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**Crustal Dynamics Project:
Catalogue of Site Information**

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NASA Technical Memorandum 86218

Crustal Dynamics Project: Catalogue of Site Information

Compiled by
Crustal Dynamics Project
Goddard Space Flight Center
Greenbelt, Maryland

NASA
National Aeronautics
and Space Administration
**Scientific and Technical
Information Branch**

1985

ABSTRACT

Crustal Dynamics Project: Catalogue of Site Information

This document represents a catalogue of site information for the Crustal Dynamics Project. It contains information and descriptions of those sites used by the Project as observing stations for making the precise geodetic measurements useful for studies of the earth's crustal movements and deformation.

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Acronyms

AFGL	Air Force Geophysics Laboratory
Arelas	Arequipa, Peru Laser Station
ARIES	Astronomical Radio Interferometric Earth Surveying
AZ-EL	Azimuth - Elevation
BFEC	Bendix Field Engineering Corporation
BIH	Bureau International de l'Heure
CDP	Crustal Dynamics Project
CERGA	Centre d'Etudes et de Recherches Geodynamiques et Astronomiques (France)
CIO	Conventional International Origin
DBMS	Data Base Management System
DET	Detachment
DIS	Data Information System
DMA	Defense Mapping Agency
DMAHTC	Defense Mapping Agency Hydrographic and Topographic Center
DOD	Department of Defense
DSN	Deep Space Network
DSS	Deep Space Station
ED	European Datum
ESA	European Space Agency
FAA	Federal Aviation Administration
FINLAS	Metsahovi, Finland Laser Station
GMT	Greenwich Mean Time
GORF	Goddard Optical Research Facility
GP	Gun Position
GPS	Global Positioning System
GRGS	Groupe de Recherches de Geodesie Speciale (France)
GSFC	Goddard Space Flight Center
GSS	Geodetic Survey Squadron
HO	Haystack Observatory
HOLLAS	Haleakala Laser Station
HOMLAS	Mt. Hopkins Laser Station
HOPLAS	Mt. Hopkins Laser Station
HRAS	Harvard Radio Astronomy Station
HTC	Hydrographic and Topographic Center
IAG	International Association of Geodesy
IAU	International Astronomical Union
ICCG	Interagency Coordinating Committee for Geodynamics
ICG	Inter-Union Commission of Geodynamics

Acronyms (Continued)

IFAG	Institut fur Angewandte Geodasie (West Germany)
INTA	Instituto Nacional de Tecnica Aeroespacial (Spain)
IUGG	International Union of Geodesy and Geophysics
JHD	Japanese Hydrographic Department
JPL	Jet Propulsion Laboratory
JSC	Johnson Space Center
KOOLAS	Kootwijk, Netherlands Laser Station
LAGEOS	Laser Geodynamics Satellite
LLR	Lunar Laser Ranging
LURE	Lunar Ranging Experiment
MACLAS-1	McDonald Laser Station One (2.7 meter telescope)
MACLAS-2	McDonald Laser Station Two (MLRS)
MATLAS	Matera, Italy Laser Station
MERIT	Monitoring of Earth Rotation and Intercomparison of Techniques
MLRS	McDonald Laser Ranging System
MSL	Mean Sea Level
MOBLAS	Mobile laser ranging station
MTLRS	Modular Transportable Laser Ranging System
MV	Mobile VLBI
NAD	North American Datum
NASA	National Aeronautics and Space Administration
NASCOM	NASA Communications Network
NATMAP	NATIONAL MAPping
NCMN	National Crustal Motion Network
NEROC	North East Rotation Observatory Corporation
NGS	National Geodetic Survey
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Survey
NRAO	National Radio Astronomy Observatory
NRL	Naval Research Laboratory
NWS	National Weather Service
ORRLAS	Orroral, Australia Laser Station
OSGB	Ordnance Survey of Great Britain
OSTA	Office of Space and Terrestrial Applications
OVRO	Owens Valley Radio Observatory
PAFB	Patrick Air Force Base
POLARIS	POLar motion Analysis by Radio Interferometric Surveying
PPME	Pacific Plate Motion Experiment

Acronyms (Continued)

RM	Reference Monument
RMT	Reference Monument
RRL	Radio Research Laboratories, Japan
SAFE	San Andreas Fault Experiment
SAO	Smithsonian Astrophysical Observatory
SHO	Simosato Hydrographic Observatory
SHOLAS	Simosato, Japan Laser Station
SLR	Satellite Laser Ranging
STALAS	Stationary Laser Station (GSFC)
STDN	Spaceflight Tracking and Data Network
TLRS	Transportable Laser Ranging System
TVDS	Transportable VLBI Data System
USAF	United States Air Force
USC & GS	United States Coast and Geodetic Survey
USGS	United States Geological Survey
USNO	United States Naval Observatory
VAFB	Vandenberg Air Force Base
VLBI	Very Long Baseline Interferometry
WCPT	West Coast Precision Traverse
WETLAS	Wettzell, Germany Laser Station
WGS	World Geodetic System

SECTION 1. INTRODUCTION

1.1 Introduction

This catalogue is designed to provide descriptions of the observing sites utilized by NASA's Crustal Dynamics Project. These sites are occupied by the Project for obtaining the precise geodetic measurements required for the study of the crustal movements and deformation and the determination of earth rotation and polar motion.

The document consists of five sections following this introductory section. Tables of the scientific purposes of the sites as well as the scientific objectives of the selected Project investigators are included in Section 2. Section 3 contains several tables listing all current and future Crustal Dynamics Project and cooperating sites (as well as those historical sites whose data is still considered useful to the Project) in order of site name, Project-assigned site number, monument number, geographic region, and tectonic plate, respectively. Also included in Section 3 are several maps locating the Crustal Dynamics Project sites. Section 4 contains the alphabetical listing of all sites which have been occupied prior to 1984 by fixed and mobile laser and VLBI systems. The user should note that not all sites listed in Section 3 are included in Section 4 of the document. However, the modular organization of the site catalogue provides for the addition of new sites and the deletion or revision of selected material without the need to rewrite and redistribute the main document. Section 5 contains the official Crustal Dynamics Project Observation Plan dated November 30, 1984 as prepared by Herbert V. Frey. The user should be aware that this plan is updated periodically. Section 6 is a reference to several documents used in the preparation of this site catalogue.

The information provided for each site includes site location and geographic region, primary scientific purposes, physical description, applicable topographic map, geological province, and local geology. The number, type, inscription, system capability, and geodetic parameters are included for each observing monument located at a particular site. Differential coordinates and their sources have been listed with this monument information. A sketch detailing the positions of observing and reference monuments is also included for many of the sites. In addition, both past and future occupation information is listed for each site. The future occupation information was obtained from the Crustal Dynamics Project Observation Plan (a copy of which is contained in Section 5).

Several conventions used in the document should be noted. All elevations, unless otherwise specified, are above mean sea level. Monument numbers were occasionally established after the placement of the actual monument disk; therefore, the disk inscription may or may not contain the assigned number. The monument numbers of the fixed VLBI antennas (or radio telescopes) refer to the intersection of the antenna axes.

This catalogue was prepared under the direction of the Crustal Dynamics Project by Elizabeth A. Creamer, Carey E. Noll, Henry G. Linder, Richard J. Allenby, and Gilbert D. Mead. In addition, comments and corrections were received from other Project personnel and Project-affiliated groups such as NGS, BFEC, JPL, SAO, and many of the participating foreign institutions. In

particular, the authors wish to thank William E. Strange of NGS for his corrections and additions to the geodetic information, James E. Pettey of NGS for his contributions to the geodetic and differential coordinate information, and Vaughn E. Nelson of BFEC for his contribution of site sketches and differential coordinates. Updates to this version of the document will be distributed on a regular basis. These pages will include revisions to existing information as well as new site sections for which complete descriptions were not provided in the initial version of the catalogue.

This site information is also available through the Crustal Dynamics Project's Data Information System (DIS). Additional information about the DIS may be obtained from the Crustal Dynamics Data Information System User's Guide (GSFC Document X-931-82-14) and added document revisions.

This version supercedes any previously published review copies of the catalogue. The purpose of this document is to provide a general description of the Crustal Dynamics Project sites; it is not intended as a working document for the construction of differential station positions. For example, NGS warns that the NAD27 coordinate system is known to have distortions greatly in excess of the implied precision of the tabulated coordinates. It is therefore inappropriate to use these coordinates for comparison of intersite vectors with other geodetic techniques. The positions were tabulated to five significant digits solely for the recovery of local (intrasite) vectors with subcentimeter precision. For more detailed information, the reader should consult the references listed in the bibliography (Section 6). In addition, readers of this text, as well as users of the DIS, are encouraged to transmit further corrections, questions, and comments to:

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SECTION 2. INVESTIGATOR INFORMATION

Table 2.1

List of Sites and Associated Scientific Purposes

Site Name	Site Location	SLR	VLBI	A	B	C	D	E	F	G	H
Algonquin	Algonquin, Canada		x	x							
Arequipa	Arequipa, Peru	x			x	x	x				
Bear Lake	Bear Lake, UT	x		x							
Black Butte	Black Butte, CA	x	x	x							x
Bologna	Bologna, Italy		x							x	
Cabo San Lucas	Cabo San Lucas, Mexico	x		x							
Cape Yakataga	Cape Yakataga, AK		x	x							
Cerro Tololo	Cerro Tololo, Chile	x			x	x					
Chilbolton	Chilbolton, England		x							x	
Deadman Lake	Deadman Lake, CA		x	x							
Dionysos	Athens, Greece	x						x	x		
Easter Island	Easter Island, Chile	x			x		x				
Effelsberg	Bonn, West Germany		x		x						
Ely	Ely, NV		x	x		x					
Ensenada	Ensenada, Mexico	x		x							
Fairbanks	Fairbanks, AK	x		x	x						
Flagstaff	Flagstaff, AZ	x	x	x							x
Fort Davis	Fort Davis, TX		x	x	x	x	x				x
Fort Ord	Fort Ord, CA		x	x							
Goldstone Mars	Goldstone, CA	x	x	x	x	x	x				x
Goldstone Vnus	Goldstone, CA	x	x	x	x	x	x				x
Grasse	Grasse, France	x			x	x	x				
Graz	Graz, Austria	x					x		x		
Green Bank	NRAO, Green Bank, WV		x		x	x	x				
Greenbelt	GORF, GSFC, Greenbelt, MD	x			x	x	x		x		
Haleakala	Haleakala Obs., Maui HI	x			x	x	x		x		
Hat Creek	Hat Creek Obs., Cassel, CA		x	x		x					
Herstmonceux	Herstmonceux, England	x			x	x	x				
Huahine	Huahine, French Polynesia	x			x	x	x				
Iquique	Iquique, Chile	x			x	x					
Jerusalem	Jerusalem, Israel	x				x		x	x		
Kashima	Kashima, Japan		x		x		x			x	
Kodiak	Kodiak, AK		x	x							
Kokee Park	Kokee Park, HI		x		x						
Kootwijk	Apeldoorn, Netherlands	x			x	x	x	x	x		
Kwajalein	Kwajalein, Marshall Islands	x	x		x	x					
La Jolla	La Jolla, CA		x	x							
Mammoth Lakes	Mammoth Lakes, CA		x	x							
Maryland Point	Maryland Point, MD		x		x	x				x	
Matera	Matera, Italy	x	x		x	x	x	x	x	x	
Mazatlan	Mazatlan, Sinola, Mexico	x		x	x	x	x				
McDonald	McDonald Obs., Ft Davis, TX	x		x	x	x	x		x		x
Metsahovi	Metsahovi, Finland	x		x	x	x	x				
Mojave	Mojave, CA	x	x	x	x	x				x	x
Monument Peak	Monument Peak, CA	x	x	x	x	x	x				x

Table 2.1 (Continued)

List of Sites and Associated Scientific Purposes

Site Name	Site Location	SLR	VLBI	A	B	C	D	E	F	G	H
Nome	Nome, AK		x	x							
Ocotillo	Ocotillo, CA		x	x							
Onsala	Onsala, Sweden		x		x	x	x			x	
Orroral	Orroral Valley, Australia	x			x	x	x		x		
Otay Mountain	Otay Mountain, CA	x	x	x	x						
Owens Valley	OVRO, Big Pine, CA	x	x	x	x	x	x				x
Palos Verdes	Palos Verdes, CA		x	x							
Pasadena	JPL, Pasadena, CA	x	x	x							x
Pearblossom	Pearblossom, CA	x	x	x							x
Penticton	Penticton, Canada		x			x					
Pinyon Flat	Pinyon Flat, CA		x	x							
Platteville	Platteville, CO	x	x	x	x	x	x				x
Point Reyes	Point Reyes, CA		x	x							
Presidio	San Francisco, CA		x	x							
Quincy	Quincy, CA	x	x	x	x	x	x				x
Richmond	Perrine, FL		x		x	x	x				
San Fernando	San Fernando, Spain	x							x		
Sand Point	Sand Point, AK		x	x							
Santa Paula	Santa Paula, CA		x	x							
Santiago	Santiago, Chile	x			x	x					
Sao Paulo	Sao Paulo, Brazil	x			x		x				
Shanghai	Shanghai Obs., China	x			x				x		
Simosato	Simosato Hydro. Obs., Japan	x			x	x	x		x		
Socorro	Socorro Island, Mexico	x		x	x						
Sourdough	Sourdough, AK		x	x							
Vandenberg	Vandenberg AFB, CA	x	x	x	x	x					x
Vernal	Vernal, UT	x	x	x							x
Westford	Haystack Obs., Westford, MA	x	x		x	x	x			x	x
Wettzell	Wettzell, West Germany	x	x		x	x	x	x	x	x	
Whitehorse	Whitehorse, Canada		x	x							
Yaragadee	Yaragadee, Australia	x			x	x	x				
Yellowknife	Yellowknife, Canada		x	x							
Yuma	Yuma Proving Grounds, AZ	x	x	x							x
Zimmerwald	Bern, Switzerland	x					x				

Scientific Purposes

- A. Regional deformation, Western US and Baja California
- B. Global plate motion
- C. Internal plate deformation/plate stability
- D. Polar motion/earth rotation
- E. Mediterranean tectonics
- F. SLR technique development
- G. VLBI technique development
- H. SLR/VLBI baseline intercomparisons

Table 2.2

Scientific Objectives of Selected Investigations

PI's	Institution	A	B	C	D	E	F	G	H	I	J	K
Aardoom Agnew Anderson Barlier Bender	Netherlands UCSD Sweden France NBS	x						x		x		
Bilham Bird Boucher Bowin Burke	Lamont UCLA France Woods Hole Houston	x					x				x	
Cabre Calame Calderon Clark Dewey	Bolivia France Mexico GSFC England	x		x	x				x			x
Fanselow Hager Jackson Johnson Johnston	JPL Caltech UCLA Lamont NRL	x x x	x	x								x x
Jordan Kahle Kausel Kolenkiewicz Lago	UCSD Switzerland Chile GSFC France	x	x	x				x	x		x	
Lambert Lerch Lopez Arroyo Lyzena Marsh	Canada GSFC Spain JPL GSFC		x		x				x		x	x
McCarthy Minster Morgan Ness Ocola	USNO Science Horizon Princeton Oregon State Peru	x x		x x	x	x						
O'Connell Oliver Perez Rogers Rosen	Harvard Cornell Venezuela Haystack AER	x x	x	x	x	x		x				x
Rundle Ryan Scholz Shaffer Shapiro	Sandia GSFC Lamont Interferometrics Harvard	x x			x	x					x	x
Shapiro/King Shelus Smith Solomon Speed/Stein	Harvard/MIT Texas GSFC MIT Northwestern			x	x	x			x		x	
Stolz Tapley Torge Turcotte Walcott Whitcomb	Australia Texas Germany Cornell New Zealand Colorado			x		x		x		x	x	
Williams Wilson Wyss Ye Shu-Hua Yoder Zerbini	JPL Germany Colorado China JPL Italy					x		x		x		x

Scientific Objectives

- A. Regional deformation, Western US and Baja California
- B. Regional deformation, Alaska
- C. Global plate motion
- D. Internal plate deformation/plate stability
- E. Polar motion/earth rotation
- F. Caribbean tectonics
- G. Mediterranean tectonics
- H. Deformation in Andean South America
- I. SLR technique development
- J. VLBI technique development
- K. SLR/VLBI baseline intercomparisons

SECTION 3. SITE LISTS AND MAPS

Table 3-1

Crustal Dynamics Project Sites Listed by Site Name

Site Name	Site Location	Site Number	Page
ALGONQUIN	ALGONQUIN, ONTARIO, CANADA	67	4-ALGNON-1
AREQUIPA	AREQUIPA, PERU	98	4-AREQIP-1
BEAR LAKE	BEAR LAKE, UT	22	4-BEAR L-1
BLACK BUTTE	BLACK BUTTE MOUNTAIN, CA	206	4-BL BUT-1
BOLOGNA	BOLOGNA, ITALY	851	4-BOLGNA-1
CABO SAN LUCAS	CABO SAN LUCAS, BAJA, MEXICO	70	4-CABO-1
CAPE YAKATAGA	CAPE YAKATAGA, AK	805	4-CYAKTG-1
CERRO TOLOLO	CERRO TOLOLO, CHILE	892	4-C TOLO-1
CHILBOLTON	CHILBOLTON, UNITED KINGDOM	116	4-CHLBLT-1
DEADMAN LAKE	DEADMAN LAKE, CA	205	4-DEADMN-1
DIONYSOS	NATIONAL TECHNICAL UNIV., ATHENS, GREECE	855	4-DIONYS-1
EASTER ISLAND	EASTER ISLAND, CHILE	96	4-EASTER-1
EFFELSBURG	BONN, WEST GERMANY	143	4-EFLBRG-1
ELY	ELY, NV	26	4-ELY-1
ENSENADA	ENSENADA, BAJA, MEXICO	219	4-ENSNDA-1
FAIRBANKS	FAIRBANKS, AK	61	4-FRBNKS-1
FLAGSTAFF	FLAGSTAFF, AZ	27	4-FLGSTF-1
FORT DAVIS	FORT DAVIS, TX	33A	4-FT DAV-1
FORT ORD	FORT ORD, CA	12	4-FT ORD-1
GOLDSTONE MARS	GOLDSTONE, CA	8C	4-GOLD M-1
GOLDSTONE VENUS	GOLDSTONE, CA	8A	4-GOLD V-1
GRASSE	GRASSE, FRANCE	142	4-GRASSE-1
GRAZ	GRAZ, AUSTRIA	610	4-GRAZ-1
GREEN BANK	NRAO, GREEN BANK, WV	38	4-GRNBK-1
GREENBELT	GORF, GSFC, GREENBELT, MD	39	4-GSFC-1
HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI	90	4-HALEAK-1
HAT CRFEK	HAT CREEK RADIO ASTRO. OBS., CASSEL, CA	714	4-HAT CR-1
HERSTMONCEUX	ROYAL GREENWICH OBS., GREAT BRITAIN	880	4-HRSTMN-1
HUAHINE	HUAHINE, SOCIETY IS, FRENCH POLYNESIA	92	4-HUAHNE-1
IQUIQUE	IQUIQUE, CHILE	891	4-IQUIQE-1
JERUSALEM	JERUSALEM, ISRAEL	857	4-JRUSLM-1
KASHIMA	KASHIMA, JAPAN	138	4-KSHIMA-1
KODIAK	KODIAK, AK	803	4-KODIAK-1
KOKEE PARK	KOKEE PARK, KAUAI, HI	990	4-KOKEE-1
KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS	118	4-KOTWJK-1
KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS	136	4-KWAJLN-1
LA JOLLA	LA JOLLA, CA	2	4-LA JOL-1
MAMMOTH LAKES	MAMMOTH LAKES, CA	720	4-MAMOTH-1
MARYLAND POINT	MARYLAND POINT, MD	40	4-MD PT-1
MATERA	MATERA, ITALY	850	4-MATERA-1
MAZATLAN	MAZATLAN, SINALOA, MEXICO	71	4-MZTLN-1
MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	33B	4-MCDNLD-1
METSAHOVI	METSAHOVI, FINLAND	860	4-MTSHOV-1
MOJAVE	BARSTOW, CA	8B	4-MOJAVE-1

Table 3-1 (Continued)

Crustal Dynamics Project Sites Listed by Site Name

Site Name	Site Location	Site Number	Page
MONUMENT PEAK	MOUNT LAGUNA, CA	701	4-MON PK-1
NOME	NOME, AK	801	4-NOME-1
OCOTILLO	OCOTILLO, CA	201	4-OCTILO-1
ONSALA	ONSALA, SWEDEN	120	4-ONSALA-1
ORRORAL	ORRORAL VALLEY, AUSTRALIA	134	4-ORORAL-1
OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA	1	4-OTAY-1
OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	11	4-OVRO-1
PALOS VERDES	PALOS VERDES, CA	4	4-P VRDS-1
PASADENA	JET PROPULSION LAB, PASADENA, CA	6	4-JPL-1
PEARBLOSSOM	PEARBLOSSOM, CA	7	4-PRBLSM-1
PENTICTON	PENTICTON, BRITISH COLUMBIA, CANADA	69	4-PNTCN-1
PINYON FLAT	PINYON FLAT, CA	204	4-PINYON-1
PLATTEVILLE	PLATTEVILLE, CO	24	4-PLATVL-1
POINT REYES	POINT REYES, CA	212	4-PT REY-1
PRESIDIO	SAN FRANCISCO, CA	13	4-PRSDIO-1
QUINCY	QUINCY, CA	14	4-QUINCY-1
RICHMOND	FERRINE, FL	43	4-RCHMND-1
SAN FERNANDO	SAN FERNANDO, SPAIN	640	4-SN FER-1
SAND POINT	SAND POINT, AK	802	4-SND PT-1
SANTA PAULA	SANTA PAULA, CA	405	4-S PAUL-1
SANTIAGO	SANTIAGO, CHILE	99	4-SNTAGO-1
SAO PAULO	SAO PAULO, BRAZIL	102	4-SAO PL-1
SHANGHAI	SHANGHAI OBS., PEOPLES REPUBLIC OF CHINA	660	4-SHNGHI-1
SIMOSATO	SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN	870	4-SMSATO-1
SOCORRO ISLAND	SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO	821	4-SOCORO-1
SOURDOUGH	SOURDOUGH, AK	804	4-SRDOGH-1
VANDENBERG	VANDENBERG AIR FORCE BASE, CA	9	4-VANBRG-1
VERNAL	VERNAL, UT	413	4-VERNAL-1
WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	41	4-WSTFRD-1
WETTZELL	WETTZELL, WEST GERMANY	119	4-WETZEL-1
WHITEHORSE	WHITEHORSE, YUKON TERRITORY, CANADA	806	4-WHRSE-1
YARAGADEE	YARAGADEE, AUSTRALIA	133	4-YARGAD-1
YELLOWKNIFE	YELLOWKNIFE, NORTHWEST TERRITORY, CANADA	408	4-YLWKNF-1
YUMA	YUMA PROVING GROUNDS, AZ	202	4-YUMA-1
ZIMMERWALD	BERN, SWITZERLAND	882	4-ZIMMER-1

Table 3-2

Crustal Dynamics Project Sites Listed by Site Number

Site Number	Site Name	Site Location	Page
1	OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA	4-OTAY-1
2	LA JOLLA	LA JOLLA, CA	4-LA JOL-1
4	PALOS VERDES	PALOS VERDES, CA	4-P VRDS-1
6	PASADENA	JET PROPULSION LAB, PASADENA, CA	4-JPL-1
7	PEARBLOSSOM	PEARBLOSSOM, CA	4-PRBLSM-1
8A	GOLDSTONE VENUS	GOLDSTONE, CA	4-GOLD V-1
8B	MOJAVE	BARSTOW, CA	4-MOJAVE-1
8C	GOLDSTONE MARS	GOLDSTONE, CA	4-GOLD M-1
9	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	4-VANBRG-1
11	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	4-OVRO-1
12	FORT ORD	FORT ORD, CA	4-FT ORD-1
13	PRESIDIO	SAN FRANCISCO, CA	4-PRSDIO-1
14	QUINCY	QUINCY, CA	4-QUINCY-1
22	BEAR LAKE	BEAR LAKE, UT	4-BEAR L-1
24	PLATTEVILLE	PLATTEVILLE, CO	4-PLATVL-1
26	ELY	ELY, NV	4-ELY-1
27	FLAGSTAFF	FLAGSTAFF, AZ	4-FLGSTF-1
33A	FORT DAVIS	FORT DAVIS, TX	4-FT DAV-1
33B	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	4-MCDNLD-1
38	GREEN BANK	NRAO, GREEN BANK, WV	4-GRBNBK-1
39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-1
40	MARYLAND POINT	MARYLAND POINT, MD	4-MD PT-1
41	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	4-WSTFRD-1
43	RICHMOND	PERRINE, FL	4-RCHMND-1
61	FAIRBANKS	FAIRBANKS, AK	4-FRBNKS-1
67	ALGONQUIN	ALGONQUIN, ONTARIO, CANADA	4-ALGNON-1
69	PENTICTON	PENTICTON, BRITISH COLUMBIA, CANADA	4-PNTCN-1
70	CABO SAN LUCAS	CABO SAN LUCAS, BAJA, MEXICO	4-CABO-1
71	MAZATLAN	MAZATLAN, SINALOA, MEXICO	4-MZTLN-1
90	HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI	4-HALEAK-1
92	HUAHINE	HUAHINE, SOCIETY IS, FRENCH POLYNESIA	4-HUAHNE-1
96	EASTER ISLAND	EASTER ISLAND, CHILE	4-EASTER-1
98	AREQUIPA	AREQUIPA, PERU	4-AREQIP-1
99	SANTIAGO	SANTIAGO, CHILE	4-SNTAGO-1
102	SAO PAULO	SAO PAULO, BRAZIL	4-SAO PL-1
116	CHILBOLTON	CHILBOLTON, UNITED KINGDOM	4-CHLBLT-1
118	KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS	4-KOTWJK-1
119	WETTZELL	WETTZELL, WEST GERMANY	4-WETZEL-1
120	ONSALA	ONSALA, SWEDEN	4-ONSALA-1
133	YARAGADEE	YARAGADEE, AUSTRALIA	4-YARGAD-1
134	ORRORAL	ORRORAL VALLEY, AUSTRALIA	4-ORORAL-1
136	KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS	4-KWAJLN-1
138	KASHIMA	KASHIMA, JAPAN	4-KSHIMA-1
142	GRASSE	GRASSE, FRANCE	4-GRASSE-1

Table 3-2 (Continued)

Crustal Dynamics Project Sites Listed by Site Number

Site Number	Site Name	Site Location	Page
143	EFFELSBURG	BONN, WEST GERMANY	4-EFLBRG-1
201	OCOTILLO	OCOTILLO, CA	4-OCTILO-1
202	YUMA	YUMA PROVING GROUNDS, AZ	4-YUMA-1
204	PINYON FLAT	PINYON FLAT, CA	4-PINYON-1
205	DEADMAN LAKE	DEADMAN LAKE, CA	4-DEADMN-1
206	BLACK BUTTE	BLACK BUTTE MOUNTAIN, CA	4-BL BUT-1
212	POINT REYES	POINT REYES, CA	4-PT REY-1
219	ENSENADA	ENSENADA, BAJA, MEXICO	4-ENSNDA-1
405	SANTA PAULA	SANTA PAULA, CA	4-S PAUL-1
408	YELLOWKNIFE	YELLOWKNIFE, NORTHWEST TERRITORY, CANADA	4-YLWKNF-1
413	VERNAL	VERNAL, UT	4-VERNAL-1
610	GRAZ	GRAZ, AUSTRIA	4-GRAZ-1
640	SAN FERNANDO	SAN FERNANDO, SPAIN	4-SN FER-1
660	SHANGHAI	SHANGHAI OBS., PEOPLES REPUBLIC OF CHINA	4-SHNCHI-1
701	MONUMENT PEAK	MOUNT LAGUNA, CA	4-MON PK-1
714	HAT CREEK	HAT CREEK RADIO ASTRO. OBS., CASSEL, CA	4-HAT CR-1
720	MAMMOTH LAKES	MAMMOTH LAKES, CA	4-MAMOTH-1
801	NOME	NOME, AK	4-NOME-1
802	SAND POINT	SAND POINT, AK	4-SND PT-1
803	KODIAK	KODIAK, AK	4-KODIAK-1
804	SOURDOUGH	SOURDOUGH, AK	4-SRDOGH-1
805	CAPE YAKATAGA	CAPE YAKATAGA, AK	4-CYAKTG-1
806	WHITEHORSE	WHITEHORSE, YUKON TERRITORY, CANADA	4-WHRSE-1
821	SOCORRO ISLAND	SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO	4-SOCORO-1
850	MATERA	MATERA, ITALY	4-MATERA-1
851	BOLOGNA	BOLOGNA, ITALY	4-BOLGNA-1
855	DIONYSOS	NATIONAL TECHNICAL UNIV., ATHENS, GREECE	4-DIONYS-1
857	JERUSALEM	JERUSALEM, ISRAEL	4-JRUSLM-1
860	METSAHOVI	METSAHOVI, FINLAND	4-MTSHOV-1
870	SIMOSATO	SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN	4-SMSATO-1
880	HERSTMONCEUX	ROYAL GREENWICH OBS., GREAT BRITAIN	4-HRSTMN-1
882	ZIMMERWALD	BERN, SWITZERLAND	4-ZIMMER-1
891	IQUIQUE	IQUIQUE, CHILE	4-IQUIQE-1
892	CERRO TOLOLO	CERRO TOLOLO, CHILE	4-C TOLO-1
990	KOKEE PARK	KOKEE PARK, KAUAI, HI	4-KOKEE-1

Table 3-3

Crustal Dynamics Project Sites Listed by Monument Number

Mon. Number	Site Number	Site Name	Site Location	Page
1311	990	KOKEE PARK	KOKEE PARK, KAUAI, HI	4-KOKEE-2
1404	99	SANTIAGO	SANTIAGO, CHILE	4-SNTAGO-2
1513	8A	GOLDSTONE VENUS	GOLDSTONE, CA	4-GOLD V-2
1514	8C	GOLDSTONE MARS	GOLDSTONE, CA	4-GOLD M-2
1856	138	KASHIMA	KASHIMA, JAPAN	4-KSHIMA-2
4047	61	FAIRBANKS	FAIRBANKS, AK	4-FRBNKS-2
4968	136	KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS	4-KWAJLN-2
7051	14	QUINCY	QUINCY, CA	4-QUINCY-2
7061	96	EASTER ISLAND	EASTER ISLAND, CHILE	4-EASTER-2
7062	1	OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA	4-OTAY-2
7063	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-2
7064	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-3
7065	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-4
7082	22	BEAR LAKE	BEAR LAKE, UT	4-BEAR L-2
7083	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-5
7084	11	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	4-OVRO-2
7085	8C	GOLDSTONE MARS	GOLDSTONE, CA	4-GOLD M-3
7086	33B	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	4-MCDNLD-2
7090	133	YARAGADEE	YARAGADEE, AUSTRALIA	4-YARGAD-2
7091	41	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	4-WSTFRD-2
7092	136	KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS	4-KWAJLN-3
7100	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-6
7101	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-7
7102	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-8
7103	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-9
7104	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-10
7105	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-11
7106	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-12
7109	14	QUINCY	QUINCY, CA	4-QUINCY-3
7110	701	MONUMENT PEAK	MOUNT LAGUNA, CA	4-MON PK-2
7111	9	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	4-VANBRG-2
7112	24	PLATTEVILLE	PLATTEVILLE, CO	4-PLATVL-2
7113	2	LA JOLLA	LA JOLLA, CA	4-LA JOL-2
7114	11	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	4-OVRO-3
7115	8A	GOLDSTONE VENUS	GOLDSTONE, CA	4-GOLD V-3
7120	90	HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI	4-HALEAK-2
7121	92	HUAHINE	HUAHINE, SOCIETY IS, FRENCH POLYNESIA	4-HUAHNE-2
7122	71	MAZATLAN	MAZATLAN, SINALOA, MEXICO	4-MZTLN-2
7203	143	EFFELSBURG	BONN, WEST GERMANY	4-EFLBRG-2
7204	38	GREEN BANK	NRAO, GREEN BANK, WV	4-GRNBK-2
7205	41	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	4-WSTFRD-3
7206	33B	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	4-MCDNLD-3
7207	11	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	4-OVRO-4
7209	41	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	4-WSTFRD-4

Table 3-3 (Continued)

Crustal Dynamics Project Sites Listed by Monument Number

Mon. Number	Site Number	Site Name	Site Location	Page
7210	90	HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI	4-HALEAK-3
7212	120	ONSALA	ONSALA, SWEDEN	4-ONSALA-2
7213	120	ONSALA	ONSALA, SWEDEN	4-ONSALA-3
7215	116	CHILBOLTON	CHILBOLTON, UNITED KINGDOM	4-CHLBLT-2
7216	33A	FORT DAVIS	FORT DAVIS, TX	4-FT DAV-2
7217	40	MARYLAND POINT	MARYLAND POINT, MD	4-MD PT-2
7218	714	HAT CREEK	HAT CREEK RADIO ASTRO. OBS., CASSEL, CA	4-HAT CR-2
7219	43	RICHMOND	PERRINE, FL	4-RCHMND-2
7220	701	MONUMENT PEAK	MOUNT LAGUNA, CA	4-MON PK-3
7221	14	QUINCY	QUINCY, CA	4-QUINCY-4
7222	8B	MOJAVE	BARSTOW, CA	4-MOJAVE-2
7223	9	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	4-VANBRG-3
7224	119	WETTZELL	WETTZELL, WEST GERMANY	4-WETZEL-2
7230	851	BOLOGNA	BOLOGNA, ITALY	4-BOLGNA-2
7235	850	MATERA	MATERA, ITALY	4-MATERA-2
7240	102	SAO PAULO	SAO PAULO, BRAZIL	4-SAO PL-2
7251	212	POINT REYES	POINT REYES, CA	4-PT REY-2
7252	13	PRESIDIO	SAN FRANCISCO, CA	4-PRSDIO-2
7253	7	PEARBLOSSOM	PEARBLOSSOM, CA	4-PRBLSM-2
7254	7	PEARBLOSSOM	PEARBLOSSOM, CA	4-PRBLSM-3
7255	405	SANTA PAULA	SANTA PAULA, CA	4-S PAUL-2
7256	204	PINYON FLAT	PINYON FLAT, CA	4-PINYON-2
7257	26	ELY	ELY, NV	4-ELY-2
7258	24	PLATTEVILLE	PLATTEVILLE, CO	4-PLATVL-3
7259	720	MAMMOTH LAKES	MAMMOTH LAKES, CA	4-MAMOTH-2
7260	14	QUINCY	QUINCY, CA	4-QUINCY-5
7261	27	FLAGSTAFF	FLAGSTAFF, AZ	4-FLGSTF-2
7262	2	LA JOLLA	LA JOLLA, CA	4-LA JOL-3
7263	6	PASADENA	JET PROPULSION LAB, PASADENA, CA	4-JPL-2
7264	6	PASADENA	JET PROPULSION LAB, PASADENA, CA	4-JPL-3
7265	8B	MOJAVE	BARSTOW, CA	4-MOJAVE-3
7266	12	FORT ORD	FORT ORD, CA	4-FT ORD-2
7267	205	DEADMAN LAKE	DEADMAN LAKE, CA	4-DEADMN-2
7268	4	PALOS VERDES	PALOS VERDES, CA	4-P VRDS-2
7269	206	BLACK BUTTE	BLACK BUTTE MOUNTAIN, CA	4-BL BUT-2
7270	201	OCOTILLO	OCOTILLO, CA	4-OCTILO-2
7272	6	PASADENA	JET PROPULSION LAB, PASADENA, CA	4-JPL-4
7273	202	YUMA	YUMA PROVING GROUNDS, AZ	4-YUMA-2
7274	701	MONUMENT PEAK	MOUNT LAGUNA, CA	4-MON PK-4
7275	8A	GOLDSTONE VENUS	GOLDSTONE, CA	4-GOLD V-4
7276	1	OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA	4-OTAY-2
7277	805	CAPE YAKATAGA	CAPE YAKATAGA, AK	4-CYAKTG-2
7278	803	KODIAK	KODIAK, AK	4-KODIAK-2
7279	801	NOME	NOME, AK	4-NOME-2

Table 3-3 (Continued)

Crustal Dynamics Project Sites Listed by Monument Number

Mon. Number	Site Number	Site Name	Site Location	Page
7280	802	SAND POINT	SAND POINT, AK	4-SND PT-2
7281	804	SOURDOUGH	SOURDOUGH, AK	4-SRDOGH-2
7282	67	ALGONQUIN	ALGONQUIN, ONTARIO, CANADA	4-ALGNON-2
7283	69	PENTICTON	PENTICTON, BRITISH COLUMBIA, CANADA	4-PNTCN-2
7284	806	WHITEHORSE	WHITEHORSE, YUKON TERRITORY, CANADA	4-WHRSE-2
7285	408	YELLOWKNIFE	YELLOWKNIFE, NORTHWEST TERRITORY, CANADA	4-YLWKNF-2
7286	26	ELY	ELY, NV	4-ELY-3
7287	8B	MOJAVE	BARSTOW, CA	4-MOJAVE-4
7400	99	SANTIAGO	SANTIAGO, CHILE	4-SNTAGO-3
7401	892	CERRO TOLOLO	CERRO TOLOLO, CHILE	4-C TOLO-2
7402	891	IQUIQUE	IQUIQUE, CHILE	4-IQUIQE-2
7599	119	WETTZELL	WETTZELL, WEST GERMANY	4-WETZEL-3
7805	860	METSAHOVI	METSAHOVI, FINLAND	4-MTSHOV-2
7810	882	ZIMMERWALD	BERN, SWITZERLAND	4-ZIMMER-2
7824	640	SAN FERNANDO	SAN FERNANDO, SPAIN	4-SN FER-2
7833	118	KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS	4-KOTWIJK-2
7834	119	WETTZELL	WETTZELL, WEST GERMANY	4-WETZEL-4
7835	142	GRASSE	GRASSE, FRANCE	4-GRASSE-2
7837	660	SHANGHAI	SHANGHAI OBS., PEOPLES REPUBLIC OF CHINA	4-SHNGHI-2
7838	870	SIMOSATO	SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN	4-SMSATO-2
7839	610	GRAZ	GRAZ, AUSTRIA	4-GRAZ-2
7840	880	HERSTMONCEUX	ROYAL GREENWICH OBS., GREAT BRITAIN	4-HRSTMN-2
7842	142	GRASSE	GRASSE, FRANCE	4-GRASSE-3
7843	134	ORRORAL	ORRORAL VALLEY, AUSTRALIA	4-ORORAL-2
7845	142	GRASSE	GRASSE, FRANCE	4-GRASSE-4
7580	857	JERUSALEM	JERUSALEM, ISRAEL	4-JRUSLM-2
7880	9	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	4-VANBRG-4
7881	821	SOCORRO ISLAND	SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO	4-SOCORO-2
7882	70	CABO SAN LUCAS	CABO SAN LUCAS, BAJA, MEXICO	4-CABO-2
7883	219	ENSENADA	ENSENADA, BAJA, MEXICO	4-ENSNDA-2
7885	33B	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	4-MCDNLD-4
7886	14	QUINCY	QUINCY, CA	4-QUINCY-6
7887	9	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	4-VANBRG-5
7889	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-13
7891	27	FLAGSTAFF	FLAGSTAFF, AZ	4-FLGSTF-3
7892	413	VERNAL	VERNAL, UT	4-VERNAL-3
7894	202	YUMA	YUMA PROVING GROUNDS, AZ	4-YUMA-2
7896	6	PASADENA	JET PROPULSION LAB, PASADENA, CA	4-JPL-5
7897	33B	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	4-MCDNLD-5
7899	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-14
7907	98	AREQUIPA	AREQUIPA, PERU	4-AREQIP-2
7917	39	GREENBELT	GORF, GSFC, GREENBELT, MD	4-GSFC-15
7939	850	MATERA	MATERA, ITALY	4-MATERA-3
7940	855	DIONYSOS	NATIONAL TECHNICAL UNIV., ATHENS, GREECE	4-DIONYS-2

Table 3-3 (Continued)

Crustal Dynamics Project Sites Listed by Monument Number

Mon. Number	Site Number	Site Name	Site Location	Page
7943	134	ORRORAL	ORRORAL VALLEY, AUSTRALIA	4-ORORAL-3
7999	33B	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	4-MCDNLD-6
8833	118	KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS	4-KOTWJK-3

Table 3-4

Crustal Dynamics Project Sites Listed by Geographic Region

Geographic Region	Site Name	Site Location	Site Number	Page
ALASKA	CAPE YAKATAGA	CAPE YAKATAGA, AK	805	4-CYAKTG-1
ALASKA	FAIRBANKS	FAIRBANKS, AK	61	4-FRBANKS-1
ALASKA	KODIAK	KODIAK, AK	803	4-KODIAK-1
ALASKA	NOME	NOME, AK	801	4-NOME-1
ALASKA	SAND POINT	SAND POINT, AK	802	4-SND PT-1
ALASKA	SOURDOUGH	SOURDOUGH, AK	804	4-SRDOGH-1
ASIA	JERUSALEM	JERUSALEM, ISRAEL	857	4-JRUSLM-1
ASIA	SHANGHAI	SHANGHAI OBS., PEOPLES REPUBLIC OF CHINA	660	4-SHNGHI-1
AUSTRALIA	ORRORAL	ORRORAL VALLEY, AUSTRALIA	134	4-ORORAL-1
AUSTRALIA	YARAGADEE	YARAGADEE, AUSTRALIA	133	4-YARGAD-1
CALIFORNIA	BLACK BUTTE	BLACK BUTTE MOUNTAIN, CA	206	4-BL BUT-1
CALIFORNIA	DEADMAN LAKE	DEADMAN LAKE, CA	205	4-DEADMN-1
CALIFORNIA	FORT ORD	FORT ORD, CA	12	4-FT ORD-1
CALIFORNIA	GOLDSTONE MARS	GOLDSTONE, CA	8C	4-GOLD M-1
CALIFORNIA	GOLDSTONE VENUS	GOLDSTONE, CA	8A	4-GOLD V-1
CALIFORNIA	HAT CREEK	HAT CREEK RADIO ASTRO. OBS., CASSEL, CA	714	4-HAT CR-1
CALIFORNIA	LA JOLLA	LA JOLLA, CA	2	4-LA JOL-1
CALIFORNIA	MAMMOTH LAKES	MAMMOTH LAKES, CA	720	4-MAMOTH-1
CALIFORNIA	MOJAVE	BARSTOW, CA	8B	4-MOJAVE-1
CALIFORNIA	MONUMENT PEAK	MOUNT LAGUNA, CA	701	4-MON PK-1
CALIFORNIA	OCOTILLO	OCOTILLO, CA	201	4-OCOTILO-1
CALIFORNIA	OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA	1	4-OTAY-1
CALIFORNIA	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	11	4-OVRO-1
CALIFORNIA	PALOS VERDES	PALOS VERDES, CA	4	4-P VRDS-1
CALIFORNIA	PASADENA	JET PROPULSION LAB, PASADENA, CA	6	4-JPL-1
CALIFORNIA	PEARBLOSSOM	PEARBLOSSOM, CA	7	4-PRBLSM-1
CALIFORNIA	PINYON FLAT	PINYON FLAT, CA	204	4-PINYON-1
CALIFORNIA	POINT REYES	POINT REYES, CA	212	4-PT REY-1
CALIFORNIA	PRESIDIO	SAN FRANCISCO, CA	13	4-PRSDIO-1
CALIFORNIA	QUINCY	QUINCY, CA	14	4-QUINCY-1
CALIFORNIA	SANTA PAULA	SANTA PAULA, CA	405	4-S PAUL-1
CALIFORNIA	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	9	4-VANBRG-1
EUROPE	BOLOGNA	BOLOGNA, ITALY	851	4-BOLGNA-1
EUROPE	CHILBOLTON	CHILBOLTON, UNITED KINGDOM	116	4-CHLBLT-1
EUROPE	DIONYSOS	NATIONAL TECHNICAL UNIV., ATHENS, GREECE	855	4-DIONYS-1
EUROPE	EFFELSBURG	BONN, WEST GERMANY	143	4-EFLBRG-1
EUROPE	GRASSE	GRASSE, FRANCE	142	4-GRASSE-1
EUROPE	GRAZ	GRAZ, AUSTRIA	610	4-GRAZ-1
EUROPE	HERSTMONCEUX	ROYAL GREENWICH OBS., GREAT BRITAIN	880	4-HRSTMN-1
EUROPE	KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS	118	4-KOTWJK-1
EUROPE	MATERA	MATERA, ITALY	850	4-MATERA-1
EUROPE	METSAHOVI	METSAHOVI, FINLAND	860	4-MTSHOV-1
EUROPE	ONSALA	ONSALA, SWEDEN	120	4-ONSALA-1
EUROPE	SAN FERNANDO	SAN FERNANDO, SPAIN	640	4-SN FER-1

Table 3-4 (Continued)

Crustal Dynamics Project Sites Listed by Geographic Region

Geographic Region	Site Name	Site Location	Site Number	Page
EUROPE	WETTZELL	WETTZELL, WEST GERMANY	119	4-WETZEL-1
EUROPE	ZIMMERWALD	BERN, SWITZERLAND	882	4-ZIMMER-1
NORTH AMERICA	ALGONQUIN	ALGONQUIN, ONTARIO, CANADA	67	4-ALGNON-1
NORTH AMERICA	BEAR LAKE	BEAR LAKE, UT	22	4-BEAR L-1
NORTH AMERICA	CABO SAN LUCAS	CABO SAN LUCAS, BAJA, MEXICO	70	4-CABO-1
NORTH AMERICA	ELY	ELY, NV	26	4-ELY-1
NORTH AMERICA	ENSENADA	ENSENADA, BAJA, MEXICO	219	4-ENSNDA-1
NORTH AMERICA	FLAGSTAFF	FLAGSTAFF, AZ	27	4-FLGSTF-1
NORTH AMERICA	FORT DAVIS	FORT DAVIS, TX	33A	4-FT DAV-1
NORTH AMERICA	GREEN BANK	NRAO, GREEN BANK, WV	38	4-GRNBK-1
NORTH AMERICA	GREENBELT	GORF, GSFC, GREENBELT, MD	39	4-GSFC-1
NORTH AMERICA	MARYLAND POINT	MARYLAND POINT, MD	40	4-MD PT-1
NORTH AMERICA	MAZATLAN	MAZATLAN, SINALOA, MEXICO	71	4-MZTLN-1
NORTH AMERICA	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	33B	4-MCDNLD-1
NORTH AMERICA	PENTICTON	PENTICTON, BRITISH COLUMBIA, CANADA	69	4-PNTCN-1
NORTH AMERICA	PLATTEVILLE	PLATTEVILLE, CO	24	4-PLATVL-1
NORTH AMERICA	RICHMOND	FERRINE, FL	43	4-RCHMND-1
NORTH AMERICA	SOCORRO ISLAND	SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO	821	4-SOCORO-1
NORTH AMERICA	VERNAL	VERNAL, UT	413	4-VERNAL-1
NORTH AMERICA	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	41	4-WSTFRD-1
NORTH AMERICA	WHITEHORSE	WHITEHORSE, YUKON TERRITORY, CANADA	806	4-WHRSE-1
NORTH AMERICA	YELLOWKNIFE	YELLOWKNIFE, NORTHWEST TERRITORY, CANADA	408	4-YLWKNF-1
NORTH AMERICA	YUMA	YUMA PROVING GROUNDS, AZ	202	4-YUMA-1
PACIFIC	EASTER ISLAND	EASTER ISLAND, CHILE	96	4-EASTER-1
PACIFIC	HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI	90	4-HALEAK-1
PACIFIC	HUAHINE	HUAHINE, SOCIETY IS, FRENCH POLYNESIA	92	4-HUAHNE-1
PACIFIC	KASHIMA	KASHIMA, JAPAN	138	4-KSHIMA-1
PACIFIC	KOKEE PARK	KOKEE PARK, KAUAI, HI	990	4-KOKEE-1
PACIFIC	KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS	136	4-KWAJLN-1
PACIFIC	SIMOSATO	SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN	870	4-SMSATO-1
SOUTH AMERICA	AREQUIPA	AREQUIPA, PERU	98	4-AREQIP-1
SOUTH AMERICA	CERRO TOLOLO	CERRO TOLOLO, CHILE	892	4-C TOLO-1
SOUTH AMERICA	IQUIQUE	IQUIQUE, CHILE	891	4-IQUIQE-1
SOUTH AMERICA	SANTIAGO	SANTIAGO, CHILE	99	4-SNTAGO-1
SOUTH AMERICA	SAO PAULO	SAO PAULO, BRAZIL	102	4-SAO PL-1

