSTRALIS					HO	35	N	N								
22	10	AURORA	AUSTRALIS					HO	35	N	N								
22	11	AURORA	AUSTRALIS					HO	35	N	N								
22	12	AURORA	AUSTRALIS					HO	35	N	N								
22	17	AURORA	AUSTRALIS					HO	35	N	N								
22	18	AURORA	AUSTRALIS					HO	35	N	N								

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
22	19	AURORA	AUSTRALIS						HO	35	N	N						
22	20	AURORA	AUSTRALIS						HO	35	N	N						
22	21	AURORA	AUSTRALIS						HO	35	N	N						
22	22	AURORA	AUSTRALIS						HO	35	N	N						
22	23	AURORA	AUSTRALIS						HO	35	N	N						
22	24	AURORA	AUSTRALIS						HO	35	N	N						
22	25	AURORA	AUSTRALIS						HO	35	N	N						
22	26	AURORA	AUSTRALIS						HO	35	N	N						
22	27	AURORA	AUSTRALIS						HO	35	N	N						
22	28	AURORA	AUSTRALIS						HO	35	N	N						
22	29	AURORA	AUSTRALIS						HO	35	N	N						
22	30	AURORA	AUSTRALIS						HO	35	N	N						
22	31	AURORA	AUSTRALIS						HO	35	N	N						
22	32	AURORA	AUSTRALIS						HO	35	N	N						
22	33	AURORA	AUSTRALIS						HO	35	N	N						
22	34	AURORA	AUSTRALIS						HO	35	N	N						
23	10	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	11	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	12	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	13	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	14	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	15	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	16	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	17	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	18	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	19	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	20	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	21	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	22	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	23	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	24	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	25	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	26	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	27	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	28	AURORA	AUSTRALIS-ELLIPTICAL						HO	35	N	N						
23	29	AURORA	AUSTRALIS						HO	35	N	N						
23	30	AURORA	AUSTRALIS						HO	35	N	N						
23	32	AURORA	AUSTRALIS-RED CROWN						HO	35	N	N						
23	33	AURORA	AUSTRALIS-RED CROWN						HO	35	N	N						
23	34	AURORA	AUSTRALIS-RED CROWN						HO	35	N	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
23	35	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	36	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	37	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
23	38	AURORA	AUSTRALIS-RED CROWN					HO	35	N	N							
25	2	AURORA	AUSTRALIS					HO	35	N	N							
25	3	AURORA	AUSTRALIS					HO	35	N	N							
25	4	AURORA	AUSTRALIS					HO	35	N	N							
25	5	AURORA	AUSTRALIS					HO	35	N	N							
25	6	AURORA	AUSTRALIS					HO	35	N	N							
25	7	AURORA	AUSTRALIS					HO	35	N	N							
25	8	AURORA	AUSTRALIS					HO	35	N	N							
25	9	AURORA	AUSTRALIS					HO	35	N	N							
25	10	AURORA	AUSTRALIS					HO	35	N	N							
25	11	AURORA	AUSTRALIS					HO	35	N	N							
25	12	AURORA	AUSTRALIS					HO	35	N	N							
25	13	AURORA	AUSTRALIS					HO	35	N	N							
25	14	AURORA	AUSTRALIS					HO	35	N	N							
25	15	AURORA	AUSTRALIS					HO	35	N	N							
25	16	AURORA	AUSTRALIS					HO	35	N	N							
25	17	AURORA	AUSTRALIS					HO	35	N	N							
25	18	AURORA	AUSTRALIS					HO	35	N	N							
25	19	AURORA	AUSTRALIS					HO	35	N	N							
25	20	AURORA	AUSTRALIS-WINDOW FLARE					HO	35	N	N							
25	21	AURORA	AUSTRALIS					HO	35	N	N							
25	22	AURORA	AUSTRALIS-DARK					HO	35	U	N							
28	19	AURORA	AUSTRALIS-1/8 FRAME					HO	35	N	N							
28	20	AURORA	AUSTRALIS					HO	35	N	N							
28	21	AURORA	AUSTRALIS					HO	35	N	N							
28	22	AURORA	AUSTRALIS-SM. GREEN PROM.					HO	35	N	N							
28	23	AURORA	AUSTRALIS-SM. GREEN PROM.					HO	35	N	N							
28	24	AURORA	AUSTRALIS-SM. GREEN PROM.					HO	35	N	N							
28	25	AURORA	AUSTRALIS-GREEN/RED CRWN					HO	35	N	N							
28	26	AURORA	AUSTRALIS-GREEN/RED CRWN					HO	35	N	N							
28	27	AURORA	AUSTRALIS-GREEN CROWN					HO	35	N	N							
28	28	AURORA	AUSTRALIS-GREEN CROWN					HO	35	N	N							
28	30	AURORA	AUSTRALIS					HO	35	N	N							
28	31	AURORA	AUSTRALIS					HO	35	N	N							
28	32	AURORA	AUSTRALIS					HO	35	N	N							
28	33	AURORA	AUSTRALIS					HO	35	N	N							
28	34	AURORA	AUSTRALIS					HO	35	N	N							

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	EL	S	DATE	GMT	AL	AZ	SUN EL	OR
28	35	AURORA	AUSTRALIS					HO	35	N	N							
28	36	AURORA	AUSTRALIS					HO	35	N	N							
332	11	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	12	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	13	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	14	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	15	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	16	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	17	AURORA	AUSTRALIS-BACK SH. TAIL					HO	35	N	N							
332	34	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
332	35	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
332	36	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
332	37	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	1	AURORA	AUSTRALIS					HO	35	N	N							
342	2	AURORA	AUSTRALIS					HO	35	N	N							
342	3	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	4	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	5	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	6	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	7	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	8	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	9	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	10	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	11	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	12	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	13	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	14	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	15	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	16	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	17	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	18	AURORA	AUSTRALIS					HO	35	N	N							
342	19	AURORA	AUSTRALIS-DARK					HO	35	U	N							
342	20	AURORA	AUSTRALIS-DARK					HO	35	N	N							
342	21	AURORA	AUSTRALIS-DARK					HO	35	N	N							
342	22	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	23	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	24	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	25	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	26	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	27	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR
342	28	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	29	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	30	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	31	AURORA	AUSTRALIS-RED/GREEN PROM					HO	35	N	N							
342	32	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	33	AURORA	AUSTRALIS-GREEN PROM.					HO	35	N	N							
342	34	AURORA	AUSTRALIS-DARK					HO	35	U	N							
342	35	AURORA	AUSTRALIS-VERY DARK					HO	35	U	N							
342	36	AURORA	AUSTRALIS-DARK					HO	35	N	N							
364	2	AURORA	AUSTRALIS					HO	35	N	N							
364	3	AURORA	AUSTRALIS					HO	35	N	N							
364	4	AURORA	AUSTRALIS					HO	35	N	N							
364	5	AURORA	AUSTRALIS					HO	35	N	N							
364	6	AURORA	AUSTRALIS					HO	35	N	N							
364	7	AURORA	AUSTRALIS					HO	35	N	N							
364	8	AURORA	AUSTRALIS					HO	35	N	N							
364	9	AURORA	AUSTRALIS					HO	35	N	N							
364	10	AURORA	AUSTRALIS					HO	35	N	N							
364	11	AURORA	AUSTRALIS					HO	35	N	N							
364	12	AURORA	AUSTRALIS					HO	35	N	N							
364	13	AURORA	AUSTRALIS					HO	35	N	N							
364	14	AURORA	AUSTRALIS					HO	35	N	N							
364	15	AURORA	AUSTRALIS					HO	35	N	N							
364	16	AURORA	AUSTRALIS					HO	35	N	N							
364	17	AURORA	AUSTRALIS					HO	35	N	N							
364	18	AURORA	AUSTRALIS					HO	35	N	N							
364	19	AURORA	AUSTRALIS					HO	35	N	N							
364	20	AURORA	AUSTRALIS					HO	35	N	N							
364	21	AURORA	AUSTRALIS					HO	35	N	N							
364	22	AURORA	AUSTRALIS					HO	35	N	N							
364	23	AURORA	AUSTRALIS					HO	35	N	N							
364	24	AURORA	AUSTRALIS					HO	35	N	N							
364	25	AURORA	AUSTRALIS					HO	35	N	N							
364	26	AURORA	AUSTRALIS					HO	35	N	N							
364	27	AURORA	AUSTRALIS-FLARE					HO	35	N	N							
364	28	AURORA	AUSTRALIS-FLARE					HO	35	N	N							
364	29	AURORA	AUSTRALIS-FLARE					HO	35	N	N							
364	30	AURORA	AUSTRALIS-FLARE					HO	35	N	N							
364	31	AURORA	AUSTRALIS-FLARE					HO	35	N	N							
364	32	AURORA	AUSTRALIS-FLARE					HO	35	N	N							

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
367	22	AURORA	AUSTRALIS					HO	35	N	N							
367	23	AURORA	AUSTRALIS					HO	35	N	N							
367	24	AURORA	AUSTRALIS					HO	35	N	N							
367	25	AURORA	AUSTRALIS					HO	35	N	N							
367	26	AURORA	AUSTRALIS					HO	35	N	N							
367	27	AURORA	AUSTRALIS					HO	35	N	N							
367	28	AURORA	AUSTRALIS					HO	35	N	N							
367	29	AURORA	AUSTRALIS					HO	35	N	N							
377	5	AURORA	AUSTRALIS-DAY RIGHT SIDE					HO	35	N	N							
377	6	AURORA	AUSTRALIS-DAY RIGHT SIDE					HO	35	N	N							
377	7	AURORA	AUSTRALIS-DAY RIGHT SIDE					HO	35	N	N							
377	8	AURORA	AUSTRALIS-DAY RIGHT SIDE					HO	35	N	N							
377	13	AURORA	AUSTRALIS					HO	35	N	N							
377	14	AURORA	AUSTRALIS					HO	35	N	N							
377	15	AURORA	AUSTRALIS					HO	35	N	N							
377	16	AURORA	AUSTRALIS					HO	35	N	N							
377	17	AURORA	AUSTRALIS					HO	35	N	N							
377	18	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	19	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	20	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	21	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	22	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	23	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	24	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	25	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	26	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	27	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	28	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	29	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	30	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	31	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	32	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	33	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	34	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
377	35	AURORA	AUSTRALIS-RED/GREEN CRWN					HO	35	N	N							
85	74	AUSTRALIA	BLURRED	18.7S	133.7E	25	HO	250	F	N	19910502	072252	135	292	26	63		
72	46	AUSTRALIA-NT	MACDONNELL RANGES	24.0S	133.0E	5	LO	250	N	N								
72	47	AUSTRALIA-NT	MACDONNELL RANGES	24.0S	133.5E	5	LO	250	N	N								
86	96	AUSTRALIA-NT	WESSEL ISLANDS	11.5S	136.5E	11.5S	136.6E	30	NV	250	N	N	19910430	073610	137	288	15	31
86	97	AUSTRALIA-NT	WESSEL ISLANDS	11.5S	136.5E	11.8S	136.8E	40	LO	250	N	N	19910430	073615	137	288	15	31

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
74	41	AUSTRALIA-Q	NORTH STRADBROKE ISLAND	28.0S	153.5E	29.6S	148.0E	45	LO	250	N	Y	19910506	053149	142	306	28	126	
74	42	AUSTRALIA-Q	COOLANGATTA-BURLEIGH HDS	28.0S	153.5E	30.3S	148.6E	40	LO	250	N	Y	19910506	053204	143	306	27	126	
74	43	AUSTRALIA-Q	COOLANGATTA-BURLEIGH HDS	28.0S	153.5E	31.3S	149.5E	40	LO	250	N	Y	19910506	053223	143	306	26	126	
74	44	AUSTRALIA-Q	COOLANGATTA-BURLEIGH HDS	28.0S	154.0E	31.7S	149.9E	45	LO	250	N	Y	19910506	053231	143	306	25	126	
93	72	AUSTRALIA-Q	NO ID FEATURES,HAZY			18.8S	140.0E	70	HO	250	N	N	19910506	052829	141	306	41	126	
93	73	AUSTRALIA-Q	NO ID FEATURES,HAZY			24.9S	144.2E	90	HO	250	N	N	19910506	053021	142	307	34	126	
93	74	AUSTRALIA-Q	DARLING DOWNS AREA			27.2S	146.0E	70	HO	250	N	N	19910506	053104	142	307	31	126	
93	75	AUSTRALIA-Q	DARLING DOWNS AREA			27.9S	146.6E	60	HO	250	N	N	19910506	053118	142	307	30	126	
94	69	AUSTRALIA-Q	CAPE KEERWEER AREA	14.0S	141.7E	14.9S	141.8E	15	LO	100	N	N	19910505	053231	141	299	45	110	
609	13	AUSTRALIA-Q	GREAT BARRIER REEF	12.5S	143.5E	13.3S	140.7E	15	LO	250	N	N	19910505	053200	141	302	37	109	
609	14	AUSTRALIA-Q	CAIRNS, CAPE GRAFTON	17.0S	146.0E	16.7S	142.8E	35	LO	250	N	N	19910505	053300	141	303	33	109	
609	15	AUSTRALIA-Q	CAPE MELVILLE AREA	14.5S	144.5E	16.7S	142.8E	40	LO	250	N	N	19910505	053300	141	303	33	109	
609	16	AUSTRALIA-Q	PORT OF ST. LAWRENCE	22.0S	150.0E	20.0S	145.0E	25	LO	250	N	N	19910505	053400	141	303	30	109	
609	17	AUSTRALIA-Q	FAIRBAIRN RESERVOIR	23.5S	148.0E	23.2S	147.2E	5	LO	250	N	N	19910505	053500	141	303	26	109	
609	18	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	24.5S	148.5E	23.2S	147.2E	0	NV	250	N	N	19910505	053500	141	303	26	109	
609	19	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	25.0S	149.0E	23.2S	147.2E	0	NV	250	N	N	19910505	053500	141	303	26	109	
609	20	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	26.0S	149.5E	23.2S	147.2E	5	NV	250	N	N	19910505	053500	141	303	26	109	
609	21	AUSTRALIA-Q	GR. DIVIDING RA., AGRIC.	26.5S	150.5E	26.5S	149.6E	5	NV	250	N	N	19910505	053600	141	302	22	109	
609	22	AUSTRALIA-Q	COAST NEAR MT. WARNING	28.5S	153.5E	26.5S	149.6E	5	LO	250	N	N	19910505	053600	141	302	22	109	
84	49	AUSTRALIA-SA	NORTH FLINDERS RANGES	31.0S	138.5E	27.1S	136.2E	0	LO	250	N	N	19910503	071647	137	295	30	79	
72	43	AUSTRALIA-WA	GREY SANDY D., L. AULD	22.5S	124.5E			0	LO	250	N	N							
72	44	AUSTRALIA-WA	GREY SANDY DESERT	20.5S	123.0E			5	HO	250	N	N							
72	45	AUSTRALIA-WA	GREY SANDY D., L. AULD	22.5S	123.5E			5	LO	250	N	N							
606	23	AUSTRALIA-WA	EXMOUTH GULF, LK. MACLEOD	24.0S	114.0E			35	HO	100	N	N							
606	24	AUSTRALIA-WA	LK. MACLEOD, SHARK BAY	25.5S	114.0E			65	HO	100	N	N							
606	25	AUSTRALIA-WA	SHARK BAY, THUNDERSTORMS	26.5S	114.5E			65	HO	100	N	N							
606	26	AUSTRALIA-WA	WEST COAST, THUNDERSTORMS					85	HO	100	N	N							
74	72	AUSTRIA	AGRICULTURE NEAR WIEN	48.5N	16.0E	50.1N	14.0E	70	LO	250	O	Y	19910506	093525	146	135	46	129	
74	74	AUSTRIA	WIEN-HAZY	48.5N	16.0E	49.9N	14.4E	65	LO	250	O	Y	19910506	093530	146	136	46	129	
74	75	AUSTRIA	WIEN-HAZY	48.0N	16.5E	49.8N	14.7E	75	LO	250	O	Y	19910506	093533	146	136	47	129	
74	76	AUSTRIA	BRATISLAVA-HAZY	48.0N	17.0E	49.6N	15.1E	85	LO	250	O	Y	19910506	093538	146	137	47	129	
74	77	AUSTRIA	NEAR BRATISLAVA-HAZY	48.5N	17.5E	49.5N	15.3E	80	LO	250	O	Y	19910506	093541	146	137	47	129	
72	83	BAHAMAS	ANDROS ISLAND	24.5N	77.0W			20	HO	250	N	N							
72	84	BAHAMAS	N. PROVIDENCE CHANNEL	25.5N	77.0W			15	HO	250	N	N							
72	85	BAHAMAS	ANDROS ISLAND, EXUMA S.	23.5N	77.0W			20	HO	250	N	N							
72	90	BAHAMAS	TONGUE OF THE OCEAN	23.5N	76.0W			25	HO	250	N	N							
151	206A	BAHAMAS	CAICOS ISLANDS	22.0N	71.5W	23.1N	70.1W	15	LO	250	N	N	19910501	191424	138	253	55	55	
71	76	BAHRAIN	KUWAIT SMOKE	26.0N	50.5E	26.0N	53.3E	0	LO	250	N	N	19910428	120632	138	268	36	2	
607	55	BALEARIC ISLANDS	MAJORCA, OUT OF FOCUS	40.0N	3.0E	44.0N	3.8E	25	HO	100	N	N	19910430	131700	136	222	55	34	
607	56	BALEARIC ISLANDS	MAJORCA, OUT OF FOCUS	39.5N	4.0E	44.0N	3.8E	15	HO	100	N	N	19910430	131700	136	222	55	34	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
607	57	BALEARIC ISLANDS	MAJORCA, OUT OF FOCUS	39.0N 3.0E	44.0N 3.8E	20	HO	100	N	N	19910430	131700	136	222	55	34
93	76	BANGLADESH	VRY CLOUDY, HAZY		27.3N 88.3E	90	LO	250	N	N	19910506	064416	143	198	73	127
93	77	BANGLADESH	VRY CLOUDY, HAZY		27.0N 88.5E	90	LO	250	N	N	19910506	064420	143	199	73	127
93	78	BANGLADESH	VRY CLOUDY, HAZY		26.9N 88.6E	95	LO	250	N	N	19910506	064423	143	199	73	127
93	79	BANGLADESH	VRY CLOUDY, HAZY		26.7N 88.8E	95	LO	250	N	N	19910506	064426	143	200	73	127
93	80	BANGLADESH	VRY CLOUDY, HAZY		23.8N 90.9E	90	LO	250	N	N	19910506	064520	143	213	75	127
93	81	BANGLADESH	VRY CLOUDY, HAZY		23.5N 91.2E	95	LO	250	N	N	19910506	064526	143	215	75	127
93	82	BANGLADESH	VRY CLOUDY, HAZY		23.0N 91.6E	95	LO	250	N	N	19910506	064536	143	218	75	127
93	83	BANGLADESH	VRY CLOUDY, HAZY		22.7N 91.7E	95	LO	250	N	N	19910506	064540	143	219	75	127
93	84	BANGLADESH	VRY CLOUDY, HAZY		22.5N 91.9E	99	LO	250	N	N	19910506	064544	143	220	75	127
93	85	BANGLADESH	VRY CLOUDY, HAZY		21.8N 92.4E	95	LO	250	N	N	19910506	064557	143	223	75	127
93	86	BANGLADESH	VRY CLOUDY, HAZY		20.4N 93.4E	95	LO	250	N	N	19910506	064623	142	231	75	127
93	87	BANGLADESH	VRY CLOUDY, HAZY		20.1N 93.5E	99	LO	250	N	N	19910506	064628	142	232	75	127
93	88	BANGLADESH	VRY CLOUDY, HAZY		19.7N 93.8E	99	LO	250	N	N	19910506	064636	142	234	75	127
93	89	BANGLADESH	VRY CLOUDY, HAZY		19.5N 94.0E	95	LO	250	N	N	19910506	064640	142	236	75	127
93	90	BANGLADESH	VRY CLOUDY, HAZY		19.3N 94.1E	95	LO	250	N	N	19910506	064644	142	237	75	127
93	91	BANGLADESH	VRY CLOUDY, HAZY		19.0N 94.3E	90	LO	250	N	N	19910506	064648	142	238	75	127
77	17	BERING SEA	CLOUDS - SUNGLINT		56.9N 173.3E	60	LO	250	N	N	19910428	235021	145	167	47	10
77	18	BERING SEA	CLOUDS - SUNGLINT		56.2N 179.0E	60	LO	250	N	N	19910428	235111	145	176	48	10
77	16	BERING SEA - SUNGLINT	CLOUDS		57.0N 171.9E	50	LO	250	N	N	19910428	235009	145	165	46	10
88	63	BERMUDA ISLANDS	HAMILTON, CLOUDS		32.5N 64.5W	70	LO	250	U	N						
88	64	BERMUDA ISLANDS	HAMILTON, CLOUDS		32.5N 64.5W	70	LO	250	U	N						
71	21	BLACK SEA	CLOUDS		46.0N 31.5E	85	LO	250	N	N	19910428	115943	128	230	48	2
84	50	BLACK SEA	EDDIES		42.8N 40.0E	0	LO	250	N	N	19910503	095405	139	153	49	81
606	35	BLACK SEA	EDDIES OFF COAST TURKEY		41.5N 40.0E	35	LO	100	N	N						
93	16	BOLIVIA	VERY CLOUDY, HAZY, DARK		10.5S 65.9W	90	LO	250	N	N	19910505	185814	141	300	50	119
93	17	BOLIVIA	VERY CLOUDY, HAZY		11.1S 65.5W	80	LO	250	N	N	19910505	185826	141	300	50	119
93	18	BOLIVIA	VERY CLOUDY, HAZY		11.9S 65.1W	90	LO	250	N	N	19910505	185840	141	301	49	119
93	19	BOLIVIA	VERY CLOUDY, HAZY		14.1S 63.7W	80	LO	250	N	N	19910505	185919	141	302	47	119
93	20	BOLIVIA	LK. TITICACA, PANORAMA		16.4S 69.0W	95	HO	250	N	N	19910505	190002	141	303	44	119
93	21	BOLIVIA	LK. TITICACA, PANORAMA		16.0S 69.0W	95	LO	250	N	N	19910505	190012	141	303	43	119
95	41	BOLIVIA	N BORDER WITH BRAZIL		11.1S 65.6W	40	LO	100	N	N	19910505	185820	141	300	50	119
95	42	BOLIVIA	N BORDER WITH BRAZIL		12.0S 65.0W	30	LO	100	N	N	19910505	185836	141	301	49	119
95	43	BOLIVIA	SWAMP, INTERIOR DRAINAGE		13.0S 64.4W	30	LO	100	N	N	19910505	185855	141	301	48	119
151	178	BOLIVIA	RIO GRANDE, VERY DARK		18.5S 63.0W	25	LO	250	U	N	19910430	210403	137	289	13	40
151	178A	BOLIVIA	RIO GRANDE, VERY DARK		18.5S 63.0W	30	LO	250	U	N	19910430	210419	138	290	12	40
151	214	BOLIVIA	S. END LAKE TITICACA		16.5S 69.0W	5	NV	250	N	N	19910501	205554	136	291	23	56
151	215	BOLIVIA	ANDES MTS.		17.0S 68.0W	10	NV	250	N	N	19910501	205603	137	291	23	56
151	216	BOLIVIA	ANDES MTS., ALTIPLANO		18.0S 68.0W	5	NV	250	N	N	19910501	205612	137	291	22	56
151	216A	BOLIVIA	LAKE POPOO, ALTIPLANO		18.5S 67.5W	0	NV	250	N	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
				LAT	LO	LAT	LO											
151	217	BOLIVIA	LAKE POOPO	19.0S	67.0W	18.6S	67.4W	0	NV	250	N	Y	19910501	205622	137	292	22	56
151	218	BOLIVIA	LAKE COIPASA	19.5S	68.0W	19.0S	67.1W	0	NV	250	N	Y	19910501	205630	137	292	21	56
151	219	BOLIVIA	UYUNI SALAR	20.0S	68.0W	19.4S	66.8W	0	NV	250	N	Y	19910501	205637	137	292	21	56
151	220	BOLIVIA	UYUNI SALAR	20.0S	68.0W	19.6S	66.7W	0	NV	250	N	Y	19910501	205641	137	292	21	56
151	221	BOLIVIA	UYUNI SALAR	20.5S	67.5W	20.2S	66.3W	0	NV	250	N	Y	19910501	205651	137	292	20	56
608	60	BOLIVIA	LAKE TITICACA	16.5S	69.0W	15.5S	73.0W	15	LO	250	N	Y	19910502	204700	135	295	24	71
72	16	BRAZIL	JAGUARIBE RIVER MOUTH	4.5S	37.5W			10	LO	250	N	N						
72	17	BRAZIL	COAST S. OF ARACATI	4.5S	37.5W			10	LO	250	N	Y						
72	18	BRAZIL	COAST NEAR AREIA BRANCA	5.0S	37.0W			25	LO	250	N	Y						
72	19	BRAZIL	COAST NEAR AREIA BRANCA	5.0S	37.0W			60	LO	250	N	Y						
72	20	BRAZIL	JAGUARIBE RIVER MOUTH	4.5S	38.0W			45	LO	250	N	N						
72	21	BRAZIL	JAGUARIBE RIVER MOUTH	4.5S	38.0W			55	LO	250	N	N						
72	95	BRAZIL	T/S OVER AMAZON BASIN					85	HO	250	N	N						
72	96	BRAZIL	T/S OVER AMAZON BASIN					75	HO	250	N	N						
75	78	BRAZIL	AMAZON RIVER	3.0S	65.0W	5.3S	63.8W	15	LO	250	U	N	19910428	211344	138	285	12	8
75	79	BRAZIL	RIO PURUS	6.0S	64.0W	6.7S	63.0W	45	LO	250	U	N	19910428	211408	138	286	11	8
83	100	BRAZIL	CANAL DO NORTE-AMAZON R.	0.6N	50.3W	.5N	48.4W	50	LO	250	N	N	19910429	193601	137	285	23	23
83	101	BRAZIL	RIO SAO FRANCISCO	12.2S	43.2W	12.2S	41.0W	25	LO	250	N	N	19910429	193948	138	287	11	23
83	102	BRAZIL	RIO SAO FRANCISCO	13.7S	43.5W	13.2S	40.4W	30	LO	250	N	N	19910429	194006	138	287	10	23
85	25	BRAZIL	STORM-PROTR. CONV. CELLS			.5S	51.8W	85	LO	250	N	N	19910430	192914	136	286	29	39
87	49	BRAZIL	AGR, VERY DARK	9.2S	61.5W			25	LO	250	U	Y	19910428	211457	138	286	9	8
87	50	BRAZIL	AGR, VERY DARK	9.6S	61.3W			30	LO	250	U	Y	19910428	211504	138	286	8	8
89	0A	BRAZIL	VICINITY MOUTH AMAZON R.	4.6N	50.8W			90	LO	250	N	N	19910429	193446	137	284	26	23
89	1	BRAZIL	VICINITY MOUTH AMAZON R.	3.9N	50.4W			95	LO	250	N	N	19910429	193457	137	284	26	23
89	2	BRAZIL	VICINITY MOUTH AMAZON R.	3.0N	49.9W			90	LO	250	N	N	19910429	193514	137	284	25	23
89	3	BRAZIL	VICINITY MOUTH AMAZON R.	2.3N	49.5W			95	LO	250	N	N	19910429	193527	137	284	24	23
89	4	BRAZIL	VICINITY MOUTH AMAZON R.	1.9N	49.2W			95	LO	250	N	N	19910429	193534	137	285	24	23
89	5	BRAZIL	MOUTH AMAZON R.	1.2N	48.9W			80	LO	250	N	N	19910429	193545	137	285	23	23
89	6	BRAZIL	NE. BRAZIL, VRY CLOUDY	1.8S	47.1W			70	LO	250	N	N	19910429	193639	137	286	21	23
89	7	BRAZIL	NE. BRAZIL, VRY CLOUDY	2.1S	47.0W			60	LO	250	N	N	19910429	193644	137	286	20	23
89	8	BRAZIL	NE. BRAZIL, VRY CLOUDY	2.4S	46.8W			90	LO	250	N	N	19910429	193649	137	286	20	23
89	9	BRAZIL	NE. BRAZIL, FOREST, MTNS.	2.7S	46.6W			40	LO	250	N	N	19910429	193655	137	286	20	23
89	10	BRAZIL	NE. BRAZIL, FOREST, MTNS.	3.6S	46.1W			30	LO	250	N	N	19910429	193711	137	286	19	23
89	11	BRAZIL	NE. BRAZIL, FOREST, MTNS.	4.1S	45.8W			10	LO	250	N	N	19910429	193720	137	286	19	23
89	12	BRAZIL	NE. BRAZIL, FOREST, MTNS.	4.5S	45.6W			60	LO	250	N	N	19910429	193727	137	286	18	23
89	13	BRAZIL	NE. BRAZIL, FOREST, MTNS.	5.3S	45.1W			70	LO	250	N	N	19910429	193741	137	287	18	23
89	14	BRAZIL	NE. BRAZIL, FOREST, MTNS.	6.0S	44.7W			50	LO	250	N	N	19910429	193754	137	287	17	23
89	15	BRAZIL	NE. BRAZIL, FOREST, MTNS.	7.1S	44.0W			60	LO	250	N	N	19910429	193814	138	287	16	23
89	16	BRAZIL	NE. BRAZIL, FOREST, MTNS.	7.5S	43.8W			60	LO	250	N	N	19910429	193821	138	287	15	23
89	17	BRAZIL	SWAMPY AREAS	8.7S	43.1W			30	LO	250	N	N	19910429	193842	138	287	14	23

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
89	18	BRAZIL	AREA AROUND MORPARA	11.5S 43.4W	9.1S 42.9W	40	LO	250	N	N	19910429	193850	138	287	14	23	
89	19	BRAZIL	VRY DARK FRAME		9.7S 42.5W	40	LO	250	N	N	19910429	193901	138	287	13	23	
89	20	BRAZIL	AREA NEAR UBATA		14.2S 39.7W	40	LO	250	N	N	19910429	194022	138	287	9	23	
89	21	BRAZIL	AREA NEAR UBATA		14.6S 39.5W	50	LO	250	N	N	19910429	194028	138	287	9	23	
89	42	BRAZIL	CLDY,PARTIAL FRAME		2.8S 69.3W	80	LO	250	N	N	19910429	210632	137	286	20	24	
89	43	BRAZIL	DR FRAME,RIVER,CLOUDY		5.2S 67.9W	60	LO	250	N	N	19910429	210714	137	287	18	24	
95	39	BRAZIL	W.AMAZON BASIN,CULT.FLDS		7.8S 67.5W	70	LO	100	N	N	19910505	185721	141	298	53	119	
95	40	BRAZIL	W.AMAZON BASIN,CULT.FLDS		8.5S 67.1W	60	LO	100	N	N	19910505	185734	141	299	53	119	
95	45	BRAZIL	LAGOS DOS PATOS	30.5S 51.0W	27.8S 54.0W	70	LO	100	N	N	19910505	190329	142	305	31	119	
95	46	BRAZIL	LAGOS DOS PATOS	31.2S 51.3W	29.5S 52.7W	40	LO	100	N	N	19910505	190400	143	305	29	119	
95	47	BRAZIL	AREA S.LAGUNA MERIN	32.0S 54.0W	30.4S 51.9W	40	LO	100	N	N	19910505	190419	143	305	27	119	
151	209	BRAZIL	TOCANTINS RIVER BASIN	12.0S 49.0W	9.3S 50.4W	20	LO	250	N	N	19910501	192405	137	289	30	55	
151	210	BRAZIL	TRES MARIAS RESERVOIR	18.5S 45.5W	17.5S 45.3W	5	LO	250	N	N	19910501	192632	138	291	22	55	
151	211	BRAZIL	FURNAS RESERVOIR	21.0S 45.0W	18.5S 44.7W	10	LO	250	N	N	19910501	192651	138	291	21	55	
151	211A	BRAZIL	RIO DE JANEIRO	22.5S 43.5W	20.7S 43.2W	25	LO	250	N	N	19910501	192732	138	292	19	55	
151	212	BRAZIL	RIO DE JANEIRO	23.0S 43.5W	21.8S 42.4W	10	LO	250	N	N	19910501	192752	138	292	18	55	
151	213	BRAZIL	C. ARRATAI, ARARUAMA L.	23.0S 42.0W	22.5S 41.9W	5	LO	250	N	N	19910501	192805	138	292	17	55	
71	0	A BRITAIN	SCOTLAND-MORY FIRTH	58.0N 4.0W	57.2N 8.3W	15	LO	250	N	Y	19910428	115256	108	167	47	2	
71	1	BRITAIN	SCOTLAND-MORY FIRTH	57.5N 4.0W	57.0N 3.4W	10	NV	250	N	Y	19910428	115312	109	169	47	2	
71	2	BRITAIN	SCOTLAND-NW PART-PETERHE	57.5N 2.0W	56.8N 4.5W	56	LO	250	N	N	19910428	115328	110	172	47	2	
71	3	BRITAIN	SCOTLAND-ARBROATH-DUNDEE	56.5N 2.5W	56.7N 4.3W	45	LO	250	N	N	19910428	115336	111	173	47	2	
74	56	BRITAIN	BRISTOL-BRISTOL CHANNEL	51.5N 2.0W	54.8N .6W	75	LO	250	N	Y	19910506	093249	146	118	36	129	
74	57	BRITAIN	BRISTOL-BRISTOL CHANNEL	51.5N 2.0W	54.7N .4W	75	LO	250	N	Y	19910506	093251	146	118	36	129	
74	58	BRITAIN	EASTBOURNE-ENGLISH CHAN.	51.0N 0.0	54.6N .0E	80	LO	250	N	N	19910506	093255	146	119	37	129	
74	59	BRITAIN	CLOUDS		54.4N 54.4N	1.1E	85	LO	250	N	N	19910506	093306	146	120	37	129
80	34	BRITAIN	SCOTLAND-MORAY F.-INVERN	57.5N 4.5W	56.8N 6.5W	20	LO	250	N	Y	19910429	101444	145	136	41	17	
80	35	BRITAIN	SCOTLAND-MORAY F.-INVERN		56.9N 5.8W		LO	250	N	N	19910429	101450	145	137	41	17	
80	36	BRITAIN	SCOTLAND-NE COAST	57.5N 2.0W	57.0N 5.0W	5	LO	250	N	Y	19910429	101457	145	138	41	17	
80	37	BRITAIN	SCOTLAND-ABERDEEN	57.0N 2.5W	57.0N 4.2W	15	LO	250	N	Y	19910429	101504	145	139	42	17	
80	38	BRITAIN	SCOTLAND-ORKNEY ISLANDS	58.5N 3.0W	57.2N 1.8W	0	LO	250	N	N	19910429	101524	145	142	42	17	
80	39	BRITAIN	SCOTLAND-PETERHEAD	57.5N 1.5W	57.2N .5W	5	LO	250	N	N	19910429	101535	145	144	43	17	
84	35	BRITAIN	ISLE OF WIGHT, HAZY	50.7N 1.4W	50.5N 2.6W	30	NV	250	N	N	19910503	064023	141	69	-	79	
85	0	A BRITAIN	NO.END SCOTLAND,ORKNEY I	60.0N 4.0W		25	HO	40	N	Y							
85	0	B BRITAIN	NO.END SCOTLAND,ORKNEY I	60.0N 4.0W		20	HO	40	N	Y							
96	92	BRITAIN	CONTRAILS,HAZY,CLOUDY		51.7N .2E	90	LO	250	N	N	19910503	111943	146	121	36	82	
151	0A	BRITAIN	SCOTLAND,MORAY FIRTH	57.5N 2.0W	57.0N 4.9W	45	LO	90	N	N	19910429	101456	145	139	42	17	
151	1	BRITAIN	SCOTLAND, MORAY FIRTH	58.0N 2.0W	57.1N 2.9W	30	LO	90	N	N	19910429	101512	145	141	42	17	
151	40A	BRITAIN	MORAY FIRTH, ORKNEY IS.	57.0N 3.0W	54.6N 1.5W	15	LO	250	N	N	19910430	083614	145	112	33	32	
151	93	BRITAIN	SHETLAND ISLANDS	61.0N 3.0W	56.3N 7.6W	15	HO	250	N	N	19910430	114104	144	159	46	34	
151	94	BRITAIN	SHETLAND, ORKNEY ISLANDS	59.0N 1.0W	55.8N 4.1W	10	HO	250	N	N	19910430	114136	144	164	48	34	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR
151	95	BRITAIN	ABERDEEN SCOTLAND	57.5N 2.0W	55.5N 2.9W	5	LO	250	N	N	19910430	114147	144	166	48	34
601	52	BRITAIN	SCOTLAND, ORKNEY ISLANDS	57.5N 3.0W	56.1N 3.3W	55	HO	100	N	N	19910429	114800	138	172	48	17
603	37	BRITAIN	SCOTLAND, MORAY FIRTH	57.5N 2.5W	57.1N 2.7W	40	LO	100	N	N	19910430	100900	137	140	42	32
603	38	BRITAIN	ORKNEY, SHETLAND ISLANDS	59.0N 3.0W	57.1N 2.7W	25	HO	100	N	N	19910430	100900	137	140	42	32
603	39	BRITAIN	ORKNEY, SHETLAND, FAROE	60.0N 4.0W	57.1N 2.7W	15	HO	100	N	N	19910430	100900	137	140	42	32
604	1	BRITAIN	LUCE BAY, STRANREAR	55.0N 5.0W	55.7N 8.7W	5	LO	250	N	N	19910501	113400	136	159	48	49
607	13	BRITAIN	NE SCOTLAND, MORAY FIRTH	56.0N 3.0W	55.2N 1.7W	55	LO	100	N	N	19910430	114200	137	172	49	33
607	14	BRITAIN	NE SCOTLAND, ORKNEY IS.	57.0N 3.0W	55.2N 1.7W	40	HO	100	N	N	19910430	114200	137	172	49	33
609	30	BRITAIN	GRAMPIAN MTS., ARRAN IS.	56.0N 5.5W	56.9N 4.1W	5	LO	250	N	N	19910505	080400	141	105	28	111
609	31	BRITAIN	FIRTH OF FORTH	56.0N 4.0W	56.9N 4.1W	30	LO	250	N	N	19910505	080400	141	105	28	111
609	45	BRITAIN	KILBRANNIAN SOUND	55.5N 5.5W	56.8N 10.7W	0	NV	250	N	N	19910505	093600	141	120	37	112
609	46	BRITAIN	KILBRANNIAN SOUND	55.5N 5.5W	56.8N 10.7W	0	NV	250	N	Y	19910505	093600	141	120	37	112
610	71	BRITAIN	W COAST OF SCOTLAND	56.0N 8.5W	57.0N 10.2W	0	LO	250	N	N	19910501	100100	136	128	39	48
85	56	BULGARIA	DANUBE R, AGR.	43.7N 23.6E	43.5N 23.5E	10	NV	250	N	N	19910501	114015	141	203	56	50
604	2	BULGARIA	BLACK SEA COAST, VARNA	43.0N 28.0E	41.2N 26.6E	20	LO	250	N	N	19910501	114100	136	224	57	49
80	21	BURMA	GULF OF MARTABAN	18.0N 97.0E	17.1N 100.9E	70	HO	50	N	Y	19910429	090355	139	275	34	16
80	22	BURMA	GULF OF MARTABAN	18.0N 97.0E	16.7N 101.1E	70	HO	50	N	Y	19910429	090402	139	276	34	16
80	23	BURMA	GULF OF MARTABAN	18.0N 97.0E	15.7N 101.8E	70	HO	50	N	Y	19910429	090420	138	277	33	16
80	25	BURMA	BIGHT OF BANGKOK-MALAY P	10.5N 98.5E	12.4N 103.8E	55	HO	50	N	Y	19910429	090519	138	279	31	16
80	26	BURMA	MALAY PENINSULA-SUNGLINT	10.0N 98.0E	10.3N 105.1E	55	HO	50	N	Y	19910429	090557	138	280	29	16
88	74	BURMA	IRRAWADDY RIVER BASIN	21.0N 95.0E		0	LO	250	N	N						
88	75	BURMA	IRRAWADDY RIVER BASIN	18.5N 94.5E		10	LO	250	N	N						
88	76	BURMA	IRRAWADDY RIVER BASIN	17.5N 95.0E		20	LO	250	N	N						
88	77	BURMA	IRRAWADDY RIVER BASIN	17.0N 95.0E		15	LO	250	N	N						
88	78	BURMA	IRRAWADDY RIVER BASIN	17.0N 95.5E		10	LO	250	N	N						
88	79	BURMA	IRRAWADDY RIVER DELTA	16.5N 95.5E		15	LO	250	N	N						
88	80	BURMA	SALAWEEEN RIVER BASIN	18.0N 97.5E		10	LO	250	N	N						
88	81	BURMA	DAUMA RANGE	18.5N 97.0E		5	LO	250	N	N						
88	82	BURMA	SALAWEEEN RIVER MOUTH	16.5N 97.5E		15	LO	250	N	N						
88	83	BURMA	GULF OF MARTABAN	16.0N 97.0E		10	LO	250	N	N						
88	84	BURMA	IRRAWADDY RIVER DELTA	15.5N 95.0E		20	LO	250	N	N						
88	85	BURMA	MOUNTAINS, SALAWEEEN R.	16.5N 98.5E		40	LO	250	U	N						
88	89	BURMA	NEAR KYATKAMI	16.0N 97.5E		60	LO	250	U	N						
88	90	BURMA	MOUNTAINS, STREAMS	14.5N 98.5E		55	LO	250	U	N						
88	95	BURMA	COASTAL MOUNTAINS	13.5N 99.0E		60	LO	250	U	N						
88	96	BURMA	COAST, MALI ISLAND	14.5N 98.5E		45	LO	250	U	N						
89	94	BURMA	AREA N. OF YE	15.4N 97.4E	13.7N 99.0E	50	LO	250	N	N	19910430	085808	137	277	38	32
89	95	BURMA	MOUTH OF TOVOY RIVER	13.8N 98.3E	12.9N 99.6E	30	LO	250	N	N	19910430	085823	137	277	37	32
93	92	BURMA	VRY CLOUDY, HAZY	18.7N 94.5E	18.7N 94.5E	90	LO	250	N	N	19910506	064654	142	240	75	127
93	93	BURMA	VRY CLOUDY, HAZY	18.0N 94.4E	18.0N 95.0E	80	LO	100	N	N	19910506	064707	142	243	75	127

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR	
				LAT	LONG	LAT	LONG													
93	94	BURMA	VRY CLOUDY,HAZY	17.6N	94.5E	17.8N	95.1E	70	L0	100	N	N	19910506	064711	142	244	75	127		
93	95	BURMA	VRY CLOUDY,HAZY	17.5N	95.0E	17.6N	95.3E	60	L0	100	N	N	19910506	064715	142	245	75	127		
93	96	BURMA	VRY CLOUDY,HAZY	17.0N	95.0E	17.3N	95.4E	50	L0	100	N	N	19910506	064720	142	247	75	127		
93	97	BURMA	VRY CLOUDY,HAZY	17.0N	95.2E	17.0N	95.6E	60	L0	100	N	N	19910506	064725	142	248	75	127		
93	98	BURMA	CLOUDY,HAZY,BRAIDED STRM	17.0N	95.5E	16.7N	95.8E	70	L0	100	N	N	19910506	064730	142	249	75	127		
93	99	BURMA	CLOUDY,HAZY,BRAIDED STRM	16.5N	95.0E	16.5N	95.9E	70	L0	100	N	N	19910506	064734	142	250	75	127		
93	100	BURMA	CLOUDY,HAZY,BRAIDED STRM	16.5N	95.0E	16.3N	96.1E	50	L0	100	N	N	19910506	064738	142	251	75	127		
93	101	BURMA	CLOUDY,HAZY,BRAIDED STRM	16.0N	95.7E	16.0N	96.2E	50	L0	100	N	N	19910506	064743	142	253	74	127		
93	102	BURMA	CLOUDY,HAZY,BRAIDED STRM	16.0N	95.8E	15.7N	96.4E	40	L0	100	N	N	19910506	064748	142	254	74	127		
94	70	BURMA	CHINWIN R.VALLEY,NW.	23.0N	94.3E	24.1N	95.1E	80	L0	100	N	N	19910505	065029	143	211	70	111		
94	71	BURMA	CHINWIN R.VALLEY,NW.	22.7N	94.4E	23.9N	95.3E	80	L0	100	N	N	19910505	065033	142	211	70	111		
94	72	BURMA	CHINWIN R.VALLEY,NW.	22.4N	94.7E	23.7N	95.4E	80	L0	100	N	N	19910505	065037	142	212	70	111		
94	73	BURMA	CHINWIN R.VALLEY,NW.	22.3N	94.8E	23.5N	95.5E	70	L0	100	N	N	19910505	065040	142	213	70	111		
94	74	BURMA	MR. JCTN CHINDWIN/IRRADY	21.8N	95.2E	23.1N	95.8E	0	L0	100	N	N	19910505	065047	142	214	70	111		
94	75	BURMA	IRRAWADDY,AT CHAUK	20.7N	94.6E	22.8N	96.1E	10	L0	100	N	N	19910505	065054	142	216	71	111		
94	76	BURMA	IRRAWADDY,AT YENANGYAUNG	20.3N	94.5E	22.3N	96.4E	10	L0	100	N	N	19910505	065102	142	218	71	111		
94	77	BURMA	IRRAWADDY,AT MAGWE	19.8N	94.8E	21.9N	96.7E	30	L0	100	N	N	19910505	065110	142	219	71	111		
94	78	BURMA	MOUTH MIN CHAUNG R. AREA	19.8N	93.5E	21.3N	97.1E	70	L0	100	N	N	19910505	065121	142	222	71	111		
94	79	BURMA	MOUTH MIN CHAUNG R. AREA	19.8N	93.7E	21.1N	97.2E	80	L0	100	N	N	19910505	065124	142	223	71	111		
94	80	BURMA	RAMREE ISLAND	19.2N	93.8E	20.9N	97.4E	90	L0	100	N	N	19910505	065128	142	223	71	111		
94	81	BURMA	CHEDUBA STRAIT AREA	19.0N	94.0E	20.8N	97.5E	60	L0	100	N	N	19910505	065130	142	224	71	111		
94	82	BURMA	ARAKAN YOMA MTNS.	19.0N	95.0E	20.6N	97.6E	60	L0	100	N	N	19910505	065133	142	225	71	111		
94	83	BURMA	ARAKAN YOMA MTNS.	19.0N	95.0E	20.4N	97.7E	60	L0	100	N	N	19910505	065137	142	225	71	111		
94	84	BURMA	ARAKAN YOMA MTNS.	19.5N	94.6E	20.1N	97.9E	70	L0	100	N	N	19910505	065142	142	227	71	111		
94	85	BURMA	ARAKAN YOMA MTNS.	18.5N	94.7E	19.9N	98.1E	60	L0	100	N	N	19910505	065146	142	227	71	111		
94	86	BURMA	AREA W. HENZADA	17.8N	95.2E	19.1N	98.6E	50	L0	100	N	N	19910505	065202	142	231	71	111		
94	87	BURMA	MOUTH OF IRRAWADDY R.	16.0N	95.0E	18.5N	99.0E	80	L0	100	N	N	19910505	065212	142	233	71	111		
94	88	BURMA	MOUTH OF IRRAWADDY R.	16.0N	95.0E	18.3N	99.1E	70	L0	100	N	N	19910505	065215	142	234	71	111		
94	89	BURMA	MOUTH OF IRRAWADDY R.	16.2N	95.5E	18.2N	99.2E	60	L0	100	N	N	19910505	065218	142	235	71	111		
94	90	BURMA	RANGOON AREA	16.7N	96.0E	17.8N	99.4E	50	L0	100	N	N	19910505	065224	142	236	71	111		
94	91	BURMA	RANGOON AREA	17.0N	96.0E	17.7N	99.6E	50	L0	100	N	N	19910505	065227	142	237	71	111		
94	92	BURMA	RANGOON AREA	17.5N	96.2E	17.5N	99.7E	70	L0	100	N	N	19910505	065230	142	237	71	111		
94	93	BURMA	AREA S. MOULMEIN	16.0N	97.8E	17.2N	99.9E	60	L0	100	N	N	19910505	065236	142	239	71	111		
94	94	BURMA	AREA S. MOULMEIN	16.0N	98.0E	16.8N	100.1E	80	L0	100	N	N	19910505	065242	142	240	71	111		
94	95	BURMA	MOUTH RANGOON RIVER	16.5N	96.5E	16.0N	100.7E	80	L0	100	N	N	19910505	065258	142	243	71	111		
94	96	BURMA	VIEW TOWARDS RANGOON	17.5N	95.5E	15.6N	100.9E	90	L0	100	N	N	19910505	065305	141	245	71	111		
94	97	BURMA	VIEW TOWARDS TAYOY	14.7N	98.0E	15.0N	101.2E	90	L0	100	N	N	19910505	065315	141	247	71	111		
151	47	BURMA	IRRAWADDY RIVER DELTA	16.0N	95.0E	17.1N	96.9E	35	L0	250	N	N	19910430	085706	138	273	40	32		
603	29	BURMA	GULF OF MARTABAN	16.0N	97.0E	17.5N	96.7E	30	L0	100	N	N	19910430	085700	137	275	41	31		
83	26	CAMEROON	SW VIEW,LARGE STORM				8.8N	15.0E	100	H0	250	N	N	19910429	150447	138	281	29	20	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR	
				LAT	LO	LAT	LO													
73	29	CANADA	AREA NORTH OF L. HURON	44.0N	86.6W	15	HO	250	N	Y	19910428	131306	144	95	25	3				
73	30	CANADA	AREA N OF L. HURON-S TAIL	44.1N	86.4W	20	HO	250	N	Y	19910428	131308	144	95	25	3				
73	31	CANADA	AREA N OF L. HURON-S TAIL	44.2N	86.3W	20	HO	250	N	Y	19910428	131310	144	95	25	3				
73	32	CANADA	AREA N OF L. HURON-S TAIL	44.3N	86.2W	20	HO	250	N	Y	19910428	131312	144	95	26	3				
73	33	CANADA	AREA N OF L. HURON-S TAIL	44.3N	86.1W	20	HO	250	N	Y	19910428	131313	144	95	26	3				
73	34	CANADA	AREA N OF L. HURON-S TAIL	44.5N	85.9W	20	HO	250	N	Y	19910428	131316	144	95	26	3				
75	6	CANADA	LOOKING W TO MANICOUAGAN	52.3N	50.5W	15	HO	250	N	Y	19910428	162554	145	205	49	5				
75	7	CANADA	LOOKING W TO MANICOUAGAN	51.5N	48.2W	25	HO	250	N	Y	19910428	162619	144	209	49	5				
88	47	CANADA	CANADIAN ROCKIES	55.0N	123.0W	0	LO	250	U	N										
88	48	CANADA	CANADIAN ROCKIES	55.0N	122.0W	0	HO	250	U	N										
98	0A	CANADA	CLOUDS	55.2N	93.4W	100	LO	250	N	N	19910506	153102	147	117	36	133				
98	1	CANADA	CLOUDS	55.0N	92.6W	100	LO	250	N	N	19910506	153106	147	117	36	133				
98	2	CANADA	CLOUDS	54.6N	90.7W	100	LO	250	N	N	19910506	153124	146	119	37	133				
98	3	CANADA	CLOUDS	54.4N	90.0W	100	LO	250	N	N	19910506	153131	146	119	37	133				
98	28	CANADA	GULF OF ST. LAWRENCE	48.0N	63.0W	45.5N	68.2W	0	LO	250	N	19910506	153547	145	146	53	133			
98	29	CANADA	GULF OF ST. LAWRENCE	48.3N	62.0W	44.9N	67.2W	0	LO	250	N	19910506	153601	145	147	54	133			
98	30	CANADA	GULF OF ST. LAWRENCE	48.5N	60.5W	44.7N	66.9W	5	LO	250	N	19910506	153606	145	147	55	133			
98	31	CANADA	GULF OF ST. LAWRENCE	49.0N	58.0W	44.2N	66.2W	5	LO	250	N	19910506	153617	145	149	55	133			
98	32	CANADA	GULF OF ST. LAWRENCE	49.5N	59.5W	44.0N	66.0W	30	LO	250	N	19910506	153620	145	149	55	133			
98	33	CANADA	GULF OF ST. LAWRENCE	49.5N	59.5W	43.8N	65.6W	30	LO	250	N	19910506	153626	145	149	56	133			
151	242	CANADA	HIGH PLAINS, AGRICULTURE	30	NV	250	N	N												
602	63	CANADA	VIEW NORTH UNGAVA BAY	59.0N	66.0W	57.1N	64.2W	75	HO	100	N	19910429	144500	138	149	44	19			
604	20	CANADA	CLOUDS, ICE HUDSON BAY	52.2N	81.6W	45	LO	250	N	N	19910501	125600	136	99	26	50				
604	21	CANADA	CLOUDS, ICE HUDSON BAY	52.2N	81.6W	45	HO	250	N	N	19910501	125600	136	99	26	50				
605	1	CANADA	SHUTTLE PAYLOAD BAY	50.2N	94.0W	80	HO	250	N	N	19910503	123800	134	84	16	82				
607	1	CANADA	GRAND MANAN IS., JET ST.	45.6N	69.5W	80	HO	100	N	N	19910430	113100	138	89	20	33				
607	2	CANADA	GRAND MANAN IS., JET ST.	45.6N	69.5W	80	HO	100	N	N	19910430	113100	138	89	20	33				
607	9	CANADA	PR. EDWARD I., NOVA SCOT	44.0N	63.0W	50.2N	60.3W	30	HO	100	N	19910430	113300	137	99	26	33			
607	10	CANADA	G. ST. LAW., ANTICOSTIA	48.0N	63.0W	50.2N	60.3W	35	HO	100	N	19910430	113300	137	99	26	33			
607	51	CANADA	L. HURON, OUT OF FOCUS	45.0N	82.0W	49.1N	85.6W	75	HO	100	N	19910430	130200	137	96	24	34			
607	52	CANADA	CLOUDS, OUT OF FOCUS	51.2N	80.6W	90	HO	100	N	N	19910430	130300	137	101	28	34				
75	56	CANADA-A	CALGARY-AG-CLOUDS-S TAIL	51.5N	113.5W	49.7N	112.3W	80	LO	250	N	19910428	205558	144	215	50	8			
83	51	CANADA-A	NO. SASKATCHEWAN R, AGR.	53.5N	114.2W	53.4N	115.7W	50	LO	250	U	19910429	161017	145	112	33	21			
83	52	CANADA-A	AGR, CLOUDY	54.0N	113.7W	80	LO	250	U	N	19910429	161037	145	115	34	21				
83	79	CANADA-A	LESSER SLAVE LAKE, AGR.	55.5N	115.5W	56.4N	118.2W	10	LO	250	N	19910429	191548	145	167	47	23			
83	80	CANADA-A	ATHABASCA R/TOWN, AGR.	55.0N	113.0W	56.0N	115.4W	30	LO	250	N	19910429	191613	145	171	48	23			
83	81	CANADA-A	EDMONTON, N. SASKATCHEW. R.	53.5N	113.5W	55.8N	114.0W	30	LO	250	N	19910429	191626	145	173	48	23			
83	82	CANADA-A	LAC LA BICHE, AGR.	54.7N	112.5W	55.4N	112.0W	40	LO	250	N	19910429	191644	145	176	49	23			
85	14	CANADA-A	S. SASKATCHEWAN R, SNOW, AG	50.5N	110.0W	47.9N	110.9W	20	LO	250	N	19910430	143105	143	90	21	36			
87	42	CANADA-A	AGR, CLOUD MASS	56.6N	115.4W	90	LO	250	N	N	19910428	192204	145	173	47	7				

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LONG	NADIR LAT LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
90	101	CANADA-A	N. END MCNAUGHTON LAKE	52.5N 118.8W	52.8N 117.8W	40	LO	250	N	N	19910429	160951	145	110	32	21
90	102	CANADA-A	N. END MCNAUGHTON LAKE	52.5N 118.8W	53.0N 117.1W	40	LO	250	N	N	19910429	160958	145	111	32	21
90	103	CANADA-A	N. END MCNAUGHTON LAKE	52.5N 118.8W	53.2N 116.5W	40	LO	250	N	N	19910429	161005	145	111	33	21
90	104	CANADA-A	LAKES W. OF EDMONTON	53.6N 114.2W	54.1N 113.1W	60	LO	250	N	N	19910429	161039	145	115	34	21
90	105	CANADA-A	LESSER SLAVE LAKE AREA	55.5N 115.4W	54.7N 111.0W	40	LO	250	N	N	19910429	161100	145	118	35	21
90	106	CANADA-A	LESSER SLAVE LAKE AREA	55.5N 115.4W	54.8N 110.4W	40	LO	250	N	N	19910429	161106	145	119	35	21
90	115	CANADA-A	VERY CLOUDY, DARK	56.1N 116.1W	56.1N 116.1W	70	LO	250	N	N	19910429	191603	145	170	48	23
90	116	CANADA-A	VRY DARK, GAS FIELD	55.7N 113.7W	55.7N 113.7W	0	LO	250	N	N	19910429	191625	145	173	48	23
90	117	CANADA-A	VRY DARK	55.1N 110.5W	55.1N 110.5W	50	LO	250	N	N	19910429	191654	145	178	49	23
96	21	CANADA-A	PEACE RIVER AREA	56.0N 117.0W	57.3N 115.7W	0	LO	100	N	N	19910501	172939	142	121	36	54
151	36	CANADA-A	LESSER SLAVE LAKE	55.0N 117.0W	55.7N 113.5W	55	LO	250	N	N	19910429	191627	145	174	48	23
151	37	CANADA-A	LESSER SLAVE LAKE	55.5N 114.0W	55.4N 111.7W	40	HO	250	N	N	19910429	191644	145	176	49	23
151	157	CANADA-A	LESSER SLAVE LAKE	55.5N 116.0W	55.1N 114.1W	10	NV	250	U	N	19910430	190953	144	164	48	39
151	241	CANADA-A	ROCKY MTS., HIGH PLAINS	50.2N 113.5W	50.2N 113.5W	80	LO	250	N	N	19910502	141610	142	75	7	68
75	47	CANADA-BC	Q. CHARLOTTE IS. - MASSES I	53.5N 132.5W	55.7N 132.4W	80	LO	250	N	N	19910428	205228	145	181	48	8
75	48	CANADA-BC	FROZEN RIVERS-MOUNTAINS	55.1N 129.3W	55.1N 129.3W	50	LO	250	N	N	19910428	205257	145	186	49	8
75	49	CANADA-BC	FROZEN RIVERS-MOUNTAINS	54.9N 128.2W	54.9N 128.2W	30	LO	250	N	N	19910428	205308	145	188	49	8
75	50	CANADA-BC	FINLAY RIVER-FROZEN	56.5N 125.0W	54.6N 126.7W	80	LO	250	N	Y	19910428	205322	145	190	49	8
75	51	CANADA-BC	WILLISTON LAKE-FINLAY R.	56.0N 124.0W	54.2N 125.3W	70	LO	250	N	Y	19910428	205336	145	193	49	8
75	52	CANADA-BC	WILLISTON LAKE-FINLAY R.	56.0N 123.5W	54.0N 124.4W	75	LO	250	N	Y	19910428	205345	145	194	49	8
75	53	CANADA-BC	FROZEN RIVER/LAKE	53.4N 122.3W	53.4N 122.3W	95	LO	250	N	N	19910428	205406	145	198	49	8
75	54	CANADA-BC	WILLISTON LAKE	56.0N 124.0W	52.6N 119.7W	80	LO	250	N	N	19910428	205433	145	202	50	8
75	55	CANADA-BC	FROZEN LAKES-CLOUDS	51.7N 117.2W	51.7N 117.2W	95	LO	250	N	N	19910428	205501	144	206	50	8
83	48	CANADA-BC	MURTL L. N. THOMPSON R.	52.1N 119.3W	52.2N 119.6W	10	NV	250	N	Y	19910429	160936	145	108	31	21
83	49	CANADA-BC	NORTH THOMPSON R, ROCKIES	52.1N 119.3W	52.5N 118.7W	5	NV	250	N	Y	19910429	160945	145	109	32	21
83	50	CANADA-BC	COLUMBIA R, ROCKY MTN TR	52.0N 118.2W	52.9N 117.3W	40	LO	250	N	N	19910429	161000	145	110	32	21
83	72	CANADA-BC	VANCOUVER I., ISLAND COAST	50.7N 127.5W	57.2N 137.1W	15	HO	250	O	N	19910429	191307	145	141	42	23
83	73	CANADA-BC	COAST MTNS, COAST	50.5N 124.5W	57.3N 135.5W	15	HO	250	N	N	19910429	191320	145	143	42	23
83	74	CANADA-BC	VANCOUVER I., COAST	50.5N 127.0W	57.3N 134.3W	15	HO	250	N	N	19910429	191330	145	144	43	23
83	75	CANADA-BC	PORTLAND CANAL/INLET	55.0N 130.0W	57.3N 131.4W	0	LO	250	N	N	19910429	191355	145	148	44	23
83	76	CANADA-BC	SKEENA R., COAST MTNS.	55.0N 128.0W	57.2N 128.5W	5	LO	250	N	N	19910429	191419	145	152	45	23
83	77	CANADA-BC	WILLISTON LAKE, AGR.	56.0N 124.0W	57.2N 126.4W	20	LO	250	N	N	19910429	191437	145	155	45	23
83	78	CANADA-BC	FRASER R., QUESNEL	53.0N 122.5W	57.1N 124.8W	60	LO	250	N	N	19910429	191451	145	157	46	23
83	103	CANADA-BC	NECHAKO R/BASIN	54.0N 124.0W	53.7N 127.5W	50	LO	250	N	N	19910429	204729	144	187	50	24
83	104	CANADA-BC	FRANCOIS L., FRASER L.	54.0N 125.0W	53.5N 126.8W	40	LO	250	N	N	19910429	204736	144	188	50	24
88	45	CANADA-BC	FINLAY R., ROCKY MTNS.	57.0N 125.5W	57.0N 125.5W	0	NV	250	U	N						
88	46	CANADA-BC	WILLISTON LAKE RES.	57.0N 125.0W	57.0N 125.0W	10	NV	250	U	N						
89	22	CANADA-BC	PRINCE RUPERT AREA	54.5N 130.5W	55.0N 132.5W	5	LO	250	N	N	19910429	204638	144	179	49	24
89	23	CANADA-BC	KITIMAT AREA	54.0N 129.0W	54.8N 131.8W	0	LO	250	N	N	19910429	204645	144	180	49	24
89	24	CANADA-BC	OOTSA LAKE AREA	54.0N 126.0W	54.6N 130.9W	40	LO	250	N	N	19910429	204653	144	181	50	24

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
89	25	CANADA-BC	NATALKUZ LAKE AREA	53.4N 125.3W	54.5N 130.3W	60	LO	250	N	N	19910429	204659	144	182	50	24
89	26	CANADA-BC	KAMLOOPS, THOMPSON RIVER	50.5N 120.2W	51.1N 119.7W	40	LO	250	N	N	19910429	204851	144	200	52	24
89	27	CANADA-BC	VERNON, N.L.K. OKANAGAN	50.3N 119.3W	51.0N 119.3W	50	LO	250	N	N	19910429	204855	144	201	52	24
89	28	CANADA-BC	AREA N. VERNON	50.6N 119.0W	50.8N 118.9W	40	LO	250	N	N	19910429	204900	144	201	52	24
89	29	CANADA-BC	OKANAGAN LAKE, KELOWNA	49.9N 119.5W	50.5N 118.1W	50	LO	250	N	N	19910429	204910	143	203	52	24
89	30	CANADA-BC	CASTLEGAR AREA, L. ARROW	49.3N 117.9W	50.2N 117.5W	40	LO	250	N	N	19910429	204916	143	204	52	24
90	109	CANADA-BC	COAST MTS.	57.3N 131.1W	57.3N 131.1W	60	LO	250	N	N	19910429	191353	145	149	44	23
90	110	CANADA-BC	AREA S. OF DEASE LAKE	57.5N 130.6W	57.3N 128.9W	0	LO	250	N	N	19910429	191412	145	152	44	23
90	111	CANADA-BC	EAGLENEST RANGE	57.6N 128.5W	57.1N 128.3W	5	LO	250	N	N	19910429	191434	145	155	45	23
90	112	CANADA-BC	THUDAKA RANGE AREA	57.5N 127.0W	57.0N 124.7W	40	LO	250	N	N	19910429	191448	145	157	46	23
90	113	CANADA-BC	N. END WILLISTON LAKE	57.0N 125.0W	56.9N 123.1W	40	LO	250	N	N	19910429	191501	145	160	46	23
90	114	CANADA-BC	WILLISTON LAKE	56.2N 124.3W	56.8N 121.6W	70	LO	250	N	N	19910429	191514	145	162	46	23
96	64	CANADA-BC	OKANAGAN LAKE AREA	49.8N 119.5W	47.2N 122.5W	0	LO	100	N	N	19910502	202715	140	154	48	72
151	35A	CANADA-BC	ROCKY MTS., WILLISTON L.	56.5N 121.0W	56.6N 120.0W	70	LO	250	N	N	19910429	191530	145	165	48	23
151	153A	CANADA-BC	COAST MOUNTAINS	58.0N 131.0W	57.1N 129.7W	35	LO	250	N	N	19910430	190735	144	143	43	39
151	154	CANADA-BC	COAST MOUNTAINS	56.0N 131.0W	56.9N 128.9W	20	LO	250	N	N	19910430	190758	144	146	44	39
151	155	CANADA-BC	ROCKY MTS., WILLISTON L.	56.5N 126.0W	56.5N 122.6W	0	LO	250	N	N	19910430	190836	144	152	45	39
151	156	CANADA-BC	ROCKY MTS., WILLISTON L.	56.0N 124.0W	56.4N 121.7W	10	LO	250	N	Y	19910430	190844	144	153	45	39
151	163	CANADA-BC	VANCOUVER, FRASER RIVER	49.5N 122.5W	50.7N 122.5W	0	LO	250	N	N	19910430	204155	143	187	52	40
151	164	CANADA-BC	VANCOUVER, FRASER RIVER	49.0N 123.0W	50.4N 121.9W	5	LO	250	N	N	19910430	204202	143	188	52	40
83	53	CANADA-M	L. WINNIPEG, ICE	51.0N 96.5W	56.1N 103.3W	60	LO	250	N	N	19910429	161215	145	127	38	21
83	83	CANADA-M	L. WINNEPEG-SO. END, ICE	50.5N 97.0W	51.6N 98.1W	40	LO	250	N	N	19910429	191905	144	199	51	23
83	84	CANADA-M	L. WINNEPEG-SO. END, ICE	51.0N 97.0W	51.0N 96.6W	15	NV	250	N	N	19910429	191923	144	201	52	23
87	40	CANADA-M	L. WINNEPEG-MID SECT., ICE	51.7N 96.7W	49.8N 98.8W	10	LO	250	N	N	19910428	144513	145	106	31	4
87	41	CANADA-M	L. WINNEPEG-NO. END, ICE	54.0N 99.5W	50.4N 97.5W	20	LO	250	N	N	19910428	144529	145	108	32	4
90	118	CANADA-M	VERY CLOUDY	51.6N 98.3W	51.6N 98.3W	90	LO	250	N	N	19910429	191859	144	198	51	23
90	119	CANADA-M	LAKE WINNIPEG, DARK	50.9N 96.7W	51.0N 96.6W	30	LO	250	N	N	19910429	191918	144	201	52	23
90	120	CANADA-M	LAKE WINNIPEG, DARK	50.5N 96.7W	50.7N 95.9W	40	LO	250	N	N	19910429	191926	144	203	52	23
151	38	CANADA-M	LAKES WINNIPEG, MANITOBA	51.5N 97.0W	50.6N 95.6W	70	LO	250	N	N	19910429	191931	144	203	52	23
602	50	CANADA-M	LKS. WINNIPEG, MANITOBA	50.0N 97.5W	47.9N 106.9W	60	HO	100	N	N	19910429	143800	138	97	26	19
602	51	CANADA-M	LKS. WINNIPEG, MANITOBA	51.0N 97.5W	50.1N 102.1W	50	LO	100	N	N	19910429	143900	138	103	29	19
602	52	CANADA-M	LAKE WINNIPEG	50.0N 96.0W	50.1N 102.1W	60	HO	100	N	N	19910429	143900	138	103	29	19
73	46	CANADA-N	SMALLWOOD RES. - FROZEN	54.0N 64.5W	53.8N 64.9W	0	NV	250	N	Y	19910428	131731	146	120	37	3
73	47	CANADA-N	SMALLWOOD RES. - FROZEN	54.0N 64.5W	53.8N 64.7W	0	NV	250	N	Y	19910428	131733	146	120	37	3
73	48	CANADA-N	SMALLWOOD RES. - FROZEN	54.0N 64.0W	53.9N 64.4W	0	NV	250	N	Y	19910428	131736	146	121	37	3
73	49	CANADA-N	SMALLWOOD RES. - FROZEN	54.0N 63.5W	54.0N 63.9W	0	NV	250	N	Y	19910428	131741	146	121	37	3
73	50	CANADA-N	SMALLWOOD RES. - FROZEN	54.0N 63.0W	54.1N 63.5W	0	NV	250	N	Y	19910428	131745	146	122	37	3
73	51	CANADA-N	KANAIKOTOK R. - SNOW-ICE	54.5N 63.0W	54.3N 63.0W	0	NV	250	N	Y	19910428	131750	146	123	37	3
73	52	CANADA-N	KANAIKOTOK R. - SNOW-ICE	54.5N 62.0W	54.4N 62.5W	0	NV	250	N	Y	19910428	131755	146	123	38	3
73	53	CANADA-N	KANAIKOTOK R. - SNOW-ICE	54.5N 62.0W	54.5N 62.1W	5	NV	250	N	Y	19910428	131759	146	124	38	3

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
73	54	CANADA-N	KANAIKIKOK R.-SNOW-ICE	54.5N 61.5W 54.6N	61.7W	5	NV	250	N	Y	19910428	131803	146	124	38	3
73	55	CANADA-N	KANAIKIKOK R.-SNOW-ICE	54.5N 61.0W 54.7N	61.4W	5	NV	250	N	Y	19910428	131806	146	125	38	3
73	56	CANADA-N	KANAIKIKOK R.-SNOW-ICE	55.0N 60.5W 54.8N	60.8W	10	NV	250	N	Y	19910428	131812	146	125	38	3
73	57	CANADA-N	ENGLISH R. PD.-SNOW-ICE	55.0N 60.0W 54.9N	60.3W	40	NV	250	N	Y	19910428	131816	146	126	38	3
75	8	CANADA-N	LOOKING NE TO COAST		49.3N 43.0W	70	HO	250	N	N	19910428	162721	144	218	49	5
75	27	CANADA-N	BURIN PENINSULA	47.0N 55.5W 45.1N	58.2W	45	LO	250	N	N	19910428	175839	143	231	48	6
75	28	CANADA-N	N PART OF AVALON PEN.	47.0N 52.0W 42.2N	53.8W	15	LO	250	N	Y	19910428	175946	143	239	47	6
75	29	CANADA-N	N PART OF AVALON PEN.	47.0N 52.0W 41.8N	53.3W	20	LO	250	N	Y	19910428	175954	143	240	47	6
80	62	CANADA-N	FORTUNE BAY-BURIN PEN.	47.5N 55.0W 50.9N	54.9W	0	LO	250	N	N	19910429	114009	145	105	30	18
80	63	CANADA-N	AVALON PEN.-EAST COAST	47.0N 52.0W 51.5N	53.1W	40	LO	250	N	Y	19910429	114029	145	107	31	18
80	64	CANADA-N	AVALON PEN.-SEA ICE	47.0N 53.0W 51.9N	52.1W	25	LO	250	N	Y	19910429	114041	145	108	31	18
80	65	CANADA-N	AVALON PEN.-SEA ICE	46.5N 52.5W 52.5N	50.3W	30	LO	250	N	Y	19910429	114100	145	110	32	18
80	71	CANADA-N	HARP LAKE	55.0N 62.0W 55.3N	62.3W	0	NV	250	N	N	19910429	131223	145	122	37	19
80	74	CANADA-N	SHAPIO LAKE	55.0N 61.0W 55.5N	61.2W	0	NV	250	N	N	19910429	131233	145	124	37	19
80	75	CANADA-N	GRAND LAKE	53.5N 61.0W 55.9N	59.4W	0	LO	250	N	N	19910429	131250	145	126	38	19
90	0A	CANADA-N	STEPHENVILLE, DARK	48.0N 58.5W 49.2N	58.7W	0	LO	250	U	N	19910429	113922	144	101	28	18
90	1	CANADA-N	STEPHENVILLE, DARK FRAME	48.5N 58.5W 49.5N	58.1W	0	LO	250	N	N	19910429	113927	144	101	28	18
90	2	CANADA-N	RODDICKTON AREA, DK FRAME	51.0N 56.0W 51.7N	52.6W	10	LO	250	N	N	19910429	114031	145	107	31	18
151	16	CANADA-N	GULF OF ST. LAWRENCE	48.0N 60.0W 56.0N	58.4W	35	HO	250	N	N	19910429	131256	145	127	38	19
151	89	CANADA-N	BELLE ISLAND STRAIT	52.0N 57.0W 50.5N	59.7W	70	LO	250	N	N	19910430	113305	143	97	25	34
151	90	CANADA-N	BELLE ISLAND STRAIT	51.5N 56.5W 51.0N	58.6W	70	LO	250	N	N	19910430	113317	144	98	26	34
151	120	CANADA-N	SNOW PACK, CLOUDS	56.8N	56.4W	50	HO	250	O	N	19910430	130654	144	124	37	35
151	121	CANADA-N	SNOW PACK, CLOUDS	56.9N	55.1W	50	HO	250	U	N	19910430	130705	144	126	38	35
601	49	CANADA-N	JET STREAM, ICE FLOWS		48.4N 60.4W	50	HO	100	N	N	19910429	113900	138	99	27	17
601	50	CANADA-N	AVALON PEN., PLACENTIA B	55.0W 50.6N	55.5W	50	HO	100	N	N	19910429	114000	138	104	30	17
601	51	CANADA-N	AVALON PEN., PLACENTIA B	56.0W 50.6N	55.5W	55	HO	100	N	N	19910429	114000	138	104	30	17
602	60	CANADA-N	CHURCHILL RIVER	53.0N 63.0W 56.3N	78.2W	25	HO	100	N	N	19910429	144300	138	131	40	19
610	15	CANADA-N	NASKAUPI R., L. MELVILLE	53.5N 61.0W 56.3N	54.3W	25	LO	250	N	N	19910430	144000	136	160	47	35
151	86	CANADA-NB	CHALEUR BAY	48.0N 65.5W 47.3N	66.5W	5	LO	250	N	N	19910430	113139	143	90	21	34
151	87	CANADA-NB	GASPE PENINSULA	48.5N 65.0W 47.9N	65.3W	0	LO	250	N	Y	19910430	113156	143	91	21	34
607	3	CANADA-NB	CHALEUR BAY, SHIPPEGAN I	47.0N 66.0W 48.0N	65.1W	45	HO	100	N	N	19910430	113200	138	94	23	33
17	7	CANADA-NS	CAPR BRETON I., G. ST LAWR.	46.0N 60.5W		15	LO	35	N							
75	25	CANADA-NS	CAPE BRETON I.-SEA ICE	47.0N 60.5W 47.7N	62.7W	5	LO	250	N	Y	19910428	175737	144	223	49	6
75	26	CANADA-NS	CAPE BRETON I.-SYDNEY	46.0N 60.0W 47.1N	61.5W	10	LO	250	N	Y	19910428	175752	144	225	49	6
80	60	CANADA-NS	CAPE BRETON I.-SEA ICE	45.5N 60.0W 49.4N	58.4W	30	LO	250	N	Y	19910429	113927	144	101	28	18
80	61	CANADA-NS	CAPE BRETON I.-SEA ICE	46.5N 60.5W 49.6N	57.8W	40	LO	250	N	Y	19910429	113935	144	101	28	18
85	15	CANADA-NS	MINAS CHAN/BASIN, AGR.	45.2N 64.4W 44.7N	65.5W	0	LO	250	N	Y	19910430	174526	142	212	54	38
85	16	CANADA-NS	MINAS CHAN/BASIN, AGR.	64.2N 64.4W 44.1N	64.6W	0	LO	250	N	Y	19910430	174540	142	215	55	38
98	34	CANADA-NS	CAPE BRETON ISLAND	47.0N 61.2W 43.3N	64.9W	10	LO	100	N	N	19910506	153636	144	150	56	133
98	35	CANADA-NS	CAPE BRETON ISLAND	47.0N 60.6W 43.1N	64.5W	20	LO	100	N	N	19910506	153642	144	151	57	133

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
98	36	CANADA-NS	CAPE BRETON ISLAND	46.3N 60.5W	42.3N 63.5W	20	LO	100	N	N	19910506	153658	144	153	58	133
98	37	CANADA-NS	CAPE BRETON ISLAND	46.2N 60.5W	42.1N 63.3W	20	LO	100	N	N	19910506	153702	144	153	58	133
98	38	CANADA-NS	CAPE BRETON ISLAND	46.2N 60.5W	41.9N 62.9W	30	LO	100	N	N	19910506	153708	144	154	58	133
98	39	CANADA-NS	CAPE BRETON ISLAND	46.2N 60.0W	41.4N 62.3W	30	LO	100	N	N	19910506	153718	144	155	59	133
98	40	CANADA-NS	CAPE BRETON ISLAND	46.0N 60.0W	41.3N 62.1W	20	LO	100	N	N	19910506	153721	144	155	59	133
98	41	CANADA-NS	CAPE BRETON ISLAND	46.0N 59.0W	40.8N 61.6W	20	LO	100	N	N	19910506	153730	144	156	60	133
601	47	CANADA-NS	S. NOVA SCOTIA	44.5N 63.0W	45.9N 64.9W	55	HO	100	N	N	19910429	113800	138	94	24	17
83	54	CANADA-NT	JAMES BAY, SO. END, MOOSE R	51.5N 80.0W	57.1N 79.7W	15	LO	250	N	N	19910429	161538	145	158	46	21
73	38	CANADA-O	CLOUDS-CLOUD PATTERNS	46.1N 83.2W	46.1N 83.2W	95	LO	250	O	Y	19910428	131355	144	98	28	3
73	39	CANADA-O	CLOUDS-CLOUD PATTERNS	46.2N 83.1W	46.2N 83.1W	90	LO	250	O	Y	19910428	131357	144	98	28	3
73	40	CANADA-O	CLOUDS-CLOUD PATTERNS	46.5N 82.6W	46.5N 82.6W	85	LO	250	O	Y	19910428	131403	145	98	28	3
75	30	CANADA-O	LAKE NIPIGON	49.5N 88.5W	49.7N 89.4W	45	NV	250	N	N	19910428	192623	144	215	50	7
85	1	CANADA-O	USA-MI, L. ST. CLAIR, REFLEC	43.0N 82.0W	42.1N 97.4W	40	HO	250	O	N	19910430	125917	142	82	14	35
85	2	CANADA-O	USA-MI, L. ST. CLAIR, SNOW	43.0N 81.5W	42.9N 96.3W	40	HO	250	O	N	19910430	125935	142	83	15	35
85	3	CANADA-O	USA-MI, L. ST. CLAIR, SNOW	43.0N 81.5W	43.7N 95.1W	50	HO	250	O	N	19910430	125954	142	84	16	35
85	5	CANADA-O	USA-MI, L. ST. CLAIR, SNOW	43.0N 82.0W	44.5N 93.9W	50	HO	250	O	N	19910430	130011	143	85	17	35
85	8	CANADA-O	NO. CHAN. AREA, S. STE. MARIE	46.0N 84.0W	45.9N 91.7W	40	LO	250	O	N	19910430	130044	143	87	18	35
85	9	CANADA-O	USA-MI, L. HUR. L. ST. CLAIR	43.0N 82.0W	46.7N 90.4W	50	HO	250	O	N	19910430	130102	143	88	19	35
85	10	CANADA-O	NO. CHAN. AREA, L. HURON, SNW	46.0N 83.0W	47.3N 89.2W	15	LO	250	N	N	19910430	130118	143	90	20	35
88	49	CANADA-O	OWEN SOUND	44.5N 81.0W	44.5N 81.0W	0	NV	250	U	N						
88	50	CANADA-O	NEAR KITCHENER	43.5N 81.0W	43.5N 81.0W	0	NV	250	U	N						
90	27	CANADA-O	MICHIPICOTEN BAY	48.0N 85.0W	48.5N 83.0W	10	LO	250	N	N	19910429	130836	144	98	27	19
90	28	CANADA-O	KAPUSKASING AREA	49.4N 82.3W	49.2N 81.4W	0	LO	250	N	N	19910429	130856	145	100	28	19
90	29	CANADA-O	COCHRANE AREA	49.3N 81.0W	49.5N 80.8W	0	LO	250	N	N	19910429	130903	145	101	28	19
90	30	CANADA-O	IROQUOIS FALLS AREA	48.6N 80.6W	49.7N 80.3W	0	LO	250	N	N	19910429	130909	145	101	28	19
90	31	CANADA-O	LAKE ABITIBI AREA	48.8N 79.8W	50.2N 79.3W	0	LO	250	N	N	19910429	130921	145	102	29	19
90	32	CANADA-O	NE OF LAKE ABITIBI	49.0N 79.0W	50.4N 78.8W	5	LO	250	N	N	19910429	130927	145	103	29	19
90	33	CANADA-O	KESAGAMI LAKE AREA	50.2N 80.1W	50.7N 78.0W	0	LO	250	N	N	19910429	130937	145	104	30	19
90	34	CANADA-O	RUPERT, HANNAH BAYS	51.2N 79.4W	51.1N 77.1W	40	LO	250	N	N	19910429	130947	145	105	30	19
90	35	CANADA-O	BOATSWAIN BAY AREA	52.0N 78.0W	51.3N 76.6W	0	LO	250	N	N	19910429	130953	145	106	30	19
95	14	CANADA-O	AREA NEAR HAMILTON	43.0N 79.5W	40.5N 79.6W	40	LO	100	N	N	19910505	171246	145	160	58	118
95	15	CANADA-O	AREA NEAR HAMILTON	43.0N 79.5W	40.2N 79.2W	40	LO	100	N	N	19910505	171253	145	161	58	118
98	4	CANADA-O	CLOUDS	54.0N 88.6W	54.0N 88.6W	85	LO	250	N	N	19910506	153145	146	121	38	133
98	5	CANADA-O	JAMES BAY AREA	53.7N 87.4W	53.7N 87.4W	60	LO	250	N	N	19910506	153157	146	122	39	133
98	6	CANADA-O	JAMES BAY AREA	53.5N 86.7W	53.5N 86.7W	70	LO	250	N	N	19910506	153204	146	123	39	133
98	7	CANADA-O	JAMES BAY AREA	53.4N 86.4W	53.4N 86.4W	60	LO	250	N	N	19910506	153207	146	123	39	133
98	8	CANADA-O	BEAR ISLAND AREA	54.2N 81.4W	53.1N 85.4W	10	LO	250	N	N	19910506	153218	146	125	40	133
98	9	CANADA-O	S. BEAR ISLAND, ICE	54.0N 81.0W	53.0N 85.1W	10	LO	250	N	N	19910506	153221	146	125	40	133
98	10	CANADA-O	NORTH TWIN ISLAND AREA	53.7N 79.8W	52.8N 84.3W	5	LO	250	N	N	19910506	153229	146	126	41	133
98	11	CANADA-O	N. AND S. TWIN ISLANDS	53.0N 79.4W	52.5N 83.5W	5	LO	250	N	N	19910506	153238	146	127	41	133

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN		
				LAT	LONG	LAT	LONG										EL	EL	OR
151	10	CANADA-O	SW TOWARD L. SUPERIOR	49.0N	83.0W	49.2N	81.5W	20	L0	250	N	N	19910429	130856	145	100	28	19	
151	10A	CANADA-O	LAKE ABITIBI	49.0N	81.0W	49.7N	80.4W	10	H0	250	N	N	19910429	130910	145	102	29	19	
151	10B	CANADA-O	LAKE ABITIBI	47.5N	81.0W	50.5N	78.7W	25	H0	250	N	N	19910429	130931	145	104	29	19	
151	11	CANADA-O	SOUTHERN JAMES BAY	51.5N	80.0W	51.7N	75.6W	30	H0	250	N	N	19910429	131005	145	107	31	19	
151	30A	CANADA-O	JAMES BAY	51.0N	81.0W	54.3N	89.7W	25	H0	250	O	N	19910429	144112	145	117	35	20	
151	159	CANADA-O	L. ERIE, PELEE PT., IS.	41.5N	82.5W	40.6N	82.6W	30	L0	250	U	N	19910430	191623	141	225	55	39	
602	53	CANADA-O	VIEW EAST JAMES BAY	54.0N	83.0W	52.1N	96.8W	65	H0	100	N	N	19910429	144000	138	109	32	19	
602	54	CANADA-O	VIEW EAST JAMES BAY	53.0N	82.0W	53.9N	91.1W	40	H0	100	N	N	19910429	144100	138	115	35	19	
605	62	CANADA-O	NOTTAWASAGA BAY, MIDLAND	44.5N	79.5W	45.6N	82.4W	10	L0	250	N	N	19910504	171600	141	175	61	101	
605	63	CANADA-O	LK. SIMCOE, BARRIE	44.5N	79.5W	45.6N	82.4W	5	L0	250	N	Y	19910504	171600	141	175	61	101	
605	64	CANADA-O	LK. SIMCOE, BALSAM LK.	44.5N	79.0W	45.6N	82.4W	0	L0	250	N	Y	19910504	171600	141	175	61	101	
605	65	CANADA-O	HAMILTON, LK. ONTARIO	43.0N	80.0W	45.6N	82.4W	0	L0	250	N	N	19910504	171600	141	175	61	101	
17	6	CANADA-PEI	NORTHUMBERLAND STR.	46.5N	63.5W			10	L0	35	N	N							
607	4	CANADA-PEI	NORTHUMBERLAND STRAIT	46.5N	64.0W	48.0N	65.1W	45	H0	100	N	N	19910430	113200	138	94	23	33	
73	41	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	49.7N	76.3W	0	L0	250	N	Y	19910428	131525	145	106	32	3	
73	42	CANADA-Q	MANICOUAGAN RESERVOIR	51.0N	68.5W	49.8N	76.1W	0	L0	250	N	Y	19910428	131528	145	107	32	3	
73	43	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	50.1N	75.3W	0	L0	250	N	Y	19910428	131537	145	107	32	3	
73	44	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	50.5N	74.4W	0	L0	250	N	Y	19910428	131548	145	109	32	3	
73	45	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	53.0N	67.4W	0	L0	250	N	Y	19910428	131705	145	117	36	3	
75	19	CANADA-Q	SEPT ISLES-ST LAWRENCE R	50.5N	66.5W	50.3N	68.2W	0	L0	250	N	N	19910428	175628	144	213	50	6	
75	20	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	50.1N	67.5W	0	L0	250	N	Y	19910428	175636	144	214	49	6	
75	21	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	49.7N	66.6W	0	L0	250	N	Y	19910428	175647	144	216	49	6	
75	22	CANADA-Q	MANICOUAGAN RESERVOIR	51.5N	68.5W	49.4N	65.9W	0	L0	250	N	Y	19910428	175655	144	217	49	6	
75	23	CANADA-Q	E END ILE D'ANTICOSTI	49.0N	62.0W	48.6N	64.4W	0	L0	250	N	N	19910428	175714	144	220	49	6	
75	24	CANADA-Q	W END ILE D'ANTICOSTI	49.5N	63.5W	48.3N	63.8W	0	L0	250	N	N	19910428	175722	144	221	49	6	
83	0	A	OPEN WATER LEAD, HUD.BAY	56.2N	76.5W	56.5N	77.4W	0	L0	250	N	N	19910429	144306	145	132	40	20	
83	1	CANADA-Q	TROYE R, SNOW, ICE	56.1N	75.5W	56.9N	74.2W	0	L0	250	N	N	19910429	144336	145	136	41	20	
83	2	CANADA-Q	MANICOUAGAN RES, SNOW, ICE	51.6N	86.4W	57.1N	71.7W	20	L0	250	N	N	19910429	144357	145	139	41	20	
83	3	CANADA-Q	CANIAPISCAU R, SNOW, ICE	56.3N	69.0W	57.2N	68.5W	0	L0	250	N	N	19910429	144425	145	143	42	20	
83	4	CANADA-Q	FRASER R, SNOW, ICE	56.5N	63.5W	57.1N	70.6W	0	L0	250	N	N	19910429	144407	145	140	42	20	
83	5	CANADA-Q	KINGURUTIK L., MAIN BAY	56.6N	62.1W	57.3N	62.3W	0	L0	250	N	N	19910429	144517	145	151	44	20	
83	6	CANADA-Q	VOISEY BAY, KIKKERTAVAK I	56.3N	61.6W	57.3N	61.6W	0	L0	250	N	N	19910429	144523	145	152	44	20	
83	7	CANADA-Q	HARP L, ADLATOR R, SNOW	55.2N	61.3W	57.1N	57.5W	0	L0	250	N	N	19910429	144558	145	158	46	20	
83	55	CANADA-Q	MANICOUAGAN RES, SNOW/ICE	51.3N	68.9W	55.9N	69.1W	20	L0	250	N	N	19910429	161711	145	173	48	21	
83	56	CANADA-Q	ST. LAWRENCE SEAWAY, SN/IC	49.0N	69.0W	55.7N	68.1W	25	H0	250	N	N	19910429	161720	145	175	48	21	
83	57	CANADA-Q	MANICOUAGAN RES, SNOW/ICE	51.3N	68.6W	55.4N	66.1W	20	L0	250	N	N	19910429	161738	145	178	49	21	
83	58	CANADA-Q	MANICOUAGAN RES, SNOW/ICE	51.4N	68.6W	55.0N	64.6W	20	L0	250	N	N	19910429	161752	145	180	49	21	
83	59	CANADA-Q	ST. LAWRENCE SEAWAY, SN/IC	47.7N	69.6W	54.6N	62.7W	25	H0	250	N	N	19910429	161811	145	183	50	21	
84	7	CANADA-Q	G. ST. LAWR-CST ICE/FLOWS	50.8N	58.7W	51.4N	59.9W	0	NV	250	N	Y	19910501	160526	142	168	50	53	
84	8	CANADA-Q	G. ST. LAWR-CST ICE/FLOWS	50.0N	58.6W	51.1N	59.2W	0	NV	250	N	Y	19910501	160534	142	169	50	53	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
84	9	CANADA-Q	G.ST.LAWR-CST ICE/FLOWS	50.9N 58.6W	50.9N 58.6W	0	NV	250	N	Y	19910501	160541	142	170	51	53
84	24	CANADA-Q	L.ST.PETER,ST.LAWR.R.	46.3N 72.5W	46.6N 72.4W	30	NV	250	N	Y	19910501	173702	141	186	54	54
84	25	CANADA-Q	L.ST.PETER,ST.LAWR.R.	46.3N 72.5W	46.4N 72.1W	30	NV	250	N	Y	19910501	173707	140	188	54	54
84	26	CANADA-Q	L.ST.PETER,ST.LAWR.R.	46.2N 72.5W	6.1N 71.6W	25	LO	250	N	Y	19910501	173714	140	188	54	54
90	37	CANADA-Q	JAMES BAY, ICE FLOWS		52.0N 74.6W	20	LO	250	N	N	19910429	131015	145	108	31	19
90	38	CANADA-Q	JAMES BAY, ICE FLOWS		52.1N 74.3W	0	LO	250	N	N	19910429	131019	145	108	32	19
90	39	CANADA-Q	GLACIATED TERRAIN		52.6N 72.9W	0	LO	250	N	N	19910429	131034	145	110	32	19
90	107	CANADA-Q	MISTASSINI,ALBANEL LAKES	51.3N 73.1W	53.2N 71.1W	10	LO	250	N	N	19910429	131053	145	112	33	19
90	108	CANADA-Q	E.COAST HUDSON BAY,ICE		56.8N 75.9W	10	LO	250	N	N	19910429	161606	145	163	47	21
90		CANADA-Q	E.COAST HUDSON BAY,ICE		56.6N 74.4W	10	LO	250	N	N	19910429	161619	145	165	47	21
96	7	CANADA-Q	NATASHQUAN AREA	50.0N 62.0W	51.4N 59.8W	0	LO	100	N	N	19910501	160520	142	168	50	53
96	8	CANADA-Q	NATASHQUAN AREA	50.0N 62.0W	51.2N 59.3W	0	LO	100	N	N	19910501	160526	142	169	50	53
96	9	CANADA-Q	NATASHQUAN AREA	50.0N 62.0W	50.9N 58.7W	0	LO	100	N	N	19910501	160533	142	170	51	53
96	25	CANADA-Q	ST.LAWRENCE R.,LK.ST.PET	46.2N 72.8W	46.6N 72.4W	20	LO	100	N	N	19910501	173655	141	186	54	54
96	26	CANADA-Q	ST.LAWRENCE R.,LK.ST.PET	46.2N 72.8W	46.4N 72.0W	20	LO	100	N	N	19910501	173701	140	187	54	54
96	27	CANADA-Q	ST.LAWRENCE R.,LK.ST.PET	46.2N 72.8W	46.1N 71.5W	20	LO	100	N	N	19910501	173708	140	188	54	54
98	12	CANADA-Q	COAST JAMES BAY-QUEBEC	53.0N 78.2W	52.3N 82.8W	10	LO	250	N	N	19910506	153246	146	127	42	133
98	13	CANADA-Q	GLACIATED TERRAIN	53.0N 77.3W	52.1N 82.2W	60	LO	250	N	N	19910506	153252	146	128	42	133
98	14	CANADA-Q	LARGE ICE COVERED LAKES	52.7N 77.0W	51.9N 81.7W	70	LO	250	N	N	19910506	153257	146	129	43	133
98	15	CANADA-Q	LRG.LAKES E.OF JAMES BAY	52.6N 76.6W	51.8N 81.4W	40	LO	250	N	N	19910506	153301	146	129	43	133
98	16	CANADA-Q	LRG.LAKES E.OF JAMES BAY	52.0N 76.0W	51.5N 80.6W	60	LO	250	N	N	19910506	153310	146	130	44	133
98	17	CANADA-Q	PART OF RIVIERE EASTMAIN	52.2N 75.5W	51.2N 79.9W	70	LO	250	N	N	19910506	153318	146	131	44	133
98	18	CANADA-Q	PART OF RIVIERE EASTMAIN	52.0N 74.5W	50.9N 79.1W	90	LO	250	N	N	19910506	153327	146	132	45	133
98	19	CANADA-Q	PANORAMA		49.9N 76.7W	40	HO	250	N	N	19910506	153355	146	135	46	133
98	20	CANADA-Q	VRY CLOUDY		49.7N 76.1W	95	LO	250	N	N	19910506	153402	146	135	47	133
98	21	CANADA-Q	RESERVOIR MANICOUAGAN	51.4N 68.7W	49.1N 75.0W	70	LO	250	N	N	19910506	153416	146	137	48	133
98	22	CANADA-Q	SEPT-ILES AREA	50.2N 66.5W	47.5N 71.8W	70	LO	250	N	N	19910506	153457	145	141	50	133
98	23	CANADA-Q	SEPT-ILES AREA	49.6N 66.2W	47.3N 71.4W	70	LO	250	N	N	19910506	153503	145	141	51	133
98	24	CANADA-Q	PANORAMA, LONG NARROW LKS		46.9N 70.7W	20	HO	250	N	N	19910506	153512	145	142	51	133
98	25	CANADA-Q	PANORAMA, LONG NARROW LKS		46.5N 70.0W	20	HO	250	N	N	19910506	153522	145	143	52	133
98	26	CANADA-Q	ANTICOSTI ISLAND	49.7N 63.6W	46.3N 69.6W	20	LO	250	N	N	19910506	153527	145	144	52	133
98	27	CANADA-Q	ANTICOSTI ISLAND	49.5N 63.0W	46.2N 69.3W	10	LO	250	N	N	19910506	153531	145	144	52	133
151	12	CANADA-Q	LKS. MISTASSINI, ALBANEL	51.0N 74.0W	52.5N 73.1W	10	LO	250	N	N	19910429	131032	145	110	32	19
151	13	CANADA-Q	ST. LAWRENCE RIVER	49.0N 69.0W	53.6N 69.7W	25	HO	250	N	N	19910429	131108	145	114	34	19
151	14	CANADA-Q	ST. LAWRENCE RIVER	48.5N 67.0W	53.9N 68.4W	25	HO	250	N	Y	19910429	131121	145	115	34	19
151	15	CANADA-Q	GULF OF ST. LAWRENCE	48.0N 61.0W	55.5N 61.6W	15	HO	250	N	N	19910429	131227	145	123	37	19
151	83	CANADA-Q	ST. LAWRENCE RIVER	47.5N 70.5W	45.6N 69.4W	65	LO	250	N	N	19910430	113059	143	87	18	34
151	84	CANADA-Q	ST. LAWRENCE RIVER	48.5N 69.0W	46.0N 68.8W	50	LO	250	N	Y	19910430	113108	143	88	19	34
151	85	CANADA-Q	ST. LAWRENCE RIVER	49.0N 68.0W	46.6N 67.6W	25	LO	250	N	Y	19910430	113124	143	89	20	34
151	88	CANADA-Q	S. LABRADOR, ICE PACK	51.5N 60.0W	50.0N 60.9W	20	LO	250	N	N	19910430	113250	143	95	24	34

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
602	55	CANADA-Q	JAMES BAY, ICE FLOWS	54.0N	79.0W	53.9N	91.1W	20	HO	100	U	N	19910429	144100	138	115	35	19
602	56	CANADA-Q	JAMES BAY, ICE FLOWS	54.0N	80.0W	53.9N	91.1W	30	LO	100	U	N	19910429	144100	138	115	35	19
602	57	CANADA-Q	HUDSON BAY, ICE FLOWS	56.0N	78.0W	55.3N	84.8W	25	LO	100	U	N	19910429	144200	138	123	37	19
602	58	CANADA-Q	HUDSON BAY, ICE FLOWS	56.0N	77.0W	55.3N	84.8W	20	LO	100	U	N	19910429	144200	138	123	37	19
602	59	CANADA-Q	LAURENTIAN UPLAND			55.3N	84.8W	25	HO	100	N	N	19910429	144200	138	123	37	19
602	61	CANADA-Q	HOPE MTS., MANICOUGAN LK	53.0N	67.0W	56.3N	78.2W	25	HO	100	N	N	19910429	144300	138	131	40	19
602	62	CANADA-Q	HOPE MTS., MANICOUGAN LK	52.0N	69.0W	56.9N	71.3W	25	HO	100	N	N	19910429	144300	138	140	42	19
607	5	CANADA-Q	GASPE PEN., NOTRE DAME M	48.5N	65.0W	48.0N	65.1W	20	LO	100	N	N	19910430	113200	138	94	23	33
607	6	CANADA-Q	ANTICOSTIA ISLAND	49.0N	62.0W	48.0N	65.1W	0	LO	100	N	N	19910430	113200	138	94	23	33
607	7	CANADA-Q	ANTICOSTIA ISLAND	49.5N	64.0W	48.0N	65.1W	25	HO	100	N	N	19910430	113200	138	94	23	33
607	8	CANADA-Q	GULF OF SAINT LAWRENCE	49.0N	61.0W	48.0N	65.1W	5	LO	100	N	N	19910430	113200	138	94	23	33
84	1	CANADA-S	LAC LA LOCHE/TOWN, ICE	56.5N	109.5W	56.5N	108.5W	30	LO	250	N	N	19910501	155804	143	106	29	53
84	2	CANADA-S	LAC LA LOCHE/TOWN, ICE	56.5N	109.0W	56.6N	107.5W	50	LO	250	N	N	19910501	155813	143	107	30	53
84	3	CANADA-S	LAKES-CLOUDY, ICE	56.5N	108.5W	56.7N	106.9W	85	LO	250	N	N	19910501	155818	143	108	30	53
84	4	CANADA-S	GROW L, LAKES, SNOW/ICE	56.5N	104.5W	56.9N	104.5W	20	NV	250	N	Y	19910501	155839	143	110	31	53
84	5	CANADA-S	GROW L, LAKES, SNOW/ICE	56.5N	104.5W	57.0N	103.3W	20	NV	250	N	Y	19910501	155849	143	111	32	53
84	6	CANADA-S	PINK L, LAKES, SNOW/ICE	56.7N	104.0W	57.1N	101.9W	35	LO	250	N	Y	19910501	155901	143	113	32	53
84	21	CANADA-S	GROW L, DECEPTION L, ICE	56.5N	104.5W	56.5N	103.5W	15	NV	250	N	Y	19910501	173130	142	135	41	54
84	22	CANADA-S	GROW L, DECEPTION L, ICE	56.4N	104.3W	56.4N	103.1W	25	NV	250	N	Y	19910501	173134	142	136	41	54
84	23	CANADA-S	GROW L, DECEPTION L, ICE	56.5N	104.4W	56.3N	102.4W	25	LO	250	N	Y	19910501	173140	142	137	41	54
96	1	CANADA-S	LA LOCHE, ICE ON LAKES	56.5N	108.8W	56.4N	109.2W	40	LO	100	N	N	19910501	155751	143	105	29	53
96	2	CANADA-S	LA LOCHE, ICE ON LAKES	56.5N	109.5W	56.5N	108.3W	50	LO	100	N	N	19910501	155759	143	106	29	53
96	3	CANADA-S	LA LOCHE, ICE ON LAKES	56.5N	109.5W	56.6N	107.6W	50	LO	100	N	N	19910501	155805	143	107	30	53
96	4	CANADA-S	GLACIATED TERRAIN, NEW RD	56.5N	104.5W	56.9N	104.4W	10	LO	100	N	N	19910501	155833	143	110	31	53
96	5	CANADA-S	GLACIATED TERRAIN, NEW RD	56.5N	104.5W	57.0N	103.7W	10	LO	100	N	N	19910501	155839	143	111	32	53
96	6	CANADA-S	GLACIATED TERRAIN, NEW RD	56.4N	104.5W	57.0N	103.0W	10	LO	100	N	N	19910501	155845	143	112	32	53
96	22	CANADA-S	GLACIATED AREA	56.5N	104.5W	56.5N	104.0W	10	LO	100	N	N	19910501	173119	142	135	41	54
96	23	CANADA-S	GLACIATED AREA	56.5N	104.5W	56.4N	103.3W	20	LO	100	N	N	19910501	173125	142	136	41	54
96	24	CANADA-S	GLACIATED AREA, DEEP BAY	56.2N	103.6W	56.3N	102.3W	0	LO	100	N	N	19910501	173134	142	137	41	54
151	158	CANADA-S	LAKES, AGRICULTURE FIELD			53.5N	107.8W	15	LO	250	U	N	19910430	191055	143	174	50	39
604	37	CANADA-S	N. SASKATCHEWAN RIVER	52.5N	107.5W	51.2N	107.1W	0	LO	250	N	N	19910501	142500	136	96	24	51
79	34	CANARY ISLANDS	TENERIFE OR GRAN CANARIA			28.6N	16.2W	50	LO	250	U	N	19910429	070319	141	77	6	15
79	35	CANARY ISLANDS	TENERIFE-VERY DARK	28.5N	16.5W	29.2N	15.8W	50	NV	250	U	N	19910429	070329	142	77	7	15
79	36	CANARY ISLANDS	TENERIFE-VERY DARK	28.5N	16.5W	29.6N	15.4W	50	LO	250	U	N	19910429	070338	142	78	7	15
79	37	CANARY ISLANDS	TENERIFE	28.0N	16.5W	30.7N	14.5W	55	LO	250	N	N	19910429	070359	142	78	9	15
83	60	CANARY ISLANDS	TENERIFE, GOMERA, CLOUDY	28.2N	16.6W	25.8N	19.0W	50	LO	250	N	N	19910429	162914	139	265	42	21
83	61	CANARY ISLANDS	TENERIFE, GOMERA, CLOUDY	28.3N	16.6W	25.2N	18.5W	50	LO	250	N	N	19910429	162925	139	266	42	21
83	62	CANARY ISLANDS	TENERIFE, GOMERA, CLOUDY	28.1N	16.7W	24.5N	18.0W	50	LO	250	N	N	19910429	162938	139	267	42	21
95	38	CARIBBEAN SEA	ISLA DE PROVIDENCIA	13.4N	81.4W	14.6N	80.7W	50	LO	100	N	N	19910505	185041	141	253	72	119
84	32	CAROLINE ISLANDS	BABELTHUAP I/REEF	7.5N	134.5E	11.7N	134.7E	25	LO	250	N	N	19910503	053539	135	250	61	78

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
84	33	CAROLINE ISLANDS	BABELTHUAP I/REEF	7.5N	134.6E	8.9N	136.3E	15	L0	250	N	N	19910503	053629	135	257	60	78	
86	87	CAROLINE ISLANDS	NEW, UNCHARTED ISLAND	7.4N	148.3E	7.4N	148.3E	10	L0	250	N	N	19910430	060058	137	282	32	30	
86	88	CAROLINE ISLANDS	NEW, UNCHARTED ISLAND	6.9N	148.6E	6.9N	148.6E	30	L0	250	N	N	19910430	060107	137	282	31	30	
86	89	CAROLINE ISLANDS	NEW, UNCHARTED ISLAND	6.5N	148.8E	6.5N	148.8E	30	L0	250	N	N	19910430	060114	137	282	31	30	
86	90	CAROLINE ISLANDS	UNID. SHOAL OR BANK	5.8N	149.3E	5.8N	149.3E	30	L0	250	N	N	19910430	060128	137	283	30	30	
86	91	CAROLINE ISLANDS	UNID. SHOAL OR BANK	5.3N	149.5E	5.3N	149.5E	30	L0	250	N	N	19910430	060136	137	283	30	30	
86	2	CAYMAN ISLANDS		19.3N	81.3W	19.6N	82.8W	30	L0	250	N	N	19910429	205956	138	272	39	24	
93	45	CHILE	ANDES, S. ALTIPLANO, COAST	28.0S	70.0W	30.2S	74.9W	60	H0	250	N	N	19910505	203359	143	305	28	120	
93	46	CHILE	COQUIMBO, LA SERENA AREA	30.0S	71.0W	31.7S	73.5W	20	L0	250	N	N	19910505	203429	143	305	26	120	
93	47	CHILE	COQUIMBO, LA SERENA AREA	30.0S	70.0W	33.3S	72.0W	30	L0	250	N	N	19910505	203500	143	304	24	120	
93	48	CHILE	TALCA AREA, HAZY	35.5S	72.0W	34.9S	70.5W	30	L0	250	N	N	19910505	203532	143	304	22	120	
95	82	CHILE	ANDES MTNS.	30.9S	74.2W	30.9S	74.2W	70	L0	100	N	N	19910505	203408	143	305	27	120	
95	83	CHILE	ANDES MTNS E. OF RANCAGA	34.3S	70.0W	33.4S	72.0W	5	L0	100	N	N	19910505	203457	143	304	24	120	
74	0	A CHINA	LOAHA STREAM	42.5N	119.5E	41.9N	119.2E	25	NV	250	N	Y	19910506	034002	146	156	58	14	
74	1	CHINA	MANCHURIAN PLAIN-STREAM	42.5N	120.0E	41.3N	120.0E	50	L0	250	N	Y	19910506	034016	146	157	58	125	
75	80	CHINA	WEIHAI-PANORAMA	37.5N	122.0E	34.6N	125.7E	5	L0	250	U	Y	19910428	220733	143	82	14	9	
75	81	CHINA	PANORAMA	37.5N	122.5E	35.0N	126.0E	10	L0	250	U	Y	19910428	220740	143	82	14	9	
77	55	CHINA	TIB PLAT.-SARIGH J. LAKE	34.5N	79.5E	34.2N	79.8E	10	NV	250	N	N	19910429	010636	142	81	13	11	
77	56	CHINA	ALTUN MTNS.-DUST STORM	37.0N	85.0E	37.9N	83.6E	0	L0	250	N	N	19910429	010750	143	85	17	11	
77	57	CHINA	TANKLIMAKAN DESERT-DUNES	41.0N	87.0E	40.0N	86.0E	0	L0	250	N	N	19910429	010834	143	87	19	11	
77	58	CHINA	BOSTEN LAKE-DUST	42.0N	87.0E	40.8N	86.9E	10	L0	250	N	N	19910429	010849	143	88	20	11	
77	59	CHINA	KORLA-NEAR BOSTON L-DUST	42.0N	86.0E	41.4N	87.8E	15	L0	250	N	N	19910429	010903	143	89	21	11	
77	61	CHINA	DUST STORMS-MNTS.	45.5N	93.0E	46.4N	95.2E	20	L0	250	N	Y	19910429	011056	144	97	26	11	
77	62	CHINA	BARKOL LAKE-DUST	43.5N	93.0E	46.9N	96.0E	40	L0	250	N	N	19910429	011107	144	97	27	11	
79	16	CHINA	LIAODONG BAY-DALING R.	41.0N	121.5E	41.9N	124.5E	10	L0	250	N	Y	19910429	055646	142	237	49	14	
79	17	CHINA	LIAODONG BAY-SHAUNGTAIZ	41.0N	121.5E	41.7N	124.7E	10	L0	250	N	Y	19910429	055650	142	237	49	14	
79	18	CHINA	LIAODONG BAY-SALT PANS	40.5N	122.0E	41.5N	125.0E	10	L0	250	N	Y	19910429	055655	142	238	49	14	
79	19	CHINA	LIAODONG BAY-SALT PANS	40.5N	122.5E	41.3N	125.3E	10	L0	250	N	Y	19910429	055700	142	239	49	14	
79	20	CHINA	KOREA BAY-YALU RIVER DEL	40.5N	123.5E	40.8N	125.9E	40	L0	250	N	Y	19910429	055710	142	240	49	14	
79	21	CHINA	KOREA BAY-YALU RIVER DEL	40.0N	124.0E	40.5N	126.3E	30	L0	250	N	Y	19910429	055716	142	240	49	14	
79	80	CHINA	QINGHAI LAKE	37.0N	100.5E	38.1N	106.4E	15	L0	250	N	N	19910429	072743	142	246	48	15	
79	81	CHINA	QILIAN MOUNTAINS-HAZE	38.0N	100.0E	36.7N	107.9E	15	L0	250	N	Y	19910429	072812	141	249	47	15	
79	82	CHINA	LENGLONG MOUNTAINS	37.0N	103.0E	36.4N	108.2E	10	L0	250	N	Y	19910429	072817	141	249	47	15	
79	83	CHINA	LENGLONG MOUNTAINS	37.0N	103.0E	36.2N	108.4E	20	L0	250	N	Y	19910429	072821	141	250	47	15	
79	85	CHINA	COAST-CLOUDS-DARK	23.8N	119.1E	23.8N	119.1E	60	L0	250	U	N	19910429	073219	139	269	39	15	
79	86	CHINA	COAST-CLOUDS-DARK	23.5N	119.3E	23.5N	119.3E	70	L0	250	U	Y	19910429	073224	139	269	39	15	
84	30	CHINA	CITY, CLOUDS	32.4N	119.8E	32.4N	119.8E	90	L0	250	N	N	19910503	052918	138	189	59	78	
84	31	CHINA	UHHENG I, COAST	29.6N	122.1E	29.3N	122.4E	70	L0	250	N	N	19910503	053016	137	198	61	78	
84	37	CHINA	SHALULI MTNS	31.3N	98.0E	31.3N	98.0E	60	L0	250	N	N	19910503	065905	138	190	59	79	
84	38	CHINA	SHALULI MTNS	30.2N	99.0E	30.2N	99.0E	80	L0	250	N	N	19910503	065927	138	193	60	79	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL
84	39	CHINA	FAULT-RED R. FAULT ZONE	23.4N 104.3E	23.6N 104.1E	30	NV	250	N	N	19910503	070130	137	213	63 79
85	0	G CHINA	TIBET PLAT., NAM L., T.C.2B	30.5N 91.0E		70	HO	40	N	N					
85	0	H CHINA	TROP. CYCL. 02B-NO. BANGL.			95	HO	40	N	N					
85	0	J CHINA	TROP. CYCL. 02B-NO. BANGL.			95	HO	40	N	N					
85	0	K CHINA	TROP. CYCL. 02B. DARK			90	HO	40	U	N					
86	24	CHINA	SW., AGRI., NEAR SHACHE	38.0N 77.0E	36.1N 77.6E	5	LO	250	N	N	19910430	010047	142	79	10 27
86	25	CHINA	SW., AGRI., NEAR SHACHE	38.0N 77.0E	36.5N 78.0E	5	LO	250	N	N	19910430	010054	142	80	11 27
86	26	CHINA	AREA W. OF BACHU	39.8N 77.3E	37.0N 78.5E	0	LO	250	N	N	19910430	010105	142	80	11 27
86	27	CHINA	AREA W. OF BACHU	40.1N 78.0E	37.3N 78.9E	0	LO	250	N	N	19910430	010111	142	80	12 27
86	28	CHINA	AREA N. OF BACHU	40.2N 78.6E	37.7N 79.3E	0	LO	250	N	N	19910430	010119	142	81	12 27
86	29	CHINA	SAND DUNES, TARIM BASIN		38.8N 80.5E	10	LO	250	N	N	19910430	010141	142	82	13 27
86	30	CHINA	AGRI., WENSU AREA	41.5N 79.8E	39.7N 81.6E	0	LO	250	N	N	19910430	010200	142	82	14 27
86	31	CHINA	LAKE ULUNGAR AREA	47.2N 87.2E	45.0N 88.9E	20	LO	250	N	N	19910430	010357	143	89	20 27
86	32	CHINA	LAKE ULUNGAR AREA	47.2N 87.2E	45.5N 89.7E	20	LO	250	N	N	19910430	010409	143	90	21 27
86	79	CHINA	YING KOU AREA	41.0N 122.0E	39.7N 123.2E	10	LO	250	N	N	19910430	055052	141	235	52 30
87	51	CHINA	JIAOZHOU BAY, COAST	36.5N 119.0E	33.9N 124.9E	35	LO	250	U	N	19910428	220722	142	82	13 9
87	52	CHINA	LAOSHAN BAY, COAST	36.0N 120.5E	34.5N 125.5E	50	LO	250	U	N	19910428	220734	143	82	14 9
87	53	CHINA	SHANDON PENINSULA	37.2N 122.0E	34.9N 126.0E	15	LO	250	U	N	19910428	220743	143	82	14 9
87	57	CHINA	PAEKTU VOL., CHANGBAI SHAN	42.0N 128.0E	38.9N 130.2E	40	LO	250	U	N	19910428	220903	143	86	18 9
87	62	CHINA	MOUNTAINS		41.0N 132.7E	40	LO	250	U	N	19910428	220947	143	89	21 9
87	65	CHINA	HSHAO-HSING-KAI LAKE	45.3N 132.7E	42.4N 134.7E	10	LO	250	U	N	19910428	221019	144	91	22 9
87	68	CHINA	AGR., RIVER BASIN		43.6N 136.2E	60	LO	250	N	N	19910428	221044	144	92	23 9
151	44	CHINA	TIBET PLATEAU, CHILIN L.	32.0N 88.0E	34.3N 83.5E	25	HO	250	N	N	19910430	085143	140	246	51 32
151	45	CHINA	TIBET PLATEAU, CHILIN L.	31.5N 88.5E	32.9N 84.9E	15	LO	250	N	N	19910430	085211	140	250	51 32
151	45A	CHINA	TIBET PLAT., ANGTSE LAKE	31.0N 87.0E	31.9N 140.3E	5	LO	250	N	N	19910430	085232	140	252	51 32
151	46	CHINA	TIBET PLAT., NAMU LAKE	31.0N 90.0E	30.8N 86.7E	20	LO	250	N	N	19910430	085251	140	254	50 32
603	10	CHINA	VIEW W. TAKLA MAKAN DES.	40.0N 79.0E	39.4N 81.2E	25	HO	100	N	N	19910430	010200	139	83	15 26
603	11	CHINA	ALTAI, TIEN SHAN MTS.	44.5N 91.0E	44.9N 88.6E	25	LO	100	N	N	19910430	010400	138	90	21 26
604	62	CHINA	YANGTZE RIVER DELTA	31.5N 122.0E	35.2N 120.7E	10	LO	250	N	N	19910502	053700	135	236	60 61
604	63	CHINA	HANG-CHOU BAY	30.5N 121.0E	35.2N 120.7E	5	LO	250	N	N	19910502	053700	135	236	60 61
610	52	CHINA	SOUTHERN GOBI DESERT	41.0N 97.0E	36.3N 96.6E	0	LO	250	U	N	19910430	232400	137	77	7 41
610	53	CHINA	SOUTHERN GOBI DESERT	40.0N 99.0E	36.3N 96.6E	0	LO	250	U	N	19910430	232400	137	77	7 41
610	54	CHINA	GOBI DESERT		39.2N 99.8E	55	LO	250	U	N	19910430	232500	137	79	11 41
610	55	CHINA	GOBI DESERT		39.2N 99.8E	0	LO	250	U	N	19910430	232500	137	79	11 41
610	56	CHINA	GOBI DESERT, SOGO LK.	42.0N 102.0E	39.2N 99.8E	0	LO	250	N	N	19910430	232500	137	79	11 41
610	57	CHINA	GOBI DESERT, GAXUN LK.	42.5N 100.5E	39.2N 99.8E	0	LO	250	N	N	19910430	232500	137	79	11 41
610	58	CHINA	CLOUDS, MOON	44.7N 107.2E	44.7N 107.2E	75	HO	250	N	N	19910430	232700	137	86	17 41
610	59	CHINA	GOBI DESERT	46.3N 110.0E	46.3N 110.0E	45	LO	250	N	N	19910501	054100	136	209	56 45
610	60	CHINA	GOBI DESERT	46.3N 110.0E	46.3N 110.0E	35	LO	250	N	N	19910501	054100	136	209	56 45
610	61	CHINA	GOBI DESERT	46.3N 110.0E	46.3N 110.0E	10	LO	250	N	N	19910501	054100	136	209	56 45

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	IL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
610	62	CHINA	GOBI DESERT		43.7N	114.1E		45	L0	250	N	N	19910501	054200	136	218	57	45
610	63	CHINA	GOBI DESERT		43.7N	114.1E		15	L0	250	N	N	19910501	054200	136	218	57	45
610	64	CHINA	GOBI DESERT		43.7N	114.1E		40	L0	250	N	N	19910501	054200	136	218	57	45
610	65	CHINA	CITIES OF DALIAN, LUSHUN	39.0N	121.5E	38.1N	121.3E	10	L0	250	N	N	19910501	054400	136	235	56	45
610	66	CHINA	GULF OF LIAOTUNG	39.5N	121.5E	38.1N	121.3E	40	L0	250	N	N	19910501	054400	136	235	56	45
610	67	CHINA	KOREA BAY	39.5N	123.5E	38.1N	121.3E	25	L0	250	N	N	19910501	054400	136	235	56	45
71	17	CLOUDS	CLOUDS-EXTERNAL TANK		49.8N	24.1E		80	H0	250	N	N	19910428	115807	125	217	49	2
71	18	CLOUDS	CLOUDS-EXTERNAL TANK		47.9N	28.1E		100	L0	250	N	N	19910428	115857	127	224	48	2
71	19	CLOUDS	CUMULUS-CIRRUS		46.5N	30.6E		95	H0	250	N	N	19910428	115931	128	228	48	2
71	20	CLOUDS	CUMULUS-CIRRUS		46.2N	31.1E		95	L0	250	N	N	19910428	115937	128	229	48	2
73	58	CLOUDS	BLACK		55.2N	58.9W					U		19910428	131830	146	128	39	3
73	59	CLOUDS	BLACK		55.3N	58.2W					U		19910428	131836	146	129	39	3
73	60	CLOUDS	BLACK		57.3N	34.0W					U		19910428	132207	146	161	46	3
73	61	CLOUDS	BLACK		57.2N	33.7W					U		19910428	132209	146	162	46	3
73	97	CLOUDS			43.6N	22.5E		95	L0	250	N	N	19910429	053839	144	91	22	14
74	60	CLOUDS	CLOUDS		54.3N	1.5E		95	L0	250	N	N	19910506	093310	146	121	38	129
74	61	CLOUDS	CLOUDS		53.3N	5.2E		95	L0	250	N	N	19910506	093347	146	125	40	129
75	17	CLOUDS	TOWERING CUMULUS-HIGH CL		5.7N	1.9W		100	H0	250	O	N	19910428	164138	138	282	21	5
77	26	CLOUDS	VERY DARK		19.2S	100.7W		50	L0	250	U	N	19910429	001706	139	285	21	10
79	33	CLOUDS	CLOUD TOP-VERY DARK		28.2N	16.6W		100	L0	250	U	N	19910429	070310	141	77	6	15
79	84	CLOUDS	CUMULUS, CUMULONIMBUS		27.6N	116.1E		100	L0	250	N	N	19910429	073107	140	264	42	15
80	7	CLOUDS	CLOUDS-UNDEREXPOSED		6.9S	137.9E		30	L0	250	U	N	19910429	074129	138	286	13	15
80	8	CLOUDS	CLOUD WAVES-UNDEREXPOSED		18.1S	144.8E		100	L0	250	U	N	19910429	074451	139	286	3	15
80	20	CLOUDS	CLOUD HOLE		22.3N	97.4E		100	L0	250	N	N	19910429	090220	139	270	38	16
84	29	B CLOUDS	LOW CLOUDS/SMOKE, UPP. CLD					100	L0	250	N	N						
84	29	C CLOUDS	LOW CLDS/SMKE, UPPER CLDS					100	L0	250	N	N						
84	29	D CLOUDS	LOW CLDS/SMKE, UPPER CLDS					100	L0	250	N	N						
84	29	E CLOUDS	LOW CLDS/SMKE, UPPER CLDS					100	L0	250	N	N						
89	35	COLOMBIA	N.CENTRAL COLOMBIA		7.9N	75.5W		40	L0	250	N	N	19910429	210320	138	282	30	24
89	36	COLOMBIA	N.CENTRAL COLOMBIA		6.4N	74.6W		20	L0	250	N	N	19910429	210347	137	282	28	24
89	37	COLOMBIA	N.CENTRAL COLOMBIA		6.1N	74.4W		40	L0	250	N	N	19910429	210353	137	283	28	24
89	38	COLOMBIA	E.CENTRAL COLOMBIA		4.4N	73.5W		60	L0	250	N	N	19910429	210423	137	283	27	24
89	39	COLOMBIA	RIO GUAYABERO	2.5N	72.6W			60	L0	250	N	N	19910429	210450	137	284	25	24
89	40	COLOMBIA	RIO GUAVIARE, CHAPARRAL	2.8N	71.8W			50	L0	250	N	N	19910429	210458	137	284	25	24
151	40	COLOMBIA	MAGDALENA RIVER BASIN	5.0N	74.0W			65	L0	250	U	N	19910429	210353	137	283	28	24
86	5	COLUMBIA	SUNGLINT, EDDIES, ST. CLOUD		8.3N	75.7W		70	L0	250	N	N	19910429	210319	138	281	30	24
86	6	COLUMBIA	SUNGLINT, EDDIES, ST. CLOUD		7.7N	75.4W		80	L0	250	N	N	19910429	210330	138	282	29	24
86	7	COLUMBIA	SUNGLINT, EDDIES, ST. CLOUD		6.5N	74.7W		80	L0	250	N	N	19910429	210350	137	282	28	24
93	14	COLUMBIA	VERY CLOUDY, HAZY, COASTAL		3.8N	74.2W		95	L0	250	N	N	19910505	185359	141	284	65	119
93	15	COLUMBIA	VERY CLOUDY, HAZY, COASTAL		3.2N	73.9W		95	L0	250	N	N	19910505	185410	141	285	64	119