Table 3-5

Crustal Dynamics Project Sites Listed by Tectonic Plate

Tectonic Plate	Site Name	Site Location	Site Number	Page
AUSTRALIAN-INDIAN	ORRORAL	ORRORAL VALLEY, AUSTRALIA	134	4-ORORAL-1
AUSTRALIAN-INDIAN	YARAGADEE	YARAGADEE, AUSTRALIA	133	4-YARGAD-1
EURASIAN	BOLOGNA	BOLOGNA, ITALY	851	4-BOLGNA-1
EURASIAN	CHILBOLTON	CHILBOLTON, UNITED KINGDOM	116	4-CHLBLT-1
EURASIAN	DIONYSOS	NATIONAL TECHNICAL UNIV., ATHENS, GREECE	855	4-DIONYS-1
EURASIAN	EFFELSBURG	BONN, WEST GERMANY	143	4-EFLBRG-1
EURASIAN	GRASSE	GRASSE, FRANCE	142	4-GRASSE-1
EURASIAN	GRAZ	GRAZ, AUSTRIA	610	4-GRAZ-1
EURASIAN	HERSTMONCEUX	ROYAL GREENWICH OBS., GREAT BRITAIN	880	4-HRSTMN-1
EURASIAN	JERUSALEM	JERUSALEM, ISRAEL	857	4-JRUSLM-1
EURASIAN	KASHIMA	KASHIMA, JAPAN	138	4-KSHIMA-1
EURASIAN	KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS	118	4-KOTWJK-1
EURASIAN	MATERA	MATERA, ITALY	850	4-MATERA-1
EURASIAN	METSAHOVI	METSAHOVI, FINLAND	860	4-MTSHOV-1
EURASIAN	ONSALA	ONSALA, SWEDEN	120	4-ONSALA-1
EURASIAN	SAN FERNANDO	SAN FERNANDO, SPAIN	640	4-SN FER-1
EURASIAN	SHANGHAI	SHANGHAI OBS., PEOPLES REPUBLIC OF CHINA	660	4-SHNGHI-1
EURASIAN	SIMOSATO	SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN	870	4-SMSATO-1
EURASIAN	WETTZELL	WETTZELL, WEST GERMANY	119	4-WETZEL-1
EURASIAN	ZIMMERWALD	BERN, SWITZERLAND	882	4-ZIMMER-1
NAZCA	EASTER ISLAND	EASTER ISLAND, CHILE	96	4-EASTER-1
NORTH AMERICAN	ALGONQUIN	ALGONQUIN, ONTARIO, CANADA	67	4-ALGNON-1
NORTH AMERICAN	BEAR LAKE	BEAR LAKE, UT	22	4-BEAR L-1
NORTH AMERICAN	BLACK BUTTE	BLACK BUTTE MOUNTAIN, CA	206	4-BL BUT-1
NORTH AMERICAN	CAPE YAKATAGA	CAPE YAKATAGA, AK	805	4-CYAKTG-1
NORTH AMERICAN	DEADMAN LAKE	DEADMAN LAKE, CA	205	4-DEADMN-1
NORTH AMERICAN	ELY	ELY, NV	26	4-ELY-1
NORTH AMERICAN	FAIRBANKS	FAIRBANKS, AK	61	4-FRBANKS-1
NORTH AMERICAN	FLAGSTAFF	FLAGSTAFF, AZ	27	4-FLGSTF-1
NORTH AMERICAN	FORT DAVIS	FORT DAVIS, TX	33A	4-FT DAV-1
NORTH AMERICAN	GOLDSTONE MARS	GOLDSTONE, CA	8C	4-GOLD M-1
NORTH AMERICAN	GOLDSTONE VENUS	GOLDSTONE, CA	8A	4-GOLD V-1
NORTH AMERICAN	GREEN BANK	NRAO, GREEN BANK, WV	38	4-GRNBK-1
NORTH AMERICAN	GREENBELT	GORF, GSFC, GREENBELT, MD	39	4-GSFC-1
NORTH AMERICAN	HAT CREEK	HAT CREEK RADIO ASTRO. OBS., CASSEL, CA	714	4-HAT CR-1
NORTH AMERICAN	KODIAK	KODIAK, AK	803	4-KODIAK-1
NORTH AMERICAN	MAMMOTH LAKES	MAMMOTH LAKES, CA	720	4-MAMOTH-1
NORTH AMERICAN	MARYLAND POINT	MARYLAND POINT, MD	40	4-MD PT-1
NORTH AMERICAN	MAZATLAN	MAZATLAN, SINALOA, MEXICO	71	4-MZTLN-1
NORTH AMERICAN	MCDONALD	MCDONALD OBSERVATORY, FORT DAVIS, TX	33B	4-MCDNLD-1
NORTH AMERICAN	MOJAVE	BARSTOW, CA	8B	4-MOJAVE-1
NORTH AMERICAN	NOME	NOME, AK	801	4-NOME-1
NORTH AMERICAN	OCOTILLO	OCOTILLO, CA	201	4-OCTILO-1
NORTH AMERICAN	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA	11	4-OVRO-1

Table 3-5 (Continued)

Crustal Dynamics Project Sites Listed by Tectonic Plate

Tectonic Plate	Site Name	Site Location	Site Number	Page
NORTH AMERICAN	PASADENA	JET PROPULSION LAB, PASADENA, CA	6	4-JPL-1
NORTH AMERICAN	PEARBLOSSOM	PEARBLOSSOM, CA	7	4-PRBLSM-1
NORTH AMERICAN	PENTICTON	PENTICTON, BRITISH COLUMBIA, CANADA	69	4-PNTCN-1
NORTH AMERICAN	PINYON FLAT	PINYON FLAT, CA	204	4-PINYON-1
NORTH AMERICAN	PLATTEVILLE	PLATTEVILLE, CO	24	4-PLATVL-1
NORTH AMERICAN	POINT REYES	POINT REYES, CA	212	4-PT REY-1
NORTH AMERICAN	PRESIDIO	SAN FRANCISCO, CA	13	4-PRSDIO-1
NORTH AMERICAN	QUINCY	QUINCY, CA	14	4-QUINCY-1
NORTH AMERICAN	RICHMOND	FERRINE, FL	43	4-RCHMND-1
NORTH AMERICAN	SAND POINT	SAND POINT, AK	802	4-SND PT-1
NORTH AMERICAN	SOURDOUGH	SOURDOUGH, AK	804	4-SRDOGH-1
NORTH AMERICAN	VERNAL	VERNAL, UT	413	4-VERNAL-1
NORTH AMERICAN	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA	41	4-WSTFRD-1
NORTH AMERICAN	WHITEHORSE	WHITEHORSE, YUKON TERRITORY, CANADA	806	4-WHRSE-1
NORTH AMERICAN	YELLOWKNIFE	YELLOWKNIFE, NORTHWEST TERRITORY, CANADA	408	4-YLWKNF-1
NORTH AMERICAN	YUMA	YUMA PROVING GROUNDS, AZ	202	4-YUMA-1
PACIFIC	CABO SAN LUCAS	CABO SAN LUCAS, BAJA, MEXICO	70	4-CABO-1
PACIFIC	ENSENADA	ENSENADA, BAJA, MEXICO	219	4-ENSNDA-1
PACIFIC	FORT ORD	FORT ORD, CA	12	4-FT ORD-1
PACIFIC	HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI	90	4-HALEAK-1
PACIFIC	HUAHINE	HUAHINE, SOCIETY IS, FRENCH POLYNESIA	92	4-HUAHNE-1
PACIFIC	KOKEE PARK	KOKEE PARK, KAUAI, HI	990	4-KOKEE-1
PACIFIC	KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS	136	4-KWAJLN-1
PACIFIC	LA JOLLA	LA JOLLA, CA	2	4-LA JOL-1
PACIFIC	MONUMENT PEAK	MOUNT LAGUNA, CA	701	4-MON PK-1
PACIFIC	OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA	1	4-OTAY-1
PACIFIC	PALOS VERDES	PALOS VERDES, CA	4	4-P VRDS-1
PACIFIC	SANTA PAULA	SANTA PAULA, CA	405	4-S PAUL-1
PACIFIC	SOCORRO ISLAND	SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO	821	4-SOCORO-1
PACIFIC	VANDENBERG	VANDENBERG AIR FORCE BASE, CA	9	4-VANBRG-1
SOUTH AMERICAN	AREQUIPA	AREQUIPA, PERU	98	4-AREQIP-1
SOUTH AMERICAN	CERRO TOLOLO	CERRO TOLOLO, CHILE	892	4-C TOLO-1
SOUTH AMERICAN	IQUIQUE	IQUIQUE, CHILE	891	4-IQUIQE-1
SOUTH AMERICAN	SANTIAGO	SANTIAGO, CHILE	99	4-SNTACO-1
SOUTH AMERICAN	SAO PAULO	SAO PAULO, BRAZIL	102	4-SAO PL-1

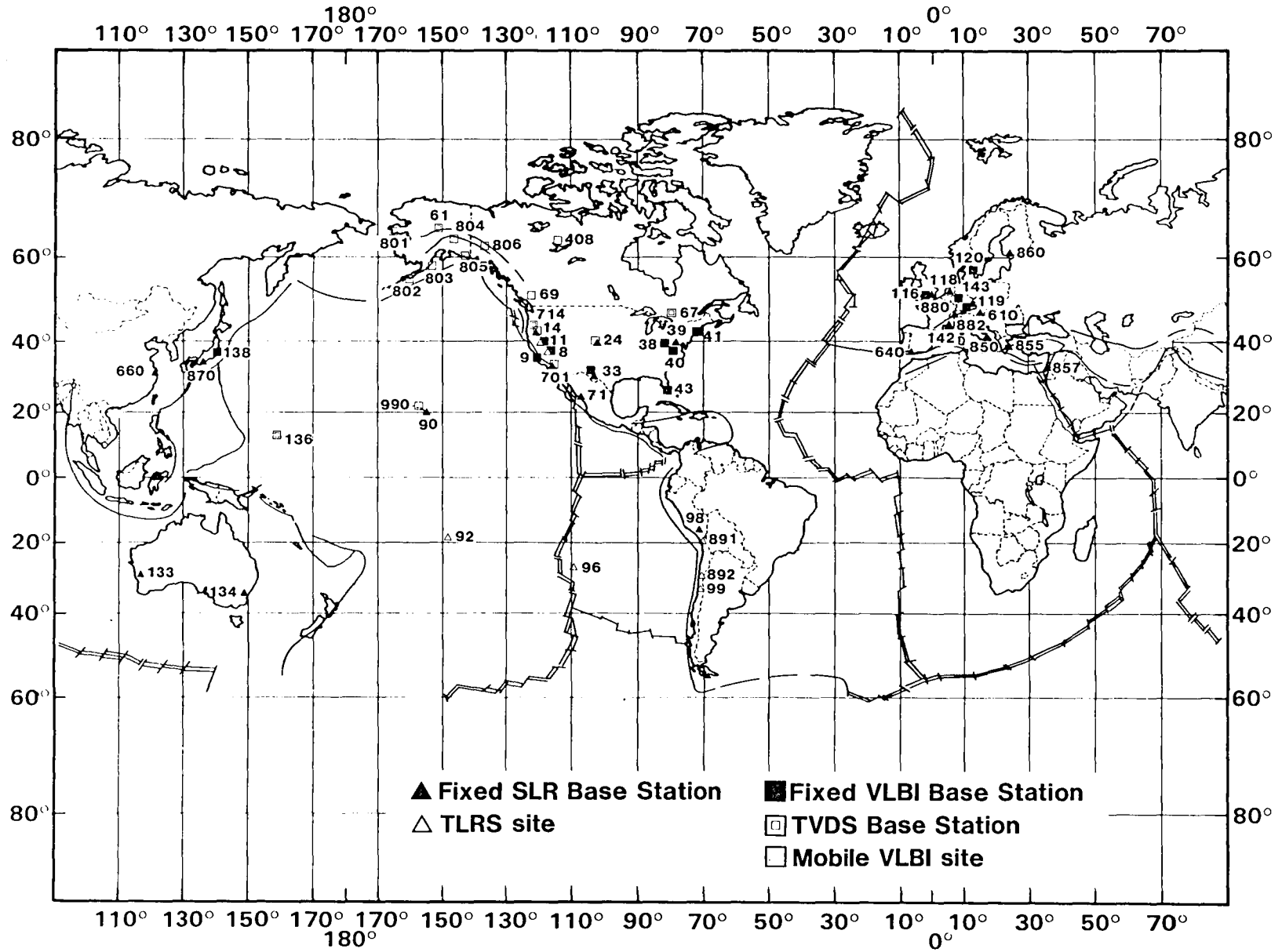


Figure 3-1. Global Map of Crustal Dynamics Project Sites

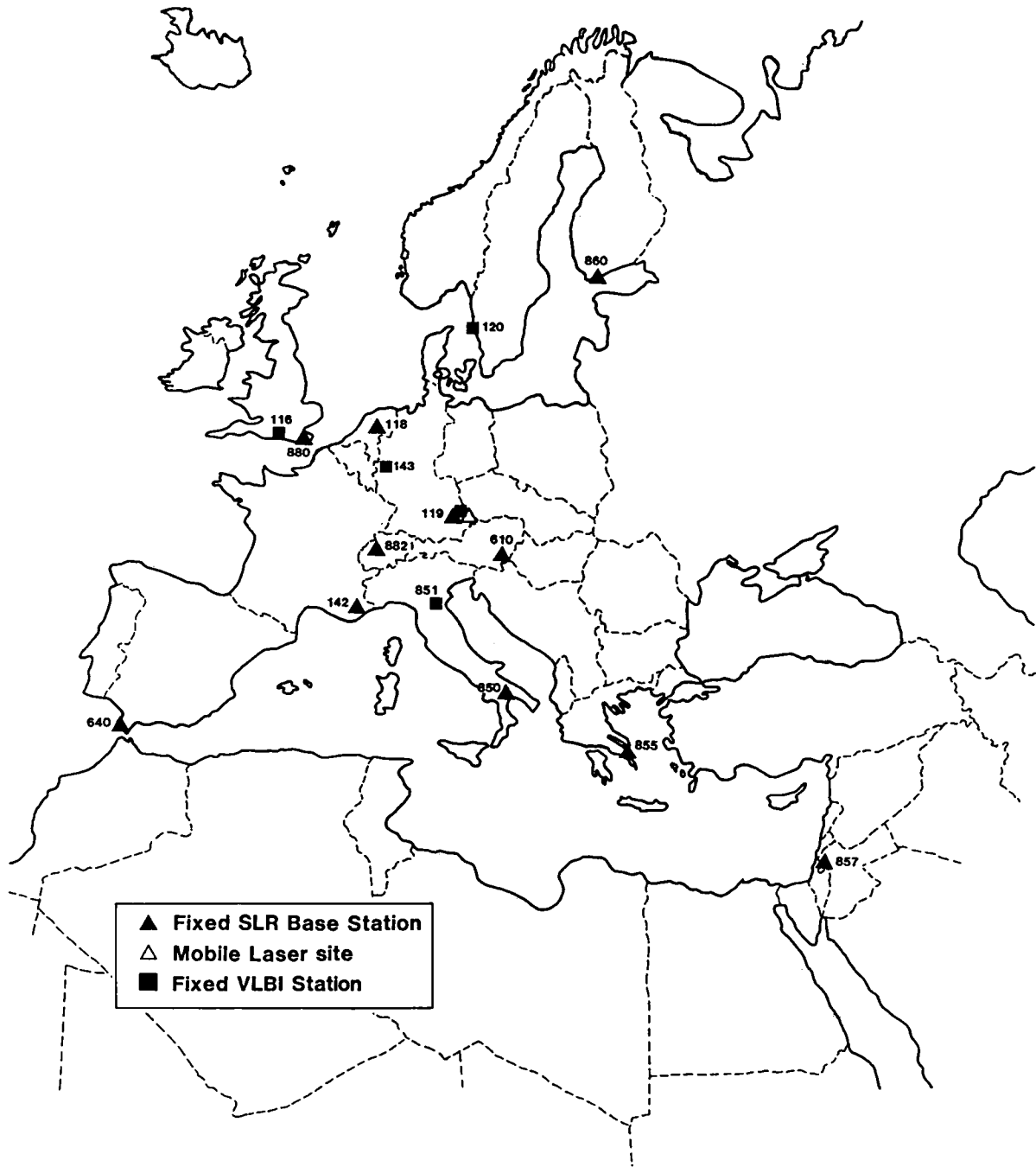


Figure 3-2. Europe and Mediterranean Map of Crustal Dynamics Project Sites

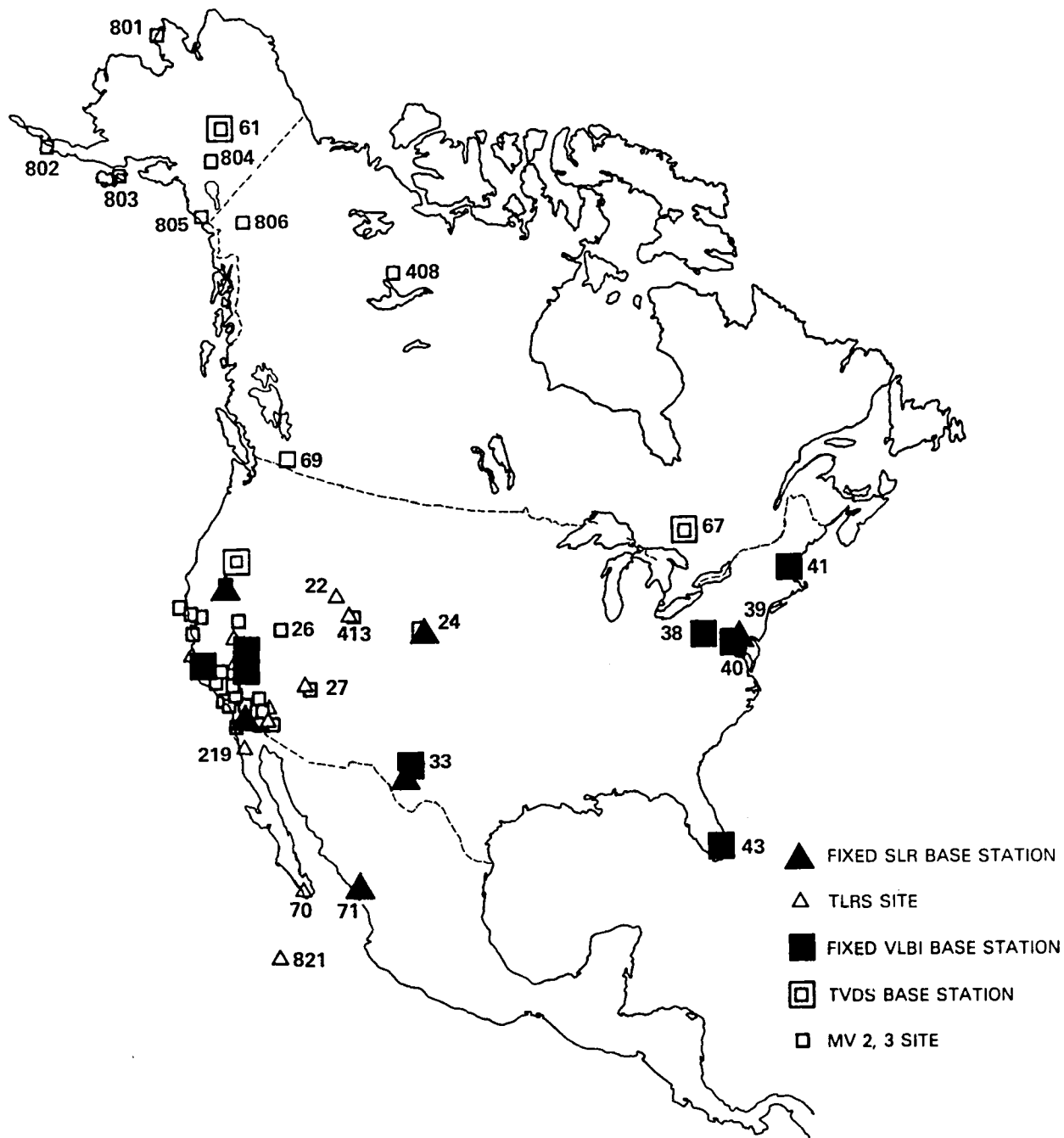


Figure 3-3. North America Map of Crustal Dynamics Project Sites

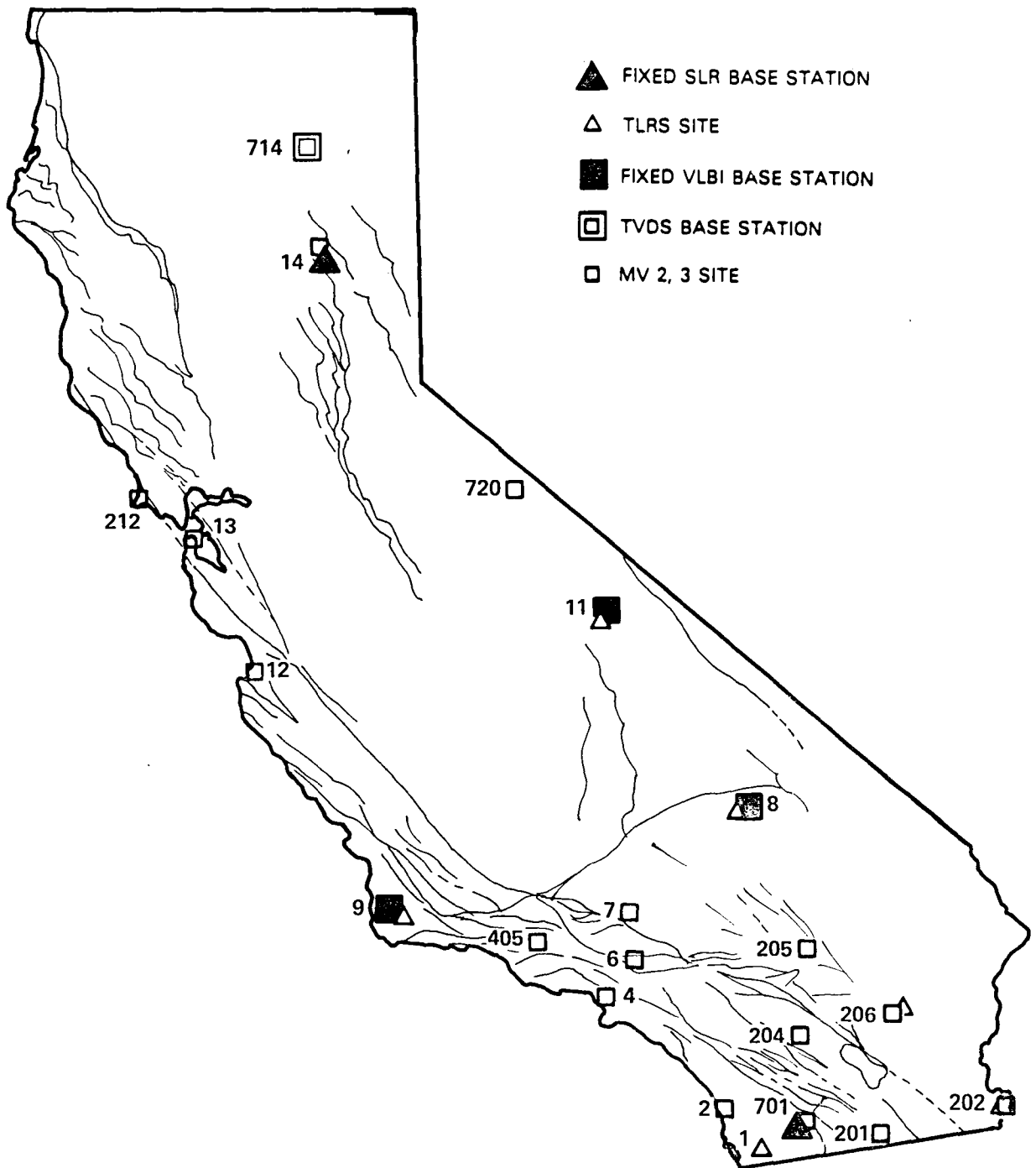


Figure 3-4. California Map of Crustal Dynamics Project Sites

SECTION 4. SITE INFORMATION

-- SITE INFORMATION --

Site Number: 67

Current Site Name: ALGONQUIN

Other Site Name:

Location: ALGONQUIN, ONTARIO, CANADA

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 98

Current Site Name: AREQUIPA
Other Site Name:
Location: AREQUIPA, PERU
Geographic Region: SOUTH AMERICA
Tectonic Plate: SOUTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, AND REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED IN WESTERN SOUTH AMERICA IN SOUTHERN PERU AT THE SMITHSONIAN ASTRONOMICAL OBSERVATORY. THE UNIVERSITY OF AUGUSTA IS OPERATING THE SAO-2 LASER SYSTEM WHICH WILL REMAIN AT THIS SITE FOR THE DURATION OF THE PROJECT.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: EUGOESYNCLINAL BELT OF MESOZOIC AGE.

Local Geology: QUATERNARY ALLUVIUM

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 98
Current Site Name: AREQUIPA
Location: AREQUIPA, PERU
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7907
Type of Monument: REFERENCE POINT ON LASER MOUNT ROTATION AXES
Monument Inscription: NONE
Systems Using Monument: SAO-2 FIXED LASER

Latitude: S 16 27' 55.085''
Longitude: W 71 29' 33.186''
Elevation: 2452.274 meters
Survey Source/Date: INTER-AMERICAN GEODETIC SURVEY/01-SEP-76
Datum/Ellipsoid: S.A. 1969/UNKNOWN

Comments: THE SYSTEM IS ALSO REFERENCED AS ARELAS.

Differential Coordinates FROM Observing Monument 7907 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 98
 Current Site Name: AREQUIPA
 Location: AREQUIPA, PERU

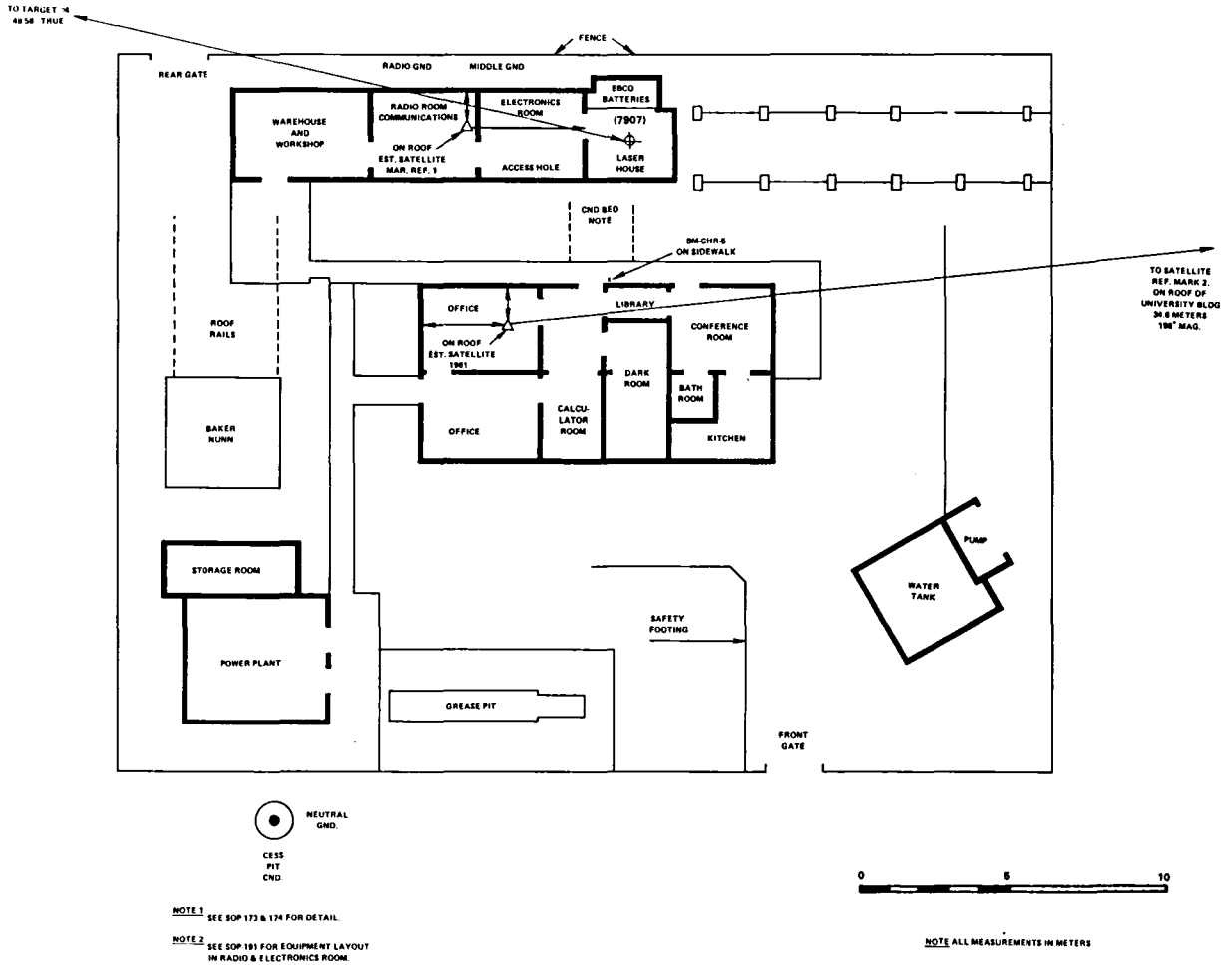


Figure 4-AREQIP. AREQUIPA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 98
Current Site Name: AREQUIPA
Location: AREQUIPA, PERU

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7907	ARELAS	79074001	17-DEC-70	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
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-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 98
Current Site Name: AREQUIPA
Location: AREQUIPA, PERU

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
ARELAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-- None Planned --	

-- SITE INFORMATION --

Site Number: 22

Current Site Name: BEAR LAKE

Other Site Name:

Location: BEAR LAKE, UT

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED IN WASATON NATIONAL FOREST TWO MILES SOUTHWEST OF GARDEN CITY, UTAH ON THE SOUTHWEST SHORE OF BEAR LAKE. BEAR LAKE STRADDLES THE BORDER OF UTAH AND IDAHO AND IS APPROXIMATELY 85 MILES NORTH-NORTHEAST OF SALT LAKE CITY. THE SITE IS COMPATIBLE FOR OCCUPATION BY MOBILAS SYSTEMS OR TLRs-1. AT PRESENT, THE PAD IS NOT EQUIPPED TO ACCOMMODATE TLRs-2, -3, OR -4.

Site Topo Map: GARDEN CITY, UTAH. N4152.5-W11122.5/7.5. 1969, U.S.G.S., RESTON, VA 22029

-- GEOLOGICAL INFORMATION --

Geological Province: MIDDLE ROCKY MOUNTAINS

Local Geology: PRECAMBRIAN BASEMENT. THE SITE IS LOCATED EAST OF THE SAN ANDREAS FAULT AS WELL AS EAST OF OTHER LESS WELL KNOWN BUT ACTIVE FAULTS ON THE NORTH AMERICAN PLATE.

Comments: FROST HEAVE IN THE AREA HAS CAUSED VERTICAL PAD OSCILLATIONS OF UP TO FIVE CENTIMETERS.

-- MONUMENT INFORMATION --

Site Number: 22
Current Site Name: BEAR LAKE
Location: BEAR LAKE, UT
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7082
Type of Monument: 4'' X 4'' STEEL PLATE
Monument Inscription: "X"
Systems Using Monument: TLRs AND MOBLAS

Latitude: N 41 56' 01.1437''
Longitude: W 111 25' 11.4860''
Elevation: 1976.515 meters
Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-AUG-76
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7082 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 22
Current Site Name: BEAR LAKE
Location: BEAR LAKE, UT

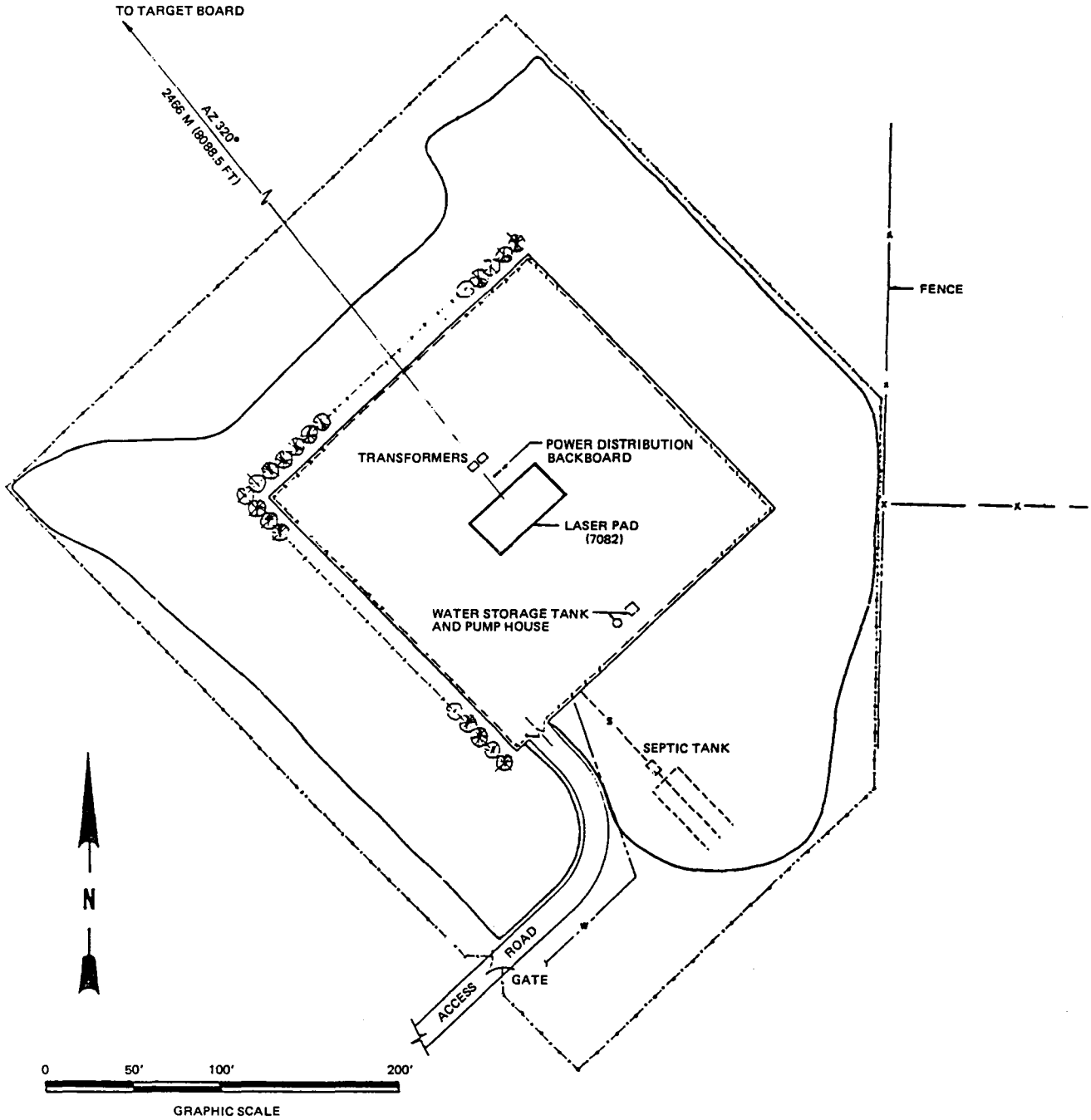


Figure 4-BEAR L. BEAR LAKE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 22
Current Site Name: BEAR LAKE
Location: BEAR LAKE, UT

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7082	MOBLAS-1	70820101	24-SEP-76	30-NOV-76	YES
7082	MOBLAS-1	70820102	01-JAN-79	20-AUG-79	YES
7082	TLRS-1	70821103	30-MAR-81	06-MAY-81	YES
7082	TLRS-1	70821104	03-NOV-83	10-JAN-84	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 22
Current Site Name: BEAR LAKE
Location: BEAR LAKE, UT

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
TLRS-1	AUG-86

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-- None Planned --	

-- SITE INFORMATION --

Site Number: 206

Current Site Name: BLACK BUTTE

Other Site Name:

Location: BLACK BUTTE MOUNTAIN, CA

Geographic Region: CALIFORNIA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND INTERCOMPARISON OF SLR, VLBI, AND CONVENTIONAL TECHNIQUES.

Site Description: THE SITE IS APPROXIMATELY 30 MILES EAST OF INDIO, CALIFORNIA AT THE CHIRIACO SUMMIT AIRSTRIP ON RIVERSIDE COUNTY PROPERTY. AT PRESENT, THE MONUMENT IS COMPATIBLE FOR OCCUPATION BY MOBILE VLBI SYSTEMS AND TLRs-1 ONLY.

Site Topo Map: CHUCKWALLA MOUNTAINS, CALIFORNIA, 1963, 7.5 QUAD, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT

Local Geology: QUATERNARY ALLUVIUM

Comments: THE SITE WILL BE PART OF THE U.S.G.S. TRILATERATION NETWORK.

-- MONUMENT INFORMATION --

Site Number: 206
Current Site Name: BLACK BUTTE
Location: BLACK BUTTE MOUNTAIN, CA
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7269
Type of Monument: NGS STATION DISK
Monument Inscription: BLACK BUTTE NCMN 1982
Systems Using Monument: MOBILE VLBI

Latitude: N 33 39' 50''
Longitude: W 115 43' 8''
Elevation: 518 meters
Survey Source/Date: NGS PRELIMINARY ESTIMATE/24-OCT-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: PRESENT MONUMENT WILL NOT ACCOMODATE TLRs-2, -3, AND -4.

Differential Coordinates FROM Observing Monument 7269 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 206
 Current Site Name: BLACK BUTTE
 Location: BLACK BUTTE MOUNTAIN, CA

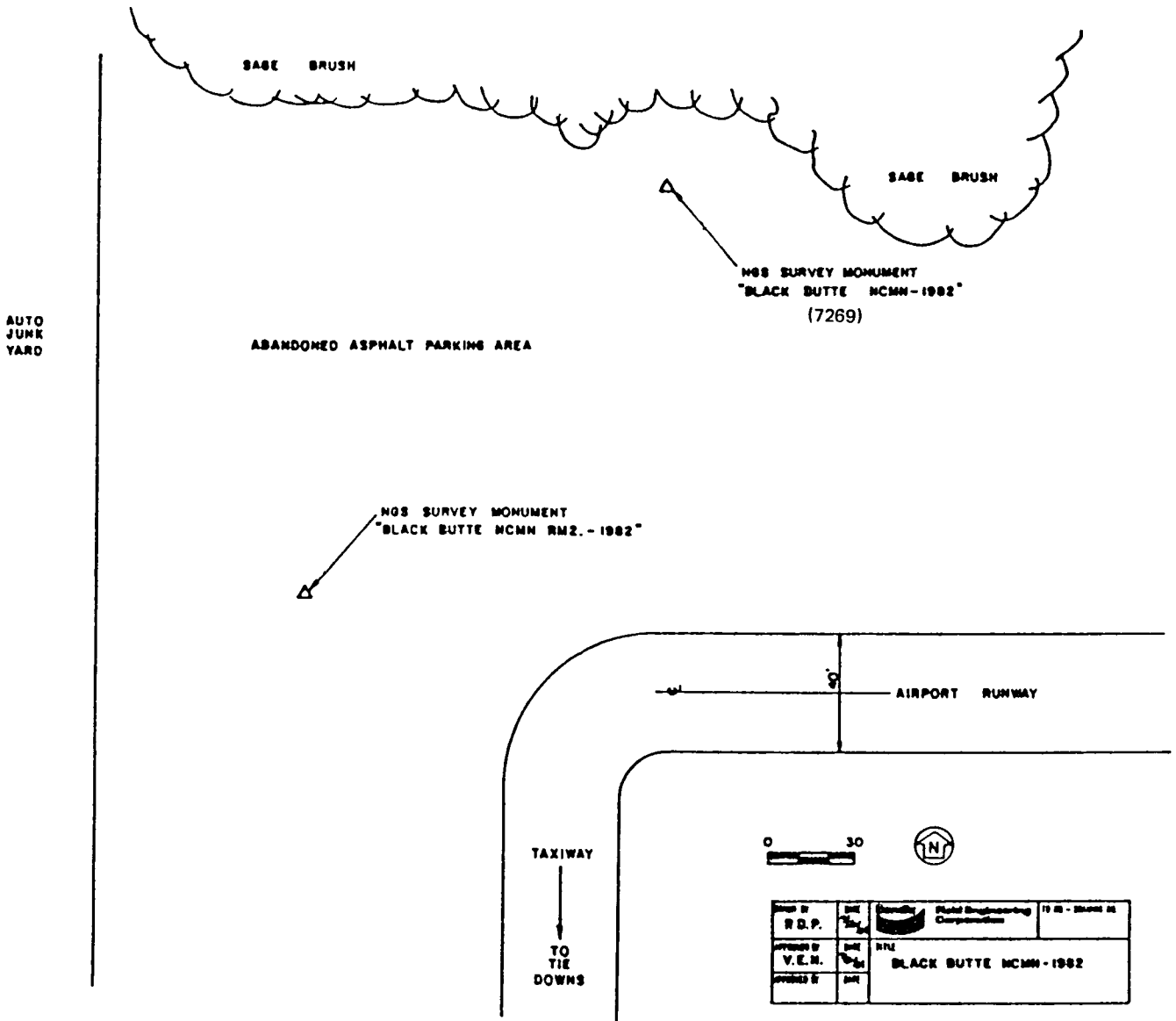


Figure 4-BL BUT. BLACK BUTTE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 206
Current Site Name: BLACK BUTTE
Location: BLACK BUTTE MOUNTAIN, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7269	MV-2	72695201	08-NOV-83	11-NOV-83	YES
7269	MV-3	72695302	03-MAR-84	04-MAR-84	YES
7269	MV-3	72695303	12-JAN-85	16-JAN-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 206
Current Site Name: BLACK BUTTE
Location: BLACK BUTTE MOUNTAIN, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

3

-- SITE INFORMATION --

Site Number: 851

Current Site Name: BOLOGNA
Other Site Name:
Location: BOLOGNA, ITALY
Geographic Region: EUROPE
Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 70

Current Site Name: CABO SAN LUCAS

Other Site Name:

Location: CABO SAN LUCAS, BAJA, MEXICO

Geographic Region: NORTH AMERICA

Tectonic Plate: PACIFIC

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 805

Current Site Name: CAPE YAKATAGA
Other Site Name:
Location: CAPE YAKATAGA, AK
Geographic Region: ALASKA
Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 892

Current Site Name: CERRO TOLOLO
Other Site Name:
Location: CERRO TOLOLO, CHILE
Geographic Region: SOUTH AMERICA
Tectonic Plate: SOUTH AMERICAN

-- Site Information Not Yet Available --

1

1

-- SITE INFORMATION --

Site Number: 116

Current Site Name: CHILBOLTON

Other Site Name:

Location: CHILBOLTON, UNITED KINGDOM

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DEVELOPMENT OF THE VLBI TECHNIQUE.

Site Description: THE STATION IS LOCATED IN CENTRAL SOUTHERN ENGLAND AT THE CHILBOLTON OBSERVATORY. A 25-METER ANTENNA WAS USED IN A PRELIMINARY MERIT CAMPAIGN IN 1980. THE ANTENNA IS NO LONGER AVAILABLE FOR VLBI USE.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: TO BE DETERMINED

Local Geology: TO BE DETERMINED

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 116
Current Site Name: CHILBOLTON
Location: CHILBOLTON, UNITED KINGDOM
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7215
Type of Monument: REFERENCE POINT ON ANTENNA
Monument Inscription: NONE
Systems Using Monument: 25-METER RADIO TELESCOPE

Latitude: N 51 08' 40.0594''
Longitude: W 01 26' 13.01012''
Elevation: 100.370 meters
Survey Source/Date: GEODETIC SURVEY OF GREAT BRITAIN/15-JUN-77
Datum/Ellipsoid: GREAT BRITAIN 1970/OSGB 1970

Comments: ELEVATION IS ELLIPSOID HEIGHT. ANTENNA REFERENCE POINT IS INTERSECTION OF AZIMUTH AXES AND HORIZONTAL PLANE WHICH AXES ROTATES.

Differential Coordinates FROM Observing Monument 7215 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 116
Current Site Name: CHILBOLTON
Location: CHILBOLTON, UNITED KINGDOM

-- Site Sketch Not Available --

Figure 4-CHLBLT. CHILBOLTON Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 116
Current Site Name: CHILBOLTON
Location: CHILBOLTON, UNITED KINGDOM

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7215	TVDS-1	72159101	16-OCT-80	16-OCT-80	YES
7215	TVDS-1	72159101	17-OCT-80	17-OCT-80	YES
7215	TVDS-1	72159101	18-OCT-80	18-OCT-80	YES
7215	TVDS-1	72159101	19-OCT-80	19-OCT-80	YES
7215	TVDS-1	72159101	20-OCT-80	20-OCT-80	YES
7215	TVDS-1	72159101	21-OCT-80	21-OCT-80	YES
7215	TVDS-1	72159101	22-OCT-80	22-OCT-80	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 116
Current Site Name: CHILBOLTON
Location: CHILBOLTON, UNITED KINGDOM

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 205

Current Site Name: DEADMAN LAKE
Other Site Name:
Location: DEADMAN LAKE, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED ON THE TWENTYNINE PALMS TRAINING CENTER OF THE U.S. MARINE CORPS. THE MONUMENT IS COMPATIBLE FOR OCCUPATION BY ALL MOBILE VLBI SYSTEMS. THE MONUMENT AT THIS SITE IS NOT SURROUNDED BY A PAD THUS MAKING IT INCOMPATIBLE FOR OCCUPATION BY TLRs-2, -3, AND -4.