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
610	17	CONGO	NGOKO RIVER, LAND USE	2.0N 15.0E	1.3N 15.4E	25	NV	250	N	N	19910430	150000	137	286	28	35
604	66	CORAL SEA	THUNDERSTORMS	14.4S 153.6E	100 LO 250 N	19910502	055200	135	293	22	61					
604	67	CORAL SEA	THUNDERSTORMS	14.4S 153.6E	100 LO 250 N	19910502	055200	135	293	22	61					
151	17A	CORSICA	LIGURIAN SEA, ELBA IS.	42.5N 9.0E	42.1N 10.5E	35	LO	250	N	N	19910429	132438	142	235	51	19
602	5	CORSICA	LIGURIAN SEA, IT. COAST	42.5N 9.0E	43.8N 8.0E	45	HO	100	N	N	19910429	132400	138	230	51	18
96	97	CRETE	E.END OF ISLAND	35.1N 26.1E	34.6N 26.8E	0	LO	250	N	N	19910503	112618	143	175	56	82
72	86	CUBA	CANARREOS ARCHIPELAGO	21.5N 81.0W		25	LO	250	N	N						
72	87	CUBA	CIENFUEGOS	21.5N 80.5W		35	LO	250	N	N						
72	88	CUBA	VIEW EAST OF ISLAND	22.0N 79.0W		35	HO	250	N	N						
72	89	CUBA	VIEW EAST OF ISLAND	21.0N 76.0W		35	HO	250	N	N						
75	76	CUBA	PAN OF CEN.TO S.END-SMOG	22.0N 79.0W	17.7N 77.5W	20	LO	250	N	N	19910428	210652	139	275	32	8
83	97	CUBA	EAST END, PUERTO RICO	19.0N 69.0W	18.4N 59.3W	20	HO	250	N	N	19910429	193039	138	274	38	23
87	43	CUBA	HAVANA-CLOUDY, DARK	23.0N 82.5W	22.3N 80.6W	40	LO	250	U	N	19910428	210533	139	271	36	8
87	44	CUBA	MID-WEST SECT., DARK	22.7N 82.9W	22.1N 80.4W	60	LO	250	U	N	19910428	210537	139	271	35	8
87	45	CUBA	LA BROA BAY, MID SECT.	22.6N 81.5W	21.8N 80.2W	50	LO	250	U	Y	19910428	210542	139	272	35	8
87	46	CUBA	LA BROA BAY, MID SECT.	22.6N 81.4W	21.6N 80.1W	40	LO	250	U	Y	19910428	210546	139	272	35	8
87	47	CUBA	LA BROA BAY, BAY OF PIGS	22.2N 81.4W	21.2N 79.8W	40	LO	250	U	N	19910428	210553	139	272	35	8
87	48	CUBA	BANKS.KEY LARGO DEL SUR	21.5N 81.5W	20.1N 79.0W	30	LO	250	U	N	19910428	210613	139	273	34	8
95	33	CUBA	SW.TIP OF ISLAND	21.8N 84.5W	23.8N 86.8W	60	LO	100	N	N	19910505	184753	142	213	72	119
95	34	CUBA	SW.TIP OF ISLAND	21.8N 84.5W	23.4N 86.6W	70	LO	100	N	N	19910505	184800	142	214	73	119
95	35	CUBA	SW.TIP OF ISLAND	22.0N 84.0W	23.1N 86.3W	60	LO	100	N	N	19910505	184806	142	216	73	119
95	36	CUBA	GULF OF BATABANO	22.2N 83.0W	22.4N 85.8W	50	LO	100	N	N	19910505	184819	142	219	73	119
95	37	CUBA	ISLE OF PINES	21.7N 82.8W	22.1N 85.6W	60	LO	100	N	N	19910505	184824	142	220	73	119
74	73	CZECHOSLOVAKIA	NEAR WIEN-HAZY	48.5N 17.0E	50.0N 14.2E	45	LO	250	O	N	19910506	093528	146	135	46	129
74	78	CZECHOSLOVAKIA	BTWN TRNAVA AND NITRA	48.5N 18.0E	49.4N 15.4E	70	LO	250	O	Y	19910506	093542	146	137	47	129
74	79	CZECHOSLOVAKIA	NEAR BANSKA	48.5N 19.0E	49.4N 15.6E	75	LO	250	O	Y	19910506	093544	145	137	47	129
74	80	CZECHOSLOVAKIA	NEAR BANSKA	48.5N 19.5E	49.3N 15.7E	75	LO	250	O	Y	19910506	093546	145	137	47	129
74	81	CZECHOSLOVAKIA	DANUBE R.	48.0N 18.0E	49.2N 15.9E	55	LO	250	O	Y	19910506	093548	145	138	48	129
74	82	CZECHOSLOVAKIA	DANUBE R.-NEAR GYOR	48.0N 17.5E	49.1N 16.0E	60	LO	250	O	Y	19910506	093550	145	138	48	129
71	5	DENMARK	FALSTER-HAZY	55.0N 12.0E	54.1N 11.5E	15	NV	250	N	N	19910428	115551	118	196	49	2
72	92	DOMINICAN REPUBLIC	VIEW E. OF HISPANIOLA	18.0N 71.0W		45	HO	250	N	N						
151	206B	DOMINICAN REPUBLIC	SANTA DOMINGO, PT.SALINA	18.5N 70.5W	19.8N 67.9W	40	LO	250	N	N	19910501	191524	138	260	54	55
604	64	EAST CHINA SEA	SEDIMENT PLUME, YANGTZE	32.1N 123.6E		0	LO	250	N	N	19910502	053800	135	244	59	61
604	65	EAST CHINA SEA	SEDIMENT PLUME, YANGTZE	32.1N 123.6E		0	LO	250	N	N	19910502	053800	135	244	59	61
81	22	EGYPT	NILE RIVER, LAKE NASSER	25.0N 32.5E	16.2N 32.1E	5	HO	250	N	N	19910505	112151	141	244	72	114
81	23	EGYPT	NILE R.EASTERN DES.RED S	25.0N 34.0E	15.5N 32.6E	5	HO	250	O	N	19910505	112205	141	247	71	114
81	24	EGYPT	NW PAN, GILF KEBIR PLAT.	23.0N 26.0E	14.2N 33.4E	0	HO	250	O	N	19910505	112228	141	252	71	114
604	4	EGYPT	SUEZ CANAL, EL-TINA BAY	30.5N 32.5E	35.4N 33.2E	35	LO	250	N	N	19910501	114300	136	240	57	49
604	6	EGYPT	GAZA STRIP, EL-ARISH	31.0N 34.0E	32.4N 36.1E	45	LO	250	N	N	19910501	114400	136	248	56	48
604	7	EGYPT	SUEZ CANAL, GR. BITTER L	30.5N 32.0E	32.4N 36.1E	35	LO	250	N	N	19910501	114400	136	248	56	49

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	CENTER LON	NADIR LAT	NADIR LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
604	8	EGYPT	SUEZ CANAL, NILE R. VAL.	30.0N	31.5E	32.4N	36.1E	30	LO	250	N	N	19910501	114400	136	248	53	49
607	69	EGYPT	DUST STORM, OUT OF FOCUS	22.0N	25.0E	23.0N	24.7E	5	LO	100	N	N	19910430	132400	137	268	45	34
607	70	EGYPT	DUST STORM, OUT OF FOCUS	22.5N	25.5E	23.0N	24.7E	5	LO	100	N	N	19910430	132400	137	268	45	34
90	71	ETHIOPIA	BORDER AREA WITH SUDAN		12.9N	35.2E		10	LO	250	N	N	19910429	133354	138	279	32	19
90	72	ETHIOPIA	NO ID FEATURES		12.4N	35.6E		70	LO	250	N	N	19910429	133404	138	279	31	19
90	73	ETHIOPIA	LAKE TANA	12.0N	37.3E	10.9N	36.5E	10	LO	250	N	N	19910429	133430	138	280	30	19
90	74	ETHIOPIA	LAKE TANA	11.8N	37.1E	10.1N	36.9E	20	LO	250	N	N	19910429	133444	138	280	30	19
90	75	ETHIOPIA	LAKE TANA	12.0N	37.6E	9.7N	37.2E	60	LO	250	N	N	19910429	133452	138	281	29	19
90	76	ETHIOPIA	RUGGED MOUNTAINOUS AREA		8.7N	37.8E		50	LO	250	N	N	19910429	133510	138	281	28	19
90	77	ETHIOPIA	DEBRE ZEYT, UNNAMED LAKE	8.5N	39.0E	7.6N	38.5E	0	LO	250	N	N	19910429	133530	138	282	27	19
151	26	ETHIOPIA	LAKE TANA, BLUE NILE	11.5N	36.5E	11.0N	36.4E	15	LO	250	U	N	19910429	133430	138	280	30	19
151	26A	ETHIOPIA	HIGHLANDS, L. TANA	13.0N	32.0E	9.1N	37.5E	35	HO	250	U	N	19910429	133504	138	281	29	19
151	26B	ETHIOPIA	ETHIOPIAN RIFT VALLEY	9.0N	38.0E	7.3N	38.6E	30	LO	250	U	N	19910429	133537	138	282	28	19
151	27	ETHIOPIA	EASTERN MTNS., DARK		3.7N	40.7E		35	LO	250	U	N	19910429	133640	138	284	24	19
602	22	ETHIOPIA	ETHIOPIAN PLAT., HAZE		6.1N	39.4E		40	LO	100	N	N	19910429	133600	138	283	27	18
602	23	ETHIOPIA	ETHIOPIAN PLAT., HAZE		6.1N	39.4E		45	HO	100	N	N	19910429	133600	138	283	27	18
74	92	EUROPE	YUGOSLAVIA, ROMANIA, HUNGARY		48.1N	18.2E		85	LO	250	O	N	19910506	093617	145	141	49	129
151	224B	EUROPE	CLOUDS, VIEW S. TO AFRICA		43.5N	2.9W		85	HO	250	O	N	19910502	130126	141	176	54	67
607	15	EUROPE	CLOUDS		52.0N	10.2E		95	LO	100	N	N	19910430	114400	137	191	52	33
607	16	EUROPE	HUNGARY, YUGOSLAVIA AREA		47.7N	20.2E		80	LO	100	N	N	19910430	114600	137	210	54	33
79	50	FRANCE	NEAR BORDEAUX	44.5N	1.0W	44.1N	.4E	15	NV	250	N	Y	19910429	070833	144	91	22	15
79	51	FRANCE	CAZAUX ET DESANGUINET L.	44.5N	1.0W	44.4N	.8E	15	NV	250	U	Y	19910429	070839	144	92	23	15
79	52	FRANCE	TROYES, AG LAND, SEINE R.	48.5N	4.0E	47.1N	5.5E	0	LO	250	N	Y	19910429	070945	144	97	26	15
79	53	FRANCE	TROYES, AG LAND, SEINE R.	48.5N	4.0E	47.4N	5.9E	0	LO	250	N	Y	19910429	070951	144	97	26	15
84	36	FRANCE	BEACHES, CLOUDS(3/4 FR.)	50.0N	1.5E	52.3N	2.1E	75	LO	250	N	N	19910503	064115	141	71	2	79
87	90	FRANCE	GIROUDE R/ESTUARY, CST	45.5N	0.9W	44.1N	.4E	20	LO	250	U	N	19910429	070833	144	91	22	15
87	91	FRANCE	DOUBS R, DIJON, AGR.	47.2N	5.4E	47.1N	5.3E	0	NV	250	U	N	19910429	070943	144	97	26	15
90	40	FRANCE	RHONE R., MARSEILLE AREA	43.8N	4.7E	46.0N	4.6E	5	LO	250	N	N	19910429	132307	143	223	51	19
90	41	FRANCE	RHONE R., MARSEILLE AREA	43.5N	4.9E	45.4N	5.6E	5	LO	250	N	N	19910429	132321	143	225	51	19
90	42	FRANCE	TOULON AREA	43.2N	6.3E	45.1N	6.0E	40	LO	250	N	N	19910429	132328	143	226	51	19
90	43	FRANCE	CANNES AREA	43.5N	7.0E	44.7N	6.7E	30	LO	250	N	N	19910429	132338	143	227	51	19
96	93	FRANCE	CLOUDY, HAZY		49.6N		5.5E	90	LO	250	N	N	19910503	112044	146	129	39	82
151	16A	FRANCE	RHONE RIVER, LYON	45.5N	5.0E	45.3N	5.8E	50	LO	250	N	N	19910429	132326	143	226	51	19
151	16B	FRANCE	RHONE R. DELTA, PYRENEES	44.0N	3.5E	44.8N	6.6E	50	LO	250	N	N	19910429	132338	143	227	51	19
151	17	FRANCE	ALPS, LOMBARDI PLAINS	46.5N	5.0E	42.7N	9.6E	50	HO	250	N	N	19910429	132423	143	233	51	19
151	122	FRANCE	G. OF LYONS, PERPIGNAN	43.0N	3.5E	43.8N	4.1E	15	LO	250	N	N	19910430	131705	142	219	54	35
602	1	FRANCE	FR. RIVIERA, LIGURIAN S.	43.0N	6.0E	46.4N	3.9E	30	LO	100	N	N	19910429	132300	138	222	52	18
602	2	FRANCE	GULF OF LIONS, PYRENEES	43.0N	3.0E	46.4N	3.9E	45	HO	100	N	N	19910429	132300	138	222	52	18
602	3	FRANCE	FR. RIVIERA, ALPS, PO V.	43.5N	7.0E	46.4N	3.9E	30	LO	100	N	N	19910429	132300	138	222	52	18
604	22	FRANCE	TOULON, MARSEILLE	43.5N	5.5E	39.9N	5.6E	0	LO	250	N	N	19910501	131100	135	227	58	50

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AZ	SUN EL	OR
604	23	FRANCE	TOULON, SHIP WAKES	43.0N 6.0E	39.9N 5.6E	0	LO	250	N	Y	19910501	131100	135	227	58 50
608	44	FRANCE	GARONNE RIVER MOUTH	43.0N 2.0E	39.2N 2.8E	75	LO	250	N	N	19910502	130300	135	221	61 66
610	27	GAMBIA	GAMBIA RIVER, BANJUL	13.5N 16.5W	13.3N 14.4W	0	LO	250	N	Y	19910430	162600	137	278	39 36
71	4	GERMANY	BALTIC SEA-N OF HAMBURG	54.5N 10.5E	54.3N 10.7E	65	NV	250	N	N	19910428	115543	118	195	49 2
71	6	GERMANY	STRALSUND	54.5N 13.0E	53.8N 12.7E	45	NV	250	N	N	19910428	115602	119	198	49 2
74	62	GERMANY	NEAR COBERG, MAIN RIVER	50.5N 11.0E	52.2N 8.6E	70	LO	250	N	Y	19910506	093423	146	129	42 129
74	63	GERMANY	NEAR COBERG, MAIN RIVER	50.5N 11.5E	51.9N 9.4E	75	LO	250	N	Y	19910506	093432	146	130	43 129
74	64	GERMANY	NORTH OF BAYREUTH	50.0N 12.0E	51.7N 10.0E	75	LO	250	N	Y	19910506	093439	146	130	43 129
74	65	GERMANY	MARIANSKE	50.0N 12.5E	51.5N 10.6E	80	LO	250	N	Y	19910506	093445	146	131	44 129
74	66	GERMANY	CP NORTH OF PLZEN	50.0N 14.0E	51.1N 11.5E	85	LO	250	O	Y	19910506	093456	146	132	44 129
74	67	GERMANY	VTAVA RIVER-NEAR BECHYNE	49.5N 14.0E	51.0N 11.7E	85	LO	250	O	Y	19910506	093458	146	132	44 129
74	68	GERMANY	VTAVA RIVER-NEAR BECHYNE	49.5N 14.5E	50.9N 12.0E	85	LO	250	O	Y	19910506	093502	146	133	45 129
74	69	GERMANY	BECHYNE-TABOR-VSECHOV	49.5N 14.5E	50.8N 12.3E	85	LO	250	O	Y	19910506	093505	146	133	45 129
74	70	GERMANY	MANY LAKES-NEAR BECHYNE	49.0N 15.0E	50.6N 12.8E	85	LO	250	O	Y	19910506	093511	146	134	45 129
74	71	GERMANY	NEAR WIEN	48.5N 15.0E	50.3N 13.4E	80	LO	250	O	Y	19910506	093518	146	134	46 129
79	54	GERMANY	MAIN RIVER-NEAR WURZBURG	50.0N 10.0E	49.9N 11.1E	30	LO	250	N	N	19910429	071057	145	103	29 15
79	55	GERMANY	MAIN RIVER-AG PATTERNS	50.5N 9.5E	50.2N 11.7E	20	LO	250	N	N	19910429	071104	145	104	30 15
87	92	GERMANY	REGENSBURG, DANUBE R.	49.0N 12.0E	50.3N 11.9E	15	LO	250	U	N	19910429	071106	145	104	30 15
96	96	GREECE	PELOPONNISOS,NEAPOLIS	36.6N 23.2E	37.4N 23.9E	0	LO	250	N	N	19910503	112522	143	167	54 82
609	44	GREENLAND	SE COAST	61.0N 43.0W	55.6N 38.5W	75	HO	250	N	N	19910505	093200	141	93	22 112
84	17	GUINEA BISSAU	ORANGO-ORANGOZINHO I.	11.0N 16.0W	10.5N 16.5W	0	NV	250	N	N	19910501	161917	136	275	46 53
84	18	GUINEA BISSAU	ORANGO-ORANGOZINHO I.	11.0N 16.0W	10.1N 16.3W	0	NV	250	N	N	19910501	161925	136	275	46 53
96	17	GUINEA BISSAU	ARQUIPELAGO DOS BIJAGOS	11.0N 16.0W	10.3N 16.4W	0	LO	250	N	N	19910501	161914	136	275	46 53
96	18	GUINEA BISSAU	ARQUIPELAGO DOS BIJAGOS	11.0N 16.0W	9.9N 16.2W	0	LO	250	N	N	19910501	161921	136	275	46 53
96	19	GUINEA BISSAU	ARQUIPELAGO DOS BIJAGOS	10.6N 15.9W	9.6N 16.0W	0	LO	250	N	N	19910501	161927	136	276	45 53
610	28	GUINEA BISSAU	CACINE RI., TRISTAO IS.	11.0N 15.0W	13.3N 14.4W	55	LO	250	N	N	19910430	162600	137	278	39 36
610	31	GULF OF GUINEA	SUNGLINT, OCEAN FEATURES		6.6N 10.4W	10	LO	250	N	N	19910430	162800	137	283	33 6
610	32	GULF OF GUINEA	SUNGLINT, SHIP WAKE		6.6N 10.4W	15	LO	250	N	N	19910430	162800	137	283	33 36
610	33	GULF OF GUINEA	SUNGLINT, SHIP WAKE		3.2N 8.4W	30	LO	250	N	N	19910430	162900	137	285	30 36
610	34	GULF OF GUINEA	SUNGLINT, SHIP WAKE		3.2N 8.4W	25	LO	250	N	N	19910430	162900	137	285	30 36
610	35	GULF OF GUINEA	SUNGLINT, SHIP WAKE		3.2N 8.4W	5	LO	250	N	N	19910430	162900	137	285	30 36
610	36	GULF OF GUINEA	SUNGLINT, SHIP WAKE		0.2S 6.5W	5	LO	250	N	N	19910430	163000	137	287	27 36
606	51	GULF OF OMAN	SHIP WAKES, SPIRAL EDDY	25.0N 56.5E		0	LO	100	N	Y					
606	52	GULF OF OMAN	SHIP WAKES, INT. WAVES	24.5N 58.0E		10	LO	100	N	Y					
72	91	HAITI	VIEW E. OF HISPANIOLA	19.0N 72.0W		45	HO	250	N	N					
74	83	HUNGARY	DANUBE R.-CZECH,HUN BOR.	47.5N 18.0E	49.1N 16.1E	70	LO	250	O	Y	19910506	093551	145	138	48 129
74	84	HUNGARY	NEAR LAKE BALATON	47.5N 18.0E	49.0N 16.3E	70	LO	250	O	Y	19910506	093553	145	138	48 129
74	85	HUNGARY	VESZPREM, LAKE BALATON	47.0N 18.0E	49.0N 16.4E	70	LO	250	O	Y	19910506	093555	145	138	48 129
74	86	HUNGARY	VESZPREM, LAKE BALATON	47.0N 18.0E	48.9N 16.6E	70	LO	250	O	Y	19910506	093557	145	138	48 129
74	87	HUNGARY	DANUBE R.-BUDAPEST	47.0N 19.0E	48.7N 17.0E	65	LO	250	N	Y	19910506	093602	145	139	48 129

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
74	88	HUNGARY	DANUBE R.-VIRANYOSDULO	46.0N 19.0E	48.4N 17.5E	60	L0	250	N	Y	19910506	093609	145	140	49	129
74	93	HUNGARY	CLOUDS-RUNWAY		48.0N 18.4E	80	L0	250	O	N	19910506	093620	145	141	50	129
85	54	HUNGARY	L.BALATON-WEST END, AGR.	46.7N 17.2E	47.0N 17.8E	70	NV	250	N	N	19J10501	113853	141	190	54	50
90	3	HUNGARY	FRAME TOO DARK.CLOUDY		49.3N 21.0E	70	L0	250	N	N	19910429	115208	144	211	51	18
77	35	INDIA	VERY DARK-UNDEREXPOSED		22.8N 70.3E	0	L0	250	U	Y	19910429	010258	141	75	2	11
77	36	INDIA	RANN OF KUTCH AREA-DARK		22.9N 70.4E	0	L0	250	U	Y	19910429	010301	141	75	2	11
77	37	INDIA	RANN OF KUTCH AREA-DARK		23.2N 70.6E	0	L0	250	U	Y	19910429	010306	141	75	2	11
77	38	INDIA	RANN OF KUTCH AREA-DARK		23.6N 70.9E	0	L0	250	U	Y	19910429	010313	141	75	3	11
77	39	INDIA	RANN OF KUTCH AREA-DARK		24.0N 71.2E	0	L0	250	U	N	19910429	010320	141	76	3	11
77	40	INDIA	RANN OF KUTCH AREA-DARK		24.2N 71.3E	0	L0	250	U	N	19910429	010324	141	76	3	11
77	41	INDIA	RANN OF KUTCH AREA-DARK		24.4N 71.5E	0	L0	250	U	Y	19910429	010328	141	76	4	11
77	42	INDIA	DRY STREAM NEAR R. OF K	25.5N 72.0E	24.9N 71.9E	0	L0	250	N	Y	19910429	010338	141	76	4	11
77	43	INDIA	DRY STREAM NEAR R. OF K	25.0N 72.0E	25.2N 72.1E	0	L0	250	N	Y	19910429	010344	141	76	4	11
77	44	INDIA	RANN OF KUTCH AREA-DARKL		25.6N 72.4E	0	L0	250	N	N	19910429	010351	141	76	5	11
77	45	INDIA	AREA NEAR JODHPUR-DARK		26.0N 72.7E	10	L0	250	N	N	19910429	010358	141	76	5	11
77	46	INDIA	STREAM NEAR JODHPUR-DARK	26.0N 73.0E	26.3N 72.9E	5	L0	250	U	N	19910429	010403	141	76	5	11
77	47	INDIA	STREAM NEAR SAMBAR S.L.	27.0N 75.0E	26.8N 73.4E	0	L0	250	U	Y	19910429	010414	141	77	6	11
77	48	INDIA	STREAM NEAR SAMBAR S.L.	27.5N 75.5E	27.4N 73.8E	0	L0	250	U	Y	19910429	010424	141	77	6	11
77	49	INDIA	SAMBAR SALT LAKE	27.0N 75.0E	28.1N 74.4E	5	L0	250	U	Y	19910429	010438	141	77	7	11
77	50	INDIA	SAHARANPUR-FRONT OF HIM.	30.0N 77.0E	29.5N 75.5E	0	L0	250	U	Y	19910429	010504	142	78	9	11
77	51	INDIA	YAMUNA R.-FRONT OF HIM.	30.5N 77.0E	29.8N 75.8E	0	L0	250	U	Y	19910429	010510	142	78	9	11
77	52	INDIA	YAMUNA R.-FRONT OF HIM.	30.5N 77.0E	30.3N 76.2E	0	NV	250	U	Y	19910429	010519	142	79	9	11
77	53	INDIA	YAMUNA R.-FRONT OF HIM.	30.5N 77.5E	30.7N 76.6E	0	NV	250	U	Y	19910429	010528	142	79	10	11
77	54	INDIA	PANGONG LAKE-HIMALAYA R.	33.5N 80.0E	33.2N 78.8E	0	L0	250	N	N	19910429	010616	142	81	12	11
80	58	INDIA	SALT PAN NEAR LITTLE RAN		23.6N 73.7E	5	L0	250	N	N	19910429	103132	139	269	40	17
80	59	INDIA	COAST-NORTH SAHYADRI	20.0N 73.0E	19.7N 76.4E	0	L0	250	N	N	19910429	103244	139	273	37	17
86	22	INDIA	PAKISTAN,HIMALAYA MTNS	35.0N 74.0E	34.3N 75.8E	0	L0	250	N	N	19910430	010011	141	78	8	27
88	28	INDIA	RIVER, DESERT AREA			30	L0	100	O	N						
88	29	INDIA	RIVER, DESERT AREA			40	L0	100	O	N						
88	30	INDIA	RIVER, DESERT AREA			35	L0	100	O	N						
88	31	INDIA	RIVER, DESERT AREA			45	L0	100	O	N						
88	32	INDIA	RIVER, HILLS			40	L0	100	O	N						
88	33	INDIA	DECCAN PLATEAU			65	L0	100	O	N						
88	34	INDIA	DECCAN PLATEAU			40	L0	100	O	N						
88	35	INDIA	EAST COAST			20	L0	100	O	N						
88	36	INDIA	EAST COAST			15	L0	100	O	N						
88	37	INDIA	EAST COAST			10	L0	100	O	N						
88	38	INDIA	EAST COAST			15	L0	100	O	N						
88	39	INDIA	EAST COAST			20	L0	100	O	N						
88	40	INDIA	EAST COAST			25	L0	100	O	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
88	41	INDIA	EAST COAST	15	L0	100	O	N									
88	42	INDIA	EAST COAST	20	H0	100	O	N									
89	98	INDIA	KUTCH PENINSULA	23.5N	69.0E	22.8N	70.3E	5	L0	250	N	N	19910430	102456	138	266	45
89	99	INDIA	GULF OF KUTCH AREA	22.9N	70.2E	22.2N	70.7E	0	L0	250	N	N	19910430	102506	138	267	45
89	100	INDIA	PORBANDAR AREA	21.8N	69.8E	21.4N	71.3E	5	L0	250	N	N	19910430	102522	138	268	44
89	101	INDIA	VERVAL AREA	21.0N	70.5E	20.5N	71.9E	0	L0	250	N	N	19910430	102537	138	269	43
89	102	INDIA	GULF OF KHAMBHAT AREA	21.6N	72.4E	19.8N	72.4E	0	L0	250	N	N	19910430	102551	138	270	43
89	103	INDIA	VALSAD AREA	20.7N	73.0E	19.3N	72.7E	5	L0	250	N	N	19910430	102600	138	271	43
89	104	INDIA	AREA AROUND TARAPUR	20.0N	73.0E	19.0N	72.9E	10	L0	250	N	N	19910430	102606	138	271	42
89	105	INDIA	BOMBAY AREA	19.2N	73.0E	18.5N	73.2E	30	L0	250	N	N	19910430	102614	138	272	42
89	106	INDIA	MURUD AREA	18.2N	73.1E	17.8N	73.7E	30	L0	250	N	N	19910430	102627	138	272	41
89	107	INDIA	AREA SE OF PUNE	18.3N	74.5E	15.9N	74.9E	0	L0	250	N	N	19910430	102702	138	275	40
89	108	INDIA	MALVAN AREA	16.0N	73.5E	15.4N	75.3E	30	L0	250	N	N	19910430	102711	138	275	40
89	109	INDIA	MANGALORE AREA	13.2N	74.9E	12.5N	77.0E	60	L0	250	N	N	19910430	102802	137	278	37
89	110	INDIA	AREA SW.MYSORE	11.8N	76.4E	11.9N	77.4E	50	L0	250	N	N	19910430	102814	137	278	37
89	111	INDIA	MTNS.N.OF COIMBATORE	11.4N	76.8E	11.4N	77.7E	10	L0	250	N	N	19910430	102822	137	279	36
89	112	INDIA	AREA AROUND TRICHUR	10.4N	76.4E	10.0N	78.6E	30	L0	250	N	N	19910430	102848	137	280	35
89	113	INDIA	AREA AROUND COCHIN	9.8N	76.5E	9.3N	79.0E	60	L0	250	N	N	19910430	102900	137	280	35
89	114	INDIA	AREA AROUND ALLEPPEY	9.4N	76.8E	8.8N	79.2E	70	L0	250	N	N	19910430	102908	137	280	34
89	115	INDIA	RAMANATHAPURAM AREA	9.3N	78.8E	8.4N	79.5E	40	L0	250	N	N	19910430	102916	137	281	34
89	116	INDIA	TUTICORN AREA	8.7N	78.2E	8.0N	79.7E	30	L0	250	N	N	19910430	102923	137	281	34
89	117	INDIA	S.TIP OF INDIA	8.4N	77.7E	7.7N	79.9E	30	L0	250	N	N	19910430	102929	137	281	33
151	88	INDIA	PALK STRAIT, PALK BAY	10.0N	78.0E	9.5N	82.8E	40	H0	90	N	N	19910429	103545	138	281	29
151	54B	INDIA	GULF OF KUTCH	22.5N	70.5E	23.8N	69.6E	0	L0	250	N	N	19910430	102437	139	265	46
151	54C	INDIA	MANDA HILLS	22.0N	71.0E	23.0N	70.1E	0	L0	250	N	Y	19910430	102451	139	267	46
151	54D	INDIA	GULF OF KHAMBHAT	21.5N	72.0E	22.4N	70.6E	0	L0	250	N	Y	19910430	102503	139	267	45
151	55	INDIA	GULF OF KHAMBHAT	21.5N	72.5E	21.6N	71.1E	0	L0	250	N	Y	19910430	102517	138	268	44
151	56	INDIA	CITY OF SURAT	21.0N	73.0E	21.1N	71.5E	0	L0	250	N	Y	19910430	102526	138	269	44
151	57	INDIA	WESTERN GHATS	20.0N	73.5E	20.5N	71.9E	5	L0	250	N	Y	19910430	102537	138	269	43
151	58	INDIA	WESTERN GHATS, BOMBAY	19.0N	73.5E	19.7N	72.4E	5	L0	250	N	Y	19910430	102552	138	270	43
151	59	INDIA	WESTERN GHATS, PUNO	18.0N	74.5E	19.1N	72.8E	5	L0	250	N	Y	19910430	102602	138	271	42
151	60	INDIA	WESTERN GHATS	18.0N	74.5E	18.6N	73.2E	10	L0	250	N	Y	19910430	102612	138	272	42
151	61	INDIA	WESTERN GHATS	17.5N	75.0E	17.9N	73.6E	15	L0	250	N	Y	19910430	102624	138	272	42
151	62	INDIA	DECCAN PLAT., BHIMA R.	17.5N	75.5E	17.4N	73.9E	15	L0	250	N	Y	19910430	102633	138	273	41
151	63	INDIA	DECCAN PLAT., BHIMA R.	17.0N	76.0E	16.9N	74.3E	5	L0	250	N	Y	19910430	102642	138	273	41
151	64	INDIA	DECCAN PLATEAU	16.5N	76.0E	16.4N	74.6E	10	L0	250	N	Y	19910430	102652	138	274	40
151	65	INDIA	DECCAN PL., TUNGABHADRA	15.5N	76.0E	15.8N	75.0E	10	L0	250	N	Y	19910430	102702	138	275	40
151	66	INDIA	DECCAN PLATEAU	14.5N	76.5E	15.2N	75.4E	15	L0	250	N	Y	19910430	102713	138	275	39
151	66A	INDIA	DECCAN PLATEAU	14.0N	76.0E	14.8N	75.6E	30	L0	250	N	Y	19910430	102722	138	276	40
151	66B	INDIA	DECCAN PLATEAU	13.5N	76.5E	14.1N	76.1E	25	L0	250	N	Y	19910430	102734	138	277	39

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
151	66C	INDIA	BANGALORE, EASTERN GHATS	12.5N	77.0E			5	LO	250	N	Y						
151	67	INDIA	EASTERN GHATS, STANLEY L	12.0N	77.5E	12.9N	76.8E	15	LO	250	N	Y	19910430	102754	137	277	38	33
151	67A	INDIA	EASTERN GHATS, CAUVERY R	11.5N	78.0E			20	LO	250	N	Y						
151	68	INDIA	EASTERN GHATS, CAUVERY R	11.0N	78.0E	11.7N	77.5E	10	LO	250	N	Y	19910430	102815	137	278	37	33
151	69	INDIA	EASTERN GHATS, CAUVERY R	10.5N	78.5E	11.1N	77.9E	45	LO	250	N	Y	19910430	102826	137	279	36	33
151	70	INDIA	PALK ST., MANMAR GULF	9.5N	79.0E	10.6N	78.2E	40	LO	250	N	Y	19910430	102835	137	279	36	33
151	71	INDIA	PALK ST., MANMAR GULF	9.0N	79.5E	10.0N	78.5E	5	LO	250	N	Y	19910430	102846	137	280	35	33
151	73	INDIA	PALK STRAIT	10.5N	80.0E	9.3N	78.9E	55	LO	250	N	N	19910430	102858	137	280	35	33
601	20	INDIA	INDUS R., RANN OF KUTCH	24.0N	70.0E	25.3N	72.5E	15	HO	100	N	N	19910429	103100	138	267	41	16
601	22	INDIA	RANN OF KUTCH, INDUS R.	23.0N	72.0E	25.3N	72.5E	10	HO	100	N	N	19910429	103100	138	267	41	16
601	23	INDIA	RANN OF KUTCH, W. GHATS	22.0N	71.0E	25.3N	72.5E	10	HO	100	N	N	19910429	103100	138	267	41	16
601	24	INDIA	RANN OF KUTCH, W. GHATS	23.0N	71.0E	25.3N	72.5E	10	HO	100	N	N	19910429	103100	138	267	41	16
601	25	INDIA	GULF OF CAMBAY, KUTCH	21.0N	71.0E	22.1N	74.8E	5	HO	100	N	N	19910429	103200	138	271	39	16
601	26	INDIA	GULF OF CAMBAY, KUTCH	21.0N	72.0E	22.1N	74.8E	5	HO	100	N	N	19910429	103200	138	271	39	16
601	27	INDIA	GULF OF CAMBAY, W. GHATS	20.5N	73.0E	22.1N	74.8E	5	HO	100	N	N	19910429	103200	138	271	39	16
601	28	INDIA	GULF OF CAMBAY, W. GHATS	19.5N	74.0E	22.1N	74.8E	25	HO	100	N	N	19910429	103200	138	271	39	16
601	29	INDIA	GULF OF CAMBAY, W. GHATS	20.0N	74.0E	18.8N	77.1E	20	HO	100	N	N	19910429	103300	138	274	36	16
601	30	INDIA	WESTERN GHATS	18.0N	75.0E	18.8N	77.1E	40	HO	100	N	N	19910429	103300	138	274	36	16
601	31	INDIA	WEST. GHATS, DECCAN PLAT	16.0N	75.0E	15.5N	79.2E	30	HO	100	N	N	19910429	103400	138	277	34	16
601	32	INDIA	WEST. GHATS, DECCAN PLAT	15.0N	75.5E	15.5N	79.2E	45	HO	100	N	N	19910429	103400	138	277	34	16
601	33	INDIA	WEST. GHATS, DECCAN PLAT	14.0N	76.5E	12.1N	81.3E	40	HO	100	N	N	19910429	103500	138	280	31	16
601	34	INDIA	WEST. GHATS, DECCAN PLAT	13.0N	78.0E	12.1N	81.3E	50	HO	100	N	N	19910429	103500	138	280	31	16
601	35	INDIA	DECCAN PLAT., E. GHATS	12.0N	78.0E	12.1N	81.3E	45	HO	100	N	N	19910429	103500	138	280	31	16
601	37	INDIA	PALK STRAIT	9.0N	79.0E	12.1N	81.3E	60	HO	100	N	N	19910429	103500	138	280	31	16
601	40	INDIA	GULF OF MANNAR	8.0N	78.0E	8.7N	83.3E	55	HO	100	N	N	19910429	103600	138	282	28	16
603	8	INDIA	VALE OF KASHMIR	33.5N	75.0E	33.5N	74.9E	5	LO	100	U	N	19910430	010000	139	78	8	26
603	9	INDIA	KARAKORAM RANGE	32.0N	79.0E	36.5N	77.9E	5	HO	100	N	N	19910430	010100	139	80	12	26
603	59	INDIA	GULF OF KHAMBHAT	21.0N	71.0E	19.4N	72.7E	15	HO	100	N	N	19910430	102600	137	273	42	32
603	60	INDIA	WESTERN GHATS	14.5N	75.5E	16.1N	74.8E	20	LO	100	N	N	19910430	102700	137	276	40	32
603	61	INDIA	WESTERN GHATS	14.0N	75.5E	16.1N	74.8E	30	LO	100	N	N	19910430	102700	137	276	40	32
603	62	INDIA	WESTERN GHATS	12.0N	75.0E	12.7N	76.9E	35	HO	100	N	N	19910430	102800	137	279	37	32
603	63	INDIA	WESTERN GHATS, S. COAST	10.0N	77.0E	9.4N	78.9E	35	HO	100	N	N	19910430	102900	137	281	34	32
605	31	INDIA	EASTERN GHATS, KISTNA R.	15.0N	80.0E	21.0N	79.0E	45	HO	250	N	N	19910504	082600	143	263	65	95
605	32	INDIA	EASTERN GHATS, KISTNA R.	15.0N	79.0E	21.0N	79.0E	20	LO	250	N	N	19910504	082600	143	263	65	95
605	33	INDIA	EASTERN GHATS, PENNER R.	14.5N	80.0E	21.0N	79.0E	5	LO	250	N	N	19910504	082600	143	263	65	95
605	34	INDIA	EASTERN COAST, SH. ARM		21.0N	79.0E		10	LO	250	N	N	19910504	082600	143	263	65	95
605	35	INDIA	EASTERN GHATS, KISTNA R.	16.0N	81.0E	21.0N	79.0E	65	HO	250	N	N	19910504	082600	143	263	65	95
605	36	INDIA	EASTERN COAST, B. BENGAL		14.4N	83.3E		55	HO	250	N	N	19910504	082800	143	277	60	95
606	12	INDIA	DUST STORM					15	LO	100	N	N						
606	13	INDIA	LAND USE, RIVER CHANNELS					5	LO	100	N	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL
606	14	INDIA	LAND USE, RIVER CHANNELS			10	LO	100	N	N					
606	15	INDIA	LAND USE, RIVER CHANNELS			15	LO	100	N	N					
606	16	INDIA	LAND USE, RIVER CHANNELS			15	LO	100	N	N					
606	17	INDIA	MAHADI R., HIRAKUD RES	21.5N 82.5E		10	LO	100	N	N					
606	18	INDIA	CHILKA LK., BERTHAMPUR	19.0N 84.5E		20	LO	100	N	N					
609	39	INDIA	DECCAN PLATEAU			18.3N	76.4E				19910505	082200	142	268	68 111
609	40	INDIA	KISTNA RIVER DELTA	16.5N 80.5E		5	LO	250	N	N	19910505	082200	142	268	68 111
609	41	INDIA	KISTNA RIVER DELTA	16.0N 80.5E		5	LO	250	N	Y	19910505	082200	142	268	68 111
80	66	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			1.7N	64.6E				19910429	120742	138	284	22 18
80	67	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			1.1N	65.0E				19910429	120753	138	285	21 18
80	68	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			.9S	66.1E				19910429	120828	138	285	20 18
80	69	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			2.5S	67.0E				19910429	120857	138	286	18 18
80	70	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			3.7S	67.7E				19910429	120919	138	286	17 18
80	71	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			5.4S	68.7E				19910429	120949	138	286	16 18
80	72	INDIAN OCEAN	CLOUDS-SUNGLINT-OVEREXP.			6.6S	69.4E				19910429	121011	138	286	14 18
81	27	INDIAN OCEAN	OCEAN STRUCTURE			13.3S	49.7E				19910505	113040	141	300	47 114
151	153	INDIAN OCEAN	CLOUDS, VERY DARK			25.1S	54.7E				19910430	133824	138	287	4 35
603	64	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			6.0N	80.9E				19910430	103000	137	284	31 32
603	65	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			2.6N	82.9E				19910430	103100	137	285	28 32
603	66	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			0.8S	84.8E				19910430	103200	137	287	25 32
603	67	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			0.8S	84.8E				19910430	103200	137	287	25 32
603	68	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			0.8S	84.8E				19910430	103200	137	287	25 32
603	69	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			4.2S	86.8E				19910430	103300	137	288	22 32
603	70	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			14.3S	92.8E				19910430	103600	137	289	13 32
603	71	INDIAN OCEAN	SUNGLINT, THUNDERSTORMS			17.6S	94.9E				19910430	103700	137	289	10 32
606	19	INDIAN OCEAN	SUNGLINT, CLOUDS			20	LO	100	N	N					
606	20	INDIAN OCEAN	SUNGLINT, INT. WAVES			20	LO	100	N	N					
606	21	INDIAN OCEAN	SUNGLINT, CLOUDS			25	LO	100	N	N					
606	22	INDIAN OCEAN	SUNGLINT, CLOUDS			25	LO	100	N	N					
607	32	INDIAN OCEAN	THUNDERSTORMS			9.0S	66.8E				19910430	120400	137	289	18 33
607	33	INDIAN OCEAN	THUNDERSTORMS			12.4S	68.9E				19910430	120500	137	289	15 33
607	34	INDIAN OCEAN	THUNDERSTORMS			12.4S	68.9E				19910430	120500	137	289	15 33
607	35	INDIAN OCEAN	CLOUDS, SUNGLINT			15.8S	70.9E				19910430	120600	137	289	12 33
607	36	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			40.8S	92.3E				19910430	121400	137	277	-14 33
607	37	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			40.8S	92.3E				19910430	121400	137	277	-14 33
607	38	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			40.8S	92.3E				19910430	121400	137	277	-14 33
607	39	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			43.5S	96.0E				19910430	121500	137	274	-18 33
607	40	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			43.5S	96.0E				19910430	121500	137	274	-18 33
607	41	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			43.5S	96.0E				19910430	121500	137	274	-18 33
607	42	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET			43.5S	96.0E				19910430	121500	137	274	-18 33

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
607	43	INDIAN OCEAN	ATMOSPHERIC LIMB, SUNSET	11.6S 47.3E	43.5S 96.0E	0	HO	100	N	N	19910430	121500	137	274	-18	33
81	26	INDIAN OCEAN ISLAND	ILES GLORIEUSES	1.0S 131.0E	12.1S 48.9E	0	LO	250	N	N	19910505	113019	141	299	48	114
74	34	INDONESIA	NEW GUINEA-SELE STRAIT	1.5S 132.0E	3.4S 130.5E	25	LO	250	N	N	19910506	052350	141	298	58	126
74	35	INDONESIA	NEW GUINEA-NW END	2.5S 132.5E	3.6S 130.6E	50	LO	250	N	N	19910506	052353	141	298	58	126
74	36	INDONESIA	NEW GUINEA-RIVER EFFLUET	2.5S 133.0E	4.3S 131.0E	40	LO	250	N	N	19910506	052405	141	299	57	126
74	37	INDONESIA	NEW GUINEA-BINTUNI BAY	2.0S 34.0E	4.5S 131.1E	70	LO	250	N	Y	19910506	052409	141	299	57	126
74	38	INDONESIA	NEW GUINEA-BINTUNI BAY	3.0S 132.0E	4.6S 131.2E	75	LO	250	N	Y	19910506	052411	141	299	57	126
74	39	INDONESIA	NEW GUINEA-ONIN PENINSUL	6.5S 134.5E	4.9S 131.4E	80	LO	250	N	N	19910506	052417	141	299	56	126
74	40	INDONESIA	ARU ILS.-WOKKAI ISLAND	1.0S 134.0E	8.7S 133.6E	80	LO	250	N	N	19910506	052525	141	302	52	126
80	6	INDONESIA	WEST NEW GUINEA-N COAST	4.0S 106.0E	.3S 134.0E	55	NV	250	N	N	19910429	073931	138	285	19	15
80	33	INDONESIA	SUMATERA-BELITUNG I.-SG	8.8S 121.7E	5.7S 114.4E	55	HO	50	N	N	19910429	091042	138	286	15	16
84	46	INDONESIA	FLORES, PALU I, PERI VOLC.	8.6S 121.6E	6.2S 122.4E	15	LO	250	N	Y	19910503	071025	135	281	50	79
84	47	INDONESIA	FLORES, PALU I, PERI VOLC.	8.5S 122.8E	6.9S 122.8E	15	LO	250	N	Y	19910503	071037	135	282	50	79
84	48	INDONESIA	FLORES/STRAIT, SOLOR I.	1.5N 104.0E	7.7S 123.3E	50	LO	250	N	N	19910503	071052	135	283	49	79
88	103	INDONESIA	SINGAPORE			60	LO	250	U	N						
88	104	INDONESIA	RIVERS, AGRICULTURE			25	LO	250	U	N						
88	105	INDONESIA	BAY, SEDIMENT			35	LO	250	U	N						
88	106	INDONESIA	BAY, SEDIMENT			20	LO	250	U	N						
88	107	INDONESIA	COASTAL AREA, VILLAGES			65	LO	250	U	N						
88	108	INDONESIA	COASTAL AREA, VILLAGES			55	LO	250	U	N						
88	109	INDONESIA	COASTAL AREA, VILLAGES			25	LO	250	U	N						
88	110	INDONESIA	COASTAL AREA, VILLAGES			40	LO	250	U	N						
88	111	INDONESIA	COASTAL AREA, VILLAGES			25	LO	250	U	N						
151	51	INDONESIA	JAVA, REMBRANG BAY	6.5S 111.0E	5.6S 110.3E	20	LO	250	N	N	19910430	090351	137	287	21	32
151	52	INDONESIA	JAVA, SEMARANG BAY	7.0S 110.5E	6.7S 111.0E	40	LO	250	N	N	19910430	090410	137	287	20	32
603	34	INDONESIA	JAVA, THUNDERSTORMS			55	HO	100	N	N	19910430	090400	137	288	20	31
603	35	INDONESIA	JAVA, THUNDERSTORMS			60	HO	100	N	N	19910430	090500	137	289	17	31
603	36	INDONESIA	JAVA, THUNDERSTORMS			55	HO	100	N	N	19910430	090500	137	289	17	31
71	55	IRAN	AHVAZ-KARUN RIVER	31.5N 48.5E	31.0N 49.2E	60	NV	250	N	Y	19910428	120458	137	261	40	2
71	56	IRAN	NEAR AHVAZ-KARKHEH R.	31.5N 48.5E	30.9N 49.2E	70	NV	250	N	Y	19910428	120458	137	262	40	2
71	57	IRAN	NW OF AHVAZ-KARUN RIVER	31.5N 49.0E	30.5N 49.6E	80	NV	250	N	Y	19910428	120506	137	262	40	2
71	58	IRAN	OIL IN WATER, COAST-PER G	30.5N 49.5E	30.2N 49.9E	0	NV	250	N	Y	19910428	120513	137	263	39	2
71	59	IRAN	OIL IN WATER, COAST-PER G	30.0N 49.5E	30.0N 50.0E	0	NV	250	N	Y	19910428	120516	137	263	39	2
71	60	IRAN	ZOHREH STREAM-PERSIAN G	30.5N 50.0E	29.9N 50.1E	5	NV	250	N	Y	19910428	120518	137	263	39	2
72	54	IRAN	TIGRIS DELTA, AGRICULT.	30.5N 48.5E		0	LO	250	N	Y						
72	55	IRAN	TIGRIS R. BASIN	31.0N 48.5E		0	LO	250	N	Y						
72	56	IRAN	TIGRIS R. BASIN	31.5N 48.5E		0	LO	250	N	Y						
72	57	IRAN	TIGRIS R. BASIN	31.5N 48.0E		0	LO	250	N	Y						
72	58	IRAN	TIGRIS R. BASIN	32.0N 48.0E		0	LO	250	N	Y						
77	80	IRAN	LAKES TASHK&BAKHTEGAN	29.5N 54.0E	25.4N 49.5E	85	LO	250	N	N	19910429	023323	141	76	4	12

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
77	81	IRAN	LAKES TASHK&BAKHTEGAN	30.0N 53.5E	28.0N 51.5E	50	LO	250	N	N	19910429	023412	142	77	7	12
85	87	IRAN	STR. HORMUZ, COAST	26.0N 57.0E	24.2N 58.3E	0	LO	250	N	N	19910503	100014	136	207	62	81
85	88	IRAN	STR. HORMUZ, QESHM I, CST	26.8N 56.4E	24.0N 58.4E	5	LO	250	N	N	19910503	100018	136	208	63	81
85	89	IRAN	STR. HORMUZ, QESHM I, CST	27.0N 56.5E	23.3N 58.9E	10	LO	250	N	N	19910503	100030	136	210	63	81
85	91	IRAN	STR. HORMUZ, QESHM I, CST	26.0N 57.0E	21.3N 60.3E	15	LO	250	N	N	19910503	100107	136	216	63	81
86	50	IRAN	ZAVVAREH AREA, SALT FLATS	33.6N 52.5E	33.9N 52.6E	0	NV	250	N	N	19910430	022936	141	77	8	28
86	51	IRAN	ZAVVAREH AREA, SALT FLATS	34.0N 53.0E	34.3N 53.0E	0	LO	250	N	N	19910430	022944	141	78	8	28
86	52	IRAN	AREA N. OF NAIN, SALT FLAT	34.2N 53.5E	34.6N 53.3E	0	NV	250	N	N	19910430	022951	141	78	8	28
86	53	IRAN	N. CENTRAL AREA SE TEHRAN	35.0N 53.0E	34.9N 53.6E	0	LO	250	N	N	19910430	022957	141	78	9	28
86	54	IRAN	AREA S. OF DAMGHAN	35.5N 54.5E	35.3N 54.0E	0	LO	250	N	N	19910430	023004	142	78	9	28
86	55	IRAN	AREA S. OF DAMGHAN, SALT	35.9N 54.4E	36.3N 55.0E	0	LO	250	N	N	19910430	023024	142	79	10	28
86	56	IRAN	AREA AROUND EMAMRUUD	36.4N 55.1E	36.7N 55.4E	0	NV	250	N	N	19910430	023032	142	79	11	28
86	57	IRAN	NE IRAN	37.0N 56.0E	37.2N 56.0E	0	LO	250	N	N	19910430	023042	142	80	11	28
86	58	IRAN	NE IRAN, NEAR GONBADE QAB	37.0N 55.0E	37.5N 56.3E	5	LO	250	N	N	19910430	023048	142	80	11	28
86	59	IRAN	USSR BORDER, CASPIAN SEA	37.0N 54.0E	37.9N 56.7E	0	LO	250	N	N	19910430	023056	142	80	12	28
86	60	IRAN	NE IRAN, MOUNTAINOUS	38.0N 57.0E	38.2N 57.1E	0	NV	250	N	N	19910430	023104	142	81	12	28
87	0	A	ZAGROS MTS., DARK	38.0N 57.0E	38.2N 57.1E	0	NV	250	N	N	19910430	023104	142	81	12	28
87	8	IRAN	KARUN R, DARK	31.1N 48.0E	30.6N 49.5E	20	LO	250	U	N	19910428	120412	136	258	42	2
87	9	IRAN	KARUN R, AGR.	31.0N 48.4E	30.4N 49.7E	50	LO	250	U	Y	19910428	120513	137	262	40	2
87	10	IRAN	KARUN R, AGR.	31.0N 48.3E	30.1N 50.0E	70	LO	250	U	Y	19910428	120518	137	262	40	2
87	14	IRAN	CST, SPITS, PERSIAN GULF	28.0N 51.5E	26.9N 52.6E	0	LO	250	U	Y	19910428	120624	138	267	37	2
87	15	IRAN	CST, SPITS, PERSIAN GULF	27.8N 51.6E	26.8N 52.7E	0	LO	250	U	Y	19910428	120627	138	267	37	2
87	16	IRAN	CST, ZAGROS MTS., GULF	27.8N 51.8E	26.5N 52.9E	0	LO	250	U	Y	19910428	120632	138	267	37	2
87	17	IRAN	CST, ZAGROS MTS., GULF	27.8N 52.0E	26.3N 53.1E	0	LO	250	U	Y	19910428	120636	138	268	37	2
603	53	IRAN	ELBURZ, KOPEL MTS.	38.0N 56.0E	41.1N 53.3E	55	LO	100	N	N	19910430	101900	137	232	54	32
603	54	IRAN	ELBURZ, KOPEL MTS.	37.0N 55.0E	38.2N 56.8E	40	LO	100	N	N	19910430	102000	137	240	53	32
603	55	IRAN	KOPEL MTS., KARA KUM DES	58.0E 38.2N	56.8E	25	HO	100	N	N	19910430	102000	137	240	53	32
603	56	IRAN	KOPEL MTS.	36.0N 59.5E	38.2N 56.8E	20	LO	100	N	N	19910430	102000	137	240	53	32
603	57	IRAN	DARYACHEN YE SISTAN	31.0N 61.0E	32.2N 62.8E	20	LO	100	N	N	19910430	102200	137	253	51	32
605	37	IRAN	ZAGROS MTS., AGRICULTURE	33.5N 50.0E	35.9N 43.9E	15	LO	250	N	N	19910504	095100	142	212	67	96
605	38	IRAN	ZAGROS MTS., AGRICULTURE	33.5N 49.0E	35.9N 43.9E	5	LO	250	N	Y	19910504	095100	142	212	67	96
605	39	IRAN	ZAGROS MTS., DEZ R. RES.	33.0N 48.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	40	IRAN	DEZ R. RES., DEZFUL	32.5N 48.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	41	IRAN	AREA N. OF AHVAZ	32.0N 48.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	42	IRAN	RES., LKS. NE OF AHVAZ	32.0N 50.0E	32.9N 46.9E	0	LO	250	N	N	19910504	095200	142	224	68	96
605	43	IRAN	ZAGROS MTS., IZEH	32.0N 50.0E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	44	IRAN	ZAGROS MTS., IZEH	31.5N 50.0E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	45	IRAN	ALLUVIAL FAN, RAMHORMOZ	31.5N 49.5E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	46	IRAN	ZAGROS MTS.	31.0N 51.0E	32.9N 46.9E	0	LO	250	N	Y	19910504	095200	142	224	68	96
605	47	IRAN	ZAGROS MTS.	30.5N 51.0E	29.8N 49.6E	0	LO	250	N	N	19910504	095300	143	235	68	96

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
605	48	IRAN	RUD-E KOR RIVER, RESER.	30.0N	52.0E	29.8N	49.6E	0	LO	250	N	Y	19910504	095300	143	235	68	96
605	49	IRAN	RUD-E KOR RIVER, RESER.	30.0N	52.0E	29.8N	49.6E	0	LO	250	N	Y	19910504	095300	143	235	68	96
605	50	IRAN	POINT MAY BAND, ZAGROS	27.5N	52.5E	29.8N	49.6E	5	NV	250	N	N	19910504	095300	143	235	68	96
605	51	IRAN	LAVAN IS., ZAGROS MTS.	27.0N	53.0E	29.8N	49.6E	0	NV	250	N	Y	19910504	095300	143	235	68	96
605	52	IRAN	LAVAN IS., ZAGROS MTS.	26.5N	53.5E	29.8N	49.6E	0	NV	250	N	Y	19910504	095300	143	235	68	96
605	53	IRAN	KISH ISLAND, ZAGROS MTS.	26.5N	54.0E	29.8N	49.6E	0	NV	250	N	Y	19910504	095300	143	235	68	96
605	54	IRAN	KISH ISLAND, ZAGROS MTS.	26.5N	54.0E	26.6N	52.2E	0	NV	250	N	Y	19910504	095400	143	246	67	96
606	38	IRAN	LAKE URMIA	38.0N	46.0E			25	LO	100	N	N						
606	39	IRAN	ZAGROS MTNS.	38.0N	47.0E			5	LO	100	N	N						
606	40	IRAN	ZAGROS MTNS.	34.0N	49.0E			10	LO	100	N	N						
606	41	IRAN	ZAGROS MTNS., ARAK	34.0N	50.0E			30	LO	100	N	N						
606	42	IRAN	ZAGROS MTNS., ARAK	33.5N	50.5E			35	LO	100	N	N						
606	43	IRAN	ZAGROS MTNS.	33.0N	51.0E			60	LO	100	N	N						
606	44	IRAN	ZAGROS MTNS.	32.5N	51.5E			65	LO	100	N	N						
606	45	IRAN	MASJED SOIYEMAN RESER.	32.0N	50.0E			55	LO	100	N	N						
606	46	IRAN	MASJED SOIYEMAN RESER.	31.5N	49.5E			40	LO	100	N	N						
606	47	IRAN	ZAGROS MTNS., QESHM IS.	28.0N	55.0E			15	LO	100	N	N						
606	48	IRAN	STRAIT OF HORMUZ, QESHM I	27.0N	56.0E			5	LO	100	N	Y						
606	50	IRAN	STRAIT OF HORMUZ, ZAGROS	26.0N	57.5E			5	LO	100	N	Y						
24	3	IRAQ	AL MILH LAKE	32.5N	43.5E			50	LO	35	N	N						
71	34	IRAQ	TIGRIS R.-RESERVOIR	37.0N	42.5E	36.9N	43.6E	10	NV	250	N	Y	19910428	120301	134	252	44	2
71	35	IRAQ	TIGRIS R.-RESERVOIR	37.0N	42.5E	36.7N	43.7E	10	LO	250	N	Y	19910428	120304	135	252	44	2
71	36	IRAQ	TIGRIS R.-RESERVOIR	36.5N	43.0E	36.6N	43.8E	10	NV	250	N	Y	19910428	120306	135	252	44	2
71	37	IRAQ	TIGRIS R.-RESERVOIR	37.0N	43.0E	36.4N	44.1E	5	LO	250	N	Y	19910428	120311	135	253	43	2
71	38	IRAQ	TIGRIS R.-RESERVOIR	36.5N	42.5E	36.2N	44.3E	10	LO	250	N	Y	19910428	120315	135	253	43	2
71	39	IRAQ	TALL'AFAR-TIGRIS RIVER	36.5N	42.5E	36.1N	44.4E	10	LO	250	N	Y	19910428	120317	135	253	43	2
71	40	IRAQ	TALL'AFAR	36.5N	42.5E	36.0N	44.5E	5	LO	250	N	Y	19910428	120319	135	253	43	2
71	41	IRAQ	MOSEL-TIGRIS RIVER	36.5N	43.0E	35.8N	44.7E	5	LO	250	N	Y	19910428	120322	135	254	43	2
71	42	IRAQ	MOSEL-TIGRIS RIVER/RES.	36.5N	43.0E	35.7N	44.8E	5	LO	250	N	Y	19910428	120325	135	254	43	2
71	43	IRAQ	MOSEL-TIGRIS RIVER	36.0N	43.0E	35.4N	45.1E	5	LO	250	N	Y	19910428	120330	135	254	43	2
71	44	IRAQ	TIGRIS R.-LITTLE ZAB R.	36.0N	43.5E	35.3N	45.2E	0	LO	250	N	Y	19910428	120332	135	255	43	2
71	45	IRAQ	LITTLE ZAB R.	36.0N	44.0E	35.1N	45.4E	0	LO	250	N	Y	19910428	120336	135	255	43	2
71	46	IRAQ	KIRKUK-LITTLE ZAB R.	35.5N	44.0E	35.0N	45.5E	0	LO	250	N	Y	19910428	120338	135	255	43	2
71	47	IRAQ	SHARI DRY LAKE-RIDGE LMS	34.5N	44.5E	34.4N	46.1E	0	LO	250	N	Y	19910428	120350	136	256	42	2
71	48	IRAQ	AL SHARA AIR BASE-TIGRIS	34.5N	43.5E	34.2N	46.3E	0	LO	250	N	Y	19910428	120355	136	257	42	2
71	49	IRAQ	AS SA'DIYAH-LAKE	34.0N	45.0E	33.7N	46.8E	0	LO	250	N	N	19910428	120405	136	257	42	2
71	50	IRAQ	TIGRIS R.-SE OF BAGHDAD	33.0N	45.0E	33.0N	47.4E	0	LO	250	N	Y	19910428	120417	136	258	41	2
71	51	IRAQ	TIGRIS R.-BAGHDAD	33.0N	44.5E	32.9N	47.4E	0	LO	250	N	Y	19910428	120419	136	258	41	2
71	52	IRAQ	TIGRIS R.-SALT PANS	32.5N	45.5E	32.8N	47.5E	60	LO	250	N	Y	19910428	120421	136	259	41	2
71	53	IRAQ	TIGRIS R.-SALT PANS	32.5N	45.0E	32.5N	47.8E	20	LO	250	N	Y	19910428	120427	136	259	41	2