Site Topo Map: GOAT MOUNTAIN, CALIFORNIA. N3415-W11615/7.5, 1955. STATE OF CALIFORNIA. AVAILABLE THRU THE U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT

Local Geology: PLEISTOCENE NONMARINE

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 205
Current Site Name: DEADMAN LAKE
Location: DEADMAN LAKE, CA
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7267
Type of Monument: USC & GS STATION DISK
Monument Inscription: SAND HILL 1939-1981
Systems Using Monument: MOBILE VLBI

Latitude: N 34 15' 17.965''
Longitude: W 116 16' 40.877''
Elevation: 864.730 meters
Survey Source/Date: NGS HORIZONTAL CONTROL SURVEY/01-APR-79
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7267 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 205
Current Site Name: DEADMAN LAKE
Location: DEADMAN LAKE, CA

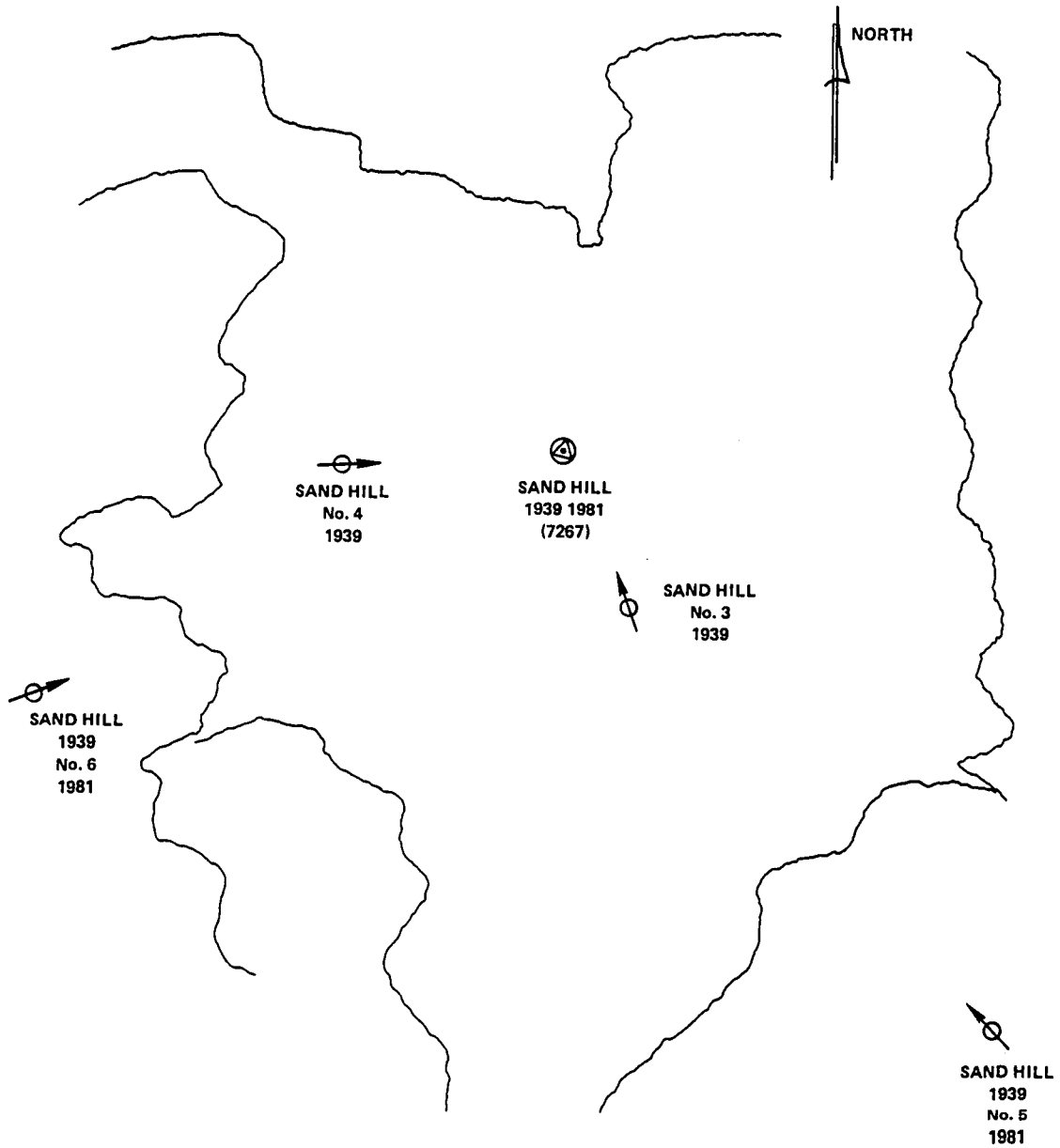


Figure 4-DEADMN. DEADMAN LAKE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 205
Current Site Name: DEADMAN LAKE
Location: DEADMAN LAKE, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7267	MV-3	72675301	31-AUG-83	01-SEP-83	YES
7267	MV-3	72675302	29-FEB-84	01-MAR-84	YES
7267	MV-2	72675203	09-JAN-85	10-JAN-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 205
Current Site Name: DEADMAN LAKE
Location: DEADMAN LAKE, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 855

Current Site Name: DIONYSOS

Other Site Name:

Location: NATIONAL TECHNICAL UNIV., ATHENS, GREECE

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 96

Current Site Name: EASTER ISLAND
Other Site Name: ISLA DE PASCUA
Location: EASTER ISLAND, CHILE
Geographic Region: PACIFIC
Tectonic Plate: NAZCA

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED ON THE SOUTHWEST PART OF EASTER ISLAND, CHILI. THE FACILITY IS LOCATED INLAND ABOUT 2.5 MILES NORTHEAST OF MATAVERI AIRPORT. THE LASER COMPLEX INCLUDES A CONCRETE PAD WITH A PERMANENT ASTRONOMIC DOME TO HOUSE A TLR. THE SITE WAS FIRST OCCUPIED IN JANUARY OF 1983 AND IS THE ONLY CDP SITE ON THE NAZCA TECTONIC PLATE, THUS PLAYING AN IMPORTANT ROLE IN THE SOUTH AMERICAN CAMPAIGN.

Site Topo Map: TO BE DETERMINED

-- GEOLOGICAL INFORMATION --

Geological Province: EAST SOUTH PACIFIC ISLAND, ABOUT 500 KILOMETERS EAST OF THE CREST OF THE EAST PACIFIC RISE.

Local Geology: THE ISLAND IS THE PRODUCT OF THREE PRINCIPLE VOLCANIC STRUCTURES.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 96
Current Site Name: EASTER ISLAND
Location: EASTER ISLAND, CHILE
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7061
Type of Monument: NASA-GSFC STATION DISK
Monument Inscription: 7061-1983
Systems Using Monument: TLRS

Latitude: S 27 08' 54.6899''
Longitude: W 109 23' 06.3638''
Elevation: 119.145 meters
Survey Source/Date: NASA-GSFC-BFEC/06-APR-84
Datum/Ellipsoid: 1967 ASTRO/INTERNATIONAL ELLIPSOID

Comments: 2 OF 3 REFERENCE MARKS COULD BE OCCUPIED BY SMALLER SYSTEMS
(TLRS OR MV-2 OR -3). SURVEYS EXIST BETWEEN THESE MARKERS.

Differential Coordinates FROM Observing Monument 7061 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 96
 Current Site Name: EASTER ISLAND
 Location: EASTER ISLAND, CHILE

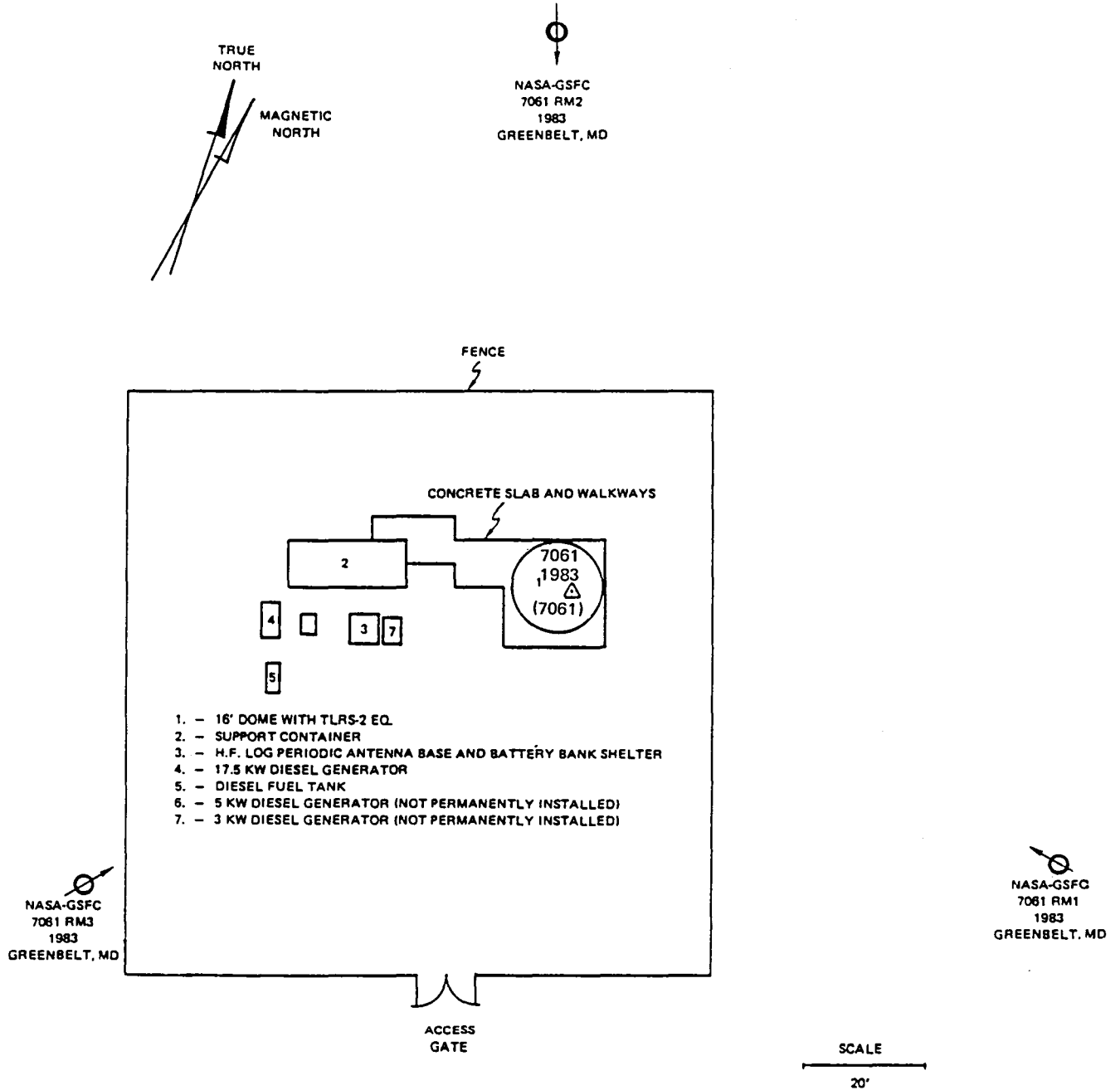


Figure 4-EASTER. EASTER ISLAND Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 96
Current Site Name: EASTER ISLAND
Location: EASTER ISLAND, CHILE

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7061	TLRS-2	70611201	10-JAN-83	02-AUG-83	YES
7061	TLRS-2	70611202	19-MAR-84	12-DEC-84	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 96
Current Site Name: EASTER ISLAND
Location: EASTER ISLAND, CHILE

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
TLRS-2	DEC-85
TLRS-2	NOV-86

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-- None Planned --	

-- SITE INFORMATION --

Site Number: 143

Current Site Name: EFFELSBERG
Other Site Name: BONN
Location: BONN, WEST GERMANY
Geographic Region: EUROPE
Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION.

Site Description: THE STATION IS LOCATED NEAR BONN AT THE MAX PLANCK INSTITUTE FOR RADIO ASTRONOMY AT EFFELSBERG, WEST GERMANY. ONE FIXED 100-METER TELESCOPE IS USED FOR VLBI MEASUREMENTS.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: TO BE DETERMINED

Local Geology: TO BE DETERMINED

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 143
Current Site Name: EFFELSBURG
Location: BONN, WEST GERMANY
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7203
Type of Monument: MEASUREMENT POINT ON RADIO TELESCOPE
Monument Inscription: NONE
Systems Using Monument: 100-METER RADIO TELESCOPE

Latitude: N 50 31' 33.8''
Longitude: E 06 53' 03.7''
Elevation: 369.0 meters
Survey Source/Date: MAX PLANCK INSTITUTE FOR RADIO ASTRONOMY/
01-SEP-75
Datum/Ellipsoid: NOT SPECIFIED

Comments: THE MEASUREMENT POINT IS THE CENTER OF THE ELEVATION AXIS.

Differential Coordinates FROM Observing Monument 7203 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 143
Current Site Name: EFFELSBURG
Location: BONN, WEST GERMANY

-- Site Sketch Not Available --

Figure 4-EFLBRG. EFFELSBURG Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 143
Current Site Name: EFFELSBURG
Location: BONN, WEST GERMANY

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7203	100-METER	72037901	26-JUL-80	26-JUL-80	YES
7203	100-METER	72037901	27-JUL-80	27-JUL-80	YES
7203	100-METER	72037901	26-SEP-80	26-SEP-80	YES
7203	100-METER	72037901	27-SEP-80	27-SEP-80	YES
7203	100-METER	72037901	28-SEP-80	28-SEP-80	YES
7203	100-METER	72037901	05-MAY-83	05-MAY-83	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 143
Current Site Name: EFFELSBURG
Location: BONN, WEST GERMANY

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 26

Current Site Name: ELY
Other Site Name: DUCKWATER
Location: ELY, NV
Geographic Region: NORTH AMERICA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE STABILITY AND REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED AT THE ELY AIRPORT ABOUT FOUR MILES NORTH-NORTHWEST OF ELY, NEVADA. THE SITE IS ON THE NORTH SIDE OF THE FAA AND NWS BUILDING ADJACENT TO THE TAXIWAY. THE SITE IS COMPATIBLE FOR OCCUPATION BY THE MOBILE VLBI ANTENNAS. THE OBSERVING MONUMENT IS NOT SURROUNDED BY A PAD THUS MAKING IT INCOMPATIBLE FOR OCCUPATION BY TLRs-2, -3, OR -4.

Site Topo Map: MCGILL, NEVADA. N3915-W11445/15, 1958, STATE OF NEVADA. AVAILABLE THROUGH THE U.S.G.S., RESTON, VA. 22092

-- GEOLOGICAL INFORMATION --

Geological Province: BASIN AND RANGE

Local Geology: QUATERNARY ALLUVIUM DEPOSITS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 26
Current Site Name: ELY
Location: ELY, NV
Number of Observing Monuments: 2
Surveyed into National Network? YES

Monument Number: 7257
Type of Monument: USC & GS STATION DISK
Monument Inscription: ELY AIRPORT 1954
Systems Using Monument: MOBILE VLBI

Latitude: N 39 17' 35.54''
Longitude: W 114 50' 30.77''
Elevation: 1905.80 meters
Survey Source/Date: NGS HORIZONTAL CONTROL SURVEY/04-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: MARKER WAS OCCUPIED DURING THE APRIL 84 BURST WHEN THE R.M.
NO. 2 MARKER WAS NOT FOUND. THE MARKER HAS SINCE BEEN FOUND.

Differential Coordinates FROM Observing Monument 7257 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- MONUMENT INFORMATION --

(Continued)

Site Number: 26
Current Site Name: ELY
Location: ELY, NV

Monument Number: 7286
Type of Monument: USC & GS STATION DISK
Monument Inscription: ELY AIRPORT R.M. NO. 2 1954
Systems Using Monument: MOBILE VLBI

Latitude: N 39 17' 356.63383''
Longitude: W 114 50' 31.55623''
Elevation: UNKNOWN
Survey Source/Date: HORIZONTAL CONTROL DATA COAST AND GEODETIC
SURVEY/01-JUL-66
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: CREW COULD NOT FIND THIS DISK DURING THE FIRST OCCUPATION OF
THE SITE. IT WILL BE USED FOR ALL SUBSEQUENT OCCUPATIONS.

Differential Coordinates FROM Observing Monument 7286 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 26
Current Site Name: ELY
Location: ELY, NV

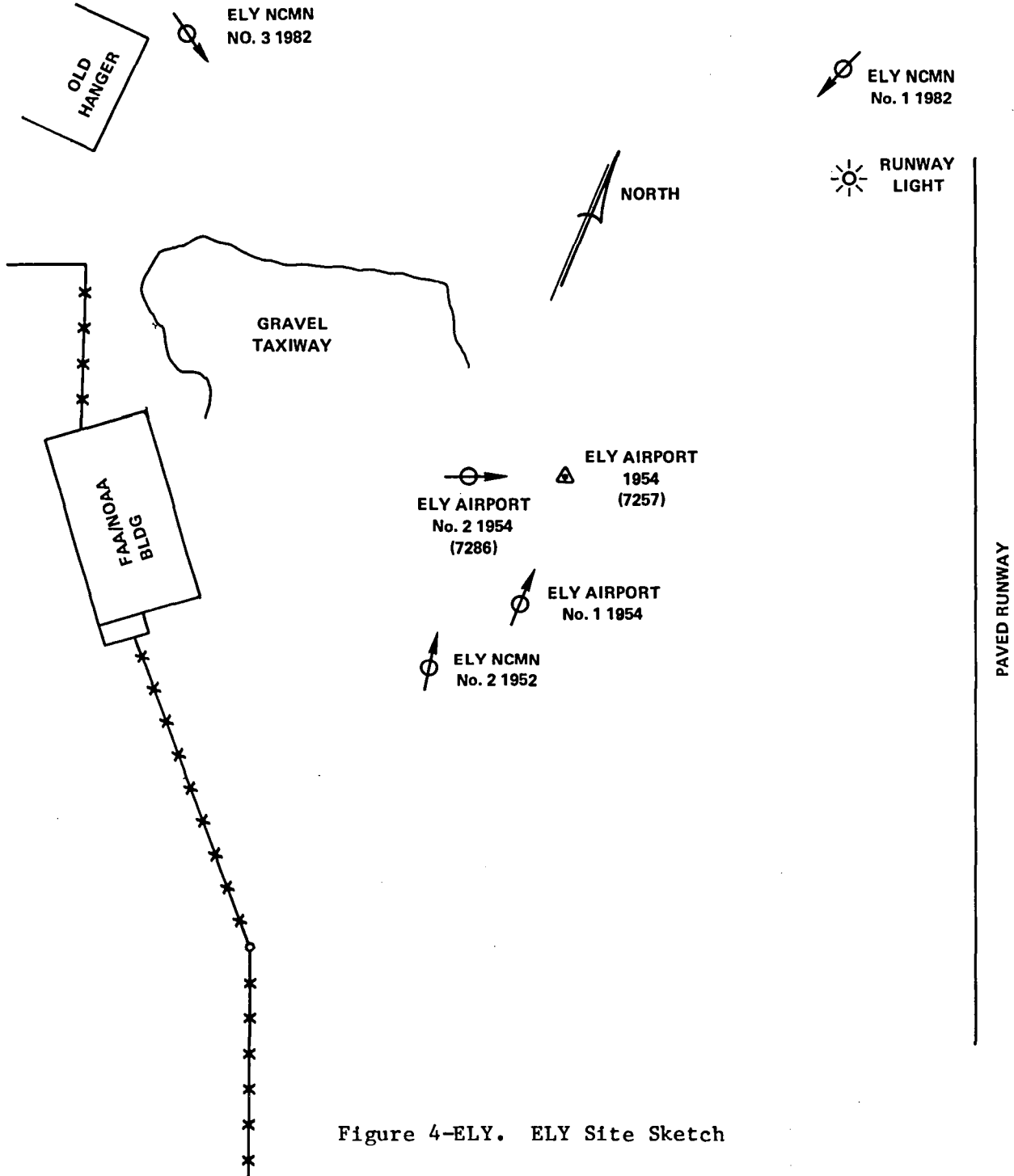


Figure 4-ELY. ELY Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 26
Current Site Name: ELY
Location: ELY, NV

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-----	-----	-----	-----	-----	-----
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-----	-----	-----	-----	-----	-----
7257	MV-2	72575201	06-JUN-83	07-JUN-83	YES
7257	MV-3	72575302	21-APR-84	22-APR-84	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 26
Current Site Name: ELY
Location: ELY, NV

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations

-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations

MV	APR-85

-- SITE INFORMATION --

Site Number: 219

Current Site Name: ENSENADA
Other Site Name: SAN FELIPE
Location: ENSENADA, BAJA, MEXICO
Geographic Region: NORTH AMERICA
Tectonic Plate: PACIFIC

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 61

Current Site Name: FAIRBANKS
Other Site Name: GILMORE CREEK
Location: FAIRBANKS, AK
Geographic Region: ALASKA
Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 27

Current Site Name: FLAGSTAFF

Other Site Name:

Location: FLAGSTAFF, AZ

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED AT THE NORTH EDGE OF FLAGSTAFF, ARIZONA, ON THE GROUNDS OF THE UNITED STATES GEOLOGICAL SURVEY. THE SITE IS EQUIPPED WITH TWO MONUMENTS SET IN AN ASPHALT PARKING LOT. ONE MONUMENT IS COMPATIBLE FOR OCCUPATION BY MOBILE VLBI SYSTEMS. BECAUSE OF ITS PROXIMITY TO A BUILDING, THE SECOND MONUMENT IS COMPATIBLE FOR OCCUPATION BY TLRs-1 ONLY.

Site Topo Map: FLAGSTAFF WEST, ARIZONA. N3507.5-W11137.5/7.5, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: COLORADO PLATEAU

Local Geology: VOLCANIC FLOWS AND TUFF

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 27
Current Site Name: FLAGSTAFF
Location: FLAGSTAFF, AZ
Number of Observing Monuments: 2
Surveyed into National Network? NO

Monument Number: 7261
Type of Monument: NGS STATION DISK
Monument Inscription: FLAGSTAFF NCMN 1981
Systems Using Monument: TLRs AND MOBILE VLBI

Latitude: N 35 12' 52.84462''
Longitude: W 111 38' 02.45105''
Elevation: 2167.312 meters
Survey Source/Date: NGS/24-OCT-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE MONUMENT IS LOCATED IN THE CENTER OF A PARKING LOT.

Differential Coordinates FROM Observing Monument 7261 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7891	FLAGSTAFF RMT NO. 4 1981	+15.933	-17.213	-14.367

-- MONUMENT INFORMATION --

(Continued)

Site Number: 27
Current Site Name: FLAGSTAFF
Location: FLAGSTAFF, AZ

Monument Number: 7891
Type of Monument: NGS STATION DISK
Monument Inscription: FLAGSTAFF RMT NO. 4 1981
Systems Using Monument: TLRS

Latitude: N 35 12' 52.2072''
Longitude: W 111 38' 01.3308''
Elevation: 2167.100 meters
Survey Source/Date: NGS MAP COORDINATES/01-JUL-81
Datum/Ellipsoid: UNKNOWN

Comments: THE MONUMENT IS ADJACENT TO A BUILDING AND NOT SUITABLE FOR
MV SYSTEMS. THE DISK REPLACES THE NAIL IN THE PAVEMENT.

Differential Coordinates FROM Observing Monument 7891 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 27
Current Site Name: FLAGSTAFF
Location: FLAGSTAFF, AZ

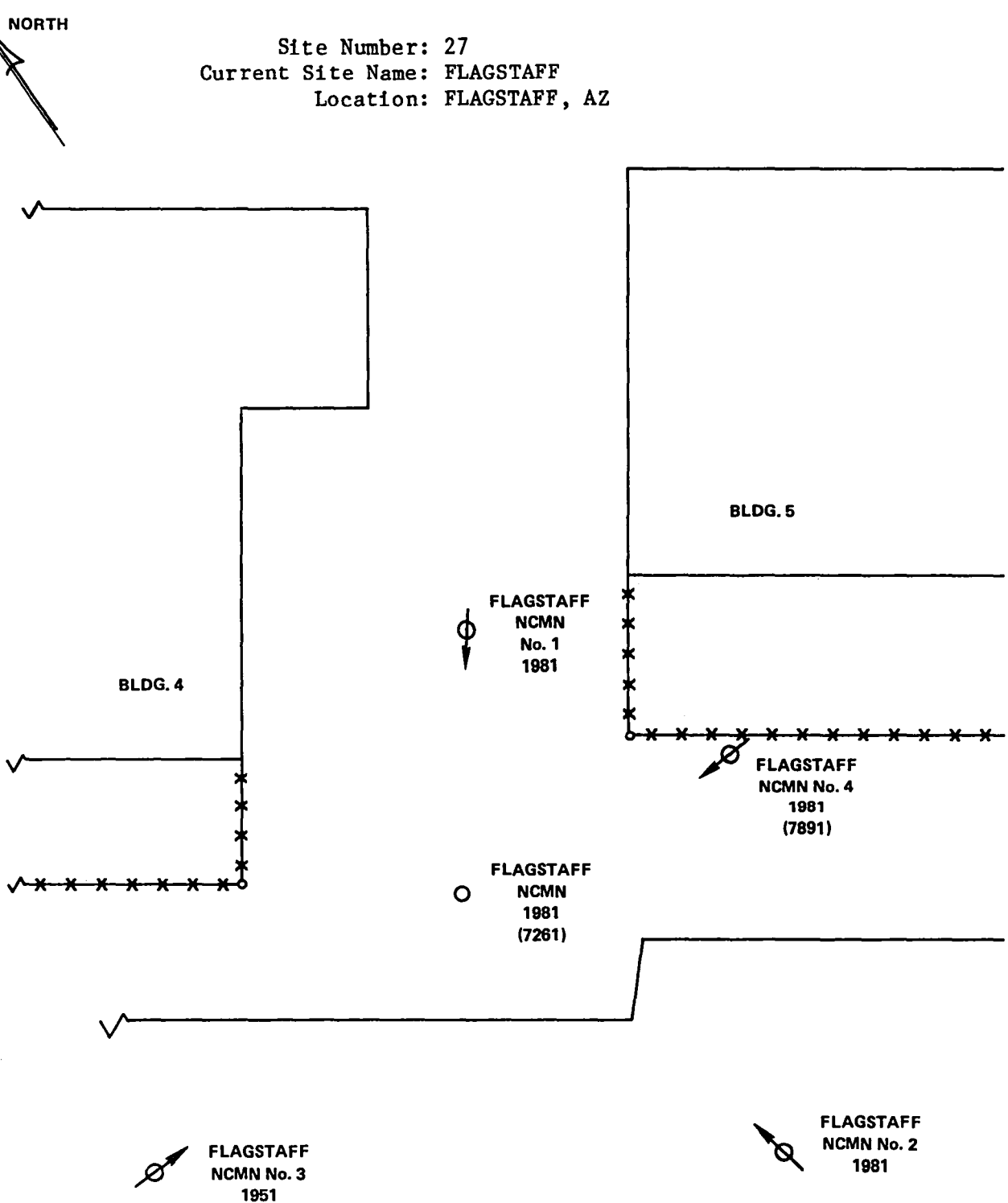


Figure 4-FLGSTF. FLAGSTAFF Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 27
Current Site Name: FLAGSTAFF
Location: FLAGSTAFF, AZ

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7891	TLRS-1	78911101	20-JUN-81	06-AUG-81	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7261	MV-3	72615301	17-APR-84	18-APR-84	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 27
Current Site Name: FLAGSTAFF
Location: FLAGSTAFF, AZ

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
TLRS-1	OCT-85
TLRS-1	OCT-86

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
MV	MAY-85

-- SITE INFORMATION --

Site Number: 33A

Current Site Name: FORT DAVIS
Other Site Name: GEORGE R. AGASSIZ STATION
Location: FORT DAVIS, TX
Geographic Region: NORTH AMERICA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED AT THE GEORGE R. AGASSIZ STATION (GRAS) IN THE VALLEY BELOW MOUNT LOCKE. A FIXED 26-METER POLARIS ANTENNA (HRAS 085) IS USED FOR VLBI MEASUREMENTS. THE GEODETIC TIE BETWEEN FORT DAVIS (GRAS) AND THE MCDONALD OBSERVATORY IS ACCURATE ENOUGH TO USE THESE TWO SITES IN INTERCOMPARISON EXPERIMENTS.

Site Topo Map: MOUNT LOCKE, TEXAS; CASKAT MOUNTAIN, TEXAS. 7.5, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: ROCKY MOUNTAIN PROVINCE

Local Geology: TERTIARY IGNEOUS ROCKS ARE PREDOMINANTLY FOUND ON THE SURFACE. THE INFLUENCE OF TOPOGRAPHY ON SOIL FORMATION IS PRONOUNCED. DUE TO EXTENSIVE EROSION, THE SOILS OF HILLS AND MOUNTAINS ARE SHALLOW, WHEREAS THE SOILS OF VALLEYS AND PLAINS ARE DEEP.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX
 Number of Observing Monuments: 1
 Surveyed into National Network? YES

Monument Number: 7216
 Type of Monument: INTERSECTION OF POLAR AXIS AND PLANE
 CONTAINING DECLINATION AXIS
 Monument Inscription: NONE
 Systems Using Monument: 85-FOOT FIXED VLBI ANTENNA

Latitude: N 30 38' 11.64002''
 Longitude: W 103 56' 48.38416''
 Elevation: 1619.768 meters
 Survey Source/Date: NGS/08-APR-81
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ANTENNA IS ALSO REFERENCED AS HRAS 085. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7216 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	HARVARD 1977	-9.516	-5.257	-39.037
--	HARVARD RM 3 1979	7.470	-45.395	-93.374
--	HARVARD RM 4 1980	19.124	-36.694	-75.024
--	HARVARD RM 5 1980	-16.972	-39.906	-95.339
--	HARVARD RM 6 1980	-7.144	-28.832	-74.138
--	MLRS MIRROR NO. 6 (CENTER)	-5910.063	3490.901	4028.304
--	MOBLAS EAST 1979	-5905.153	3491.522	4027.827
7086	MOBLAS 1979	-5914.416	3496.550	4031.858
7206	----	-6570.392	3267.606	3579.290
7897	TLRS 7897	-6589.769	3298.479	3585.883

-- SITE SKETCH --

Site Number: 33A
Current Site Name: FORT DAVIS
Location: FORT DAVIS, TX

-- Site Sketch Not Available --

Figure 4-FT DAV. FORT DAVIS Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	11-APR-80	11-APR-80	YES
7216	HRAS 085	72167201	26-JUL-80	26-JUL-80	YES
7216	HRAS 085	72167201	27-JUL-80	27-JUL-80	YES
7216	HRAS 085	72167201	26-SEP-80	26-SEP-80	YES
7216	HRAS 085	72167201	27-SEP-80	27-SEP-80	YES
7216	HRAS 085	72167201	28-SEP-80	28-SEP-80	YES
7216	HRAS 085	72167201	29-SEP-80	29-SEP-80	YES
7216	HRAS 085	72167201	30-SEP-80	30-SEP-80	YES
7216	HRAS 085	72167201	01-OCT-80	01-OCT-80	YES
7216	HRAS 085	72167201	02-OCT-80	02-OCT-80	YES
7216	HRAS 085	72167201	16-OCT-80	16-OCT-80	YES
7216	HRAS 085	72167201	17-OCT-80	17-OCT-80	YES
7216	HRAS 085	72167201	18-OCT-80	18-OCT-80	YES
7216	HRAS 085	72167201	19-OCT-80	19-OCT-80	YES
7216	HRAS 085	72167201	20-OCT-80	20-OCT-80	YES
7216	HRAS 085	72167201	21-OCT-80	21-OCT-80	YES
7216	HRAS 085	72167201	22-OCT-80	22-OCT-80	YES
7216	HRAS 085	72167201	03-NOV-80	03-NOV-80	YES
7216	HRAS 085	72167201	01-DEC-80	01-DEC-80	YES
7216	HRAS 085	72167201	19-DEC-80	19-DEC-80	YES
7216	HRAS 085	72167201	07-JAN-81	07-JAN-81	YES
7216	HRAS 085	72167201	22-JAN-81	22-JAN-81	YES
7216	HRAS 085	72167201	12-FEB-81	12-FEB-81	YES
7216	HRAS 085	72167201	27-FEB-81	27-FEB-81	YES
7216	HRAS 085	72167201	16-MAR-81	16-MAR-81	YES
7216	HRAS 085	72167201	11-MAY-81	11-MAY-81	YES
7216	HRAS 085	72167201	13-MAY-81	13-MAY-81	YES
7216	HRAS 085	72167201	14-MAY-81	14-MAY-81	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	16-MAY-81	16-MAY-81	YES
7216	HRAS 085	72167201	16-JUN-81	16-JUN-81	YES
7216	HRAS 085	72167201	17-JUN-81	17-JUN-81	YES
7216	HRAS 085	72167201	24-JUN-81	24-JUN-81	YES
7216	HRAS 085	72167201	01-JUL-81	01-JUL-81	YES
7216	HRAS 085	72167201	08-JUL-81	08-JUL-81	YES
7216	HRAS 085	72167201	15-JUL-81	15-JUL-81	YES
7216	HRAS 085	72167201	22-JUL-81	22-JUL-81	YES
7216	HRAS 085	72167201	29-JUL-81	29-JUL-81	YES
7216	HRAS 085	72167201	05-AUG-81	05-AUG-81	YES
7216	HRAS 085	72167201	24-AUG-81	24-AUG-81	YES
7216	HRAS 085	72167201	26-AUG-81	26-AUG-81	YES
7216	HRAS 085	72167201	28-AUG-81	28-AUG-81	YES
7216	HRAS 085	72167201	30-AUG-81	30-AUG-81	YES
7216	HRAS 085	72167201	31-AUG-81	31-AUG-81	YES
7216	HRAS 085	72167201	02-SEP-81	02-SEP-81	YES
7216	HRAS 085	72167201	09-SEP-81	09-SEP-81	YES
7216	HRAS 085	72167201	16-SEP-81	16-SEP-81	YES
7216	HRAS 085	72167201	23-SEP-81	23-SEP-81	YES
7216	HRAS 085	72167201	30-SEP-81	30-SEP-81	YES
7216	HRAS 085	72167201	15-OCT-81	15-OCT-81	YES
7216	HRAS 085	72167201	21-OCT-81	21-OCT-81	YES
7216	HRAS 085	72167201	28-OCT-81	28-OCT-81	YES
7216	HRAS 085	72167201	04-NOV-81	04-NOV-81	YES
7216	HRAS 085	72167201	10-NOV-81	10-NOV-81	YES
7216	HRAS 085	72167201	18-NOV-81	18-NOV-81	YES
7216	HRAS 085	72167201	19-NOV-81	19-NOV-81	YES
7216	HRAS 085	72167201	24-NOV-81	24-NOV-81	YES
7216	HRAS 085	72167201	02-DEC-81	02-DEC-81	YES
7216	HRAS 085	72167201	12-DEC-81	12-DEC-81	YES
7216	HRAS 085	72167201	16-DEC-81	16-DEC-81	YES
7216	HRAS 085	72167201	22-DEC-81	22-DEC-81	YES
7216	HRAS 085	72167201	06-JAN-82	06-JAN-82	YES
7216	HRAS 085	72167201	13-JAN-82	13-JAN-82	YES
7216	HRAS 085	72167201	20-JAN-82	20-JAN-82	YES
7216	HRAS 085	72167201	27-JAN-82	27-JAN-82	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 33A
Current Site Name: FORT DAVIS
Location: FORT DAVIS, TX

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	01-FEB-82	01-FEB-82	YES
7216	HRAS 085	72167201	10-FEB-82	10-FEB-82	YES
7216	HRAS 085	72167201	17-FEB-82	17-FEB-82	YES
7216	HRAS 085	72167201	24-FEB-82	24-FEB-82	YES
7216	HRAS 085	72167201	03-MAR-82	03-MAR-82	YES
7216	HRAS 085	72167201	10-MAR-82	10-MAR-82	YES
7216	HRAS 085	72167201	24-MAR-82	24-MAR-82	YES
7216	HRAS 085	72167201	29-MAR-82	29-MAR-82	YES
7216	HRAS 085	72167201	07-APR-82	07-APR-82	YES
7216	HRAS 085	72167201	13-APR-82	13-APR-82	YES
7216	HRAS 085	72167201	26-APR-82	26-APR-82	YES
7216	HRAS 085	72167201	03-MAY-82	03-MAY-82	YES
7216	HRAS 085	72167201	10-MAY-82	10-MAY-82	YES
7216	HRAS 085	72167201	17-MAY-82	17-MAY-82	YES
7216	HRAS 085	72167201	02-JUN-82	02-JUN-82	YES
7216	HRAS 085	72167201	07-JUN-82	07-JUN-82	YES
7216	HRAS 085	72167201	20-JUN-82	20-JUN-82	YES
7216	HRAS 085	72167201	21-JUN-82	21-JUN-82	YES
7216	HRAS 085	72167201	28-JUN-82	28-JUN-82	YES
7216	HRAS 085	72167201	12-JUL-82	12-JUL-82	YES
7216	HRAS 085	72167201	19-JUL-82	19-JUL-82	YES
7216	HRAS 085	72167201	26-JUL-82	26-JUL-82	YES
7216	HRAS 085	72167201	04-AUG-82	04-AUG-82	YES
7216	HRAS 085	72167201	09-AUG-82	09-AUG-82	YES
7216	HRAS 085	72167201	16-AUG-82	16-AUG-82	YES
7216	HRAS 085	72167201	23-AUG-82	23-AUG-82	YES
7216	HRAS 085	72167201	30-AUG-82	30-AUG-82	YES
7216	HRAS 085	72167201	07-SEP-82	07-SEP-82	YES
7216	HRAS 085	72167201	13-SEP-82	13-SEP-82	YES
7216	HRAS 085	72167201	20-SEP-82	20-SEP-82	YES
7216	HRAS 085	72167201	27-SEP-82	27-SEP-82	YES
7216	HRAS 085	72167201	04-OCT-82	04-OCT-82	YES
7216	HRAS 085	72167201	13-OCT-82	13-OCT-82	YES
7216	HRAS 085	72167201	16-OCT-82	16-OCT-82	YES
7216	HRAS 085	72167201	17-OCT-82	17-OCT-82	YES
7216	HRAS 085	72167201	18-OCT-82	18-OCT-82	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	22-OCT-82	22-OCT-82	YES
7216	HRAS 085	72167201	24-OCT-82	24-OCT-82	YES
7216	HRAS 085	72167201	25-OCT-82	25-OCT-82	YES
7216	HRAS 085	72167201	01-NOV-82	01-NOV-82	YES
7216	HRAS 085	72167201	08-NOV-82	08-NOV-82	YES
7216	HRAS 085	72167201	15-NOV-82	15-NOV-82	YES
7216	HRAS 085	72167201	22-NOV-82	22-NOV-82	YES
7216	HRAS 085	72167201	29-NOV-82	29-NOV-82	YES
7216	HRAS 085	72167201	06-DEC-82	06-DEC-82	YES
7216	HRAS 085	72167201	15-DEC-82	15-DEC-82	YES
7216	HRAS 085	72167201	16-DEC-82	16-DEC-82	YES
7216	HRAS 085	72167201	20-DEC-82	20-DEC-82	YES
7216	HRAS 085	72167201	27-DEC-82	27-DEC-82	YES
7216	HRAS 085	72167201	03-JAN-83	03-JAN-83	YES
7216	HRAS 085	72167201	10-JAN-83	10-JAN-83	YES
7216	HRAS 085	72167201	17-JAN-83	17-JAN-83	YES
7216	HRAS 085	72167201	24-JAN-83	24-JAN-83	YES
7216	HRAS 085	72167201	31-JAN-83	31-JAN-83	YES
7216	HRAS 085	72167201	07-FEB-83	07-FEB-83	YES
7216	HRAS 085	72167201	14-FEB-83	14-FEB-83	YES
7216	HRAS 085	72167201	24-FEB-83	24-FEB-83	YES
7216	HRAS 085	72167201	28-FEB-83	28-FEB-83	YES
7216	HRAS 085	72167201	07-MAR-83	07-MAR-83	YES
7216	HRAS 085	72167201	14-MAR-83	14-MAR-83	YES
7216	HRAS 085	72167201	21-MAR-83	21-MAR-83	YES
7216	HRAS 085	72167201	28-MAR-83	28-MAR-83	YES
7216	HRAS 085	72167201	04-APR-83	04-APR-83	YES
7216	HRAS 085	72167201	11-APR-83	11-APR-83	YES
7216	HRAS 085	72167201	25-APR-83	25-APR-83	YES
7216	HRAS 085	72167201	02-MAY-83	02-MAY-83	YES
7216	HRAS 085	72167201	05-MAY-83	05-MAY-83	YES
7216	HRAS 085	72167201	09-MAY-83	09-MAY-83	YES
7216	HRAS 085	72167201	16-MAY-83	16-MAY-83	YES
7216	HRAS 085	72167201	23-MAY-83	23-MAY-83	YES
7216	HRAS 085	72167201	31-MAY-83	31-MAY-83	YES
7216	HRAS 085	72167201	06-JUN-83	06-JUN-83	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	07-JUN-83	07-JUN-83	YES
7216	HRAS 085	72167201	08-JUN-83	08-JUN-83	YES
7216	HRAS 085	72167201	09-JUN-83	09-JUN-83	YES
7216	HRAS 085	72167201	10-JUN-83	10-JUN-83	YES
7216	HRAS 085	72167201	13-JUN-83	13-JUN-83	YES
7216	HRAS 085	72167201	20-JUN-83	20-JUN-83	YES
7216	HRAS 085	72167201	27-JUN-83	27-JUN-83	YES
7216	HRAS 085	72167201	28-JUN-83	28-JUN-83	YES
7216	HRAS 085	72167201	29-JUN-83	29-JUN-83	YES
7216	HRAS 085	72167201	05-JUL-83	05-JUL-83	YES
7216	HRAS 085	72167201	11-JUL-83	11-JUL-83	YES
7216	HRAS 085	72167201	25-JUL-83	25-JUL-83	YES
7216	HRAS 085	72167201	01-AUG-83	01-AUG-83	YES
7216	HRAS 085	72167201	08-AUG-83	08-AUG-83	YES
7216	HRAS 085	72167201	15-AUG-83	15-AUG-83	YES
7216	HRAS 085	72167201	22-AUG-83	22-AUG-83	YES
7216	HRAS 085	72167201	23-AUG-83	23-AUG-83	YES
7216	HRAS 085	72167201	29-AUG-83	29-AUG-83	YES
7216	HRAS 085	72167201	02-SEP-83	02-SEP-83	YES
7216	HRAS 085	72167201	07-SEP-83	07-SEP-83	YES
7216	HRAS 085	72167201	12-SEP-83	12-SEP-83	YES
7216	HRAS 085	72167201	17-SEP-83	17-SEP-83	YES
7216	HRAS 085	72167201	22-SEP-83	22-SEP-83	YES
7216	HRAS 085	72167201	27-SEP-83	27-SEP-83	YES
7216	HRAS 085	72167201	02-OCT-83	02-OCT-83	YES
7216	HRAS 085	72167201	07-OCT-83	07-OCT-83	YES
7216	HRAS 085	72167201	12-OCT-83	12-OCT-83	YES
7216	HRAS 085	72167201	17-OCT-83	17-OCT-83	YES
7216	HRAS 085	72167201	22-OCT-83	22-OCT-83	YES
7216	HRAS 085	72167201	27-OCT-83	27-OCT-83	YES
7216	HRAS 085	72167201	01-NOV-83	01-NOV-83	YES
7216	HRAS 085	72167201	05-NOV-83	05-NOV-83	YES
7216	HRAS 085	72167201	06-NOV-83	06-NOV-83	YES
7216	HRAS 085	72167201	08-NOV-83	08-NOV-83	YES
7216	HRAS 085	72167201	11-NOV-83	11-NOV-83	YES
7216	HRAS 085	72167201	16-NOV-83	16-NOV-83	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	21-NOV-83	21-NOV-83	YES
7216	HRAS 085	72167201	26-NOV-83	26-NOV-83	YES
7216	HRAS 085	72167201	01-DEC-83	01-DEC-83	YES
7216	HRAS 085	72167201	06-DEC-83	06-DEC-83	YES
7216	HRAS 085	72167201	11-DEC-83	11-DEC-83	YES
7216	HRAS 085	72167201	16-DEC-83	16-DEC-83	YES
7216	HRAS 085	72167201	21-DEC-83	21-DEC-83	YES
7216	HRAS 085	72167201	26-DEC-83	26-DEC-83	YES
7216	HRAS 085	72167201	31-DEC-83	31-DEC-83	YES
7216	HRAS 085	72167201	04-JAN-84	05-JAN-84	NO
7216	HRAS 085	72167201	09-JAN-84	10-JAN-84	NO
7216	HRAS 085	72167201	14-JAN-84	15-JAN-84	NO
7216	HRAS 085	72167201	24-JAN-84	24-JAN-84	NO
7216	HRAS 085	72167201	25-JAN-84	26-JAN-84	NO
7216	HRAS 085	72167201	29-JAN-84	30-JAN-84	NO
7216	HRAS 085	72167201	03-FEB-84	04-FEB-84	NO
7216	HRAS 085	72167201	13-FEB-84	14-FEB-84	NO
7216	HRAS 085	72167201	18-FEB-84	19-FEB-84	NO
7216	HRAS 085	72167201	23-FEB-84	23-FEB-84	NO
7216	HRAS 085	72167201	28-FEB-84	28-FEB-84	NO
7216	HRAS 085	72167201	09-MAR-84	10-MAR-84	NO
7216	HRAS 085	72167201	14-MAR-84	14-MAR-84	NO
7216	HRAS 085	72167201	15-MAR-84	16-MAR-84	NO
7216	HRAS 085	72167201	19-MAR-84	20-MAR-84	NO
7216	HRAS 085	72167201	25-MAR-84	26-MAR-84	NO
7216	HRAS 085	72167201	30-MAR-84	31-MAR-84	NO
7216	HRAS 085	72167201	03-APR-84	04-APR-84	NO
7216	HRAS 085	72167201	08-APR-84	08-APR-84	NO
7216	HRAS 085	72167201	12-APR-84	12-APR-84	NO
7216	HRAS 085	72167201	13-APR-84	14-APR-84	NO
7216	HRAS 085	72167201	17-APR-84	17-APR-84	NO
7216	HRAS 085	72167201	18-APR-84	19-APR-84	NO
7216	HRAS 085	72167201	21-APR-84	22-APR-84	NO
7216	HRAS 085	72167201	23-APR-84	24-APR-84	NO
7216	HRAS 085	72167201	25-APR-84	25-APR-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 33A
 Current Site Name: FORT DAVIS
 Location: FORT DAVIS, TX

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7216	HRAS 085	72167201	26-APR-84	27-APR-84	NO
7216	HRAS 085	72167201	28-APR-84	29-APR-84	NO
7216	HRAS 085	72167201	03-MAY-84	04-MAY-84	NO
7216	HRAS 085	72167201	08-MAY-84	09-MAY-84	NO
7216	HRAS 085	72167201	13-MAY-84	14-MAY-84	NO
7216	HRAS 085	72167201	18-MAY-84	18-MAY-84	NO
7216	HRAS 085	72167201	23-MAY-84	24-MAY-84	NO
7216	HRAS 085	72167201	28-MAY-84	29-MAY-84	NO
7216	HRAS 085	72167201	02-JUN-84	03-JUN-84	NO
7216	HRAS 085	72167201	07-JUN-84	08-JUN-84	NO
7216	HRAS 085	72167201	12-JUN-84	13-JUN-84	NO
7216	HRAS 085	72167201	17-JUN-84	18-JUN-84	NO
7216	HRAS 085	72167201	22-JUN-84	23-JUN-84	NO
7216	HRAS 085	72167201	27-JUN-84	28-JUN-84	NO
7216	HRAS 085	72167201	30-JUN-84	01-JUL-84	NO
7216	HRAS 085	72167201	02-JUL-84	03-JUL-84	NO
7216	HRAS 085	72167201	12-JUL-84	13-JUL-84	NO
7216	HRAS 085	72167201	17-JUL-84	18-JUL-84	NO
7216	HRAS 085	72167201	27-JUL-84	27-JUL-84	NO
7216	HRAS 085	72167201	12-JAN-85	13-JAN-85	NO
7216	HRAS 085	72167201	01-MAR-85	02-MAR-85	NO
7216	HRAS 085	72167201	10-MAR-85	11-MAR-85	NO
7216	HRAS 085	72167201	13-MAR-85	14-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 33A
Current Site Name: FORT DAVIS
Location: FORT DAVIS, TX

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

HRAS 085 Continuing

-- SITE INFORMATION --

Site Number: 12

Current Site Name: FORT ORD
Other Site Name: ANDERSON PEAK
Location: FORT ORD, CA
Geographic Region: CALIFORNIA
Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE STATION IS LOCATED ON THE U.S. MILITARY RESERVATION, FORT ORD, CALIFORNIA. THE SITE IS EQUIPPED WITH A 16' X 16' MONUMENTED PAD COMPATIBLE FOR OCCUPATION BY ALL MOBILE VLBI SYSTEMS AND TLRs-1.

Site Topo Map: MARINA, CALIFORNIA. N3637.5-W12145/7.5, 1947. U.S. DEPARTMENT OF THE ARMY CORPS OF ENGINEERS. AVAILABLE THRU U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: SOUTHERN COAST RANGES, APPROXIMATELY 25 MILES WEST OF THE SAN ANDREAS FAULT.

Local Geology: QUATERNARY STREAM CHANNEL DEPOSITS.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 12
 Current Site Name: FORT ORD
 Location: FORT ORD, CA
 Number of Observing Monuments: 1
 Surveyed into National Network? YES

Monument Number: 7266
 Type of Monument: NGS STATION DISK
 Monument Inscription: FORT ORD NCMN 1981
 Systems Using Monument: MOBILE VLBI

Latitude: N 36 40' 11.35300''
 Longitude: W 121 46' 19.90898''
 Elevation: 24.480 meters
 Survey Source/Date: NGS/09-NOV-83
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7266 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z
--	BM TRI ORD USE	12.809	11.873	23.466
--	FORT ORD NCMN AZ. MK.	1382.866	-866.359	-33.097
--	FORT ORD NCMN NO.1 1981	41.976	-1.520	27.070
--	FORT ORD NCMN NO.2 1981	-9.273	-16.775	-25.467
--	FORT ORD NCMN NO.3 1981	-22.279	37.017	25.067

-- SITE SKETCH --

Site Number: 12
Current Site Name: FORT ORD
Location: FORT ORD, CA

-- Site Sketch Not Available --

Figure 4-FT ORD. FORT ORD Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 12
Current Site Name: FORT ORD
Location: FORT ORD, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7266	MV-2	72665201	17-DEC-81	18-DEC-81	YES
7266	MV-3	72665302	25-AUG-83	26-AUG-83	YES
7266	MV-3	72665303	23-FEB-84	24-FEB-84	YES
7266	MV-3	72665304	10-MAR-85	11-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 12
Current Site Name: FORT ORD
Location: FORT ORD, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 8C

Current Site Name: GOLDSTONE MARS
Other Site Name: GOLDSTONE
Location: GOLDSTONE, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS PART OF AN EXISTING NASA COMPLEX LOCATED NEAR FORT IRWIN WITHIN THE BOUNDARIES OF THE CAMP IRWIN MILITARY RESERVATION. THE SITE CONSISTS OF THE 64-FOOT MARS ANTENNA AND A LARGE MOBLAS PAD. THE SITE HAS BEEN ABANDONED DUE TO THE TRACKING OBLIGATIONS OF THE ANTENNA. THE MOJAVE ANTENNA HAS BEEN CHOSEN TO REPLACE ALL THE ANTENNAS AT THE GOLDSTONE COMPLEX FOR ALL CDP VLBI MEASUREMENTS.

Site Topo Map: GOLDSTONE LAKE, CALIFORNIA. N3515-W11645/15, 1948, CORPS OF ENGINEERS, U.S. ARMY. AVAILABLE THROUGH THE U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT REGION

Local Geology: QUATERNARY ALLUVIUM LOCALLY. EAST OF THE SAN ANDREAS FAULT.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 8C
 Current Site Name: GOLDSTONE MARS
 Location: GOLDSTONE, CA
 Number of Observing Monuments: 2
 Surveyed into National Network? NO

Monument Number: 1514
 Type of Monument: INTERSECTION OF THE LOCAL ZENITH (Z) AND X
 AXIS
 Monument Inscription: NONE
 Systems Using Monument: 64-METER FIXED VLBI ANTENNA

Latitude: N 35 25' 33.36612''
 Longitude: W 116 53' 19.35204''
 Elevation: 1012.620 meters
 Survey Source/Date: NGS HAVAGO ADJUSTMENT VERSION 82.01.20/
 15-APR-82
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: ALSO REFERENCED AS DSS-14 AND MARS. THE ELEVATION IS THE
 ELLIPSOID HEIGHT.

Differential Coordinates FROM Observing Monument 1514 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	101 ARIES #2 4-17-78	224.245	-167.412	-126.979
--	201	283.299	-201.694	-133.590
--	202	205.240	-213.431	-204.523
--	203	193.014	-147.956	-122.264
--	ARIES RM-1 1976	230.027	-167.703	-124.935
--	ARIES RM-2 1976	222.324	-170.193	-131.693
7085	MOBLAS 7085 GOLDSTONE VAL	227.005	-188.001	-153.150

-- MONUMENT INFORMATION --

(Continued)

Site Number: 8C
 Current Site Name: GOLDSTONE MARS
 Location: GOLDSTONE, CA

Monument Number: 7085
 Type of Monument: 6" X 6" STEEL PLATE
 Monument Inscription: MOBLAS 7085 GOLDSTONE VAL
 Systems Using Monument: MOBLAS

Latitude: N 35 25' 28.09448''
 Longitude: W 116 53' 07.95795''
 Elevation: 980.697 meters
 Survey Source/Date: NGS HAVAGO ADJUSTMENT VERSION 82.01.20/
 15-APR-82
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: MONUMENT LOCATED ADJACENT TO DSS-14 MARS SITE; USED FOR
 INITIAL MOBLAS OCCUPATIONS. ELEVATION IS ELLIPSOID HEIGHT.

Differential Coordinates FROM Observing Monument 7085 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	101 ARIES #2 4-17-78	-2.760	20.590	26.171
--	201	56.294	-13.692	19.560
--	202	-21.765	-25.429	-51.028
--	203	-33.991	40.046	31.886
--	ARIES RM-1 1976	3.022	19.298	28.215
--	ARIES RM-2 1976	-4.681	17.808	21.457
1514	----	-227.005	188.001	153.150

-- SITE SKETCH --

Site Number: 8C
 Current Site Name: GOLDSTONE MARS
 Location: GOLDSTONE, CA

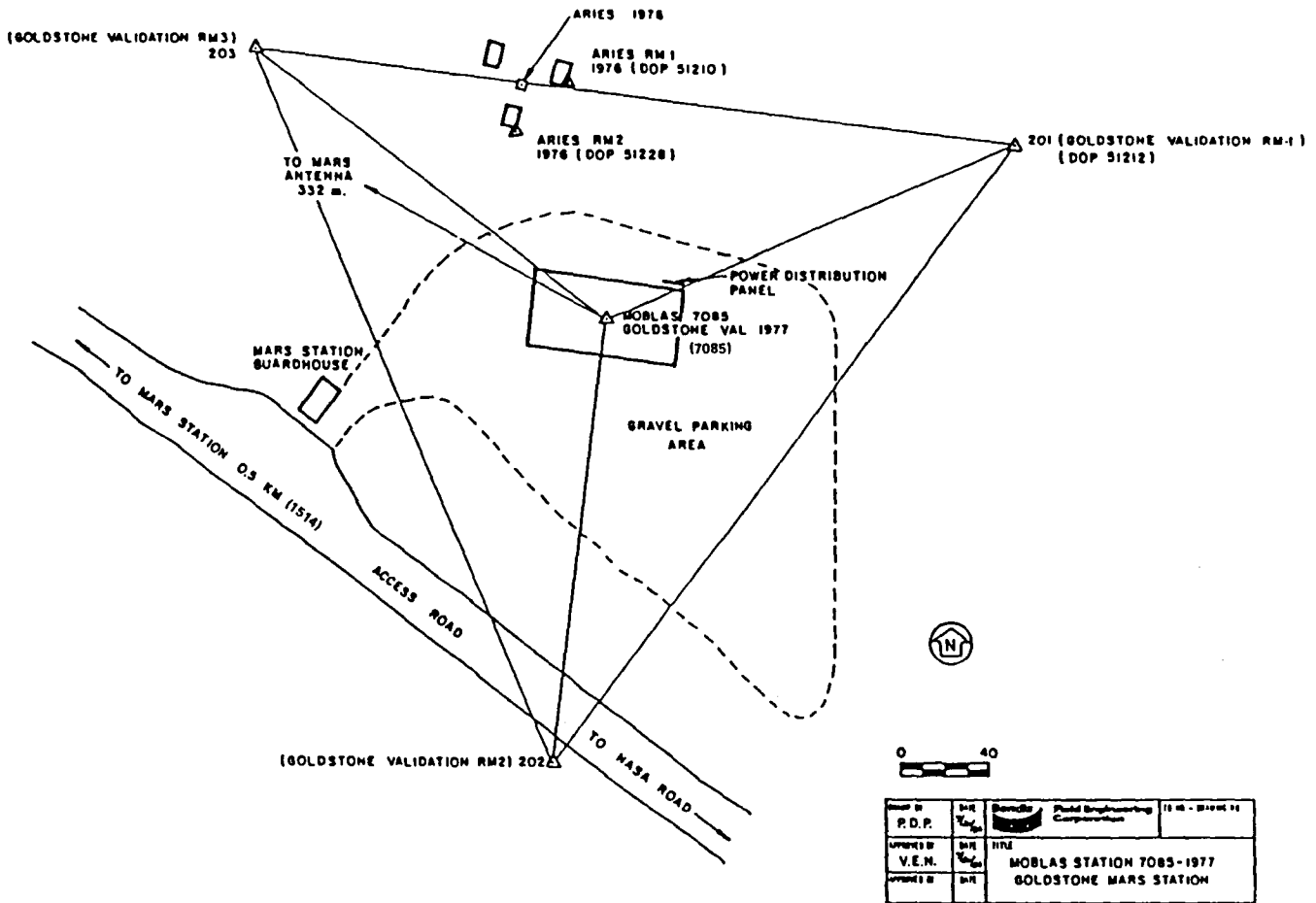


Figure 4-GOLD M. GOLDSTONE MARS Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 8C
Current Site Name: GOLDSTONE MARS
Location: GOLDSTONE, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7085	MOBLAS-1	70850101	12-DEC-77	31-MAR-78	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 8C
Current Site Name: GOLDSTONE MARS
Location: GOLDSTONE, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 8A

Current Site Name: GOLDSTONE VENUS
Other Site Name: GOLDSTONE
Location: GOLDSTONE, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS AN EXISTING NASA COMPLEX LOCATED NEAR FORT IRWIN WITHIN THE BOUNDARIES OF THE CAMP IRWIN MILITARY RESERVATION. THE SITE CONSISTS OF THE DSS-13 26-METER ANTENNA, A MOBILAS PAD, AND A THREE-PEDESTAL ARIES (MV-1) PAD. THIS SITE WAS PREVIOUSLY CHOSEN TO REPLACE THE MARS SITE, HOWEVER, THE MOJAVE ANTENNA HAS BEEN CHOSEN TO REPLACE THE GOLDSTONE COMPLEX ANTENNAS FOR CDP VLBI MEASUREMENTS.

Site Topo Map: GOLDSTONE LAKE, CALIFORNIA. N3515-W11645/15, 1948, CORPS OF ENGINEERS, U.S. ARMY. AVAILABLE THROUGH U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT REGION

Local Geology: QUATERNARY ALLUVIUM LOCALLY. EAST OF SAN ANDREAS FAULT.

Comments: A NOTED ADVANTAGE OF THE VENUS DISH OVER THE MARS DISH IS ITS SIMILARITY TO THE HAYSTACK, OVRO, AND FORT DAVIS DISHES.

-- MONUMENT INFORMATION --

Site Number: 8A
 Current Site Name: GOLDSTONE VENUS
 Location: GOLDSTONE, CA
 Number of Observing Monuments: 3
 Surveyed into National Network? YES

Monument Number: 1513
 Type of Monument: INTERSECTION OF THE LOCAL ZENITH (Z) AND X
 AXIS
 Monument Inscription: NONE
 Systems Using Monument: 26-METER AZ-EL FIXED VLBI ANTENNA

Latitude: N 35 14' 51.82092''
 Longitude: W 116 47' 38.63051''
 Elevation: 1074.218 meters
 Survey Source/Date: NGS HAVAGO ADJUSTMENT VERSION 82.01.20/
 15-APR-82
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS ANTENNA IS ALSO REFERENCED AS DSS-13 AND VENUS. THE
 ELEVATION IS THE ELLIPSOID HEIGHT.

Differential Coordinates FROM Observing Monument 1513 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MOBLAS 7115-A 1979	268.981	-62.793	50.159
--	MOBLAS RM-1	234.326	-67.277	25.928
7115	MOBLAS 7115 1979	267.502	-69.179	40.944
7275	ARIES 6-9-81 9MTR	263.945	-122.226	-23.385

-- MONUMENT INFORMATION --

(Continued)

Site Number: 8A
Current Site Name: GOLDSTONE VENUS
Location: GOLDSTONE, CA

Monument Number: 7115
Type of Monument: STANDARD NASA DISK
Monument Inscription: MOBLAS 7115-1979
Systems Using Monument: MOBLAS AND TLRS

Latitude: N 35 14' 54.00744''
Longitude: W 116 47' 27.95502''
Elevation: 1053.420 meters
Survey Source/Date: NGS HAVAGO ADJUSTMENT VERSION 82.01.20/
15-APR-82
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS LOCATED ADJACENT TO 26-METER VENUS ANTENNA.
THE ELEVATION IS THE ELLIPSOID HEIGHT.

Differential Coordinates FROM Observing Monument 7115 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MOBLAS 7115-A 1979	1.479	6.386	9.215
--	MOBLAS RM-1	-33.176	1.902	-15.015
1513	-----	-267.503	69.179	-40.943
7275	ARIES 6-9-81 9MTR	-3.558	-53.047	-64.328

-- MONUMENT INFORMATION --

(Continued)

Site Number: 8A
Current Site Name: GOLDSTONE VENUS
Location: GOLDSTONE, CA

Monument Number: 7275
Type of Monument: BRASS DISK IN CONCRETE
Monument Inscription: ARIES 6-9-81 9MTR
Systems Using Monument: MV-1

Latitude: N 35 14' 51.38615''
Longitude: W 116 47' 27.13387''
Elevation: 1052.661 meters
Survey Source/Date: NGS HAVAGO ADJUSTMENT VERSION 82.01.20/
15-APR-82
Datum/Ellipsoid: NAD 1927/CLARKE 1866

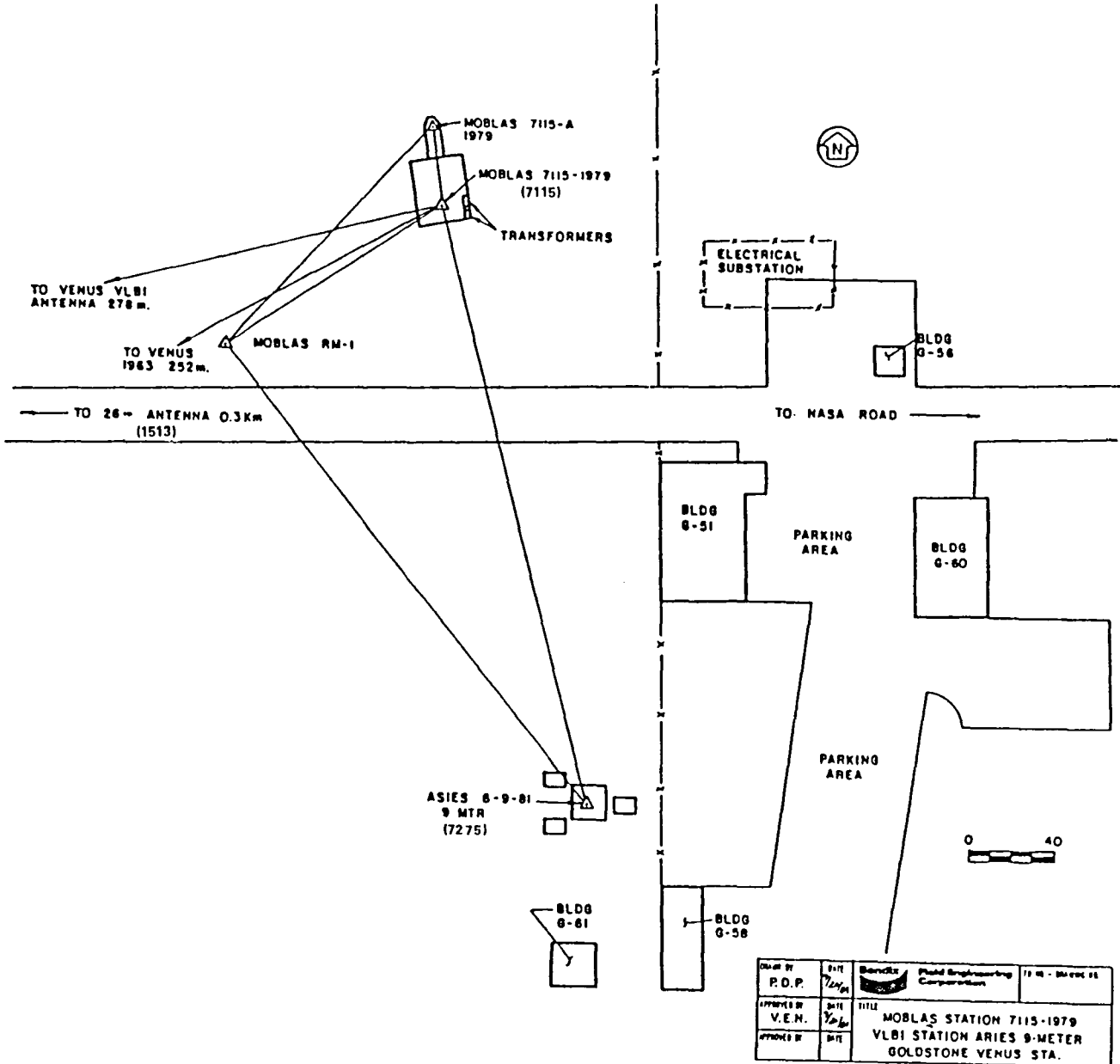
Comments: THE ELEVATION IS THE ELLIPSOID HEIGHT.

Differential Coordinates FROM Observing Monument 7275 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MOBLAS 7115-A 1979	5.036	59.433	73.543
--	MOBLAS RM-1	-29.619	54.949	49.313
1513	-----	-263.945	122.226	-23.385
7115	MOBLAS 7115 1979	3.558	53.047	64.328

-- SITE SKETCH --

Site Number: 8A
 Current Site Name: GOLDSTONE VENUS
 Location: GOLDSTONE, CA



Drawn BY P.O.P.	DATE 7/27/79	Stanley Field Engineering Corporation	79 18 - Sheet 11
APPROVED BY V.E.N.	DATE 7/27/79	TITLE MOBLAS STATION 7115-1979 VLBI STATION ARIES 9-METER GOLDSTONE VENUS STA.	
APPROVED BY	DATE		

Figure 4-GOLD V. GOLDSTONE VENUS Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 8A
 Current Site Name: GOLDSTONE VENUS
 Location: GOLDSTONE, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7115	MOBLAS-3	71150301	15-JUN-79	10-APR-81	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
1513	DSS 13	15138201	07-JAN-80	07-JAN-80	YES
1513	DSS 13	15138201	29-JUL-80	29-JUL-80	YES
1513	DSS 13	15138201	31-JUL-80	31-JUL-80	YES
1513	DSS 13	15138201	03-NOV-80	03-NOV-80	YES
1513	DSS 13	15138201	15-FEB-81	15-FEB-81	YES
1513	DSS 13	15138201	15-FEB-81	15-FEB-81	YES
1513	DSS 13	15138201	17-FEB-81	17-FEB-81	YES
1513	DSS 13	15138201	17-FEB-81	17-FEB-81	YES
1513	DSS 13	15138201	18-FEB-81	18-FEB-81	YES
1513	DSS 13	15138201	18-FEB-81	18-FEB-81	YES
1513	DSS 13	15138201	11-MAY-81	11-MAY-81	YES
1513	DSS 13	15138201	13-MAY-81	13-MAY-81	YES
1513	DSS 13	15138201	14-MAY-81	14-MAY-81	YES
1513	DSS 13	15138201	16-MAY-81	16-MAY-81	YES
1513	DSS 13	15138201	16-MAY-81	16-MAY-81	YES
1513	DSS 13	15138201	17-MAY-81	17-MAY-81	YES
1513	DSS 13	15138201	31-AUG-81	31-AUG-81	YES
1513	DSS 13	15138201	02-SEP-81	02-SEP-81	YES
1513	DSS 13	15138201	12-DEC-81	12-DEC-81	YES
1513	DSS 13	15138201	14-DEC-81	14-DEC-81	YES
1513	DSS 13	15138201	18-DEC-81	18-DEC-81	YES
1513	DSS 13	15138201	17-OCT-82	17-OCT-82	YES
1513	DSS 13	15138201	18-OCT-82	18-OCT-82	YES
1513	DSS 13	15138201	22-OCT-82	22-OCT-82	YES
1513	DSS 13	15138201	24-OCT-82	24-OCT-82	YES
1513	DSS 13	15138201	27-JUN-83	27-JUN-83	YES
1513	DSS 13	15138201	29-JUN-83	29-JUN-83	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 8A
Current Site Name: GOLDSTONE VENUS
Location: GOLDSTONE, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
1513	DSS 13	15138201	23-AUG-83	23-AUG-83	YES
1513	DSS 13	15138201	26-AUG-83	26-AUG-83	YES
1513	DSS 13	15138201	28-AUG-83	28-AUG-83	YES
1513	DSS 13	15138201	07-JAN-84	08-JAN-84	NO
1513	DSS 13	15138201	14-JAN-84	15-JAN-84	NO
1513	DSS 13	15138201	08-FEB-84	09-FEB-84	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 8A
Current Site Name: GOLDSTONE VENUS
Location: GOLDSTONE, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 142

Current Site Name: GRASSE
Other Site Name:
Location: GRASSE, FRANCE
Geographic Region: EUROPE
Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE STATION IS LOCATED IN SOUTHEAST FRANCE, APPROXIMATELY 15 KILOMETERS NORTH OF GRASSE AT THE CERGA OBSERVATORY. A FIXED LASER IS USED FOR SLR MEASUREMENTS.

Site Topo Map: ROQUESTERON 3642, 1982. AVAILABLE THROUGH IGN, 107 RUE DE LA BOETIE, 75008 PARIS

-- GEOLOGICAL INFORMATION --

Geological Province: PREALPS REGION OF GRASSE

Local Geology: SECONDARY LIMESTONE PLATEAU (ABOUT 20 KM SQUARE IN SIZE) WITH SINK HOLES AND DEEP CAVES.

Comments: GRAVIMETRICAL DATA WAS OBTAINED AT THIS SITE AROUND 1975.

-- MONUMENT INFORMATION --

Site Number: 142
Current Site Name: GRASSE
Location: GRASSE, FRANCE
Number of Observing Monuments: 3
Surveyed into National Network? YES

Monument Number: 7835
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: FIXED LASER

Latitude: N 43 45' 16.79616''
Longitude: E 6 55' 17.80621''
Elevation: 1281.150 meters
Survey Source/Date: GRGS-CERGA/22-APR-83
Datum/Ellipsoid: EUROPEAN DATUM SYSTEM E.D. 50

Comments: THE LOCAL SURVEY (1975-1978) IS JOINED TO THE NATIONAL NETWORK (IGN, 1980) GEODESICAL MARKER: CAUSSOLS III.

Differential Coordinates FROM Observing Monument 7835 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 142
Current Site Name: GRASSE
Location: GRASSE, FRANCE

Monument Number: 7842
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: FIXED LASER

Latitude: N 43 45' 16.06919''
Longitude: E 6 55' 19.01021''
Elevation: 1281.450 meters
Survey Source/Date: GRGS-CERGA/22-APR-83
Datum/Ellipsoid: EUROPEAN DATUM SYSTEM E.D. 50

Comments: NONE

Differential Coordinates FROM Observing Monument 7842 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 142
Current Site Name: GRASSE
Location: GRASSE, FRANCE

Monument Number: 7845
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: LUNAR LASER

Latitude: N 43 45' 16.58096''
Longitude: E 6 55' 19.42118''
Elevation: 1281.670 meters
Survey Source/Date: GRGS-CERGA/22-APR-83
Datum/Ellipsoid: EUROPEAN DATUM SYSTEM E.D. 50

Comments: NONE

Differential Coordinates FROM Observing Monument 7845 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 142
 Current Site Name: GRASSE
 Location: GRASSE, FRANCE

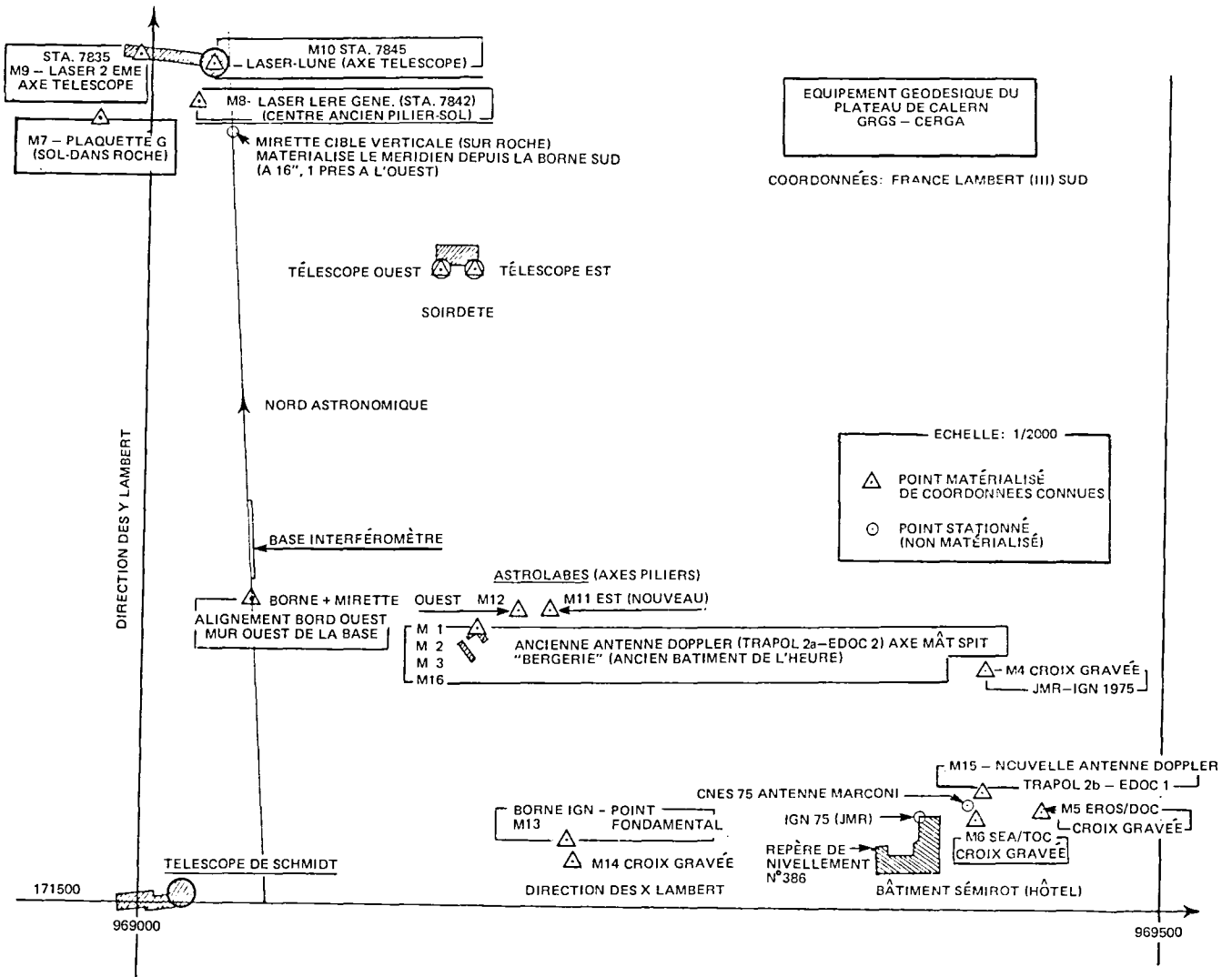


Figure 4-GRASSE. GRASSE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 142
Current Site Name: GRASSE
Location: GRASSE, FRANCE

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7835	GRASSE	78353101	01-MAY-76	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 142
Current Site Name: GRASSE
Location: GRASSE, FRANCE

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
GRASSE	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 610

Current Site Name: GRAZ

Other Site Name:

Location: GRAZ, AUSTRIA

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 38

Current Site Name: GREEN BANK
Other Site Name: NRAO
Location: NRAO, GREEN BANK, WV
Geographic Region: NORTH AMERICA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, AND REGIONAL DEFORMATION.

Site Description: THE STATION IS LOCATED IN EASTERN WEST VIRGINIA AT THE NATIONAL RADIO ASTRONOMY OBSERVATORY (NRAO) OPERATED BY THE NATIONAL SCIENCE FOUNDATION. THE 140-FOOT RADIO TELESCOPE HAS BEEN USED FOR VLBI MEASUREMENTS. THIS STATION IS NO LONGER AN ACTIVE SITE IN THE CRUSTAL DYNAMICS PROGRAM.

Site Topo Map: CASS, WEST VIRGINIA. 15 MIN.

-- GEOLOGICAL INFORMATION --

Geological Province: THE VALLEY AND RIDGE PROVINCE

Local Geology: PALEOZOIC CONSOLIDATED SEDIMENTARY ROCKS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 38
Current Site Name: GREEN BANK
Location: NRAO, GREEN BANK, WV
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7204
Type of Monument: REFERENCE POINT ON RADIO TELESCOPE
Monument Inscription: NONE
Systems Using Monument: 43-METER RADIO TELESCOPE

Latitude: N 38 26' 15.709''
Longitude: W 79 50' 09.613''
Elevation: 844.715 meters
Survey Source/Date: FIRST GEODETIC SURVEY SQUADRON USAF/30-NOV-70
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE REFERENCE POINT IS THE PRIMARY POINT OF THE FIXED VLBI RADIO TELESCOPE.

Differential Coordinates FROM Observing Monument 7204 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 38
 Current Site Name: GREEN BANK
 Location: NRAO, GREEN BANK, WV

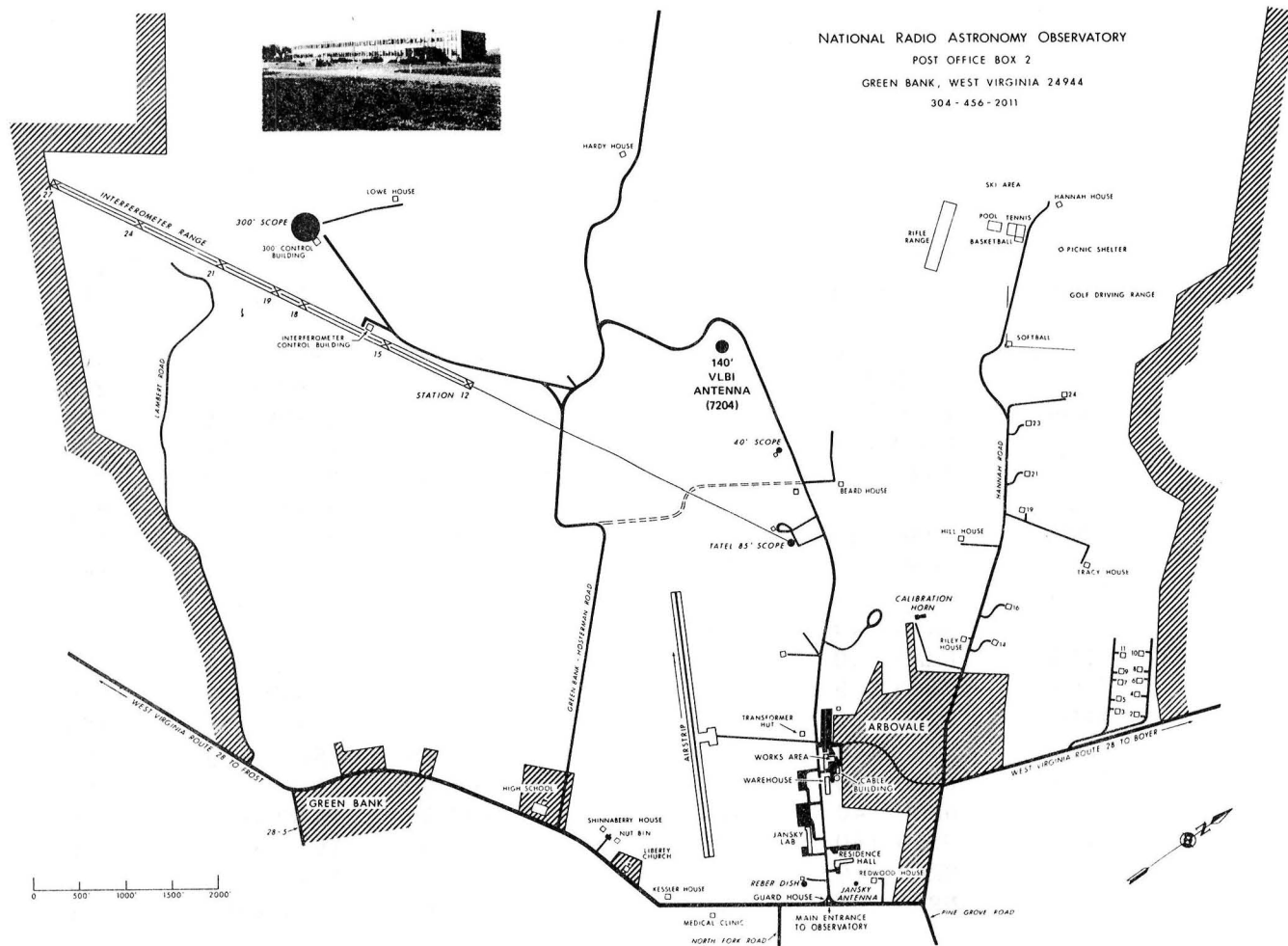


Figure 4-GRNBK. GREEN BANK Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 38
 Current Site Name: GREEN BANK
 Location: NRAO, GREEN BANK, WV

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7204	NRAO 140	72048001	09-OCT-76	09-OCT-76	YES
7204	NRAO 140	72048001	11-OCT-76	11-OCT-76	YES
7204	NRAO 140	72048001	13-DEC-76	13-DEC-76	YES
7204	NRAO 140	72048001	15-DEC-76	15-DEC-76	YES
7204	NRAO 140	72048001	27-MAR-77	27-MAR-77	YES
7204	NRAO 140	72048001	26-JUN-77	26-JUN-77	YES
7204	NRAO 140	72048001	24-SEP-77	24-SEP-77	YES
7204	NRAO 140	72048001	13-DEC-77	13-DEC-77	YES
7204	NRAO 140	72048001	13-JAN-78	13-JAN-78	YES
7204	NRAO 140	72048001	24-FEB-78	24-FEB-78	YES
7204	NRAO 140	72048001	17-MAY-78	17-MAY-78	YES
7204	NRAO 140	72048001	09-APR-79	09-APR-79	YES
7204	NRAO 140	72048001	03-AUG-79	03-AUG-79	YES
7204	NRAO 140	72048001	25-NOV-79	25-NOV-79	YES
7204	NRAO 140	72048001	11-APR-80	11-APR-80	YES
7204	NRAO 140	72048001	18-NOV-81	18-NOV-81	YES
7204	NRAO 140	72048001	19-NOV-81	19-NOV-81	YES
7204	NRAO 140	72048001	15-DEC-82	15-DEC-82	YES
7204	NRAO 140	72048001	16-DEC-82	16-DEC-82	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 38
Current Site Name: GREEN BANK
Location: NRAO, GREEN BANK, WV

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 39

Current Site Name: GREENBELT

Other Site Name:

Location: GORF, GSFC, GREENBELT, MD

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE STATION IS LOCATED AT THE GODDARD OPTICAL RESEARCH FACILITY (GORF) OUTSIDE THE WASHINGTON D.C. CAPITAL BELTWAY IN GREENBELT, MARYLAND. THE GORF FACILITY IS EQUIPPED WITH 12 MONUMENTS: ONE OF THE MONUMENTS IS PERMANENTLY OCCUPIED BY MOBLAS-7, ONE OF THE MONUMENTS WAS OCCUPIED BY STALAS, TWO OF THE MONUMENTS HAVE BEEN OCCUPIED BY TLRs, AND EIGHT OF THE MONUMENTS HAVE BEEN OCCUPIED BY MOBILE LASERS.

Site Topo Map: LAUREL, MARYLAND. 1943-65- (71 PRINT), U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: COASTAL PLAIN

Local Geology: THICK SECTION OF CRETACEOUS SANDS AND GRAVELS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD
Number of Observing Monuments: 14
Surveyed into National Network? YES

Monument Number: 7063
Type of Monument: STANDARD NASA DISK
Monument Inscription: NONE
Systems Using Monument: STALAS FIXED LASER

Latitude: N 39 01' 12.9517''
Longitude: W 76 49' 41.1671''
Elevation: 53.120 meters
Survey Source/Date: NASA-GSFC, CODE 853/01-JAN-73
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: STALAS WAS DEACTIVATED 08/28/81.

Differential Coordinates FROM Observing Monument 7063 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7064	----	-25.512	25.764	36.077
7065	----	-23.461	16.671	24.571
7083	----	-22.032	10.156	16.338
7100	7100-1977	640.760	199.391	44.289
7101	7101-1977	525.524	187.987	61.086
7102	7102-1978	-28.165	14.710	23.523
7103	7103-1978	-29.119	19.030	28.964
7104	7104-1978	381.057	170.788	83.353
7105	7105-1981	4.497	17.162	19.125
7889	7889-1981	19.360	43.398	45.492
7899	7899-1980	649.983	198.940	41.537

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7064
Type of Monument: STANDARD NASA DISK
Monument Inscription: NONE
Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 14.4915''
Longitude: W 76 49' 41.9557''
Elevation: 51.826 meters
Survey Source/Date: NASA-GSFC, CODE 853/01-AUG-73
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7064 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	25.512	-25.764	-36.077
7065	----	2.051	-9.093	-11.506
7083	----	3.480	-15.608	-19.739
7100	7100-1977	666.272	173.627	8.212
7101	7101-1977	551.036	162.223	25.009
7102	7102-1978	-2.653	-11.054	-12.554
7103	7103-1978	-3.607	-6.734	-7.113
7104	7104-1978	406.569	145.024	47.276
7105	7105-1981	30.459	-8.602	-16.952
7889	7889-1981	44.872	17.634	9.415
7899	7899-1980	675.495	173.176	5.460

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7065
Type of Monument: STANDARD NASA DISK
Monument Inscription: NONE
Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 14.0113''
Longitude: W 76 49' 41.9587''
Elevation: 51.824 meters
Survey Source/Date: NASA-GSFC, CODE 853/01-OCT-73
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7065 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	23.461	-16.671	-24.571
7064	----	-2.051	9.093	11.506
7083	----	1.429	-6.515	-8.233
7100	7100-1977	664.221	182.720	19.718
7101	7101-1977	548.985	171.316	36.515
7102	7102-1978	-4.704	-1.961	-1.048
7103	7103-1978	-5.658	2.359	4.393
7104	7104-1978	404.518	154.117	58.782
7105	7105-1981	28.408	0.491	-5.446
7889	7889-1981	42.821	26.727	20.921
7899	7899-1980	673.444	182.269	16.966

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7083
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: NONE
 Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 13.6677''
 Longitude: W 76 49' 41.9627''
 Elevation: 51.822 meters
 Survey Source/Date: NASA-GSFC, CODE 853/01-SEP-75
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7083 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	22.032	-10.156	-16.338
7064	----	-3.480	15.608	19.739
7065	----	-1.429	6.515	8.233
7100	7100-1977	662.792	189.235	27.951
7101	7101-1977	547.556	177.831	44.748
7102	7102-1978	-6.133	4.554	7.185
7103	7103-1978	-7.087	8.874	12.626
7104	7104-1978	403.089	160.632	67.015
7105	7105-1981	26.979	7.006	2.787
7889	7889-1981	41.392	33.242	29.154
7899	7899-1980	672.015	188.784	25.199

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7100
Type of Monument: STANDARD NASA DISK
Monument Inscription: 7100-1977
Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 15.0493''
Longitude: W 76 49' 13.3436''
Elevation: 43.644 meters
Survey Source/Date: NASA-GSFC, CODE 853/01-JUL-77
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7100 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	-640.760	-199.391	-44.289
7064	----	-666.272	-173.627	-8.212
7065	----	-664.221	-182.720	-19.718
7083	----	-662.792	-189.235	-27.951
7101	7101-1977	-115.236	-11.404	16.797
7102	7102-1978	-668.925	-184.681	-20.766
7103	7103-1978	-669.879	-180.361	-15.325
7104	7104-1978	-259.703	-28.603	39.064
7105	7105-1981	-635.813	-182.229	-25.164
7889	7889-1981	-621.400	-155.993	1.203
7899	7899-1980	9.223	-0.451	-2.752

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7101
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7101-1977
 Systems Using Monument: MOBLAS

Latitude: N 39 01' 15.7822''
 Longitude: W 76 49' 18.1157''
 Elevation: 42.433 meters
 Survey Source/Date: NASA-GSFC, CODE 853/01-JUL-77
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7101 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	-525.524	-187.987	-61.086
7064	----	-551.036	-162.223	-25.009
7065	----	-548.985	-171.316	-36.515
7083	----	-547.556	-177.831	-44.748
7100	7100-1977	115.236	11.404	-16.797
7102	7102-1978	-553.689	-173.277	-37.563
7103	7103-1978	-554.643	-168.957	-32.122
7104	7104-1978	-144.467	-17.199	22.267
7105	7105-1981	-520.577	-170.825	-41.961
7889	7889-1981	-506.164	-144.589	-15.594
7899	7899-1980	124.459	10.953	-19.549

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7102
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7102-1978
 Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 13.9678''
 Longitude: W 76 49' 42.1677''
 Elevation: 51.810 meters
 Survey Source/Date: NASA-GSFC, CODE 853/01-JUL-78
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7102 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	28.165	-14.710	-23.523
7064	----	2.653	11.054	12.554
7065	----	4.704	1.961	1.048
7083	----	6.133	-4.554	-7.185
7100	7100-1977	668.925	184.681	20.766
7101	7101-1977	553.689	173.277	37.563
7103	7103-1978	-0.954	4.320	5.441
7104	7104-1978	409.222	156.078	59.830
7105	7105-1981	33.112	2.452	-4.398
7889	7889-1981	47.525	28.688	21.969
7899	7899-1980	678.148	184.230	18.014

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7103
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7103-1978
 Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 14.1952''
 Longitude: W 76 49' 42.1655''
 Elevation: 51.803 meters
 Survey Source/Date: NASA-GSFC, CODE 853/01-AUG-78
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7103 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	29.119	-19.030	-28.964
7064	----	3.607	6.734	7.113
7065	----	5.658	-2.359	-4.393
7083	----	7.087	-8.874	-12.626
7100	7100-1977	669.879	180.361	15.325
7101	7101-1977	554.643	168.957	32.122
7102	7102-1978	0.954	-4.320	-5.441
7104	7104-1978	410.176	151.758	54.398
7105	7105-1981	34.066	-1.868	-9.839
7889	7889-1981	48.479	24.368	16.528
7899	7899-1980	679.102	179.910	12.573

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7104
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7104-1978
 Systems Using Monument: MOBILE LASER

Latitude: N 39 01' 16.6737''
 Longitude: W 76 49' 24.1259''
 Elevation: 43.876 meters
 Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-SEP-78
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7104 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	-381.057	-170.788	-83.353
7064	----	-406.569	-145.024	-47.276
7065	----	-404.518	-154.117	-58.782
7083	----	-403.089	-160.632	-67.015
7100	7100-1977	259.703	28.603	-39.064
7101	7101-1977	144.467	17.199	-22.267
7102	7102-1978	-409.222	-156.078	-59.830
7103	7103-1978	-410.716	-151.758	-54.389
7105	7105-1981	-376.110	-153.626	-64.228
7889	7889-1981	-361.697	-127.390	-37.861
7899	7899-1980	268.926	28.152	-41.816

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7105
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7105-1981
 Systems Using Monument: MOBLAS

Latitude: N 39 01' 13.7517''
 Longitude: W 76 49' 40.8043''
 Elevation: 53.053 meters
 Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-JAN-81
 Datum/Ellipsoid: NAD 1927, ADJ. 1971/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7105 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	-4.947	-17.162	-19.125
7064	----	-30.459	8.602	16.952
7065	----	-28.408	-0.491	5.446
7083	----	-26.979	-7.006	-2.787
7100	7100-1977	635.813	182.229	25.164
7101	7101-1977	520.577	170.825	41.961
7102	7102-1978	-33.112	-2.452	4.398
7103	7103-1978	-34.066	1.868	9.839
7104	7104-1978	376.110	153.626	64.228
7889	7889-1981	14.413	26.236	26.367
7899	7899-1980	645.036	181.778	22.412
7917	"X"	-45.727	56.218	89.616

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7106
Type of Monument: UNKNOWN
Monument Inscription: UNKNOWN
Systems Using Monument:

Latitude:
Longitude:
Elevation:
Survey Source/Date:
Datum/Ellipsoid:

Comments: SURVEYED GEODETIC COORDINATES ARE UNKNOWN AT PRESENT.

Differential Coordinates FROM Observing Monument 7106 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7889
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7889-1981
 Systems Using Monument: TLRS

Latitude: N 39 01' 14.8705''
 Longitude: W 76 49' 39.9725''
 Elevation: 52.359 meters
 Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-JUL-81
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7889 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	-19.360	-43.398	-45.492
7064	----	-44.872	-17.634	-9.415
7065	----	-42.821	-26.727	-20.921
7083	----	-41.392	-33.242	-29.154
7100	7100-1977	621.400	155.993	-1.203
7101	7101-1977	506.164	144.589	15.594
7102	7102-1978	-47.525	-28.688	-21.969
7103	7103-1978	-48.479	-24.368	-16.528
7104	7104-1978	361.697	127.390	37.861
7105	7105-1981	-14.413	-26.236	-26.367
7899	7899-1980	630.623	155.542	-3.955

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7899
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7899-1980
 Systems Using Monument: TLRS

Latitude: N 39 01' 14.9281''
 Longitude: W 76 49' 12.9747''
 Elevation: 43.885 meters
 Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-FEB-80
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7899 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7063	----	-649.983	-198.940	-41.537
7064	----	-675.495	-173.176	-5.460
7065	----	-673.444	-182.269	-16.966
7083	----	-672.015	-188.784	-25.199
7100	7100-1977	-9.223	0.451	2.752
7101	7101-1977	-124.459	-10.953	19.549
7102	7102-1978	-678.148	-184.230	-18.014
7103	7103-1978	-679.102	-179.910	-12.573
7104	7104-1978	-268.926	-28.152	41.816
7105	7105-1981	-645.036	-181.778	-22.412
7889	7889-1981	-630.623	-155.542	3.955

-- MONUMENT INFORMATION --

(Continued)

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD

Monument Number: 7917
Type of Monument: STEEL PLATE
Monument Inscription: "X"
Systems Using Monument: SA0-3

Latitude: N 39 01' 10.175''
Longitude: W 76 49' 39.486''
Elevation: 47.542 meters
Survey Source/Date: BFEC/01-JUL-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: RENUMBERED FROM 7807.