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR
71	54	IRAQ	DOVEYRIL STREAM	32.0N 47.5E 31.8N 48.5E	65 NV 250 N N	19910428	120441	136	260	41	2				
72	48	IRAQ	EUPHRATES RIVER BASIN	31.5N 46.0E	0 LO 250 N N										
72	49	IRAQ	EUPHRATES RIVER BASIN	31.0N 46.0E	0 LO 250 N Y										
72	50	IRAQ	EUPHRATES RIVER BASIN	31.0N 47.0E	0 LO 250 N Y										
72	51	IRAQ	EUPHRATES/TIGRIS RIVERS	30.5N 47.5E	0 LO 250 N Y										
72	52	IRAQ	EUPHRATES R., BASRA	30.5N 48.0E	0 LO 250 N Y										
73	79	IRAQ	TIGRIS R. -RES.-L. URMIA	44.0E 36.5N 36.5E	15 LO 250 O Y	19910429	040632	143	83	15	13				
73	80	IRAQ	L. URMIA-GUNEY DOGU MNTS	38.0N 45.5E 37.0N 37.1E	40 HO 250 O Y	19910429	040642	143	83	15	13				
81	2	IRAQ	THARTHAR L, EUPHRATES R.	33.7N 43.3E 34.8N 40.6E	0 LO 250 N N	19910505	094623	144	176	63	113				
81	3	IRAQ	MILH LAKE, EUPHRATES R.	33.1N 43.6E 34.5N 40.8E	0 LO 250 N Y	19910505	094628	144	176	63	113				
81	4	IRAQ	MILH LAKE, EUPHRATES R.	32.6N 44.1E 34.2N 41.1E	0 LO 250 N Y	19910505	094634	144	177	64	113				
81	5	IRAQ	AGR, EUPHRATES RIVER	32.3N 44.4E 34.0N 41.3E	0 LO 250 N Y	19910505	094637	144	178	64	113				
81	6	IRAQ	BAGDAD, EUPHRATES R.	33.3N 43.8E 33.6N 41.7E	0 LO 250 N N	19910505	094646	144	179	64	113				
81	7	IRAQ	MILH L, EUPHRATES R, AGR.	32.6N 44.1E 33.2N 42.1E	0 LO 250 N N	19910505	094654	144	180	65	113				
81	8	IRAQ	EUPHRATES R, AGR.	32.0N 44.5E 32.9N 42.4E	0 LO 250 N N	19910505	094700	144	181	65	113				
81	9	IRAQ	EUPHRATES R, AGR.	31.7N 44.5E 32.6N 42.6E	0 LO 250 O Y	19910505	094705	144	182	65	113				
81	10	IRAQ	EUPHRATES R, AGR.	31.5N 44.5E 32.3N 42.9E	0 LO 250 O Y	19910505	094711	144	183	65	113				
85	77	IRAQ	AL BASRAH, TIG/EUPH, DELTA	30.5N 47.9E 30.3N 53.4E	80 LO 250 O N	19910503	095819	137	189	59	81				
85	80	IRAQ	TIGRIS VALLEY, SAND STORM	29.3N 54.3E	50 HO 250 O N	19910503	095839	137	192	60	81				
87	1	IRAQ	TIGRIS R, IRRIG, SUNGLINT	32.5N 44.5E 32.9N 47.4E	-5 LO 250 U Y	19910428	120428	136	258	41	2				
87	2	IRAQ	TIGRIS R, IRRIG, SUNGLINT	32.5N 44.8E 32.8N 47.5E	15 LO 250 U Y	19910428	120430	136	259	41	2				
87	3	IRAQ	TIGRIS R, IRRIG, SUNGLINT	32.5N 45.0E 32.6N 47.7E	30 LO 250 U Y	19910428	120434	136	259	41	2				
87	4	IRAQ	EUPHRATES R, IRRIG, SINGLT	32.1N 45.3E 32.3N 48.1E	40 LO 250 U Y	19910428	120441	136	260	41	2				
87	5	IRAQ	EUPHRATES R, IRRIG.	32.2N 44.8E 32.1N 48.2E	70 LO 250 U Y	19910428	120445	136	260	41	2				
87	6	IRAQ	EUPHRATES R, IRRIG.	32.1N 44.8E 32.0N 48.3E	70 LO 250 U Y	19910428	120447	136	260	41	2				
87	7	IRAQ	EUPHRATES R, IRRIG.	32.1N 44.7E 31.9N 48.4E	80 LO 250 U Y	19910428	120449	136	260	41	2				
90	4	IRAQ	AREA NEAR AL BASRAH, DARK	30.5N 47.5E 30.7N 45.4E	30 LO 250 N	19910429	115851	140	259	45	18				
90	5	IRAQ	AREA NEAR AL BASRAH, DARK	30.1N 45.8E	10 LO 250 N	19910429	115902	140	260	44	18				
90	6	IRAQ	AREA NEAR AL BASRAH, DARK	29.3N 46.5E	0 LO 250 N	19910429	115917	140	261	44	18				
607	25	IRAQ	VIEW NE TOWARD BAGHDAD	33.0N 44.0E 30.9N 41.3E	80 HO 100 N	19910430	115200	137	256	50	33				
609	49	IRAQ	EUPHRATES RIVER BASIN	34.0N 42.5E 36.3N 39.0E	0 LO 250 N N	19910505	094600	141	197	69	112				
609	50	IRAQ	EUPHRATES RIVER BASIN	33.5N 43.5E 36.3N 39.0E	0 LO 250 N Y	19910505	094600	141	197	69	112				
609	51	IRAQ	BAGHDAD, EUPHRATES R.	33.5N 44.0E 36.3N 39.0E	0 LO 250 N Y	19910505	094600	141	197	69	112				
609	52	IRAQ	TIGRIS, N. BAGHDAD	34.0N 44.0E 36.3N 39.0E	0 LO 250 N Y	19910505	094600	141	197	69	112				
609	53	IRAQ	EUPHRATES R., SYRIAN DES	33.5N 43.0E 36.3N 39.0E	0 LO 250 N Y	19910505	094600	141	197	69	112				
609	54	IRAQ	SYRIAN DESERT	33.0N 42.5E 36.3N 39.0E	0 LO 250 N Y	19910505	094600	141	197	69	112				
609	55	IRAQ	MILH AL LAKE	32.5N 43.0E 36.3N 39.0E	0 LO 250 N	19910505	094600	141	197	69	112				
609	56	IRAQ	EUPHRATES R., AL HILLAH	32.5N 44.5E 33.3N 42.0E	0 LO 250 N	19910505	094700	142	209	71	112				
609	57	IRAQ	EUPHRATES R., AL KUFAR	32.0N 44.5E 33.3N 42.0E	0 LO 250 N Y	19910505	094700	142	209	71	112				
609	58	IRAQ	EUPHRATES R., AL KUFAR	32.0N 44.5E 33.3N 42.0E	0 LO 250 N Y	19910505	094700	142	209	71	112				

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR
604	5	ISRAEL	HAFIA	32.5N 35.0E	36.4N 33.2E	45	LO	250	N	N	19910501	114300	136	240	57	49
73	93	ITALY	MOUNT ETNA	37.5N 15.0E	37.4N 14.8E	80	NV	250	N	Y	19910429	053827	143	84	16	14
73	94	ITALY	MOUNT ETNA	37.5N 15.0E	37.8N 15.1E	80	NV	250	N	Y	19910429	053634	143	84	16	14
73	95	ITALY	MOUNT ETNA	37.5N 15.0E	38.4N 15.8E	0	NV	250	N	Y	19910429	053846	143	84	17	14
73	96	ITALY	TARANTO-GULF OF TARANTO	40.5N 17.5E	41.0N 19.0E	35	LO	250	N	N	19910429	053742	143	88	19	14
90	44	ITALY	GENOVA AREA	44.4N 8.7E	43.7N 8.2E	50	LO	250	N	N	19910429	132400	143	230	51	19
90	45	ITALY	LA SPEZIA AREA	44.2N 9.8E	43.1N 9.1E	50	LO	250	N	N	19910429	132414	143	232	51	19
90	46	ITALY	PISA, VIAREGGIO AREA	43.9N 10.3E	42.9N 9.4E	40	LO	250	N	N	19910429	132419	143	232	51	19
90	47	ITALY	LIVORNO, PISA AREA	43.7N 10.5E	42.6N 9.8E	20	LO	250	N	N	19910429	132425	142	233	51	19
90	48	ITALY	ELBA ISLAND	42.8N 10.4E	42.2N 10.3E	20	LO	250	N	N	19910429	132433	142	234	50	19
90	49	ITALY	PIOMBINO AREA	43.2N 10.9E	42.0N 10.6E	60	LO	250	N	N	19910429	132438	142	235	50	19
90	50	ITALY	GROSSETO AREA	42.8N 11.3E	41.8N 10.9E	50	LO	250	N	N	19910429	132443	142	235	50	19
90	51	ITALY	CIVITAVECCHIA AREA	42.3N 12.0E	41.3N 11.4E	60	LO	250	N	N	19910429	132452	142	236	50	19
90	52	ITALY	ROMA AREA	42.0N 12.2E	41.1N 11.7E	60	LO	250	N	N	19910429	132457	142	237	50	19
90	53	ITALY	ANZIO AREA	41.7N 12.8E	40.8N 12.2E	70	LO	250	N	N	19910429	132504	142	238	50	19
90	54	ITALY	VASTO AREA	41.9N 14.8E	40.0N 13.1E	60	LO	250	N	N	19910429	132520	142	240	50	19
90	55	ITALY	SAN SEVERO AREA	41.7N 15.4E	39.7N 13.5E	60	LO	250	N	N	19910429	132527	142	241	50	19
90	56	ITALY	FOGGIA AREA	41.5N 15.8E	39.4N 13.8E	40	LO	250	N	N	19910429	132533	142	241	49	19
90	57	ITALY	ANDRIA AREA	41.2N 16.4E	39.1N 14.2E	50	LO	250	N	N	19910429	132540	142	242	49	19
90	58	ITALY	MARTINA FRANCA AREA	40.7N 17.3E	38.7N 14.6E	30	LO	250	N	N	19910429	132547	142	243	49	19
90	59	ITALY	TARANTO AREA	40.6N 17.6E	38.1N 15.3E	50	LO	250	N	N	19910429	132559	142	244	49	19
90	60	ITALY	REGGIO DI CALABRIA AREA	38.1N 15.9E	37.7N 15.8E	70	LO	250	N	N	19910429	132608	142	245	49	19
96	95	ITALY	PENINSULA NE. OF FOGGIA	41.8N 15.9E	42.2N 18.2E	40	LO	250	N	N	19910503	112342	144	153	49	82
151	20	ITALY	G. OF TARANTO, IONIAN S.	40.0N 16.0E	36.7N 16.9E	40	HO	250	N	N	19910429	132630	141	247	48	19
602	4	ITALY	GENOVA, PO RIVER VALLEY	44.5N 9.0E	43.8N 8.0E	40	LO	100	N	N	19910429	132400	138	230	51	18
602	6	ITALY	WESTERN COAST, CORSICA	42.5N 11.0E	43.8N 8.0E	45	LO	100	N	N	19910429	132400	138	230	51	18
602	7	ITALY	COAST IN ROME VICINITY	42.0N 12.5E	41.1N 11.8E	55	LO	100	N	N	19910429	132500	138	238	51	18
602	8	ITALY	TYRRHENIAN SEA	41.0N 12.0E	41.1N 11.8E	55	LO	100	N	N	19910429	132500	138	238	51	18
75	77	JAMAICA	S. COAST-SMOKE	18.5N 77.5W	15.4N 75.8W	30	LO	250	N	N	19910428	210735	139	277	30	8
84	29AN	JAPAN	HOKKAIDO-NE CST, TESHIO R	44.5N 143.0E		15	LO	250	N	Y						
84	29AP	JAPAN	HOKKAIDO-NE CST, TESHIO R	44.5N 143.0E		20	LO	250	N	Y						
84	29AQ	JAPAN	HOKKAIDO-TESHIO R, SNOW	44.5N 142.6E		30	LO	250	N	Y						
84	29AU	JAPAN	HONSHU-TOKYO/HARBOR, CST	35.7N 140.1E		50	LO	250	N	Y						
84	29AV	JAPAN	HONSHU-TOKYO/HARBOR	35.8N 139.6E		40	LO	250	N	Y						
84	29AW	JAPAN	HONSHU-TOKYO/HARBOR, CST	35.6N 140.1E		40	LO	250	N	Y						
86	76	JAPAN	ISLAND WAKE, CLOUDS	45.1N 141.2E	44.3N 139.9E	95	LO	250	N	N	19910430	041940	142	222	53	29
86	77	JAPAN	ISLAND WAKE, CLOUDS	45.1N 141.2E	43.8N 140.5E	95	LO	250	N	N	19910430	041950	142	223	53	29
86	82	JAPAN	KYUSHU, MAGASAKI AREA	32.8N 130.2E	32.4N 130.9E	5	LO	250	N	N	19910430	055320	140	252	50	30
86	83	JAPAN	KYUSHU, SAKURA JIMA	31.5N 130.6E	31.9N 131.3E	0	LO	250	N	N	19910430	055330	140	253	49	30
86	84	JAPAN	KYUSHU, SAKURA JIMA(DARK)	31.5N 130.6E	31.0N 132.1E	0	LO	250	N	N	19910430	055346	140	254	49	30

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	CENTER LON	NADIR LAT	NADIR LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
604	30	KENYA	LAKE RUDOLF; RIFT VALLEY	4.0N	36.0E	4.5N	32.5E	15	LO	250	N	Y	19910501	132200	136	285	36	50
604	31	KENYA	L. RUDOLF, OMO R. DELTA	4.5N	36.0E	4.5N	32.5E	30	LO	250	N	Y	19910501	132200	136	285	36	50
609	7	KOREA	SE COAST, BANGGEON	35.5N	129.5E	39.9N	126.2E	0	NV	250	N	N	19910505	034600	141	188	66	108
610	68	KOREA	ANMYEON IS., WEST COAST	36.5N	128.5E	35.1N	124.4E	10	LO	250	N	N	19910501	054500	136	243	55	45
610	69	KOREA	SW COAST, MOGPO, JIN IS.	34.5N	128.5E	35.1N	124.4E	5	LO	250	N	N	19910501	054600	136	243	55	45
610	70	KOREA	S. KOREA, YELLOW SEA	36.0N	125.0E	32.1N	127.3E	50	HO	250	N	N	19910501	054600	136	250	54	45
71	61	KUWAIT	BURNING OIL FIELD-CLOUDS	30.0N	48.0E	29.4N	50.5E	95	LO	250	N	Y	19910428	120527	137	264	39	2
71	62	KUWAIT	BURNING OIL FIELD-CLOUDS	30.0N	48.0E	29.3N	50.7E	95	LO	250	N	Y	19910428	120530	137	264	39	2
71	63	KUWAIT	BURNING OIL FIELD-SMOKE	29.0N	48.0E	29.0N	50.9E	20	LO	250	N	Y	19910428	120536	137	264	39	2
71	64	KUWAIT	BURNING OIL FIELD-SMOKE	29.0N	48.0E	28.7N	51.1E	25	LO	250	N	Y	19910428	120541	137	265	38	2
71	65	KUWAIT	BURNING OIL FIELD-SMOKE	29.0N	48.0E	28.6N	51.2E	25	LO	250	N	Y	19910428	120543	137	265	38	2
72	53	KUWAIT	OIL WELL FIRES/PLUMES	30.0N	48.0E			0	LO	250	N	Y						
72	59	KUWAIT	OIL WELL FIRES/PLUMES	29.5N	48.0E			0	LO	250	N	N						
72	60	KUWAIT	OIL WELL FIRES/PLUMES	29.5N	48.0E			0	LO	250	N	Y						
72	61	KUWAIT	OIL WELL FIRES/PLUMES	29.0N	48.0E			0	LO	250	N	Y						
72	62	KUWAIT	OIL WELL FIRES/PLUMES	29.5N	48.0E			0	NV	250	N	N						
81	11	KUWAIT	OIL FIRES,CITY, SMOKE	29.5N	48.0E	31.3N	43.8E	0	LO	250	O	Y	19910505	094730	143	186	66	113
81	12	KUWAIT	OIL FIRES,CITY, SMOKE	29.0N	48.0E	30.9N	44.1E	0	LO	250	O	Y	19910505	094738	143	187	67	113
81	13	KUWAIT	OIL FIRES,CITY, SMOKE	29.0N	47.5E	30.1N	44.9E	0	LO	250	O	Y	19910505	094754	143	189	67	113
81	14	KUWAIT	OIL FIRES,CITY, SMOKE	29.0N	48.0E	29.8N	45.1E	0	LO	250	O	Y	19910505	094800	143	190	67	113
81	15	KUWAIT	OIL FIRES,BUBIYAN I, SMOKE	29.8N	47.8E	29.0N	45.7E	0	LO	250	O	N	19910505	094814	143	193	68	113
85	76	KUWAIT	OIL FIRES, TIGRIS/EUPH.R.	29.5N	47.5E	31.2N	52.7E	20	LO	250	O	N	19910503	095803	137	187	59	81
85	78	KUWAIT	OIL FIRES, TIG/EUPH. DELTA	29.5N	47.5E	30.2N	53.5E	80	LO	250	O	N	19910503	095822	137	189	60	81
85	79	KUWAIT	SAND STORM			30.0N	53.7E	75	HO	250	O	N	19910503	095826	137	190	60	81
87	11	KUWAIT	OIL FIRES, SUNGLINT	29.0N	48.0E	29.2N	50.7E	70	LO	250	U	Y	19910428	120540	137	264	39	2
87	12	KUWAIT	OIL FIRES, SUNGLINT	29.0N	48.0E	29.0N	50.9E	70	LO	250	U	Y	19910428	120544	137	264	39	2
87	13	KUWAIT	OIL FIRES, SUNGLINT	28.8N	48.3E	28.8N	51.1E	60	LO	250	U	Y	19910428	120549	137	264	38	2
90	7	KUWAIT	FIRES, SMOKE, N. KUWAIT, DK.	30.0N	48.0E	28.4N	47.3E	0	LO	250	N	N	19910429	115935	140	262	43	18
90	8	KUWAIT	FIRES, SMOKE, N. KUWAIT, DK.	30.0N	48.0E	27.8N	47.8E	0	LO	250	N	N	19910429	115946	140	263	43	18
90	9	KUWAIT	SMOKE, N. KUWAIT, VRY DARK	30.0N	48.0E	27.5N	48.0E	0	LO	250	N	N	19910429	115952	140	264	43	18
90	10	KUWAIT	SMOKE, KUWAIT CITY, VRY DK	29.5N	47.8E	27.3N	48.1E	0	LO	250	N	N	19910429	115954	140	264	42	18
90	11	KUWAIT	SMOKE, KUWAIT CITY, VRY DK	29.0N	48.0E	26.8N	48.5E	30	LO	250	N	N	19910429	120004	140	265	42	18
90	12	KUWAIT	FRAME TOO DARK			26.1N	49.0E						120017	140	266	42	18	
90	13	KUWAIT	FRAME TOO DARK			25.7N	49.4E						120025	139	266	41	18	
90	14	KUWAIT	EXTREMELY DARK FRAME			25.4N	49.6E						120031	139	266	41	18	
151	107	KUWAIT	CLOUDS, OIL WELL FIRES	29.5N	48.0E	27.5N	44.0E	75	LO	250	N	N	19910430	115301	139	259	48	34
151	108	KUWAIT	CLOUDS, OIL WELL FIRES	29.5N	48.0E	26.9N	44.5E	75	LO	250	N	N	19910430	115311	139	260	48	34
604	10	KUWAIT	KUWAIT OIL FIRES/PLUMES	30.0N	48.0E	29.2N	38.8E	5	HO	250	N	N	19910501	114500	137	255	54	49
609	59	KUWAIT	RAWDATAYN OIL FIELD FIRES	30.0N	48.0E	33.3N	42.0E	0	LO	250	N	N	19910505	094700	142	209	71	112
609	60	KUWAIT	WAFRAH OIL FIELD FIRES	28.5N	48.0E	33.3N	42.0E	0	LO	250	N	N	19910505	094700	142	209	71	112

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUN OR
609	62	KUWAIT	BURQAN, WAFRAH FIRES	29.0N 48.0E 33.3N	42.0E	0	LO	250	N	N	19910505	094700	142	209	71	112
609	63	KUWAIT	RAWDATAYN, SABIRIYAH FIR	29.5N 48.0E 30.2N	44.8E	0	LO	250	N	N	19910505	094800	142	222	72	112
609	64	KUWAIT	BURQAN, WAFRAH FIRES	29.0N 48.0E 30.2N	44.8E	0	LO	250	N	N	19910505	094800	142	222	72	112
609	66	KUWAIT	KUWAIT CITY, OIL FIRES	29.5N 48.0E 30.2N	44.8E	0	LO	250	N	N	19910505	094800	142	222	72	112
609	67	KUWAIT	AL BURQAN OIL FIRES	29.0N 48.0E 30.2N	44.8E	0	LO	250	N	Y	19910505	094800	142	222	72	112
609	68	KUWAIT	AL BURQAN OIL FIRES	28.5N 48.0E 30.2N	44.8E	0	LO	250	O	Y	19910505	094800	142	222	72	112
81	0	H LAND	CLOUDS, MTN. RANGES			60	HO	250	O	Y						
81	0	J LAND	CLOUDS, MTN RANGES			60	HO	250	O	Y						
81	0	K LAND	CLOUDS, MTN RANGES			75	HO	250	O	N						
84	29	F LAND	RIVER, SMOKE, CLOUDS			50	LO	250	N	N						
84	29	G LAND	SMOKE, CLOUDS, DARK			80	LO	250	U	N						
84	29	H LAND	STREAM, SMOKE, CLOUDS			50	LO	250	N	N						
84	29	J LAND	SMOKE, CLOUDS			85	LO	250	N	N						
84	29	K LAND	SMOKE, CLOUDS			90	LO	250	N	N						
84	29	L LAND	SMOKE, CLOUDS			90	LO	250	N	N						
84	29	M LAND	COAST, SMOKE, CLOUDS			85	LO	250	N	N						
83	98	LESSER ANTILLES	BARBUDA, ST. CHRISTOPHER	17.5N 62.5W 17.7N	58.8W	15	LO	250	N	N	19910429	193053	138	274	37	23
83	99	LESSER ANTILLES	GUADELOUPE	16.3N 61.5W 16.7N	58.1W	20	LO	250	N	N	19910429	193110	138	275	36	23
85	20	LESSER ANTILLES	SAINT CHRISTOPHER, NEVIS	17.3N 62.7W 16.1N	61.7W	20	LO	250	N	N	19910430	192417	137	273	43	39
85	21	LESSER ANTILLES	GUADELOUPE	16.2N 61.0W 15.4N	61.2W	40	NV	250	N	N	19910430	192430	137	274	42	39
85	22	LESSER ANTILLES	MARIE GALANTE I.	15.9N 61.2W 14.8N	60.6W	20	LO	250	N	N	19910430	192442	137	274	42	39
610	38	LESSER ANTILLES	ANGUILLA, SAN MARTIN IS.	18.0N 63.0W 23.5N	66.6W	15	LO	250	N	N	19910430	192200	137	267	47	38
610	39	LESSER ANTILLES	BARBUDA ISLAND	17.5N 62.0W 20.2N	64.3W	5	LO	250	N	N	19910430	192300	137	271	45	38
610	40	LESSER ANTILLES	ST CHRISTOPHER/NEVIS IS.	17.5N 61.5W 20.2N	64.3W	15	LO	250	N	N	19910430	192300	137	271	45	38
610	41	LESSER ANTILLES	ANTIGUA ISLAND	17.0N 62.0W 20.2N	64.3W	5	LO	250	N	N	19910430	192300	137	271	45	38
610	42	LESSER ANTILLES	GUADELOUPE/M. GALANTE IS	16.0N 61.5W 20.2N	64.3W	25	LO	250	N	N	19910430	192300	137	271	45	38
610	43	LESSER ANTILLES	MARIE GALANTE ISLAND	16.0N 61.0W 20.2N	64.3W	20	LO	250	N	N	19910430	192300	137	271	45	38
610	44	LESSER ANTILLES	DOMINICA ISLAND	15.5N 61.5W 16.9N	62.2W	35	LO	250	U	N	19910430	192400	137	275	42	38
610	45	LESSER ANTILLES	BARBADOS ISLAND	13.0N 59.5W 16.9N	62.2W	5	NV	250	N	N	19910430	192400	137	275	42	38
80	93	LIBYA	COAST-DUST STORM	30.8N 22.5E	10	LO	250	N	Y	19910429	132828	140	258	45	19	
80	94	LIBYA	DUST STORM-CLOUDS	30.2N 23.0E	50	LO	250	N	Y	19910429	132839	140	259	45	19	
80	95	LIBYA	DUST STORM-CLOUDS	29.5N 23.6E	80	LO	250	N	N	19910429	132853	140	261	44	19	
90	61	LIBYA	GULF OF SIDRA, PANORAMA	34.6N 19.0E	30	LO	250	N	N	19910429	132711	141	252	47	19	
90	62	LIBYA	GULF OF SIDRA, PANORAMA	31.0N 20.0E 33.8N	19.8E	60	LO	250	N	N	19910429	132726	141	253	47	19
151	20A	LIBYA	JABAL, AKHDAR HILLS	32.5N 22.0E 31.5N	21.8E	30	LO	250	N	N	19910429	132812	141	258	46	19
151	21	LIBYA	GULF OF BOMBA	32.5N 23.0E 30.5N	22.8E	35	LO	250	N	N	19910429	132832	140	259	45	19
151	21A	LIBYA	GULF OF SIDRA	31.0N 21.0E 28.1N	23.9E	55	HO	250	N	N	19910429	132859	140	262	44	19
151	22	LIBYA	GULF OF SIDRA	30.0N 21.0E 28.4N	24.5E	55	HO	250	N	N	19910429	132911	140	262	44	19
151	22A	LIBYA	LIBYAN DESERT	22.1N 29.3E	55	HO	250	N	N	19910429	133110	140	271	39	19	
151	129	LIBYA	AL HASHIYAH MARSH	31.5N 16.0E 32.3N	17.2E	30	LO	250	N	N	19910430	132102	140	249	51	35

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADTR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
151	130	LIBYA	COAST NEAR SURT, SITRE D	31.0N	16.5E	31.8N	17.7E	20	LO	250	N	Y	19910430	132112	139	250	51	35	
151	131	LIBYA	COAST NEAR SURT, SITRE D	31.0N	17.0E	31.4N	18.0E	20	LO	250	N	Y	19910430	132119	139	251	51	35	
151	132	LIBYA	COAST NEAR RAS LANUF	30.5N	19.0E	29.8N	19.4E	25	LO	250	N	N	19910430	132150	139	254	50	35	
151	133	LIBYA	ZALTAN MTN.	28.5N	20.0E	28.5N	20.5E	15	NV	250	N	N	19910430	132215	139	257	49	35	
151	229A	LIBYA	AL HAMRA PLATEAU	30.0N	12.0E		65	LO	250	O	N								
151	230	LIBYA	AL HAMRA PLATEAU	31.0N	13.5E	35.2N	7.0E	35	LO	250	O	N	19910502	130419	139	202	59	67	
151	231	LIBYA	AL HAMRA PLATEAU	30.0N	14.5E	34.8N	7.4E	15	LO	250	O	N	19910502	130427	139	203	59	67	
151	232	LIBYA	AL HAMRA PLATEAU	31.0N	13.5E	34.0N	8.1E	0	LO	250	O	N	19910502	130442	138	206	59	67	
151	233	LIBYA	AL HAMRA PLATEAU	31.5N	12.5E	33.8N	8.3E	0	LO	250	O	N	19910502	130446	138	206	59	67	
151	234	LIBYA	COAST, GULF OF SIDRA	32.0N	13.5E	33.6N	8.5E	0	LO	250	O	N	19910502	130450	138	207	59	67	
151	235	LIBYA	COAST, GULF OF SIDRA	30.0N	15.5E	33.4N	8.8E	0	HO	250	O	N	19910502	130455	138	208	60	67	
151	236	LIBYA	COAST, GULF OF SIDRA	30.0N	17.0E	32.6N	9.5E	0	HO	250	O	N	19910502	130510	138	210	60	67	
151	237	LIBYA	LIBYAN DESERT	29.0N	18.0E	32.2N	9.8E	10	HO	250	O	N	19910502	130518	138	211	60	67	
602	14	LIBYA	AL AKHDAR MTS.	32.0N	21.5E	35.3N	18.3E	35	LO	100	N	N	19910429	132700	138	251	48	18	
602	15	LIBYA	BOMBA GULF	32.0N	22.5E	32.3N	21.2E	60	LO	100	N	N	19910429	132800	138	257	46	18	
602	16	LIBYA	CLOUDS					90	LO	100	N	N	19910429	132800	138	257	46	18	
602	17	LIBYA	BOMBA GULF	32.5N	22.0E	32.3N	21.2E	55	HO	100	N	N	19910429	132800	138	257	46	18	
602	18	LIBYA	BOMBA GULF, AKHDAR MTS.	32.0N	22.0E	29.2N	23.9E	70	HO	100	N	N	19910429	132900	138	262	44	18	
602	19	LIBYA	BOMBA GULF, AKHDAR MTS.	31.0N	22.0E	29.2N	23.9E	70	HO	100	N	N	19910429	132900	138	262	44	18	
604	25	LIBYA	TRIPOLI	33.0N	13.0E	34.0N	11.9E	0	NV	250	N	N	19910501	131300	135	244	56	50	
604	26	LIBYA	TRIPOLI	33.0N	13.5E	34.0N	11.9E	0	NV	250	N	Y	19910501	131300	135	244	56	50	
607	62	LIBYA	COAST, OUT OF FOCUS	32.5N	15.0E	35.5N	14.2E	15	LO	100	N	N	19910430	132000	137	245	53	34	
607	63	LIBYA	COAST, OUT OF FOCUS	31.0N	16.0E	32.5N	17.1E	10	LO	100	N	N	19910430	132100	137	252	51	34	
607	64	LIBYA	COAST, OUT OF FOCUS	31.0N	16.5E	32.5N	17.1E	15	LO	100	N	N	19910430	132100	137	252	51	34	
607	65	LIBYA	COAST, OUT OF FOCUS	31.0N	17.0E	32.5N	17.1E	15	LO	100	N	N	19910430	132100	137	252	51	34	
607	66	LIBYA	G. OF SIDRA, OUT OF FOCUS	30.5N	18.0E	32.5N	17.1E	20	LO	100	N	N	19910430	132100	137	252	51	34	
607	67	LIBYA	G. OF SIDRA, OUT OF FOCUS	30.0N	19.0E	29.4N	19.8E	80	LO	100	N	N	19910430	132200	137	258	50	34	
607	68	LIBYA	CLOUDS, OUT OF FOCUS																
608	47	LIBYA	ZEGHER PLATEAU, DUNES	28.0N	13.0E	30.1N	11.8E	0	NV	250	N	N	19910502	130600	135	248	60	66	
608	48	LIBYA	MARZUCHIA SANDDUNES	26.0N	15.0E	30.1N	11.8E	0	NV	250	N	N	19910502	130600	135	248	60	66	
73	68	LINE ISLANDS	WASHINGTON ISLAND	4.5N	160.5W	3.8N	160.1W	20	NV	250	N	N	19910429	030923	138	283	22	12	
81	28	MADAGASCAR	NO.END,CAP D'AMBRE,AFLD	12.2S	49.2E	14.1S	50.1E	20	LO	250	N	N	19910505	113054	141	300	46	114	
81	29	MADAGASCAR	MAHAJAMBA BAY,NO.CST.	16.0S	46.0E	16.6S	51.8E	10	LO	250	N	N	19910505	113140	141	301	44	114	
81	30	MADAGASCAR	BOMBETOKA BAY, NO.CST.	16.0S	46.5E	16.8S	51.9E	20	LO	250	N	N	19910505	113144	141	301	43	114	
81	31	MADAGASCAR	ONIBE R, EAST COAST	17.5S	49.5E	17.4S	52.3E	60	LO	250	N	N	19910505	113154	141	302	43	114	
90	83	MADAGASCAR	LOW SUN,SHADOWS,NE.AREA	13.0S	49.6E	11.4S	49.5E	20	LO	250	N	N	19910429	134108	138	287	10	19	
90	84	MADAGASCAR	LOW SUN,SHADOWS,NE.AREA	13.2S	49.9E	11.7S	49.7E	20	LO	250	N	N	19910429	134114	138	287	10	19	
90	85	MADAGASCAR	LOW SUN,SHADOWS,NE.AREA	13.7S	50.0E	11.9S	49.8E	40	LO	250	N	N	19910429	134118	138	287	10	19	
90	86	MADAGASCAR	LOW SUN,SHADOWS,NE.AREA	14.2S	50.1E	12.5S	50.2E	50	LO	250	N	N	19910429	134128	138	287	9	19	
90	87	MADAGASCAR	LOW SUN,SHADOWS,NE.AREA	15.0S	50.5E	14.0S	51.1E	70	LO	250	N	N	19910429	134155	138	287	8	19	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL		
151	29A	MADAGASCAR	AMBRE CAPE	12.0S 49.0E	12.4S 50.2E	30	LO	250	N	N	19910429	134129	138	287	10 19		
151	30	MADAGASCAR	AMBRE CAPE, EAST COAST	13.5S 50.0E	13.8S 51.0E	50	LO	250	N	N	19910429	134153	138	287	8 19		
151	148	MADAGASCAR	BETSIBOKA RIVER DELTA	16.0S 46.5E	15.4S 48.1E	10	LO	250	N	N	19910430	133527	137	289	13 35		
151	148A	MADAGASCAR	BETSIBOKA RIVER DELTA	16.5S 47.0E		20	LO	250	N	N							
151	149	MADAGASCAR	BETSIBOKA RIVER DELTA	16.5S 47.0E	16.3S 48.6E	10	LO	250	U	N	19910430	133542	137	289	12 35		
151	150	MADAGASCAR	BETSIBOKA RIVER	17.0S 47.5E	17.2S 49.2E	20	LO	250	U	N	19910430	133558	137	289	11 35		
151	151	MADAGASCAR	EAST COAST	18.0S	49.7E	35	LO	250	U	N	19910430	133613	137	289	11 35		
151	152	MADAGASCAR	EAST COAST	18.4S	50.0E	50	LO	250	U	N	19910430	133621	137	289	10 35		
604	32	MADAGASCAR	WESTERN COAST	16.5S 44.5E	15.8S 44.4E	25	NV	250	N	N	19910501	132800	136	292	17 50		
608	54	MADAGASCAR	MANGOKY RIVER MOUTH	21.5S 43.5E	13.3S 39.2E	45	HO	250	N	N	19910502	131900	135	294	24 66		
608	56	MADAGASCAR	MANGOKY R. D., L. IHOTRY	21.5S 43.5E	16.6S 41.3E	10	NV	250	N	N	19910502	132000	135	294	21 66		
85	93	MALAWI	LAKE NYASSA COAST	11.7S 34.3E	11.4S 34.5E	20	LO	250	N	N	19910503	131003	139	286	48 83		
85	94	MALAWI	LAKE NYASSA-MAZINZI BAY	14.1S 34.9E	12.8S 35.4E	15	LO	250	N	N	19910503	131029	139	287	47 83		
80	30	MALAYSIA	MALAY PENINSULA-SUNGLINT	5.0N 104.0E	4.1N 108.8E	50	HO	50	N	Y	19910429	090749	138	283	23 16		
88	102	MALAYSIA	CLOUDS, COAST			85	LO	250	U	N							
603	33	MALAYSIA	MALAY PEN., THUNDERSTORM	3.0N 104.0E	2.7S 108.6E	40	HO	100	N	N	19910430	090300	137	287	23 31		
75	13	MALI	SHUTTLE APU-DEBRIS-STREM	14.0N 7.0W	13.6N 6.6W	0	LO	250	N	N	19910428	163917	139	278	28 5		
75	14	MALI	SHUTTLE APU-DEBRIS-STREM	14.0N 7.5W	13.1N 6.3W	5	LO	250	N	N	19910428	163926	139	279	27 5		
75	15	MALI	LAC DE MANANTALI-HAZY-SG	13.0N 10.5W	11.9N 5.6W	50	LO	250	N	Y	19910428	163947	138	279	26 5		
75	16	MALI	LAC DE MANANTALI-HAZY	13.0N 10.5W	11.0N 5.0W	70	LO	250	U	Y	19910428	164004	138	280	26 5		
85	46	MARSHALL ISLANDS	WOTHO ATOLL	10.1N 166.0E	11.1N 165.0E	50	LO	250	N	N	19910501	042259	137	277	42 45		
85	47	MARSHALL ISLANDS	UJAE ATOLL	9.1N 165.8E	10.5N 165.4E	60	LO	250	N	N	19910501	042309	137	277	42 45		
85	48	MARSHALL ISLANDS	KWAJALEIN ATOLL-CENTER	9.2N 167.3E	9.7N 165.9E	70	LO	250	N	N	19910501	042324	137	278	41 45		
85	49	MARSHALL ISLANDS	NAMU ATOLL	7.9N 168.2E	9.3N 166.1E	50	LO	250	N	N	19910501	042330	137	278	41 45		
85	50	MARSHALL ISLANDS	AILINGLAPALAP ATOLL	7.5N 168.9E	8.7N 166.5E	50	LO	250	N	N	19910501	042342	137	279	40 45		
85	51	MARSHALL ISLANDS	EBON ATOLL	4.6N 168.7E	6.0N 168.0E	30	LO	250	N	N	19910501	042430	136	281	38 45		
75	10	MAURITANIA	VERY FUZZY-ADRAR DHAR			40	LO	250	N	Y	19910428	163736	139	274	32 5		
75	12	MAURITANIA	VIEW W TO CAP BLANC	19.2N	10.2W	20	HO	250	N	Y	19910428	163817	139	276	30 5		
81	37	MAURITANIA	CAP BLANC PENIN, COAST	20.8N	16.8W												
81	38	MAURITANIA	TIDRA I, ST. JEAN BAY, CST	19.7N	16.3W	0	LO	250	O	N							
83	64	MAURITANIA	RICHAT STRUCTURE, DESERT	21.1N	11.3W	18.7N	14.0W	0	LO	250	O	N	19910429	163124	139	274	37 21
83	65	MAURITANIA	RICHAT STRUCTURE, DESERT	21.1N	11.3W	18.1N	13.6W	0	LO	250	O	Y	19910429	163135	138	274	37 21
83	66	MAURITANIA	RICHAT STRUCTURE, DESERT	21.1N	11.3W	17.7N	13.3W	0	LO	250	O	Y	19910429	163142	138	274	37 21
79	41	MEDITERRANEAN SEA	S-OF GIBRALTER-SOLITONS	36.0N	5.0W	36.1N	9.5W	10	LO	250	N	N	19910429	070543	143	82	14 15
80	76	MEDITERRANEAN SEA	CLOUDS	39.3N	13.9E	39.3N	13.9E	35	LO	250	N	Y	19910429	132539	142	242	49 19
80	77	MEDITERRANEAN SEA	CLOUDS	39.1N	14.2E	39.1N	14.2E	40	LO	250	N	Y	19910429	132543	142	242	49 19
80	78	MEDITERRANEAN SEA	NEAR EGADI IS.-CLOUDS	39.0N	12.5E	38.8N	14.6E	25	LO	250	N	Y	19910429	132550	142	243	49 19
80	79	MEDITERRANEAN SEA	NEAR EGADI IS.-CLOUDS	38.5N	12.5E	38.6N	14.7E	30	LO	250	N	Y	19910429	132553	142	243	49 19
80	86	MEDITERRANEAN SEA	CLOUDS-SUNGLINT		34.5N	19.1E		40	LO	250	N	Y	19910429	132716	141	252	47 19
80	87	MEDITERRANEAN SEA	CLOUDS-SUNGLINT		34.4N	19.2E		40	LO	250	N	Y	19910429	132718	141	252	47 19

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LOW	NADIR LAT	LOW	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN E L	OR
80	98	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	33.8N	19.8E	33.8N	19.8E	40	LO	250	N	Y	19910429	132730	141	253	47	19
80	89	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	33.7N	19.9E	33.7N	19.9E	40	LO	250	N	Y	19910429	132733	141	253	47	19
80	90	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	33.1N	20.4E	33.1N	20.4E	40	LO	250	N	Y	19910429	132743	141	254	46	19
80	91	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	32.7N	20.8E	32.7N	20.8E	40	LO	250	N	Y	19910429	132751	141	255	46	19
80	92	MEDITERRANEAN SEA	CLOUDS-SUNGLINT	32.4N	21.0E	32.4N	21.0E	40	LO	250	N	Y	19910429	132757	141	256	46	19
151	18	MEDITERRANEAN SEA	W. SICILY, TYRRENIAN SEA	39.0N	12.0E	38.7N	14.7E	35	LO	250	N	Y	19910429	132549	142	243	49	19
151	34	MEDITERRANEAN SEA	ALBORN SEA, GIBRALTAR	36.0N	4.0W	32.1N	1.4W	15	HO	250	N	N	19910429	145736	141	256	46	20
151	195	MEDITERRANEAN SEA	ALGERIAN COAST	32.8N	9.8W	32.8N	9.8W	15	HO	250	N	N	19910501	144252	139	233	57	52
151	196	MEDITERRANEAN SEA	ALBORN SEA	37.0N	1.0W	32.5N	9.5W	15	HO	250	N	N	19910501	144258	139	234	57	52
602	13	MEDITERRANEAN SEA	MALTA, AFRICAN COASTLINE	35.0N	14.0E	35.3N	18.3E	25	HO	100	N	N	19910429	132700	138	251	48	18
75	98	MEXICO	MOUNTAIN FIRES	26.0N	107.0W	26.1N	106.1W	0	LO	250	N	N	19910428	223354	140	267	39	9
75	99	MEXICO	PACIFIC COAST	22.0N	105.0W	24.8N	105.1W	50	LO	250	N	Y	19910428	223419	140	268	38	9
75	100	MEXICO	PACIFIC COAST-PUNTA MITA	21.0N	105.0W	23.0N	103.8W	40	LO	250	N	Y	19910428	223452	139	270	36	9
75	101	MEXICO	COLIMA VOLCANO-SMOKE	19.5N	103.5W	21.3N	102.6W	5	LO	250	N	Y	19910428	223523	139	272	35	9
75	102	MEXICO	COLIMA VOLCANO-SMOKE	19.5N	103.5W	20.7N	102.2W	5	LO	250	N	Y	19910428	223534	139	273	35	9
86	14	MEXICO	DARK, SMOKE INLAND	17.8N	101.2W	14.3N	102.1W	30	LO	250	N	N	19910429	223105	138	277	35	25
87	69	MEXICO	LAG. DELICIAS, IRRIG.	28.1N	105.5W	28.6N	108.1W	20	LO	250	N	N	19910428	223312	140	264	40	9
87	70	MEXICO	TORREON, GOMEZ PALACIO	25.5N	103.5W	24.1N	104.7W	0	LO	250	N	N	19910428	223435	140	269	37	9
87	71	MEXICO	VERY DARK, MTNS.	20.0N	101.7W			5	LO	250	N	N	19910428	223551	139	273	34	9
87	72	MEXICO	VOL. PEAKS-BLURRED, DARK	19.6N	101.5W			5	LO	250	N	N	19910428	223558	139	274	34	9
89	66	MEXICO	MEXICALI AREA	32.5N	115.6W	33.9N	116.8W	0	LO	250	N	N	19910429	222456	140	251	49	25
89	67	MEXICO	MOUTH COLORADO RIVER	32.2N	115.2W	33.2N	116.2W	5	LO	250	N	N	19910429	222509	140	252	48	25
89	68	MEXICO	MOUTH COLORADO RIVER	31.7N	115.2W	32.9N	115.9W	20	LO	250	N	N	19910429	222515	140	253	48	25
89	69	MEXICO	BAHIA DE ADAIR	31.6N	113.9W	32.5N	115.6W	10	LO	250	N	N	19910429	222522	140	254	48	25
89	70	MEXICO	PUERTO PENASCO	31.2N	113.5W	32.2N	115.2W	50	LO	250	N	N	19910429	222529	140	254	48	25
89	71	MEXICO	BAJA CALIFORNIA	29.5N	114.5W	31.4N	114.5W	60	LO	250	N	N	19910429	222545	140	256	47	25
89	72	MEXICO	BAJA CALIFORNIA	28.8N	113.7W	31.0N	114.2W	50	LO	250	N	N	19910429	222552	140	256	47	25
89	73	MEXICO	ISLA TIBURON	29.0N	112.4W	29.9N	113.3W	60	LO	250	N	N	19910429	222612	140	258	47	25
89	74	MEXICO	VOLCAN LAS VIRGENES AREA	27.3N	112.6W	29.3N	112.8W	LO	250	N	N	N	19910429	222624	140	259	46	25
89	75	MEXICO	BAJA, LAGUNA SAN IGNACIO	26.9N	113.1W	28.8N	112.3W	30	LO	250	N	N	19910429	222634	140	260	46	25
89	76	MEXICO	BAJA, BAHIA CONCEPCION	26.8N	112.0W	28.1N	111.8W	50	LO	250	N	N	19910429	222647	139	261	45	25
89	77	MEXICO	ESTERO LOBOS AREA	27.3N	110.4W	27.3N	111.1W	60	LO	250	N	N	19910429	222702	139	262	45	25
89	78	MEXICO	BAHIA YABAROS AREA	26.6N	109.5W	27.0N	110.9W	80	LO	250	N	N	19910429	222708	139	263	44	25
89	79	MEXICO	LA MOCHIS AREA	25.8N	109.0W	26.7N	110.6W	70	LO	250	N	N	19910429	222714	139	263	44	25
89	80	MEXICO	CULTACAN AREA	24.6N	108.0W	25.4N	109.7W	0	LO	250	N	N	19910429	222737	139	265	44	25
89	81	MEXICO	ACAPONETA AREA	22.8N	106.0W	23.8N	108.5W	0	LO	250	N	N	19910429	222807	139	267	43	25
89	82	MEXICO	TUXPAN AREA	21.8N	105.5W	23.3N	108.1W	0	LO	250	N	N	19910429	222817	139	268	42	25
89	83	MEXICO	ISLAS MARIAS	21.8N	106.6W	22.5N	107.6W	0	LO	250	N	N	19910429	222831	139	269	42	25
89	84	MEXICO	PUERTO VALLARTA AREA	20.6N	105.5W	21.7N	107.0W	0	LO	250	N	N	19910429	222846	139	270	41	25
89	85	MEXICO	TOMATLAN AREA	20.0N	105.5W	21.3N	106.7W	0	LO	250	N	N	19910429	222853	138	270	41	25

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER			MADIR			CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG	LAT	LONG												
89	86	MEXICO	MANZANILLO AREA	19.2N	104.5W	20.5N	106.2W	0	LO	250	N	N	N	19910429	222908	138	271	40	25		
89	87	MEXICO	COASTLINE S.COAHUYANA	18.4N	103.5W	19.4N	105.4W	5	LO	250	N	N	N	19910429	222929	138	272	39	25		
89	88	MEXICO	COASTLINE,BAHIA BUFADERO	18.3N	102.7W	18.8N	105.0W	5	LO	250	N	N	N	19910429	222939	138	273	39	25		
89	89	MEXICO	BAHIA PETACALCO	17.9N	102.2W	18.3N	104.6W	0	LO	250	N	N	N	19910429	222949	138	273	38	25		
93	32	MEXICO	BAJA CALIF.	32.5N	113.5W	31.0N	115.3W	30	LO	250	N	N	N	19910505	201523	143	186	68	120		
93	33	MEXICO	BAJA CALIF.,VIZCAINO DES	28.5N	114.0W	29.5N	114.0W	20	LO	250	N	N	N	19910505	201552	143	191	69	120		
93	34	MEXICO	BAJA CALIF.,VIZCAINO DES	28.5N	114.0W	29.1N	113.7W	20	LO	250	N	N	N	19910505	201559	143	192	70	120		
93	35	MEXICO	BAJA CALIF.	25.0N	112.0W	28.5N	113.2W	60	LO	250	N	N	N	19910505	201611	143	194	70	120		
93	36	MEXICO	BAJA CALIF.,SAN MARCOS I	28.5N	112.2W	27.3N	112.3W	5	LO	250	N	N	N	19910505	201633	143	198	71	120		
93	37	MEXICO	BAJA CA.,CONCEPCION BAY	27.0N	112.0W	26.9N	111.9W	5	LO	250	N	N	N	19910505	201641	143	200	71	120		
93	38	MEXICO	BAJA CA., LA PAZ AREA	23.6N	110.3W	24.6N	110.2W	0	LO	250	N	N	N	19910505	201723	142	209	72	120		
94	11	MEXICO	MOUTH OF COLORADO RIVER	31.7N	114.5W	35.9N	115.6W	0	LO	250	N	N	N	19910504	201853	145	172	60	104		
94	15	MEXICO	AREA NEAR SANTA ANA	31.0N	111.0W	32.1N	111.9W	0	LO	250	N	N	N	19910504	202009	144	183	63	104		
94	16	MEXICO	AREA NEAR SANTA ANA	31.0N	111.0W	31.0N	111.0W	0	LO	250	N	N	N	19910504	202029	144	186	64	104		
94	17	MEXICO	AREA NEAR SANTA ANA	31.0N	111.0W	30.6N	110.6W	0	LO	250	N	N	N	19910504	202038	144	187	64	104		
94	18	MEXICO	AREA AROUND LA MOCHIS	26.0N	109.0W	29.7N	109.8W	5	LO	250	N	N	N	19910504	202055	144	190	65	104		
94	19	MEXICO	AREA NW OF CULIACAN	25.0N	108.0W	29.5N	109.6W	40	LO	250	N	N	N	19910504	202059	144	191	65	104		
94	20	MEXICO	PANORAMA,VIEW E.SE.	24.2N	105.5W			60	LO	250	N	N	N	19910504	202239	143	209	68	104		
94	21	MEXICO	PANORAMA,VIEW E.SE.	23.8N	105.2W			60	LO	250	N	N	N	19910504	202246	143	210	68	104		
95	71	MEXICO	PANORAMA,NW,MEXICO	25.5N	110.9W			30	HO	100	N	N	N	19910505	201702	143	206	72	120		
95	72	MEXICO	LA MOCHIS AREA	26.0N	109.0W	23.6N	109.5W	5	LO	100	N	N	N	19910505	201737	142	214	73	120		
95	73	MEXICO	MAZATLAN AREA	23.0N	106.0W	22.2N	108.5W	5	LO	100	N	N	N	19910505	201802	142	220	73	120		
95	74	MEXICO	GUADALAJARA AREA	20.8N	103.5W	18.3N	105.8W	0	LO	100	N	N	N	19910505	201914	142	238	73	120		
151	187	MEXICO	BAJA PEN., C.S. QUINTIN	30.5N	116.0W	30.3N	117.4W	10	NV	250	N	N	Y	19910430	221855	139	249	53	41		
151	188	MEXICO	BAJA PEN., C.S. QUINTIN	30.5N	116.0W	28.7N	117.0W	10	LO	250	N	Y	19910430	221906	139	251	52	41			
151	189	MEXICO	L. OJO DE LIEBTE, BAJA P	28.0N	114.0W	28.7N	116.1W	5	LO	250	N	N	N	19910430	221925	139	253	52	41		
151	190	MEXICO	L. OJO DE LIEBTE, BAJA P	28.0N	114.0W	28.1N	115.7W	0	LO	250	N	N	N	19910430	221936	139	254	52	41		
151	191	MEXICO	L. OJO DE LIEBTE, BAJA P	27.5N	114.5W	27.2N	115.0W	0	NV	250	N	N	N	19910430	221952	139	255	51	41		
151	192	MEXICO	SEBESTIAN VIZCAINO BAY	28.0N	115.0W	24.3N	112.7W	15	LO	250	N	N	N	19910430	222047	138	261	50	41		
601	66	MEXICO	COAST, VERY DARK	25.5N	109.5W	26.7N	108.9W	10	LO	100	U	N		19910429	130100	139	76	4	18		
601	67	MEXICO	COAST, VERY DARK	26.0N	109.0W	26.7N	108.9W	10	LO	100	U	N		19910429	130100	139	76	4	18		
601	68	MEXICO	VIEW S. OF COAST, FIRES	23.0N	106.0W	26.7N	108.9W	15	HO	100	U	N		19910429	130100	139	76	4	18		
603	1	MEXICO	W. COAST, G. OF CALIF.	27.0N	110.0W	31.1N	114.2W	60	LO	100	N	N	N	19910429	222600	138	257	47	24		
603	2	MEXICO	SIERRA MADRE OCCIDENTAL	24.0N	106.0W	31.1N	114.2W	30	HO	100	N	N	N	19910429	222600	138	257	47	24		
603	3	MEXICO	S. BAJA, G. OF CALIF.	24.0N	110.0W	27.9N	111.6W	40	HO	100	N	N	N	19910429	222700	138	262	46	24		
603	4	MEXICO	FIRES, WESTERN MTNS.	23.0N	105.0W	27.9N	111.6W	30	HO	100	N	N	N	19910429	222700	138	262	46	24		
77	60	MONGOLIA	DRY STREAM-DUST STORM	45.5N	93.5E	45.7N	94.1E	10	LO	250	N	Y	19910429	011040	144	95	25	11			
77	63	MONGOLIA	TELMEEN LAKE	49.0N	97.5E	48.8N	99.8E	10	LO	250	N	N	Y	19910429	011157	144	102	29	11		
77	64	MONGOLIA	HOVSGOL LAKE	51.0N	100.5E	49.4N	100.9E	0	LO	250	N	Y	19910429	011211	145	103	29	11			
77	65	MONGOLIA	HOVSGOL LAKE	50.5N	100.5E	49.6N	101.3E	0	LO	250	N	Y	19910429	011216	145	103	30	11			

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
				LAT	LO	LAT	LO											
77	66	MONGOLIA	HOVSOL LAKE	51.5N	100.5E	49.9N	102.1E	5	L	250	N	Y	19910429	011225	145	104	30	11
77	67	MONGOLIA	HOVSOL L'AKE	50.5N	100.5E	50.4N	103.2E	0	L	250	N	Y	19910429	011238	145	106	31	11
77	85	MONGOLIA	LAKE UVS-FROZEN	50.0N	92.5E	55.2N	96.4E	10	L	250	U	Y	19910429	024502	145	124	38	12
77	86	MONGOLIA	LAKE UVS-FROZEN	50.0N	92.5E	55.3N	96.8E	10	L	250	U	Y	19910429	024505	145	125	38	12
77	87	MONGOLIA	LAKE HOVSOL-FROZEN	51.5N	100.5E	56.2N	102.2E	10	L	250	U	Y	19910429	024555	145	132	40	12
77	88	MONGOLIA	LAKE HOVSOL-FROZEN	51.0N	100.5E	56.5N	104.5E	10	L	250	N	Y	19910429	024615	145	135	40	12
86	33	MONGOLIA	HAR US NUUR (LAKE)	48.2N	92.4E	47.6N	93.3E	0	L	250	N	Y	19910430	010458	143	94	23	27
86	34	MONGOLIA	HYARGAS NUUR (LAKE)	49.2N	93.4E	48.0N	94.0E	0	L	250	N	Y	19910430	010508	143	94	24	27
86	35	MONGOLIA	UVS NUUR (LAKE)	50.3N	92.8E	48.5N	95.0E	0	L	250	N	Y	19910430	010521	144	95	25	27
93	69	MONGOLIA	MONGOLIAN PLAT.	46.3N	112.5E	46.3N	112.5E	70	L	250	N	Y	19910506	033823	147	145	52	125
93	70	MONGOLIA	MONGOLIAN PLAT.	43.7N	116.7E	43.7N	116.7E	80	H	250	N	N	19910506	033925	146	152	55	125
93	71	MONGOLIA	MONGOLIAN PLAT.	43.3N	117.3E	43.3N	117.3E	80	H	250	N	N	19910506	033934	146	153	56	125
603	12	MONGOLIA	ALTAI MTS., V. OF LAKES	47.5N	93.0E	44.9N	88.6E	0	L	100	N	N	19910430	010400	138	90	21	26
79	38	MOROCCO	ATLAS MOUNTAINS-HAZE	34.2N	11.3W	34.2N	11.3W	10	L	250	N	Y	19910429	070506	142	81	12	15
79	39	MOROCCO	S.OF GIBALTER-SOLITONS	35.5N	6.0W	35.6N	10.0W	30	L	250	N	Y	19910429	070533	142	82	13	15
79	40	MOROCCO	S.OF GIBALTER-SOLITONS	36.0N	6.0W	35.7N	9.8W	40	L	250	N	Y	19910429	070536	142	82	14	15
83	12	MOROCCO	STR,CEUTA,TANGIERS	35.9N	5.5W	35.5N	4.6W	10	NV	250	N	Y	19910429	145633	141	250	48	20
83	13	MOROCCO	STR,CEUTA,COAST	35.8N	5.4W	35.0N	4.2W	0	L	250	N	Y	19910429	145642	141	251	48	20
83	14	MOROCCO	STR,CEUTA,GIBALTAR,CSTS	35.9N	5.4W	34.7N	3.9W	15	L	250	N	Y	19910429	145648	141	251	48	20
83	16	MOROCCO	MOULOYA WADI/BASIN	34.3N	3.7W	33.8N	3.0W	0	NV	250	N	Y	19910429	145706	141	253	47	20
90	93	MOROCCO	BERGUEN AREA	34.0N	2.0W	33.6N	2.8W	0	L	250	N	Y	19910429	145706	141	253	47	20
90	94	MOROCCO	BERGUEN AREA	34.0N	2.0W	33.2N	2.4W	0	L	250	N	Y	19910429	145714	141	254	47	20
90	95	MOROCCO	BERGUEN AREA	34.0N	2.0W	32.6N	1.9W	5	L	250	N	Y	19910429	145725	141	255	46	20
151	197	MOROCCO	CAPE RHIR, AGADIR	30.5N	9.5W	30.5N	7.8W	5	NV	250	N	N	19910501	144335	138	239	57	52
151	198	MOROCCO	ATLAS MTNS.	29.5N	8.5W	29.6N	7.0W	0	NV	250	N	Y	19910501	144353	138	241	56	52
604	38	MOROCCO	COAST	35.5N	12.3W	35.5N	12.3W	35	H	250	N	N	19910501	144200	135	239	57	51
604	39	MOROCCO	COAST, TELL ATLAS MTS.	34.5N	2.0W	32.4N	9.4W	20	H	250	N	N	19910501	144300	135	247	56	51
604	40	MOROCCO	TELL ATLAS MTS.	34.0N	2.0W	32.4N	9.4W	10	H	250	N	Y	19910501	144300	135	247	56	51
604	41	MOROCCO	DRY RIVER CHANNEL	33.5N	2.0W	32.4N	9.4W	10	L	250	N	Y	19910501	144300	135	247	56	51
604	42	MOROCCO	DRY RIVER CHANNEL	33.5N	2.5W	32.4N	9.4W	10	L	250	N	Y	19910501	144300	135	247	56	51
604	43	MOROCCO	DRY RIVER CHANNEL	33.0N	3.0W	32.4N	9.4W	10	L	250	N	Y	19910501	144300	135	247	56	51
84	29AC	MOZAMBIQUE	RIO ROVUMA, AGR.	11.5S	37.9E	11.5S	37.9E	15	L	250	N	Y						
84	29AD	MOZAMBIQUE	RIO CHIULEZI, AGR.	11.8S	38.0E	11.8S	38.0E	20	L	250	N	Y						
608	52	MOZAMBIQUE	PORT AMELIA	13.0S	40.5E	9.9S	37.2E	15	L	250	N	N	19910502	131800	135	293	28	66
608	53	MOZAMBIQUE	FERNAO VELOSO BAY	14.5S	40.5E	9.9S	37.2E	15	L	250	N	N	19910502	131800	135	293	28	66
608	51	MOZAMBIQUE CHANNEL	CLOUDS	9.9S	37.2E	9.9S	37.2E	35	H	250	N	N	19910502	131800	135	293	28	66
608	55	MOZAMBIQUE CHANNEL	JUAN DE NOVA ISLAND	17.0S	43.0E	13.3S	39.2E	15	L	250	N	N	19910502	131900	135	294	24	66
81	0 B	NAMIBIA	CAMUNDA R,NAT'L BORDER	17.4S	16.8E			0	L	250	N	N						
81	0 C	NAMIBIA	OMURAMBA R,PALEO DUNES	18.8S	18.6E			0	L	250	N	N						
81	0 D	NAMIBIA	GROOTFONTEIN,AFLD,AGR.	19.3S	18.2E			0	L	250	N	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIP		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR	
				LAT	LO	LAT	LO												
81	41	NAMIBIA	WALVIS BAY, NAMIB DES, CST	23.0S	14.5E														
83	24	NIGERIA	SW VIEW, LARGE STORM			13.8N	12.0E	100	HO	250	N	Y	19910429	150318	138	278	33	20	
83	25	NIGERIA	SW VIEW, LARGE STORM			12.9N	12.5E	100	HO	250	N	Y	19910429	150334	138	279	32	20	
610	16	NIGERIA	CITY OF KANO			12.0N	8.5E	20	NV	250	N	N	19910430	145600	137	277	40	35	
75	82	NORTH KOREA	YONGHUNG BAY			39.5N	127.5E	37.3N	128.4E	50	LO	250	U	19910428	220827	143	85	17	9
75	83	NORTH KOREA	CH'ONGJIN-SMOKE?-POLLUTI			42.0N	130.0E	38.3N	129.6E	30	LO	250	U	19910428	220848	143	86	18	9
79	22	NORTH KOREA	KOREA BAY-YALU RIVER DEL			40.0N	124.0E	40.3N	126.5E	15	LO	250	U	19910429	055720	142	241	49	14
79	23	NORTH KOREA	KOREA BAY-KA I.-SUNGLINT			39.5N	124.5E	40.1N	126.8E	5	LO	250	U	19910429	055725	142	241	48	14
79	24	NORTH KOREA	KOREA BAY-SALT PANS-SUNG			39.0N	125.0E	39.6N	127.4E	0	LO	250	N	19910429	055736	142	243	48	14
79	25	NORTH KOREA	YONGHUNG BAY-WONSAN			39.0N	127.5E	38.9N	128.2E	25	NV	250	N	19910429	055750	142	244	48	14
79	26	NORTH KOREA	COAST			39.0N	128.0E	38.6N	128.5E	10	NV	250	N	19910429	055756	142	245	48	14
84	29AF	NORTH KOREA	COAST			42.0N	130.0E			30	LO	250	N						
84	29AG	NORTH KOREA	COAST			42.2N	130.2E			40	LO	250	N						
84	29AH	NORTH KOREA	COAST			42.2N	130.5E			40	LO	250	N						
87	54	NORTH KOREA	C.CHANGSAN, AFLD.			38.2N	125.0E	36.8N	127.8E	15	LO	250	U	19910428	220820	143	84	16	9
87	56	NORTH KOREA	MOUNTAINS, SNOW			38.2N	129.5E	30	LO	250	N	N	19910428	220850	143	86	18	9	
87	58	NORTH KOREA	MOUNTAINS			39.5N	130.8E	15	LO	250	U	Y	19910428	220915	143	87	19	9	
87	59	NORTH KOREA	HANGYONG MTN. RANGE			41.5N	129.0E	39.8N	131.2E	30	LO	250	U	19910428	220922	143	87	19	9
87	60	NORTH KOREA	CHONGJIN, MTNS.			41.6N	129.6E	40.1N	131.6E	10	LO	250	U	19910428	220928	143	88	20	9
87	61	NORTH KOREA	HANGYONG MTNS, COAST			42.3N	129.9E	40.5N	132.1E	0	LO	250	U	19910428	220937	143	88	20	9
151	41	NORWAY	S. NORWAY FJORDS			60.0N	7.0E	56.2N	6.9E	50	HO	250	N	19910430	083731	145	121	36	32
609	32	NORWAY	SOUTHERN COAST			58.5N	7.0E	56.9N	10.0E	15	LO	250	N	19910505	080600	141	119	36	111
609	33	NORWAY	SO. COAST NEAR ARENDAL			58.0N	8.5E	56.9N	10.0E	15	LO	250	N	19910505	080600	141	119	36	111
609	34	NORWAY	NEAR SANDEFJORD			59.0N	10.0E	56.9N	10.0E	15	LO	250	N	19910505	080600	141	119	36	111
609	35	NORWAY	JUST SOUTH OF OSLO			59.5N	10.5E	56.9N	10.0E	15	LO	250	N	19910505	080600	141	119	36	111
609	36	NORWAY	AREA EAST OF OSLO			59.5N	12.0E	56.9N	10.0E	25	LO	250	N	19910505	080600	141	119	36	111
2	20	OCEAN	STORMS, PROTR. CONV. CELLS							70	HO	35	N	Y					
2	21	OCEAN	STORMS, PROTR. CONV. CELLS							75	HO	35	N	Y					
2	22	OCEAN	STORMS, PROTR. CONV. CELLS							70	HO	35	N	Y					
2	23	OCEAN	STORMS, PROTR. CONV. CELLS							60	HO	35	N	Y					
2	24	OCEAN	STORMS, PROTR. CONV. CELLS							60	HO	35	N	Y					
2	25	OCEAN	STORMS, SUN							70	HO	35	N	Y					
2	26	OCEAN	STORMS, SUN							70	HO	35	N	Y					
2	27	OCEAN	STORMS, SUN							70	HO	35	N	Y					
17	4	OCEAN	CLOUDS							95	LO	35	U	N					
17	5	OCEAN	CLOUDS, GRAVITY WAVES							95	LO	35	N	N					
17	8	OCEAN	CURRENT BOUNDARY							0	LO	35	U	N					
81	0AE	OCEAN	CLOUDS-WATER							60	LO	250	N	N					
81	0AF	OCEAN	CLOUDS-WATER							25	LO	250	N	Y					
81	0AG	OCEAN	CLOUDS-WATER							20	LO	250	N	Y					