Differential Coordinates FROM Observing Monument 7917 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z
7105	7105-1981	45.727	-56.218	-89.161

-- SITE SKETCH --

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

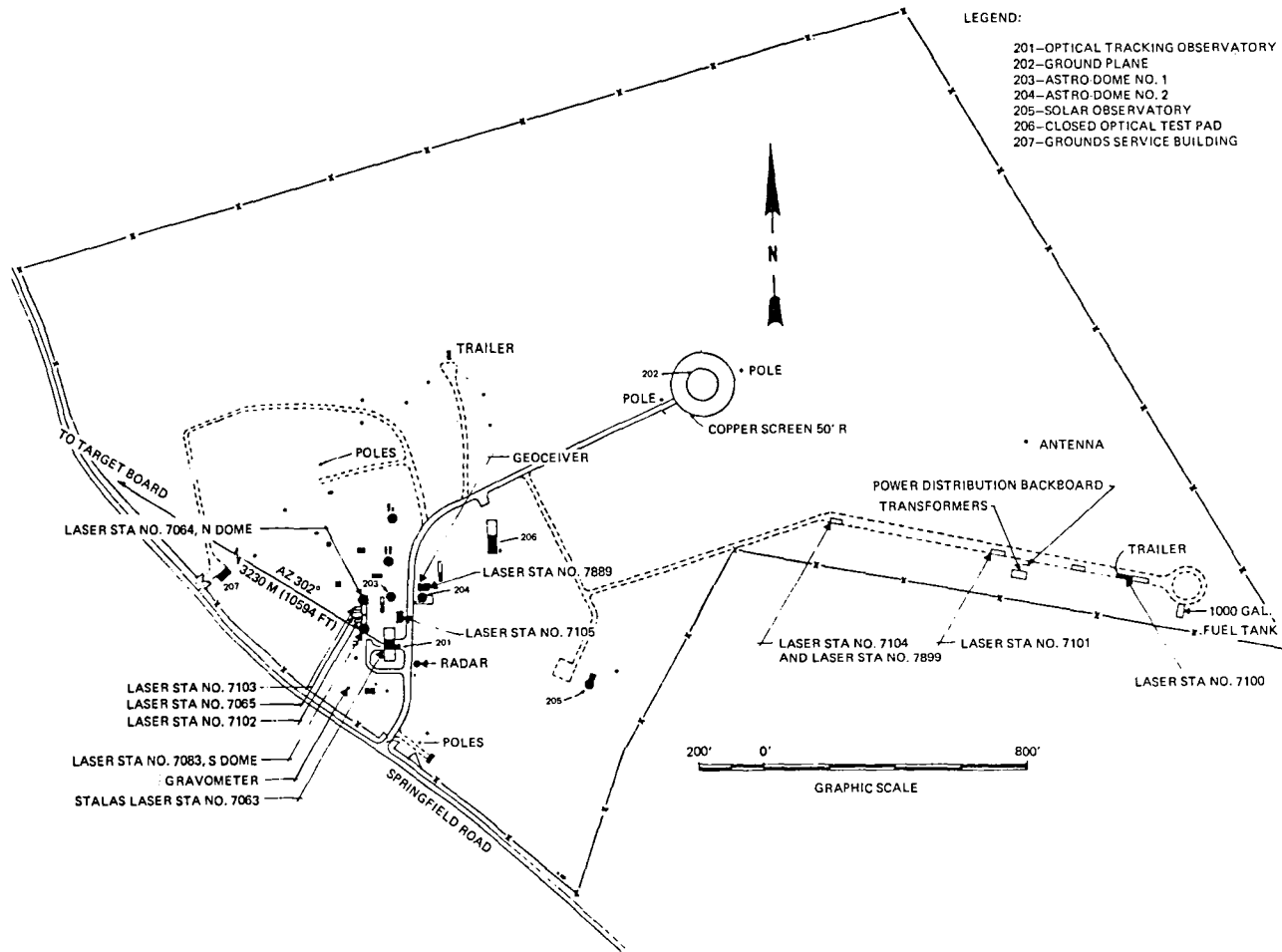


Figure 4-GSFC. GREENBELT Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 39
 Current Site Name: GREENBELT
 Location: GORF, GSFC, GREENBELT, MD

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7063	STALAS	70632101	01-MAY-76	28-AUG-81	YES
7064	MOBLAS-1	70640101	01-OCT-73	30-JUN-74	YES
7064	MOBLAS-1	70640102	21-OCT-77	28-NOV-77	YES
7065	MOBLAS-2	70650201	01-OCT-73	30-JUN-74	YES
7065	MOBLAS-3	70650302	01-AUG-75	09-JUL-76	YES
7065	MOBLAS-2	70650203	17-OCT-77	21-NOV-77	YES
7083	MOBLAS-3	70830301	01-JAN-75	15-JUN-75	YES
7100	MOBLAS-3	71000301	16-AUG-77	18-NOV-77	YES
7100	MOBLAS-4	71000402	01-MAR-78	13-OCT-78	YES
7101	MOBLAS-8	71010801	01-AUG-78	30-MAY-79	YES
7101	MOBLAS-6	71010602	01-FEB-82	01-JUN-82	YES
7102	MOBLAS-5	71020501	01-APR-78	17-MAY-79	YES
7102	MOBLAS-4	71020402	15-MAY-79	15-NOV-82	YES
7102	MOBLAS-4	71020403	01-DEC-82	31-MAR-83	YES
7102	MOBLAS-4	71020404	01-APR-83	31-JUL-83	YES
7102	MOBLAS-3	71020305	01-DEC-84	31-DEC-88	YES
7103	MOBLAS-6	71030601	15-MAY-78	10-MAY-79	YES
7103	MOBLAS-6	71030602	08-JUN-82	02-NOV-82	YES
7104	MOBLAS-7	71040701	01-JUL-78	04-JUN-79	YES
7105	MOBLAS-7	71050701	01-JAN-81	15-JUN-81	YES
7105	MOBLAS-7	71050702	16-JUN-81	31-DEC-88	YES
7889	TLRS-2	78891201	01-MAY-82	20-DEC-82	YES
7899	TLRS-1	78991101	29-FEB-80	21-MAY-80	YES
7899	TLRS-1	78991102	18-AUG-80	10-OCT-80	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
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-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 39
Current Site Name: GREENBELT
Location: GORF, GSFC, GREENBELT, MD

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
MOBLAS-7	Continuing
MTLRS-1	MAY-85
TLRS-3	MAY-85
TLRS-4	AUG-85

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-- None Planned --	

-- SITE INFORMATION --

Site Number: 90

Current Site Name: HALEAKALA

Other Site Name:

Location: LURE OBS., MOUNT HALEAKALA, MAUI, HI

Geographic Region: PACIFIC

Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE STATION IS LOCATED ON THE ISLAND OF MAUI IN THE HAWAIIAN ISLAND CHAIN. THE FIXED LASER (HOLLAS) IS LOCATED IN THE LURE OBSERVATORY ON MOUNT HALEAKALA. A NEARBY PAD IS COMPATIBLE FOR THE MOBLAS-1 SYSTEM ONLY. THE PAD WAS OCCUPIED IN 1980 AFTER A STORM RENDERED THE OBSERVATORY INOPERABLE. THIS PAD WAS THEN USED FOR COLLOCATION TESTING WITH HOLLAS AND MOBLAS-1.

Site Topo Map: KILOHANA, HAWAII. 1957, 7.5 QUAD, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: THE HAWAIIAN ARCHIPELAGO

Local Geology: AA BASALTIC FLOWS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 90
Current Site Name: HALEAKALA
Location: LURE OBS., MOUNT HALEAKALA, MAUI, HI
Number of Observing Monuments: 2
Surveyed into National Network? YES

Monument Number: 7120
Type of Monument: STANDARD NASA DISK
Monument Inscription: MOB LAS STA 7120, 1980
Systems Using Monument: MOB LAS-1

Latitude: N 20 42' 38.8505''
Longitude: W 156 15' 31.8427''
Elevation: 3048.253 meters
Survey Source/Date: NASA-GSFC-BFEC/15-AUG-80
Datum/Ellipsoid: OLD HAWAIIAN/CLARKE 1866

Comments: THIS MONUMENT WAS OCCUPIED ON A TEMPORARY BASIS UNTIL THE OBSERVATORY REGAINED ITS OPERATIONS AFTER A SEVERE STORM.

Differential Coordinates FROM Observing Monument 7120 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
-----	-----	-----	-----	-----
-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 90
Current Site Name: HALEAKALA
Location: LURE⁴OBS., MOUNT HALEAKALA, MAUI, HI

Monument Number: 7210
Type of Monument: CARRIAGE BOLT
Monument Inscription: NONE
Systems Using Monument: HOLLAS FIXED LASER

Latitude: N 20 42' 37.43208''
Longitude: W 156 15' 31.34046''
Elevation: 3047.950 meters
Survey Source/Date: NGS/15-AUG-80
Datum/Ellipsoid: OLD HAWAIIAN/CLARKE 1866

Comments: THE SURVEY TABLET WAS USED TO REFERENCE THE FIXED LASER IN
THE LURE OBSERVATORY.

Differential Coordinates FROM Observing Monument 7210 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 90
Current Site Name: HALEAKALA
Location: LURE OBS., MOUNT HALEAKALA, MAUI, HI

-- Site Sketch Not Available --

Figure 4-HALEAK. HALEAKALA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 90
Current Site Name: HALEAKALA
Location: LURE OBS., MOUNT HALEAKALA, MAUI, HI

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7120	MOBLAS-1	71200101	15-JUN-80	22-JAN-82	YES
7210	HALEAKALA	72102301	01-MAY-76	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 90
Current Site Name: HALEAKALA
Location: LURE OBS., MOUNT HALEAKALA, MAUI, HI

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
HOLLAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 714

Current Site Name: HAT CREEK

Other Site Name:

Location: HAT CREEK RADIO ASTRO. OBS., CASSEL, CA

Geographic Region: CALIFORNIA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE STABILITY AND REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED IN NORTHERN CALIFORNIA. ONE FIXED 26-METER RADIO TELESCOPE IS USED FOR VLBI MEASUREMENTS.

Site Topo Map: BURNEY, CALIFORNIA. 1957, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: CASCADE RANGES

Local Geology: PLEISTOCENE VOLCANICS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 714
Current Site Name: HAT CREEK
Location: HAT CREEK RADIO ASTRO. OBS., CASSEL, CA
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7218
Type of Monument: MEASUREMENT POINT ON ANTENNA
Monument Inscription: NONE
Systems Using Monument: 26-METER FIXED RADIO TELESCOPE

Latitude: N 40 49' 10.01''
Longitude: W 121 28' 13.76''
Elevation: 1042.00 meters
Survey Source/Date: J. RYAN (GSFC)--CONVERTED X,Y,Z COORDINATES/
01-DEC-83
Datum/Ellipsoid: UNKNOWN

Comments: NONE

Differential Coordinates FROM Observing Monument 7218 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 714
Current Site Name: HAT CREEK
Location: HAT CREEK RADIO ASTRO. OBS., CASSEL, CA

-- Site Sketch Not Available --

Figure 4-HAT CR. HAT CREEK Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 714
 Current Site Name: HAT CREEK
 Location: HAT CREEK RADIO ASTRO. OBS., CASSEL, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
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-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7218	TVDS-3	72188401	06-JUN-83	07-JUN-83	YES
7218	TVDS-3	72188401	07-JUN-83	07-JUN-83	YES
7218	TVDS-3	72188401	08-JUN-83	08-JUN-83	YES
7218	TVDS-3	72188401	09-JUN-83	09-JUN-83	YES
7218	TVDS-3	72188401	10-JUN-83	10-JUN-83	YES
7218	TVDS-3	72188401	27-JUN-83	28-JUN-83	YES
7218	TVDS-3	72188401	29-JUN-83	30-JUN-83	YES
7218	TVDS-3	72188401	23-FEB-84	24-FEB-84	NO
7218	TVDS-3	72188401	24-FEB-84	26-FEB-84	NO
7218	TVDS-3	72188401	26-FEB-84	27-FEB-84	NO
7218	TVDS-3	72188401	12-APR-84	12-APR-84	NO
7218	TVDS-3	72188401	17-APR-84	17-APR-84	NO
7218	TVDS-3	72188401	21-APR-84	22-APR-84	NO
7218	TVDS-3	72188401	25-APR-84	25-APR-84	NO
7218	TVDS-3	72188401	26-APR-84	26-APR-84	NO
7218	TVDS-3	72188401	07-JUL-84	08-JUL-84	NO
7218	TVDS-3	72188401	01-MAR-85	02-MAR-85	NO
7218	TVDS-3	72188401	10-MAR-85	11-MAR-85	NO
7218	TVDS-3	72188401	13-MAR-85	14-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 714
Current Site Name: HAT CREEK
Location: HAT CREEK RADIO ASTRO. OBS., CASSEL, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
	-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
26-METER	Continuing

-- SITE INFORMATION --

Site Number: 880

Current Site Name: HERSTMONCEUX

Other Site Name:

Location: ROYAL GREENWICH OBS., GREAT BRITAIN

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 92

Current Site Name: HUAHINE

Other Site Name: TAHITI

Location: HUAHINE, SOCIETY IS, FRENCH POLYNESIA

Geographic Region: PACIFIC

Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED ON HUAHINE ISLAND, A PART OF THE SOCIETY ISLANDS IN THE SOUTH PACIFIC OCEAN, 106 MILES FROM TAHITI. THE LASER PAD IS LOCATED ON THE LAGOON SIDE OF THE ISLAND OFF COPRA ROAD BETWEEN THE OPTICAL STATION AND THE AIRPORT. THE TRADEX ANTENNA CURRENTLY USED FOR VLBI MEASUREMENTS IS LOCATED ON THE PACIFIC SIDE OF THE ISLAND.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: SOCIETY ISLANDS; PACIFIC TECTONIC PLATE

Local Geology: BASALTIC LAVAS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 92
Current Site Name: HUAHINE
Location: HUAHINE, SOCIETY IS, FRENCH POLYNESIA
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7121
Type of Monument: STANDARD NASA DISK
Monument Inscription: 7121-1982
Systems Using Monument: MOBLAS-1

Latitude: S 16 44' 02.6102''
Longitude: W 151 02' 19.0520''
Elevation: 34.206 meters
Survey Source/Date: BFEC/01-DEC-82
Datum/Ellipsoid: 153D WEST MERIDIAN/INTERNATIONAL

Comments: THE STATION HAS A MONUMENT WITH THREE PEDESTALS FOR PLACEMENT OF MOBLAS-1.

Differential Coordinates FROM Observing Monument 7121 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 92
Current Site Name: HUAHINE
Location: HUAHINE, SOCIETY IS, FRENCH POLYNESIA

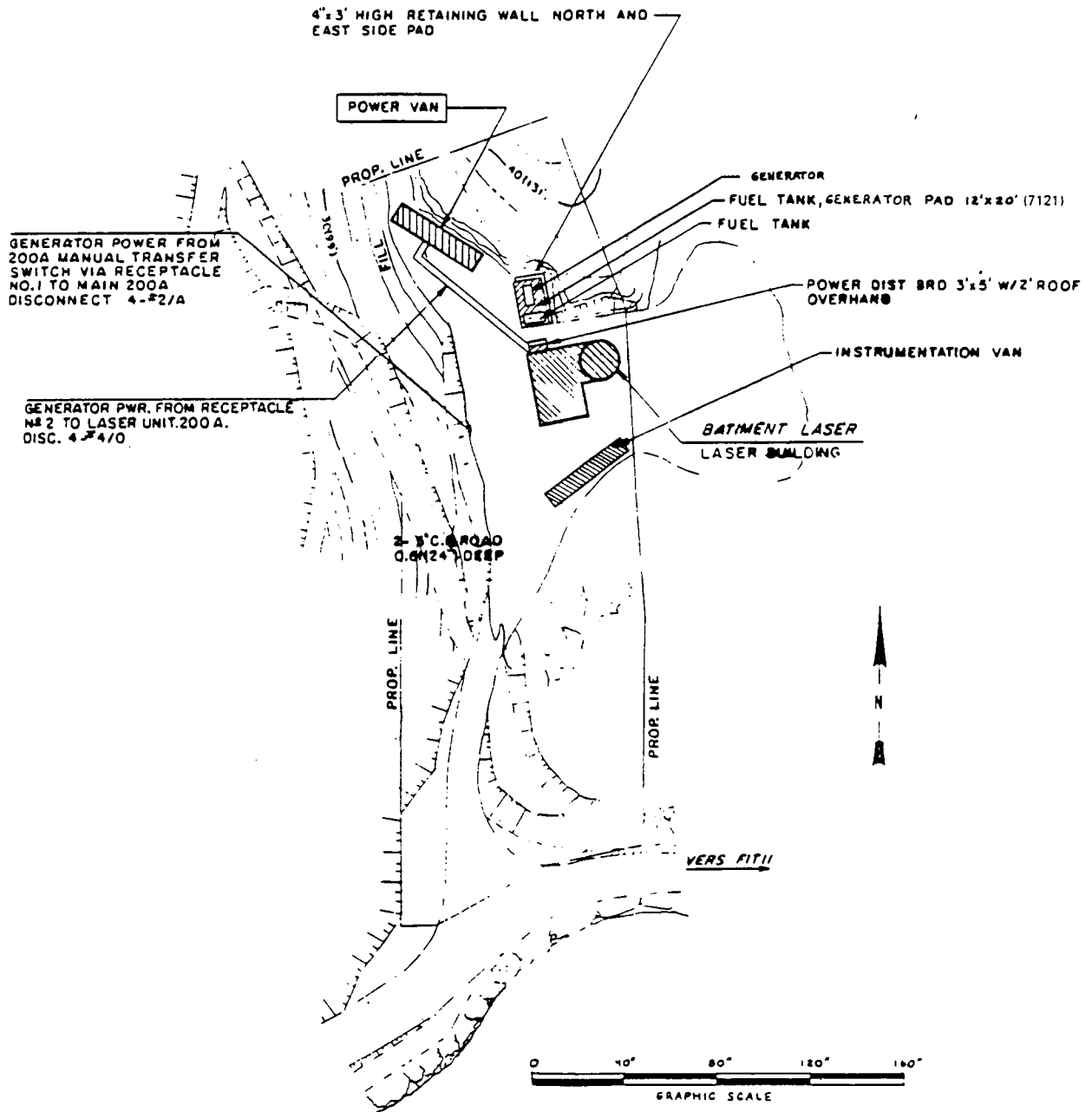


Figure 4-HUAHNE. HUAHINE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 92
Current Site Name: HUAHINE
Location: HUAHINE, SOCIETY IS, FRENCH POLYNESIA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7121	MOBLAS-1	71210101	01-FEB-83	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 92
Current Site Name: HUAHINE
Location: HUAHINE, SOCIETY IS, FRENCH POLYNESIA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
MOBLAS-1	Thru APR-85
TLRS-2	JUN-85

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 891

Current Site Name: IQUIQUE

Other Site Name:

Location: IQUIQUE, CHILE

Geographic Region: SOUTH AMERICA

Tectonic Plate: SOUTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 857

Current Site Name: JERUSALEM

Other Site Name:

Location: JERUSALEM, ISRAEL

Geographic Region: ASIA

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 138

Current Site Name: KASHIMA

Other Site Name:

Location: KASHIMA, JAPAN

Geographic Region: PACIFIC

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 803

Current Site Name: KODIAK

Other Site Name:

Location: KODIAK, AK

Geographic Region: ALASKA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 990

Current Site Name: KOKEE PARK

Other Site Name:

Location: KOKEE PARK, KAUAI, HI

Geographic Region: PACIFIC

Tectonic Plate: PACIFIC

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 118

Current Site Name: KOOTWIJK

Other Site Name:

Location: KOOTWIJK OBS. APELDOORN, NETHERLANDS

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED IN CENTRAL NETHERLANDS AT THE DELFT UNIVERSITY OF TECHNOLOGY, KOOTWIJK OBSERVATORY, APELDOORN, NETHERLANDS. SATELLITE LASER RANGING OPERATIONS STARTED IN AUGUST 1976 AND HAVE BEEN CONTINUING ON A ROUTINE BASIS.

Site Topo Map: THE NETHERLANDS, 1:25,000, SHEET 33A, IN. SQUARE: 465-466/183-184

-- GEOLOGICAL INFORMATION --

Geological Province: SOUTHERN EDGE OF NORTH SEA BASIN

Local Geology: ICE PUSHED LOWER- AND MIDDLE-PLEISTOCENE FLUVIAL FORMATIONS, UPPER-PLEISTOCENE, PERI-GLACIAL DEPOSITS, HOLOCENE IN-LAND DUNE SANDS.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 118
Current Site Name: KOOTWIJK
Location: KOOTWIJK OBS. APELDOORN, NETHERLANDS
Number of Observing Monuments: 2
Surveyed into National Network? NO

Monument Number: 7833
Type of Monument: REFERENCE POINT ON LASER TELESCOPE
Monument Inscription: NONE
Systems Using Monument: FIXED LASER TELESCOPE

Latitude: N 52 10' 45.032''
Longitude: E 5 48' 39.827''
Elevation: 49.800 meters
Survey Source/Date: DUTCH TRIANGULATION SERVICE/
Datum/Ellipsoid: E.D. 50/INTERNATIONAL HAYFORD 1909

Comments: THE COORDINATES REFER TO THE INTERSECTION OF AZIMUTHAL AND ELEVATION AXIS OF THE LASER MOUNT (FIXED).

Differential Coordinates FROM Observing Monument 7833 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 118
Current Site Name: KOOTWIJK
Location: KOOTWIJK OBS. APELDOORN, NETHERLANDS

Monument Number: 8833
Type of Monument: UNKNOWN
Monument Inscription: UNKNOWN
Systems Using Monument: MTLRS

Latitude:
Longitude:
Elevation:
Survey Source/Date:
Datum/Ellipsoid:

Comments: SURVEYED GEODETIC COORDINATES ARE UNKNOWN AT PRESENT.

Differential Coordinates FROM Observing Monument 8833 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7833	----	13.83	26.31	-18.43

-- SITE SKETCH --

Site Number: 118
Current Site Name: KOOTWIJK
Location: KOOTWIJK OBS. APeldoorn, NETHERLANDS

-- Site Sketch Not Available --

Figure 4-KOTWJK. KOOTWIJK Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 118
Current Site Name: KOOTWIJK
Location: KOOTWIJK OBS. APELDOORN, NETHERLANDS

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7833	KOOLAS	78333201	01-MAY-76	31-DEC-88	YES
8833	MTLRS-1	88331501	04-APR-84	08-MAY-84	YES
8833	MTLRS-2	88331502	01-NOV-84	28-FEB-85	NO

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 118
Current Site Name: KOOTWIJK
Location: KOOTWIJK OBS. APeldoorn, NETHERLANDS

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
KOOLAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 136

Current Site Name: KWAJALEIN

Other Site Name: ROI-NAMUR

Location: KWAJALEIN, MARSHALL ISLANDS

Geographic Region: PACIFIC

Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION AND PLATE STABILITY.

Site Description: THE SITE IS LOCATED ON THE LAGOON SIDE OF THE AIRPORT ON THE ISLAND OF ROI-NAMUR, FIFTY KILOMETERS NORTH-NORTHWEST OF KWAJALEIN ISLAND WHICH IS ON THE NORTHEAST PART OF THE KWAJALEIN ATOLL. AT PRESENT, THE SITE IS EQUIPPED FOR OCCUPATION BY MOBILAS SYSTEMS. THIS ISLAND IS ALSO A VLBI (TVDS) SITE.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: MARSHALL ISLANDS

Local Geology: CORAL REEF FORMATION

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 136
Current Site Name: KWAJALEIN
Location: KWAJALEIN, MARSHALL ISLANDS
Number of Observing Monuments: 2
Surveyed into National Network? YES

Monument Number: 4968
Type of Monument: TRADEX 26-METER ANTENNA
Monument Inscription: NONE
Systems Using Monument:

Latitude: N 9 23' 55.34999''
Longitude: E 167 28' 55.16955''
Elevation: 26.152 meters
Survey Source/Date: KWAJALEIN MISSILE RANGE DIRECTORATE/01-MAR-84
Datum/Ellipsoid: WGS 1972/WGS 1972

Comments: NONE

Differential Coordinates FROM Observing Monument 4968 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- MONUMENT INFORMATION --

(Continued)

Site Number: 136
Current Site Name: KWAJALEIN
Location: KWAJALEIN, MARSHALL ISLANDS

Monument Number: 7092
Type of Monument: STANDARD DMA DISK
Monument Inscription: NASA-GSFC MOBILE LASER NO. 7092 TOPO CENTER
1978
Systems Using Monument: MOBLAS

Latitude: N 09 23' 37.5266''
Longitude: E 167 28' 32.0427''
Elevation: 1.716 meters
Survey Source/Date: DMAHTC-GSS/01-DEC-79
Datum/Ellipsoid: WGS 1972/WGS 1972

Comments: NONE

Differential Coordinates FROM Observing Monument 7092 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 136
Current Site Name: KWAJALEIN
Location: KWAJALEIN, MARSHALL ISLANDS

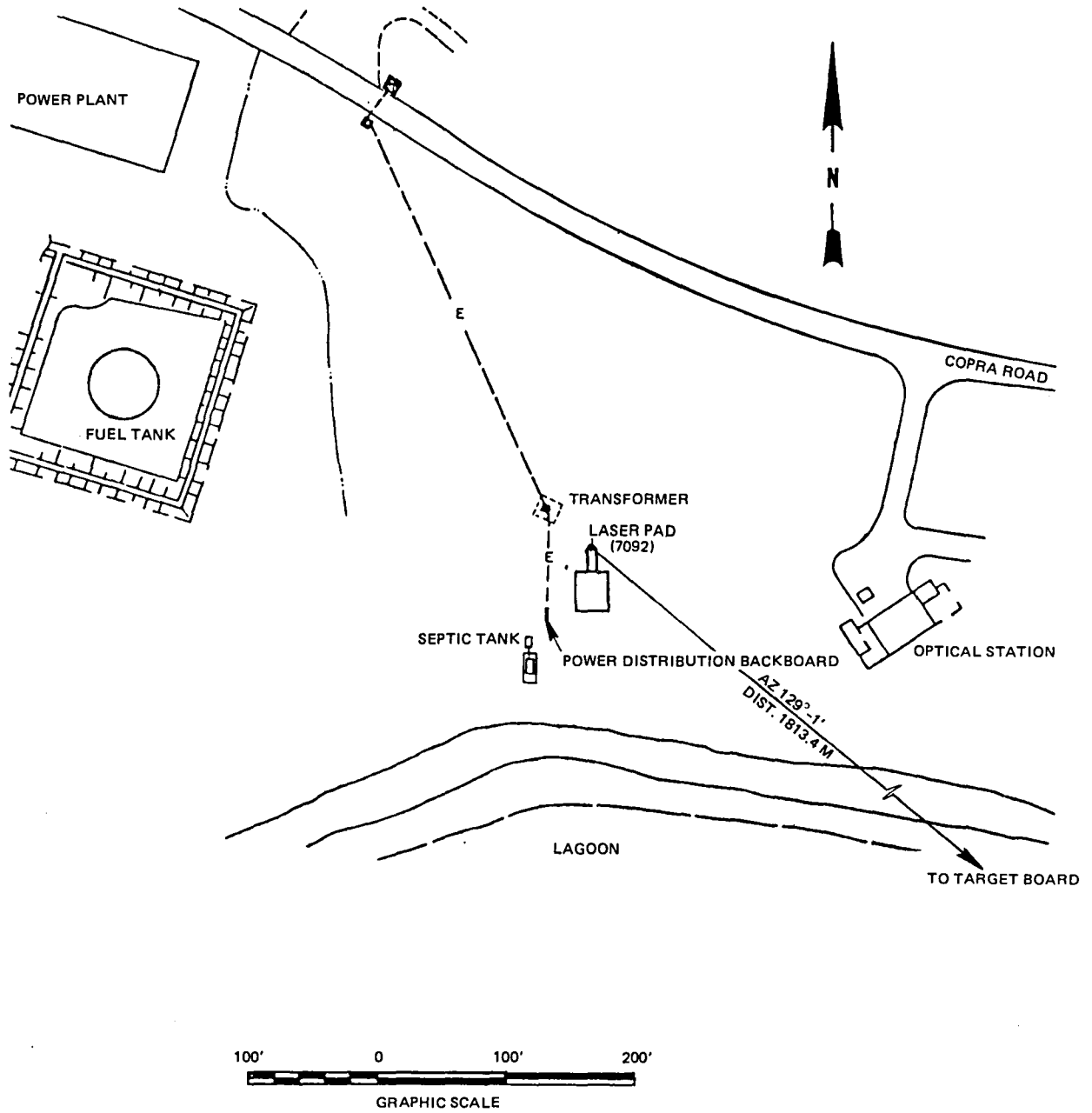


Figure 4-KWAJLN. KWAJALEIN Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 136
Current Site Name: KWAJALEIN
Location: KWAJALEIN, MARSHALL ISLANDS

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7092	MOBLAS-8	70920801	15-AUG-79	31-OCT-80	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
4968	TVDS-1	49689101	01-JUL-84	30-SEP-84	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 136
Current Site Name: KWAJALEIN
Location: KWAJALEIN, MARSHALL ISLANDS

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
TVDS-1	Continuing

-- SITE INFORMATION --

Site Number: 2

Current Site Name: LA JOLLA
Other Site Name:
Location: LA JOLLA, CA
Geographic Region: CALIFORNIA
Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED 0.5 MILES SOUTH OF THE UNIVERSITY OF CALIFORNIA, SAN DIEGO, IN APPROXIMATE EAST-WEST ALIGNMENT WITH THE SCRIPPS PIER AND THE SUMMIT. THE SITE IS EQUIPPED WITH ONE MONUMENTED PAD COMPATIBLE FOR OCCUPATION BY MOBILE VLBI SYSTEMS.

Site Topo Map: LA JOLLA, CALIFORNIA. N3245-W11707.5/7.5 X 10, 1967, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: PENINSULA RANGES

Local Geology: QUATERNARY ALLUVIUM

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 2
Current Site Name: LA JOLLA
Location: LA JOLLA, CA
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7113
Type of Monument:
Monument Inscription: NONE
Systems Using Monument: NONE

Latitude:
Longitude:
Elevation:
Survey Source/Date:
Datum/Ellipsoid:

Comments: THE NUMBER WAS ASSIGNED BUT NEVER USED.

Differential Coordinates FROM Observing Monument 7113 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 2
Current Site Name: LA JOLLA
Location: LA JOLLA, CA

Monument Number: 7262
Type of Monument: NAIL IN CONCRETE
Monument Inscription: NONE
Systems Using Monument: MOBILE VLBI

Latitude: N 32 51' 55.89975''
Longitude: W 117 14' 58.84789''
Elevation: 50.167 meters
Survey Source/Date: NGS/04-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7262 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	DOPPLER 51134 1976	-7.164	-1.788	-8.786
--	DOPPLER 51134 RM 1	15.509	-8.506	-1.169
--	DOPPLER 51134 RM 2	-6.407	6.586	3.360
--	LA JOLLA ARIES 1	26.823	-5.719	12.138
--	LA JOLLA ARIES 2	-23.584	1.763	-15.828
--	LA JOLLA ARIES 3	7.992	15.821	27.941

-- SITE SKETCH --

Site Number: 2
Current Site Name: LA JOLLA
Location: LA JOLLA, CA

-- Site Sketch Not Available --

Figure 4-LA JOL. LA JOLLA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 2
Current Site Name: LA JOLLA
Location: LA JOLLA, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7262	MV-1	72625101	09-JUL-77	10-JUL-77	NO
7262	MV-2	72625202	13-MAY-81	13-MAY-81	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 2
Current Site Name: LA JOLLA
Location: LA JOLLA, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 720

Current Site Name: MAMMOTH LAKES
Other Site Name: LONG VALLEY
Location: MAMMOTH LAKES, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE STATION IS LOCATED IN CALIFORNIA, EAST OF THE YOSEMITE NATIONAL PARK INSIDE A CHAIN LINK FENCE AT A SEWAGE TREATMENT PLANT. THE SITE IS EQUIPPED WITH ONE OBSERVING MONUMENT COMPATIBLE FOR OCCUPATION BY MV-2 AND MV-3. NO PAD IS AVAILABLE AT THIS SITE MAKING IT SUITABLE FOR OCCUPATION BY TLRs-1 ONLY (IF THE SITE IS TO BE CONSIDERED FOR LASER MEASUREMENTS IN THE FUTURE).

Site Topo Map: MOUNT MORRISON, CALIFORNIA. 1953, 15 QUAD, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: SIERRA NEVADA MOUNTAINS

Local Geology: PLEISTOCENE BASALT

Comments: SITE ESTABLISHED TO SUPPORT USGS LEVELING PROGRAM IN THE LONG VALLEY CALDERA.

-- MONUMENT INFORMATION --

Site Number: 720
Current Site Name: MAMMOTH LAKES
Location: MAMMOTH LAKES, CA
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7259
Type of Monument: UNKNOWN
Monument Inscription: JPL MV #II 198
Systems Using Monument: MOBILE VLBI

Latitude: N 37 38'
Longitude: W 118 57'
Elevation: 2293 meters
Survey Source/Date: 7.5 QUAD/
Datum/Ellipsoid: NONE

Comments: SURVEYED GEODETIC COORDINATES ARE UNKNOWN AT PRESENT.

Differential Coordinates FROM Observing Monument 7259 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 720
Current Site Name: MAMMOTH LAKES
Location: MAMMOTH LAKES, CA

-- Site Sketch Not Available --

Figure 4-MAMOTH. MAMMOTH LAKES Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 720
Current Site Name: MAMMOTH LAKES
Location: MAMMOTH LAKES, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7259	MV-2	72595201	29-JUN-83	30-JUN-83	YES
7259	MV-2	72595202	09-APR-84	10-APR-84	YES
7259	MV-3	72595303	22-OCT-84	23-OCT-84	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 720
Current Site Name: MAMMOTH LAKES
Location: MAMMOTH LAKES, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 40

Current Site Name: MARYLAND POINT
Other Site Name:
Location: MARYLAND POINT, MD
Geographic Region: NORTH AMERICA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND TESTING OF VLBI SYSTEMS.

Site Description: THE STATION IS LOCATED AT THE MARYLAND POINT OBSERVATORY OF THE NAVAL RESEARCH LABORATORY, ON THE MARYLAND SHORE OF THE POTOMAC RIVER, ABOUT 1.7 MILES NORTHWEST OF MARYLAND POINT, AND ABOUT 21 MILES SOUTH OF INDIAN HEAD, MARYLAND. ONE FIXED 85-FOOT RADIO TELESCOPE IS USED FOR VLBI MEASUREMENTS.

Site Topo Map: WIDEWATER, MARYLAND. 1977, 7.5 QUAD, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: COASTAL PLAIN

Local Geology: POTOMAC RIVER FLOOD PLAIN

Comments: THIS SITE IS PRIMARILY USED FOR TESTING AND EVALUATION OF VLBI SYSTEMS CAPABILITIES AND ACCURACY.

-- MONUMENT INFORMATION --

Site Number: 40
Current Site Name: MARYLAND POINT
Location: MARYLAND POINT, MD
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7217
Type of Monument: VLBI REFERENCE POINT ON RADIO TELESCOPE
Monument Inscription: NONE
Systems Using Monument: 85-FOOT RADIO TELESCOPE

Latitude: N 38 22' 26.81930''
Longitude: W 77 13' 51.14705''
Elevation: 17.491 meters
Survey Source/Date: NGS/28-APR-81
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT; THE ANTENNA IS ALSO REFERENCED AS NRL 85.

Differential Coordinates FROM Observing Monument 7217 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MARYLAND PT. NO. 2 1957	-4.695	20.726	5.967
--	MARYLAND PT. NO. 3 1957	4.341	-19.245	-46.819
--	MARYLAND PT. NO. 4 1957	10.078	-44.606	-77.688
--	MARYLAND PT. NO. 5	-69.439	-65.739	-88.945
--	MARYLAND PT. OBS. 1957	-148.364	-38.101	-26.199

-- SITE SKETCH --

Site Number: 40
 Current Site Name: MARYLAND POINT
 Location: MARYLAND POINT, MD

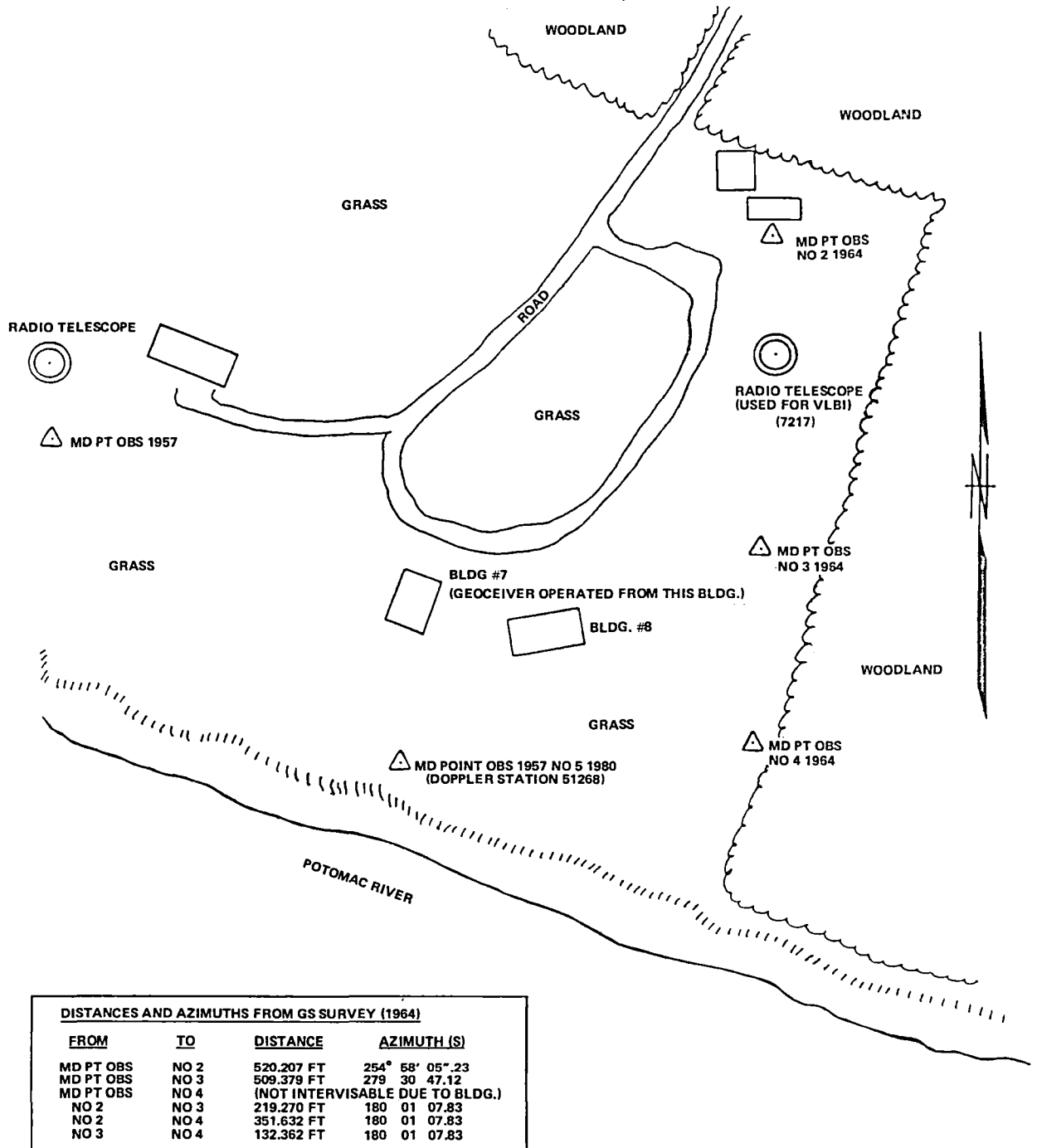


Figure 4-MD PT. MARYLAND POINT Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 40
Current Site Name: MARYLAND POINT
Location: MARYLAND POINT, MD

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-----	-----	-----	-----	-----	-----
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-----	-----	-----	-----	-----	-----
7217	NRL 85	72178101	18-JUN-82	18-JUN-82	YES
7217	NRL 85	72178101	19-JUN-82	19-JUN-82	YES
7217	NRL 85	72178101	18-OCT-82	18-OCT-82	YES
7217	NRL 85	72178101	29-AUG-83	29-AUG-83	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 40
Current Site Name: MARYLAND POINT
Location: MARYLAND POINT, MD

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 850

Current Site Name: MATERA
Other Site Name:
Location: MATERA, ITALY
Geographic Region: EUROPE
Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, AND REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED IN THE BOOT OF ITALY JUST ABOVE THE INSTEP, TWENTY MILES OUTSIDE THE CITY OF MATERA AND APPROXIMATELY FIFTY MILES NORTH OF TARANTO. A FIXED SAO LASER IS OPERATED BY THE ITALIANS FOR SLR MEASUREMENTS. A VLBI ANTENNA IS PRESENTLY UNDER CONSTRUCTION AT THIS SITE.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: SOUTHERN APPENNINES

Local Geology: UPPER CRETACEOUS SEDIMENTS.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 850
Current Site Name: MATERA
Location: MATERA, ITALY
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7235
Type of Monument: UNKNOWN
Monument Inscription: UNKNOWN
Systems Using Monument: FIXED VLBI ANTENNA

Latitude:
Longitude:
Elevation:
Survey Source/Date:
Datum/Ellipsoid:

Comments: NONE

Differential Coordinates FROM Observing Monument 7235 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 850
Current Site Name: MATERA
Location: MATERA, ITALY

Monument Number: 7939
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: SAO-3 LASER

Latitude: N 40 38' 59.225''
Longitude: E 16 42' 19.644''
Elevation: 191.000 meters
Survey Source/Date: M. PEARLMAN (SAO)/08-AUG-83
Datum/Ellipsoid: EUROPEAN 1979/INTERNATIONAL SPHEROID

Comments: NONE

Differential Coordinates FROM Observing Monument 7939 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 850
Current Site Name: MATERA
Location: MATERA, ITALY

-- Site Sketch Not Available --

Figure 4-MATERA. MATERA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 850
Current Site Name: MATERA
Location: MATERA, ITALY

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7939	MATLAS	79394101	01-MAY-83	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 850
Current Site Name: MATERA
Location: MATERA, ITALY

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
MATLAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 71

Current Site Name: MAZATLAN

Other Site Name:

Location: MAZATLAN, SINALOA, MEXICO

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, AND REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED 7.5 MILES NORTH OF MAZATLAN, MEXICO. MAZATLAN IS ON THE WEST COAST OF MEXICO JUST SOUTH OF THE TROPIC OF CANCER. THE LASER STATION IS EQUIPPED WITH ONE MONUMENTED PAD THAT IS OCCUPIED BY MOBLAS-6 FOR THE DURATION OF THE PROJECT.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: BURIED RANGES (SINALOA DELTA)

Local Geology: METAMORPHIC QUARTZ-RICH GNEISS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 71
Current Site Name: MAZATLAN
Location: MAZATLAN, SINALOA, MEXICO
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7122
Type of Monument: STANDARD NASA DISK
Monument Inscription: 7122-1983
Systems Using Monument: MOBLAS

Latitude: N 23 20' 43.7''
Longitude: W 106 27' 13.6''
Elevation: 56.0 meters
Survey Source/Date: BFEC--FROM TOPO MAP WITH 250 M. ACCURACY/
01-APR-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: ONE OF THE THREE REFERENCE MARKS (7122-RM1-1983) HAS BEEN SET
TO ACCEPT OCCUPATION BY TLRS AND THE SMALLER MV SYSTEMS.

Differential Coordinates FROM Observing Monument 7122 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 71
Current Site Name: MAZATLAN
Location: MAZATLAN, SINALOA, MEXICO

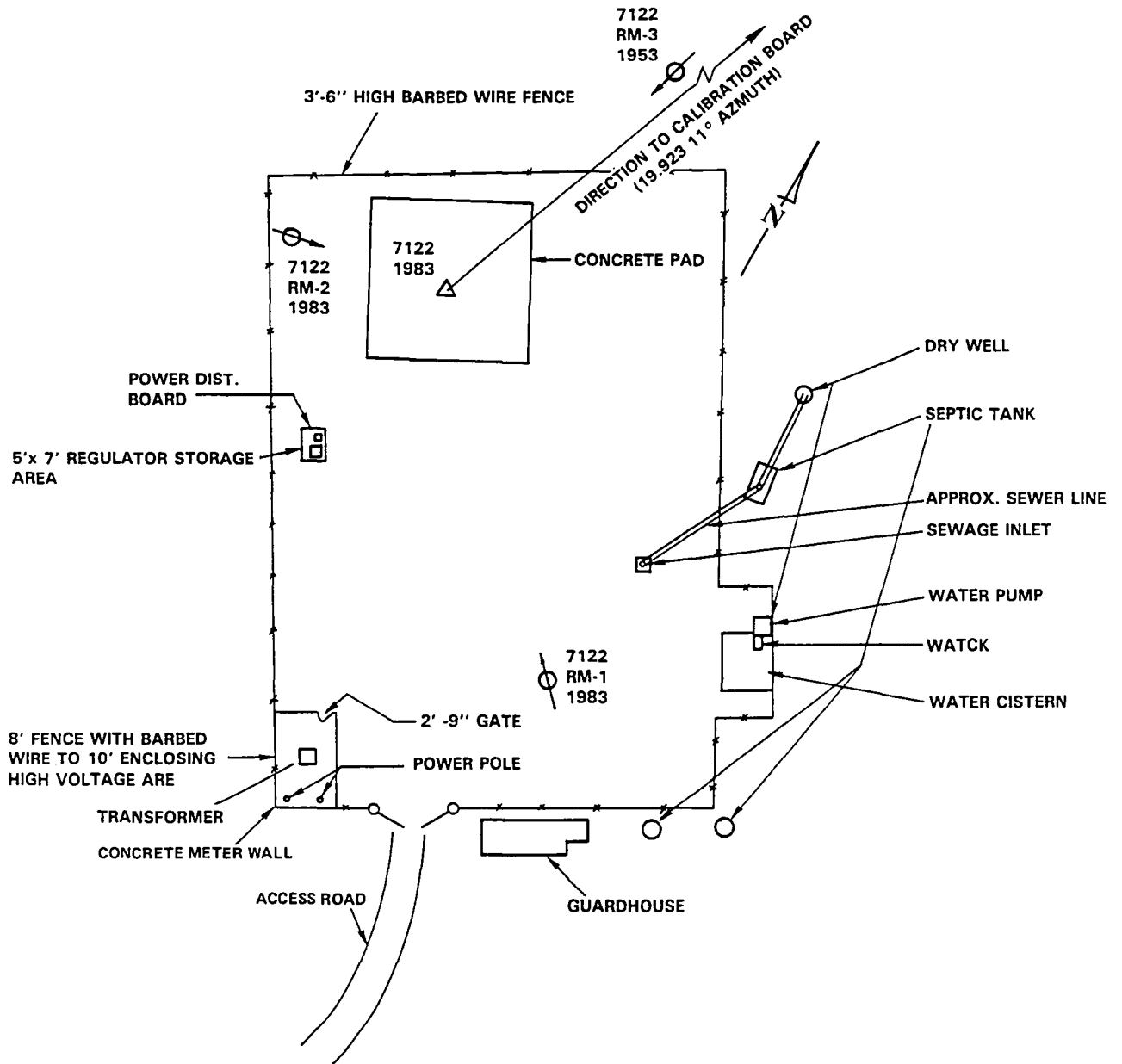


Figure 4-MZTLN. MAZATLAN Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 71
Current Site Name: MAZATLAN
Location: MAZATLAN, SINALOA, MEXICO

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7122	MOBLAS-6	71220601	01-MAR-83	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 71
Current Site Name: MAZATLAN
Location: MAZATLAN, SINALOA, MEXICO

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
MOBLAS-6	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 33B

Current Site Name: MCDONALD
Other Site Name: FORT DAVIS
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX
Geographic Region: NORTH AMERICA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED AT THE MCDONALD OBSERVATORY AT THE SUMMIT OF MOUNT LOCKE NEAR FORT DAVIS, TEXAS. THE FACILITY INCLUDES THE FIXED OBSERVATORY WITH A 2.7-METER TELESCOPE AND A MONUMENTED PAD COMPATIBLE FOR OCCUPATION BY MLRS AND TLRS. A GEODETIC TIE BETWEEN THE MCDONALD SITE AND THE HRAS ANTENNA, IN THE VALLEY 7 KM AWAY FROM MCDONALD, IS ACCURATE ENOUGH TO CONSIDER THIS COMPLEX AS ONE MEASUREMENT LOCATION.

Site Topo Map: MOUNT LOCKE, TEXAS; CASKAT MOUNTAIN, TEXAS. 7.5 MINUTE QUAD, AVAILABLE THROUGH THE U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: ROCKY MOUNTAIN PROVINCE

Local Geology: TERTIARY IGNEOUS ROCKS PREDOMINATELY FOUND ON THE SURFACE. THE INFLUENCE OF TOPOGRAPHY ON SOIL FORMATION IS PRONOUNCED. DUE TO EXTENSIVE EROSION, THE SOILS OF HILLS AND MOUNTAINS ARE SHALLOW, WHEREAS THE SOILS OF VALLEYS AND PLAINS ARE DEEP.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 33B
 Current Site Name: MCDONALD
 Location: MCDONALD OBSERVATORY, FORT DAVIS, TX
 Number of Observing Monuments: 3
 Surveyed into National Network? YES

Monument Number: 7086
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: NONE
 Systems Using Monument: MLRS, MOBLAS, AND TLRS-1

Latitude: N 30 40' 36.74885''
 Longitude: W 104 00' 55.60857''
 Elevation: 1986.050 meters
 Survey Source/Date: NGS/08-APR-81
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS THE SAME AS MONUMENT 7885. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7086 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7206	----	-655.978	-228.947	-452.574
7216	----	5914.416	-3496.550	-4031.858
7897	----	-675.354	-198.074	-445.980

-- MONUMENT INFORMATION --

(Continued)

Site Number: 33B
Current Site Name: MCDONALD
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

Monument Number: 7206
Type of Monument: CENTER OF INTERSECTION OF AXIS ON TELESCOPE
Monument Inscription: NONE
Systems Using Monument: FIXED OBSERVATORY (2.7-METER TELESCOPE)

Latitude: N 30 40' 17.80254''
Longitude: W 104 01' 17.42725''
Elevation: 2082.883 meters
Survey Source/Date: NGS/08-APR-81
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS USED FOR LUNAR LASER RANGING ONLY. THE
ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7206 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7086	----	655.978	228.947	452.574
7216	----	6570.392	-3267.606	-3579.290
7897	----	-19.376	30.873	6.594

-- MONUMENT INFORMATION --

(Continued)

Site Number: 33B
Current Site Name: MCDONALD
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

Monument Number: 7885
Type of Monument: STANDARD NASA DISK
Monument Inscription: NONE
Systems Using Monument: MLRS, MOBLAS, AND TLRs-1

Latitude: N 30 40' 36.74907''
Longitude: W 104 00' 55.60860''
Elevation: 1986.050 meters
Survey Source/Date: NGS HAVAGO ADJUSTMENT VERSION 79.04.27/
08-APR-81
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS THE SAME AS MONUMENT 7086. THE ELEVATION IS THE ELLIPSOID HEIGHT.

Differential Coordinates FROM Observing Monument 7885 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7206	----	-655.978	-228.947	-452.574
7216	----	5914.416	-3496.550	-4031.858
7897	----	-675.354	-198.074	-445.980

-- MONUMENT INFORMATION --

(Continued)

Site Number: 33B
Current Site Name: MCDONALD
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

Monument Number: 7897
Type of Monument: NAIL IN PAVEMENT
Monument Inscription: NONE
Systems Using Monument: TLRs-1

Latitude: N 30 40' 18.40490''
Longitude: W 104 01' 18.41415''
Elevation: 2064.522 meters
Survey Source/Date: NGS/08-APR-81
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS LOCATION WAS INITIALLY OCCUPIED BY TLRs-1. THE
ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7897 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7086	----	675.354	198.074	445.980
7206	----	19.376	-30.873	-6.594
7216	----	6589.769	-3298.479	-3585.883

-- MONUMENT INFORMATION --

(Continued)

Site Number: 33B
Current Site Name: MCDONALD
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

Monument Number: 7999
Type of Monument:
Monument Inscription: NONE
Systems Using Monument: TLRs-1

Latitude:
Longitude:
Elevation:
Survey Source/Date:
Datum/Ellipsoid:

Comments: THIS NUMBER WAS ASSIGNED FOR HORIZONTAL RANGING BUT NEVER USED FOR POSITIONING.

Differential Coordinates FROM Observing Monument 7999 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 33B
Current Site Name: MCDONALD
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

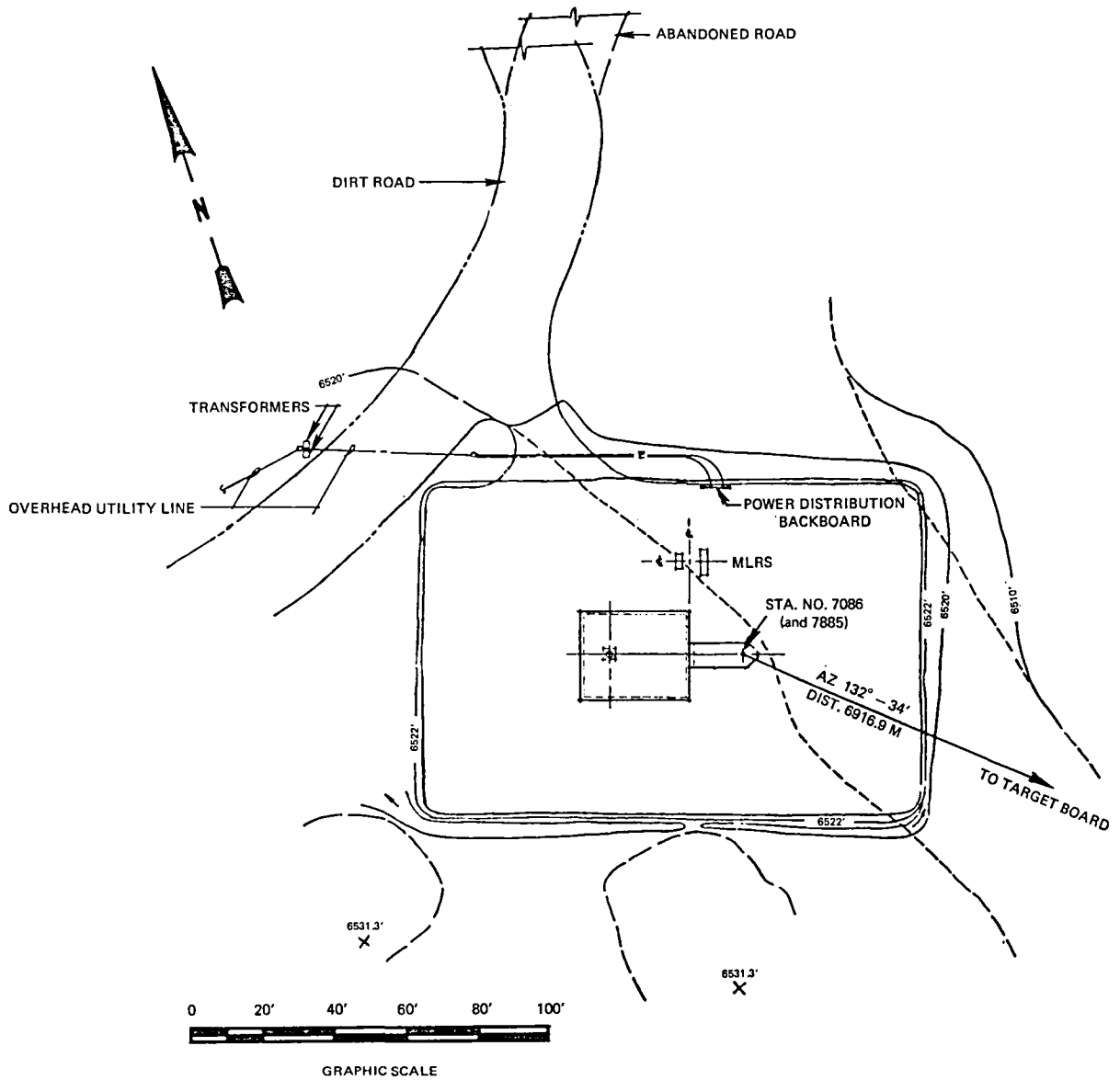


Figure 4-MCDNLD. MCDONALD Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 33B
 Current Site Name: MCDONALD
 Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7086	MOBLAS-1	70860101	27-AUG-79	31-MAY-80	YES
7086	TLRS-1	70861102	01-JUL-80	08-AUG-80	YES
7086	MLRS	70862403	11-OCT-82	31-DEC-88	YES
7206	2.7 METER	72062601	01-MAY-76	30-JUN-82	YES
7885	TLRS-1	78851101	23-JUL-82	10-OCT-82	YES
7897	TLRS-1	78971101	01-SEP-79	31-DEC-79	YES
7897	TLRS-1	78971102	01-JAN-80	13-FEB-80	YES
7999	TLRS-1	79991101	09-AUG-80	11-AUG-80	NO

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 33B
Current Site Name: MCDONALD
Location: MCDONALD OBSERVATORY, FORT DAVIS, TX

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
MLRS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 860

Current Site Name: METSAHOVI
Other Site Name:
Location: METSAHOVI, FINLAND
Geographic Region: EUROPE
Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED IN KYLMAELAE VILLAGE, APPROXIMATELY 30 KILOMETERS WEST-NORTHWEST FROM HELSINKI. A FIXED LASER IS LOCATED AT THE SITE FOR SLR OBSERVATIONS. A FIXED 14-METER ANTENNA USED FOR A VLBI EXPERIMENT IN 1980 IS LOCATED IN THE VICINITY OF THE SITE.

Site Topo Map: BASIC MAP 1:20000, NO. 203209, VITTRAESK, TOPOGRAPHIC MAP 1:100000, NO. 2031+2032, ESPOO. AVAILABLE THROUGH THE MAP SERVICE (SEE COMMENTS FOR COMPLETE ADDRESS).

-- GEOLOGICAL INFORMATION --

Geological Province: PRECAMBRIAN BEDROCK

Local Geology: MICROCLINE GRANITE

Comments: MAP SERVICE OF THE NATIONAL BOARD OF SURVEY, OPASTINSILTA 12, 00520 HELSINKI, FINLAND.

-- MONUMENT INFORMATION --

Site Number: 860
Current Site Name: METSAHOVI
Location: METSAHOVI, FINLAND
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7805
Type of Monument: CROSS POINT OF THE AXIS OF THE LASER
Monument Inscription: NONE
Systems Using Monument: FIXED LASER

Latitude: N 60 13' 03.442''
Longitude: E 24 23' 43.599''
Elevation: 59.230 meters
Survey Source/Date: FINNISH GEODETIC INSTITUTE/01-JAN-81
Datum/Ellipsoid: E.D. 50

Comments: THE LASER TELESCOPE STANDS ON A CONCRETE PILLAR BUILT ON
BEDROCK.

Differential Coordinates FROM Observing Monument 7805 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 860
Current Site Name: METSAHOVI
Location: METSAHOVI, FINLAND

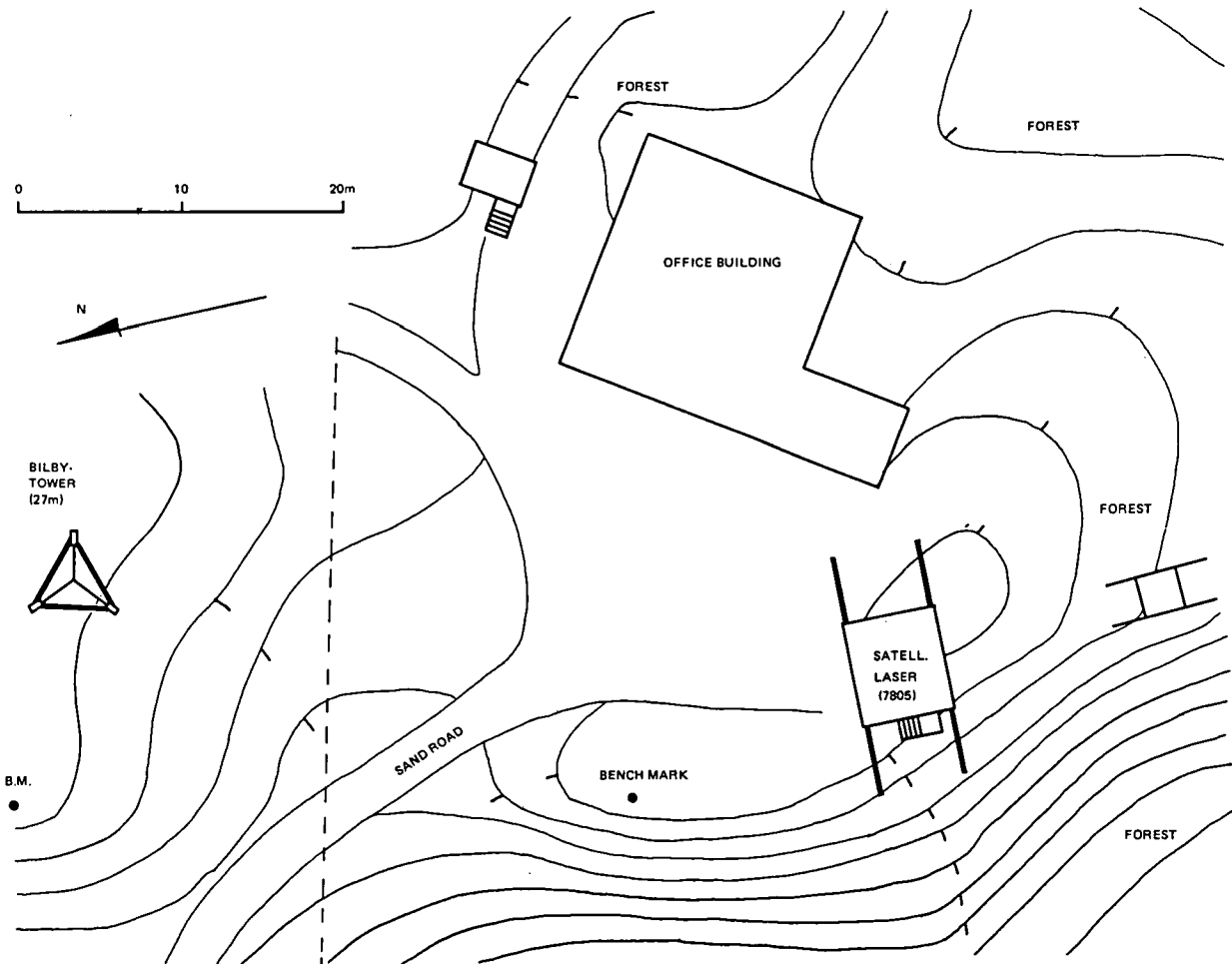


Figure 4-MTSHOV. METSAHOVI Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 860
Current Site Name: METSAHOVI
Location: METSAHOVI, FINLAND

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7805	FINLAS	78053301	01-AUG-78	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 860
Current Site Name: METSAHOVI
Location: METSAHOVI, FINLAND

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
FINLAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 8B

Current Site Name: MOJAVE
Other Site Name: GOLDSTONE
Location: BARSTOW, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS AN EXISTING NASA ANTENNA COMPLEX LOCATED ON THE FORT IRWIN MILITARY RESERVATION. THE SITE IS LOCATED IN THE SAME GENERAL VICINITY AS THE GOLDSTONE ANTENNAS (DSS-14 AND DSS-13). THIS SITE IS EQUIPPED WITH ONE ANTENNA WHICH REPLACES THE DSS-14 AND THE DSS-13 ANTENNAS. A NEARBY MONUMENTED PAD IS DOUBLE MONUMENTED FOR TLRS AND MOBILE VLBI OCCUPATIONS.

Site Topo Map: GOLDSTONE LAKE, CALIFORNIA. N3515-W11645/15, 1948, CORPS OF ENGINEERS, U.S. ARMY. AVAILABLE THROUGH U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT REGION

Local Geology: QUATERNARY ALLUVIUM LOCALLY. EAST OF SAN ANDREAS FAULT ON NORTH AMERICAN PLATE. THE RIDGES THAT SURROUND THE SITE ARE BASALTIC.

Comments: THIS STATION IS THE PRINCIPAL VLBI OBSERVING ANTENNA OF THE NASA GOLDSTONE COMPLEX.

-- MONUMENT INFORMATION --

Site Number: 8B
 Current Site Name: MOJAVE
 Location: BARSTOW, CA
 Number of Observing Monuments: 3
 Surveyed into National Network? YES

Monument Number: 7222
 Type of Monument: REFERENCE POINT ON ANTENNA
 Monument Inscription: NONE
 Systems Using Monument: FIXED 12-METER VLBI ANTENNA

Latitude: N 35 19' 53.98601''
 Longitude: W 116 53' 12.44340''
 Elevation: 921.979 meters
 Survey Source/Date: NGS/15-APR-82
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7222 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MOJAVE A 1981	22.066	-17.216	-18.641
--	MOJAVE B 1981	-14.779	13.612	-4.741
--	MOJAVE C 1981	27.734	12.066	21.530
--	MOJAVE NCMN NO.1 1983	-253.471	142.251	-8.373
--	MOJAVE NCMN NO.2 1983	-322.683	81.297	-126.613
--	MOJAVE NCMN NO.3 1983	-393.108	184.326	-43.221
7265	MOJAVE NCMN 1983	-304.744	137.573	-45.888
7287	MOJAVE TLRs 1984			

-- MONUMENT INFORMATION --

(Continued)

Site Number: 8B
 Current Site Name: MOJAVE
 Location: BARSTOW, CA

Monument Number: 7265
 Type of Monument: NGS STATION DISK
 Monument Inscription: MOJAVE NCMN 1983
 Systems Using Monument: TLRs-1 AND MOBILE VLBI

Latitude: N 35 19' 52.48767''
 Longitude: W 116 53' 25.66684''
 Elevation: 907.780 meters
 Survey Source/Date: NGS/01-DEC-83
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS SET BELOW THE SURFACE OF THE PAD. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7265 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MOJAVE A 1981	368.810	-154.789	27.247
--	MOJAVE B 1981	289.965	-123.961	41.147
--	MOJAVE C 1981	332.478	-125.507	67.418
--	MOJAVE NCMN AZ. MK.	-142.655	-461.133	-657.594
--	MOJAVE NCMN NO.1 1983	51.273	4.678	37.516
--	MOJAVE NCMN NO.2 1983	-17.939	-56.276	-80.725
--	MOJAVE NCMN NO.3 1983	-88.365	46.753	2.667
7222	-----	304.744	-137.573	45.888
7287	MOJAVE TLRs 1984			

-- MONUMENT INFORMATION --

(Continued)

Site Number: 8B
Current Site Name: MOJAVE
Location: BARSTOW, CA

Monument Number: 7287
Type of Monument: STANDARD NASA DISK
Monument Inscription: MOJAVE TLRS 1984
Systems Using Monument: TLRS

Latitude:
Longitude:
Elevation:
Survey Source/Date:
Datum/Ellipsoid:

Comments: THIS NEW MONUMENT WAS CONSTRUCTED FOR OCCUPATION BY TLRS.

Differential Coordinates FROM Observing Monument 7287 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MOJAVE A 1981			
--	MOJAVE B 1981			
--	MOJAVE C 1981			
--	MOJAVE NCMN NO.1 1983			
--	MOJAVE NCMN NO.2 1983			
--	MOJAVE NCMN NO.3 1983			
7222	-----			
7265	MOJAVE NCMN 1983			

-- SITE SKETCH --

Site Number: 8B
 Current Site Name: MOJAVE
 Location: BARSTOW, CA

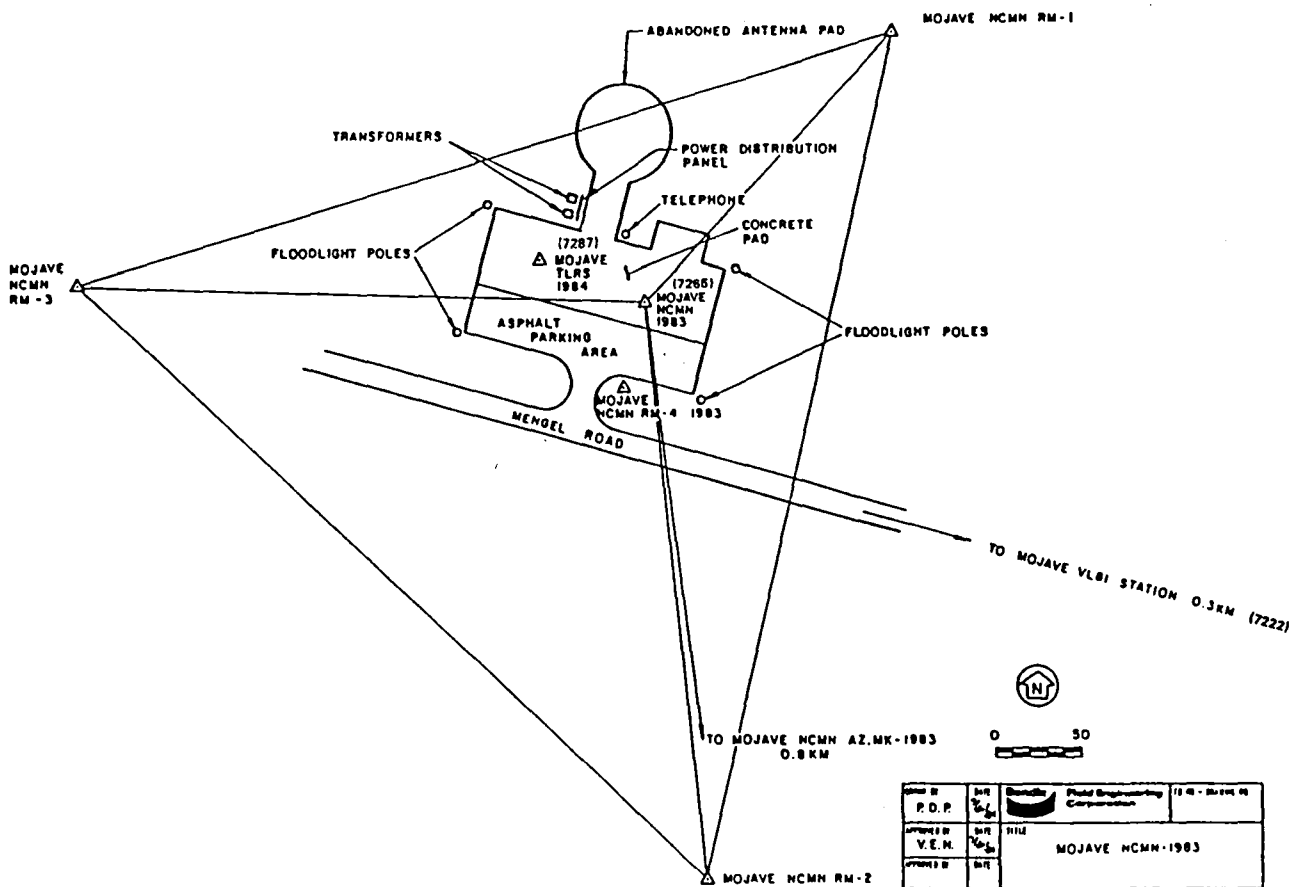


Figure 4-MOJAVE. MOJAVE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 8B
 Current Site Name: MOJAVE
 Location: BARSTOW, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7265	TLRS-1	72651101	18-JAN-84	06-MAR-84	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7222	12-METER	72227101	28-AUG-83	28-AUG-83	YES
7222	12-METER	72227101	31-AUG-83	31-AUG-83	YES
7222	12-METER	72227101	27-SEP-83	27-SEP-83	YES
7222	12-METER	72227101	12-OCT-83	12-OCT-83	YES
7222	12-METER	72227101	27-OCT-83	27-OCT-83	YES
7222	12-METER	72227101	31-OCT-83	31-OCT-83	YES
7222	12-METER	72227101	03-NOV-83	03-NOV-83	YES
7222	12-METER	72227101	05-NOV-83	05-NOV-83	YES
7222	12-METER	72227101	08-NOV-83	08-NOV-83	YES
7222	12-METER	72227101	10-NOV-83	10-NOV-83	YES
7222	12-METER	72227101	12-NOV-83	12-NOV-83	YES
7222	12-METER	72227101	21-NOV-83	21-NOV-83	YES
7222	12-METER	72227101	01-DEC-83	01-DEC-83	YES
7222	12-METER	72227101	04-JAN-84	05-JAN-84	NO
7222	12-METER	72227101	07-JAN-84	08-JAN-84	NO
7222	12-METER	72227101	14-JAN-84	15-JAN-84	NO
7222	12-METER	72227101	23-JAN-84	23-JAN-84	NO
7222	12-METER	72227101	08-FEB-84	09-FEB-84	NO
7222	12-METER	72227101	20-FEB-84	20-FEB-84	NO
7222	12-METER	72227101	21-FEB-84	21-FEB-84	NO
7222	12-METER	72227101	23-FEB-84	23-FEB-84	NO
7222	12-METER	72227101	24-FEB-84	25-FEB-84	NO
7222	12-METER	72227101	26-FEB-84	27-FEB-84	NO
7222	12-METER	72227101	29-FEB-84	01-MAR-84	NO
7222	12-METER	72227101	03-MAR-84	04-MAR-84	NO
7222	12-METER	72227101	09-APR-84	10-APR-84	NO
7222	12-METER	72227101	12-APR-84	12-APR-84	NO
7222	12-METER	72227101	17-APR-84	17-APR-84	NO
7222	12-METER	72227101	21-APR-84	22-APR-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 8B
Current Site Name: MOJAVE
Location: BARSTOW, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupyi System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7222	12-METER	72227101	25-APR-84	25-APR-84	NO
7222	12-METER	72227101	26-APR-84	27-APR-84	NO
7222	12-METER	72227101	17-JUL-84	18-JUL-84	NO
7222	12-METER	72227101	28-JUL-84	29-JUL-84	NO
7222	12-METER	72227101	04-AUG-84	05-AUG-84	NO
7222	12-METER	72227101	30-AUG-84	31-AUG-84	NO
7222	12-METER	72227101	02-SEP-84	03-SEP-84	NO
7222	12-METER	72227101	22-OCT-84	23-OCT-84	NO
7222	12-METER	72227101	25-OCT-84	26-OCT-84	NO
7222	12-METER	72227101	28-OCT-84	29-OCT-84	NO
7222	12-METER	72227101	31-OCT-84	01-NOV-84	NO
7222	12-METER	72227101	09-JAN-85	10-JAN-85	NO
7222	12-METER	72227101	12-JAN-85	13-JAN-85	NO
7222	12-METER	72227101	15-JAN-85	16-JAN-85	NO
7222	12-METER	72227101	18-JAN-85	19-JAN-85	NO
7222	12-METER	72227101	01-MAR-85	02-MAR-85	NO
7222	12-METER	72227101	04-MAR-85	05-MAR-85	NO
7222	12-METER	72227101	07-MAR-85	08-MAR-85	NO
7222	12-METER	72227101	10-MAR-85	11-MAR-85	NO
7222	12-METER	72227101	13-MAR-85	14-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 8B
Current Site Name: MOJAVE
Location: BARSTOW, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
TLRS-3	AUG-85
TLRS-3	FEB-86

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
12-METER	Continuing

-- SITE INFORMATION --

Site Number: 701

Current Site Name: MONUMENT PEAK
Other Site Name:
Location: MOUNT LAGUNA, CA
Geographic Region: CALIFORNIA
Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE STATION IS LOCATED ON MONUMENT PEAK IN THE CLEVELAND NATIONAL PARK NEAR PINE VALLEY, CALIFORNIA ONE MILE NORTHWEST OF THE DEACTIVATED MOUNT LAGUNA AIR FORCE RADAR STATION. THE SITE WAS BUILT TO REPLACE THE OTAY MOUNTAIN SITE. THIS SITE IS EQUIPPED WITH A MONUMENTED PAD PERMANENTLY OCCUPIED BY MOBILAS-4 AND A MONUMENT SUITABLE FOR MV-2 OR -3 OCCUPATION. A JPL DISK IS ALSO WITHIN THE SITE FACILITY.

Site Topo Map: MONUMENT PEAK, CALIFORNIA. N3252.5-W11622.5/7.5, 1959, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: PENINSULA RANGES; WEST OF THE SAN ANDREAS FAULT.

Local Geology: PRE-CENOZOIC (GRANITIC AND METAMORPHIC ROCK). THE STATION IS LOCATED ALONG THE EASTERN EDGE OF THE PENINSULA MOUNTAIN RANGE. THE PENINSULA RANGE RUNS PARALLEL TO THE PACIFIC COAST AND CONTINUES SOUTH INTO MEXICO.

Comments: MONUMENT PEAK IS A CONTINUOUSLY OCCUPIED MOBILAS SITE.

-- MONUMENT INFORMATION --

Site Number: 701
 Current Site Name: MONUMENT PEAK
 Location: MOUNT LAGUNA, CA
 Number of Observing Monuments: 3
 Surveyed into National Network? YES

Monument Number: 7110
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: ORT STATION 7110 1981
 Systems Using Monument: MOBLAS-4

Latitude: N 32 53' 30.02645''
 Longitude: W 116 25' 18.50572''
 Elevation: 1845.575 meters
 Survey Source/Date: NGS/01-FEB-84
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS THE PERMANENT LOCATION OF MOBLAS-4. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7110 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MONUMENT PEAK NCMN NO.1 1983	-0.126	15.793	20.480
7220	ARIES/ORION STA 7220 1981	-14.269	6.872	-0.596
7274	MONUMENT PEAK NCMN 1983	-11.377	7.795	2.522

-- MONUMENT INFORMATION --

(Continued)

Site Number: 701
Current Site Name: MONUMENT PEAK
Location: MOUNT LAGUNA, CA

Monument Number: 7220
Type of Monument: 10'' X 10'' STEEL PLATE
Monument Inscription: ARIES ORION STA 7220 1981
Systems Using Monument: MOBILE VLBI

Latitude: N 32 53' 30.00674''
Longitude: W 116 25' 19.11484''
Elevation: 1845.416 meters
Survey Source/Date: NGS/01-FEB-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE PLATE HAS TWO PUNCH MARKS, ONE OF WHICH WAS OCCUPIED BY THE MOBILE VLBI SYSTEMS. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7220 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	MONUMENT PEAK NCMN NO.1 1983	14.173	8.921	21.004
7110	ORT STATION 7110 1981	14.269	-6.872	0.596
7274	MONUMENT PEAK NCMN 1983	2.922	0.924	3.118

-- MONUMENT INFORMATION --

(Continued)

Site Number: 701
Current Site Name: MONUMENT PEAK
Location: MOUNT LAGUNA, CA

Monument Number: 7274
Type of Monument: STANDARD NGS DISK
Monument Inscription: MONUMENT PEAK NCMN 1983
Systems Using Monument: MOBILE VLBI

Latitude: N 32 53' 30.12899''
Longitude: W 116 25' 19.03104''
Elevation: 1845.334 meters
Survey Source/Date: BFEC 12/83-NGS/03-FEB-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7274 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z
--	MONUMENT PEAK NCMN NO.1 1983	11.251	7.997	17.885
7110	ORT STATION 7110 1981	11.377	-7.795	-2.522
7220	ARIES ORION STA 7220 1981	-2.892	-0.924	-3.119

-- SITE SKETCH --

Site Number: 701
 Current Site Name: MONUMENT PEAK
 Location: MOUNT LAGUNA, CA

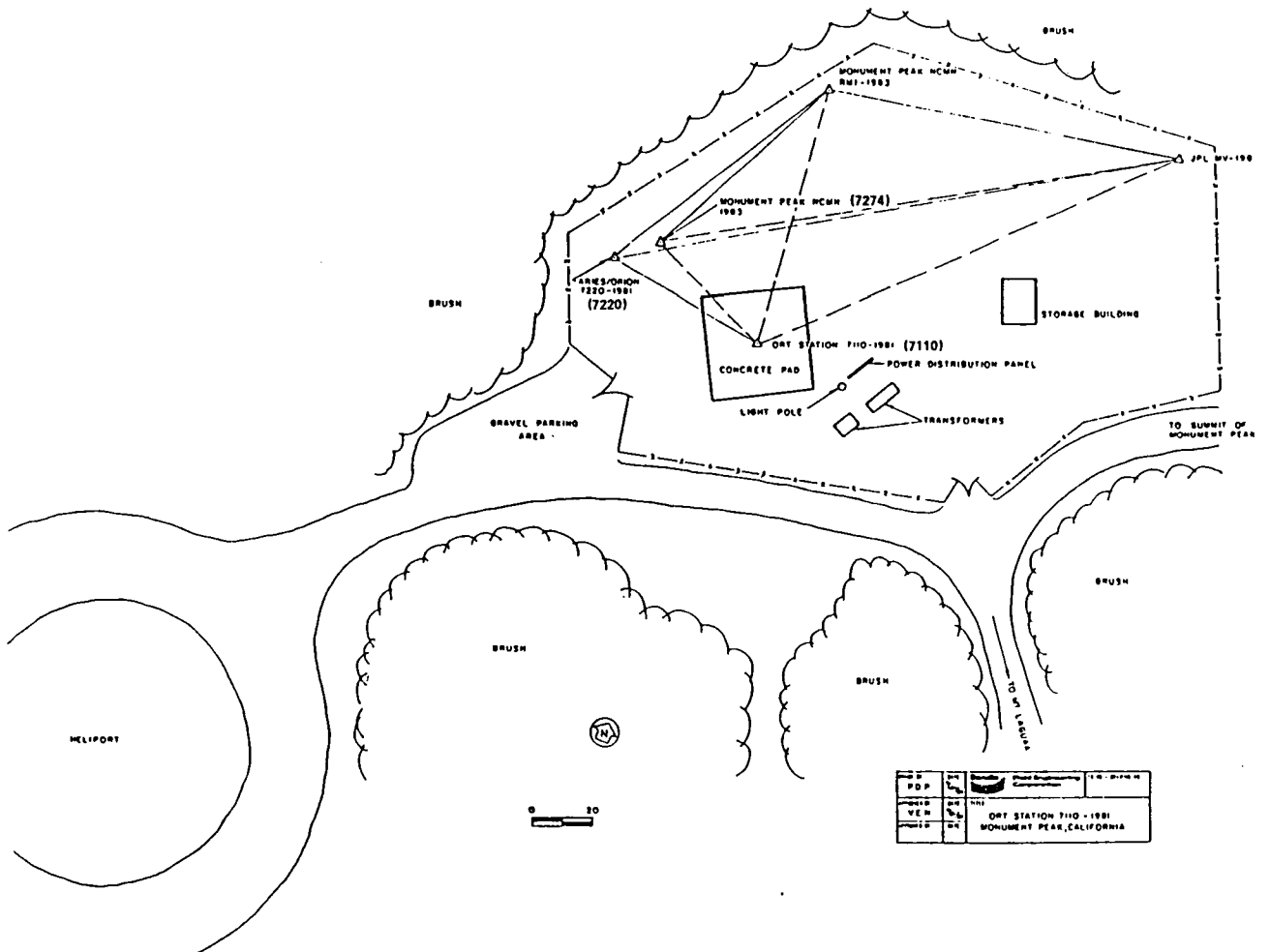


Figure 4-MON PK. MONUMENT PEAK Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 701
 Current Site Name: MONUMENT PEAK
 Location: MOUNT LAGUNA, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7110	MOBLAS-3	71100301	15-JUL-81	30-JUN-83	YES
7110	MOBLAS-4	71100402	15-AUG-83	31-DEC-88	YES
7220	TLRS-1	72201101	30-AUG-83	02-NOV-83	YES
7220	TLRS-1	72201102	19-DEC-84	28-FEB-85	NO

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7220	MV-2	72205201	14-MAY-81	14-MAY-81	YES
7220	MV-2/3	72205202	15-OCT-82	17-OCT-82	YES
7220	MV-2/3	72205202	18-OCT-82	18-OCT-82	YES
7220	MV-3	72205303	27-JUN-83	28-JUN-83	YES
7220	MV-3	72205304	05-NOV-83	07-NOV-83	YES
7220	MV-3	72205304	08-NOV-83	08-NOV-83	YES
7274	MV-3	72745301	12-APR-84	13-APR-84	NO
7274	MV-2	72745202	12-JAN-85	13-JAN-85	NO
7274	MV-2	72745203	01-MAR-85	02-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 701
Current Site Name: MONUMENT PEAK
Location: MOUNT LAGUNA, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
MOBLAS-4	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
MV	MAY-85

-- SITE INFORMATION --

Site Number: 801

Current Site Name: NOME

Other Site Name:

Location: NOME, AK

Geographic Region: ALASKA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 201

Current Site Name: OCOTILLO
Other Site Name: SIGNAL MOUNTAIN
Location: OCOTILLO, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED ABOUT 12 MILES EAST-NORTHEAST OF OCOTILLO, CALIFORNIA ALONG THE SOUTH SIDE OF THE IMPERIAL COUNTY HIGHWAY S-80 (OLD U.S. HIGHWAY 80) IN THE CENTER OF AN ABANDONED ROAD BETWEEN THE HIGHWAY AND RAILROAD TRACKS. THE MONUMENTED PAD IS COMPATIBLE FOR OCCUPATION BY MOBILE VLBI SYSTEMS FOR VLBI MEASUREMENTS.

Site Topo Map: PLASTER CITY, CALIFORNIA. N3245-W11545/7.5, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: IMPERIAL VALLEY

Local Geology: QUATERNARY ALLUVIUM

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 201
Current Site Name: OCOTILLO
Location: OCOTILLO, CA
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7270
Type of Monument: NGS STATION DISK
Monument Inscription: OCOTILLO NCMN 1982
Systems Using Monument: MOBILE VLBI

Latitude: N 32 47' 24.3''
Longitude: W 115 47' 42.5''
Elevation: -7.0 meters
Survey Source/Date: MAP COORDINATES/18-MAY-80
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7270 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 201
Current Site Name: OCOTILLO
Location: OCOTILLO, CA

-- Site Sketch Not Available --

Figure 4-OCTILO. OCOTILLO Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 201
Current Site Name: OCOTILLO
Location: OCOTILLO, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-----	-----	-----	-----	-----	-----
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-----	-----	-----	-----	-----	-----
7270	MV-3	72705301	10-NOV-83	13-NOV-83	YES
7270	MV-2	72705202	03-MAR-84	04-MAR-84	YES
7270	MV-2	72705203	15-JAN-85	16-JAN-85	NO
7270	MV-3	72705304	04-MAR-85	05-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 201
Current Site Name: OCOTILLO
Location: OCOTILLO, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 120

Current Site Name: ONSALA
Other Site Name:
Location: ONSALA, SWEDEN
Geographic Region: EUROPE
Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE STATION IS LOCATED AT THE ONSALA SPACE OBSERVATORY IN ONSALA, SWEDEN. AT TYPICAL VLBI SITES, BOTH X AND S BANDS ARE RECEIVED BY THE SAME ANTENNA. HOWEVER, AT ONSALA, ONE ANTENNA IS USED FOR EACH FREQUENCY: THE 85-FOOT ANTENNA RECEIVES S-BAND FREQUENCIES, THE 60 FOOT ANTENNA RECEIVES X-BAND FREQUENCIES. ALL OF THE RESULTS ARE THEN TRANSFERRED TO THE POSITION OF THE 60 FOOT ANTENNA.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: UNKNOWN

Local Geology: UNKNOWN

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 120
 Current Site Name: ONSALA
 Location: ONSALA, SWEDEN
 Number of Observing Monuments: 2
 Surveyed into National Network? NO

Monument Number: 7212
 Type of Monument: INTERSECTION OF AXES OF THE ANTENNA
 Monument Inscription: NONE
 Systems Using Monument: 85-FOOT VLBI ANTENNA

Latitude: N 57 23' 46.9364''
 Longitude: E 11 55' 08.4692''
 Elevation: 24.380 meters
 Survey Source/Date: ELIASSON/01-JAN-80
 Datum/Ellipsoid: E.D. 50

Comments: THIS ANTENNA RECEIVES ONLY S-BAND FREQUENCIES. ALL DATA IS TRANSFERRED TO THE 60-FOOT ANTENNA REFERENCE POINT.

Differential Coordinates FROM Observing Monument 7212 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	1975 DOPPLER REFERENCE POINT (1001)	-60.506	65.157	11.443
--	1975 DOPPLER REFERENCE POINT (1001)	-60.506	65.157	11.443
--	SWEDISH NATIONAL LAND SURVEY TRIANG	-202.197	5.746	138.871

-- MONUMENT INFORMATION --

(Continued)

Site Number: 120
Current Site Name: ONSALA
Location: ONSALA, SWEDEN

Monument Number: 7213
Type of Monument: INTERSECTION OF AXES OF THE ANTENNA
Monument Inscription: NONE
Systems Using Monument: 60-FOOT VLBI ANTENNA

Latitude: N 57 23' 46.9364''
Longitude: E 11 55' 39.3709''
Elevation: 25.260 meters
Survey Source/Date: ELIASSON/01-JAN-80
Datum/Ellipsoid: E.D. 50

Comments: THIS ANTENNA RECEIVES X-BAND FREQUENCIES ONLY. ALL BASELINE RESULTS REFER TO THIS ANTENNA.

Differential Coordinates FROM Observing Monument 7213 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	1975 DOPPLER REFERENCE POINT (1001)	299.601	-386.330	-155.309
--	SWEDISH NATIONAL LAND SURVEY TRIANG	157.909	-445.741	-27.881
7212	----	360.106	-451.487	-166.752

-- SITE SKETCH --

Site Number: 120
Current Site Name: ONSALA
Location: ONSALA, SWEDEN

-- Site Sketch Not Available --

Figure 4-ONSALA. ONSALA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 120
 Current Site Name: ONSALA
 Location: ONSALA, SWEDEN

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7213	ONSALA60	72137701	24-SEP-77	24-SEP-77	YES
7213	ONSALA60	72137701	24-FEB-78	24-FEB-78	YES
7213	ONSALA60	72137701	17-MAY-78	17-MAY-78	YES
7213	ONSALA60	72137701	26-JUL-80	26-JUL-80	YES
7213	ONSALA60	72137701	27-JUL-80	27-JUL-80	YES
7213	ONSALA60	72137701	26-SEP-80	26-SEP-80	YES
7213	ONSALA60	72137701	27-SEP-80	27-SEP-80	YES
7213	ONSALA60	72137701	28-SEP-80	28-SEP-80	YES
7213	ONSALA60	72137701	29-SEP-80	29-SEP-80	YES
7213	ONSALA60	72137701	30-SEP-80	30-SEP-80	YES
7213	ONSALA60	72137701	01-OCT-80	01-OCT-80	YES
7213	ONSALA60	72137701	02-OCT-80	02-OCT-80	YES
7213	ONSALA60	72137701	16-OCT-80	16-OCT-80	YES
7213	ONSALA60	72137701	17-OCT-80	17-OCT-80	YES
7213	ONSALA60	72137701	18-OCT-80	18-OCT-80	YES
7213	ONSALA60	72137701	19-OCT-80	19-OCT-80	YES
7213	ONSALA60	72137701	20-OCT-80	20-OCT-80	YES
7213	ONSALA60	72137701	21-OCT-80	21-OCT-80	YES
7213	ONSALA60	72137701	22-OCT-80	22-OCT-80	YES
7213	ONSALA60	72137701	01-DEC-80	01-DEC-80	YES
7213	ONSALA60	72137701	19-DEC-80	19-DEC-80	YES
7213	ONSALA60	72137701	22-JAN-81	22-JAN-81	YES
7213	ONSALA60	72137701	27-FEB-81	27-FEB-81	YES
7213	ONSALA60	72137701	21-OCT-81	21-OCT-81	YES
7213	ONSALA60	72137701	18-NOV-81	18-NOV-81	YES
7213	ONSALA60	72137701	19-NOV-81	19-NOV-81	YES
7213	ONSALA60	72137701	16-JUN-82	16-JUN-82	YES
7213	ONSALA60	72137701	17-JUN-82	17-JUN-82	YES
7213	ONSALA60	72137701	18-JUN-82	18-JUN-82	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 120
 Current Site Name: ONSALA
 Location: ONSALA, SWEDEN

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7213	ONSALA60	72137701	19-JUN-82	19-JUN-82	YES
7213	ONSALA60	72137701	20-JUN-82	20-JUN-82	YES
7213	ONSALA60	72137701	21-JUN-82	21-JUN-82	YES
7213	ONSALA60	72137701	20-SEP-82	20-SEP-82	YES
7213	ONSALA60	72137701	18-OCT-82	18-OCT-82	YES
7213	ONSALA60	72137701	15-NOV-82	15-NOV-82	YES
7213	ONSALA60	72137701	15-DEC-82	15-DEC-82	YES
7213	ONSALA60	72137701	16-DEC-82	16-DEC-82	YES
7213	ONSALA60	72137701	07-FEB-83	07-FEB-83	YES
7213	ONSALA60	72137701	28-FEB-83	28-FEB-83	YES
7213	ONSALA60	72137701	14-MAR-83	14-MAR-83	YES
7213	ONSALA60	72137701	18-APR-83	18-APR-83	YES
7213	ONSALA60	72137701	05-MAY-83	05-MAY-83	YES
7213	ONSALA60	72137701	16-MAY-83	16-MAY-83	YES
7213	ONSALA60	72137701	13-JUN-83	13-JUN-83	YES
7213	ONSALA60	72137701	29-AUG-83	29-AUG-83	YES
7213	ONSALA60	72137701	30-AUG-83	30-AUG-83	YES
7213	ONSALA60	72137701	22-SEP-83	22-SEP-83	YES
7213	ONSALA60	72137701	23-SEP-83	23-SEP-83	YES
7213	ONSALA60	72137701	27-OCT-83	27-OCT-83	YES
7213	ONSALA60	72137701	28-OCT-83	28-OCT-83	YES
7213	ONSALA60	72137701	16-NOV-83	16-NOV-83	YES
7213	ONSALA60	72137701	17-NOV-83	17-NOV-83	YES
7213	ONSALA60	72137701	21-DEC-83	21-DEC-83	YES
7213	ONSALA60	72137701	22-DEC-83	22-DEC-83	YES
7213	ONSALA60	72137701	24-JAN-84	24-JAN-84	NO
7213	ONSALA60	72137701	25-JAN-84	26-JAN-84	NO
7213	ONSALA60	72137701	24-FEB-84	25-FEB-84	NO
7213	ONSALA60	72137701	14-MAR-84	14-MAR-84	NO
7213	ONSALA60	72137701	15-MAR-84	16-MAR-84	NO
7213	ONSALA60	72137701	18-APR-84	18-APR-84	NO
7213	ONSALA60	72137701	19-APR-84	20-APR-84	NO
7213	ONSALA60	72137701	18-MAY-84	18-MAY-84	NO
7213	ONSALA60	72137701	19-MAY-84	20-MAY-84	NO
7213	ONSALA60	72137701	30-AUG-84	31-AUG-84	NO
7213	ONSALA60	72137701	02-SEP-84	03-SEP-84	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 120
Current Site Name: ONSALA
Location: ONSALA, SWEDEN

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
ONSALA60	Continuing

-- SITE INFORMATION --

Site Number: 134

Current Site Name: ORRORAL

Other Site Name:

Location: ORRORAL VALLEY, AUSTRALIA

Geographic Region: AUSTRALIA

Tectonic Plate: AUSTRALIAN-INDIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE STATION IS LOCATED IN THE ORRORAL VALLEY, 40 MILES SOUTHWEST OF THE CITY OF CANBERRA. A FIXED LASER IS USED FOR SLR AND LLR MEASUREMENTS.

Site Topo Map: 1:100,000 SERIES 'ACT SPECIAL' DIVISION OF NATIONAL MAPPING, AUSTRALIA

-- GEOLOGICAL INFORMATION --

Geological Province: TASMAN GEOSYNCLINAL ZONE

Local Geology: LATE SILURIAN SHANNON'S FLAT ADAMELLITE (MARRUMBRIDGE BATHOLITH)

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 134
Current Site Name: ORRORAL
Location: ORRORAL VALLEY, AUSTRALIA
Number of Observing Monuments: 2
Surveyed into National Network? YES

Monument Number: 7843
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: NATMAP LASER RANGING SYSTEM

Latitude: S 35 38' 16.179''
Longitude: E 148 56' 17.159''
Elevation: 1331.110 meters
Survey Source/Date: DIVISION OF NATIONAL MAPPING/01-AUG-77
Datum/Ellipsoid: AUSTRALIAN GEODETIC

Comments: THIS SYSTEM IS ALSO REFERENCED AS NATMAP.