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL			
81	0AH	OCEAN	CLOUDS-WATER			25	LO	250	N	Y								
81	0AJ	OCEAN	CLOUDS-WATER			30	LO	250	N	Y								
81	0AK	OCEAN	CLOUDS-WATER			35	LO	250	N	Y								
81	0AL	OCEAN	CLOUDS-WATER			35	LO	250	N	Y								
81	0AM	OCEAN	CLOUDS-WATER			35	LO	250	N	N								
81	0AN	OCEAN	CLOUDS-WATER			20	LO	250	N	N								
81	0AP	OCEAN	CLOUDS-WATER			20	LO	250	N	N								
81	0AQ	OCEAN	CLOUDS-WATER			40	LO	250	N	N								
81	0AR	OCEAN	CLOUDS-WATER			70	LO	250	O	Y								
81	0AS	OCEAN	SNGLT, MOTTLED SURFACE			60	LO	250	O	Y								
			SNGLT, MOTTLED SURFACE															
81	0AT	OCEAN	SNGLT, MOTTLED SURFACE			40	LO	250	O	Y								
81	0AU	OCEAN	SNGLT, MOTTLED SURFACE			40	LO	250	O	Y								
81	0AV	OCEAN	SNGLT, MOTTLED SURFACE			60	LO	250	O	Y								
81	0AW	OCEAN	SNGLT, MOTTLED SURFACE			60	LO	250	O	Y								
81	0AX	OCEAN	SNGLT, MOTTLED SURFACE			65	LO	250	O	Y								
81	0AY	OCEAN	SNGLT, MOTTLED SURFACE			70	LO	250	O	Y								
81	0BA	OCEAN	SNGLT, MOTTLED SURFACE			70	LO	250	N	Y								
81	0BB	OCEAN	SNGLT, MOTTLED SURFACE			80	LO	250	N	Y								
81	0BC	OCEAN	SNGLT, MOTTLED SURFACE			80	LO	250	N	Y								
81	0BD	OCEAN	SNGLT, MOTTLED SURFACE			85	LO	250	N	Y								
			SNGLT, MOTTLED SURFACE															
81	0BE	OCEAN	SNGLT, MOTTLED SURFACE			85	LO	250	N	Y								
81	0BF	OCEAN	SNGLT, MOTTLED SURFACE			85	LO	250	N	Y								
81	0BG	OCEAN	SCATTERED CLOUDS			60	HO	250	O	Y								
81	0BH	OCEAN	SCATTERED CLOUDS			60	HO	250	O	Y								
81	0BJ	OCEAN	SCATTERED CLOUDS			60	LO	250	O	N								
81	0BK	OCEAN	SCATTERED CLOUDS			75	LO	250	O	N								
81	0BZ	OCEAN	SNGLT, MOTTLED SURFACE			70	LO	250	N	Y								
606	27	OCEAN	CLOUDS, PLUMES			50	HO	100	N	N								
81	17	OMAN	WADIS, ZUFAR BASIN	16.9N	53.2E	19.1N	53.1E	0	LO	250	0	N	19910505	085119	142	232	72	113
81	18	OMAN	MAHRAT MTNS, COAST	16.9N	53.2E	18.3N	53.6E	10	LO	250	0	N	19910505	095133	142	235	72	113
			MAHRAT MTNS, COAST															
81	19	OMAN	SAMHAN MTNS, COAST	17.6N	55.2E	17.4N	54.2E	30	LO	250	N	N	19910505	095149	141	239	72	113
81	20	OMAN	SAMHAN MTNS, COAST	17.1N	54.9E	17.0N	54.4E	30	LO	250	0	N	19910505	095156	141	240	71	113
81	21	OMAN	KURIA MURIA ISLANDS	17.4N	55.9E	16.5N	54.8E	0	LO	250	N	N	19910505	095206	141	242	71	113
85	85	OMAN	MUSANDAM PEN, STR. HORMUZ.	25.7N	56.5E	25.3N	57.5E	0	LO	250	N	N	19910503	095954	137	204	62	81
85	86	OMAN	MUSANDAM PEN, STR. HORMUZ.	26.5N	56.2E	24.6N	58.0E	0	LO	250	N	N	19910503	100007	136	206	62	81
85	90	OMAN	MUSANDAM PEN, E/W CSTS.	25.3N	56.3E	23.1N	59.1E	0	LO	250	N	N	19910503	100035	136	211	63	81
85	92	OMAN	RAMLAT AL WAHIBAH, S.D.	22.0N	58.5E	20.0N	61.2E	0	LO	250	N	N	19910503	100131	136	220	64	81
151	116	OMAN	MUSQAT, MATRAH, OMAN G.	24.0N	58.0E	15.1N	52.6E	40	LO	250	N	N	19910430	115647	137	275	40	34
151	117	OMAN	WESTERN TIP MASIRAH IS.	20.5N	59.0E	12.5N	54.3E	10	LO	250	U	N	19910430	115735	137	278	38	34
601	61	OMAN	AL QAMAR BAY, AL'UMR MTS	17.0N	54.0E	20.8N	53.0E	20	LO	100	N	N	19910429	120200	138	272	38	17

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	SUM
601	62	OMAN	AL QAMAR BAY, SALALAH	16.5N 53.0E	20.8N 53.0E	10	HO	100	N	N	19910429	120200	138	272	38	17
601	63	OMAN	AL'UMR MTS., SALALAH	17.0N 55.0E	20.8N 53.0E	25	LO	100	N	N	19910429	120200	138	272	38	17
601	64	OMAN	QAMAR BAY, DISSECTED PL.	15.5N 52.0E	17.5N 55.2E	10	HO	100	N	N	19910429	120300	138	276	36	17
601	65	OMAN	AL'UMR MTS., SALALAH	17.0N 54.0E	17.5N 55.2E	20	LO	100	N	N	19910429	120300	138	276	36	17
606	49	OMAN	STRAIT OF HORMUZ,QESHM I	26.0N 56.5E		5	LO	100	N	Y						
606	53	OMAN	SHIP WAKES, OMAN MTS.	23.5N 58.5E		10	LO	100	N	Y						
606	54	OMAN	WAHIBAH SANDS, OMAN MTS.	22.5N 59.0E		5	LO	100	N	Y						
606	55	OMAN	WAHIBAH SANDS	22.0N 60.0E		10	LO	100	N	Y						
606	56	OMAN	WAHIBAH SANDS,MASIRAH IS	21.0N 59.0E		25	LO	100	N	Y						
3	15	PACIFIC OCEAN	LOW IN GULF OF ALASKA			85	HO	35	O	Y						
3	16	PACIFIC OCEAN	LOW IN GULF OF ALASKA			85	HO	35	O	Y						
75	45	PACIFIC OCEAN	G OF ALASKA-SUNGLINT	56.7N 139.3W	56.7N 139.3W	45	LO	250	N	N	19910428	205127	145	171	47	8
75	46	PACIFIC OCEAN	G OF ALASKA-SUNGLINT	56.4N 137.1W	56.4N 137.1W	45	LO	250	N	N	19910428	205146	145	174	47	8
75	86	PACIFIC OCEAN	PAN LOOKING NE	47.8N 143.3E	47.8N 143.3E	95	HO	250	N	Y	19910428	221220	144	100	28	9
75	87	PACIFIC OCEAN	PAN LOOKING NE	50.2N 148.3E	50.2N 148.3E	95	HO	250	N	Y	19910428	221323	145	106	31	9
77	21	PACIFIC OCEAN	CLOUDS-NEAR ALEUTIANS	52.2N 163.9W	52.2N 163.9W	100	LO	250	N	N	19910428	235358	144	203	50	10
77	22	PACIFIC OCEAN	CLOUDS-NEAR S. AMERICA	8.7S 107.3W	8.7S 107.3W	80	LO	250	N	N	19910429	001355	138	286	10	10
77	23	PACIFIC OCEAN	CUMULUS CLOUDS	14.6S 103.7W	14.6S 103.7W	55	LO	250	N	N	19910429	001542	139	286	4	10
77	24	PACIFIC OCEAN	CUMULUS CLOUDS-UNDEREXP	15.6S 103.1W	15.6S 103.1W	40	LO	250	U	N	19910429	001558	139	286	4	10
77	25	PACIFIC OCEAN	CLOUDS	17.5S 101.8W	17.5S 101.8W	80	HO	250	N	N	19910429	001634	138	285	2	10
77	27	PACIFIC OCEAN	CLOUDS	25.6S 96.1W	25.6S 96.1W	80	HO	250	N	N	19910429	001905	140	283	-5	10
77	28	PACIFIC OCEAN	CLOUDS	26.0S 95.8W	26.0S 95.8W	75	HO	250	N	N	19910429	001912	140	282	-5	10
79	30	PACIFIC OCEAN	CLOUDS	33.8N 133.6E	33.8N 133.6E	90	HO	250	N	N	19910429	055933	141	255	45	14
79	31	PACIFIC OCEAN	CLOUDS-SHUTTLE TAIL	17.5S 137.2E	17.5S 137.2E	80	HO	250	N	N	19910429	061506	139	286	3	14
79	32	PACIFIC OCEAN	CLOUDS	29.6S 176.1E	29.6S 176.1E	90	HO	250	N	N	19910429	061852	141	281	-8	14
79	87	PACIFIC OCEAN	OFF CHINESE COAST-INT W.	22.1N 120.3E	22.1N 120.3E	25	LO	250	N	Y	19910429	073250	139	271	38	15
79	88	PACIFIC OCEAN	OFF CHINESE COAST-INT W.	21.8N 120.5E	21.8N 120.5E	30	LO	250	N	Y	19910429	073255	139	271	38	15
79	89	PACIFIC OCEAN	OFF CHINESE COAST-INT W.	21.4N 120.7E	21.4N 120.7E	55	LO	250	N	N	19910429	073302	139	271	37	15
79	90	PACIFIC OCEAN	OFF CHINESE COAST-INT W.	21.1N 121.0E	21.1N 121.0E	55	LO	250	N	N	19910429	073308	139	272	37	15
79	91	PACIFIC OCEAN	OFF CHINESE COAST-INT W.	20.5N 121.4E	20.5N 121.4E	20	LO	250	N	N	19910429	073320	139	272	37	15
81	0	PACIFIC OCEAN	SEA ICE			10	LO	250	N	N						
81	0	PACIFIC OCEAN	CLOUD WAKES OVER ISLANDS			100	LO	250	N	N						
81	0	PACIFIC OCEAN	CLOUD WAKES OVER ISLANDS			100	LO	250	N	N						
81	0	PACIFIC OCEAN	SEA ICE			50	LO	250	N	N						
81	0	PACIFIC OCEAN	SEA ICE			60	LO	250	N	N						
81	0	PACIFIC OCEAN	SEA ICE			60	HO	250	N	N						
81	0	PACIFIC OCEAN	CLOUD FIELD			85	HO	250	O	N						
84	29A	PACIFIC OCEAN	CURRENT BOUNDARY, SNGLT			30	LO	250	O	N						
84	29AS	PACIFIC OCEAN	WATER-CLOUDS-BRIGHT			50	LO	250	O	N						
84	29AT	PACIFIC OCEAN	CLOUDS-SUNGLINT			90	HO	250	N	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN SUN EL OR
84	34	PACIFIC OCEAN	STORM-PROTR.CONV.CELL		4.8N 138.7E	90	LO	250	N	N	19910503	053742	135	265	58 78
93	39	PACIFIC OCEAN	SUNGLINT		14.8N 103.6W	80	LO	250	N	N	19910505	202022	141	253	72 120
93	40	PACIFIC OCEAN	SUNGLINT		14.2N 103.2W	80	LO	250	N	N	19910505	202034	141	255	72 120
93	41	PACIFIC OCEAN	POSSIBLE SULOY NR EQUAT		1.9N 95.9W	50	LO	250	N	N	19910505	202413	140	288	63 120
93	42	PACIFIC OCEAN	POSSIBLE SULOY NR EQUAT		1.0N 95.4W	50	LO	250	N	N	19910505	202430	140	289	62 120
93	43	PACIFIC OCEAN	POSSIBLE SULOY NR EQUAT		.4N 95.1W	40	LO	250	N	N	19910505	202440	140	290	62 120
93	62	PACIFIC OCEAN	SUNGLINT,CLOUDS		7.4S 178.4E	70	LO	250	N	N	19910506	022542	141	300	54 124
93	63	PACIFIC OCEAN	SUNGLINT,CLOUDS		8.0S 178.7E	70	LO	250	N	N	19910506	022553	141	301	53 124
93	64	PACIFIC OCEAN	CLOUDS		9.2S 179.5E	80	HO	250	N	N	19910506	022615	141	301	52 124
93	65	PACIFIC OCEAN	CLOUDS,SUNGLINT		10.1S 180.0W	60	LO	250	N	N	19910506	022631	141	302	51 124
93	66	PACIFIC OCEAN	CLOUDS,SUNGLINT		10.9S 179.5W	60	LO	250	N	N	19910506	022645	141	302	50 124
93	67	PACIFIC OCEAN	CLOUDS		15.3S 176.8W	90	HO	250	N	N	19910506	022805	141	304	45 124
93	68	PACIFIC OCEAN	CLOUDS,CARGO BAY		22.5S 172.0W	95	LO	250	N	N	19910506	023016	142	306	37 124
94	61	PACIFIC OCEAN	WATER BOUNDARIES		39.6N 149.2E	20	LO	100	N	N	19910505	021624	145	163	57 108
94	62	PACIFIC OCEAN	WATER BOUNDARIES,INT.WVS		39.0N 149.9E	20	LO	100	N	N	19910505	021636	145	164	58 108
94	63	PACIFIC OCEAN	WATER BOUNDARIES,INT.WVS		38.9N 150.0E	20	LO	100	N	N	19910505	021638	145	165	58 108
94	64	PACIFIC OCEAN	WATER BOUNDARIES,INT.WVS		38.8N 150.2E	10	LO	100	N	N	19910505	021641	145	165	58 108
94	65	PACIFIC OCEAN	SUNGLINT,WATER PATTERNS		38.3N 150.7E	40	LO	100	N	N	19910505	021650	145	166	58 108
94	66	PACIFIC OCEAN	TOO DARK,OVEREXPOSED		37.9N 151.2E						19910505	021700	145	167	59 108
94	67	PACIFIC OCEAN	DRAMATIC CURRENT BOUNDRY		37.6N 151.5E	10	LO	100	N	N	19910505	021705	145	168	59 108
94	68	PACIFIC OCEAN	DARK,LITTLE VALUE		37.3N 151.9E	40	LO	100	N	N	19910505	021712	145	169	59 108
95	75	PACIFIC OCEAN	BLUE WATER		4.2S 92.4W	0	LO	100	N	N	19910505	202558	140	295	57 120
95	94	PACIFIC OCEAN	DISSIPATING T-STORM CELL		12.2S 178.7W	50	LO	100	N	N	19910506	022704	141	303	48 124
95	95	PACIFIC OCEAN	CLDS,WATER,SUNGLINT		14.5S 177.3W	70	LO	100	N	N	19910506	022744	141	304	48 124
151	35	PACIFIC OCEAN	G. OF ALASKA, CYCLONE		56.8N 142.8W	90	HO	250	N	N	19910429	191215	145	134	40 23
602	26	PACIFIC OCEAN	CLOUDS, SUNRISE		21.5N 135.4W	80	HO	100	N	N	19910429	142900	139	74	-2 19
602	27	PACIFIC OCEAN	CLOUDS, SUNRISE		27.9N 130.6W	80	HO	100	N	N	19910429	143100	139	76	5 19
602	28	PACIFIC OCEAN	APPROACH. CALIF. COAST		31.1N 128.0W	65	HO	100	N	N	19910429	143200	139	78	8 19
602	29	PACIFIC OCEAN	APPROACH. CALIF. COAST		31.1N 128.0W	55	HO	100	N	N	19910429	143200	139	78	8 19
602	30	PACIFIC OCEAN	APPROACH. CALIF. COAST		35.0N 120.0W	45	HO	100	N	N	19910429	143200	139	78	8 19
602	31	PACIFIC OCEAN	CALIF. COAST, CHANNEL IS		31.1N 128.0W	50	HO	100	N	N	19910429	143200	139	78	8 19
603	23	PACIFIC OCEAN	VIEW OF MOON		20.3S 149.6W	35	HO	100	U	N	19910430	031000	137	288	5 27
605	27	PACIFIC OCEAN	CLOUDS, ATMOSPHERIC LIMB		37.9N 178.6E	45	HO	250	N	N	19910504	005200	142	210	68 90
605	61	PACIFIC OCEAN	CLOUD FORMATIONS		50.0N 167.2W	75	HO	250	N	N	19910504	170200	141	79	12 101
608	67	PACIFIC OCEAN	SHUTTLE PAYLOAD EXPER.		36.5S 79.2W	75	HO	250	N	N	19910502	222300	134	290	1 72
608	68	PACIFIC OCEAN	SHUTTLE PAYLOAD EXPER.		36.5S 79.2W	75	HO	250	N	N	19910502	222300	134	290	1 72
610	49	PACIFIC OCEAN	SULOYS, SUNGLINT		27.0N 114.7W	0	LO	250	N	N	19910430	222000	137	261	50 40
610	51	PACIFIC OCEAN	CLOUDS, SUNGLINT		32.6S 75.7W	60	HO	250	N	N	19910430	223800	137	285	-3 40
612	22	PACIFIC OCEAN	SUNGLINT, CLOUDS		56.3N 168.0E	55	LO	100	N	N	19910429	221100	138	129	39 24
612	23	PACIFIC OCEAN	SUNGLINT, CLOUDS		56.3N 168.0E	55	LO	100	N	N	19910429	221100	138	129	39 24

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN		
				LAT	LONG	LAT	LONG										EL	OR	
612	24	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.3N	168.0E	50	L0	100	U	N	19910429	221100	138	129	39	24	
612	25	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.3N	168.0E	50	L0	100	N	N	19910429	221100	138	129	39	24	
612	26	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.3N	168.0E	55	H0	100	N	N	19910429	221100	138	129	39	24	
612	27	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.9N	174.9E	55	H0	100	U	N	19910429	221200	138	138	41	24	
612	28	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.9N	174.9E	75	H0	100	N	N	19910429	221200	138	138	41	24	
612	29	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.9N	174.9E	75	H0	100	N	N	19910429	221200	138	138	41	24	
612	30	PACIFIC OCEAN	SUNGLINT, CLOUDS			56.9N	174.9E	75	H0	100	U	N	19910429	221200	138	138	41	24	
612	31	PACIFIC OCEAN	SUNGLINT, CLOUDS			57.1N	178.0W	75	L0	100	N	N	19910429	221300	138	147	44	24	
612	32	PACIFIC OCEAN	SUNGLINT, CLOUDS			57.1N	178.0W	75	L0	100	O	N	19910429	221300	138	147	44	24	
612	33	PACIFIC OCEAN	SUNGLINT, CLOUDS			57.1N	178.0W	75	L0	100	U	N	19910429	221300	138	147	44	24	
73	69	PACIFIC OCEAN ISLAND	MALDEN ISLAND			4.0S	155.0W	30	NV	250	N	N	19910129	031144	138	286	15	12	
80	5	PACIFIC OCEAN ISLAND	HELEN REEF-HALHAMERA SEA			3.0N	132.0E	25	NV	250	N	N	19910429	073828	138	284	22	15	
86	78	PACIFIC OCEAN ISLAND	TAONGI ATOLL			14.6N	169.0E	30	L0	250	N	N	19910430	042930	138	277	37	29	
86	92	PACIFIC OCEAN ISLAND	MUGURIS IS.			3.2S	154.6E	80	L0	250	N	N	19910430	060426	137	287	21	30	
86	93	PACIFIC OCEAN ISLAND	MUGURIS IS.			3.2S	154.6E	80	L0	250	N	N	19910430	060436	137	287	21	30	
86	94	PACIFIC OCEAN ISLAND	TULUN IS.			4.8S	155.4E	60	L0	250	N	N	19910430	060444	137	287	20	30	
86	95	PACIFIC OCEAN ISLAND	TULUN IS.			4.8S	155.4E	80	L0	250	N	N	19910430	060455	137	287	20	30	
93	61	PACIFIC OCEAN ISLAND	ELLICE IS., CLOUD STREAKS			6.0S	177.0E	70	H0	250	N	N	19910506	022505	141	299	56	124	
94	38	PACIFIC OCEAN ISLAND	FLINT ISLAND			11.4S	151.8W	30	L0	100	N	N	19910505	010201	141	295	51	107	
94	39	PACIFIC OCEAN ISLAND	TUAMOTU IS, RANGIROA			15.1S	147.8W	40	L0	100	N	N	19910505	010318	141	298	46	107	
94	40	PACIFIC OCEAN ISLAND	TUAMOTU IS.			15.5S	146.5W	40	L0	100	N	N	19910505	010321	141	298	46	107	
94	41	PACIFIC OCEAN ISLAND	TUAMOTU IS.			16.5S	145.0W	50	L0	100	N	N	19910505	010331	141	298	45	107	
94	42	PACIFIC OCEAN ISLAND	TUAMOTU IS.			16.5S	145.0W	50	L0	100	N	N	19910505	010344	142	298	45	107	
94	43	PACIFIC OCEAN ISLAND	TUAMOTU IS.			16.0S	145.5W	40	L0	100	N	N	19910505	010349	142	298	44	107	
94	44	PACIFIC OCEAN ISLAND	TETIAROA ISLAND			17.0S	149.6W	20	L0	100	N	N	19910505	010401	142	298	44	107	
94	45	PACIFIC OCEAN ISLAND	TAHITI			17.6S	149.5W	70	L0	100	N	N	19910505	010407	142	299	43	107	
94	46	PACIFIC OCEAN ISLAND	TUAMOTU ISLANDS			17.0S	144.0W	60	L0	100	N	N	19910505	010502	142	300	40	107	
610	50	PACIFIC OCEAN ISLAND	SOCORRO ISLAND			19.0N	111.0W	35	L0	250	N	N	19910430	222000	137	261	50	40	
80	53	PAKISTAN	MAKRAN RANGE-QUETTA			30.5N	67.0E	10	L0	250	N	N	19910429	102950	140	262	43	17	
80	54	PAKISTAN	SULAIMAN RANGE			29.5N	68.5E	0	L0	250	N	N	19910429	103009	140	263	43	17	
80	55	PAKISTAN	SUKKUR-INDUS RIVER			27.5N	69.0E	0	L0	250	N	N	19910429	103024	140	264	42	17	
80	56	PAKISTAN	JAMRAO CANNAL-THAR DES.			26.0N	69.0E	25.6N	72.2E	10	L0	250	N	19910429	103055	140	266	41	17
80	57	PAKISTAN	THUNDERSTORMS			24.5N	73.0E	50	H0	250	N	N	19910429	103115	139	268	40	17	
85	52	PAKISTAN	CAPE MUH.C. JIWANI, CST.			25.0N	62.0E	25.9N	64.2E	0	L0	250	O	19910501	101636	138	253	54	49
85	53	PAKISTAN	LAGOON, CENT. MAKRAN RA.			25.3N	64.0E	24.9N	64.9E	0	NV	250	O	19910501	101653	138	254	53	49
86	23	PAKISTAN	HIMALAYA MTS			35.0N	76.0E	35.8N	77.2E	0	L0	250	N	19910430	010040	142	79	10	27
89	96	PAKISTAN	KARACHI AREA, INDUS DELTA			24.8N	67.6E	24.0N	69.4E	0	L0	250	N	19910430	102434	139	265	46	33
89	97	PAKISTAN	INDUS DELTA			24.0N	68.0E	23.4N	69.8E	10	L0	250	N	19910430	102444	138	265	45	33
601	17	PAKISTAN	MAKRAN/SULAIMAN RANGES			30.0N	67.0E	31.6N	67.3E	25	L0	100	N	19910429	102900	138	258	45	16
601	18	PAKISTAN	SULAIMAN RA., INDUS R.			28.0N	69.0E	28.5N	70.0E	30	H0	100	N	19910429	103000	138	263	43	16

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM	
				LAT	LONG	LAT	LONG											
601	19	PAKISTAN	INDUS RIVER, THAR DESERT	26.0N	70.0E	28.5N	70.0E	20	HO	100	N	N	19910429	103000	138	263	43	16
601	21	PAKISTAN	INDUS RIVER, THAR DESERT	26.0N	70.0E	25.3N	72.5E	20	HO	100	N	N	19910429	103100	138	267	41	16
603	5	PAKISTAN	INDUS RIVER VALLEY	28.0N	71.0E	27.3N	69.5E	20	LO	100	U	N	19910430	005800	139	75	2	26
603	6	PAKISTAN	INDUS RIVER VALLEY	30.0N	72.0E	27.3N	69.5E	15	LO	100	U	N	19910430	005800	139	75	2	26
603	7	PAKISTAN	FRONT RANGE OF HIMALAYAS	32.5N	74.5E	30.4N	72.1E	5	LO	100	U	N	19910430	005900	139	76	5	26
603	58	PAKISTAN	INDUS DELTA, KARACHI	25.5N	66.0E	25.9N	68.0E	15	HO	100	N	N	19910430	102400	137	264	47	32
93	22	PARAGUAY	JCT. PILCOMAYO & PARANA R	27.2S	58.8W	26.3S	55.3W	40	LO	250	N	N	19910505	190304	142	305	33	119
95	44	PARAGUAY	ROAD, BRIDGE CONSTRUCTION	27.5S	58.5W	25.6S	55.8W	20	LO	100	N	N	19910505	190246	142	305	33	119
71	66	PERSIAN GULF	OIL FIELD SMOKE-ENTIRE F	28.3N	51.4E	28.3N	51.4E	100	LO	250	N	N	19910428	120548	137	265	38	2
71	67	PERSIAN GULF	OIL FIELD SMOKE-ENTIRE F	27.3N	52.3E	27.3N	52.3E	100	LO	250	N	N	19910428	120608	138	266	37	2
71	68	PERSIAN GULF	SMOKE-LAND VTS. -FUZZY			27.2N	52.4E	90	LO	250	N	N	19910428	120610	138	266	37	2
71	71	PERSIAN GULF	IRANIAN CST-BUSHEHER	28.5N	51.0E	26.8N	52.6E	5	LO	250	N	N	19910428	120617	138	267	37	2
71	72	PERSIAN GULF	KUWAIT SMOKE-ENTIRE FRAM			26.7N	52.7E	100	LO	250	N	N	19910428	120619	138	267	37	2
71	77	PERSIAN GULF	QATAR-KUWAIT SMOKE	26.5N	51.5E	25.9N	53.3E	0	LO	250	N	N	19910428	120634	138	268	36	2
71	78	PERSIAN GULF	SAUDI COAST-KUWAIT SMOKE			25.7N	53.5E	15	LO	250	N	N	19910428	120638	138	268	36	2
71	81	PERSIAN GULF	QATAR COAST	26.0N	52.0E	25.3N	53.8E	0	LO	250	N	Y	19910428	120646	138	269	36	2
71	82	PERSIAN GULF	KUWAIT SMOKE, LAND			25.1N	53.9E	55	LO	250	N	N	19910428	120649	138	269	36	2
71	83	PERSIAN GULF	NORTH COAST QATAR	26.0N	52.0E	25.0N	54.0E	0	LO	250	N	N	19910428	120651	138	269	36	2
71	84	PERSIAN GULF	INT WAVES-SMOKE-DAYYINAH	25.0N	52.5E	24.6N	54.3E	5	LO	250	N	Y	19910428	120659	138	269	35	2
72	63	PERSIAN GULF	OIL WELL FIRES/PLUMES	29.5N	48.5E			0	NV	250	N	Y						
72	64	PERSIAN GULF	OIL WELL FIRE PLUMES	29.0N	48.5E			0	NV	250	N	Y						
72	65	PERSIAN GULF	OIL WELL FIRE PLUMES	28.5N	49.5E			0	LO	250	N	N						
72	66	PERSIAN GULF	OIL WELL FIRE PLUMES	28.0N	50.0E			5	LO	250	N	N						
72	67	PERSIAN GULF	OIL WELL FIRE PLUMES	27.5N	50.5E			15	LO	250	N	N						
72	68	PERSIAN GULF	OIL WELL FIRE PLUMES	27.0N	51.0E			30	LO	250	N	N						
604	9	PERSIAN GULF	KUWAIT OIL FIRES/PLUMES	29.0N	49.0E	29.2N	38.8E	5	HO	250	N	N	19910501	114500	137	255	54	49
604	11	PERSIAN GULF	KUWAIT OIL FIRES/PLUMES	29.0N	49.5E	29.2N	38.8E	5	HO	250	N	N	19910501	114500	137	255	54	49
605	55	PERSIAN GULF	QESHM, TUMB ISLANDS	26.5N	55.0E	26.6N	52.2E	5	LO	250	N	N	19910504	095400	143	246	67	96
89	41	PERU	AMAZON RIVER			1.1S	70.3W	70	LO	250	N	N	19910429	210601	137	286	22	24
96	70	PERU	CLOUDY			16.4S	72.4W	100	LO	250	N	N	19910502	204714	135	291	35	72
96	71	PERU	COAST NW OF TACNA	17.5S	71.0W	17.0S	72.0W	0	LO	250	N	N	19910502	204725	135	291	35	72
96	72	PERU	NW OF TACNA, OV. EXPOSED	17.7S	70.5W	17.4S	71.7W	30	LO	250	N	N	19910502	204732	135	292	34	72
608	58	PERU	LAKE TITICACA	16.0S	69.5W	12.1S	75.1W	15	LO	250	N	N	19910502	204600	135	295	27	71
608	59	PERU	LAKE TITICACA	15.5S	70.0W	12.1S	75.1W	15	LO	250	N	Y	19910502	204600	135	295	27	71
79	92	PHILIPPINE SEA	INTERNAL WAVES-SHIP WAKE			18.8N	122.5E	5	LO	250	N	N	19910429	073348	139	274	36	
74	5	PHILIPPINES	LUZON-CORREGIDOR	14.5N	120.5E	14.0N	120.3E	20	NV	250	N	Y	19910506	051839	142	261	73	126
74	6	PHILIPPINES	LUZON-LAKE TAAL	14.0N	121.0E	13.2N	120.8E	25	NV	250	N	Y	19910506	051853	142	264	73	126
74	7	PHILIPPINES	LUZON-MANILA	14.5N	121.0E	12.8N	121.0E	40	LO	250	N	Y	19910506	051900	142	265	73	126
74	8	PHILIPPINES	LUZON-NE PART	18.0N	122.0E	11.8N	121.6E	35	LO	250	N	Y	19910506	051918	142	269	72	126
74	9	PHILIPPINES	LUZON-NEAR LINGAYEN GULF	17.0N	120.5E	11.6N	121.7E	50	LO	250	N	Y	19910506	051921	142	269	72	126

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL OR
74	10	PHILIPPINES	LUZON-LINGAYEN GULF	16.0N 120.0E	11.5N 121.8E	50	LO	250	N	Y	19910506	051924	141	270	72 126
74	11	PHILIPPINES	LUZON-EAST COAST	15.5N 121.0E	11.3N 121.9E	55	LO	250	N	Y	19910506	051927	141	270	72 126
74	12	PHILIPPINES	LUZON-LAGUNA DE BAY	14.5N 121.5E	11.1N 122.0E	40	LO	250	N	Y	19910506	051930	141	271	72 126
74	13	PHILIPPINES	LUZON-LOPEZ B. -TAYABAS B	14.0N 122.0E	11.0N 122.1E	30	LO	250	N	N	19910506	051933	141	271	71 126
74	14	PHILIPPINES	LUZON-MANILA SMOG	14.0N 121.0E	10.8N 122.2E	25	LO	250	N	Y	19910506	051936	141	272	71 126
74	15	PHILIPPINES	MARINDUQUE ISLAND	13.5N 122.0E	10.7N 122.3E	20	LO	250	N	Y	19910506	051938	141	272	71 126
74	16	PHILIPPINES	LUZON-BONDOC PENINSULA	13.5N 122.5E	10.5N 122.4E	20	LO	250	N	Y	19910506	051941	141	273	71 126
74	17	PHILIPPINES	LUZON-SAN MIGUEL BAY	14.0N 123.0E	10.4N 122.5E	20	LO	250	N	Y	19910506	051944	141	273	71 126
74	18	PHILIPPINES	LUZON-BURIAS ISLAND	13.0N 123.5E	10.2N 122.6E	20	LO	250	N	Y	19910506	051947	141	274	71 126
74	19	PHILIPPINES	LUZON-TICAO ISLAND	13.0N 123.5E	10.0N 122.7E	25	LO	250	N	Y	19910506	051951	141	274	71 126
74	20	PHILIPPINES	MASBATE I. -TICAO ISLAND	12.5N 123.5E	9.9N 122.8E	30	LO	250	N	Y	19910506	051953	141	275	71 126
74	21	PHILIPPINES	PANAY	11.5N 123.0E	9.6N 123.0E	30	LO	250	N	N	19910506	051958	141	276	70 126
74	22	PHILIPPINES	LEYETE	11.5N 124.5E	8.6N 123.6E	60	LO	250	N	N	19910506	052016	141	278	70 126
74	23	PHILIPPINES	NEGROS-EASTERN COAST	10.5N 123.5E	8.0N 123.9E	70	LO	250	N	N	19910506	052027	141	280	69 126
74	24	PHILIPPINES	SIQUIJOR ISLAND	9.0N 123.5E	7.5N 124.2E	80	LO	250	N	N	19910506	052035	141	281	69 126
74	25	PHILIPPINES	BOHO-LEYETE	10.0N 125.0E	7.2N 124.4E	70	LO	250	N	Y	19910506	052041	141	282	68 126
74	26	PHILIPPINES	CAMIGUIN ISLAND-BOHO	9.0N 124.5E	6.9N 124.6E	80	LO	250	N	Y	19910506	052046	141	282	68 126
74	27	PHILIPPINES	SIARGAO I. -BUCCAS GRANDE	10.0N 126.0E	6.4N 124.8E	60	LO	250	N	N	19910506	052054	141	283	68 126
74	28	PHILIPPINES	MINDANAO-DUMANQUILAS BAY	8.0N 123.0E	5.9N 125.1E	60	LO	250	N	N	19910506	052103	141	284	67 126
74	29	PHILIPPINES	MINDANAO-MINDANAO RIVER	7.0N 124.0E	5.4N 125.4E	80	LO	250	N	Y	19910506	052112	141	285	67 126
74	30	PHILIPPINES	MINDANAO-BULUAN RIVER	7.0N 124.5E	5.3N 125.5E	70	LO	250	N	Y	19910506	052115	141	286	67 126
74	31	PHILIPPINES	MINDANAO-PADADA R. -DAVAO	6.5N 125.5E	5.0N 125.7E	70	LO	250	N	Y	19910506	052120	141	286	66 126
74	32	PHILIPPINES	MINDANAO-SOUTHERN END	6.5N 125.5E	4.4N 126.0E	70	LO	250	N	Y	19910506	052130	141	287	66 126
74	33	PHILIPPINES	MINDANAO - END-MAYO BAY	7.0N 126.5E	4.1N 126.2E	60	LO	250	N	N	19910506	052136	141	288	66 126
80	0	A	SIAGAO ISLAND	10.0N 126.0E	11.0N 127.4E	25	LO	250	N	N	19910429	073607	138	280	29 15
80	1	PHILIPPINES	BOHOL, LEYTE-SUNGLINT	10.0N 124.5E	8.9N 128.7E	35	LO	250	N	Y	19910429	073647	138	281	27 15
80	2	PHILIPPINES	BOHOL, LEYTE-SUNGLINT	10.0N 125.0E	8.7N 128.8E	35	LO	250	N	Y	19910429	073650	138	281	27 15
80	3	PHILIPPINES	CAMIGUIN I. -SUNGLINT	9.5N 125.0E	8.1N 129.2E	40	LO	250	N	N	19910429	073701	138	282	27 15
80	4	PHILIPPINES	MINDANAO-MORO GULF	6.5N 125.0E	6.5N 130.1E	80	LO	250	N	N	19910429	073729	138	282	25 15
71	7	POLAND	CLOUDS-AGR-EXTERNAL TANK		53.0N 15.5E	90	LO	250	N	N	19910428	115630	120	202	49 2
71	8	POLAND	CLOUDS-AGR-EXTERNAL TANK		52.8N 16.3E	90	LO	250	N	N	19910428	115638	120	203	49 2
71	9	POLAND	CLOUDS-EXTERNAL TANK		52.7N 16.5E	70	LO	250	N	Y	19910428	115640	121	204	49 2
71	10	POLAND	CLOUDS-EXTERNAL TANK		52.7N 16.7E	70	LO	250	N	Y	19910428	115642	121	204	49 2
71	11	POLAND	CLOUDS-EXTERNAL TANK		52.6N 16.9E	60	LO	250	N	Y	19910428	115645	121	204	49 2
71	12	POLAND	CLOUDS-EXTERNAL TANK		52.2N 18.1E	60	LO	250	N	Y	19910428	115658	121	206	49 2
71	13	POLAND	CLOUDS-EXTERNAL TANK		52.0N 18.7E	55	LO	250	N	Y	19910428	115704	122	207	49 2
71	14	POLAND	CLOUDS-EXTERNAL TANK		51.5N 19.8E	75	LO	250	N	Y	19910428	115717	122	209	49 2
71	15	POLAND	CLOUDS-EXTERNAL TANK		51.3N 20.5E	80	LO	250	N	Y	19910428	115724	123	210	49 2
71	16	POLAND	CLOUDS-EXTERNAL TANK		50.5N 22.4E	95	LO	250	N	N	19910428	115746	124	214	49 2
79	56	POLAND	GDANSK-GULF OF DANZIG	54.5N 19.0E	53.3N 20.4E	10	LO	250	N	N	19910429	071240	145	114	34 15

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
87	93	POLAND	VISTULA R. KALININGRAD B.	54.1N 19.3E	53.6N 21.3E	10	L0	250	U	N	19910429	071249	145	115	34	15
87	103	POLAND	HELSKA SPIT, GOYNIA, AFLD	54.5N 18.5E	56.5N 17.7E	0	L0	250	N	N	19910429	101812	145	169	47	17
602	64	PORTUGAL	LISBON, SETUBAL BAY	38.5N 9.0W	40.0N 9.6W	45	L0	100	N	N	19910429	145500	138	240	50	19
602	65	PORTUGAL	LISBON, ST. VINCENT CAPE	37.5N 9.0W	40.0N 9.6W	35	L0	100	N	N	19910429	145500	138	240	50	19
602	66	PORTUGAL	LISBON, CAPE ESPICHEL	38.5N 9.0W	40.0N 9.6W	40	L0	100	N	N	19910429	145500	138	240	50	19
602	67	PORTUGAL	CAPE ST. VINCENT	37.0N 8.5W	40.0N 9.6W	15	L0	100	N	N	19910429	145500	138	240	50	19
83	96	PUERTO RICO	EAST AREA, VIRGIN ISL.	18.0N 66.0W	19.0N 59.6W	15	L0	250	N	N	19910430	193029	139	273	38	23
85	18	PUERTO RICO	E. END, VIEQUES I., CLDS	18.1N 65.3W	17.5N 62.6W	30	L0	250	N	N	19910430	192352	137	271	44	39
151	207	PUERTO RICO	SAN JUAN, ROOSEVELT RDS.	18.5N 66.0W	17.6N 66.4W	35	L0	250	N	N	19910501	191604	137	263	52	55
71	80	QATAR	COAST-DOHA	25.5N 51.5E	25.4N 53.7E	0	L0	250	N	Y	19910428	120644	138	269	36	2
85	81	QATAR	SAND STORM, E. SIDE, GULF	25.5N 52.0E	27.5N 55.8E	0	L0	250	N	N	19910503	095913	137	197	61	81
151	111	QATAR	SMOKE PLUMES, BAHRAIN	26.0N 51.0E	24.0N 46.7E	10	H0	250	N	N	19910430	115406	138	264	46	34
81	0	E REPUBLIC SOUTH AFRICA	AGR, SALT PANS			15	L0	250	N	N						
81	0	F REPUBLIC SOUTH AFRICA	AGR, SALT PANS			15	L0	250	N	N						
81	0	G REPUBLIC SOUTH AFRICA	STORMBERG, KRAAL R.	31.2S 27.7E		10	L0	250	N	N						
95	0A	REPUBLIC SOUTH AFRICA	CAPE TOWN AREA	33.8S 18.7E	31.7S 17.6E	60	L0	100	N	N	19910505	143545	143	304	26	116
95	1	REPUBLIC SOUTH AFRICA	CAPE TOWN AREA, CIRRUS	33.7S 18.8E	32.2S 18.0E	60	L0	100	N	N	19910505	143552	143	304	25	116
95	2	REPUBLIC SOUTH AFRICA	CAPE TOWN AREA, CIRRUS	34.0S 18.7E	32.4S 18.2E	70	L0	100	N	N	19910505	143557	143	304	25	116
95	3	REPUBLIC SOUTH AFRICA	AREA NEAR WOLSELEY	33.4S 19.0E	32.9S 18.7E	60	L0	100	N	N	19910505	143606	143	304	25	116
95	4	REPUBLIC SOUTH AFRICA	AREA NEAR WOLSELEY	33.4S 19.0E	33.6S 19.4E	60	L0	100	N	N	19910505	143621	143	303	24	116
73	98	ROMANIA	CARPATHIAN MOUNTAINS		44.7N 24.1E	95	L0	250	N	Y	19910429	053903	144	93	23	14
73	99	ROMANIA	CARPATHIAN MOUNTAINS		45.2N 24.9E	95	L0	250	N	Y	19910429	053914	144	93	24	14
74	94	ROMANIA	CLOUDS-KIKINDA	46.0N 21.0E	47.9N 18.5E	90	L0	250	O	Y	19910506	093622	145	141	50	129
74	97	ROMANIA	CP NEAR CRAIOVA	44.5N 24.0E	46.5N 21.1E	20	L0	250	N	Y	19910506	093656	145	144	52	129
74	98	ROMANIA	DANUBE RIVER	44.0N 23.5E	46.4N 21.2E	20	L0	250	N	Y	19910506	093658	145	145	52	129
74	99	ROMANIA	DANUBE RIVER	44.0N 25.0E	46.2N 21.6E	40	L0	250	N	Y	19910506	093703	145	145	52	129
85	55	ROMANIA	DANUBE R., AGR.	44.0N 23.0E	43.9N 22.9E	10	NV	250	N	N	19910501	114006	141	201	56	50
151	125	SARDINIA	SW PORTION OF ISLAND	39.5N 8.5E	39.8N 9.3E	25	L0	250	N	N	19910430	131830	141	231	54	35
607	58	SARDINIA	SW COAST, OUT OF FOCUS	39.5N 8.5E	41.3N 7.5E	40	L0	100	N	N	19910430	131800	136	230	54	34
71	69	SAUDI ARABIA	PERSIAN G.-ALJUBAL-SMOKE	27.5N 50.0E	27.1N 52.4E	0	L0	250	N	N	19910428	120612	138	267	37	2
71	70	SAUDI ARABIA	KUWAIT SMOKE-CLOUDS		26.9N 52.6E	60	L0	250	N	N	19910428	120615	138	267	37	2
71	73	SAUDI ARABIA	PG CST-SMOKE-RAHIMAH	27.0N 50.0E	26.6N 52.8E	0	L0	250	N	Y	19910428	120621	138	267	37	2
71	74	SAUDI ARABIA	PG CST-SMOKE-AR RIYAS	27.0N 50.0E	26.3N 53.0E	0	L0	250	N	Y	19910428	120626	138	267	37	2
71	75	SAUDI ARABIA	PERSIAN G. CST-SMOKE	27.0N 49.5E	26.1N 53.2E	0	L0	250	N	Y	19910428	120630	138	268	37	2
71	79	SAUDI ARABIA	SAUDI COAST-KUWAIT SMOKE	26.5N 50.0E	25.5N 53.6E	0	L0	250	N	N	19910428	120641	138	268	36	2
72	69	SAUDI ARABIA	AB JABAYL, SMOKE PLUMES	27.0N 49.5E		5	L0	250	N	N						
81	16	SAUDI ARABIA	MAZHUR IRRIG PROJECT	27.5N 43.5E	28.0N 46.6E	0	L0	250	O	N	19910505	094834	143	196	69	113
85	57	SAUDI ARABIA	RESIDUAL LAVA RIDGE	27.4N 40.0E	26.8N 40.7E	0	NV	250	N	N	19910501	114549	138	250	55	50
85	58	SAUDI ARABIA	TUMAYQ IRRIG. PROJECT	19.9N 45.0E	19.5N 46.0E	0	L0	250	N	N	19910501	114804	137	264	51	50
85	59	SAUDI ARABIA	URUQ AZ ZAYZA	17.5N 47.3E		5	L0	250	N	N	19910501	114841	137	267	49	50

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADR		CC	TL	FL	F	S	DATE	GMT	AL	AZ	SUN EL	OR
				LAT	LONG	LAT	LONG											
87	18	SAUDI ARABIA	SALWAH BAY, G. BAHRAIN	25.5N	50.0E	25.5N	53.7E	40	L0	250	U	N	19910428	120651	138	268	36	2
87	19	SAUDI ARABIA	SALWAH BAY, SALARS, SMOKE	24.7N	50.7E	24.9N	54.1E	40	L0	250	U	Y	19910428	120702	138	269	36	2
87	20	SAUDI ARABIA	SALWAH BAY, SALARS, SMOKE	24.6N	50.7E	24.8N	54.2E	40	L0	250	U	Y	19910428	120704	138	269	36	2
87	27	SAUDI ARABIA	URUQ AS SARIT	21.5N	55.0E	21.9N	56.2E	0	L0	250	N	Y	19910428	120757	138	272	33	2
87	28	SAUDI ARABIA	URUQ AS SARIT-DARK	21.5N	55.0E	21.8N	56.4E	0	L0	250	U	Y	19910428	120800	138	272	33	2
87	29	SAUDI ARABIA	URUQ AS SARIT-VERY DARK	21.5N	55.0E	21.7N	56.4E	0	L0	250	U	Y	19910428	120801	138	272	33	2
90	15	SAUDI ARABIA	DARK FRAME			24.7N	50.1E	30	L0	250	N	N	19910429	120043	139	267	41	18
90	16	SAUDI ARABIA	DARK FRAME, SAND DUNES			20.0N	53.4E	10	L0	250	N	N	19910429	120210	139	273	37	18
90	17	SAUDI ARABIA	DARK FRAME, SAND DUNES			19.3N	53.9E	10	L0	250	N	N	19910429	120223	139	273	37	18
90	18	SAUDI ARABIA	EXTREMELY DARK FRAMES			18.5N	54.5E		L0	250	N	N	19910429	120238	139	274	36	18
90	19	SAUDI ARABIA	DK., SHAUAMIYA EAST AREA	17.9N	55.6E	16.5N	55.8E	40	L0	250	N	N	19910429	120314	138	276	34	18
90	20	SAUDI ARABIA	DK., JABAL SAMHAN AREA	17.0N	55.0E	16.1N	56.0E	20	L0	250	N	N	19910429	120320	138	276	34	18
151	109	SAUDI ARABIA	IRRIGATION FIELDS	28.0N	47.0E	26.0N	45.2E	65	L0	250	N	N	19910430	115328	139	261	48	34
151	110	SAUDI ARABIA	IRRIGATION FIELDS	27.5N	47.0E	25.5N	45.6E	60	L0	250	N	N	19910430	115338	139	262	47	34
151	112	SAUDI ARABIA	SMOKE PLUMES, BAHRAIN	25.0N	49.0E	23.2N	47.2E	20	H0	250	N	N	19910430	115420	138	265	46	34
151	113	SAUDI ARABIA	IRRIGATION FIELDS	24.0N	49.0E	22.3N	47.9E	5	L0	250	N	N	19910430	115437	138	267	45	34
151	114	SAUDI ARABIA	EMPTY QUARTER, DUNES			18.5N	50.5E	30	L0	250	N	N	19910430	115546	138	271	42	34
151	115	SAUDI ARABIA	EMPTY QUARTER, DUNES			17.5N	51.2E	40	L0	250	N	N	19910430	115605	138	273	42	34
601	53	SAUDI ARABIA	NAFUD DESERT, SMOKE PLS.	28.0N	46.0E	30.4N	45.7E	40	L0	100	N	N	19910429	115900	138	260	45	17
601	54	SAUDI ARABIA	TUWAYQ PLAIN, SMOKE PLS.	26.0N	47.0E	27.2N	48.2E	55	L0	100	N	N	19910429	120000	138	265	43	17
601	55	SAUDI ARABIA	CLOUDS, SMOKE PLUMES			27.2N	48.2E	65	H0	100	U	N	19910429	120000	138	265	43	17
601	56	SAUDI ARABIA	EMPTY QUARTER, HAZE	18.0N	52.0E	24.0N	50.7E	10	H0	100	N	N	19910429	120100	138	269	41	17
601	57	SAUDI ARABIA	EMPTY QUARTER, HAZE	17.0N	49.0E	24.0N	50.7E	10	H0	100	N	N	19910429	120100	138	269	41	17
601	58	SAUDI ARABIA	EMPTY QUARTER, HAZE	17.0N	52.0E	24.0N	50.7E	10	H0	100	N	N	19910429	120100	138	269	41	17
601	59	SAUDI ARABIA	EMPTY QUARTER, HAZE	16.0N	52.0E	20.8N	53.0E	10	H0	100	N	N	19910429	120200	138	272	38	17
601	60	SAUDI ARABIA	DISSECTED PLATEAU	15.0N	51.0E	20.8N	53.0E	10	H0	100	N	N	19910429	120200	138	272	38	17
607	26	SAUDI ARABIA	VIEW NE TOWARD KUWAIT	28.0N	48.0E	24.5N	46.4E	70	H0	100	N	N	19910430	115400	137	266	46	33
607	27	SAUDI ARABIA	AN NAFUD DES., IRRIGAT.			24.5N	46.4E	50	L0	100	N	N	19910430	115400	137	266	46	33
607	28	SAUDI ARABIA	VIEW EAST TOWARD QATAR	26.0N	51.0E	21.3N	48.7E	20	H0	100	N	N	19910430	115500	137	270	44	33
607	29	SAUDI ARABIA	VIEW EAST TOWARD QATAR	25.0N	51.0E	21.3N	48.7E	15	H0	100	N	N	19910430	115500	137	270	44	33
609	61	SAUDI ARABIA	IRRIGATION PLOTS			33.3N	42.0E	0	L0	250	N	N	19910505	094700	142	209	71	112
609	65	SAUDI ARABIA	IRRIGATION PLOTS			30.2N	44.8E	0	L0	250	N	N	19910505	094800	142	222	72	112
77	6	SEA OF KHOTSK	CLOUDS			55.2N	141.8E	95	L0	250	N	N	19910428	234548	145	125	38	10
84	29AJ	SEA OF KHOTSK	SEA ICE/FLOWS, SUNGLINT			0	L0	250	N	N	N							
84	29AK	SEA OF KHOTSK	SEA ICE/FLOWS			0	L0	250	N	Y								
84	29AL	SEA OF KHOTSK	SEA ICE/FLOWS			0	L0	250	N	Y								
84	29AM	SEA OF KHOTSK	SEA ICE/FLOWS			0	L0	250	N	N								
605	12	SEA OF KHOTSK	VIEW N., ICE FLOWS, COAST	57.0N	143.0E	54.0N	140.5E	55	H0	250	N	N	19910503	213800	139	93	22	88
605	15	SEA OF KHOTSK	ICE FLOW, W. COAST	56.0N	143.0E	57.1N	140.4E	50	H0	250	N	N	19910503	231100	139	116	34	89
605	16	SEA OF KHOTSK	ICE FLOW, AMUR R. DELTA	55.0N	143.0E	57.1N	147.5E	45	H0	250	N	N	19910503	231200	139	123	37	89

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	CENTER LON	MADIR LAT	MADIR LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
605	17	SEA OF OKHOTSK	ICE FLOW, CLOUDS	14.5N	17.5W	57.1N	147.5E	60	LO	250	N	N	19910503	231200	139	123	37	89
610	23	SENEGAL	DAKAR, INTERNAL WAVES	16.5N	16.7W	16.5W	16.5W	0	LO	250	N	N	19910430	162500	137	275	42	36
610	24	SENEGAL	LK. DE GUIERS, SENEGAL R	16.5N	16.7W	16.5W	16.5W	5	LO	250	N	N	19910430	162500	137	275	42	36
610	25	SENEGAL	SALOUM RI., KAOLACK	14.0N	16.5W	16.7N	16.5W	0	LO	250	N	N	19910430	162500	137	275	42	36
610	26	SENEGAL	SALOUM RI., MANGROVES	14.0N	16.5W	16.7N	16.5W	0	LO	250	N	Y	19910430	162500	137	275	42	36
80	80	SICILY	TRAPANI	38.0N	12.5E	38.4N	14.9E	40	LO	250	N	Y	19910429	132557	142	244	49	19
80	81	SICILY	TRAPANI	38.0N	12.5E	38.2N	15.2E	55	LO	250	N	Y	19910429	132602	142	244	49	19
80	82	SICILY	TRAPANI	37.5N	13.0E	38.1N	15.3E	55	LO	250	N	Y	19910429	132604	142	244	49	19
80	83	SICILY	CLOUDS-SOUTHERN COAST	37.5N	13.0E	38.0N	15.5E	70	LO	250	N	Y	19910429	132607	142	245	49	19
80	84	SICILY	CLOUDS-SOUTHERN COAST	37.5N	13.5E	37.8N	15.7E	75	LO	250	N	Y	19910429	132611	142	245	49	19
80	85	SICILY	SOUTHERN COAST-SED PLUME	36.5N	15.0E	36.4N	17.1E	30	LO	250	N	N	19910429	132638	141	248	48	19
151	19	SICILY	MT. ETNA, AEOLIAN IS.	38.5N	15.0E	37.0N	16.5E	55	LO	250	U	N	19910429	132623	141	247	48	19
602	9	SICILY	VIEW LOOKING WEST	38.0N	12.5E	41.1N	11.8E	60	HO	100	N	N	19910429	132500	138	238	51	18
602	10	SICILY	VIEW LOOKING WEST, MALTA	37.5N	13.5E	38.3N	15.2E	55	HO	100	N	N	19910429	132600	138	245	49	18
602	11	SICILY	VIEW LOOKING WEST	37.5N	15.0E	38.3N	15.2E	60	HO	100	N	N	19910429	132600	138	245	49	18
602	12	SICILY	VIEW LOOKING WEST	37.0N	15.0E	38.3N	15.2E	60	HO	100	N	N	19910429	132600	138	245	49	18
610	29	SIERRA LEONE	SHERBO IS., INT. WAVES	7.5N	13.5W	10.0N	12.4W	5	LO	250	N	N	19910430	162700	137	281	36	36
610	30	SIERRA LEONE	SHERBO IS., INT. WAVES	7.5N	13.5W	10.0N	12.4W	10	LO	250	N	Y	19910430	162700	137	281	36	36
86	69	SOCIETY ISLANDS	MAUPIITI	16.5S	152.2W	16.6S	152.0W	20	NV	250	N	N	19910430	030901	138	288	9	28
86	70	SOCIETY ISLANDS	BORA-BORA	16.5S	151.8W	17.1S	151.7W	20	NV	250	N	N	19910430	030909	138	288	8	28
86	71	SOCIETY ISLANDS	UTUROA	16.7S	151.5W	17.4S	151.4W	20	NV	250	N	N	19910430	030916	138	288	8	28
603	22	SOCIETY ISLANDS	BORA-BORA, UTUROA IS.	16.5S	151.5W	13.6S	153.9W	30	LO	100	N	N	19910430	030800	137	288	12	27
85	64	SOCOTRA	ENTIRE ISLAND-PERSP.DIST	12.5N	53.8E	12.5N	50.5E	15	LO	250	N	N	19910501	115011	136	273	46	50
607	30	SOCOTRA	ARABIAN SEA	12.5N	54.0E	14.6N	53.0E	55	LO	100	N	N	19910430	115700	137	277	39	33
607	31	SOCOTRA	ARABIAN SEA	13.0N	55.0E	14.6N	53.0E	45	LO	100	N	N	19910430	115700	137	277	39	33
85	65	SOMALIA	HAFUN PENINSULA	10.5N	51.2E	11.4N	51.1E	15	NV	250	N	Y	19910501	115030	136	275	45	50
85	66	SOMALIA	HAFUN PENINSULA	10.5N	51.2E	11.0N	51.4E	15	LO	250	N	Y	19910501	115037	136	275	45	50
85	67	SOMALIA	HAFUN PENINSULA	10.5N	51.2E	10.5N	51.7E	15	LO	250	N	Y	19910501	115046	136	276	44	50
90	80	SOMALIA	JUBA RIVER	1.0N	42.5E	1.1N	42.2E	70	LO	250	N	N	19910429	133725	138	285	22	19
90	81	SOMALIA	JUBA RIVER	1.0N	42.5E	.5N	42.6E	70	LO	250	N	N	19910429	133736	138	285	21	19
90	82	SOMALIA	BARAAWE AREA	1.0N	44.0E	.2S	43.0E	40	LO	250	N	N	19910429	133749	138	285	21	19
151	27A	SOMALIA	VERY DARK			3.1N	41.0E	40	LO	250	U	N	19910429	133651	138	284	24	19
151	28	SOMALIA	COAST, VERY DARK			.6S	43.2E	65	LO	250	N	N	19910429	133757	138	285	20	19
602	24	SOMALIA	SHUTTLE PAYLOAD BAY			2.7N	41.3E	60	NV	100	N	N	19910429	133700	138	285	24	18
602	25	SOMALIA	BENADIR COAST			2.7N	41.3E	65	HO	100	N	N	19910429	133700	138	285	24	18
93	44	SOUTH AMERICA	PANORAMA, SW.COAST			23.5S	80.1W	99	HO	250	N	N	19910505	203153	142	305	36	120
95	76	SOUTH AMERICA	PANORAMA, W.COAST,ANDES			25.1S	79.0W	50	HO	100	N	N	19910505	203217	142	305	34	120
95	77	SOUTH AMERICA	PANORAMA, W.COAST,ANDES			25.4S	78.7W	60	HO	100	N	N	19910505	203223	142	305	34	120
95	78	SOUTH AMERICA	PANORAMA, W.COAST,ANDES			26.5S	77.9W	50	HO	100	N	N	19910505	203244	142	305	32	120
95	79	SOUTH AMERICA	PANORAMA, CHILE,ANDES			27.0S	77.5W	50	HO	100	N	N	19910505	203254	142	305	32	120