Differential Coordinates FROM Observing Monument 7843 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 134
Current Site Name: ORRORAL
Location: ORRORAL VALLEY, AUSTRALIA

Monument Number: 7943
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: ORRLAS FIXED LASER (SAO)

Latitude: S 35 37' 35.3444''
Longitude: E 148 57' 12.9371''
Elevation: 929.530 meters
Survey Source/Date: DIVISION OF NATIONAL MAPPING/01-MAR-77
Datum/Ellipsoid: AUSTRALIAN GEODETIC

Comments: OPERATIONS OF THIS SITE HAVE BEEN DISCONTINUED AS OF MARCH 1982.

Differential Coordinates FROM Observing Monument 7943 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 134
Current Site Name: ORRORAL
Location: ORRORAL VALLEY, AUSTRALIA

-- Site Sketch Not Available --

Figure 4-ORORAL. ORRORAL Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 134
Current Site Name: ORRORAL
Location: ORRORAL VALLEY, AUSTRALIA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7843	NLRS	78432501	01-AUG-84	31-DEC-88	YES
7943	ORRLAS	79434401	15-JUN-76	10-MAR-82	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 134
Current Site Name: ORRORAL
Location: ORRORAL VALLEY, AUSTRALIA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
NATMAP	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 1

Current Site Name: OTAY MOUNTAIN

Other Site Name:

Location: OTAY MOUNTAIN, SAN DIEGO, CA

Geographic Region: CALIFORNIA

Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND MOTION ACROSS THE SAN ANDREAS FAULT.

Site Description: THE SITE IS LOCATED AT DOGHOUSE JUNCTION IN THE SAN YSIDRO MOUNTAINS, FIVE MILES FROM THE MEXICAN BORDER. IN MID 1979, MOBLAS OPERATIONS FROM THE STATION WERE DISCONTINUED BECAUSE OF POOR ROAD CONDITIONS. A MOBLAS STATION WAS CONSTRUCTED AT MONUMENT PEAK TO ALLOW CONTINUATION OF LASER MEASUREMENTS IN THE REGION. OTAY MOUNTAIN IS STILL OCCUPIED PERIODICALLY BY TLRS, WHICH OPERATES OUT OF THE ASTRONOMIC DOME ON SITE.

Site Topo Map: OTAY MOUNTAIN, CALIFORNIA. N3236-W11645/7.5, 1972, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: PENINSULA RANGES

Local Geology: JURASSIC-TRIASSIC METAVOLCANIC ROCK. THE STATION IS LOCATED ON THE PACIFIC TECTONIC PLATE WEST OF THE SAN ANDREAS FAULT.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 1
 Current Site Name: OTAY MOUNTAIN
 Location: OTAY MOUNTAIN, SAN DIEGO, CA
 Number of Observing Monuments: 2
 Surveyed into National Network? YES

Monument Number: 7062
 Type of Monument: CIRCULAR 5'' STEEL PLATE
 Monument Inscription: "X"
 Systems Using Monument: TLRs-2

Latitude: N 32 36' 02.43302''
 Longitude: W 116 50' 23.96612''
 Elevation: 1022.300 meters
 Survey Source/Date: NASA SURVEY, NGS HAVAGO ADJUSTMENT/01-FEB-84
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE STATION NAME IS "SANDIE 1976". AN ASTRONOMIC DOME WAS
 CONSTRUCTED OVER THE PLATE LIMITING OCCUPATIONS TO TLRs-2.

Differential Coordinates FROM Observing Monument 7062 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z
--	SANDIE 1976 NO. 2 1978	16.549	-6.398	2.192
7276	ARIES 7/79	0.094	2.962	4.939

-- MONUMENT INFORMATION --

(Continued)

Site Number: 1
Current Site Name: OTAY MOUNTAIN
Location: OTAY MOUNTAIN, SAN DIEGO, CA

Monument Number: 7276
Type of Monument: USC & GS REFERENCE MARK
Monument Inscription: ARIES 7/79
Systems Using Monument: MV-1

Latitude: N 32 36' 02.31756''
Longitude: W 116 50' 23.94020''
Elevation: 997.199 meters
Survey Source/Date: NGS HAVAGO ADJUSTMENT-BFEC/01-FEB-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

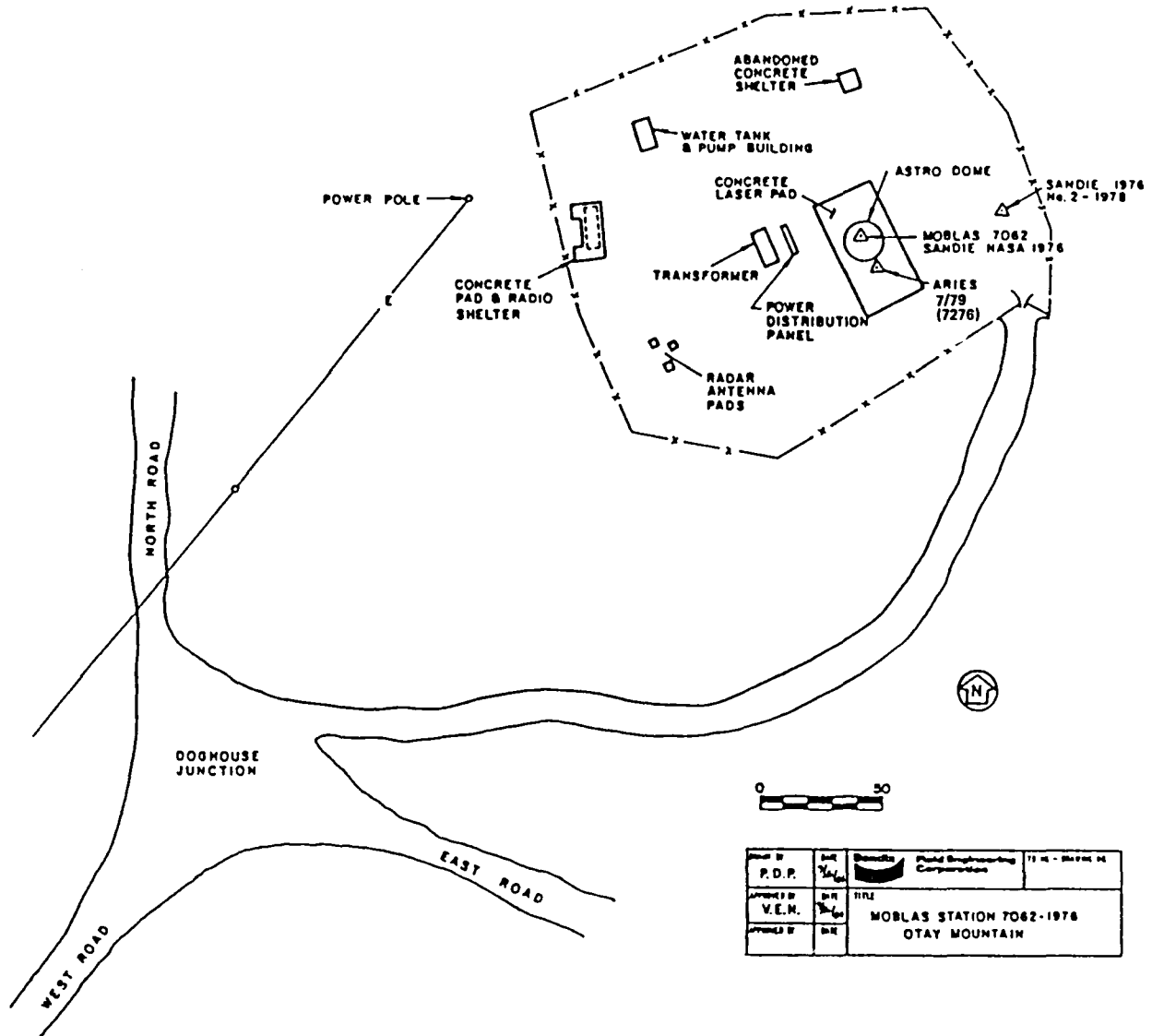
Comments: THE ELEVATION IS THE ELLIPSOID HEIGHT. A ROUND AIR HOLE IN THE DISK WAS THE POINT OF OCCUPATION.

Differential Coordinates FROM Observing Monument 7276 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	SANDIE 1976 NO.2 1978	15.601	-9.361	-2.747
7062	"X"	-0.094	-2.962	-4.939

-- SITE SKETCH --

Site Number: 1
 Current Site Name: OTAY MOUNTAIN
 Location: OTAY MOUNTAIN, SAN DIEGO, CA



Drawn by P.D.P.	Scale 1" = 50'	Prepared by V.E.M.	Checked by S.M.	MOBLAS STATION 7062-1976 OTAY MOUNTAIN
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Figure 4-OTAY. OTAY MOUNTAIN Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 1
Current Site Name: OTAY MOUNTAIN
Location: OTAY MOUNTAIN, SAN DIEGO, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7062	MOBLAS-2	70620201	28-AUG-74	14-DEC-74	YES
7062	MOBLAS-3	70620302	14-SEP-76	30-APR-77	YES
7062	MOBLAS-3	70620303	29-JUN-78	30-MAY-79	YES
7062	TLRS-1	70621104	04-OCT-81	08-JAN-82	YES
7062	TLRS-2	70621205	12-SEP-83	04-JAN-84	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7276	MV-1	72765101	11-JUL-79	12-JUL-79	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 1
Current Site Name: OTAY MOUNTAIN
Location: OTAY MOUNTAIN, SAN DIEGO, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 11

Current Site Name: OWENS VALLEY
Other Site Name:
Location: OWENS VALLEY RADIO OBS., BIG PINE, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED AT THE OWENS VALLEY RADIO OBSERVATORY, 4.5 MILES NORTHEAST OF BIG PINE, CALIFORNIA. BIG PINE IS IN THE OWENS RIVER VALLEY AND PARALLELS THE SIERRA NEVADAS ON THE EAST. A FIXED ANTENNA IS USED FOR VLBI MEASUREMENTS. A LASER PAD AT OWENS VALLEY PROVIDES VALIDATION DATA FOR THE VLBI TECHNIQUE. FOLLOWING THE CONSTRUCTION OF A BUILDING OVER THE ORIGINAL PAD, A SECOND STATION WAS ESTABLISHED.

Site Topo Map: BIG PINE, CALIFORNIA. N3700-W11815/15, 1850, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: BASIN AND RANGE

Local Geology: QUATERNARY ALLUVIUM LOCALLY; EAST OF THE SAN ANDREAS FAULT.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 11
Current Site Name: OWENS VALLEY
Location: OWENS VALLEY RADIO OBS., BIG PINE, CA
Number of Observing Monuments: 3
Surveyed into National Network? YES

Monument Number: 7084
Type of Monument: STANDARD NASA DISK
Monument Inscription: GSFC MOBILE LASER NO. 7084
Systems Using Monument: MOBLAS AND TLRs

Latitude: N 37 13' 55.90010''
Longitude: W 118 17' 41.32013''
Elevation: 1185.231 meters
Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-DEC-77
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS IS THE ORIGINAL SITE USED BY MOBLAS DURING THE FIRST OCCUPATION. THE MONUMENT IS NOW COVERED BY A BUILDING.

Differential Coordinates FROM Observing Monument 7084 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 11
Current Site Name: OWENS VALLEY
Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

Monument Number: 7114
Type of Monument: STANDARD NASA DISK
Monument Inscription: MOBLAS 7114 1979
Systems Using Monument: MOBLAS AND TLRS

Latitude: N 37 13' 57.44593''
Longitude: W 118 17' 34.21869''
Elevation: 1184.734 meters
Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-AUG-79
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE SECOND MONUMENT WAS BUILT TO REPLACE MONUMENT 7084. THE
ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7114 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- MONUMENT INFORMATION --

(Continued)

Site Number: 11
 Current Site Name: OWENS VALLEY
 Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

Monument Number: 7207
 Type of Monument: REFERENCED TO CENTER OF HORIZONTAL AXES OF
 OF ANTENNA
 Monument Inscription: NONE
 Systems Using Monument: 40-METER FIXED VLBI ANTENNA

Latitude: N 37 13' 53.48024''
 Longitude: W 118 16' 54.35995''
 Elevation: 1207.939 meters
 Survey Source/Date: NGS/01-MAY-78
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS ANTENNA IS ALSO REFERENCED AS OVRO 130. THE ELEVATION
 IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7207 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	BP ARIES 1 (DOP. 51105)	-43.307	-19.244	-79.119
--	BP ARIES 2	83.719	-22.989	-5.665
--	BP ARIES 3	-42.405	80.991	35.264
--	MOBILE LASER 2	-957.349	616.951	79.118
--	WEST MONOLITH	-194.451	137.152	8.095
7084	GSFC MOBILE LASER NO. 7084	-989.586	604.375	45.667
7114	MOBLAS 7114 1979	-821.560	547.126	83.315

-- SITE SKETCH --

Site Number: 11
Current Site Name: OWENS VALLEY
Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

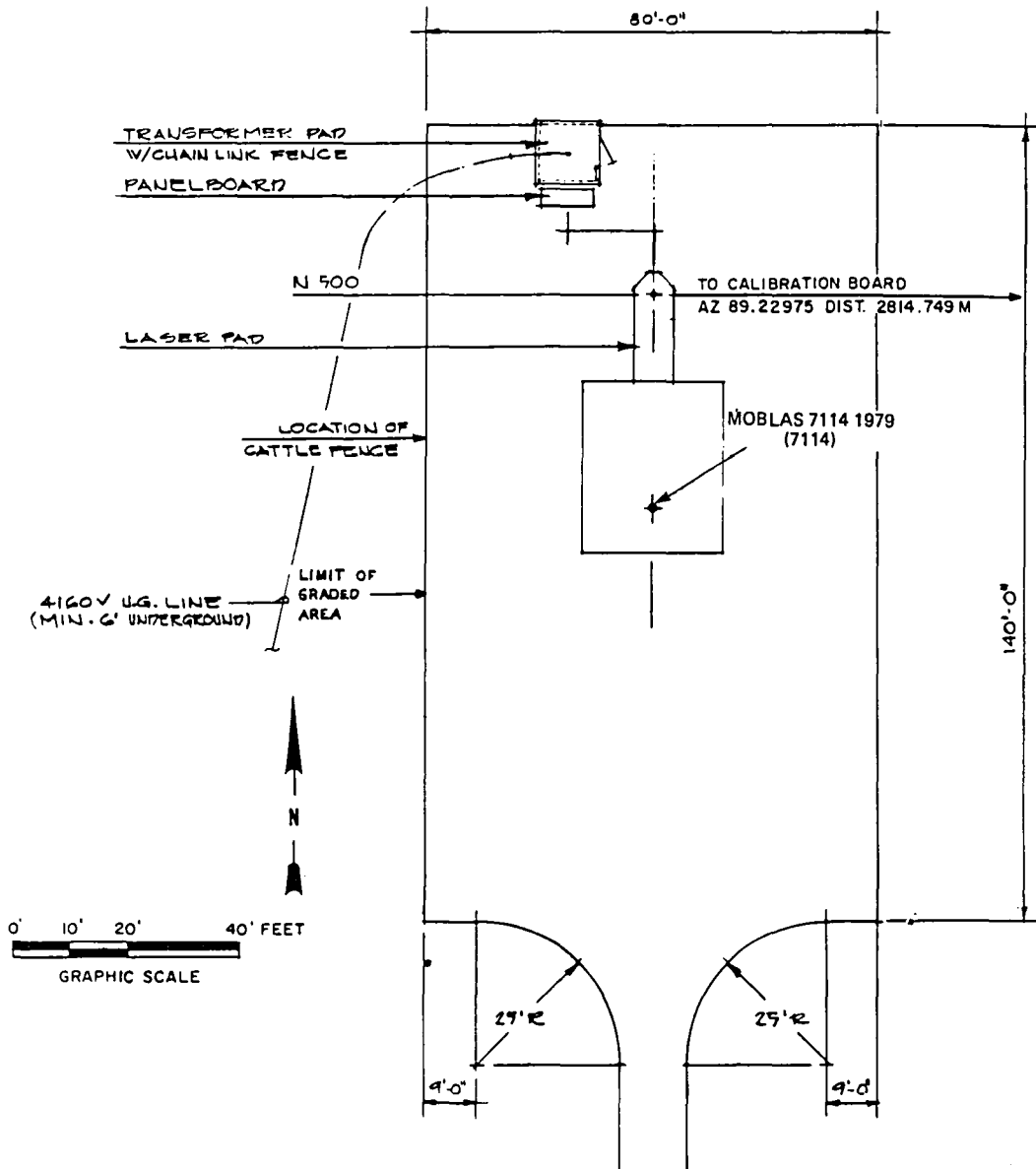


Figure 4-OVRO. OWENS VALLEY Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 11
 Current Site Name: OWENS VALLEY
 Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7084	MOBLAS-2	70840201	12-DEC-77	31-MAR-78	YES
7114	MOBLAS-2	71140201	08-JUN-79	31-JAN-81	YES
7114	TLRS-1	71141102	11-AUG-81	29-SEP-81	YES
7114	TLRS-1	71141103	08-NOV-82	21-JAN-83	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7207	OVRO 130	72077001	09-SEP-76	09-SEP-76	YES
7207	OVRO 130	72077001	29-SEP-76	29-SEP-76	YES
7207	OVRO 130	72077001	04-OCT-76	04-OCT-76	YES
7207	OVRO 130	72077001	09-OCT-76	09-OCT-76	YES
7207	OVRO 130	72077001	11-OCT-76	11-OCT-76	YES
7207	OVRO 130	72077001	14-OCT-76	14-OCT-76	YES
7207	OVRO 130	72077001	13-DEC-76	13-DEC-76	YES
7207	OVRO 130	72077001	15-DEC-76	15-DEC-76	YES
7207	OVRO 130	72077001	27-MAR-77	27-MAR-77	YES
7207	OVRO 130	72077001	26-JUN-77	26-JUN-77	YES
7207	OVRO 130	72077001	24-SEP-77	24-SEP-77	YES
7207	OVRO 130	72077001	13-JAN-78	13-JAN-78	YES
7207	OVRO 130	72077001	24-FEB-78	24-FEB-78	YES
7207	OVRO 130	72077001	17-MAY-78	17-MAY-78	YES
7207	OVRO 130	72077001	03-AUG-79	03-AUG-79	YES
7207	OVRO 130	72077001	25-NOV-79	25-NOV-79	YES
7207	OVRO 130	72077001	07-JAN-80	07-JAN-80	YES
7207	OVRO 130	72077001	11-APR-80	11-APR-80	YES
7207	OVRO 130	72077001	12-JUN-80	12-JUN-80	YES
7207	OVRO 130	72077001	26-JUL-80	26-JUL-80	YES
7207	OVRO 130	72077001	27-JUL-80	27-JUL-80	YES
7207	OVRO 130	72077001	29-JUL-80	29-JUL-80	YES
7207	OVRO 130	72077001	31-JUL-80	31-JUL-80	YES
7207	OVRO 130	72077001	26-SEP-80	26-SEP-80	YES
7207	OVRO 130	72077001	27-SEP-80	27-SEP-80	YES
7207	OVRO 130	72077001	28-SEP-80	28-SEP-80	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 11
 Current Site Name: OWENS VALLEY
 Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7207	OVRO 130	72077001	29-SEP-80	29-SEP-80	YES
7207	OVRO 130	72077001	30-SEP-80	30-SEP-80	YES
7207	OVRO 130	72077001	01-OCT-80	01-OCT-80	YES
7207	OVRO 130	72077001	02-OCT-80	02-OCT-80	YES
7207	OVRO 130	72077001	16-OCT-80	16-OCT-80	YES
7207	OVRO 130	72077001	17-OCT-80	17-OCT-80	YES
7207	OVRO 130	72077001	18-OCT-80	18-OCT-80	YES
7207	OVRO 130	72077001	19-OCT-80	19-OCT-80	YES
7207	OVRO 130	72077001	20-OCT-80	20-OCT-80	YES
7207	OVRO 130	72077001	21-OCT-80	21-OCT-80	YES
7207	OVRO 130	72077001	22-OCT-80	22-OCT-80	YES
7207	OVRO 130	72077001	02-NOV-80	02-NOV-80	YES
7207	OVRO 130	72077001	03-NOV-80	03-NOV-80	YES
7207	OVRO 130	72077001	15-FEB-81	15-FEB-81	YES
7207	OVRO 130	72077001	17-FEB-81	17-FEB-81	YES
7207	OVRO 130	72077001	18-FEB-81	18-FEB-81	YES
7207	OVRO 130	72077001	11-MAY-81	11-MAY-81	YES
7207	OVRO 130	72077001	13-MAY-81	13-MAY-81	YES
7207	OVRO 130	72077001	14-MAY-81	14-MAY-81	YES
7207	OVRO 130	72077001	16-MAY-81	16-MAY-81	YES
7207	OVRO 130	72077001	17-MAY-81	17-MAY-81	YES
7207	OVRO 130	72077001	16-JUN-81	16-JUN-81	YES
7207	OVRO 130	72077001	17-JUN-81	17-JUN-81	YES
7207	OVRO 130	72077001	18-NOV-81	18-NOV-81	YES
7207	OVRO 130	72077001	19-NOV-81	19-NOV-81	YES
7207	OVRO 130	72077001	16-JUN-82	16-JUN-82	YES
7207	OVRO 130	72077001	17-JUN-82	17-JUN-82	YES
7207	OVRO 130	72077001	18-JUN-82	18-JUN-82	YES
7207	OVRO 130	72077001	19-JUN-82	19-JUN-82	YES
7207	OVRO 130	72077001	20-JUN-82	20-JUN-82	YES
7207	OVRO 130	72077001	21-JUN-82	21-JUN-82	YES
7207	OVRO 130	72077001	24-AUG-81	24-AUG-81	YES
7207	OVRO 130	72077001	26-AUG-81	26-AUG-81	YES
7207	OVRO 130	72077001	28-AUG-81	28-AUG-81	YES
7207	OVRO 130	72077001	30-AUG-81	30-AUG-81	YES
7207	OVRO 130	72077001	31-AUG-81	31-AUG-81	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 11
 Current Site Name: OWENS VALLEY
 Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7207	OVRO 130	72077001	02-SEP-81	02-SEP-81	YES
7207	OVRO 130	72077001	12-DEC-81	12-DEC-81	YES
7207	OVRO 130	72077001	14-DEC-81	14-DEC-81	YES
7207	OVRO 130	72077001	18-DEC-81	18-DEC-81	YES
7207	OVRO 130	72077001	16-OCT-82	16-OCT-82	YES
7207	OVRO 130	72077001	17-OCT-82	17-OCT-82	YES
7207	OVRO 130	72077001	18-OCT-82	18-OCT-82	YES
7207	OVRO 130	72077001	21-OCT-82	21-OCT-82	YES
7207	OVRO 130	72077001	22-OCT-82	22-OCT-82	YES
7207	OVRO 130	72077001	24-OCT-82	24-OCT-82	YES
7207	OVRO 130	72077001	25-OCT-82	25-OCT-82	YES
7207	OVRO 130	72077001	15-DEC-82	15-DEC-82	YES
7207	OVRO 130	72077001	16-DEC-82	16-DEC-82	YES
7207	OVRO 130	72077001	22-FEB-83	22-FEB-83	YES
7207	OVRO 130	72077001	24-FEB-83	24-FEB-83	YES
7207	OVRO 130	72077001	06-JUN-83	06-JUN-83	YES
7207	OVRO 130	72077001	07-JUN-83	07-JUN-83	YES
7207	OVRO 130	72077001	08-JUN-83	08-JUN-83	YES
7207	OVRO 130	72077001	27-JUN-83	27-JUN-83	YES
7207	OVRO 130	72077001	29-JUN-83	29-JUN-83	YES
7207	OVRO 130	72077001	22-AUG-83	22-AUG-83	YES
7207	OVRO 130	72077001	23-AUG-83	23-AUG-83	YES
7207	OVRO 130	72077001	25-AUG-83	25-AUG-83	YES
7207	OVRO 130	72077001	26-AUG-83	26-AUG-83	YES
7207	OVRO 130	72077001	27-AUG-83	27-AUG-83	YES
7207	OVRO 130	72077001	28-AUG-83	28-AUG-83	YES
7207	OVRO 130	72077001	31-AUG-83	31-AUG-83	YES
7207	OVRO 130	72077001	31-OCT-83	31-OCT-83	YES
7207	OVRO 130	72077001	05-NOV-83	05-NOV-83	YES
7207	OVRO 130	72077001	12-NOV-83	12-NOV-83	YES
7207	OVRO 130	72077001	20-FEB-84	20-FEB-84	YES
7207	OVRO 130	72077001	21-FEB-84	22-FEB-84	NO
7207	OVRO 130	72077001	23-FEB-84	23-FEB-84	NO
7207	OVRO 130	72077001	24-FEB-84	25-FEB-84	NO
7207	OVRO 130	72077001	26-FEB-84	27-FEB-84	NO
7207	OVRO 130	72077001	09-APR-84	10-APR-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 11
Current Site Name: OWENS VALLEY
Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7207	OVRO 130	72077001	12-APR-84	12-APR-84	NO
7207	OVRO 130	72077001	19-APR-84	20-APR-84	NO
7207	OVRO 130	72077001	26-APR-84	27-APR-84	NO
7207	OVRO 130	72077001	19-MAY-84	20-MAY-84	NO
7207	OVRO 130	72077001	22-OCT-84	23-OCT-84	NO
7207	OVRO 130	72077001	25-OCT-84	26-OCT-84	NO
7207	OVRO 130	72077001	28-OCT-84	29-OCT-84	NO
7207	OVRO 130	72077001	01-MAR-85	02-MAR-85	NO
7207	OVRO 130	72077001	04-MAR-85	05-MAR-85	NO
7207	OVRO 130	72077001	07-MAR-85	08-MAR-85	NO
7207	OVRO 130	72077001	10-MAR-85	11-MAR-85	NO
7207	OVRO 130	72077001	13-MAR-85	13-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 11
Current Site Name: OWENS VALLEY
Location: OWENS VALLEY RADIO OBS., BIG PINE, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
TLRS-4	DEC-85

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
OVRO 130	Continuing

-- SITE INFORMATION --

Site Number: 4

Current Site Name: PALOS VERDES

Other Site Name:

Location: PALOS VERDES, CA

Geographic Region: CALIFORNIA

Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED ON THE DISMANTLED MISSILE SITE ADJACENT TO THE CITY HALL OF THE CITY OF PALOS VERDES. THE SITE IS A NIKI CONCRETE SLAB LOCATED IN THE NORTH CORNER OF THE FENCED AREA. ONE MONUMENT COMPATIBLE FOR OCCUPATION BY ALL MOBILE VLBI SYSTEMS IS LOCATED ON THIS SLAB.

Site Topo Map: REDONDO BEACH, CALIFORNIA, N3344-W11822.5/8.5 X 7.5, 1963. STATE OF CALIFORNIA, AVAILABLE THROUGH THE U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: LOS ANGELES BASIN

Local Geology: QUATERNARY NON-MARINE TERRACE DEPOSITS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 4
 Current Site Name: PALOS VERDES
 Location: PALOS VERDES, CA
 Number of Observing Monuments: 1
 Surveyed into National Network? YES

Monument Number: 7268
 Type of Monument: NGS STATION DISK
 Monument Inscription: PALOS VERDES ARIES 1976 1980
 Systems Using Monument: MOBILE VLBI

Latitude: N 33 44' 37.52114''
 Longitude: W 118 24' 09.69809''
 Elevation: 78.347 meters
 Survey Source/Date: NGS/17-NOV-76
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE OBSERVING MONUMENT WAS ADDED AFTER THE THREE REFERENCE MONUMENTS. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7268 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	PALOS VERDES ARIES 1 1975	-26.304	47.223	51.066
--	PALOS VERDES ARIES 2 1975	-6.264	-31.384	-44.315
--	PALOS VERDES ARIES 3 1975	-107.747	29.699	-39.161

-- SITE SKETCH --

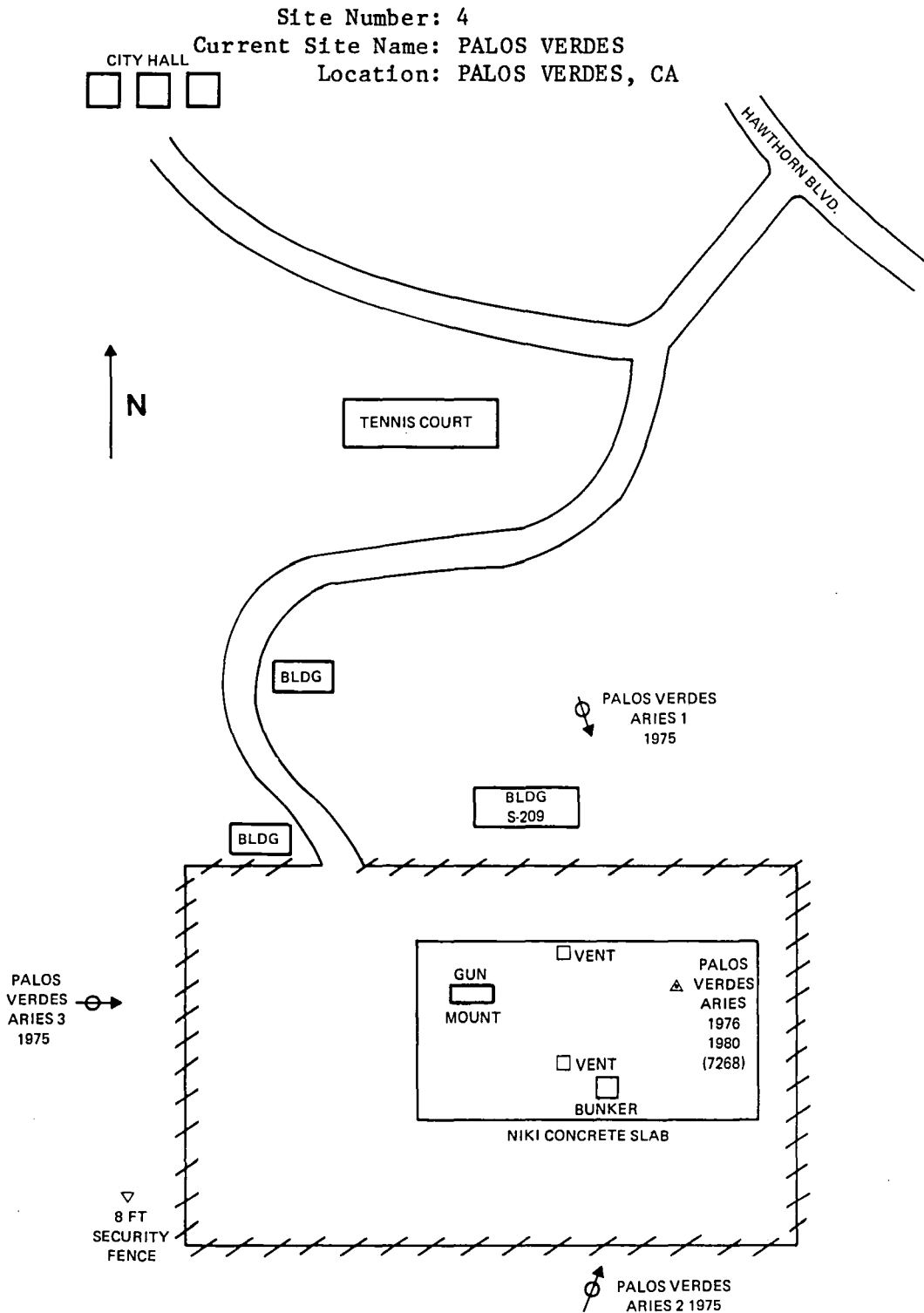


Figure 4-P VRDS. PALOS VERDES Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 4
Current Site Name: PALOS VERDES
Location: PALOS VERDES, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7268	MV-1	72685101	04-MAR-76	05-MAR-76	NO
7268	MV-1	72685102	13-OCT-76	13-OCT-76	NO
7268	MV-2	72685203	30-JUL-80	31-JUL-80	YES
7268	MV-2	72685204	17-FEB-81	17-FEB-81	YES
7268	MV-2	72685205	26-AUG-81	27-AUG-81	YES
7268	MV-2	72685206	12-NOV-83	13-NOV-83	YES
7268	MV-2	72685207	04-MAR-85	05-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 4
Current Site Name: PALOS VERDES
Location: PALOS VERDES, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- SITE INFORMATION --

Site Number: 6

Current Site Name: PASADENA
Other Site Name: JPL
Location: JET PROPULSION LAB, PASADENA, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED ON A MESA AT THE JET PROPULSION LAB. THE THREE MOBILE ANTENNAS, ONE 9-METER, ONE 4-METER, AND ONE 5-METER, ARE USED FOR VLBI MEASUREMENTS. EACH IS REFERENCED TO ITS OWN MONUMENTED MARKER. A MONUMENTED PAD IS USED BY TLRs. THE SITE IS A KEY SITE FOR EQUIPMENT DEVELOPMENT AND TESTING. IN ADDITION TO THE VLBI AND SLR MEASUREMENTS, THE SITE IS USED FOR GLOBAL POSITIONING SYSTEM MEASUREMENTS.

Site Topo Map: PASADENA, CALIFORNIA. N3407.5-W11807.5/7.5, 1966, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: LOS ANGELES BASIN/TRANSVERSE RANGES

Local Geology: MESOZOIC GRANITIC ROCKS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 6
 Current Site Name: PASADENA
 Location: JET PROPULSION LAB, PASADENA, CA
 Number of Observing Monuments: 4
 Surveyed into National Network? YES

Monument Number: 7263
 Type of Monument: JPL STEEL PLATE APPROXIMATELY 12'' X 12''
 Monument Inscription: NONE--HOLE IN CENTER
 Systems Using Monument: MOBILE VLBI

Latitude: N 34 12' 18.17872''
 Longitude: W 118 10' 21.00997''
 Elevation: 430.250 meters
 Survey Source/Date: NGS/03-FEB-84
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE 9-METER ANTENNA (MV-1) TYPICALLY OCCUPIES THIS MONUMENT.
 MV-2 AND -3 HAVE OCCUPIED. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7263 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	JPL ARIES 1 1975	176.088	-134.553	-21.007
--	JPL ARIES 1 1975 RM 1	183.836	-137.036	-18.800
--	JPL ARIES 3 1975	-152.203	28.867	-36.848
--	LA COUNTY ENG.	99.257	-29.705	61.774
--	MTL C12B	90.408	-28.276	57.431
7264	ARIES 5-B-1 8-15-78	-21.464	19.012	10.889
7272	JPL MV3 1983	1.987	-18.063	-22.052
7896	JPL ARIES 2 1975	94.064	-31.945	55.121

-- MONUMENT INFORMATION --

(Continued)

Site Number: 6
Current Site Name: PASADENA
Location: JET PROPULSION LAB, PASADENA, CA

Monument Number: 7264
Type of Monument: STEEL PLATE
Monument Inscription: ARIES 5-B-1 8-15-78 (PUNCHMARK)
Systems Using Monument: MOBILE VLBI

Latitude: N 34 12' 18.59185''
Longitude: W 118 10' 22.09960''
Elevation: 430.892 meters
Survey Source/Date: NGS/09-NOV-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE 4-METER ANTENNA (MV-2) TYPICALLY OCCUPIES THIS MONUMENT.
THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7264 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- MONUMENT INFORMATION --

(Continued)

Site Number: 6
Current Site Name: PASADENA
Location: JET PROPULSION LAB, PASADENA, CA

Monument Number: 7272
Type of Monument: JPL DISK
Monument Inscription: JPL MV3 1983
Systems Using Monument: MOBILE VLBI

Latitude: N 34 12' 17.31349''
Longitude: W 118 10' 20.60846''
Elevation: 430.246 meters
Survey Source/Date: NGS/11-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: MV-3 PREVIOUSLY OCCUPIED MONUMENT; MODIFICATION OF MV-3 MADE
MONUMENT UNOCCUPIABLE BY MV-3. THE ELEVATION IS GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7272 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 6
Current Site Name: PASADENA
Location: JET PROPULSION LAB, PASADENA, CA

Monument Number: 7896
Type of Monument: NGS STATION DISK
Monument Inscription: JPL ARIES 2 1975
Systems Using Monument: TLRS

Latitude: N 34 12' 19.95456''
Longitude: W 118 10' 17.18220''
Elevation: 337.799 meters
Survey Source/Date: NGS/01-JAN-75
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS LOCATED ON THE MESA IN THE VICINITY OF JPL.
THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7896 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 6
Current Site Name: PASADENA
Location: JET PROPULSION LAB, PASADENA, CA

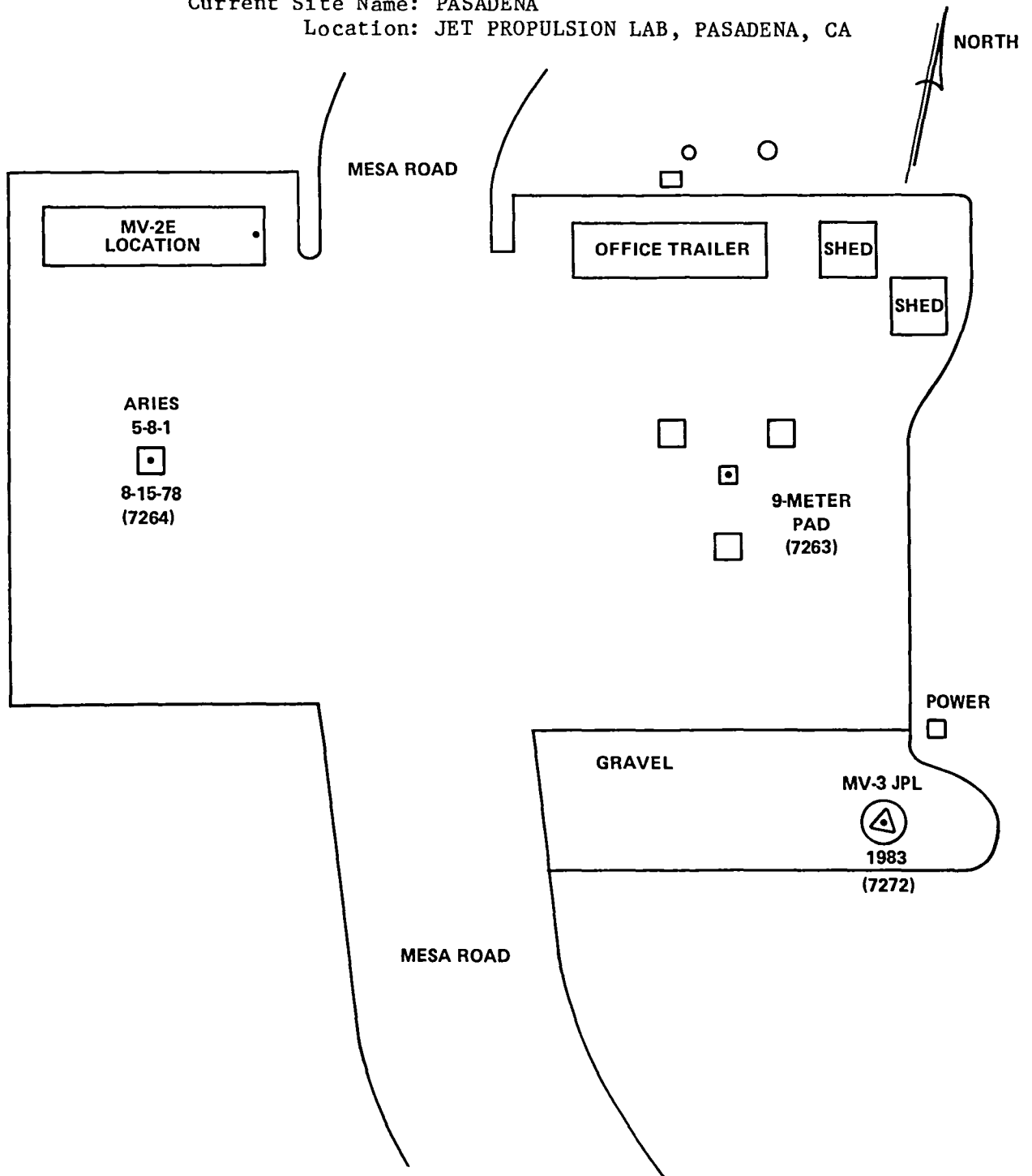


Figure 4-JPL. PASADENA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 6
 Current Site Name: PASADENA
 Location: JET PROPULSION LAB, PASADENA, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7896	TLRS-1	78961101	24-OCT-80	06-JAN-81	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7263	MV-1	72635101	25-AUG-74	03-AUG-75	NO
7263	MV-1	72635102	15-JAN-76	27-JAN-76	NO
7263	MV-1	72635103	19-AUG-76	21-AUG-76	NO
7263	MV-1	72635104	19-AUG-77	18-OCT-77	NO
7263	MV-1	72635105	08-MAY-78	05-FEB-80	NO
7263	MV-1	72635106	10-JUN-80	12-JUN-80	YES
7263	MV-1	72635107	10-DEC-81	12-DEC-81	YES
7263	MV-1	72635107	14-DEC-81	15-DEC-81	YES
7263	MV-1	72635107	18-DEC-81	19-OCT-82	YES
7263	MV-1	72635107	17-OCT-82	21-OCT-82	YES
7263	MV-1	72635107	22-OCT-82	24-OCT-82	YES
7263	MV-1	72635107	22-FEB-83	23-FEB-83	YES
7263	MV-1	72635107	24-FEB-83	24-FEB-83	YES
7263	MV-3	72635308	09-APR-84	10-APR-84	NO
7263	MV-2	72635209	22-OCT-84	29-OCT-84	NO
7263	MV-2	72635210	18-JAN-85	19-JAN-85	NO
7263	MV-2	72635211	07-MAR-85	08-MAR-85	NO
7264	MV-2	72645201	16-JAN-79	16-JAN-79	NO
7264	MV-2	72645202	05-JAN-80	09-JAN-80	YES
7264	MV-2	72645203	28-JUL-80	29-JUL-80	YES
7264	MV-2	72645204	01-NOV-80	02-NOV-80	YES
7264	MV-2	72645204	03-NOV-80	03-NOV-80	YES
7264	MV-2	72645205	14-FEB-81	15-FEB-81	YES
7264	MV-2	72645206	11-MAY-81	12-MAY-81	YES
7264	MV-2	72645207	24-AUG-81	25-AUG-81	YES
7264	MV-2	72645208	22-AUG-83	23-AUG-83	YES
7264	MV-2	72645209	29-OCT-83	01-NOV-83	YES
7264	MV-2	72645210	20-FEB-84	21-FEB-84	YES
7264	MV-2	72645211	22-OCT-84	23-OCT-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 6
Current Site Name: PASADENA
Location: JET PROPULSION LAB, PASADENA, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7264	MV-2	72645211	25-OCT-84	26-OCT-84	NO
7264	MV-2	72645211	28-OCT-84	29-OCT-84	NO
7272	MV-3	72725301	29-JUN-83	30-JUN-83	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 6
Current Site Name: PASADENA
Location: JET PROPULSION LAB, PASADENA, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
MV	OCT-85

-- SITE INFORMATION --

Site Number: 7

Current Site Name: PEARBLOSSOM
Other Site Name:
Location: PEARBLOSSOM, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED AT THE PEARBLOSSOM AQUEDUCT PUMPING STATION OF THE CALIFORNIA DEPARTMENT OF WATER RESOURCES, ABOUT ONE MILE NORTHWEST OF THE TOWN OF PEARBLOSSOM. THE SITE IS IN THE NORTHEAST CORNER OF A FENCED MACADAM-SURFACED PARKING LOT. THE SITE IS EQUIPPED WITH AN OBSERVING MONUMENT SURROUNDED BY A THREE-PEDESTAL PAD FOR OCCUPATION BY ANY MOBILE VLBI SYSTEM.

Site Topo Map: LITTLE ROCK, CALIFORNIA. N3430-W11752.5/7.5, 1957, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT

Local Geology: QUATERNARY ALLUVIUM

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 7
Current Site Name: PEARBLOSSOM
Location: PEARBLOSSOM, CA
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7253
Type of Monument: NAIL IN CONCRETE
Monument Inscription: NONE
Systems Using Monument: MOBILE VLBI

Latitude: N 34 30' 43.674''
Longitude: W 117 55' 17.327''
Elevation: 922.770 meters
Survey Source/Date: NGS HAVAGO ADJUSTMENT RUN 1/30/84./30-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS NAIL WAS REPLACED BY THE NGS MONUMENT 7254.

Differential Coordinates FROM Observing Monument 7253 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 7
Current Site Name: PEARBLOSSOM
Location: PEARBLOSSOM, CA

Monument Number: 7254
Type of Monument: NGS STATION DISK
Monument Inscription: PEARBLOSSOM NCMN 1983
Systems Using Monument: MOBILE VLBI

Latitude: N 34 30' 43.67357''
Longitude: W 117 55' 17.32653''
Elevation: 896.648 meters
Survey Source/Date: NGS/09-NOV-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS NGS DISK REPLACES THE NAIL (MONUMENT NUMBER 7253). THE
ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7254 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	BM A1303	-3.285	4.298	3.247
--	PB ARIES 1 1976	23.713	15.724	36.552
--	PB ARIES 2 1976	3.950	-21.791	-25.137
--	PB ARIES 3 1976	-31.287	15.905	-3.330

-- SITE SKETCH --

Site Number: 7
Current Site Name: PEARBLOSSOM
Location: PEARBLOSSOM, CA

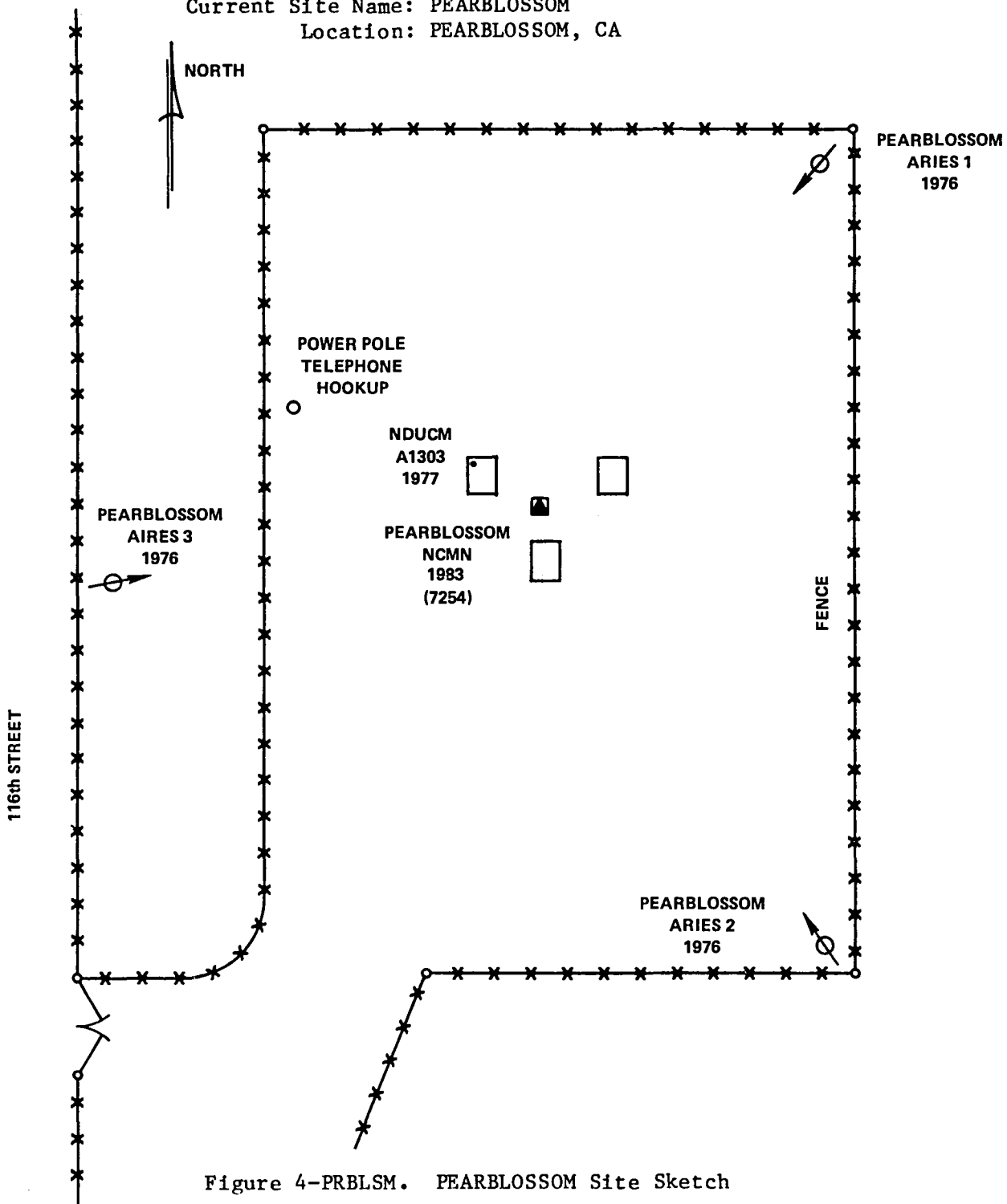


Figure 4-PRBLSM. PEARBLOSSOM Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 7
 Current Site Name: PEARBLOSSOM
 Location: PEARBLOSSOM, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7253	MV-1	72535101	06-JUN-76	07-JUN-76	NO
7253	MV-1	72535102	14-NOV-77	16-NOV-77	NO
7253	MV-2	72535203	18-FEB-81	19-FEB-81	YES
7253	MV-2	72535204	27-AUG-81	29-AUG-81	YES
7253	MV-2	72535205	21-FEB-83	21-FEB-83	YES
7254	MV-3	72545301	22-AUG-83	23-AUG-83	YES
7254	MV-3	72545302	29-OCT-83	30-OCT-83	YES
7254	MV-3	72545303	20-FEB-84	21-FEB-84	YES
7254	MV-3	72545304	25-OCT-84	26-OCT-84	YES
7254	MV-3	72545305	07-MAR-85	08-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 7
Current Site Name: PEARBLOSSOM
Location: PEARBLOSSOM, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
MV	OCT-85

-- SITE INFORMATION --

Site Number: 69

Current Site Name: PENTICTON

Other Site Name:

Location: PENTICTON, BRITISH COLUMBIA, CANADA

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 204

Current Site Name: PINYON FLAT
Other Site Name:
Location: PINYON FLAT, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED IN SOUTH CENTRAL CALIFORNIA ABOUT TEN MILES SOUTH OF PALM DESERT, OFF HIGHWAY 74 ON THE PINYON FLAT GEOPHYSICAL OBSERVATORY OPERATED BY UNIVERSITY OF CALIFORNIA AT SAN DIEGO. THE SITE IS EQUIPPED WITH ONE 16' X 16' MONUMENTED PAD WITH THREE ARIES PEDESTALS SURROUNDING THE PAD. THE SITE IS COMPATIBLE FOR OCCUPATION BY ANY MOBILE VLBI SYSTEM OR TLR-1.