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
95	80	SOUTH AMERICA	PANORAMA, CHILE, ANDES	28.3S 76.4W	80 HO 100 N	19910505	203319	142	305	30	120					
95	81	SOUTH AMERICA	PANORAMA, CHILE, ANDES	29.8S 75.2W	90 HO 100 N	19910505	203347	143	305	28	120					
151	208	SOUTH AMERICA	DEFOREST., BRAZIL, GUYANA	4.3N 58.3W	55 LO 250 N	19910501	192001	136	280	42	55					
74	2	SOUTH CHINA SEA	SULOYS	17.9N 117.8E	0 LO 250 N	19910506	051727	142	243	75	126					
74	3	SOUTH CHINA SEA	LINEAR FEATURE-SUNGLINT	17.2N 118.2E	5 LO 250 N	19910506	051740	142	246	75	126					
74	4	SOUTH CHINA SEA	LINEAR FEAT. -SUNGLINT	16.8N 118.5E	0 LO 250 N	19910506	051748	142	248	75	126					
80	31	SOUTH CHINA SEA	NEAR COAST OF MALAY PEN.	2.9N 109.5E	50 HO 50 N	19910429	090810	138	284	22	16					
80	32	SOUTH CHINA SEA	EAST OF MALAY PEN.	.1S 111.2E	60 HO 50 N	19910429	090903	138	285	20	16					
84	43	SOUTH CHINA SEA	SHIP WAKES	10.8N 112.5E	40 LO 250 N	19910503	070523	135	251	62	79					
84	44	SOUTH CHINA SEA	OCEAN STRUCTURE	10.2N 112.9E	35 LO 250 N	19910503	070533	135	252	61	79					
79	27	SOUTH KOREA	DMZ-NORTH, SOUTH KOREA	38.5N 128.5E	38.4N 128.8E	10 NV 250 N	19910429	055800	142	245	48	14				
79	28	SOUTH KOREA	NEAR SAMCHEOG-COAST	37.5N 129.0E	37.4N 129.9E	55 NV 250 N	19910429	055821	142	248	47	14				
79	29	SOUTH KOREA	NAKTONG RIVER	36.0N 128.5E	36.5N 130.8E	70 LO 250 N	19910429	055839	141	249	47	14				
86	80	SOUTH KOREA	AREA SW OF SEOUL	37.0N 126.5E	36.5N 126.9E	50 LO 250 N	19910430	055159	141	243	51	30				
86	81	SOUTH KOREA	SW S. KOREA, SUNGLINT	34.6N 126.5E	35.1N 128.3E	0 LO 250 N	19910430	055227	140	246	51	30				
87	55	SOUTH KOREA	MOUNTAINS	37.1N 128.2E	37.1N 128.2E	30 LO 250 N	19910428	20827	143	84	17	9				
75	3	SPAIN	ST. OF GIBRALTAR	36.0N 5.5W	35.8N .9W	25 LO 250 N	19910428	150245	142	253	44	4				
79	43	SPAIN	GIBRALTAR	36.0N 5.5W	37.2N 8.2W	20 LO 250 N	19910429	070607	143	83	15	15				
79	44	SPAIN	HUELVA-ATLANTIC COAST	37.0N 7.0W	37.9N 7.5W	0 LO 250 U	19910429	070621	143	84	16	15				
79	45	SPAIN	HUELVA-ATLANTIC COAST	37.0N 7.0W	38.1N 7.2W	6 LO 250 U	19910429	070625	143	84	16	15				
79	46	SPAIN	CARPETOVETONICA MNTS.	40.5N 5.0W	40.6N 4.3W	0 NV 250 U	19910429	070716	143	87	19	15				
79	47	SPAIN	CUERDA DEL POZO RES.	42.0N 3.0W	42.1N 2.4W	0 NV 250 U	19910429	070748	143	89	20	15				
79	48	SPAIN	CUERDA DEL POZO RES.	41.5N 2.5W	42.2N 2.2W	0 NV 250 U	19910429	070752	143	89	20	15				
79	49	SPAIN	YESA RESERVOIR	42.5N 1.0W	43.1N 1.0W	0 NV 250 U	19910429	070810	144	90	21	15				
83	8	SPAIN	CADIZ, ROTA, SHTL L. FLD	36.5N 6.2W	36.6N 5.8W	15 NV 250 N	19910429	145610	141	247	48	20				
83	9	SPAIN	CADIZ, HARBOR, COAST	36.4N 6.0W	36.1N 5.2W	5 NV 250 N	19910429	145621	141	248	48	20				
83	10	SPAIN	STR./GIBRALTAR, CEUTA	36.1N 5.5W	35.9N 5.0W	15 NV 250 N	19910429	145625	141	249	48	20				
83	11	SPAIN	STR./GIBRALTAR, CEUTA	36.1N 5.4W	35.7N 4.8W	15 NV 250 N	19910429	145629	141	249	48	20				
83	15	SPAIN	STR, CEUTA, GIBRALTAR, CSTS	36.0N 5.5W	34.4N 3.6W	15 LO 250 N	19910429	145654	141	252	47	20				
90	88	SPAIN	AREA JUST N. OF ROTA	37.0N 6.0W	36.5N 5.6W	10 LO 250 N	19910429	145609	141	248	48	20				
90	89	SPAIN	SAN FERNANDO, ROTA AREA	36.8N 6.2W	36.2N 5.3W	20 LO 250 N	19910429	145615	141	248	48	20				
90	90	SPAIN	STRAIT OF GIBRALTAR	36.0N 5.5W	35.7N 4.8W	20 LO 250 N	19910429	145625	141	249	48	20				
90	91	SPAIN	STRAIT OF GIBRALTAR	36.0N 5.5W	35.3N 4.4W	10 LO 250 N	19910429	145633	141	250	48	20				
90	92	SPAIN	STRAIT OF GIBRALTAR	36.0N 5.4W	34.6N 3.8W	20 LO 250 N	19910429	145645	141	251	47	20				
151	31	SPAIN	G. OF CADIZ, MORENA MTS.	38.0N 7.0W	34.8N 4.0W	25 HO 250 N	19910429	145643	141	251	48	20				
151	32	SPAIN	STRAIT OF GIBRALTER	38.0N 6.0W	33.9N 3.1W	25 HO 250 N	19910429	145701	141	253	47	20				
151	33	SPAIN	STRAIT OF GIBRALTER	37.0N 5.0W	33.2N 2.4W	25 HO 250 N	19910429	145714	141	254	47	20				
151	123	SPAIN	G. OF LYONS, CAPE CREUS	42.0N 4.0E	43.4N 4.7E	15 LO 250 N	19910430	131714	141	220	54	35				
151	124	SPAIN	G. OF LYONS, CAPE CREUS	42.0N 4.0E	43.0N 5.2E	15 LO 250 N	19910430	131722	141	221	54	35				
151	193	SPAIN	STRAIT OF GIBRALTAR	36.5N 4.5W	34.0N 11.0W	15 HO 250 N	19910501	144227	139	230	57	52				

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	DR
				LAT	LONG	LAT	LONG											
151	193A	SPAIN	STRAIT OF GIBALTAR	37.0N	3.0W	33.7N	10.7W	20	HO	250	N	N	19910501	144234	139	231	57	52
151	194	SPAIN	ALBORAN SEA, BAETIC MTS.	37.0N	2.0W	33.1N	10.1W	15	HO	250	N	N	19910501	144246	139	232	57	52
151	225	SPAIN	VIEW S. TOWARDS AFRICA			41.0N	.4E	50	HO	250	O	N	19910502	130219	140	184	56	67
607	53	SPAIN	E. PYRENEES, OUT OF FOCUS	42.0N	2.0E	44.0N	3.8E	50	LO	100	N	N	19910430	131700	136	222	55	34
607	54	SPAIN	E. PYRENEES, OUT OF FOCUS	42.0N	3.0E	44.0N	3.8E	45	LO	100	N	N	19910430	131700	136	222	55	34
608	43	SPAIN	DUERO RIVER VALLEY			42.0N	0.7W	60	LO	250	N	N	19910502	130200	135	211	60	66
89	118	SRI LANKA	PUTTALAN AREA	8.2N	79.8E	6.3N	80.7E	80	LO	250	N	N	19910430	102953	137	282	32	33
89	119	SRI LANKA	AREA S. OF COLOMBO, CLDY	6.3N	80.0E	6.0N	80.9E	70	LO	250	N	N	19910430	102959	137	282	32	33
89	120	SRI LANKA	GALLE AREA, CLOUDY	6.3N	80.3E	5.7N	81.1E	80	LO	250	N	N	19910430	103004	137	283	32	33
89	121	SRI LANKA	AREA. E. OF MATARA	6.0N	80.8E	5.4N	81.2E	60	LO	250	N	N	19910430	103009	137	283	31	33
89	122	SRI LANKA	AREA AROUND TANGALLA	6.0N	81.0E	5.1N	81.4E	20	LO	250	N	N	19910430	103014	137	283	31	33
151	151	SRI LANKA	SW LOOKING OBLIQUE VIEW	7.0N	81.0E	5.4N	85.2E	35	HO	90	N	N	19910429	103657	138	283	25	17
151	72	SRI LANKA	PALK BAY, JAFFNA LAGOON	9.5N	80.5E	9.7N	78.7E	25	LO	250	N	Y	19910430	102852	137	280	35	33
151	74	SRI LANKA	NORTHERN THIRD OF ISLAND	9.0N	80.5E	9.0N	79.1E	15	LO	250	N	N	19910430	102904	137	280	34	33
151	75	SRI LANKA	W. HALF OF ISLAND	8.0N	80.5E	8.7N	79.3E	30	LO	250	N	N	19910430	102910	137	281	34	33
151	76	SRI LANKA	CENTRAL MOUNTAINS	7.5N	81.0E	8.2N	79.6E	60	LO	250	N	Y	19910430	102918	137	281	34	33
151	77	SRI LANKA	SE PORTION OF ISLAND	7.0N	81.5E	7.8N	79.8E	50	LO	250	N	Y	19910430	102925	137	281	33	33
151	78	SRI LANKA	S. PORTION OF ISLAND	6.5N	81.0E	7.2N	80.2E	40	LO	250	N	N	19910430	102936	137	282	33	33
151	79	SRI LANKA	E. COASTAL AREA	7.0N	82.0E	6.9N	80.4E	15	LO	250	N	N	19910430	102942	137	282	33	33
151	80	SRI LANKA	SE COASTAL AREA	6.5N	81.5E	6.7N	80.5E	10	LO	250	N	Y	19910430	102945	137	282	33	33
151	81	SRI LANKA	SE COASTAL AREA	6.5N	82.5E	6.5N	80.6E	30	LO	250	N	N	19910430	102949	137	282	32	33
601	38	SRI LANKA	PALK STRAIT	9.0N	80.0E	12.1N	81.3E	50	HO	100	N	N	19910429	103500	138	280	31	16
601	39	SRI LANKA	PALK STRAIT	8.5N	80.5E	8.7N	83.3E	60	HO	100	N	N	19910429	103600	138	282	28	16
601	41	SRI LANKA	GULF OF MANNAR, CLOUDS	6.5N	81.0E	8.7N	83.3E	55	HO	100	N	N	19910429	103600	138	282	28	16
24	26	SUDAN	WHITE NILE	12.0N	33.0E			50	LO	35	O	Y						
24	27	SUDAN	WHITE NILE	12.0N	32.5E			35	LO	35	O	Y						
24	28	SUDAN	WHITE NILE, VERY DARK	11.0N	33.0E			70	LO	35	U							
81	25	SUDAN	BLUE NILE, EL GEZIRA IRR.	14.5N	33.5E	12.6N	34.4E	0	LO	250	O	N	19910505	112257	141	258	70	114
90	63	SUDAN	WADI HALFA, NILE RIVER	21.6N	31.0E	19.3N	31.2E	0	LO	250	N	N	19910429	133159	139	273	37	19
90	64	SUDAN	NILE RIVER, S. WADI HALFA	21.4N	30.8E	18.2N	31.9E	0	LO	250	N	N	19910429	133219	139	274	36	19
90	65	SUDAN	NILE RIVER			17.9N	32.1E	0	LO	250	N	N	19910429	133225	139	275	36	19
90	66	SUDAN	NILE RIVER			17.4N	32.4E	0	LO	250	N	N	19910429	133233	139	275	36	19
90	67	SUDAN	LONGITUDINAL DUNES			16.3N	33.1E	0	LO	250	N	N	19910429	133253	138	276	35	19
90	68	SUDAN	WADI AWATIB, NILE RIVER	16.5N	33.1E	15.8N	33.4E	0	LO	250	N	N	19910429	133302	138	276	34	19
90	69	SUDAN	FIELD PATTERNS, S. KHARTOM	14.0N	34.0E	14.5N	34.3E	0	LO	250	N	N	19910429	133326	138	277	33	19
90	70	SUDAN	FIELD PATTERNS, S. KHARTOM	14.0N	34.0E	14.1N	34.5E	0	LO	250	N	N	19910429	133332	138	278	33	19
96	32	SUDAN	DUST, CLOUDS			10.8N	25.1E	30	LO	100	N	N	19910502	131149	135	265	55	67
96	33	SUDAN	DUST, CLOUDS			10.4N	25.4E	50	LO	100	N	N	19910502	131157	135	266	55	67
96	34	SUDAN	DUST, CLOUDS			9.9N	25.7E	50	LO	100	N	N	19910502	131205	135	267	54	67
96	35	SUDAN	DUST, CLOUDS, HAZE			9.0N	26.2E	70	LO	100	N	N	19910502	131221	135	268	54	67

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
96	36	SUDAN	CLOUDS,HAZE		8.8N 26.3E	80	LO	100	N	N	19910502	131225	135	269	53	67
96	37	SUDAN	CLOUDS,HAZE,DARK FRAME		8.4N 26.6E	50	LO	100	N	N	19910502	131232	135	269	53	67
96	38	SUDAN	CLOUDS		8.0N 26.8E	90	LO	100	N	N	19910502	131239	135	270	53	67
96	39	SUDAN	CLOUDS		7.6N 27.0E	100	LO	100	N	N	19910502	131246	135	271	53	67
96	40	SUDAN	CLOUDS		7.3N 27.2E	95	LO	100	N	N	19910502	131252	135	271	52	67
151	23	SUDAN	NILE RIVER, L. NASSER	21.0N 30.0E	19.7N 30.9E	5	LO	250	N	N	19910429	133153	139	273	37	19
151	23A	SUDAN	NILE RIVER, NUBIAN DES.	19.5N 31.5E	18.4N 31.8E	5	LO	250	N	N	19910429	133217	139	274	37	19
151	23B	SUDAN	NILE R., BAYUDA IMP. CR.	18.0N 32.0E	16.5N 33.0E	10	LO	250	N	N	19910429	133251	139	276	35	19
151	24	SUDAN	KHARTOUM, NILE RIVER	15.5N 32.5E	15.0N 34.0E	15	LO	250	N	N	19910429	133318	138	277	34	19
151	25	SUDAN	SUDAN AGRICULTURE REGION	14.0N 33.0E	13.8N 34.7E	25	LO	250	N	N	19910429	133339	138	278	33	19
151	134	SUDAN	DUST STORM, UWAYNAT MTN.	22.5N 25.0E	22.0N 25.3E	0	LO	250	N	N	19910430	132415	138	267	45	35
151	134A	SUDAN	DUST STORM, UWAYNAT MTN.	22.0N 25.0E		0	LO	250	N	N						
151	135	SUDAN	DUST STORM, KISSU MTN.	20.5N 25.0E	20.8N 26.2E	5	LO	250	N	N	19910430	132437	138	268	45	35
151	136	SUDAN	JEBEL ABYAD PLATEAU	18.0N 26.0E	18.9N 27.5E	0	LO	250	N	N	19910430	132512	138	271	43	35
602	20	SUDAN	E. SAHARA DESERT		26.0N 26.5E	40	LO	100	N	N	19910429	133000	138	266	42	18
602	21	SUDAN	NILE R., L. NASSER	21.0N 30.0E	22.7N 28.9E	15	HO	100	N	N	19910429	133100	138	270	40	18
604	27	SUDAN	THUNDERSTORMS		7.9N 30.5E	100	NV	250	N	N	19910501	132100	136	283	39	50
607	71	SUDAN	NILE RIVER, OUT OF FOCUS	20.0N 30.0E	19.7N 27.0E	5	HO	100	N	N	19910430	132500	137	272	43	34
607	72	SUDAN	NILE RIVER, OUT OF FOCUS	19.0N 31.0E	16.4N 29.2E	0	HO	100	N	N	19910430	132600	137	276	41	34
87	94	SWEDEN	GOTEBORG,COAST,KATTEGAT	57.5N 12.0E	57.2N 7.9E	25	LO	250	N	N	19910429	101648	145	155	45	17
87	95	SWEDEN	COAST,KATTEGAT	58.1N 11.8E	57.2N 8.5E	20	LO	250	N	N	19910429	101653	145	156	45	17
87	96	SWEDEN	DALBO LAKE-KINNE BAY	58.5N 13.5E	57.2N 9.7E	50	LO	250	N	N	19910429	101703	145	158	45	17
87	97	SWEDEN	VATTEN L-SOUTH END	57.7N 14.3E	57.1N 10.4E	40	LO	250	N	N	19910429	101709	145	159	46	17
87	98	SWEDEN	VAXJO, LAKES, AGR.	57.1N 14.6E	57.1N 11.0E	30	LO	250	N	N	19910429	101714	145	160	46	17
87	99	SWEDEN	GOTLAND I,(SO.HALF)	57.3N 18.5E	57.0N 12.1E	30	LO	250	N	N	19910429	101724	145	161	46	17
87	100	SWEDEN	OLAND I,KALMAR & STRAIT	56.7N 16.5E	57.0N 13.1E	30	LO	250	N	N	19910429	101732	145	162	46	17
87	101	SWEDEN	GOTLAND I-SO. END,	57.0N 18.3E	56.7N 15.5E	5	LO	250	U	N	19910429	101753	145	166	47	17
87	102	SWEDEN	GOTLAND I-MID SECT.	57.3N 18.5E	56.7N 15.9E	20	LO	250	U	N	19910429	101757	145	167	47	17
151	2	SWEDEN	SKAGERRAK, L. DALBOSJON	58.0N 11.0E	57.2N 9.7E	55	LO	90	N	N	19910429	101658	145	158	45	17
151	2A	SWEDEN	SKAGERRAK/KATTEGAT	57.5N 12.0E	57.1N 11.2E	35	LO	90	N	N	19910429	101712	145	161	46	17
151	3	SWEDEN	BALTIC SEA, OLAND ISLAND	57.0N 18.0E	56.9N 13.4E	30	HO	90	N	N	19910429	101730	145	163	46	17
151	4	SWEDEN	BALTIC SEA, OLAND ISLAND	57.0N 18.0E	56.8N 15.1E	25	LO	90	N	N	19910429	101745	145	165	47	17
151	5	SWEDEN	BALTIC SEA, GOTLAND IS.	57.5N 19.0E	56.7N 15.9E	40	LO	90	N	Y	19910429	101752	145	167	47	17
603	40	SWEDEN	GOTLAND IS., BALTIC SEA	57.5N 18.5E	56.6N 11.4E	55	HO	100	N	N	19910430	101100	137	158	47	32
81	1	SYRIA	EUPHRATES R,AGR,HAZY	34.5N 41.0E	35.3N 40.0E	50	LO	250	N	N	19910505	094612	144	174	63	113
151	105	SYRIA	EUPHRATES RIVER VALLEY	36.0N 38.5E	34.4N 38.0E	50	LO	250	N	N	19910430	115048	140	245	52	34
151	108	SYRIA	EUPHRATES RIVER VALLEY	36.0N 38.5E	34.0N 38.4E	55	LO	250	N	Y	19910430	115056	140	246	52	34
609	47	SYRIA	EUPHRATES RIVER BASIN	36.5N 38.0E	39.2N 35.9E	30	LO	250	N	N	19910505	094500	141	187	67	112
609	48	SYRIA	EUPHRATES RIVER BASIN	36.5N 38.5E	36.3N 39.0E	30	LO	250	N	Y	19910505	094600	141	197	69	112
84	29	N TANZANIA	LAKE VICTORIA-SW COAST	1.7S 31.9E		85	LO	250	N	N						

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR	
				LAT	LO	LAT	LO													
84	29 P	TANZANIA	L.VICTORIA-KOME I,S,CST	2.4S	32.4E			60	L0	250	N	N								
84	29 Q	TANZANIA	L.VICTORIA-S.CST,CLOUDY	2.7S	32.5E			80	L0	250	N	N								
84	29 R	TANZANIA	AGRICULTURE, CLOUDS					70	L0	250	N	N								
84	29 S	TANZANIA	AGR, CLOUDY					70	L0	250	N	Y								
84	29 T	TANZANIA	AGR, CLOUDY					85	L0	250	N	Y								
84	29 U	TANZANIA	AGR, CLOUDY					75	L0	250	N	N								
84	29 V	TANZANIA	MBARIKA MTNS.	9.0S	36.5E			50	L0	250	N	Y								
84	29 W	TANZANIA	LWEGU R,MBARIKA MTNS.	9.5S	36.6E			50	L0	250	N	Y								
84	29 X	TANZANIA	LWEGU R,MBARANGANDU R.	9.7S	36.7E			70	L0	250	N	Y								
84	29 Y	TANZANIA	NJENJE R, AGR.	10.2S	37.0E			40	L0	250	N	Y								
84	29 Z	TANZANIA	MUHUESI R,NJENJE R,AGR.	10.5S	37.2E			15	L0	250	N	Y								
84	29AA	TANZANIA	MUHUESI R/BASIN	10.8S	37.5E			10	L0	250	N	Y								
84	29AB	TANZANIA	MUHUESI R/BASIN, AGR.	11.2S	37.5E			15	L0	250	N	Y								
96	45	TANZANIA	S.LK VICTORIA NR.MWANZA	2.5S	32.5E	2.3S	32.7E	40	L0	100	N	N	19910502	131542	135	283	45	67		
96	46	TANZANIA	CLOUDY			2.7S	33.0E	85	L0	100	N	N	19910502	131550	135	283	44	67		
96	47	TANZANIA	CLOUDY,SHADOWS,HAZY			3.2S	33.3E	80	L0	100	N	N	19910502	131558	135	283	44	67		
96	48	TANZANIA	CLOUDY,SHADOWS,HAZY			3.6S	33.5E	85	L0	100	N	N	19910502	131605	135	284	44	67		
96	49	TANZANIA	CLOUDY,SHADOWS,HAZY			3.9S	33.7E	90	L0	100	N	N	19910502	131611	135	284	43	67		
96	50	TANZANIA	CLOUDY,SHADOWS,HAZY			4.3S	33.9E	80	L0	100	N	N	19910502	131617	135	284	43	67		
96	52	TANZANIA	MTNS.TERRAIN			8.9S	36.6E	50	L0	100	N	N	19910502	131740	135	288	39	67		
96	53	TANZANIA	MTNS.TERRAIN	10.0S	37.0E	9.2S	36.8E	40	L0	100	N	N	19910502	131745	135	288	39	67		
96	54	TANZANIA	MBARANGANDU RIVER AREA	10.0S	37.0E	9.5S	36.9E	60	L0	100	N	N	19910502	131750	135	288	38	67		
96	55	TANZANIA	NJENJE RIVER AREA	10.0S	37.0E	9.9S	37.2E	60	L0	100	N	N	19910502	131757	135	288	38	67		
96	56	TANZANIA	NJENJE RIVER AREA	10.0S	37.0E	10.1S	37.3E	20	L0	100	N	N	19910502	131802	135	288	38	67		
96	57	TANZANIA	MUHUESI DRAINAGE BASIN	11.0S	37.5E	10.5S	37.6E	15	L0	100	N	N	19910502	131809	135	289	37	67		
96	58	TANZANIA	MUHUESI DRAINAGE BASIN	11.0S	38.0E	10.9S	37.8E	15	L0	100	N	N	19910502	131816	135	289	37	67		
96	59	TANZANIA	RUJUMA R. AND DRAINAGE	11.0S	38.0E	11.2S	38.0E	20	L0	100	N	N	19910502	131822	135	289	37	67		
96	60	TANZANIA	DARK FRAME	11.0S	38.0E	11.6S	38.2E	30	L0	100	N	N	19910502	131828	135	289	36	67		
609	23	TASMAN SEA	CLOUDS/THUNDERSTORMS			32.7S	154.9E	90	H0	250	N	N	19910505	053800	141	300	15	109		
609	24	TASMAN SEA	CLOUDS, VERY DARK			38.7S	161.0E	60	L0	250	U	N	19910505	054000	140	297	7	109		
609	25	TASMAN SEA	CLOUDS, VERY DARK			38.7S	161.0E	60	L0	250	U	N	19910505	054000	140	297	7	109		
80	24	THAILAND	BIGHT OF BANGKOK	13.0N	100.0E	13.7N	103.0E	60	H0	50	N	Y	19910429	090456	138	278	32	16		
80	27	THAILAND	MALAY PENINSULA-SUNGLINT	9.5N	100.0E	9.4N	105.6E	50	H0	50	N	Y	19910429	090613	138	281	28	16		
80	28	THAILAND	MALAY PENINSULA-SUNGLINT	9.5N	100.5E	8.4N	106.2E	50	H0	50	N	Y	19910429	090631	138	281	27	16		
80	29	THAILAND	MALAY PENINSULA-SUNGLINT	8.0N	101.5E	7.5N	106.8E	50	H0	50	U	Y	19910429	090648	138	282	26	16		
88	86	THAILAND	NEAR CHIANG MAI	18.5N	99.0E			35	NV	250	U	N								
88	87	THAILAND	KAN NIM RESERVOIR	17.0N	99.0E			25	NV	250	U	N								
88	88	THAILAND	NAM PING RIVER, TAK	17.0N	99.0E			35	NV	250	U	N								
88	91	THAILAND	AREA NORTH OF BANGKOK	14.5N	100.5E			30	L0	250	U	N								
88	92	THAILAND	AREA NORTH OF BANGKOK	14.5N	100.5E			40	NV	250	U	N								

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC TL FL E S	DATE	GMT	AL	AZ	SUN EL OR
88	93	THAILAND	BANGKOK	14.0N 100.5E		40 NV 250 U N					
88	94	THAILAND	BANGKOK	14.0N 100.5E		60 NV 250 U N					
88	97	THAILAND	AREA WEST OF BANGKOK	14.0N 99.5E		50 LO 250 U N					
88	98	THAILAND	AREA WEST OF BANGKOK	13.5N 99.5E		50 LO 250 U N					
88	99	THAILAND	BIGHT OF BANGKOK	13.0N 100.0E		75 LO 250 U N					
88	100	THAILAND	CLOUDS			90 LO 250 U N					
88	101	THAILAND	CLOUDS			80 LO 250 U N					
94	98	THAILAND	BIGHT OF BANGKOK	13.4N 100.1E 13.7N 102.1E		60 LO 100 N	19910505	065339	141	252	70 111
94	99	THAILAND	BIGHT OF BANGKOK	13.3N 99.9E 13.4N 102.3E		70 LO 100 N	19910505	065345	141	253	70 111
94	100	THAILAND	BIGHT OF BANGKOK	13.0N 100.0E 13.0N 102.5E		70 LO 100 N	19910505	065352	141	254	70 111
151	48	THAILAND	BANGKOK, BIGHT OF BANGKOK	13.5N 101.0E 13.7N 99.0E		30 LO 250 N	19910430	085606	138	277	38 32
151	48A	THAILAND	BIGHT OF BANGKOK	13.5N 100.5E		30 LO 250 N Y					
151	49	THAILAND	BIGHT OF BANGKOK	12.5N 101.0E 12.3N 99.9E		20 LO 250 N Y	19910430	085832	137	278	37 32
603	30	THAILAND	BIGHT OF BANGKOK	13.0N 101.0E 14.2N 98.8E		55 HO 100 N	19910430	085800	137	278	38 31
603	31	THAILAND	BIGHT OF BANGKOK	13.0N 102.0E 14.2N 98.8E		60 HO 100 N	19910430	085800	137	278	38 31
603	32	THAILAND	BIGHT OF BANGKOK	7.0N 103.0E 7.5N 102.8E		30 HO 100 N	19910430	090000	137	283	32 31
73	70	TUAMOTU ARCHIPELAGO	MALAY PEN., THAILAND G.	15.0S 147.5W 14.0S 149.6W		15 LO 250 N	19910429	031442	139	286	6 12
73	71	TUAMOTU ARCHIPELAGO	MATAIVA	15.0S 148.5W 15.0S 148.9W		20 NV 250 U N	19910429	031500	139	286	5 12
73	92	TUNISIA	SABKHA MELAH	33.5N 11.0E 34.1N 11.4E		40 NV 250 N	19910429	053521	142	81	12 14
151	126	TUNISIA	G. OF TUNIS, CAPE BON	37.0N 10.5E 37.6N 11.9E		40 LO 250 N	19910430	131916	140	237	53 35
151	127	TUNISIA	G. OF TUNIS, CAPE BON	36.5N 11.0E 37.3N 12.2E		40 LO 250 N	19910430	131922	140	237	53 35
151	128	TUNISIA	QARQANNAH IS., GABES G.	35.0N 11.5E 35.5N 14.1E		15 LO 250 N	19910430	131958	140	242	53 35
151	225B	TUNISIA	TELL ATLAS MNTS., COAST	36.5N 8.5E 39.4N 2.4E		50 HO 250 O N	19910502	130255	140	189	57 67
151	228A	TUNISIA	DJERID LAKE, EASTERN ERG	34.0N 8.5E 37.1N 5.0E		30 LO 250 O N	19910502	130342	139	197	58 67
151	228B	TUNISIA	GRAND ERG EASTERN	32.5N 9.0E 36.5N 5.6E		60 LO 250 O N	19910502	130353	139	198	59 67
151	229	TUNISIA	GRAND ERG EASTERN	31.5N 10.0E 36.0N 6.2E		80 LO 250 O N	19910502	130404	139	200	59 67
604	24	TUNISIA	QARQANNAH ISLANDS	34.5N 11.5E 37.0N 8.9E		0 LO 250 N	19910501	131200	135	236	57 50
607	59	TUNISIA	TUNIS, OUT OF FOCUS	37.0N 11.0E 38.5N 11.0E		20 LO 100 N	19910430	131900	136	238	54 34
607	60	TUNISIA	G. OF GABES, OUT OF FOCUS	35.0N 11.0E 38.5N 11.0E		20 LO 100 N	19910430	131900	136	238	54 34
607	61	TUNISIA	G. OF GABES, OUT OF FOCUS	33.0N 11.0E 38.5N 11.0E		15 LO 100 N	19910430	131900	136	238	54 34
608	46	TUNISIA	NE ERG ORIENTAL	32.5N 10.0E 33.2N 9.0E		0 NV 250 N	19910502	130500	135	239	61 66
24	1	TURKEY	EUPHRATES RIVER BASIN	37.5N 38.0E		60 LO 35 N N					
24	2	TURKEY	EUPHRATES RIVER BASIN	37.5N 38.5E		70 LO 35 N N					
71	27	TURKEY	VALLEYS, RIVERS, HAZE	41.1N 38.7E		70 LO 250 N	19910428	120133	132	243	46 2
71	28	TURKEY	HARSIL RIVER, MOUNTAIN	40.0N 39.5E 40.0N 40.1E		35 NV 250 N Y	19910428	120157	133	245	45 2
71	29	TURKEY	DOGU KARADENIZ MNTS. -CST	41.0N 39.5E 39.7N 40.3E		5 LO 250 N Y	19910428	120202	133	246	45 2
71	30	TURKEY	DOGU KARADENIZ MNTS. -CST	41.0N 41.0E 39.3N 40.9E		0 LO 250 N	19910428	120211	133	247	45 2
71	31	TURKEY	BATUMI -SED. PLUME	41.5N 41.5E 38.9N 41.3E		5 LO 250 N	19910428	120219	133	248	45 2
71	32	TURKEY	LAKE, MNTS. NE OF L. VAN	39.0N 42.0E 37.8N 42.6E		20 LO 250 N Y	19910428	120242	134	250	44 2
71	33	TURKEY	CALDERA, TATVAN, L. VAN	38.5N 42.0E 37.3N 43.0E		0 LO 250 N Y	19910428	120251	134	251	44 2

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
73	78	TURKEY	COAST-ABAL AN NUSAYRIYAH	36.0N	36.0E	35.9N	35.9E	90	NV	250	N	N	19910429	040619	143	82	14	13
73	81	TURKEY	LAKE VAN	38.5N	43.0E	38.7N	39.0E	40	LO	250	O	N	19910429	040717	143	85	17	13
84	51	TURKEY	TRABZON,CST,EDDIES,SGLT	41.3N	40.0E	42.3N	40.7E	0	LO	250	N	N	19910503	095417	139	154	49	81
84	53	TURKEY	VAN LAKE, WEST END	38.6N	42.6E	39.6N	44.1E	35	LO	250	N	N	19910503	095513	139	162	52	81
151	99	TURKEY	ZONGULDAK, BLACK SEA	41.0N	31.5E	41.1N	30.6E	60	LO	250	N	N	19910430	114831	141	228	54	34
151	100	TURKEY	NEAR ANKARA, BLACK SEA	40.5N	32.5E	40.8N	30.9E	50	LO	250	N	Y	19910430	114837	141	229	54	34
151	101	TURKEY	KONYA PLAIN, TUZ LAKE	39.0N	33.5E	39.9N	32.0E	10	NV	250	N	Y	19910430	114855	141	231	54	34
151	102	TURKEY	KONYA PLAIN, TUZ LAKE	39.0N	33.5E	39.6N	32.4E	10	NV	250	U	Y	19910430	114903	141	232	53	34
151	103	TURKEY	KONYA PLAIN, TUZ LAKE	38.5N	34.0E	38.9N	33.2E	10	NV	250	N	Y	19910430	114917	141	234	53	34
151	104	TURKEY	G. OF ALEXANDRIA, NUR MT	36.5N	36.0E	36.9N	35.4E	20	LO	250	N	N	19910430	114957	140	239	53	34
604	3	TURKEY	DARDANELLES	40.5N	27.0E	41.2N	26.6E	25	LO	250	N	N	19910501	114100	136	224	57	49
606	37	TURKEY	LAKE VAN	39.0N	43.5E			30	LO	100	N	N						
607	17	TURKEY	PONTIC MTNS.			39.9N	32.1E	70	LO	100	N	N	19910430	114900	137	235	54	33
607	18	TURKEY	PONTIC MTNS., L. AKSEHIR	39.5N	31.0E	39.9N	32.1E	60	LO	100	N	N	19910430	114900	137	235	54	33
607	19	TURKEY	KONYA PL., TUZ LAKE	39.0N	33.0E	39.9N	32.1E	30	LO	100	N	N	19910430	114900	137	235	54	33
607	20	TURKEY	KONYA PL., TUZ LAKE	38.0N	32.0E	39.9N	32.1E	35	HO	100	N	N	19910430	114900	137	235	54	33
607	21	TURKEY	KONYA PL., TUZ LAKE	37.0N	31.0E	37.0N	35.4E	55	HO	100	N	N	19910430	115000	137	242	53	33
607	22	TURKEY	G. OF ALEXANDRIA, NUR MT	37.0N	36.0E	37.0N	35.4E	55	LO	100	N	N	19910430	115000	137	242	53	33
607	23	TURKEY	TAURIS, NUR MTNS.	38.0N	36.0E	37.0N	35.4E	60	LO	100	N	N	19910430	115000	137	242	53	33
607	24	TURKEY	NUR MTS., EUPHARTES R. R	37.0N	37.0E	37.0N	35.4E	65	HO	100	N	N	19910430	115000	137	242	53	33
608	50	UGANDA	LAKE ALBERT, RIFT VALLEY	1.5N	31.0E	0.3N	31.3E	40	LO	250	N	N	19910502	131500	135	289	38	66
71	85	UNITED ARAB EMIRATES	SIR BANI YAS-PERSIAN G.	24.0N	52.5E	24.3N	54.5E	5	LO	250	N	Y	19910428	120704	138	270	35	2
71	86	UNITED ARAB EMIRATES	AL FIYYA,MARAWIH,OIL CST	24.5N	53.0E	24.1N	54.7E	10	LO	250	N	Y	19910428	120707	138	270	35	2
71	87	UNITED ARAB EMIRATES	AL JIRAB-OIL ON COAST	24.0N	53.5E	24.0N	54.7E	0	LO	250	N	Y	19910428	120709	138	270	35	2
71	88	UNITED ARAB EMIRATES	AL JIRAB-OIL ON COAST	24.0N	54.0E	23.9N	54.8E	0	NV	250	N	Y	19910428	120711	138	270	35	2
71	89	UNITED ARAB EMIRATES	COAST-AL JIRAB	24.5N	54.0E	23.7N	55.0E	0	LO	250	N	Y	19910428	120716	138	270	35	2
71	90	UNITED ARAB EMIRATES	COAST-ABU ZABY	24.5N	54.0E	23.6N	55.1E	5	NV	250	N	Y	19910428	120718	138	270	35	2
71	91	UNITED ARAB EMIRATES	COAST-PERSIAN GULF	25.0N	54.5E	23.5N	55.1E	5	LO	250	N	Y	19910428	120719	138	271	35	2
71	92	UNITED ARAB EMIRATES	DUBAY	25.5N	55.0E	23.3N	55.2E	5	LO	250	N	Y	19910428	120722	138	271	34	2
71	93	UNITED ARAB EMIRATES	ASH SHARIQAH, DUBAY	25.0N	55.5E	23.2N	55.3E	15	LO	250	N	Y	19910428	120724	138	271	34	2
71	94	UNITED ARAB EMIRATES	ABU ZABY	24.0N	54.5E	23.1N	55.4E	10	NV	250	N	N	19910428	120727	138	271	34	2
71	95	UNITED ARAB EMIRATES	DUNES-SALT PANS-ROADS	23.0N	53.5E	22.7N	55.7E	0	LO	250	N	Y	19910428	120733	138	271	34	2
71	96	UNITED ARAB EMIRATES	DUNES-SALT PANS-K. SMOKE	23.0N	53.0E	22.6N	55.8E	0	LO	250	N	Y	19910428	120736	138	271	34	2
85	82	UNITED ARAB EMIRATES	SAND STORM, GULF COAST	24.5N	52.5E	27.0N	56.1E	0	LO	250	N	N	19910503	095922	137	199	61	81
85	83	UNITED ARAB EMIRATES	SAND STORM, OFFSHORE ISL.	24.5N	53.5E	26.3N	56.7E	0	LO	250	N	N	19910503	095935	137	201	62	81
85	84	UNITED ARAB EMIRATES	ABU DHABI, SAND ST,W.CST.	24.5N	54.5E	26.1N	56.8E	0	LO	250	N	N	19910503	095939	137	202	62	81
87	21	UNITED ARAB EMIRATES	CST,C.MUSHAYRIB,C.KHUMAY	24.2N	51.5E	24.1N	54.7E	20	LO	250	N	Y	19910428	120716	138	270	35	2
87	22	UNITED ARAB EMIRATES	CST,C.MUSHAYRIB,C.KHUMAY	24.1N	51.7E	24.0N	54.7E	20	LO	250	N	Y	19910428	120718	138	270	35	2
87	23	UNITED ARAB EMIRATES	CST,C.MUSHAYRIB,C.KHUMAY	23.9N	51.8E	23.9N	54.9E	20	LO	250	U	Y	19910428	120721	138	270	35	2
87	24	UNITED ARAB EMIRATES	AL KIDAN DUNES-EDGE	23.0N	54.5E	22.5N	55.9E	0	LO	250	N	Y	19910428	120747	138	272	34	2

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
87	25	UNITED ARAB EMIRATES	AL KIDAN DUNES-EDGE	23.0N 54.5E	22.4N 55.9E	0	LO	250	U	Y	19910428	120749	138	272	34	2
87	26	UNITED ARAB EMIRATES	AL KIDAN DUNES-EDGE	23.0N 54.6E	22.3N 56.0E	0	LO	250	U	Y	19910428	120751	138	272	34	2
605	56	UNITED ARAB EMIRATES	DUBAI	25.5N 55.5E	26.6N 52.2E	0	LO	250	N	N	19910504	095400	143	246	67	96
605	57	UNITED ARAB EMIRATES	DUBAI	25.5N 55.5E	26.6N 52.2E	0	LO	250	N	Y	19910504	095400	143	246	67	96
605	58	UNITED ARAB EMIRATES	DESERT AREA S. OF DUBAI	24.0N 55.5E	26.6N 52.2E	0	LO	250	N	N	19910504	095400	143	246	67	96
72	72	USA	CLOUDS OVER WEST. U. S.			90	HO	250	N	N						
72	73	USA	OBL. VIEW SW WHITE SANDS			70	HO	250	N	N						
72	75	USA	OK./TX. HIGH PLAINS			75	HO	250	N	N						
75	57	USA	NORTHERN ROCKY MOUNTAINS	48.8N 110.3W		75	LO	250	N	N	19910428	205623	144	218	50	8
75	58	USA	NORTHERN ROCKY MNTS.	47.0N 106.9W		75	LO	250	N	N	19910428	205707	144	224	49	8
75	62	USA	NEB-S.DAKOTA, AGRICULTURE	41.8N 98.9W		75	LO	250	N	N	19910428	205906	143	239	48	8
75	63	USA	NEB-S.DAKOTA, AGRICULTURE	41.1N 98.0W		75	LO	250	N	N	19910428	205921	142	241	47	8
75	69	USA	TH STORMS	36.3N 92.4W		100	LO	250	N	N	19910428	210102	142	252	45	8
75	70	USA	THUNDER STORM TOPS	36.0N 92.1W		95	LO	250	N	N	19910428	210107	141	252	45	8
75	71	USA	CLOUDS	34.9N 91.0W		90	LO	250	N	N	19910428	210129	141	254	44	8
75	72	USA	CUMULONIMBUS, HIGH CLOUDS	33.4N 89.5W		100	LO	250	N	N	19910428	210159	141	257	43	8
75	73	USA	STORM FRONT-HAZE	31.8N 88.1W		80	HO	250	N	N	19910428	210230	141	259	42	8
75	74	USA	THUNDERSTORMS-SHUTTL APU	31.0N 87.3W		95	LO	250	N	N	19910428	210246	141	260	42	8
75	75	USA	THUNDERSTORMS-SHUTTLAIL	29.3N 86.0W		95	HO	250	N	N	19910428	210317	140	263	41	8
80	98	USA	CA, NV-GREAT BASIN	40.3N 118.4W		55	LO	250	N	N	19910429	143508	143	85	17	20
80	99	USA	CA, NV-GREAT BASIN	42.3N 115.9W		55	LO	250	N	N	19910429	143550	143	88	19	20
93	1	USA	CLOUDS	39.4N 101.1W		95	LO	250	N	N	19910505	184254	145	163	59	119
95	5	USA	PANORAMA, E. HALF LK ERIE	42.0N 80.0W		60	HO	100	N	N	19910505	171050	146	147	51	118
95	6	USA	PANORAMA, E. HALF LK ERIE	42.0N 80.0W		30	LO	100	N	N	19910505	171106	146	149	52	118
95	7	USA	PANORAMA, E. HALF LK ERIE	42.0N 79.0W		20	LO	100	N	N	19910505	171110	146	149	52	118
95	8	USA	PANORAMA, E. HALF LK ERIE	42.0N 79.0W		10	LO	100	N	N	19910505	171114	146	150	53	118
151	222	USA	CLOUDS CENT.GREAT PLAINS	41.6N 105.5W		70	LO	250	U	N	19910502	124317	140	69	-4	67
610	1	USA	GREAT BASIN LK.	40.0N 122.9W		0	LO	250	N	N	19910430	142800	137	82	13	35
612	1	USA	CLOUDS, DARK	48.8N 114.5W		100	LO	100	U	N	19910429	205000	138	211	53	23
75	40	USA-AK	MORZHOVOI BAY	55.0N 163.0W		40	LO	250	N	Y	19910428	204757	146	137	41	8
75	41	USA-AK	MUSHAGAK BAY, PENINSULA	58.5N 159.0W		0	LO	250	N	Y	19910428	204838	146	143	42	8
75	42	USA-AK	MUSHAGAK BAY, PENINSULA	58.5N 159.0W		5	LO	250	N	Y	19910428	204851	146	145	43	8
75	43	USA-AK	KVICHAK BAY	59.0N 158.5W		20	LO	250	N	N	19910428	204858	146	147	43	8
75	44	USA-AK	CLOUD GYRES	57.2N 147.0W		100	LO	250	N	N	19910428	205021	146	160	46	8
77	19	USA-AK	ALEUTIAN I.-UMNAK-CLOUDS	53.5N 168.0W		80	NV	250	N	Y	19910428	235311	145	196	50	10
77	20	USA-AK	ALEUTIAN ILS.-UNALASKA I	53.5N 167.0W		85	LO	250	N	Y	19910428	235316	145	196	50	10
83	68	USA-AK	ALASKA PEN, SANAK IS.	54.6N 163.3W		30	LO	250	N	Y	19910429	190957	145	115	34	23
83	69	USA-AK	ALASKA PEN, SANAK IS.	54.6N 163.3W		40	LO	250	N	Y	19910429	191008	145	116	35	23
83	70	USA-AK	SHUMAGIN ISLANDS	55.0N 160.0W		25	LO	250	N	Y	19910429	191019	145	117	35	23
83	71	USA-AK	SHUMAGIN ISLANDS	55.0N 160.0W		30	LO	250	N	Y	19910429	191029	145	119	35	23

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	
88	43	USA-AK	COAST MOUNTAINS	58.5N	136.5W			10	NV	250	U	N						
88	44	USA-AK	ICY STRAIT, GLACIER BAY	58.5N	135.5W			0	NV	250	U	N						
75	39	USA-AL	ISANOTSKI PEAKS-SUNGLINT	55.0N	163.5W	56.5N	164.9W	20	LO	250	N	Y	19910428	204748	146	136	41	8
86	11	USA-AL	SHUMAGIN ISLANDS	55.1N	159.5W	55.4N	157.4W	15	LO	250	N	N	19910429	221557	144	175	49	25
86	12	USA-AL	MOUNT VENIAMINOF AREA	56.0N	159.0W	55.0N	155.3W	60	LO	250	N	N	19910429	221617	144	178	49	25
86	13	USA-AL	MOUNT VENIAMINOF AREA	56.0N	159.0W	54.8N	154.4W	70	LO	250	N	N	19910429	221625	144	179	49	25
94	12	USA-AZ	PHOENIX AREA	33.5N	112.0W	34.7N	114.4W	0	LO	250	N	N	19910504	201917	145	176	61	104
94	13	USA-AZ	TUCSON AREA	32.2N	111.0W	34.4N	114.1W	0	LO	250	N	N	19910504	201923	145	176	61	104
94	14	USA-AZ	SE ARIZONA, OPEN PIT MINE	31.5N	111.5W	32.7N	112.5W	0	LO	250	N	N	19910504	201957	144	181	63	104
72	105	USA-CA	KLAMATH RIVER MOUTH	41.5N	121.5W			35	LO	250	N	N						
87	33	USA-CA	CST RA, PT. PIEDRAS BLANCO	35.7N	121.2W	37.0N	118.2W	0	LO	250	N	N	19910428	144021	143	85	18	4
87	34	USA-CA	MONTEREY BAY, COMMA CLD	36.8N	121.8W	37.4N	117.7W	5	LO	250	N	N	19910428	144029	143	86	18	4
87	35	USA-CA	MONO L, SIERRA NEVADAS	38.0N	119.1W	37.9N	117.1W	0	LO	250	N	N	19910428	144040	143	86	19	4
87	38	USA-CA	L. TAHOE, RENO, MTN. SNOW	39.1N	120.2W	39.1N	115.8W	0	LO	250	N	N	19910428	144105	143	88	20	4
89	44	USA-CA	CA. COASTLINE, MTNS.	40.0N	124.0W	43.6N	128.2W	40	LO	250	N	N	19910429	222133	142	227	52	25
89	45	USA-CA	CA. COASTLINE, MTNS.	40.0N	124.0W	43.4N	127.8W	20	LO	250	N	N	19910429	222139	142	228	52	25
89	46	USA-CA	CA. COASTLINE, MTNS.	40.0N	124.0W	43.1N	127.4W	0	LO	250	N	N	19910429	222145	142	228	52	25
89	47	USA-CA	CA. COASTLINE, MTNS.	39.0N	123.0W	42.1N	126.0W	0	LO	250	N	N	19910429	222208	142	231	52	25
89	48	USA-CA	AREA S. EUREKE	40.4N	124.2W	41.7N	125.5W	0	LO	250	N	N	19910429	222216	142	233	52	25
89	49	USA-CA	NEAR CORNING, FIELD PATNS	39.8N	122.3W	40.3N	123.7W	0	LO	250	N	N	19910429	222246	141	236	51	25
89	50	USA-CA	UKATH AREA, PT. ARENA	39.0N	123.4W	39.8N	123.1W	0	LO	250	N	N	19910429	222256	141	238	51	25
89	51	USA-CA	SANTA ROSA AREA	38.4N	122.7W	39.5N	122.8W	0	LO	250	N	N	19910429	222303	141	238	51	25
89	52	USA-CA	PT. REYES, SAN RAFAEL	38.0N	122.8W	39.2N	122.4W	0	LO	250	N	N	19910429	222309	141	239	51	25
89	53	USA-CA	SAN FRANCISCO, BAY AREA	37.8N	122.5W	38.9N	122.1W	0	LO	250	N	N	19910429	222314	141	240	51	25
89	54	USA-CA	S. SAN FRANCISCO BAY AREA	37.6N	122.2W	38.7N	121.9W	0	LO	250	N	N	19910429	222319	141	240	51	25
89	55	USA-CA	MONTEREY BAY AREA	36.9N	121.8W	38.4N	121.5W	0	LO	250	N	N	19910429	222326	141	241	51	25
89	56	USA-CA	MONTEREY PENINSULA AREA	36.4N	121.6W	38.0N	121.1W	0	LO	250	N	N	19910429	222333	141	242	51	25
89	57	USA-CA	AREA NW. PASO ROBLES	36.0N	121.0W	37.7N	120.8W	0	LO	250	N	N	19910429	222339	141	243	50	25
89	58	USA-CA	AREA AROUND PASO ROBLES	35.4N	120.6W	37.5N	120.5W	5	LO	250	N	N	19910429	222344	141	243	50	25
89	59	USA-CA	SANTA MARIA AREA	35.0N	120.4W	37.1N	120.1W	10	LO	250	N	N	19910429	222352	141	244	50	25
89	60	USA-CA	SANTA BARBARA AREA	34.7N	119.8W	36.8N	119.8W	0	LO	250	N	N	19910429	222357	141	245	50	25
89	61	USA-CA	VENTURA AREA	34.3N	119.0W	36.5N	119.5W	0	LO	250	N	N	19910429	222403	141	245	50	25
89	62	USA-CA	LOS ANGELES AREA	34.1N	118.4W	36.0N	119.0W	0	LO	250	N	N	19910429	222413	141	246	50	25
89	63	USA-CA	RIVERSIDE AREA	33.8N	117.6W	35.5N	118.4W	0	LO	250	N	N	19910429	222424	141	248	49	25
89	64	USA-CA	BURMUDA DUNES AREA	33.8N	116.2W	34.8N	117.8W	0	LO	250	N	N	19910429	222437	140	249	49	25
89	65	USA-CA	SAN DIEGO AREA	32.8N	117.0W	34.3N	117.3W	0	LO	250	N	N	19910429	222447	140	250	49	25
94	9	USA-CA	SALTON SEA, IMPERIAL VAL.	33.0N	115.7W	36.7N	116.4W	0	LO	250	N	N	19910504	201837	145	170	59	104
94	10	USA-CA	US-MEXICO BORDER	32.7N	115.0W	36.2N	115.9W	0	LO	250	N	N	19910504	201848	145	172	59	104
95	50	USA-CA	AREA W. OF BAKERSFIELD	35.2N	119.4W	35.5N	119.6W	5	LO	100	N	N	19910505	201349	144	172	64	120
95	51	USA-CA	VENTURA AREA	34.3N	119.0W	34.3N	118.3W	0	LO	250	N	N	19910505	201414	144	176	65	120

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
95	52	USA-CA	VENTURA AREA	34.3N	119.0W	33.7N	117.8W	0	L0	250	N	N	19910505	201424	144	177	66	120	
95	53	USA-CA	SANTA SUSANA AREA	34.3N	118.6W	33.5N	117.7W	0	L0	250	N	N	19910505	201428	144	178	66	120	
95	54	USA-CA	LOS ANGELES, LONG BEACH	33.9N	118.2W	33.2N	117.3W	0	L0	250	N	N	19910505	201435	144	179	66	120	
95	55	USA-CA	RIVERSIDE AREA	33.8N	117.4W	33.0N	117.2W	0	L0	250	N	N	19910505	201438	144	179	66	120	
95	56	USA-CA	RIVERSIDE AREA	34.0N	117.4W	32.8N	117.0W	0	L0	250	N	N	19910505	201442	144	180	67	120	
95	57	USA-CA	ONTARIO AREA	34.2N	117.4W	32.7N	116.9W	0	L0	250	N	N	19910505	201444	144	180	67	120	
95	58	USA-CA	SAN BERNARDINO AREA	34.0N	117.2W	32.6N	116.8W	0	L0	250	N	N	19910505	201447	144	181	67	120	
95	59	USA-CA	RIVERSIDE AREA	33.8N	117.4W	32.3N	116.5W	0	L0	250	N	N	19910505	201453	144	182	67	120	
95	60	USA-CA	RIVERSIDE AREA	33.8N	117.4W	32.1N	116.3W	0	L0	250	N	N	19910505	201457	144	182	67	120	
95	61	USA-CA	SAN DIEGO AREA	32.8N	117.0W	31.6N	115.9W	0	L0	250	N	N	19910505	201505	144	183	68	120	
95	62	USA-CA	SAN DIEGO AREA	33.0N	117.0W	31.5N	115.8W	0	L0	250	N	N	19910505	201508	143	184	68	120	
95	63	USA-CA	MOJAVE DESERT	34.8N	118.0W	30.8N	115.2W	0	L0	250	N	N	19910505	201521	143	186	68	120	
95	64	USA-CA	PANORAMA, LA BASIN, MTNS	34.4N	119.0W	30.3N	114.8W	30	L0	250	N	N	19910505	201530	143	188	69	120	
95	65	USA-CA	PANORAMA, LA AREA, MOJAVE	34.3N	118.0W	30.0N	114.5W	20	L0	250	N	N	19910505	201536	143	189	69	120	
95	66	USA-CA	PANORAMA, SALTON SEA AREA	33.0N	115.5W	27.4N	112.4W	10	L0	250	N	N	19910505	201626	143	198	71	120	
95	67	USA-CA	PANORAMA, SAN DIEGO, MOJAV	33.0N	116.5W	27.1N	112.1W	20	H0	250	N	N	19910505	201632	143	199	71	120	
95	68	USA-CA	PANORAMA, SAN DIEGO, MOJAV	33.3N	116.5W	26.7N	111.8W	20	H0	250	N	N	19910505	201639	143	201	71	120	
95	69	USA-CA	PANORAMA, SALTON SEA AREA	32.7N	115.3W	26.5N	111.7W	20	H0	250	N	N	19910505	201642	143	201	71	120	
151	181	USA-CA	SAN FRANCISCO BAY AREA	37.5N	122.0W	38.1N	125.1W	40	L0	250	N	N	19910430	221620	140	230	55	41	
151	181A	USA-CA	SAN FRANCISCO BAY AREA	37.5N	122.0W	37.5N	124.4W	35	L0	250	N	N	19910430	221633	140	232	55	41	
151	182	USA-CA	PT. CONCEPTION, S. MARIA	35.0N	120.5W	34.7N	121.5W	30	L0	250	N	N	19910430	221729	140	239	54	41	
151	183	USA-CA	PT. CONCEPTION, S. MARIA	35.0N	120.5W	34.3N	121.1W	30	L0	250	N	Y	19910430	221737	140	240	54	41	
151	184	USA-CA	LOS ANGELES BASIN AREA	34.0N	118.5W	33.1N	120.0W	5	L0	250	N	N	19910430	221800	139	243	54	41	
151	185	USA-CA	SAN DIEGO AREA	32.5N	117.0W	31.9N	118.9W	15	NV	250	N	N	19910430	221824	139	246	53	41	
151	186	USA-CA	SAN DIEGO AREA	32.5N	118.0W	31.4N	118.4W	15	L0	250	N	Y	19910430	221833	139	247	53	41	
602	32	USA-CA	SIERRA NEVADA, HAZE	36.0N	118.0W	31.1N	128.0W	35	H0	100	N	N	19910429	143200	139	78	8	19	
602	33	USA-CA	COAST MTS., MONTEREY	36.5N	121.0W	34.2N	125.2W	30	L0	100	N	N	19910429	143300	139	80	11	19	
602	34	USA-CA	SAN FRANCISCO BAY AREA	37.5N	120.5W	34.2N	125.2W	15	L0	100	N	N	19910429	143300	139	80	11	19	
602	35	USA-CA	SAN JOAQUIN VALLEY	37.0N	120.5W	34.2N	125.2W	15	L0	100	N	N	19910429	143300	139	80	11	19	
602	36	USA-CA	SAN JOAQUIN VALLEY	37.0N	121.0W	34.2N	125.2W	10	L0	100	N	Y	19910429	143300	139	80	11	19	
602	37	USA-CA	SAN JOAQUIN V., MONO LK.	38.0N	120.0W	37.1N	122.1W	5	L0	100	N	Y	19910429	143400	139	82	14	19	
602	40	USA-CA	VIEW S. SAN JOAQUIN VAL.	35.0N	118.0W	37.1N	122.1W	10	H0	100	N	N	19910429	143400	139	82	14	19	
602	41	USA-CA	VIEW S. SAN JOAQUIN VAL.	35.0N	117.0W	37.1N	122.1W	10	H0	100	N	Y	19910429	143400	139	82	14	19	
602	42	USA-CA	VIEW S. SAN JOAQUIN VAL.	34.0N	118.0W	37.1N	122.1W	20	H0	100	N	Y	19910429	143400	139	82	14	19	
602	43	USA-CA	VIEW S. SAN JOAQUIN VAL.	36.0N	120.0W	37.1N	122.1W	15	L0	100	N	Y	19910429	143400	139	82	14	19	
602	44	USA-CA	VIEW S. SIERRA NEVADA	37.5N	119.0W	37.1N	122.1W	5	L0	100	N	Y	19910429	143400	139	82	14	19	
602	45	USA-CA	VIEW S. SIERRA NEVADA	34.0N	117.0W	37.1N	122.1W	10	H0	100	N	N	19910429	143400	139	82	14	19	
612	34	USA-CA	SACRAMENTO VAL., BAY AREA	39.5N	122.5W	42.8N	127.0W	0	L0	100	N	N	19910429	222200	138	231	52	24	
612	35	USA-CA	SACRAMENTO VAL., BAY AREA	39.0N	122.0W	42.8N	127.0W	0	L0	100	N	Y	19910429	222200	138	231	52	24	
612	36	USA-CA	SAN FRANCISCO BAY AREA	38.0N	122.0W	40.0N	123.4W	0	L0	100	N	Y	19910429	222300	138	238	52	24	

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	MADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
612	37	USA-CA	SAN JOAQUIN VAL., TAHOE	38.0N	121.0W	40.0N	123.4W	0	LO	100	N	Y	19910429	222300	138	238	52	24
612	38	USA-CA	SAN JOAQUIN VAL., CARMEL	36.0N	120.5W	40.0N	123.4W	10	HO	100	N	Y	19910429	222300	138	238	52	24
612	39	USA-CA	SAN JOAQUIN VAL., L. A.	35.5N	119.0W	40.0N	123.4W	5	LO	100	N	Y	19910429	222300	138	238	52	24
85	26	USA-CO	DENVER, SNOW	39.6N	104.9W	40.6N	105.2W	5	LO	250	N	Y	19910430	204602	141	224	55	40
85	27	USA-CO	DENVER, SNOW	39.7N	104.8W	39.6N	104.1W	0	NV	250	N	Y	19910430	204622	141	227	55	40
85	28	USA-CO	DENVER, SNOW	39.7N	105.0W	39.2N	103.6W	15	LO	250	N	Y	19910430	204630	140	228	55	40
95	22	USA-CO	FT. COLLINS AREA	40.5N	104.8W	42.3N	104.7W	60	LO	100	N	N	19910505	184148	145	156	56	119
95	23	USA-CO	VRY CLDY FRAME	40.5N	105.0W	41.5N	103.6W	90	LO	100	N	N	19910505	184205	145	158	57	119
151	166	USA-CO	NEAR FORT COLLINS	40.5N	105.0W	40.4N	105.0W	75	LO	250	N	N	19910430	204601	141	224	55	40
151	167	USA-CO	DENVER	40.0N	105.0W	39.8N	104.4W	20	NV	250	N	N	19910430	204612	141	226	55	40
151	168	USA-CO	DENVER	39.5N	104.5W	39.6N	104.0W	20	LO	250	N	N	19910430	204618	141	227	55	40
604	12	USA-CO	SAN JUAN MTNS.	37.5N	107.5W	37.2N	107.1W	5	LO	250	U	N	19910501	125000	136	76	6	50
604	13	USA-CO	COLO. SPRINGS, PIKES PK.	39.0N	105.0W	37.2N	107.1W	5	LO	250	U	N	19910501	125000	136	76	6	50
604	14	USA-CO	PUEBLO	38.5N	104.5W	40.1N	103.8W	0	LO	250	U	N	19910501	125100	136	78	9	50
72	71	USA-CT	LONG IS., NEW LONDON	41.5N	72.0W			0	NV	250	N	N						
88	56	USA-CT	LONG ISLAND SOUND	40.5N	72.5W			0	NV	250	U	N						
72	77	USA-FL	KSC, ORLANDO, TAMPA	28.5N	81.0W			25	HO	250	N	N						
72	78	USA-FL	KSC, ORLANDO, TAMPA	28.0N	81.0W			30	HO	250	N	N						
72	79	USA-FL	KSC, ORLANDO, TAMPA	28.0N	81.0W			30	HO	250	N	N						
72	80	USA-FL	KSC, ORLANDO, TAMPA	27.5N	81.5W			25	HO	250	N	N						
72	81	USA-FL	TAMPA, L. OKEECHOBEE	27.0N	80.5W			30	HO	250	N	N						
72	82	USA-FL	KEY WEST, EVERGLADES	25.0N	80.5W			20	HO	250	N	N						
151	206	USA-FL	CAPE CANAVERAL	28.0N	81.5W	31.4N	76.7W	45	HO	250	N	N	19910501	191147	139	233	58	55
606	58	USA-FL	ORLANDO, KSC	28.5N	81.0W			25	LO	100	N	N						
606	59	USA-FL	ORLANDO, KSC	28.5N	80.5W			35	LO	100	N	Y						
606	60	USA-FL	FT. MEYERS	26.5N	82.0W			30	LO	100	N	N						
606	61	USA-FL	LK. OKEECHOBEE	27.0N	80.5W			35	LO	100	N	N						
606	62	USA-FL	SW COAST, SEDIMENT PLUME	26.0N	81.5W			55	LO	100	N	N						
77	102	USA-HI	PEARL AND HERMES REEF	28.0N	176.0E	27.9N	175.8W	20	NV	250	N	N	19910429	030207	140	264	41	12
94	37	USA-HI	LISIANSKI IS., NEVA SHOAL	26.0N	174.0W	25.5N	174.8W	5	LO	100	N	N	19910505	005118	143	205	68	107
95	92	USA-HI	PANORAMA, CLOUD PATTERNS	19.5N	155.5W	16.6N	150.2W	60	HO	100	N	N	19910505	231907	142	247	74	122
95	93	USA-HI	PANORAMA, CLOUD PATTERNS	21.0N	156.0W	16.2N	150.0W	60	HO	100	N	N	19910505	231914	142	249	73	122
605	28	USA-HI	PEARL AND HERMES REEF	28.0N	176.0E			10	LO	250	N	N						
609	4	USA-HI	PEARL AND HERMES REEF	28.0N	176.0W	29.7N	178.1W	5	LO	250	N	N	19910505	005000	142	229	71	106
609	5	USA-HI	LISIANSKI IS., NEVA SHOAL	26.0N	174.0W	26.5N	175.5W	5	NV	250	N	N	19910505	005100	142	242	70	106
609	6	USA-HI	LISIANSKI IS., NEVA SHOAL	26.0N	174.0W	26.5N	175.5W	5	NV	250	N	Y	19910505	005100	142	242	70	106
73	20	USA-IA	MISS. R.-FT. MADISON	40.5N	91.5W	40.3N	91.6W	95	NV	250	N	Y	19910428	131145	144	89	21	3
73	21	USA-IA	FT. MADISON-BURLINGTON	40.5N	91.0W	40.4N	91.5W	95	NV	250	N	Y	19910428	131147	144	89	22	3
73	22	USA-IA	NEAR BURLINGTON-MISS. R.	41.0N	91.0W	40.6N	91.2W	95	NV	250	N	Y	19910428	131151	144	90	22	3
80	100	USA-ID	AMER FALLS RES.-LAVA FLS	43.0N	113.0W	44.8N	112.2W	25	LO	250	N	N	19910429	143647	144	91	22	20

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
151	240	USA-ID	SMITH PK., KOOTENAY L.	49.0N 115.0W	48.7N 116.8W	0	NV	250	N	N	19910502	141529	141	73	4	68
602	48	USA-ID	SNAKE RIVER VALLEY	42.0N 114.5W	40.0N 118.8W	65	LO	100	N	N	19910429	143500	139	85	17	19
602	49	USA-ID	SNAKE RIVER VALLEY	42.5N 114.0W	40.0N 118.8W	65	LO	100	N	Y	19910429	143500	139	85	17	19
604	35	USA-ID	BEND OREILLE LAKE	48.0N 116.5W	46.7N 116.7W	15	NV	250	N	N	19910501	142300	136	86	17	51
610	7	USA-ID	SNAKE RIVER, LEWISTON	46.5N 117.0W	42.7N 119.2W	0	LO	250	N	Y	19910430	142900	137	85	16	35
610	8	USA-ID	SALMON RIVER MTS.	46.5N 117.0W	42.7N 119.2W	5	NV	250	N	N	19910430	143000	137	88	19	35
73	0	A USA-KS	COFFEYVILLE, VERDIGRIS R	37.0N 95.5W	36.4N 96.0W	0	NV	250	N	Y	19910428	131029	143	85	18	3
73	1	USA-KS	COFFEYVILLE, KS-OK BORDR	37.0N 95.5W	36.8N 95.6W	0	NV	250	N	Y	19910428	131033	143	85	18	3
73	2	USA-KS	PARSONS, NEAR KS-OK BOR.	37.5N 95.0W	36.9N 95.4W	5	NV	250	N	Y	19910428	131035	143	86	18	3
73	3	USA-KS	PARSONS	37.5N 95.0W	37.0N 95.3W	10	NV	250	N	Y	19910428	131037	143	86	18	3
73	4	USA-KS	PITTSBURG-GIRARD	37.5N 95.0W	37.3N 95.0W	25	NV	250	N	Y	19910428	131043	143	86	18	3
73	5	USA-KS	PORT SCOTT-PITTSBURG	37.5N 94.5W	37.4N 94.9W	25	NV	250	N	Y	19910428	131045	143	86	19	3
75	68	USA-KS	SALINA-CLOUDS	39.0N 98.0W	37.2N 93.4W	65	LO	250	N	N	19910428	210043	142	250	45	8
607	44	USA-KS	MISSOURI R., KANSAS CITY	39.0N 95.0W	41.5N 98.2W	20	HO	100	N	N	19910430	125900	137	83	15	34
607	46	USA-KS	MISSOURI R., KANSAS CITY	39.5N 95.5W	41.5N 98.2W	35	HO	100	N	N	19910430	125900	137	83	15	34
86	1	USA-LA	AREA AROUND SHREVEPORT	32.3N 93.5W	32.9N 93.1W	60	LO	250	N	N	19910429	205546	140	253	48	24
89	32	USA-LA	SHREVEPORT, RED RIVER	32.6N 93.6W	34.3N 94.4W	30	LO	250	N	N	19910429	205514	141	251	49	24
89	33	USA-LA	DARK, CLOUDY FRAME	32.2N 92.5W	32.2N 92.5W	60	LO	250	N	N	19910429	205554	140	255	47	24
89	34	USA-LA	CENTRAL LA, RED RIVER	32.0N 93.0W	31.9N 92.2W	50	LO	250	N	N	19910429	205600	140	255	47	24
93	10	USA-LA	VERY CLOUDY	32.7N 94.1W	32.7N 94.1W	95	LO	250	N	N	19910505	184510	144	181	66	119
93	11	USA-LA	VERY CLOUDY	32.5N 93.9W	32.5N 93.9W	95	LO	250	N	N	19910505	184513	144	181	67	119
93	12	USA-LA	VERY CLOUDY, TOLEDO BEND	31.2N 93.2W	32.3N 93.8W	95	LO	250	N	N	19910505	184516	144	182	67	119
93	13	USA-LA	VERY CLOUDY, HAZY	31.3N 92.8W	31.3N 92.8W	95	LO	250	N	N	19910505	184536	143	185	68	119
95	29	USA-LA	FRAME VRY CLOUDY	31.1N 92.7W	31.1N 92.7W	90	LO	100	N	N	19910505	184535	143	185	68	119
95	30	USA-LA	FRAME VRY CLDY, MISS. R.	29.5N 91.3W	29.5N 91.3W	95	LO	100	N	N	19910505	184606	143	191	69	119
95	31	USA-LA	FRAME VRY CLDY, MISS. R.	29.3N 91.1W	29.3N 91.1W	95	LO	100	N	N	19910505	184609	143	191	69	119
95	32	USA-LA	MISS. RIVER DELTA	29.0N 89.0W	28.8N 90.7W	30	LO	100	N	N	19910505	184619	143	193	70	119
75	31	USA-MA	CAPE COD	42.0N 70.0W	38.7N 72.3W	70	LO	250	N	N	19910428	193035	142	247	46	7
83	85	USA-MD	DELMAR PEN, CHESAPEAKE BY	38.0N 76.0W	38.5N 76.1W	60	NV	250	N	N	19910429	192417	141	242	50	23
83	86	USA-MD	DELMAR PEN, CHESAPEAKE BY	37.6N 75.8W	38.0N 75.6W	20	NV	250	N	N	19910429	192426	141	243	50	23
83	87	USA-MD	DELMAR PEN, CHESAPEAKE BY	37.0N 76.0W	37.7N 75.2W	10	LO	250	N	N	19910429	192433	141	244	50	23
73	35	USA-MI	CLOUDS-JET VAPOR TRAIL	45.3N 84.5W	45.3N 84.5W	100	LO	250	N	Y	19910428	131336	144	97	27	3
73	36	USA-MI	CLOUDS-JET VAPOR TRAIL	45.7N 83.9W	45.7N 83.9W	100	LO	250	N	Y	19910428	131345	144	98	27	3
73	37	USA-MI	CLOUDS-JET VAPOR TRAIL	45.8N 83.7W	45.8N 83.7W	100	LO	250	N	Y	19910428	131348	144	98	27	3
85	4	USA-MI	NE AREA, L. HURON, SNOW	45.0N 83.5W	43.9N 94.8W	50	HO	250	O	N	19910430	125958	142	84	16	35
85	6	USA-MI	NE AREA, L. HURON, SNOW	45.5N 83.0W	44.7N 93.5W	50	HO	250	O	N	19910430	130017	143	86	17	35
85	7	USA-MI	NE AREA, L. HURON, SNOW	45.5N 83.0W	45.7N 92.0W	50	HO	250	O	N	19910430	130039	143	87	18	35
90	121	USA-MI	VERY CLOUDY	44.6N 84.1W	44.6N 84.1W	90	LO	250	N	N	19910429	192201	143	225	52	23
96	75	USA-MI	FRAME TOO DARK	41.8N 86.0W	41.8N 86.0W	LO	250	N	N	N	19910503	110506	142	63	-15	82
96	76	USA-MI	FRAME TOO DARK	42.1N 85.6W	42.1N 85.6W	LO	250	N	N	N	19910503	110513	143	63	-15	82

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
96	77	USA-MI	FRAME TOO DARK		42.8N 84.7W	LO	250	N	N	N	19910503	110528	143	64	-14	82
96	78	USA-MI	FRAME TOO DARK		42.9N 84.5W	LO	250	N	N	N	19910503	110530	143	64	-14	82
96	79	USA-MI	FRAME TOO DARK		43.0N 84.3W	LO	250	N	N	N	19910503	110533	143	64	-13	82
96	80	USA-MI	FRAME TOO DARK		43.1N 84.2W	LO	250	N	N	N	19910503	110536	143	64	-13	82
96	81	USA-MI	FRAME TOO DARK		43.2N 84.0W	LO	250	N	N	N	19910503	110538	143	64	-13	82
96	82	USA-MI	FRAME TOO DARK		43.9N 83.1W	LO	250	N	N	N	19910503	110552	143	64	-12	82
96	83	USA-MI	FRAME TOO DARK		44.0N 82.9W	LO	250	N	N	N	19910503	110555	143	64	-12	82
96	84	USA-MI	TOO DARK, PORT HURON AREA	43.0N	82.5W 44.3N	20	LO	250	N	N	19910503	110602	143	64	-12	82
96	85	USA-MI	TOO DARK, LAKE ST. CLAIR	42.5N	82.8W 44.4N	0	LO	250	N	N	19910503	110604	143	64	-12	82
96	86	USA-MI	TOO DARK, DETROIT AREA	42.2N	82.6W 44.6N	0	LO	250	N	N	19910503	110609	143	64	-11	82
151	82	USA-MI	DETROIT, L. ERIE	42.0N	84.0W 39.3N	55	HO	250	N	N	19910430	112840	142	80	11	34
151	118	USA-MI	PANORAMA, MICH., L. ERIE	43.0N	83.0W 45.9N	60	HO	250	O	N	19910430	130038	143	87	18	35
151	119	USA-MI	L. ONTARIO, SAGINAW BAY	45.0N	82.5W 49.1N	25	HO	250	N	N	19910430	130158	143	93	23	35
607	47	USA-MI	LAKES HURON, MICHIGAN	44.0N	85.0W 46.7N	70	HO	100	N	N	19910430	130100	137	91	21	34
607	48	USA-MI	LAKES HURON, MICHIGAN	44.0N	84.0W 46.7N	70	HO	100	N	N	19910430	130100	137	91	21	34
604	18	USA-MN	CLOUDS, AGRICULTURE		45.5N 96.1W	85	LO	250	N	N	19910501	125300	136	85	16	50
604	19	USA-MN	CLOUD PATTERNS		45.5N 96.1W	100	LO	250	N	N	19910501	125300	136	85	16	50
73	6	USA-MO	PORT SCOTT-NEVADA	38.0N	94.5W 37.7N	15	NV	250	N	Y	19910428	131050	143	86	19	3
73	7	USA-MO	RICH HILL-BUTLER	38.0N	94.0W 37.9N	20	NV	250	N	Y	19910428	131054	143	86	19	3
73	8	USA-MO	APPLETON-BUTLER	38.0N	94.0W 38.0N	40	NV	250	N	Y	19910428	131057	143	87	19	3
73	9	USA-MO	NEAR WARRENSBURG-CLOUDS	38.5N	94.0W 38.2N	75	NV	250	N	Y	19910428	131102	143	87	19	3
73	10	USA-MO	WARRENSBURG-WHITEMAN AFB	38.5N	93.5W 38.4N	60	NV	250	N	Y	19910428	131105	143	87	20	3
73	11	USA-MO	WHITEMAN AFB-CLOUDS	39.0N	93.5W 38.6N	55	NV	250	N	Y	19910428	131109	143	87	20	3
73	12	USA-MO	MARSHALL-CLOUDS	39.0N	93.0W 38.7N	50	NV	250	N	Y	19910428	131112	143	87	20	3
73	13	USA-MO	MACON-CLOUDS-HAZE	39.5N	92.5W 39.4N	50	NV	250	N	Y	19910428	131125	144	88	20	3
73	14	USA-MO	MACON-FOWER-HAZE-CLOUDS	39.5N	92.5W 39.4N	80	NV	250	N	Y	19910428	131127	144	88	21	3
73	15	USA-MO	NEAR FOWER-CLOUDS-HAZE	40.0N	92.0W 39.6N	90	NV	250	N	Y	19910428	131130	144	88	21	3
73	16	USA-MO	NEAR FOWER-CLOUDS-HAZE	40.0N	92.0W 39.7N	95	LO	250	N	Y	19910428	131132	144	89	21	3
73	17	USA-MO	NEAR MO-IL BORDER-HAZE	40.0N	92.0W 39.8N	95	LO	250	N	Y	19910428	131135	144	89	21	3
73	18	USA-MO	DES MOINES R., MISS. R.	40.5N	92.0W 39.9N	95	LO	250	N	Y	19910428	131137	144	89	21	3
73	19	USA-MO	MISS. R.-KEOKUK-VERY HZY	40.5N	91.5W 40.2N	95	NV	250	N	Y	19910428	131142	144	89	21	3
88	60	USA-MS	CAPE COD, NANTUCKET IS.	41.5N	70.0W	30	LO	250	U	N						
88	61	USA-MS	PROVIDENCE, BOSTON	42.0N	71.0W	20	LO	250	U	N						
88	62	USA-MS	CAPE COD	42.0N	70.0W	35	LO	250	U	N						
81	32	USA-MT	MTNS, SNOW CAPPED, LOW SUN		46.4N 110.7W	0	LO	250	N	N	19910505	122619	146	62	-7	115
81	33	USA-MT	MTNS, SNOW CAPPED, LOW SUN		47.3N 109.1W	10	LO	250	U	N	19910505	122641	46	63	-5	115
85	13	USA-MT	L. ELWELL, MARIAS R., AGR.	48.5N	111.3W 46.8N	10	LO	250	N	N	19910430	143038	143	88	19	36
151	165	USA-MT	FLATHEAD LAKE	47.5N	114.0W 46.9N	60	LO	250	N	N	19910430	204333	142	202	54	40
604	36	USA-MT	BEAR PAW MTS., MO. R.	48.5N	109.5W 49.1N	10	LO	250	N	N	19910501	142400	136	91	21	51
610	9	USA-MT	MARIAS RIVER	48.5N	111.0W 45.4N	0	NV	250	N	N	19910430	143000	137	88	19	35

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	EL	OR
				LAT	LONG	LAT	LONG												
610	10	USA-MT	MARIAS RIV., LK. ELWELL	48.5N	111.5W	47.8N	110.9W	5	NV	250	N	Y	19910430	143100	137	93	23	35	
610	11	USA-MT	BEAR PAW MTNS.	48.5N	109.5W	47.8N	110.9W	10	NV	250	N	N	19910430	143100	137	93	23	35	
610	12	USA-MT	MOUNTAINS/SNOW COVER	47.0N	110.5W	47.8N	110.9W	25	LO	250	N	N	19910430	143100	137	93	23	35	
610	13	USA-MT	YELLOWSTONE RIVER	47.0N	105.0W	47.8N	110.9W	30	LO	250	N	N	19910430	143100	137	93	23	35	
610	14	USA-MT	LAKE ELWELL	48.5N	111.0W	50.1N	106.1W	30	LO	250	N	N	19910430	143200	137	98	26	35	
83	89	USA-NC	OUTER BANKS, ALBEM. SOUND	36.0N	76.0W	36.6N	74.0W	20	LO	250	N	N	19910429	192456	141	246	49	23	
83	90	USA-NC	OUTER BANKS, C. HATTERAS	35.3N	75.8W	36.3N	73.7W	15	LO	250	N	N	19910429	192501	141	247	49	23	
83	91	USA-NC	CURRENT BOUND, C. HATTERAS	35.0N	75.5W	35.9N	73.3W	5	LO	250	N	N	19910429	192510	141	248	49	23	
83	92	USA-NC	CURRENT BOUND, C. HATTERAS	34.9N	75.9W	35.7N	73.1W	20	LO	250	N	N	19910429	192513	141	248	49	23	
83	93	USA-NC	CURRENT BOUND, C. HATTERAS	35.0N	75.5W	35.6N	73.0W	15	LO	250	N	N	19910429	192516	141	248	49	23	
151	39	USA-NC	C. HATTERAS, PAMILCO S.	35.5N	75.0W	35.2N	72.6W	55	HO	250	N	N	19910429	192521	141	249	49	23	
151	224A	USA-ND	CLOUDS S.D./N.D. BORDER	46.5N	98.0W	46.2N	98.7W	60	NV	250	N	N	19910502	124501	141	72	2	67	
604	15	USA-NE	NORTH PLATTE RIVER	41.5N	104.0W	40.1N	103.8W	15	LO	250	N	N	19910501	125100	136	78	9	50	
607	45	USA-NE	MISSOURI R., KANSAS CITY	40.0N	95.5W	41.5N	98.2W	45	HO	100	N	N	19910430	125900	137	83	15	34	
72	70	USA-NJ	NEWARK, NEW YORK CITY	40.5N	74.0W			0	NV	250	N	N							
72	76	USA-NM	SACRAMENTO MTS. W. SANDS	33.0N	105.0W			40	HO	250	N	N							
90	21	USA-NM	CARLSBAD AREA, DARK FRAME	32.3N	104.2W	32.6N	103.8W	0	LO	250	N	N	19910429	130253	142	79	9	19	
90	22	USA-NM	DARK FRAME, OIL FIELDS	33.0N	104.0W	32.9N	103.5W	0	LO	250	N	N	19910429	130259	142	79	10	19	
95	70	USA-NM	PANORAMA, N.M., WHITE SAND	32.8N	106.2W	25.9N	111.2W	10	HO	100	N	N	19910505	201654	143	204	72	120	
96	65	USA-NM	WHITE SANDS AREA	32.8N	106.0W	33.2N	104.7W	.0	LO	250	N	N	19910502	203214	138	199	59	72	
96	66	USA-NM	WHITE SANDS AREA	32.7N	106.4W	33.1N	104.6W	0	LO	250	N	N	19910502	203217	138	199	59	72	
96	67	USA-NM	LAS CRUCES AREA	32.3N	106.8W	32.8N	104.3W	0	LO	250	N	N	19910502	203223	138	200	60	72	
151	169	USA-NM	SANGRE DE CRISTO RANGE	36.5N	104.0W	37.9N	102.1W	60	LO	250	N	N	19910430	204652	140	231	55	40	
75	94	USA-NV	GREAT BASIN-SALT LAKES	40.0N	116.0W	38.8N	117.9W	0	LO	250	N	N	19910428	222947	142	246	47	9	
75	95	USA-NV	PYRAMID LAKE	40.0N	119.5W	37.6N	116.6W	20	LO	250	N	N	19910428	223011	142	249	46	9	
80	96	USA-NV	BLACK ROCK DESERT	41.5N	119.0W	37.9N	121.3W	0	LO	250	N	N	19910429	143417	143	83	14	20	
80	97	USA-NV	BASIN RANGE-MOUNTAINS	39.0N	116.5W	38.8N	120.3W	60	LO	250	N	N	19910429	143435	143	84	15	20	
87	36	USA-NV	L. WALKER, HAWTHORNE	38.7N	118.7W	38.2N	116.8W	0	LO	250	N	N	19910428	144047	143	87	19	4	
87	37	USA-NV	FALLON, CARSON R/SINK	39.4N	118.7W	38.6N	116.4W	0	LO	250	N	N	19910428	144054	143	87	19	4	
87	39	USA-NV	SMOKY VAL, TOIYABE RA.	39.4N	116.8W	39.6N	115.1W	0	LO	250	N	N	19910428	144116	144	88	21	4	
94	0A	USA-NV	PYRAMID LAKE	40.0N	119.5W	40.6N	120.9W	0	LO	250	N	N	19910504	201714	146	160	55	104	
94	1	USA-NV	LAKE TAHOE, SIERRA NEVADA	39.0N	120.0W	40.3N	120.5W	0	LO	250	N	N	19910504	201724	146	161	55	104	
94	2	USA-NV	LAKE TAHOE, SIERRA NEVADA	39.0N	120.0W	40.0N	120.1W	0	LO	250	N	N	19910504	201730	146	162	55	104	
94	3	USA-NV	MONO LAKE AREA	38.0N	119.0W	39.2N	119.1W	0	LO	250	N	N	19910504	201747	145	164	56	104	
94	4	USA-NV	MONO LAKE AREA	38.0N	119.0W	38.7N	118.6W	0	LO	250	N	N	19910504	201756	145	165	57	104	
94	5	USA-NV	AREA SE OF MONO LAKE	37.0N	118.0W	38.4N	118.3W	0	LO	250	N	N	19910504	201802	145	166	57	104	
94	6	USA-NV	OWENS LAKE AREA	36.5N	118.0W	38.2N	118.0W	0	LO	250	N	N	19910504	201807	145	166	57	104	
94	7	USA-NV	OWENS LAKE AREA	36.5N	118.0W	38.0N	117.8W	0	LO	250	N	N	19910504	201812	145	167	58	104	
94	8	USA-NV	LAS VEGAS AREA	36.0N	115.0W	37.4N	117.1W	0	LO	250	N	N	19910504	201824	145	168	58	104	
602	38	USA-NV	SIERRA NEVADA, MONO LK.	38.5N	119.0W	37.1N	122.1W	5	LO	100	N	N	19910429	143400	139	82	14	19	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	EL	OR
				LAT	LONG	LAT	LONG											
602	39	USA-NV	SIERRA NEVADA, GR. BASIN	37.5N	117.0W	37.1N	122.1W	5	HO	100	N	N	19910429	143400	139	82	14	19
602	46	USA-NV	MONO AND WALKER LAKES	38.5N	118.5W	37.1N	122.1W	5	LO	100	N	N	19910429	143400	139	82	14	19
602	47	USA-NV	VIEW S. GREAT BASIN	35.5N	117.5W	40.0N	118.8W	10	HO	100	N	N	19910429	143500	139	85	17	19
88	51	USA-NV	BUFFALO, NIAGARA FALLS	43.0N	79.0W			5	NV	250	U	N						
88	52	USA-NY	FINGER LKS. REGION	43.0N	77.0W			5	NV	250	U	N						
88	53	USA-NY	NEW YORK CITY AREA	40.5N	74.0W			0	NV	250	U	N						
88	54	USA-NY	NEW YORK CITY, HUDSON R.	41.0N	74.0W			0	LO	250	U	N						
88	55	USA-NY	HUDSON RIVER	41.5N	74.0W			0	LO	250	U	N						
88	57	USA-NY	LONG ISLAND	40.0N	72.5W			0	NV	250	U	N						
88	58	USA-NY	LONG ISLAND	40.5N	73.0W			0	NV	250	U	N						
88	59	USA-NY	LONG ISLAND, BROOKLYN	41.0N	73.5W			0	LO	250	U	N						
95	9	USA-NY	PANORAMA, E. HALF LK ERIE	42.0N	79.0W	44.4N	84.9W	10	LO	100	N	N	19910505	171121	146	151	53	118
95	16	USA-OH	AREA NEAR ASHTABULA	42.0N	81.0W	39.6N	78.6W	30	LO	100	N	N	19910505	171304	145	162	59	118
96	87	USA-OH	PANORAMA, LK. ERIE AREA			46.0N	79.8W	30	HO	250	N	N	19910503	110641	143	65	-9	82
96	88	USA-OH	PANORAMA, LK. ERIE AREA			46.8N	78.3W	40	HO	250	N	N	19910503	110701	144	65	-8	82
96	89	USA-OH	PANORAMA, LK. ERIE AREA			47.3N	77.5W	40	HO	250	N	N	19910503	110713	144	65	-7	82
96	90	USA-OH	PANORAMA, LK. ERIE AREA			47.3N	77.4W	40	HO	250	N	N	19910503	110714	144	65	-7	82
96	91	USA-OH	PANORAMA, LK. ERIE AREA			47.5N	77.0W	40	HO	250	N	N	19910503	110719	144	66	-7	82
151	160	USA-OH	L. ERIE, CLEVELAND	41.5N	82.0W	39.7N	81.4W	10	LO	250	U	Y	19910430	191644	141	227	55	39
151	161	USA-OH	COLUMBUS	39.5N	83.0W	39.1N	80.8W	10	LO	250	U	N	19910430	191655	141	229	55	39
151	162	USA-OH	PORTSMOUTH, OHIO RIVER	39.0N	83.0W	38.8N	80.4W	5	LO	250	U	N	19910430	191701	141	230	55	39
75	66	USA-OK	CIMARRON R.-S. WINDOW	37.0N	99.0W	38.9N	95.3W	25	LO	250	N	Y	19910428	210008	142	246	46	8
75	67	USA-OK	CANADIAN RIVER	36.0N	99.0W	38.0N	94.3W	45	LO	250	N	Y	19910428	210026	142	248	46	8
85	29	USA-OK	OKLAHOMA CITY, CANADIAN R	35.5N	97.5W	35.2N	99.3W	5	LO	250	N	Y	19910430	204752	140	239	54	40
85	30	USA-OK	OKLAHOMA CITY, CANADIAN R	35.5N	97.6W	34.7N	98.8W	5	LO	250	N	Y	19910430	204801	140	240	54	40
86	0	USA-OK	EUFULA RESERVOIR	35.0N	95.2W	35.3N	95.5W	5	LO	250	N	N	19910429	205453	141	248	49	24
93	2	USA-OK	GREAT SALT PLAINS RESERV	37.0N	98.0W	37.6N	99.0W	50	NV	250	N	N	19910505	184332	144	167	62	119
93	3	USA-OK	AREA AROUND ENID	36.5N	97.6W	37.0N	98.3W	30	NV	250	N	N	19910505	184344	144	169	62	119
93	4	USA-OK	AREA N-NE OK CITY	36.3N	97.2W	36.6N	98.0W	40	NV	250	N	N	19910505	184351	144	170	63	119
93	5	USA-OK	AREA NE OF OK CITY	35.8N	97.0W	36.1N	97.5W	40	LO	250	N	N	19910505	184401	144	171	63	119
93	6	USA-OK	AREA AROUND SHAWNEE	35.2N	96.3W	35.6N	96.9W	70	NV	250	N	N	19910505	184411	144	172	64	119
93	7	USA-OK	AREA AROUND McALESTER	34.8N	96.2W	35.0N	96.3W	90	NV	250	N	N	19910505	184424	144	174	64	119
93	8	USA-OK	SE OK, VERY CLOUDY			34.5N	95.8W	95	LO	250	N	N	19910505	184434	144	175	65	119
93	9	USA-OK	SE OK, VERY CLOUDY			33.8N	95.1W	95	LO	250	N	N	19910505	184448	144	177	65	119
95	24	USA-OK	OKLAHOMA CITY AREA	35.5N	97.5W	37.4N	98.8W	5	LO	100	N	N	19910505	184330	144	168	62	119
95	25	USA-OK	STILLWATER AREA	36.0N	97.0W	36.8N	98.2W	20	LO	100	N	N	19910505	184342	144	169	62	119
95	26	USA-OK	LAKE TEXOMA AREA, RED R.	34.0N	97.0W	35.3N	96.6W	20	LO	100	N	N	19910505	184413	144	173	64	119
151	170	USA-OK	LAWTON, RED RIVER	34.5N	99.0W	35.6N	99.7W	0	NV	250	N	N	19910430	204739	140	238	54	40
72	103	USA-OR	CASCADES, CRATER LAKE	43.0N	122.0W			10	LO	250	N	N						
72	104	USA-OR	CASCADES, CRATER LAKE	43.0N	122.0W			15	LO	250	N	Y						

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT	LONG	NADIR LAT	LONG	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
85	11	USA-OR	GOOSE L, CONTRAIL	42.0N	120.5W	41.2N	121.2W	10	LO	250	N	N	19910430	142832	142	81	12	36
610	2	USA-OR	HARNEY BASIN, CRUMP LK.	42.5N	120.0W	42.7N	119.2W	0	NV	250	N	N	19910430	142900	137	85	16	35
610	3	USA-OR	HARNEY BASIN	42.7N	119.2W	42.7N	119.2W	5	LO	250	N	N	19910430	142900	137	85	16	35
90	122	USA-PA	VERY CLOUDY,HAZY			41.1N	79.3W	90	LO	250	N	N	19910429	192317	142	235	51	23
95	10	USA-PA	LK ERIE,ERIE,PA.,LG PT.	42.0N	80.0W	44.2N	84.7W	20	LO	100	N	N	19910505	171124	146	151	53	118
95	11	USA-PA	LK ERIE,ERIE,PA.,OHIO	42.0N	80.5W	44.1N	84.4W	40	LO	100	N	N	19910505	171128	146	151	54	118
95	12	USA-PA	LK ERIE,ERIE,PA.	42.0N	80.0W	43.6N	83.8W	20	LO	100	N	N	19910505	171138	146	152	54	118
95	13	USA-PA	ERIE,PA.,DK.,HALF FRAME	42.0N	80.0W	43.5N	83.6W	0	LO	100	N	N	19910505	171141	146	153	54	118
95	17	USA-PA	ERIE,ONLY HALF FRAME	42.0N	80.0W	39.3N	78.2W	30	LO	100	N	N	19910505	171311	145	163	59	118
151	202	USA-SC	CHARLESTON, L. MOOLTRIE	33.5N	80.0W	34.1N	79.2W	30	LO	250	N	N	19910501	191055	139	225	58	55
151	203	USA-SC	CHARLESTON, HUNTING IS.	32.5N	80.5W	33.6N	78.7W	5	LO	250	N	N	19910501	191104	139	227	58	55
151	204	USA-SC	CHARLESTON, FT. SUMTER	33.0N	80.0W	33.3N	78.5W	5	LO	250	N	N	19910501	191109	139	227	58	55
151	205	USA-SC	CHARLESTON, FT. SUMTER	33.0N	80.0W	33.0N	78.2W	5	LO	250	N	N	19910501	191116	139	228	58	55
151	222A	USA-SD	OAHE RES., MISSOURI R.	45.0N	100.5W	44.5N	101.4W	10	LO	250	N	N	19910502	124422	141	71		67
151	223	USA-SD	AG. NEAR ABERDEEN	45.5N	99.5W	45.0N	100.6W	25	LO	250	N	N	19910502	124433	141	71		67
151	223A	USA-SD	AG. NEAR ABERDEEN	45.5N	99.0W	45.4N	100.0W	25	NV	250	N	N	19910502	124443	141	71	1	67
151	224	USA-SD	CLOUDS S.D./N.D. BORDER	46.0N	98.5W	45.9N	99.1W	60	NV	250	N	N	19910502	124454	141	71	1	67
604	16	USA-SD	MISSOURI RIVER, L. OAHE	44.5N	100.5W	42.9N	100.1W	0	LO	250	N	N	19910501	125200	136	81	13	50
604	17	USA-SD	AREA NORTH SIOUX FALLS	45.0N	98.0W	42.9N	100.1W	10	LO	250	N	N	19910501	125200	136	81	13	50
72	74	USA-TX	PALO DURO CANYON	34.0N	101.0W			60	HO	250	N	N						
75	64	USA-TX	PRAIRIE DT FORK OF RED R	34.5N	101.0W	40.0N	96.5W	40	HO	250	N	Y	19910428	205946	142	244	47	8
75	65	USA-TX	PRAIRIE DT FORK OF RED R	34.5N	101.0W	39.2N	95.6W	30	HO	250	N	Y	19910428	210002	142	246	46	8
85	31	USA-TX	FT.WORTH-ARLINGTON	32.7N	97.3W	33.6N	97.7W	0	NV	250	N	Y	19910430	204824	140	243	54	40
85	32	USA-TX	ARLINGTON, LOVE FIELD	32.8N	96.9W	33.3N	97.4W	0	NV	250	N	Y	19910430	204829	139	243	53	40
85	33	USA-TX	NO.DALLAS, RESERVOIRS	33.0N	96.7W	32.6N	96.8W	0	NV	250	N	Y	19910430	204842	139	245	53	40
85	34	USA-TX	SE.DALLAS, TERRELL	32.7N	96.4W	32.2N	96.4W	10	NV	250	N	Y	19910430	204851	139	246	53	40
85	35	USA-TX	NO.HOUSTON,INT.AIRPORT	30.0N	95.4W	31.2N	95.5W	20	LO	250	N	Y	19910430	204910	139	248	53	40
85	36	USA-TX	HOUSTON, CLEAR LAKE	29.7N	96.4W	31.0N	95.3W	20	LO	250	N	Y	19910430	204914	139	248	53	40
85	37	USA-TX	SE.HOUSTON, CLEAR LAKE	29.6N	95.1W	30.0N	94.5W	15	NV	250	N	Y	19910430	204932	139	250	52	40
85	38	USA-TX	SE.HOUSTON, CLEAR LAKE	29.6N	95.1W	29.8N	94.4W	15	NV	250	N	Y	19910430	204936	139	251	52	40
85	39	USA-TX	GALVESTON BAY,CLEAR LAKE	29.5N	95.0W	29.6N	94.2W	15	NV	250	N	Y	19910430	204940	139	251	52	40
85	40	USA-TX	HOUSTON, CLEAR LAKE	29.5N	95.1W	29.0N	93.7W	15	LO	250	N	Y	19910430	204951	139	252	52	40
89	31	USA-TX	TEXARKANA,REC RIVER	33.5N	93.9W	34.6N	94.8W	0	LO	250	N	N	19910429	205507	141	250	49	24
90	23	USA-TX	DARK FRAME,NEAR LUBBOCK	34.0N	102.0W	33.9N	102.6W	0	LO	250	N	N	19910429	130318	142	80	11	19
90	24	USA-TX	DARK FRAME,AMARILLO AREA	35.2N	101.7W	35.2N	101.3W	0	LO	250	N	N	19910429	130344	143	81	12	19
90	25	USA-TX	DARK FRAME, TX-OK BORDER	36.0N	100.0W	36.1N	100.4W	0	LO	250	N	N	19910429	130402	143	81	13	19
90	26	USA-TX	DARK FRAME, TX-OK BORDER	37.0N	100.0W	36.8N	99.7W	0	LO	250	N	N	19910429	130416	143	82	14	19
95	27	USA-TX	LAKE TAWAKONI AREA	32.9N	95.7W	34.3N	95.6W	40	LO	100	N	N	19910505	184433	144	176	65	119
95	28	USA-TX	TOLEDO BEND RESERVOIR	31.3N	93.7W	31.7N	93.2W	60	LO	100	N	N	19910505	184523	144	183	67	119
96	68	USA-TX	EL PASO AREA	31.7N	106.5W	32.4N	104.0W	0	LO	250	N	N	19910502	203229	138	201	60	72

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM		
				LAT	LO	LAT	LO										EL	EL	OR
36	69	USA-TX	GUADALUPE MTS AREA	31.8N	104.9W	32.2N	103.8W	0	LO	250	N	N	19910502	203234	138	202	60	72	
151	171	USA-TX	WICHITA FALLS, RED RIVER	34.0N	98.5W	34.5N	98.6W	10	LO	250	N	Y	19910430	204800	140	240	54	40	
151	172	USA-TX	DALLAS-FORT WORTH AREA	32.5N	97.0W	33.2N	97.3W	5	NV	250	N	N	19910430	204827	139	244	53	40	
151	173	USA-TX	CORSICANA, RICHLAND RES.	32.0N	96.0W	32.2N	96.4W	15	LO	250	N	N	19910430	204845	139	246	53	40	
151	174	USA-TX	HOUSTON-GALVESTON AREA	30.0N	95.5W	31.0N	95.3W	10	LO	250	N	N	19910430	204909	139	248	53	40	
151	175	USA-TX	HOUSTON-GALVESTON AREA	29.5N	95.5W	30.4N	94.8W	5	LO	250	N	Y	19910430	204920	139	250	52	40	
151	176	USA-TX	HOUSTON-GALVESTON AREA	29.5N	95.0W	29.5N	94.0W	5	LO	250	N	Y	19910430	204938	139	252	52	40	
151	177	USA-TX	BEAUMONT-PORT ARTHUR	29.5N	94.0W	29.0N	93.7W	25	LO	250	N	Y	19910430	204947	139	253	52	40	
612	2	USA-TX	OBL. UPPER TEXAS COAST	30.0N	97.0W	32.3N	92.5W	50	HO	100	N	N	19910429	205600	138	255	48	23	
612	3	USA-TX	OBL. UPPER TEXAS COAST	30.0N	96.0W	29.2N	89.8W	55	HO	100	N	N	19910429	205700	138	261	46	23	
612	4	USA-TX	OBL. UPPER TEXAS COAST	31.0N	95.0W	29.2N	89.8W	55	HO	100	N	N	19910429	205700	138	261	46	23	
612	5	USA-TX	OBL. UPPER TEXAS COAST	31.0N	95.0W	29.2N	89.8W	60	HO	100	N	N	19910429	205700	138	261	46	23	
75	59	USA-UT	GREAT SALT LAKE	41.0N	112.0W	45.2N	103.8W	65	HO	250	N	Y	19910428	205750	143	230	49	8	
75	60	USA-UT	GREAT SALT LAKE			44.6N	102.9W	55	HO	250	N	Y	19910428	205804	143	232	49	8	
75	61	USA-UT	GREAT SALT LAKE			44.3N	102.4W	60	HO	250	N	Y	19910428	205811	143	233	49	8	
75	96	USA-UT	LAKE POWELL-GRAND CANYON	37.0N	111.0W	35.7N	114.6W	15	LO	250	N	Y	19910428	223049	141	252	45	9	
75	97	USA-UT	LAKE POWELL-GRAND CANYON	37.5N	111.0W	35.0N	113.8W	20	LO	250	N	Y	19910428	223104	141	254	44	9	
83	88	USA-VA	NE COAST, (HALF PICTURE)	36.9N	76.2W	37.4N	74.9W	0	LO	250	N	N	19910429	192438	141	244	50	23	
90	123	USA-VA	VERY DARK FRAME			38.6N	76.2W	20	LO	250	N	N	19910429	192411	141	242	50	23	
90	124	USA-VA	VERY DARK FRAME			38.3N	75.9W	10	LO	250	N	N	19910429	192416	141	242	50	23	
151	38A	USA-VA	DELMARVA PEN., NORFOLK	37.5N	76.0W	37.2N	74.7W	60	LO	250	N	N	19910429	192441	142	245	50	23	
151	200	USA-VA	APPALACHIAN MTS.	37.0N	81.0W	36.8N	81.9W	60	NV	250	N	N	19910501	191001	139	217	58	55	
151	201	USA-VA	ROANOKE, SMITH MTN. RES.	37.0N	80.0W	35.2N	80.3W	40	LO	250	N	N	19910501	191032	139	222	58	55	
85	12	USA-WA	SNAKE R., PALOUSE AREA	46.5N	117.0W	43.7N	117.9W	10	LO	250	N	N	19910430	142926	142	84	15	36	
96	61	USA-WA	BELLINGHAM AREA	48.7N	122.5W	47.9N	123.9W	5	LO	100	N	N	19910502	202657	141	152	47	72	
96	62	USA-WA	SEATTLE, TACOMA AREA	47.3N	122.2W	47.7N	123.4W	5	LO	100	N	N	19910502	202703	141	153	48	72	
96	63	USA-WA	EVERETT AREA	48.0N	122.0W	47.5N	123.1W	5	LO	100	N	N	19910502	202707	141	153	48	72	
151	238	USA-WA	MOUNT ADAMS, COLUMBIA R.	46.0N	121.0W	46.9N	120.2W	5	NV	250	N	N	19910502	141445	141	72	2	68	
151	239	USA-WA	YAKIMA	46.0N	120.5W	47.1N	119.9W	5	NV	250	N	N	19910502	141449	141	72	2	68	
604	33	USA-WA	COLUMBIA PLATEAU	47.5N	119.5W	44.2N	120.9W	0	NV	250	N	N	19910501	142200	136	83	14	51	
604	34	USA-WA	COLUMBIA, SNAKE RIVERS	46.0N	119.0W	44.2N	120.9W	0	NV	250	N	N	19910501	142200	136	83	14	51	
610	4	USA-WA	COLUMBIA PL., POTHLES R	47.0N	119.0W	42.7N	119.2W	0	LO	250	N	N	19910430	142900	137	85	16	35	
610	5	USA-WA	COLUMBIA/SNAKE RIVERS	46.0N	119.0W	42.7N	119.2W	0	LO	250	N	Y	19910430	142900	137	85	16	35	
610	6	USA-WA	SNAKE RIVER	46.5N	118.0W	42.7N	119.2W	0	LO	250	N	Y	19910430	142900	137	85	16	35	
73	23	USA-WI	MILWAUKEE-VERY HAZY	43.0N	88.0W	42.6N	88.6W	90	NV	250	N	Y	19910428	131234	144	92	24	3	
73	24	USA-WI	MILWAUKEE-VERY HAZY	43.0N	88.0W	42.7N	88.5W	90	NV	250	N	Y	19910428	131236	144	93	24	3	
73	25	USA-WI	MILWAUKEE-VERY HAZY	43.0N	88.0W	42.8N	88.3W	90	NV	250	N	Y	19910428	131239	144	93	24	3	
73	26	USA-WI	L.MICHIGAN-MILWAUKEE-HZY	43.5N	87.5W	43.0N	88.0W	90	NV	250	N	Y	19910428	131243	144	93	24	3	
73	27	USA-WI	L.MICHIGAN-SHEBOYGAN-HZY	43.5N	87.5W	43.1N	87.9W	95	NV	250	N	Y	19910428	131245	144	93	24	3	
73	28	USA-WI	L.MICHIGAN-SHEBOYGAN-HZY	44.0N	87.0W	43.3N	87.7W	95	LO	250	N	Y	19910428	131249	144	93	24	3	

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LO	LAT	LO										EL	OR
95	0	L USA-WI	MS R,WI R, SNOW/ICE	45.0N	89.0W	40.4N	99.6W	30	HO	250	O	N	19910430	125837	142	81	12	35
35	18	USA-WY	RIVERTON AREA	43.3N	108.3W	45.8N	109.9W	20	LO	100	N	N	19910505	184029	146	147	51	119
95	19	USA-WY	S.BIG HORN MTS.	44.0N	107.0W	44.6N	108.1W	40	LO	100	N	N	19910505	184055	146	150	53	119
95	20	USA-WY	S.BIG HORN MTS.	43.5N	107.0W	44.5N	107.8W	30	LO	100	N	N	19910505	184059	146	150	53	119
95	21	USA-WY	AREA NEAR CASPER, VRYCLDY	42.9N	105.6W	42.9N	105.6W	80	LO	100	N	N	19910505	184134	145	154	55	119
86	36	USSR	MINS. WEST OF IRKUTSK	52.1N	102.5E	51.6N	102.3E	0	LO	250	N	N	19910430	010648	144	103	29	27
86	37	USSR	MID.PART LAKE BAYKAL,ICE	53.2N	107.5E	53.0N	106.5E	70	LO	250	N	N	19910430	010733	144	108	31	27
86	38	USSR	MID.PART LAKE BAYKAL,ICE	53.8N	108.2E	53.5N	108.2E	40	LO	250	N	N	19910430	010751	144	110	32	27
93	57	USSR	VRY HAZY,NO ID FEATURES	49.0N	72.2E	49.0N	72.2E	30	HO	250	N	N	19910506	002452	147	64	-2	123
93	58	USSR	VRY HAZY,NO ID FEATURES	49.2N	72.6E	49.2N	72.6E	30	HO	250	N	N	19910506	002457	147	64	-1	123
93	59	USSR	VRY HAZY,NO ID FEATURES	49.6N	73.4E	49.6N	73.4E	20	HO	250	N	N	19910506	002507	147	65	-1	123
93	60	USSR	VRY HAZY,NO ID FEATURES	49.7N	73.7E	49.7N	73.7E	20	HO	250	N	N	19910506	002511	147	65	-1	123
94	24	USSR	SAYAN MTS.,SNOW COVERED	55.8N	93.7E	55.8N	93.7E	0	LO	250	N	N	19910505	003355	148	78	10	107
94	25	USSR	SAYAN MTS.,SNOW COVERED	56.0N	100.0E	56.0N	100.0E	0	LO	250	N	N	19910505	003407	148	78	11	107
151	6	USSR	LOWER VOLGA, VOLGOGRAD	49.0N	44.0E	50.9N	40.1E	15	HO	90	N	N	19910429	102149	144	205	51	17
151	7	USSR	VOLGA RIVER DELTA	45.5N	49.0E	48.1N	46.3E	15	LO	90	N	N	19910429	102305	143	216	51	17
151	8	USSR	ARAL SEA, UST-URT PLAT.	43.0N	59.0E	44.8N	52.0E	30	HO	90	N	N	19910429	102424	143	227	51	17
151	42	USSR	HIJUMAA, SAAREMAA ISLAND	58.5N	22.5E	57.3N	21.7E	10	LO	250	N	N	19910430	083939	145	139	42	32
151	43	USSR	LAKE BALKHASH	46.5N	75.5E	46.3N	68.3E	5	LO	250	N	N	19910430	084727	142	213	53	32
603	33	USSR	THUNDERSTORMS, V. DARK	42.1N	44.4E	42.1N	44.4E	75	NV	250	O	N	19910502	100300	135	212	60	64
71	22	USSR-EUROPEAN	SIMFEROPOL-BLACK SEA	45.0N	34.0E	43.3N	35.7E	5	LO	250	N	Y	19910428	120045	131	237	47	2
71	23	USSR-EUROPEAN	SIVASH LAKE-SEA OF AZOV	45.5N	34.5E	43.2N	35.8E	20	LO	250	N	Y	19910428	120047	131	238	47	2
71	24	USSR-EUROPEAN	SEVASTOPOL-BLACK SEA	44.5N	34.0E	43.1N	36.0E	0	LO	250	N	N	19910428	120050	131	238	47	2
71	25	USSR-EUROPEAN	LAKE SIVASH-KIROVSKOYE	45.0N	35.0E	42.8N	36.3E	40	LO	250	N	Y	19910428	120055	131	239	47	2
71	26	USSR-EUROPEAN	CRIMEAN PEN.-BLACK SEA	45.0N	35.5E	42.4N	36.9E	50	LO	250	N	Y	19910428	120105	131	240	47	2
72	35	USSR-EUROPEAN	VOLGA R. N. OF MOSCOW	57.0N	38.0E	57.0N	38.0E	15	LO	250	N	N						
72	36	USSR-EUROPEAN	VOLGA R., YAROSLAVL	57.5N	40.5E	57.5N	40.5E	5	LO	250	N	N						
72	37	USSR-EUROPEAN	VOLGA R., GORKIY RES.	56.5N	43.5E	56.5N	43.5E	30	LO	250	N	N						
72	38	USSR-EUROPEAN	VOLGA R., ZELENODOLSK	56.0N	49.0E	56.0N	49.0E	0	NV	250	N	N						
72	39	USSR-EUROPEAN	VOLGA R., KUYBYSHEV RES.	55.0N	49.0E	55.0N	49.0E	0	LO	250	N	N						
73	82	USSR-EUROPEAN	COASTLINE, CASPIAN SEA	45.0N	47.0E	43.3N	44.8E	0	LO	250	N	Y	19910429	040855	144	91	22	13
73	83	USSR-EUROPEAN	COASTLINE, CASPIAN SEA	45.5N	48.0E	44.0N	45.8E	0	LO	250	N	Y	19910429	040910	144	92	23	13
73	84	USSR-EUROPEAN	COAST-CASPIAN SEA-OLYA	45.5N	47.5E	44.7N	46.9E	0	NV	250	N	Y	19910429	040926	144	93	24	13
73	85	USSR-EUROPEAN	ASTRAKIIAN-VOLGA RIVER	46.5N	48.0E	45.0N	47.3E	0	LO	250	N	Y	19910429	040933	144	93	24	13
73	86	USSR-EUROPEAN	VOLGA RIVER DELTA	46.5N	48.0E	45.3N	47.9E	0	LO	250	N	Y	19910429	040941	144	94	24	13
73	87	USSR-EUROPEAN	VOLGA RIVER DELTA	46.5N	49.0E	45.7N	48.5E	0	LO	250	N	Y	19910429	040950	144	95	25	13
73	100	USSR-EUROPEAN	UL'YANOVSK-VOLGA RIVER	54.5N	48.5E	54.5N	47.4E	0	NV	250	N	Y	19910429	054339	145	119	36	14
73	101	USSR-EUROPEAN	UL'YANOVSK-VOLGA RIVER	54.5N	48.5E	54.7N	48.3E	0	NV	250	N	Y	19910429	054348	145	121	36	14
73	102	USSR-EUROPEAN	VOLGA RIVER	57.0N	54.0E	55.8N	54.0E	5	LO	250	N	N	19910429	054441	145	128	38	14
79	57	USSR-EUROPEAN	KALININGRAD	54.5N	20.0E	53.6N	21.6E	0	LO	250	N	N	19910429	071252	145	115	34	15

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		NADIR		CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN	
				LAT	LONG	LAT	LONG											
79	58	USSR-EUROPEAN	VYATKA RIVER-URZHUM	57.0N	50.0E	57.3N	50.9E	10	NV	250	N	Y	19910429	071715	145	153	44	15
79	59	USSR-EUROPEAN	VYATKA RIVER-SHURMA	57.0N	50.5E	57.3N	51.8E	10	LO	250	N	Y	19910429	071723	145	154	45	15
79	60	USSR-EUROPEAN	KAMA RIVER-SARAPUL	56.5N	54.0E	57.2N	54.9E	5	NV	250	N	Y	19910429	071749	145	158	45	15
79	61	USSR-EUROPEAN	KAMA RIVER-KAMBARKA	56.0N	54.0E	57.2N	55.4E	5	LO	250	N	Y	19910429	071753	145	159	46	15
79	62	USSR-EUROPEAN	LAKE-KARMANOV	56.5N	54.5E	57.1N	55.9E	5	LO	250	N	Y	19910429	071757	145	160	46	15
79	63	USSR-EUROPEAN	UFA RIVER-RESERVOIR	56.0N	57.0E	57.0N	58.1E	5	LO	250	N	Y	19910429	071816	145	163	46	15
79	64	USSR-EUROPEAN	UFA RIVER-RESERVOIR	55.5N	56.5E	57.0N	58.7E	5	LO	250	N	Y	19910429	071821	145	164	46	15
79	65	USSR-EUROPEAN	REYDA-PERVOURAL'SK	57.0N	59.5E	56.7N	61.1E	5	LO	250	N	Y	19910429	071842	145	167	47	15
80	9	USSR-EUROPEAN	SARATOVSKOYE RES.-BALAKO	52.5N	48.0E	54.6N	51.2E	5	LO	250	U	Y	19910429	085014	145	186	49	16
80	10	USSR-EUROPEAN	SARATOVSKOYE RES.-BALAKO	52.5N	48.0E	54.5N	51.6E	5	LO	250	U	Y	19910429	085017	145	187	49	16
80	11	USSR-EUROPEAN	SARATOVSKOYE RES.	52.0N	48.0E	54.3N	52.4E	5	LO	250	U	Y	19910429	085025	145	188	50	16
80	12	USSR-EUROPEAN	PUGACHEV-NEAR VOLGA R.	52.0N	49.0E	54.2N	52.7E	5	LO	250	N	Y	19910429	085028	145	188	50	16
80	13	USSR-EUROPEAN	LAKE ARALSOR	49.0N	48.5E	53.7N	54.7E	10	LO	250	N	Y	19910429	085048	145	192	50	16
80	14	USSR-EUROPEAN	UIL RIVER	49.0N	55.0E	50.9N	62.8E	5	LO	250	N	Y	19910429	085216	144	206	51	16
80	15	USSR-EUROPEAN	RIV.-CHELKAR NEAR ARAL	47.5N	60.5E	50.3N	64.3E	0	LO	250	N	Y	19910429	085233	144	208	51	16
80	16	USSR-EUROPEAN	ARAL SEA-BARSAKEL MES I.	45.5N	59.5E	49.5N	66.3E	25	LO	250	U	Y	19910429	085257	144	212	51	16
80	40	USSR-EUROPEAN	RESERVOIR?-HAZY			51.3N	39.1E	70	LO	250	N	Y	19910429	102141	144	203	51	17
80	41	USSR-EUROPEAN	THE DON-DUNES	49.5N	43.0E	51.0N	40.0E	10	LO	250	N	Y	19910429	102151	144	205	51	17
80	42	USSR-EUROPEAN	THE DON-DUNES	49.5N	43.5E	50.7N	40.7E	0	LO	250	N	Y	19910429	102159	144	206	51	17
80	43	USSR-EUROPEAN	VOLGOGRAD-VOLGA R.-FUZZY	49.0N	45.0E	49.8N	42.8E	0	LO	250	N	Y	19910429	102224	144	210	51	17
80	44	USSR-EUROPEAN	VOLGA R.-VOLGOGRAD	48.5N	44.5E	49.2N	44.2E	0	LO	250	N	Y	19910429	102241	144	213	51	17
80	15	USSR-EUROPEAN	THE DON-DUNES	49.0N	44.0E	48.8N	44.8E	10	NV	250	N	Y	19910429	102249	144	214	51	17
80	46	USSR-EUROPEAN	AREA NE OF VOLGOGRAD	49.0N	45.5E	48.3N	45.8E	0	NV	250	N	Y	19910429	102302	143	216	51	17
80	47	USSR-EUROPEAN	SALT PANS	47.0N	46.0E	47.9N	46.7E	0	LO	250	N	Y	19910429	102313	143	217	51	17
80	48	USSR-EUROPEAN	VOLGA R. DEL.-ASTRAKHAN	46.5N	48.0E	47.6N	47.3E	0	LO	250	N	Y	19910429	102321	143	218	51	17
80	49	USSR-EUROPEAN	VOLGA RIVER DELTA	46.0N	49.0E	47.1N	48.1E	0	LO	250	N	Y	19910429	102332	143	220	51	17
80	50	USSR-EUROPEAN	VOLGA RIVER DELTA	49.5N	48.0E	47.0N	48.3E	0	LO	250	N	Y	19910429	102335	143	220	51	17
80	51	USSR-EUROPEAN	SARYKAMYSHSKOYE L.&SALT	42.0N	57.5E	42.6N	55.3E	50	LO	250	N	Y	19910429	102517	142	234	50	17
80	52	USSR-EUROPEAN	ARAL SEA-VOZROZHDENIYA I	45.0N	59.0E	41.8N	56.3E	0	LO	250	N	Y	19910429	102534	142	236	50	17
84	52	USSR-EUROPEAN	BATUMI,CORUH R/EFFLUENT	41.6N	41.6E	41.5N	41.8E	20	NV	250	N	Y	19910503	095434	139	157	50	81
85	41	USSR-EUROPEAN	KRASHNOVSKIY PEN,CASP.S.	40.5N	53.5E	42.8N	59.0E	0	LO	250	N	Y	19910501	022523	142	79	11	44
85	42	USSR-EUROPEAN	KARA-BOGAZ-GOL,(NO.HALF)	41.5N	53.5E	43.3N	59.6E	0	LO	250	N	Y	19910501	022533	142	80	11	44
85	43	USSR-EUROPEAN	L.SARYKAMYSHSKOYE	42.0N	57.4E	44.0N	60.7E	0	LO	250	N	Y	19910501	022550	142	81	12	44
85	45	USSR-EUROPEAN	L.TENGIZ, DESERT	50.4N	69.2E	50.1N	71.9E	0	LO	250	N	Y	19910501	022821	143	90	20	44
85	75	USSR-EUROPEAN	KURA R/BASIN, RESERVOIR	40.0N	48.0E	35.7N	48.5E	0	LO	250	N	Y	19910503	095635	138	174	56	81
86	72	USSR-EUROPEAN	AREA SW OF ASTRAKHAN	46.3N	47.5E	47.9N	48.4E	70	LO	250	N	Y	19910430	040414	143	93	23	29
86	73	USSR-EUROPEAN	MOUTH OF VOLGA RIVER	46.5N	48.5E	48.5N	49.5E	40	LO	250	N	Y	19910430	040429	143	95	24	29
86	74	USSR-EUROPEAN	MOUTH OF VOLGA RIVER	46.5N	49.0E	48.7N	50.0E	0	LO	250	N	Y	19910430	040435	144	95	24	29
86	75	USSR-EUROPEAN	E. OF MOUTH OF VOLGA R.	46.8N	50.0E	49.0N	50.5E	0	LO	250	N	Y	19910430	040441	144	96	25	29
87	83	USSR-EUROPEAN	ULYANOVSK, VOLGA R/RES.	54.3N	48.4E	55.1N	50.2E	5	LO	250	U	Y	19910429	054414	145	123	37	14

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
87	84	USSR-EUROPEAN	ULYANOVSK, VOLGA R/RES.	54.3N 48.5E	55.3N 51.2E	5	LO	250	U	Y	19910429	054423	145	124	37	14
87	85	USSR-EUROPEAN	AGR-BLURRED,CLOUD STRIP	55.4N	51.9E	15	LO	250	U	Y	19910429	054430	145	125	38	14
87	86	USSR-EUROPEAN	AGR-BLURRED,CLOUD STRIP	55.6N	52.7E	15	LO	250	U	Y	19910429	054437	145	126	38	14
87	87	USSR-EUROPEAN	UFA R, AGR,JET STREAM	55.3N 56.5E	56.3N 56.9E	40	LO	250	N	N	19910429	054515	145	131	40	14
87	104	USSR-EUROPEAN	KALININGRAD, AFLD, COAST	54.7N 20.3E	56.4N 18.4E	15	LO	250	N	Y	19910429	101819	145	170	48	17
87	105	USSR-EUROPEAN	KALININGRAD, AFLD, COAST	54.7N 20.5E	56.3N 19.0E	20	LO	250	N	Y	19910429	101824	145	171	48	17
87	106	USSR-EUROPEAN	KURSKIY BAY,BARRIER BAR	55.1N 21.3E	56.1N 20.4E	50	LO	250	N	N	19910429	101836	145	173	48	17
87	107	USSR-EUROPEAN	VOLGA R/RES,VOLGOGRAD	48.8N 44.7E	50.2N 41.9E	0	LO	250	U	N	19910429	102216	144	208	51	17
87	108	USSR-EUROPEAN	VOLGA R,KRASNO-ARMEYSK	48.0N 45.3E	50.0N 42.3E	0	LO	250	U	N	19910429	102220	144	209	51	17
87	109	USSR-EUROPEAN	KAPUSTIN,AFLDS, AGR.	48.9N 45.8E	49.2N 44.2E	0	LO	250	N	N	19910429	102243	144	213	51	17
87	110	USSR-EUROPEAN	L.ELTON,AGR.	49.1N 46.5E	49.0N 44.4E	0	LO	250	N	N	19910429	102246	144	213	51	17
87	111	USSR-EUROPEAN	SALT LAKES, SHUNGAY	48.5N 46.8E	48.8N 44.8E	0	LO	250	N	N	19910429	102251	144	214	51	17
87	112	USSR-EUROPEAN	L.BASKUNCHAK,AGR,RR	47.9N 47.0E	48.6N 45.3E	0	LO	250	N	Y	19910429	102257	144	215	51	17
87	113	USSR-EUROPEAN	VOLGA R/CHAN, AGR.	47.7N 46.7E	48.4N 45.7E	0	LO	250	N	Y	19910429	102302	144	215	51	17
87	114	USSR-EUROPEAN	SUYUNDUK,BALKUDUK,SALARS	48.1N 47.7E	48.2N 46.1E	0	LO	250	N	N	19910429	102307	143	216	51	17
87	115	USSR-EUROPEAN	L.ARALSOR, RYN DESERT	48.8N 48.4E	47.9N 46.7E	0	LO	250	N	N	19910429	102315	143	217	51	17
87	116	USSR-EUROPEAN	VOLGA R/CHAN,MIL.BASE	46.8N 48.0E	47.6N 47.2E	0	LO	250	N	Y	19910429	102322	143	218	51	17
87	117	USSR-EUROPEAN	VOLGA R/DELTA,MIL.BASE	46.7N 48.5E	47.5N 47.5E	0	LO	250	N	Y	19910429	102326	143	219	51	17
87	118	USSR-EUROPEAN	RYN DESERT	47.1N	48.1E	0	LO	250	N	N	19910429	102334	143	220	51	17
87	119	USSR-EUROPEAN	CASPIAN SEA,ZABURUNYE B.	46.8N 50.0E	46.9N 48.5E	0	LO	250	N	Y	19910429	102340	143	221	51	17
87	120	USSR-EUROPEAN	CASPIAN SEA,SEMMOY BAY	47.0N 50.6E	46.7N 48.8E	0	LO	250	N	Y	19910429	102344	143	221	51	17
87	121	USSR-EUROPEAN	VOLGA DELTA,SINEYE M.BAY	46.3N 49.8E	46.5N 49.2E	0	NV	250	U	N	19910429	102349	143	222	51	17
87	122	USSR-EUROPEAN	CASPIAN SEA-EAST CST.	46.5N 52.8E	46.0N 50.1E	5	LO	250	N	N	19910429	102401	143	224	51	17
87	123	USSR-EUROPEAN	BIZACHI PEN,SALAR	45.2N 51.9E	45.8N 50.4E	20	LO	250	N	N	19910429	102406	143	224	51	17
87	124	USSR-EUROPEAN	TYUB-KARAGAN PEN,KARAGAN	44.8N 50.5E	44.7N 52.1E	25	LO	250	N	Y	19910429	102431	143	228	51	17
87	125	USSR-EUROPEAN	TYUB-KARAGAN PEN,KARAGAN	44.4N 50.8E	44.5N 52.5E	35	LO	250	N	Y	19910429	102437	143	229	51	17
151	52A	USSR-EUROPEAN	URAL R. DELTA, CASPIAN S	47.0N 51.0E	43.8N 49.5E	30	LO	250	N	N	19910430	101758	142	221	54	33
151	52B	USSR-EUROPEAN	E. SHORELINE CASPIAN SEA	42.5N 52.5E	42.5N 51.4E	25	LO	250	N	N	19910430	101828	142	225	54	33
151	53	USSR-EUROPEAN	ZALIV KARA-BOGAZ-GOL	41.5N 54.0E	41.8N 52.3E	30	LO	250	N	N	19910430	101842	141	226	54	33
151	54	USSR-EUROPEAN	ZALIV KARA-BOGAZ-GOL	41.0N 53.5E	41.6N 52.6E	30	LO	250	N	Y	19910430	101846	141	227	54	33
601	1	USSR-EUROPEAN	CLOUDS	54.1N	29.7E	85	HO	100	N	N	19910429	102000	138	188	50	16
601	2	USSR-EUROPEAN	CLOUDS	54.1N	29.7E	95	HO	100	N	N	19910429	102000	138	188	50	16
603	41	USSR-EUROPEAN	CLOUDS OVER UKRAINE	52.8N	30.5E	90	HO	100	N	N	19910430	101400	137	187	52	32
603	42	USSR-EUROPEAN	KREMENCHUG RES., DNEPER	49.0N 32.0E	46.4N 45.5E	50	HO	100	N	N	19910430	101700	137	215	54	32
603	43	USSR-EUROPEAN	KREMENCHUG RES., DNEPER	48.0N 32.0E	46.4N 45.5E	60	HO	100	N	N	19910430	101700	137	215	54	32
603	44	USSR-EUROPEAN	KREMENCHUG RES., DNEPER	47.0N 31.0E	46.4N 45.5E	60	HO	100	N	N	19910430	101700	137	215	54	32
603	45	USSR-EUROPEAN	CASPIAN SEA, MAKHACHKALA	44.0N 48.0E	46.4N 45.5E	60	LO	100	N	N	19910430	101700	137	215	54	32
603	46	USSR-EUROPEAN	CAUCASUS MTS., CASPIAN S	43.0N 44.0E	43.8N 49.6E	50	LO	100	N	N	19910430	101800	137	224	54	32
603	47	USSR-EUROPEAN	CAUCASUS MTS., CASPIAN S	43.0N 46.0E	43.8N 49.6E	50	HO	100	N	N	19910430	101800	137	224	54	32
603	48	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	42.5N 52.5E	43.8N 49.6E	45	LO	100	N	N	19910430	101800	137	224	54	32

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	NADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
603	49	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	41.0N 52.0E	41.1N 53.3E	55	L0	100	N	N	19910430	101900	137	232	54	32
603	50	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	40.5N 52.0E	41.1N 53.3E	55	L0	100	N	N	19910430	101900	137	232	54	32
603	51	USSR-EUROPEAN	CASPIAN SEA, EAST SHORE	40.0N 53.0E	41.1N 53.3E	55	L0	100	N	N	19910430	101900	137	232	54	32
603	52	USSR-EUROPEAN	CASPIAN SEA, BALKAN RA.	39.0N 54.5E	41.1N 53.3E	45	L0	100	N	N	19910430	101900	137	232	54	32
606	28	USSR-EUROPEAN	AGRICULTURE, UKRAINE			70	L0	100	N	N						
606	29	USSR-EUROPEAN	AGRICULTURE, UKRAINE			75	L0	100	N	N						
606	30	USSR-EUROPEAN	KARKINITSK GULF, ODESSA	46.0N 32.0E		55	H0	100	N	N						
606	31	USSR-EUROPEAN	KARKINITSK GULF, CRIMEA	46.0N 34.0E		45	L0	100	N	N						
606	32	USSR-EUROPEAN	CRIMEA, SEA OF AZOV	45.5N 35.0E		40	L0	100	N	N						
606	33	USSR-EUROPEAN	KERCH STRAIT, BLACK SEA	45.0N 37.0E		40	L0	100	N	N						
606	34	USSR-EUROPEAN	PT. PITSUNDA, SOCHI	43.0N 40.0E		30	L0	100	N	N						
606	36	USSR-EUROPEAN	SED. PLUME NEAR BATUMI	41.5N 41.5E		45	L0	100	N	N						
609	37	USSR-EUROPEAN	VOLGA R., AKHTUBINSK	48.5N 46.0E	50.2N 40.8E	0	NV	250	N	N	19910505	081100	141	154	54	111
609	38	USSR-EUROPEAN	VOLGA R., AKHTUBINSK	48.0N 46.5E	50.2N 40.8E	0	NV	250	N	Y	19910505	081100	141	154	54	111
72	40	USSR-MIDDLE	LAKE BALKHASH	46.5N 75.5E		0	L0	250	N	N						
72	41	USSR-MIDDLE	TIEN SHAN			45	L0	250	N	N						
73	88	USSR-MIDDLE	LAKE BAYKAL-FROZEN	55.5N 109.5E	56.3N 109.9E	0	NV	250	N	Y	19910429	041951	145	173	48	13
73	89	USSR-MIDDLE	LAKE BAYKAL-FROZEN	55.5N 109.5E	56.3N 110.3E	0	NV	250	N	Y	19910429	041954	145	174	48	13
73	90	USSR-MIDDLE	LAKE BAYKAL-FROZEN	55.0N 109.5E	56.2N 110.6E	0	L0	250	N	Y	19910429	041957	145	174	48	13
73	103	USSR-MIDDLE	FIRES-DRY LAKES		57.3N 70.0E	0	L0	250	N	Y	19910429	054700	145	148	44	14
73	104	USSR-MIDDLE	FIRES-DRY LAKES		57.3N 73.8E	0	L0	250	N	Y	19910429	054732	145	153	45	14
77	68	USSR-MIDDLE	LAKE BAYKAL-ANGARA R.	52.0N 105.0E	51.1N 105.0E	40	L0	250	N	Y	19910429	011259	145	108	32	11
77	69	USSR-MIDDLE	LAKE BAYKAL	52.0N 105.5E	51.2N 105.3E	70	NV	250	N	Y	19910429	011303	145	108	32	11
77	70	USSR-MIDDLE	LAKE BAYKAL-SUNGLINT	52.5N 106.5E	51.4N 105.8E	50	L0	250	N	Y	19910429	011309	145	109	32	11
77	71	USSR-MIDDLE	LAKE BAYKAL-OL'KHON I.	53.5N 108.0E	51.8N 106.8E	0	L0	250	N	Y	19910429	011320	145	110	33	11
77	72	USSR-MIDDLE	LAKE BAYKAL-SVYATOVNOS P	54.0N 108.5E	52.4N 108.6E	0	L0	250	N	Y	19910429	011339	145	112	33	11
77	73	USSR-MIDDLE	LAKE BAYKAL-SVYATOVNOS P	54.0N 109.0E	52.8N 109.8E	0	L0	250	N	Y	19910429	011352	145	113	34	11
77	74	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	55.5N 110.0E	53.2N 110.9E	0	L0	250	O	Y	19910429	011404	145	115	34	11
77	75	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	54.5N 109.0E	53.4N 111.8E	0	L0	250	O	Y	19910429	011413	145	116	35	11
77	76	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	55.5N 110.0E	54.2N 114.8E	0	L0	250	O	Y	19910429	011443	145	119	36	11
77	77	USSR-MIDDLE	LAKE BAYKAL-NORTHERN END	55.5N 110.0E	54.6N 116.1E	0	L0	250	O	Y	19910429	011456	145	121	37	11
77	82	USSR-MIDDLE	LAKE BALKHASH-SMOKE-HAZE	46.5N 75.5E	42.2N 66.1E	15	H0	250	U	Y	19910429	023857	144	90	21	12
77	83	USSR-MIDDLE	LAKE BALKHASH-SMOKE-HAZE	46.5N 75.0E	43.1N 67.3E	0	L0	250	U	Y	19910429	023917	144	91	22	12
77	84	USSR-MIDDLE	LAKE BALKHASH-SMOKE-HAZE	46.5N 75.0E	43.5N 67.9E	0	L0	250	U	Y	19910429	023926	144	91	23	12
77	89	USSR-MIDDLE	LAKE BAYKAL	52.0N 106.0E	56.9N 108.0E	55	L0	250	N	Y	19910429	024646	145	139	42	12
77	90	USSR-MIDDLE	LAKE BAYKAL	52.5N 106.5E	56.9N 108.4E	55	L0	250	N	Y	19910429	024649	146	140	42	12
77	91	USSR-MIDDLE	LAKE BAYKAL	52.5N 106.5E	56.9N 108.7E	45	L0	250	N	Y	19910429	024652	146	140	42	12
77	92	USSR-MIDDLE	LAKE BAYKAL	53.0N 108.0E	57.0N 109.9E	30	L0	250	N	Y	19910429	024702	146	142	42	12
77	93	USSR-MIDDLE	LAKE BAYKAL	54.5N 109.0E	57.1N 111.1E	5	L0	250	N	Y	19910429	024712	146	143	42	12
77	94	USSR-MIDDLE	LAKE BAYKAL	54.5N 109.0E	57.2N 111.8E	5	L0	250	N	Y	19910429	024718	146	144	43	12

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER		MADIR		CC	TL	FL	E	S	DATE	GMT	AL	SUN				
				LAT	LONG	LAT	LONG									AZ	EL	OR		
77	95	USSR-MIDDLE	LAKE BAYKAL	53.5N	108.0E	57.2N	112.7E	15	L	O	250	N	Y	19910429	024726	146	145	43	12	
77	96	USSR-MIDDLE	LAKE BAYKAL	55.0N	110.0E	57.3N	114.5E	0	L	O	250	N	Y	19910429	024741	146	148	43	12	
77	97	USSR-MIDDLE	LAKE BAYKAL	55.0N	109.0E	57.3N	119.6E	20	L	O	250	N	Y	19910429	024824	146	155	45	12	
77	98	USSR-MIDDLE	LAKE BAYKAL	53.5N	108.0E	57.3N	120.2E	45	H	O	250	N	Y	19910429	024829	146	156	45	12	
77	99	USSR-MIDDLE	LAKE BAYKAL	54.5N	108.5E	57.0N	126.8E	80	H	O	250	N	Y	19910429	024925	145	165	46	12	
79	0	f	LAKE BAYKAL-OL'KHON I.	53.0N	107.5E	53.8N	99.8E	65	L	O	250	N	Y	19910429	055130	145	192	50	14	
79	1	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.5N	106.5E	53.7N	100.3E	60	L	O	250	N	Y	19910429	055139	145	193	50	14	
79	2	USSR-MIDDLE	LAKE BAYKAL-OY NOS PEN.	53.5N	108.5E	53.3N	101.6E	50	L	O	250	N	Y	19910429	055153	144	195	50	14	
79	3	USSR-MIDDLE	LAKE BAYKAL-OL'KHON I.	53.0N	107.5E	53.2N	101.9E	60	L	O	250	N	Y	19910429	055156	144	196	50	14	
79	4	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.5N	107.0E	53.1N	102.2E	45	L	O	250	N	Y	19910429	055159	144	196	50	14	
79	5	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.0N	106.0E	53.0N	102.5E	45	L	O	250	N	Y	19910429	055202	144	197	50	14	
79	6	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N	105.5E	52.9N	102.8E	30	L	O	250	N	Y	19910429	055205	144	197	50	14	
79	7	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N	105.5E	52.6N	103.7E	15	L	O	250	N	Y	19910429	055215	144	199	50	14	
79	8	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	51.5N	104.5E	52.0N	105.5E	40	L	O	250	N	Y	19910429	055234	144	202	50	14	
79	9	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	51.5N	105.0E	51.8N	105.9E	30	L	O	250	N	Y	19910429	055239	144	202	50	14	
79	10	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N	105.5E	51.7N	106.2E	30	NV	250	N	Y	19910429	055242	144	203	50	14		
79	11	USSR-MIDDLE	LAKE BAYKAL-SOUTH END	52.0N	106.0E	51.6N	106.6E	10	NV	250	N	Y	19910429	055247	144	204	50	14		
79	12	USSR-MIDDLE	LAKE BAYKAL-SELENGA DEL.	52.0N	106.0E	51.4N	107.0E	10	L	O	250	N	Y	19910429	055251	144	204	50	14	
79	13	USSR-MIDDLE	LAKE BAYKAL-NORTH END	55.0N	109.5E	50.9N	108.3E	5	L	O	250	N	Y	19910429	055306	144	207	51	14	
79	14	USSR-MIDDLE	LAKE BAYKAL-SVYATOYNOG P	54.0N	109.0E	50.8N	108.6E	40	L	O	250	N	Y	19910429	055309	144	207	51	14	
79	15	USSR-MIDDLE	LAKE BAYKAL-SVYATOYNOG P	53.0N	108.5E	50.6N	109.1E	30	L	O	250	N	Y	19910429	055315	144	208	51	14	
79	66	USSR-MIDDLE	SMOKE BTW PYSHMA&TOBOL R	56.5N	65.5E	56.2N	65.5E	0	NV	250	N	Y	19910429	071921	145	174	48	15		
79	67	USSR-MIDDLE	SMOKEBTWN PYSHMA&TOBOL R	56.5N	65.0E	56.0N	66.7E	0	L	O	250	N	Y	19910429	071932	145	175	48	15	
79	68	USSR-MIDDLE	TOBOL R.-DENISOVO	56.5N	65.5E	55.7N	68.5E	0	L	O	250	N	Y	19910429	071948	145	178	48	15	
79	69	USSR-MIDDLE	SMOKE NEAR L. SALTAIM	56.5N	71.0E	55.1N	71.5E	0	L	O	250	N	Y	19910429	072016	145	183	49	15	
79	70	USSR-MIDDLE	SMOKE NEAR L. SALTAIM	56.5N	71.0E	55.0N	72.0E	0	L	O	250	N	Y	19910429	072021	145	184	49	15	
79	71	USSR-MIDDLE	LAKE SELETYENIZ	53.5N	73.0E	54.6N	73.8E	0	L	O	250	N	Y	19910429	072038	145	186	49	15	
79	72	USSR-MIDDLE	LAKE SELETYENIZ	53.0N	73.0E	54.4N	74.7E	0	L	O	250	N	Y	19910429	072047	145	188	50	15	
79	73	USSR-MIDDLE	LAKE BOL'SHOY AZHBULAT	53.0N	77.5E	53.4N	78.4E	0	NV	250	N	Y	19910429	072124	144	194	50	15		
79	74	USSR-MIDDLE	LAKE BOL'SHOY AZHBULAT	53.0N	77.0E	53.3N	78.7E	0	L	O	250	N	Y	19910429	072127	144	194	50	15	
79	75	USSR-MIDDLE	NEAR VOLCHIKHA-SMALL LAK	52.0N	80.5E	52.5N	81.3E	0	NV	250	U	Y	19910429	072155	144	199	50	15		
79	76	USSR-MIDDLE	SMALL LAKES-TREES	51.5N	79.5E	52.4N	81.7E	0	L	O	250	U	Y	19910429	072159	144	199	50	15	
79	77	USSR-MIDDLE	SMALL LAKES-TREES	51.5N	79.5E	52.2N	82.1E	0	L	O	250	U	Y	19910429	072203	144	200	50	15	
79	78	USSR-MIDDLE	IRTYSH RIVER	50.5N	80.0E	51.9N	83.1E	0	L	O	250	U	Y	19910429	072214	144	202	50	15	
79	79	USSR-MIDDLE	BUKHTARMINSKOYE RES.	49.5N	84.0E	50.9N	85.7E	25	L	O	250	U	Y	19910429	072244	144	206	51	15	
80	17	USSR-MIDDLE	ARAL SEA-NW PART	45.5N	60.5E	49.2N	66.7E	35	L	O	250	U	Y	19910429	085303	144	213	51	16	
80	18	USSR-MIDDLE	LAKE SHUBAR TENGIZ	47.5N	65.0E	48.2N	68.9E	10	L	O	250	N	Y	19910429	085330	143	217	51	16	
80	19	USSR-MIDDLE	ARYS SALT FLAT	46.0N	66.5E	46.9N	71.2E	70	L	O	250	N	Y	19910429	085401	143	221	51	16	
85	0	C	L.TENGIZ, STEPPES	51.0N	71.0E			5	H	O	40	N								
85	0	D	L.BALKASH, STEPPES	46.5N	76.5E			10	H	O	40	N								

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
85	0 E	USSR-MIDDLE	L. BALKASH, STEPPES	47.0N 76.0E		5	HO	40	N	Y						
85	0 F	USSR-MIDDLE	ILI R., L. BALKASH-E. END	45.5N 78.0E		20	HO	40	N	N						
85	44	USSR-MIDDLE	DESERT, SALT PANS		48.6N 68.7E	0	LO	250	N	N	19910501	022741	143	87	18	44
86	61	USSR-MIDDLE	BAKHARDEN AREA	38.5N 57.5E	38.7N 57.6E	0	NV	250	N	N	19910430	023113	142	81	13	28
86	62	USSR-MIDDLE	E. OF BAKHARDEN	38.2N 58.0E	38.9N 57.9E	0	LO	250	N	N	19910430	023117	142	81	13	28
86	63	USSR-MIDDLE	ASHKHABAD AREA	38.0N 58.4E	39.1N 58.1E	0	LO	250	N	N	19910430	023121	142	82	13	28
86	64	USSR-MIDDLE	KIZYLARVAT AREA	39.0N 56.3E	39.5N 58.6E	0	LO	250	N	N	19910430	023130	142	82	14	28
86	65	USSR-MIDDLE	TSENTRAL'NYE DESERT	40.0N 59.0E	40.0N 59.2E	0	LO	250	N	N	19910430	023141	142	83	14	28
86	66	USSR-MIDDLE	TSENTRAL'NYE DESERT	40.5N 59.5E	40.4N 59.6E	0	LO	250	N	N	19910430	023148	142	83	15	28
87	73	USSR-MIDDLE	L. BAYKAL, ANGARA R.	51.9N 104.6E	51.5N 106.1E	50	LO	250	N	Y	19910429	011318	145	109	32	11
87	74	USSR-MIDDLE	L. BAYKAL, ANGARA R, SNOW	51.8N 105.2E	51.7N 106.7E	40	LO	250	N	Y	19910429	011324	145	110	32	11
87	75	USSR-MIDDLE	L. BAYKAL, SNOW/ICE	52.0N 105.6E	52.0N 107.4E	60	LO	250	N	Y	19910429	011332	145	110	33	11
87	76	USSR-MIDDLE	L. BAYKAL, SELENGA R/DELTA	52.3N 106.3E	52.3N 108.4E	45	LO	250	N	Y	19910429	011343	145	112	33	11
87	77	USSR-MIDDLE	L. BAYKAL, OLKHON I, SN/ICE	52.9N 107.5E	52.6N 109.2E	10	LO	250	N	Y	19910429	011352	145	113	34	11
87	78	USSR-MIDDLE	L. BAYKAL, OLKHON I, SN/ICE	53.3N 108.0E	53.1N 110.7E	10	LO	250	N	Y	19910429	011408	145	114	34	11
87	79	USSR-MIDDLE	L. BAYKAL, SVYATOY PEN, S/I	53.7N 108.5E	53.2N 111.1E	0	LO	250	N	Y	19910429	011412	145	115	35	11
87	80	USSR-MIDDLE	L. BAYKAL, SVYATOY PEN, S/I	54.0N 109.0E	53.5N 112.1E	10	LO	250	N	Y	19910429	011422	145	116	35	11
87	81	USSR-MIDDLE	L. BAYKAL, SNOW/ICE	54.6N 109.4E	53.8N 113.1E	10	LO	250	N	Y	19910429	011432	145	117	35	11
87	82	USSR-MIDDLE	L. BAYKAL, SNOW/ICE	55.4N 109.8E	54.1N 114.2E	5	LO	250	N	N	19910429	011443	145	119	36	11
87	88	USSR-MIDDLE	PANORAMA, AGR, FIRES		57.2N 67.8E	0	LO	250	U	N	19910429	054650	145	145	43	14
87	89	USSR-MIDDLE	PANORAMA, SE, FIRES, AGR.		57.3N 68.8E	10	HO	250	U	N	19910429	054658	145	147	43	14
87	126	USSR-MIDDLE	KAYRAKKUMSKOYE RES, AGR.	37.2N 61.2E		0	LO	250	N	N						
94	26	USSR-MIDDLE	AREA AROUND NIZHEUDINSK	54.6N 99.0E	56.3N 101.9E	0	LO	250	N	N	19910505	003424	148	80	12	107
94	27	USSR-MIDDLE	AREA S. OF BRATSK	55.6N 102.0E	56.6N 103.9E	0	LO	250	N	N	19910505	003442	148	81	13	107
94	28	USSR-MIDDLE	SWAMP, VERKHNYAYA ANGARA	56.0N 111.0E	57.2N 112.5E	0	LO	100	N	N	19910505	003556	148	88	18	107
94	29	USSR-MIDDLE	SWAMP, VERKHNYAYA ANGARA	56.3N 112.5E	57.3N 113.8E	0	LO	100	N	N	19910505	003607	148	89	19	107
94	30	USSR-MIDDLE	MTNS, VALLEY W. OF MUJA	56.3N 114.5E	57.3N 115.3E	0	LO	100	N	N	19910505	003620	148	90	20	107
94	31	USSR-MIDDLE	AREA AROUND CHARA	56.8N 118.3E	57.2N 121.0E	0	LO	100	N	N	19910505	003708	148	95	23	107
94	47	USSR-MIDDLE	AREA NEAR KUSTANAY	53.0N 64.0E	53.0N 64.1E	0	LO	100	N	N	19910505	020142	148	70	3	108
94	48	USSR-MIDDLE	AREA NEAR PETROPALOVSK	54.0N 68.0E	54.1N 67.9E	30	LO	100	N	N	19910505	020220	148	73	6	108
94	49	USSR-MIDDLE	ANGARA RVR., N OF NEVON	58.8N 102.6E	57.0N 103.0E	0	LO	100	N	N	19910505	020730	148	99	25	108
94	50	USSR-MIDDLE	AREA AROUND NEVON	57.8N 103.2E	56.7N 105.8E	0	LO	100	N	N	19910505	020754	148	102	27	108
95	96	USSR-MIDDLE	TOBOLSK AREA, IRTYSH RIVR	58.2N 69.0E	57.3N 67.9E	0	LO	100	N	N	19910506	033047	148	95	23	125
95	97	USSR-MIDDLE	MALAYA BICHA, IRTYSH RIVR	58.0N 70.0E	57.3N 69.0E	0	LO	100	N	N	19910506	033056	148	96	24	125
95	98	USSR-MIDDLE	TOBOLSK AREA, IRTYSH RIVR	58.4N 69.2E	57.3N 70.2E	0	LO	100	N	N	19910506	033106	148	97	24	125
95	99	USSR-MIDDLE	MALAYA BICHA, IRTYSH RIVR	58.0N 71.0E	57.2N 71.4E	50	LO	100	N	N	19910506	033116	148	99	25	125
95	100	USSR-MIDDLE	ACHINSK AREA	56.0N 90.0E	55.4N 87.6E	30	LO	100	N	N	19910506	033339	148	115	34	125
95	101	USSR-MIDDLE	ACHINSK AREA	56.0N 90.0E		30	LO	100	N	N						
151	54A	USSR-MIDDLE	KARAKUM DESERT, KOPET MT	36.5N 61.5E	37.7N 57.3E	15	LO	250	N	N	19910430	102010	141	239	53	33
601	3	USSR-MIDDLE	CLOUDS OVER KARAKUM		43.3N 54.3E	90	LO	100	N	N	19910429	102500	138	233	51	16

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	EL	S	DATE	GMT	AL	AZ	SUN EL
601	4	USSR-MIDDLE	ARAL SEA	43.0N 60.0E	40.5N 58.0E	60	HO	100	N	N	19910429	102600	138	240	50
601	5	USSR-MIDDLE	ARAL SEA	43.0N 60.0E	40.5N 58.0E	55	HO	100	N	N	19910429	102600	138	240	50
601	6	USSR-MIDDLE	ARAL SEA	43.0N 60.5E	40.5N 58.0E	55	HO	100	N	N	19910429	102600	138	240	50
601	7	USSR-MIDDLE	AMUDAR RIVER	41.0N 62.0E	40.5N 58.0E	55	LO	100	N	N	19910429	102600	138	240	50
601	8	USSR-MIDDLE	KARAKUM, MURGAB RIVER	37.5N 61.0E	37.7N 61.4E	15	LO	100	N	N	19910429	102700	138	247	49
601	9	USSR-MIDDLE	KARAKUM, MURGAB RIVER	37.0N 62.5E	37.7N 61.4E	10	LO	100	N	N	19910429	102700	138	247	49
601	10	USSR-MIDDLE	KARAKUM, MURGAB RIVER	37.0N 61.0E	37.7N 61.4E	20	LO	100	N	N	19910429	102700	138	247	49
601	11	USSR-MIDDLE	KARAKUM, AMUDAR RIVER	38.0N 63.0E	37.7N 61.4E	15	LO	100	N	N	19910429	102700	138	247	49
601	12	USSR-MIDDLE	KARAKUM, AMUDAR RIVER	40.0N 63.0E	37.7N 61.4E	15	HO	100	N	N	19910429	102700	138	247	49
601	13	USSR-MIDDLE	KARAKUM, AMUDAR RIVER	41.0N 63.0E	34.7N 64.5E	40	HO	100	N	N	19910429	102800	138	253	47
603	13	USSR-MIDDLE	LAKE BAYKAL, IRKUTSK	53.0N 107.0E	51.7N 102.8E	20	LO	100	N	N	19910430	010700	138	105	30
603	14	USSR-MIDDLE	LAKE BAYKAL, ICE FLOWS	53.5N 109.5E	53.8N 109.6E	20	LO	100	N	N	19910430	010800	137	113	33
603	15	USSR-MIDDLE	LAKE BAYKAL, ICE FLOWS	54.0N 108.5E	53.8N 109.6E	25	LO	100	N	N	19910430	010800	137	113	33
603	16	USSR-MIDDLE	LAKE BAYKAL, ICE FLOWS	54.5N 108.5E	53.8N 109.6E	20	LO	100	N	N	19910430	010800	137	113	33
603	17	USSR-MIDDLE	LAKES, PAT. SE. BARNAUL	52.0N 80.5E	52.9N 83.6E	0	LO	100	N	N	19910430	023700	137	109	32
603	18	USSR-MIDDLE	KUZNETS MTNS.	54.5N 89.0E	52.9N 83.6E	0	LO	100	N	N	19910430	023700	137	109	32
603	19	USSR-MIDDLE	KUZNETS MTNS.	54.5N 86.0E	54.5N 89.5E	5	HO	100	N	N	19910430	023800	137	115	34
604	50	USSR-MIDDLE	ARAL SEA, AMUDAR R. DEL.	44.0N 59.5E	44.2N 57.1E	0	NV	250	N	N	19910502	021800	136	81	12
604	51	USSR-MIDDLE	ARAL SEA, CHERNYSH BAY	46.0N 59.5E	44.2N 57.1E	0	NV	250	N	N	19910502	021800	136	81	12
604	52	USSR-MIDDLE	ARAL SEA, SYRDAR R. DEL.	46.0N 61.0E	44.2N 57.1E	0	NV	250	N	N	19910502	021800	136	81	12
604	53	USSR-MIDDLE	NORTHERN ARAL SEA	46.5N 61.0E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12
604	54	USSR-MIDDLE	NORTHERN ARAL SEA	46.5N 60.5E	44.2N 57.1E	0	NV	250	N	Y	19910502	021800	136	81	12
604	55	USSR-MIDDLE	ARAL SEA, SHEVCHENKO BAY	46.5N 60.0E	46.7N 61.3E	0	NV	250	N	Y	19910502	021900	136	84	16
604	56	USSR-MIDDLE	DUST STORM SOURCE	49.0N 63.0E	49.1N 65.9E	30	LO	250	N	N	19910502	022000	136	88	19
604	57	USSR-MIDDLE	ARKALYK, MINING OPS.	50.0N 67.0E	49.1N 65.9E	0	NV	250	N	N	19910502	022000	136	88	19
604	58	USSR-MIDDLE	TENGIZ LAKE	50.5N 69.0E	49.1N 65.9E	5	NV	250	N	N	19910502	022000	136	88	19
604	59	USSR-MIDDLE	IRTYSH RIVER, KACHIRY	53.0N 76.0E	53.1N 76.5E	10	NV	250	N	N	19910502	022200	135	99	26
604	60	USSR-MIDDLE	LAKE BAYKAL	53.5N 107.5E	57.1N 110.4E	20	LO	250	N	N	19910502	022700	135	137	42
604	61	USSR-MIDDLE	LAKE BAYKAL	54.0N 108.5E	57.1N 110.4E	15	LO	250	N	N	19910502	022700	135	137	42
605	13	USSR-MIDDLE	N. LK. BAYKAL, BRATSK RES	54.0N 107.0E	51.1N 108.7E	50	HO	250	N	N	19910503	230600	139	84	16
605	21	USSR-MIDDLE	LK. BALKHASH, KARATAL R.	46.5N 77.5E	47.5N 78.2E	0	LO	250	N	N	19910504	003400	139	77	10
605	22	USSR-MIDDLE	EASTERN LK. BALKHASH	46.5N 78.5E	47.5N 78.2E	0	LO	250	N	N	19910504	003400	139	77	10
605	23	USSR-MIDDLE	LK. ZAYSAN, IRTYSH RIVER	48.5N 83.5E	49.8N 82.9E	0	LO	250	N	N	19910504	003500	139	81	13
605	24	USSR-MIDDLE	LK. ZAYSAN, IRTYSH RIVER	49.0N 84.0E	49.8N 82.9E	0	LO	250	N	Y	19910504	003500	139	81	13
605	25	USSR-MIDDLE	N. ALTAI MTNS.	50.0N 86.0E	49.8N 82.9E	10	NV	250	N	N	19910504	003500	139	81	13
605	26	USSR-MIDDLE	LK. TELETSK, SAYAN MTNS.	51.0N 87.5E	51.8N 88.1E	15	LO	250	N	N	19910504	003600	139	86	17
72	32	USSR-PACIFIC	SEA OF OKHOTSK, CL. WAKE			85	LO	250	N	N					
72	33	USSR-PACIFIC	ZAVYAL IS., TAUYSK GULF	59.0N 151.5E		50	LO	250	N	N					
72	34	USSR-PACIFIC	TAYGONOMS PEN., PENZHINSK	60.5N 160.0E		35	LO	250	N	N					
72	97	USSR-PACIFIC	KAMCHATKA PENINSULA	52.0N 159.0E		50	LO	250	O	N					

TABLE 4-4. STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR	
72	98	USSR-PACIFIC	KAMCHATKA PENINSULA	53.0N 160.0E		50	L0	250	O	N							
72	99	USSR-PACIFIC	KAMCHATKA, PETROPAPVLOVSK	53.0N 159.0E		0	NV	250	N	N							
72	100	USSR-PACIFIC	KAMCHATKA, PETROPAPVLOVSK	53.0N 159.0E		0	L0	250	N	N							
72	101	USSR-PACIFIC	KAMCHATKA, PETROPAPVLOVSK	53.5N 158.5E		5	L0	250	N	N							
72	102	USSR-PACIFIC	KAMCHATKA PENINSULA	52.0N 157.5E		60	H0	250	N	N							
75	84	USSR-PACIFIC	POS'YETA BAY	42.5N 131.0E	39.1N 130.4E	30	L0	250	U	N	19910428	220903	143	86	19	9	
75	85	USSR-PACIFIC	LAKE KHANKA	45.0N 132.0E	40.5N 132.1E	35	L0	250	U	N	19910428	220933	143	88	20	9	
75	88	USSR-PACIFIC	KAMCHATKA PENINSULA	55.0N 160.0E	54.0N 159.2E	0	L0	250	N	N	19910428	221522	145	119	36	9	
75	89	USSR-PACIFIC	KAMCHATKA-KAMCHATKA R.	56.5N 160.0E	54.3N 160.7E	25	L0	250	N	N	19910428	221537	145	121	37	9	
75	90	USSR-PACIFIC	KAMCHATKA-SHIVELUCH VOL.	57.0N 161.0E	54.5N 161.4E	20	L0	250	N	N	19910428	221543	145	121	37	9	
75	91	USSR-PACIFIC	KAMCHATKA-OZERNOY BAY	57.0N 162.0E	55.1N 164.2E	20	L0	250	N	N	19910428	221610	145	125	38	9	
75	92	USSR-PACIFIC	GOVENA PENINSULA-SEA ICE	60.0N 167.0E	55.8N 167.6E	10	L0	250	N	N	19910428	221642	146	129	39	9	
75	93	USSR-PACIFIC	INT. PAN.-VETVEYSKIY MNT	56.5N 173.0E		15	H0	250	N	N	19910428	221730	146	136	41	9	
77	0	A	STANOVY RANGE-RIVER	51.4N 128.6E		25	L0	250	N	Y	19910428	234335	145	110	33	9	
77	1	USSR-PACIFIC	STANOVY RANGE	51.7N 129.3E		60	L0	250	N	Y	19910428	234340	145	110	33	10	
77	2	USSR-PACIFIC	STANOVY RANGE	52.1N 130.5E		55	L0	250	N	Y	19910428	234354	145	111	33	10	
77	3	USSR-PACIFIC	STANOVY RANGE	52.7N 132.2E		70	L0	250	N	Y	19910428	234412	145	113	34	10	
77	4	USSR-PACIFIC	CLOUDS	53.3N 134.0E		100	L0	250	N	N	19910428	234431	145	115	35	10	
77	5	USSR-PACIFIC	STANOVY RANGE	53.6N 135.3E		45	L0	250	N	N	19910428	234444	145	117	35	10	
77	7	USSR-PACIFIC	KAMCHATKA PEN.-COAST	56.0N 156.0E	56.5N 149.7E	30	L0	250	N	Y	19910428	234700	146	135	41	10	
77	8	USSR-PACIFIC	KAMCHATKA PEN.-COAST	56.0N 156.0E	56.9N 153.5E	15	L0	250	N	Y	19910428	234733	146	140	42	10	
77	9	USSR-PACIFIC	KAMCHATKA PEN.	57.0N 154.9E		0	L0	250	N	N	19910428	234745	146	142	42	10	
77	10	USSR-PACIFIC	KAMCHATKA PEN.-VOL PLUME	56.0N 161.0E	57.1N 156.3E	30	L0	250	N	N	19910428	234757	146	144	43	10	
77	11	USSR-PACIFIC	KARAGINSKIY ISLAND	58.5N 164.0E	57.2N 158.0E	50	L0	250	N	N	19910428	234811	146	146	43	10	
77	12	USSR-PACIFIC	UKINSKAYA BAY-PACK ICE	58.0N 163.0E	57.2N 159.1E	60	L0	250	O	Y	19910428	234821	146	148	43	10	
77	13	USSR-PACIFIC	UKINSKAYA BAY-PACK ICE	58.0N 162.0E	57.3N 160.9E	60	L0	250	O	N	19910428	234836	146	150	44	10	
77	14	USSR-PACIFIC	KAMCHATSKIY PEN.-SEA ICE	56.0N 163.0E	57.3N 162.2E	30	L0	250	N	N	19910428	234847	146	152	44	10	
77	15	USSR-PACIFIC	BERINGA ISLAND-CLOUDS	55.0N 166.5E	57.3N 166.2E	40	L0	250	N	N	19910428	234921	146	157	45	10	
77	78	USSR-PACIFIC	ZEYSKOYE RESERVOIR-FROZE	55.5N 128.0E	56.4N 126.6E	5	L0	250	N	Y	19910429	011633	145	134	4J	11	
77	79	USSR-PACIFIC	ZEYSKOYE RES.-ZEYA R.	54.5N 129.0E	56.6N 128.3E	5	L0	250	N	Y	19910429	011648	145	136	41	11	
77	100	USSR-PACIFIC	ZEYSKOYE RESERVOIR	55.0N 130.5E	55.6N 137.5E	25	L0	250	N	Y	19910429	025100	145	181	49	12	
77	101	USSR-PACIFIC	ZEYSKOYE RESERVOIR	55.0N 132.0E	55.0N 140.6E	40	L0	250	N	Y	19910429	025129	145	186	49	12	
81	0	L	SAKHALIN I.-SE PENINSULA	46.4N 143.5E		0	L0	250	U	N							
81	0	M	SAKHALIN I.-L. TUNAYCHA	46.7N 143.1E		0	L0	250	U	N							
81	0	N	SAKHALIN I.-E. CST, AFED	47.4N 142.8E		0	L0	250	U	N							
81	0	S	KURILES-ONEKOTAN I.	49.3N 154.7E		30	L0	250	N	N							
81	0	T	KURILES-PARAMUSHIR I.	50.3N 155.7E		40	L0	250	N	N							
81	0	U	KAMCHATKA-SE COAST, SNOW	52.5N 158.5E		5	L0	250	N	N							
81	0	V	KAMCHATKA-AVACHINSKAYA B	53.0N 158.6E		0	L0	250	N	N							
81	0	W	KAMCHATKA-C. SHIPUNSKIY	53.2N 159.9E		15	L0	250	N	N							

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LAT	LON LON	MADIR LAT LAT	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUM EL	OR
81	0 X	USSR-PACIFIC	KAMCHATKA-C.SHIPUNSKIY	53.4N	159.3E		10	LO	250	N	N						
81	0 Y	USSR-PACIFIC	KAMCHATKA-CENT.VAL.V.DK	54.7N	158.9E		15	LO	250	U	N						
81	0AD	USSR-PACIFIC	KAMCHATKA-C.SHIPUNSKIY	52.5N	158.0E		40	HO	250	N	N						
84	29AE	USSR-PACIFIC	CRATER, MTNS, SNOW/ICE				0	LO	250	N	N						
86	8	USSR-PACIFIC	KAMCHATKA PEN., VOLCANOS	54.8N	160.5E	55.8N	30	LO	250	N	N	19910429	221021	145	123	17	25
86	9	USSR-PACIFIC	KAMCHATKA PEN., VOLCANOS	54.8N	160.5E	56.0N	30	LO	250	N	N	19910429	221029	145	124	37	25
86	10	USSR-PACIFIC	KAMCHATKA PEN., KLYUCHEVS	55.6N	160.3E	56.4N	20	LO	250	N	N	19910429	221054	145	127	38	25
86	67	USSR-PACIFIC	OSTROV ATLASOVA(VOLCANO)	50.8N	155.5E	49.4N	30	LO	250	N	N	19910430	024801	143	204	52	28
86	68	USSR-PACIFIC	OSTROV ONEKOTAN	49.4N	154.8E	49.2N	40	LO	250	N	N	19910430	024807	143	205	52	28
87	63	USSR-PACIFIC	COAST, MTNS.	43.2N	131.2E	41.4N	10	LO	250	U	N	19910428	220956	144	89	21	9
87	64	USSR-PACIFIC	MOUNTAINS, CLOUD CELLS			41.9N	45	LO	250	N	N	19910428	221006	144	90	22	9
87	66	USSR-PACIFIC	LAKE KHANKA	45.1N	132.2E	42.6N	10	LO	250	U	N	19910428	221023	144	91	22	9
87	67	USSR-PACIFIC	LAKE KHANKA	44.7N	132.6E	43.0N	15	LO	250	U	N	19910428	221031	144	91	23	9
88	66	USSR-PACIFIC	KUNASHIR IS., KURILE IS.	44.0N	146.0E		5	LO	250	U							
94	32	USSR-PACIFIC	LG.LK.N.OF ZEVA	54.5N	127.5E	56.6N	0	LO	100	N	N	19910505	003819	148	102	27	107
94	33	USSR-PACIFIC	LG.LK.N.OF ZEVA	54.6N	127.0E	56.5N	0	LO	100	N	N	19910505	003832	148	104	28	107
94	34	USSR-PACIFIC	COAST, KHEBET DZHUGDZHUR	55.8N	136.4E	55.6N	5	NV	100	N	N	19910505	003921	148	109	31	107
94	35	USSR-PACIFIC	COAST,PACK ICE,SAKHALIN	53.0N	144.0E	53.6N	0	LO	100	N	N	19910505	004049	148	120	36	107
94	36	USSR-PACIFIC	OSTROV ONEKOTAN ISLAND	49.5N	154.8E	50.1N	10	NV	100	N	N	19910505	004236	147	133	43	107
94	51	USSR-PACIFIC	S.TIP SAKHALIN	46.0N	142.0E	46.4N	10	LO	100	N	N	19910505	021352	147	145	48	108
151	179	USSR-PACIFIC	BEZMYIARUY VOLCANO	56.0N	160.5E	56.0N	60	NV	250	N	N	19910430	220312	144	113	33	41
151	180	USSR-PACIFIC	BEZMYIARUY VOLCANO	56.0N	160.0E	56.1N	65	LO	250	N	N	19910430	220320	144	114	33	41
603	20	USSR-PACIFIC	LENA RIVER, VILYUY PLAIN	61.0N	125.0E	57.1N	25	HO	100	N	N	19910430	024100	137	140	42	27
603	21	USSR-PACIFIC	LENA RIVER, VILYUY PLAIN	61.0N	124.0E	57.1N	25	HO	100	N	N	19910430	024100	137	140	42	27
603	24	USSR-PACIFIC	KARMAN VORTICES, TATAR S	46.0N	142.0E	45.8N	85	LO	100	N	N	19910430	041900	137	219	54	28
603	25	USSR-PACIFIC	KARMAN VORTICES, TATAR S			43.2N	85	HO	100	N	N	19910430	042000	137	228	53	28
603	26	USSR-PACIFIC	KARMAN VORTICES, TATAR S			43.2N	85	HO	100	N	N	19910430	042000	137	228	53	28
604	48	USSR-PACIFIC	COAST, KORYAK RANGE	61.0N	172.0E	56.9N	30	LO	250	N	N	19910501	215700	135	125	37	56
604	49	USSR-PACIFIC	COAST, KORYAK RANGE	61.5N	173.0E	57.1N	15	LO	250	N	Y	19910501	215800	135	133	40	56
605	14	USSR-PACIFIC	DZHUGDZHUR RANGE	56.0N	136.0E	57.1N	15	LO	250	N	N	19910503	231100	139	116	34	89
605	18	USSR-PACIFIC	TUYSK GULF, ICE FLOWS	59.0N	153.0E	56.7N	40	LO	250	N	N	19910503	231300	139	131	41	89
605	19	USSR-PACIFIC	KAMCHATKA PEN., W. COAST	57.0N	156.0E	56.7N	35	LO	250	N	N	19910503	231300	139	131	41	89
605	20	USSR-PACIFIC	KAMCHATKA PEN., W. COAST	56.0N	156.5E	56.7N	25	LO	250	N	Y	19910503	231300	139	131	41	89
609	1	USSR-PACIFIC	KAMCHATKA, KLYUCHEVSK V.	56.0N	160.0E	55.1N	10	LO	250	N	N	19910504	231000	141	137	45	105
609	2	USSR-PACIFIC	KAMCHATKA, KRONOTSK PEN.	54.5N	161.5E	55.1N	25	LO	250	N	N	19910504	231000	141	137	45	105
609	3	USSR-PACIFIC	KAMCHATKA, SHIPUNSK PEN.	53.0N	160.0E	55.1N	15	LO	250	N	N	19910504	231000	141	137	45	105
610	46	USSR-PACIFIC	KAMCHATKA, VOLCANOES	56.5N	161.5E	54.3N	45	LO	250	N	N	19910430	220200	137	110	32	40
610	47	USSR-PACIFIC	KAMCHATKA, VOLCANOES	56.5N	161.5E	54.3N	50	LO	250	N	Y	19910430	220200	137	110	32	40
610	48	USSR-PACIFIC	KAMCHATKA, VOLCANOES	56.5N	161.5E	55.6N	45	LO	250	N	Y	19910430	220300	137	117	35	40
612	6	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	54.0N	159.0E	55.2N	25	LO	100	N	N	19910429	221000	138	121	36	24

TABLE 4-4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Continued)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC	TL	FL	E	S	DATE	GMT	AL	AZ	SUN EL	OR
612	7	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	54.0N 158.0E	55.2N 161.3E	30	L0	100	N	N	19910429	221000	138	121	36	24
612	8	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	54.0N 159.0E	55.2N 161.3E	30	L0	100	N	N	19910429	221000	138	121	36	24
612	9	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N 160.0E	55.2N 161.3E	30	L0	100	N	N	19910429	221000	138	121	36	24
612	10	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N 161.0E	55.2N 161.3E	30	L0	100	N	N	19910429	221000	138	121	36	24
612	11	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N 160.0E	55.2N 161.3E	35	L0	100	N	N	19910429	221000	138	121	36	24
612	12	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.0N 162.0E	55.2N 161.3E	35	L0	100	N	N	19910429	221000	138	121	36	24
612	13	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.5N 162.0E	55.2N 161.3E	35	L0	100	N	N	19910429	221000	138	121	36	24
612	14	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.5N 162.5E	55.2N 161.3E	30	L0	100	N	N	19910429	221000	138	121	36	24
612	15	USSR-PACIFIC	KAMCHATKA, KRONOTSK LK.	55.5N 163.0E	55.2N 161.3E	30	L0	100	N	N	19910429	221000	138	121	36	24
612	16	USSR-PACIFIC	BERINGA/MEDNYY ISLANDS	55.0N 167.0E	55.2N 161.3E	35	L0	100	N	N	19910429	221000	138	121	36	24
612	17	USSR-PACIFIC	BERINGA/MEDNYY ISLANDS	54.0N 168.0E	55.2N 161.3E	35	L0	100	N	N	19910429	221000	138	121	36	24
612	18	USSR-PACIFIC	BERINGA/MEDNYY ISLANDS	54.0N 168.0E	55.2N 161.3E	35	L0	100	U	N	19910429	221000	138	121	36	24
612	19	USSR-PACIFIC	BERINGA IS., KAMCHATKA	54.0N 163.0E	56.3N 168.0E	50	H0	100	N	N	19910429	221100	138	129	39	24
612	20	USSR-PACIFIC	BERINGA IS., KAMCHATKA	54.0N 163.0E	56.3N 168.0E	50	H0	100	N	N	19910429	221100	138	129	39	24
612	21	USSR-PACIFIC	BERINGA IS., KAMCHATKA	54.0N 163.0E	56.3N 168.0E	50	H0	100	U	N	19910429	221100	138	129	39	24
72	93	VENEZUELA	GULF OF VENEZUELA	10.5N 70.0W		70	H0	250	N	N						
72	94	VENEZUELA	GULF OF VENEZUELA	11.0N 70.0W		65	H0	250	N	N						
85	23	VENEZUELA	ORINOCO DELTA-BOCA GRAND	8.7N 60.7W	7.7N 56.6W	40	'O	250	N	Y	19910430	192648	137	281	36	39
85	24	VENEZUELA	ORINOCO DELTA-BOCA GRAND	9.0N 60.8W	7.1N 56.2W	40	L0	250	N	Y	19910430	192659	137	281	36	39
72	42	VIETNAM	MEKONG RIVER DELTA	10.0N 106.0E		45	L0	250	U	N						
84	40	VIETNAM	COAST	19.1N 105.7E	18.9N 107.4E	85	L0	250	N	N	19910503	070257	136	228	63	79
84	41	VIETNAM	DA NANG, PENIN, ARFLDS	16.0N 108.2E	16.9N 108.7E	50	NV	250	N	N	19910503	070333	136	234	63	79
84	42	VIETNAM	SE CST PANORAMA	20.5N 108.5E	15.9N 109.4E	50	L0	250	N	N	19910503	070351	136	237	63	79
84	45	VIETNAM	CST, TRE I., HON I., CHONG PT	12.1N 109.2E	9.5N 113.3E	60	L0	250	N	N	19910503	070545	135	254	61	79
151	50	VIETNAM	S. OF MEKONG DELTA	9.5N 105.5E	8.1N 102.4E	25	L0	250	N	N	19910430	085947	137	281	33	32
85	19	VIRGIN ISLANDS	SAINT CROIX	17.7N 64. W	17.1N 62.3W	15	L0	250	N	N	19910430	192359	137	272	44	39
75	11	WESTERN SAHARA	VIEW TO CAP BLANC		17.9N 9.3W	10	H0	250	N	Y	19910428	163759	139	275	31	5
83	63	WESTERN SAHARA	TINDOUF SYNCLINE, DESERT	26.0N	11.0W 20.6N 15.2W	5	H0	250	O	N	19910429	163049	139	272	39	21
85	60	YEMEN (ADEN)	WADI SARR, WADI AMD	16.0N 48.4E	16.3N 48.1E	0	NV	250	N	N	19910501	114902	137	268	49	50
85	61	YEMEN (ADEN)	SAND DUNES, COAST	14.0N 47.8E	14.6N 49.2E	25	L0	250	N	Y	19910501	114933	137	271	47	50
85	62	YEMEN (ADEN)	SAND DUNES, COAST	14.1N 48.2E	14.3N 49.3E	30	L0	250	N	Y	19910501	114938	136	271	47	50
85	63	YEMEN (ADEN)	WADI HUWAYRAH, CST, AFLD	14.5N 49.5E	13.5N 49.8E	60	L0	250	N	N	19910501	114952	136	272	47	50
74	89	YUGOSLAVIA	CP BTWN DANUBE & TISA R.	46.0N 19.5E	48.3N 17.7E	70	L0	250	N	Y	19910506	093611	145	140	49	129
74	90	YUGOSLAVIA	HODMEZOVASARHELY, SZEGED	46.5N 20.5E	48.3N 17.9E	80	L0	250	O	Y	19910506	093613	145	140	49	129
74	91	YUGOSLAVIA	CLOUDS	45.0N 21.0E	48.2N 18.0E	85	L0	250	O	N	19910506	093615	145	140	49	129
74	95	YUGOSLAVIA	TISA RIVER, ZRENJANIN	45.5N 20.5E	47.7N 18.8E	80	L0	250	N	Y	19910506	093626	145	141	50	129
74	96	YUGOSLAVIA	TISA RIVER, DANUBE, CLOUDS	45.0N 21.0E	47.6N 19.1E	80	L0	250	N	Y	19910506	093629	145	142	50	129
96	94	YUGOSLAVIA	AREA AROUND VODICE	44.0N 16.0E	43.1N 16.9E	40	L0	250	N	N	19910503	112322	144	151	48	82
151	97	YUGOSLAVIA	BELGRADE, DANUBE RIVER	45.0N 20.5E	46.5N 22.5E	55	L0	250	N	N	19910430	114629	142	210	54	34
151	98	YUGOSLAVIA	BELGRADE, DANUBE RIVER	44.5N 21.0E	46.1N 23.2E	60	L0	250	N	N	19910430	114638	142	212	54	34

TABLE 4.4.- STS-39 HANDHELD PHOTOGRAPHY SORTED BY GEOGRAPHIC NAME (Concluded)

RL	FR	GEOGRAPHIC NAME	FEATURE	CENTER LAT LON	MADIR LAT LON	CC TL	FL E S	DATE	GMT	AL	AZ	SUN EL
81	34	ZAIRE	CONGO R, LULONGA R, RNFSST.	0.8N 18.3E	1.9N 18.0E	60	LO 250 N	19910505	125549	140	285	63 115
81	35	ZAIRE	CONGO R, MBANDAKA, RNFSST.	0.2N 18.3E	1.6N 18.1E	70	LO 250 N	19910505	125553	140	285	62 115
81	36	ZAIRE	CONGO R, RAINFOREST	0.3S 18.0E	1.1N 18.4E	70	LO 250 N	19910505	125602	140	286	62 115
83	27	ZAIRE	UBANGI R, IBENGA R.	2.2N 18.1E	2.6N 18.6E	20	NV 250 N	19910429	150637	138	284	24 20
83	28	ZAIRE	UBANGI R, GIRI R.	0.6N 18.0E	1.2N 19.4E	20	LO 250 N	19910429	150702	138	285	22 20
93	29	ZAIRE	UBANGI R-JOINS-CONGO R.	0.4S 17.8E	.2N 20.0E	20	LO 250 N	19910429	150721	138	285	21 20
83	30	ZAIRE	KASAI R/BASIN, DEFOREST.	3.0S 18.5E	1.2S 20.8E	30	LO 250 N	19910429	150745	138	285	20 20
83	31	ZAIRE	KASAI R, LOANGE R.	4.3S 20.2E	2.9S 21.8E	40	LO 250 N	19910429	150816	138	286	19 20
83	32	ZAIRE	SANKURU R, LUBEFU R, DEFOR	4.2S 23.0E	3.9S 22.3E	15	LO 250 N	19910429	150834	138	286	18 20
83	33	ZAIRE	FIRES, DEFORESTATION, HAZE	4.5S 22.5E	4.5S 22.7E	30	LO 250 N	19910429	150844	138	286	17 20
83	34	ZAIRE	FIRES, DEFORESTATION, HAZE	4.5S 22.5E	5.0S 23.0E	30	LO 250 N	19910429	150854	138	286	17 20
83	35	ZAIRE	FIRES, SMOKE, HAZE	6.7S 24.0E	6.7S 24.0E	5	LO 250 N	19910429	150924	138	287	15 20
83	36	ZAIRE	FIRES, SMOKE, HAZE	7.2S 24.3E	7.2S 24.3E	10	LO 250 N	19910429	150933	138	287	15 20
83	37	ZAIRE	FIFES, SMOKE, HAZE	7.7S 24.5E	7.7S 24.5E	20	LO 250 N	19910429	150941	138	287	14 20
83	38	ZAIRE	FIRES, SMOKE, HAZE	8.1S 24.8E	8.1S 24.8E	15	LO 250 N	19910429	150949	138	287	14 20
83	39	ZAIRE	FIRES, SMOKE, HAZE	8.8S 25.2E	8.8S 25.2E	25	LO 250 N	19910429	151001	138	287	13 20
90	99	ZAIRE	UNIDENTIFIED RIVER	2.4N 18.7E	1.9N 19.0E	10	LO 250 N	19910429	150638	138	284	23 20
90	100	ZAIRE	UNIDENTIFIED RIVER	1.9N 19.0E	1.9N 19.0E	10	LO 250 N	19910429	150647	138	284	23 20
610	18	ZAIRE	S. ZAIRE RIVER BASIN	5.4S 19.3E	5.4S 19.3E	5	NV 250 N	19910430	150270	137	288	22 35
83	40	ZAMBIA	LAKE MWERU, HAZY	8.7S 29.0E	10.6S 26.3E	5	LO 250 N	19910429	151033	138	287	12 20
83	41	ZAMBIA	LAKE MWERU, SO. END, HAZY	9.5S 28.6E	10.8S 26.4E	10	LO 250 N	19910429	151037	138	287	11 20
83	42	ZAMBIA	L, MWERU, SO. END, LUAPULA R	9.7S 28.6E	11.3S 26.7E	15	LO 250 N	19910429	151046	138	287	11 20
83	43	ZAMBIA	L, MWERU, SO. END, LUAPULA R	9.6S 28.7E	11.6S 26.9E	15	LO 250 N	19910429	151051	138	287	11 20
83	44	ZAMBIA	LUAPULA R, FIRES, HAZY	10.2S 28.6E	11.9S 27.0E	10	LO 250 N	19910429	151056	138	287	10 20
83	45	ZAMBIA	LGE AFLD, MTN RIDGES, DARK	14.2S 28.5E	14.2S 28.5E	10	LO 250 U	19910429	151139	138	287	8 20
83	46	ZAMBIA	LAKE BANGELU, SWAMP	10.5S 30.5E	15.0S 29.0E	20	LO 250 N	19910429	151153	136	287	7 20
83	47	ZAMBIA	L. TANGANYIKA, SWAMP	10.0S 30.5E	15.7S 29.5E	25	LO 250 U	19910429	151206	138	287	7 20
610	21	ZAMBIA	LAKE KARIBA	17.5S 27.5E	15.5S 25.3E	5	LO 250 N	19910430	150500	137	289	12 35

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