Site Topo Map: PALM DESERT, CALIFORNIA. N3330-W11615/15, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: PENINSULA RANGES; SAN JACINTO MOUNTAINS, MIDWAY BETWEEN SAN ANDREAS FAULT AND SAN JACINTO FAULT.

Local Geology: QUATERNARY ALLUVIUM (SANDY). MESOZOIC GRANITIC ROCKS IN THE AREA.

Comments: OTHER GEOPHYSICAL INSTRUMENTS OPERATED ON SITE INCLUDE: GRAVITY METER, MAGNETOMETER, TILTMETER, AND STRAIN METER.

-- MONUMENT INFORMATION --

Site Number: 204
 Current Site Name: PINYON FLAT
 Location: PINYON FLAT, CA
 Number of Observing Monuments: 1
 Surveyed into National Network? NO

Monument Number: 7256
 Type of Monument: NGS STATION DISK
 Monument Inscription: PINYON FLAT NCMN 1981
 Systems Using Monument: MOBILE VLBI

Latitude: N 33 36' 33.18476''
 Longitude: W 116 27' 28.54386''
 Elevation: 1244.561 meters
 Survey Source/Date: NGS/09-NOV-83
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7256 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	----- Differential Coordinates -----		
		X	Y	Z
--	51261 PINYON FLAT DMA HTC	-13.780	21.859	21.904
--	51261 PINYON FLAT DMA HTC 1	-1.605	16.713	23.533
--	51261 PINYON FLAT DMA HTC 2	-20.289	27.228	24.701
--	PINYON FLAT AZ. MK.	-58.335	-679.962	-943.517
--	PINYON FLAT NCMN NO 1 1981	31.728	8.553	37.749
--	PINYON FLAT NCMN NO 2 1981	28.734	-32.356	-25.103
--	PINYON FLAT NCMN NO 3 1981	-29.143	11.361	-5.844

-- SITE SKETCH --

Site Number: 204
Current Site Name: PINYON FLAT
Location: PINYON FLAT, CA

-- Site Sketch Not Available --

Figure 4-PINYON. PINYON FLAT Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 204
Current Site Name: PINYON FLAT
Location: PINYON FLAT, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7256	MV-2	72565201	17-MAY-81	19-MAY-81	YES
7256	MV-3	72565302	22-FEB-83	22-FEB-83	YES
7256	MV-3	72565303	31-OCT-83	04-NOV-83	YES
7256	MV-3	72565304	28-OCT-84	01-NOV-84	YES
7256	MV-3	72565305	18-JAN-85	19-JAN-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 204
Current Site Name: PINYON FLAT
Location: PINYON FLAT, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

MV	OCT-85
----	--------

-- SITE INFORMATION --

Site Number: 24

Current Site Name: PLATTEVILLE
Other Site Name: BOULDER
Location: PLATTEVILLE, CO
Geographic Region: NORTH AMERICA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENTS TECHNIQUES.

Site Description: THE SITE IS LOCATED ON AN IONOSPHERE HEATING FIELD STATION UNDER THE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, 32 MILES NORTH-NORTHEAST OF DENVER. THE SITE IS EQUIPPED WITH TWO OBSERVING MONUMENTS. ONE MONUMENT IS ON A 34' X 34' MOBLAS PAD TO BE OCCUPIED BY MOBLAS-2 FOR THE DURATION OF THE PROJECT. THE SECOND MONUMENT IS THE MIDPOINT OF 3 ARIES PEDESTALS FOR MOBILE VLBI OCCUPATION.

Site Topo Map: MILTON RESERVOIR, COLORADO, N4007.5-W10437/7.5, 1950, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: GREAT PLAINS

Local Geology: EOLIAN DEPOSITS, INCLUDES DUNES SAND, SAND AND PEORIA LOESS.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 24
Current Site Name: PLATTEVILLE
Location: PLATTEVILLE, CO
Number of Observing Monuments: 2
Surveyed into National Network? YES

Monument Number: 7112
Type of Monument: STANDARD NASA DISK
Monument Inscription: MOBLAS 7112 1980
Systems Using Monument: MOBLAS

Latitude: N 40 10' 58.043''
Longitude: W 104 43' 31.604''
Elevation: 1519.913 meters
Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-DEC-80
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7112 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- MONUMENT INFORMATION --

(Continued)

Site Number: 24
Current Site Name: PLATTEVILLE
Location: PLATTEVILLE, CO

Monument Number: 7258
Type of Monument: NGS STATION DISK
Monument Inscription: PLATTEVILLE NCMN 1981
Systems Using Monument: MOBILE VLBI

Latitude: N 40 10' 58.092''
Longitude: W 104 43' 32.923''
Elevation: 1519.696 meters
Survey Source/Date: BENDIX PRELIMINARY POSITION/01-OCT-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE GEODETIC TIE BETWEEN 7112 AND 7258 WAS COMPLETED IN
SEPTEMBER 1983. NGS IS CURRENTLY ADJUSTING DATA.

Differential Coordinates FROM Observing Monument 7258 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 24
 Current Site Name: PLATTEVILLE
 Location: PLATTEVILLE, CO

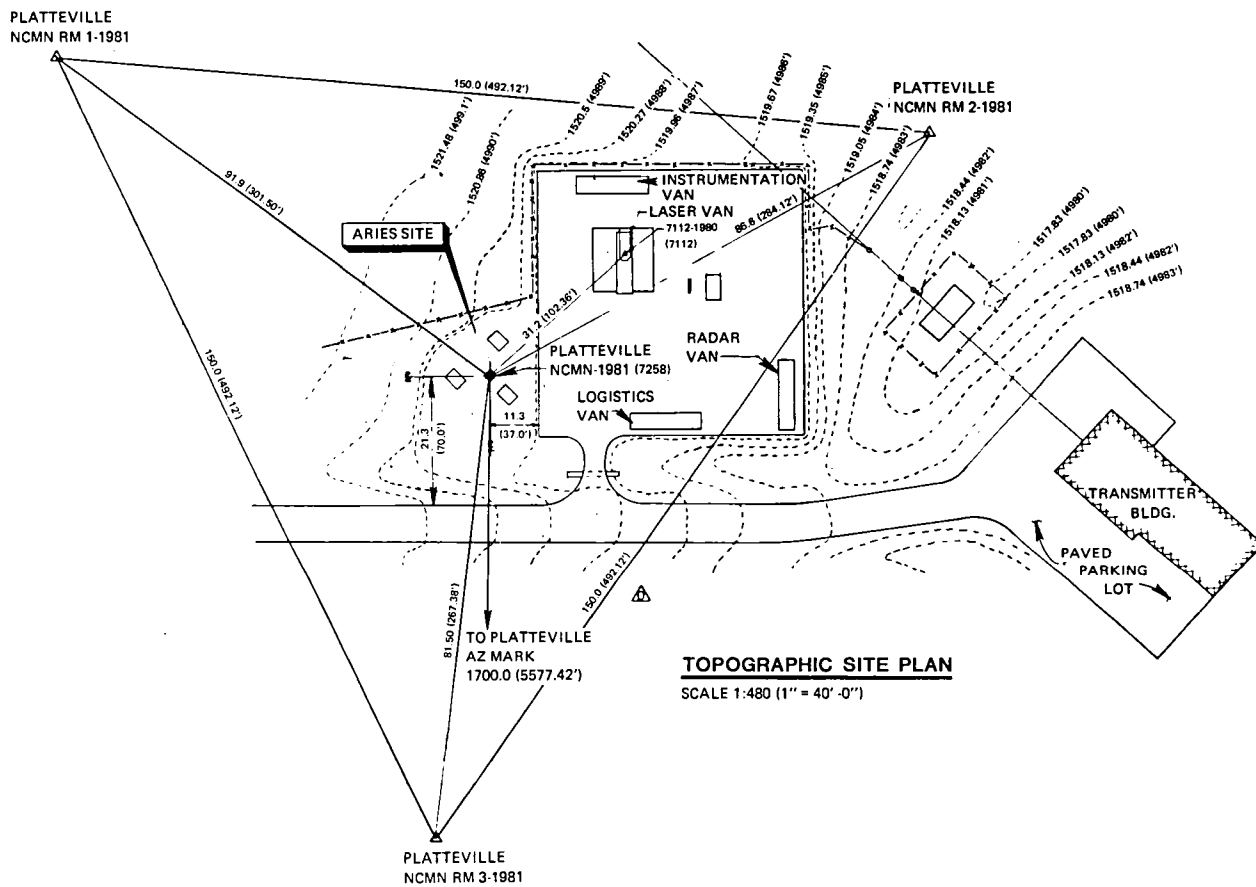


Figure 4-PLATVL. PLATTEVILLE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 24
 Current Site Name: PLATTEVILLE
 Location: PLATTEVILLE, CO

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7112	MOBLAS-2	71120201	01-APR-81	13-OCT-84	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7258	MV-3	72585301	06-JUN-83	06-JUN-83	YES
7258	MV-3	72585301	07-JUN-83	07-JUN-83	YES
7258	MV-3	72585301	08-JUN-83	08-JUN-83	YES
7258	MV-3	72585301	09-JUN-83	09-JUN-83	YES
7258	MV-3	72585301	10-JUN-83	10-JUN-83	YES
7258	MV-2	72585202	17-APR-84	18-APR-84	NO
7258	MV-2	72585202	21-APR-84	22-APR-84	NO
7258	MV-2	72585202	25-APR-84	26-APR-84	NO
7258	MV-2	72585202	26-APR-84	27-APR-84	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 24
Current Site Name: PLATTEVILLE
Location: PLATTEVILLE, CO

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
TLRS-4	OCT-85
TLRS-4	AUG-86

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
MV	APR-85
MV	MAY-85

-- SITE INFORMATION --

Site Number: 212

Current Site Name: POINT REYES
Other Site Name:
Location: POINT REYES, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE SITE IS LOCATED AT THE POINT REYES COAST GUARD COMMUNICATIONS STATION IN THE POINT REYES NATIONAL SEASHORE AREA AND IS SITUATED IN A PARKING LOT ON THE SIDE OF THE COAST GUARD BUILDING. THE SITE IS A 16-INCH DIAMETER, CONCRETE MONUMENT FLUSH WITH THE TOP OF THE PAVED PARKING LOT COMPATIBLE FOR OCCUPATION BY MOBILE VLBI SYSTEMS.

Site Topo Map: DRAKES BAY, CALIFORNIA. N3800-W12252.5/7.5. 1953, U.S.G.S. RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: NORTHERN CALIFORNIA COASTAL RANGES

Local Geology: MIDDLE OR LOWER PLEISTOCENE MARINE SEDIMENTS

Comments: THE SITE IS THE FURTHEST NORTHERN PRACTICAL SITE ON THE PACIFIC SIDE OF THE SAN ANDREAS FAULT.

-- MONUMENT INFORMATION --

Site Number: 212
 Current Site Name: POINT REYES
 Location: POINT REYES, CA
 Number of Observing Monuments: 1
 Surveyed into National Network? YES

Monument Number: 7251
 Type of Monument: NGS STATION DISK
 Monument Inscription: POINT REYES NCMN 1981
 Systems Using Monument: MOBILE VLBI

Latitude: N 38 06' 12.93469''
 Longitude: W 122 56' 07.70810''
 Elevation: -4.389 meters
 Survey Source/Date: NGS/03-JAN-84
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7251 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	POINT REYES NCMN AZ. MK.	-980.358	-267.016	-961.889
--	POINT REYES NCMN NO 1 1981	15.282	-24.029	-14.370
--	POINT REYES NCMN NO 2 1981	-44.314	21.225	-9.213
--	POINT REYES NCMN NO 3 1981	12.979	29.043	38.593

-- SITE SKETCH --

Site Number: 212
Current Site Name: POINT REYES
Location: POINT REYES, CA

-- Site Sketch Not Available --

Figure 4-PT REY. POINT REYES Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 212
Current Site Name: POINT REYES
Location: POINT REYES, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7251	MV-2	72515201	14-DEC-81	14-DEC-81	YES
7251	MV-3	72515302	27-AUG-83	28-AUG-83	YES
7251	MV-3	72515303	26-FEB-84	27-FEB-84	YES
7251	MV-3	72515304	13-MAR-85	14-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 212
Current Site Name: POINT REYES
Location: POINT REYES, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 13

Current Site Name: PRESIDIO
Other Site Name:
Location: SAN FRANCISCO, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE STATION IS LOCATED ON A FORMER TAXIWAY NEAR THE NORTHEAST END OF THE ABANDONED CRISSY FIELD AT THE PRESIDIO IN SAN FRANCISCO. THE SITE IS LOCATED ON A CONCRETE HEADWALL (A FORMER RETAINING WALL FOR A WHARF THAT ONCE WAS LOCATED NEARBY) ON THE SAND DUNES. THE AREA IS PARTIALLY COVERED BY SAND AT TIMES. THE MONUMENT, A BRASS PLUG LEADED INTO A DRILL HOLE IN THE WALL, IS OCCUPIABLE BY MV SYSTEMS.

Site Topo Map: SAN FRANCISCO NORTH, CALIFORNIA. N3745-W12222.5/7.5, 1956. STATE OF CALIFORNIA, AVAILABLE THRU U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: SOUTHERN COAST RANGES. SITE LIES APPROXIMATELY SIX MILES EAST OF THE SAN ANDREAS FAULT.

Local Geology: MESOZOIC ULTRABASE INTRUSIVES ROCKS OF PLEISTOCENE MARINE TERRACE DEPOSITS.

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 13
Current Site Name: PRESIDIO
Location: SAN FRANCISCO, CA
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7252
Type of Monument: JPL DISK
Monument Inscription: JPL 1981
Systems Using Monument: MOBILE VLBI

Latitude: N 37 48' 19.31956''
Longitude: W 122 27' 14.29061''
Elevation: -29.196 meters
Survey Source/Date: NGS/04-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7252 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	BENCH MARK TIDAL 166	115.051	-15.746	61.960
--	PRESIDIO ARIES 1	-32.712	-9.822	-34.438
--	PRESIDIO ARIES 2	-25.569	33.491	19.378
--	TURK 1948 RM 1	112.778	-12.052	64.400
--	TURK 3 RM 1 BLM	100.578	-11.816	56.720

-- SITE SKETCH --

Site Number: 13
Current Site Name: PRESIDIO
Location: SAN FRANCISCO, CA

-- Site Sketch Not Available --

Figure 4-PRSDIO. PRESIDIO Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 13
Current Site Name: PRESIDIO
Location: SAN FRANCISCO, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?

-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7252	MV-1	72525101	06-JUN-77	09-JUN-77	NO
7252	MV-2	72525202	10-DEC-81	13-DEC-81	YES
7252	MV-2	72525203	25-AUG-83	26-AUG-83	YES
7252	MV-2	72525203	27-AUG-83	28-AUG-83	YES
7252	MV-2	72525204	23-FEB-84	23-FEB-84	NO
7252	MV-2	72525204	26-FEB-84	27-FEB-84	NO
7252	MV-2	72525205	10-MAR-85	11-MAR-85	NO
7252	MV-2	72525205	13-MAR-85	14-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 13
Current Site Name: PRESIDIO
Location: SAN FRANCISCO, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- SITE INFORMATION --

Site Number: 14

Current Site Name: QUINCY
Other Site Name:
Location: QUINCY, CA
Geographic Region: CALIFORNIA
Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED IN THE PLUMAS NATIONAL FOREST, 25 MILES DUE NORTH OF QUINCY AND 100 MILES NORTH OF SACRAMENTO. THE ORIGINAL SITE, ADJACENT TO A HELIPORT STATION USED AS A BASE STATION FOR FIRE FIGHTING, WAS ABANDONED AFTER THE SITE BECAME A PRINCIPLE SITE IN THE CDP PROGRAM FOR CONTINUOUS OCCUPATION. THE NEW SITE IS 580 METERS WEST OF THE HELIPORT. BOTH VLBI AND SLR SYSTEMS OCCUPY THE NEW SITE.

Site Topo Map: QUINCY, CALIFORNIA, N3952.5/7.5, 1950, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: SIERRA NEVADA

Local Geology: PALEOZOIC MARINE

Comments: THE ORIGINAL MOBLAS SITE WAS ON A HELICOPTER PAD. THE NEW SITE WAS RELOCATED TO THE WEST FOR CONTINUAL OCCUPATION.

-- MONUMENT INFORMATION --

Site Number: 14
 Current Site Name: QUINCY
 Location: QUINCY, CA
 Number of Observing Monuments: 5
 Surveyed into National Network? YES

Monument Number: 7051
 Type of Monument: STEEL PLATE 6'' X 6'' SQUARE
 Monument Inscription: "X"
 Systems Using Monument: MOBLAS

Latitude: N 39 58' 25.14526''
 Longitude: W 120 56' 18.62377''
 Elevation: 1068.041 meters
 Survey Source/Date: NASA-GSFC-BFEC, CODE 853/01-AUG-72
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS IS THE ABANDONED SITE ON HELIPORT. MOBLAS OPERATIONS
 MOVED TO MONUMENT 7109 IN OCTOBER 1981. THE ELEVATION IS THE GEODETIC
 HEIGHT.

Differential Coordinates FROM Observing Monument 7051 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	DOPPLER 51213	-60.262	16.029	-19.897
--	MOBLAS 7051 ECCENTRIC	-8.949	-25.776	-22.622
--	QUINCY NCMN-1	-358.982	-287.082	145.505
--	QUINCY NCMN-2	-331.839	275.737	150.561
7109	7109 AUGUST 1981	-341.574	288.819	158.155
7221	7221 1982	-337.684	249.831	119.746
7260	QUINCY ARIES 1979	-90.679	32.754	-20.443
7886	7886 1982	-349.185	294.128	158.770

-- MONUMENT INFORMATION --

(Continued)

Site Number: 14
 Current Site Name: QUINCY
 Location: QUINCY, CA

Monument Number: 7109
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7109 AUGUST 1981
 Systems Using Monument: MOBLAS

Latitude: N 39 58' 30.57577''
 Longitude: W 120 56' 37.22425''
 Elevation: 1114.396 meters
 Survey Source/Date: BFEC-NGS/13-AUG-82
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS THE NEW SITE REPLACING HELIPORT LOCATION.
 THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7109 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	DOPPLER 51213	281.312	-272.790	-178.052
--	MOBLAS 7051 ECCENTRIC	332.625	-314.595	-180.777
--	QUINCY NCMN-1	-17.408	-1.737	-12.650
--	QUINCY NCMN-2	9.735	-13.082	-7.594
7051	"X"	341.574	-288.819	-158.155
7221	7221 1982	3.890	-38.989	-38.409
7260	QUINCY ARIES 1979	250.895	-256.065	-178.598
7886	7886 1982	-7.611	5.309	0.615

-- MONUMENT INFORMATION --

(Continued)

Site Number: 14
 Current Site Name: QUINCY
 Location: QUINCY, CA

Monument Number: 7221
 Type of Monument: STANDARD NASA DISK
 Monument Inscription: 7221 1982
 Systems Using Monument: TLRS AND MOBILE VLBI

Latitude: N 39 58' 28.96682''
 Longitude: W 120 56' 36.23901''
 Elevation: 1113.813 meters
 Survey Source/Date: NGS/01-MAR-83
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS MONUMENT IS THE MOBILE SYSTEMS PAD NEAR THE NEW MOBLAS MONUMENT 7109. THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7221 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	DOPPLER 51213	277.422	-233.801	-139.643
--	MOBLAS 7051 ECCENTRIC	328.735	-266.607	-142.368
--	QUINCY NCMN 1	-21.298	37.251	25.758
--	QUINCY NCMN 2	5.845	25.906	30.815
7051	"X"	337.684	-249.831	-119.746
7109	7109 AUGUST 1981	-3.890	38.989	38.409
7260	QUINCY ARIES 1979	247.005	-217.077	-140.189
7886	7886 1982	-11.501	44.297	39.023

-- MONUMENT INFORMATION --

(Continued)

Site Number: 14
 Current Site Name: QUINCY
 Location: QUINCY, CA

Monument Number: 7260
 Type of Monument: USC & GS STATION DISK
 Monument Inscription: QUINCY ARIES 1979
 Systems Using Monument: MOBILE VLBI

Latitude: N 39 58' 24.25156''
 Longitude: W 120 56' 22.61027''
 Elevation: 1069.105 meters
 Survey Source/Date: NGS/01-JAN-84
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7260 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	DOPPLER 51213	30.417	-16.725	0.546
--	MOBLAS 7051 ECCENTRIC	81.730	-58.530	-2.179
--	QUINCY NCMN-1	-268.303	-254.328	165.948
--	QUINCY NCMN-2	-241.160	242.983	171.004
7051	"X"	90.679	-32.754	20.443
7109	7109 AUGUST 1981	-250.895	256.065	178.598
7221	7221 1982	-247.005	217.077	140.189
7886	7886 1982	-258.506	261.374	179.213

-- MONUMENT INFORMATION --

(Continued)

Site Number: 14
Current Site Name: QUINCY
Location: QUINCY, CA

Monument Number: 7886
Type of Monument: STANDARD NASA DISK
Monument Inscription: 7886-1982
Systems Using Monument: TLRs

Latitude: N 39 58' 30.60434''
Longitude: W 120 56' 37.61432''
Elevation: 1114.301 meters
Survey Source/Date: BFEC-NGS/21-JUL-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7886 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	DOPPLER 51213	288.923	-278.099	-178.667
--	MOBLAS 7051 ECCENTRIC	340.236	-319.904	-181.392
--	QUINCY NCMN-1	-9.797	-7.046	-13.265
--	QUINCY NCMN-2	17.346	-18.391	-8.209
7051	"X"	349.185	-294.128	-158.770
7109	7109 AUGUST 1981	7.611	-5.309	-0.615
7221	7221-1982	11.501	-44.297	-39.023
7260	QUINCY ARIES 1979	258.506	-261.374	-179.213

-- SITE SKETCH --

Site Number: 14
Current Site Name: QUINCY
Location: QUINCY, CA

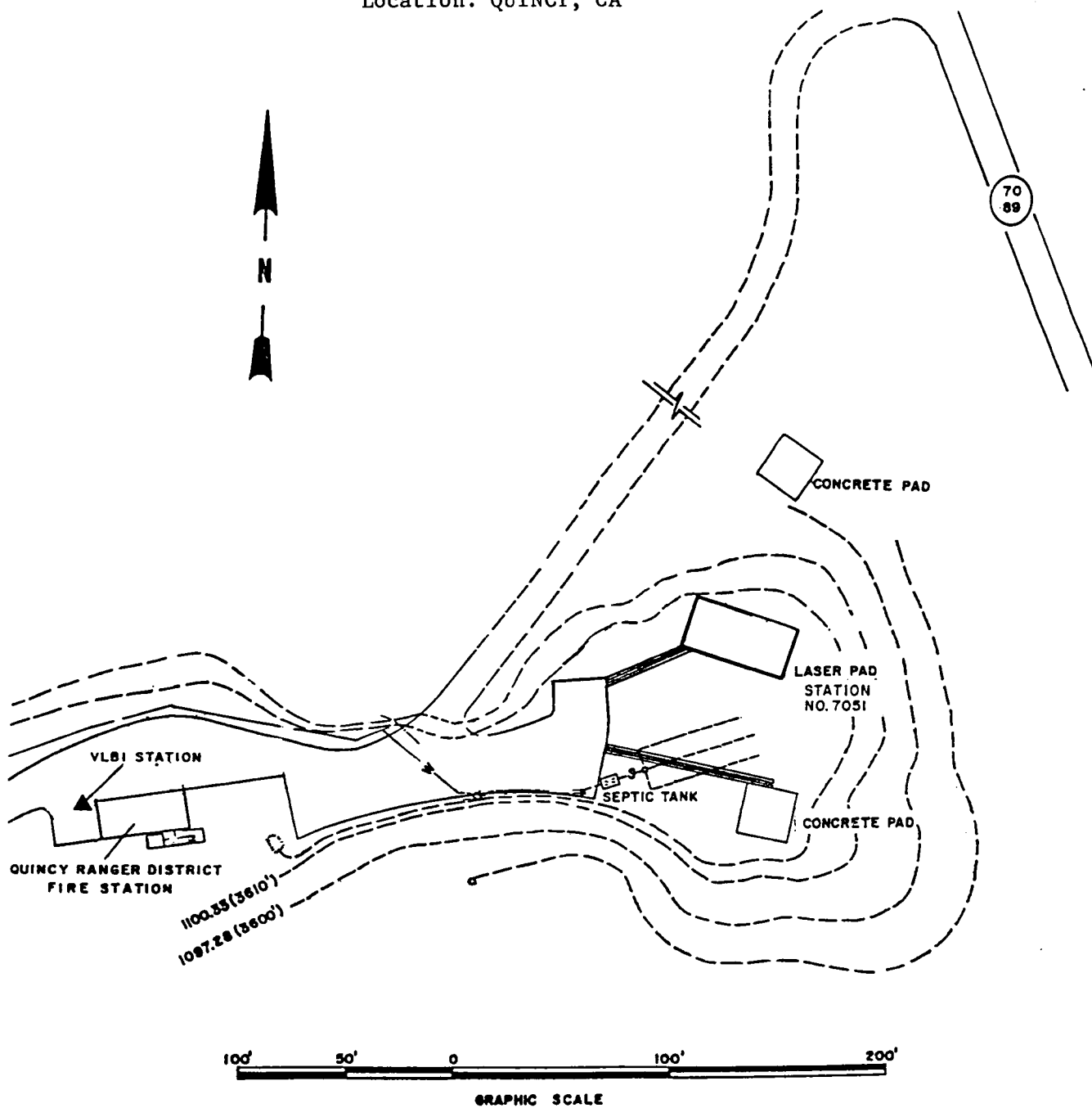


Figure 4-QUINCY. QUINCY Site Sketch (Old)

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 14
 Current Site Name: QUINCY
 Location: QUINCY, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7051	MOBLAS-1	70510101	27-AUG-74	27-NOV-74	YES
7051	MOBLAS-2	70510202	09-JUL-76	30-NOV-76	YES
7051	MOBLAS-2	70510203	01-JAN-79	30-MAY-79	YES
7051	MOBLAS-8	70510804	01-FEB-81	21-MAY-81	YES
7109	MOBLAS-8	71090801	01-OCT-81	29-JUL-82	YES
7109	MOBLAS-8	71090802	15-AUG-82	31-DEC-88	YES
7886	TLRS-1	78861101	05-JUL-83	28-AUG-83	YES
7886	TLRS-1	78861102	09-JUL-84	18-DEC-84	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7221	MV-2	72215201	21-OCT-82	22-OCT-82	YES
7221	MV-2	72215201	23-OCT-82	24-OCT-82	YES
7221	MV-2	72215202	27-JUN-83	28-JUN-83	YES
7221	MV-2	72215203	12-APR-84	13-APR-84	NO
7260	MV-1	72605101	09-MAY-79	09-MAY-79	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 14
Current Site Name: QUINCY
Location: QUINCY, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
MOBLAS-8	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
MV	MAY-85

-- SITE INFORMATION --

Site Number: 43

Current Site Name: RICHMOND

Other Site Name:

Location: PERRINE, FL

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED ON THE NAVAL OBSERVATORY TIMING STATION IN PERRINE, FLORIDA, ABOUT 25 MILES SOUTH OF MIAMI. A FIXED MARK III VLBI ANTENNA IS USED FOR VLBI MEASUREMENTS.

Site Topo Map: GOULDS, FLORIDA. 1945-56- (73PR), 7.5 QUAD, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: COASTAL PLAIN PROVINCE

Local Geology: TO BE DETERMINED

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 43
 Current Site Name: RICHMOND
 Location: PERRINE, FL
 Number of Observing Monuments: 1
 Surveyed into National Network? NO

Monument Number: 7219
 Type of Monument: MEASUREMENT POINT ON ANTENNA
 Monument Inscription: NONE
 Systems Using Monument: 65-FOOT FIXED VLBI ANTENNA

Latitude: N 25 36' 48.13066''
 Longitude: W 80 23' 05.75405''
 Elevation: 25.877 meters
 Survey Source/Date: NGS/01-FEB-84
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7219 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	CLN 1981	-4.705	27.782	37.183
--	CLNW 1981	-9.722	26.901	37.197
--	CLS 1981	1.510	-8.872	-41.416
--	CLSW 1981	-3.521	-9.682	-41.436
--	CLW 1981	-29.574	6.351	1.000
--	GPS (TOP OF GROUND PLANE)	51.311	14.378	5.196
--	GPS 1984 (BRASS BOLT)	50.366	19.959	2.483
--	TIMER 1962	59.722	35.213	29.919
--	TIMER RM 2 1962	30.243	16.166	1.150

-- SITE SKETCH --

Site Number: 43
Current Site Name: RICHMOND
Location: PERRINE, FL

-- Site Sketch Not Available --

Figure 4-RCHMND. RICHMOND Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 43
 Current Site Name: RICHMOND
 Location: PERRINE, FL

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
-- No Previous Occupations --					

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7219	65-FOOT	72197501	04-JAN-84	05-JAN-84	NO
7219	65-FOOT	72197501	14-JAN-84	15-JAN-84	NO
7219	65-FOOT	72197501	24-JAN-84	24-JAN-84	NO
7219	65-FOOT	72197501	03-FEB-84	04-FEB-84	NO
7219	65-FOOT	72197501	13-FEB-84	14-FEB-84	NO
7219	65-FOOT	72197501	18-FEB-84	19-FEB-84	NO
7219	65-FOOT	72197501	19-MAR-84	20-MAR-84	NO
7219	65-FOOT	72197501	25-MAR-84	26-MAR-84	NO
7219	65-FOOT	72197501	03-APR-84	04-APR-84	NO
7219	65-FOOT	72197501	08-APR-84	08-APR-84	NO
7219	65-FOOT	72197501	13-APR-84	14-APR-84	NO
7219	65-FOOT	72197501	18-APR-84	18-APR-84	NO
7219	65-FOOT	72197501	21-APR-84	22-APR-84	NO
7219	65-FOOT	72197501	26-APR-84	27-APR-84	NO
7219	65-FOOT	72197501	28-MAY-84	29-MAY-84	NO
7219	65-FOOT	72197501	02-JUN-84	03-JUN-84	NO
7219	65-FOOT	72197501	07-JUN-84	08-JUN-84	NO
7219	65-FOOT	72197501	17-JUN-84	18-JUN-84	NO
7219	65-FOOT	72197501	22-JUN-84	23-JUN-84	NO
7219	65-FOOT	72197501	27-JUN-84	28-JUN-84	NO
7219	65-FOOT	72197501	30-JUN-84	01-JUL-84	NO
7219	65-FOOT	72197501	02-JUL-84	03-JUL-84	NO
7219	65-FOOT	72197501	12-JUL-84	13-JUL-84	NO
7219	65-FOOT	72197501	17-JUL-84	18-JUL-84	NO
7219	65-FOOT	72197501	27-JUL-84	27-JUL-84	NO
7219	TVDS-2	72199201	01-SEP-83	09-SEP-83	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 43
Current Site Name: RICHMOND
Location: PERRINE, FL

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

65-FOOT Continuing

-- SITE INFORMATION --

Site Number: 640

Current Site Name: SAN FERNANDO

Other Site Name:

Location: SAN FERNANDO, SPAIN

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 802

Current Site Name: SAND POINT

Other Site Name:

Location: SAND POINT, AK

Geographic Region: ALASKA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 405

Current Site Name: SANTA PAULA
Other Site Name:
Location: SANTA PAULA, CA
Geographic Region: CALIFORNIA
Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION.

Site Description: THE STATION IS LOCATED ON PRIVATE PROPERTY ABOUT FOUR MILES EAST-NORTHEAST OF THE TOWN OF SANTA PAULA, CALIFORNIA, 0.8 MILES NORTH OF STATE HIGHWAY 126, AND 83 FEET EAST OF THE CENTER LINE OF TOLAND ROAD. THE SITE IS EQUIPPED WITH ONE OBSERVING MONUMENT THAT PROJECTS TWO INCHES ABOVE THE GROUND SURFACE. BECAUSE A PAD IS NOT LOCATED AT THIS SITE, SANTA PAULA IS COMPATIBLE FOR OCCUPATION BY MV-2, MV-3, OR TLRS-1.

Site Topo Map: FILLMORE, CALIFORNIA. N3422.5-W11852.5/7.5, 1951, U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: TRANSVERSE RANGES

Local Geology: QUATERNARY ALLUVIUM

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 405
Current Site Name: SANTA PAULA
Location: SANTA PAULA, CA
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7255
Type of Monument: NGS STATION DISK
Monument Inscription: SANTA PAULA NCMN 1981
Systems Using Monument: MOBILE VLBI

Latitude: N 34 23' 16.40220''
Longitude: W 118 59' 52.30140''
Elevation: 190.990 meters
Survey Source/Date: NGS/
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE ELEVATION IS THE GEODETIC HEIGHT.

Differential Coordinates FROM Observing Monument 7255 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
--	SANTA PAULA NCMN AZ. MK.	100.287	-797.380	-1117.426
--	SANTA PAULA NCMN NO 1 1981	30.645	-13.196	-2.676
--	SANTA PAULA NCMN NO 2 1981	-11.939	-11.813	-28.911
--	SANTA PAULA NCMN NO 3 1981	-8.300	13.497	14.160

-- SITE SKETCH --

Site Number: 405
Current Site Name: SANTA PAULA
Location: SANTA PAULA, CA

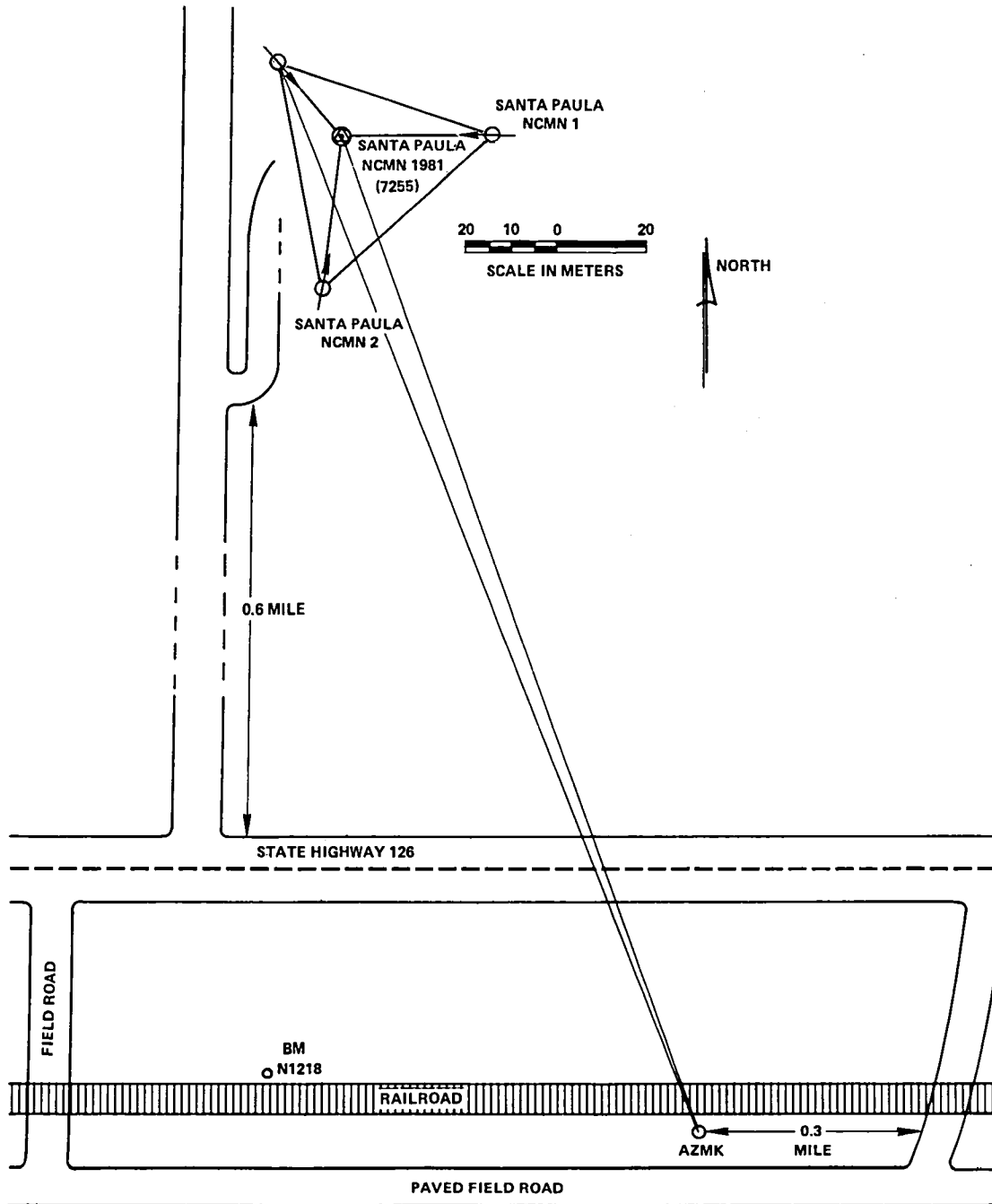


Figure 4-S PAUL. SANTA PAULA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 405
Current Site Name: SANTA PAULA
Location: SANTA PAULA, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
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-- No Previous Occupations --

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7255	MV-2	72555201	31-AUG-81	01-SEP-81	YES
7255	MV-2	72555202	31-AUG-83	01-SEP-83	YES
7255	MV-2	72555203	29-FEB-84	01-MAR-84	YES
7255	MV-3	72555304	09-JAN-85	10-JAN-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 405
Current Site Name: SANTA PAULA
Location: SANTA PAULA, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- SITE INFORMATION --

Site Number: 99

Current Site Name: SANTIAGO

Other Site Name:

Location: SANTIAGO, CHILE

Geographic Region: SOUTH AMERICA

Tectonic Plate: SOUTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 102

Current Site Name: SAO PAULO

Other Site Name:

Location: SAO PAULO, BRAZIL

Geographic Region: SOUTH AMERICA

Tectonic Plate: SOUTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 660

Current Site Name: SHANGHAI

Other Site Name:

Location: SHANGHAI OBS., PEOPLES REPUBLIC OF CHINA

Geographic Region: ASIA

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 870

Current Site Name: SIMOSATO

Other Site Name:

Location: SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN

Geographic Region: PACIFIC

Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE STATION IS LOCATED ON THE SOUTHERN COAST OF JAPAN'S MAIN ISLAND, HONSHU, AT THE SIMOSATO HYDROGRAPHIC OBSERVATORY. A FIXED LASER HAS BEEN IN OPERATION SINCE MARCH 1983.

Site Topo Map: UNKNOWN

-- GEOLOGICAL INFORMATION --

Geological Province: UNKNOWN

Local Geology: UNKNOWN

Comments: THE SYSTEM HAS ATTAINED A RANGING ACCURACY FOR LAGEOS OF LESS THAN TEN CENTIMETERS.

-- MONUMENT INFORMATION --

Site Number: 870
Current Site Name: SIMOSATO
Location: SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7838
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: SHOLAS FIXED LASER

Latitude: N 33 34' 27.496''
Longitude: E 135 56' 23.537''
Elevation: 60.340 meters
Survey Source/Date: JHD TOKYO-SHO/31-JAN-82
Datum/Ellipsoid: TOKYO/BESSEL

Comments: NONE

Differential Coordinates FROM Observing Monument 7838 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 870
Current Site Name: SIMOSATO
Location: SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN

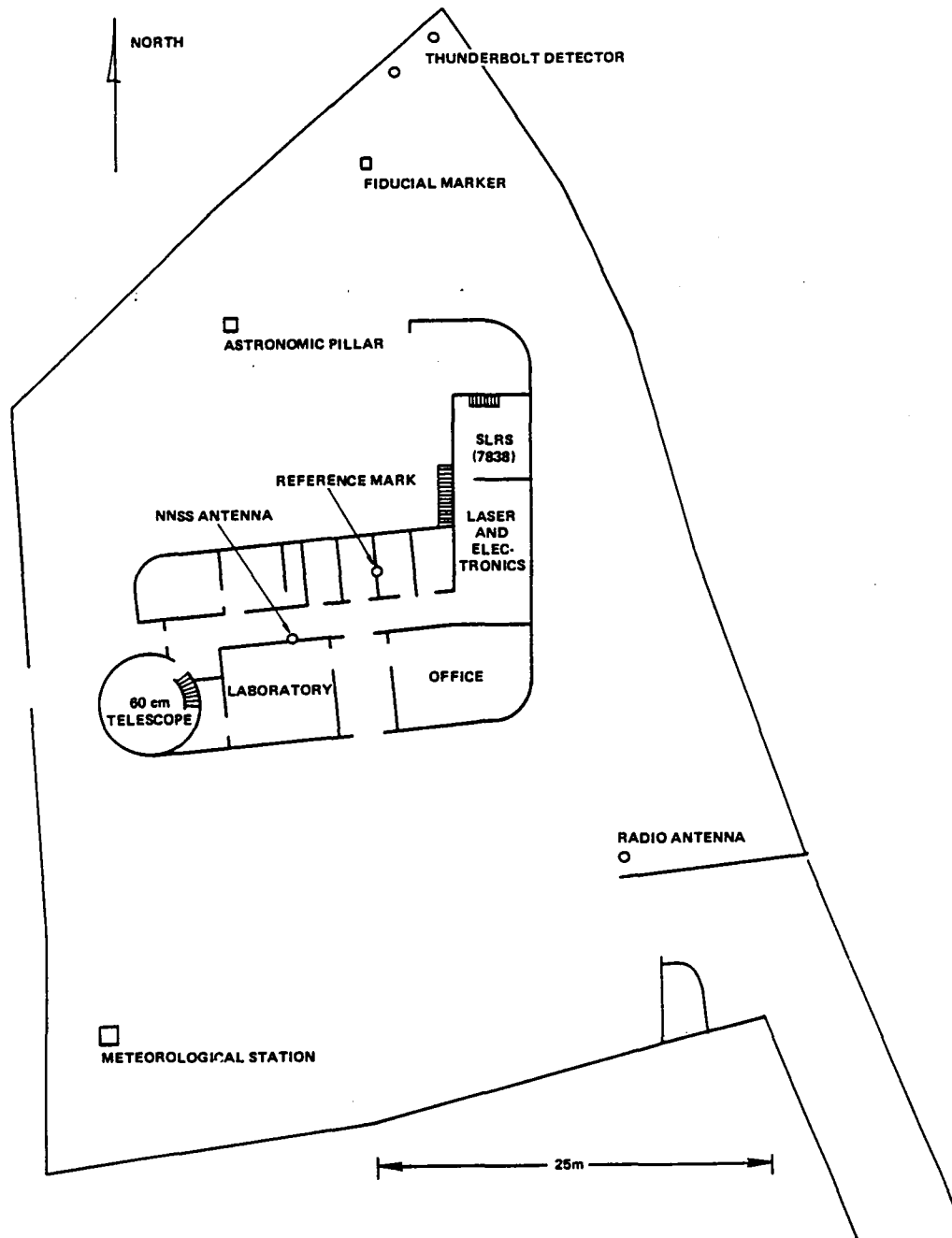


Figure 4-SMSATO. SIMOSATO Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 870
Current Site Name: SIMOSATO
Location: SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7838	SHOLAS	78383601	01-MAR-82	31-MAY-85	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 870
Current Site Name: SIMOSATO
Location: SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
SHOLAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 821

Current Site Name: SOCORRO ISLAND

Other Site Name:

Location: SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO

Geographic Region: NORTH AMERICA

Tectonic Plate: PACIFIC

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 804

Current Site Name: SOURDOUGH

Other Site Name:

Location: SOURDOUGH, AK

Geographic Region: ALASKA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 9

Current Site Name: VANDENBERG

Other Site Name:

Location: VANDENBERG AIR FORCE BASE, CA

Geographic Region: CALIFORNIA

Tectonic Plate: PACIFIC

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, REGIONAL DEFORMATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE ORIGINAL SITE WAS LOCATED ON A TELEMETRY RECEIVING SITE ON OAK MOUNTAIN AT VANDENBERG AIR FORCE BASE. TWO MONUMENTS WERE PROVIDED FOR JOINT OCCUPATIONS BY MOBILE VLBI AND MOBILE LASER SYSTEMS. THE PAD CONTAINING MONUMENT 7111 IS NOW ABANDONED DUE TO EXCESSIVE RADIO FREQUENCY INTERFERENCE. TWO NEW PADS HAVE BEEN COMPLETED ON THE SOUTH COAST OF THE AIR FORCE BASE NEAR THE BOAT HOUSE.

Site Topo Map: LOMPOC HILLS, CALIFORNIA. N3430-W12022.5/7.5, 1959. STATE OF CALIF. DEPARTMENT OF WATER RESOURCES. AVAILABLE AT U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: TRANSVERSE RANGES

Local Geology: MIOCENE MARINE TERRACE DEPOSITS

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA
Number of Observing Monuments: 2
Surveyed into National Network? NO

Monument Number: 7111
Type of Monument: DMA DISK
Monument Inscription: MOBLAS STA 7111 1981
Systems Using Monument: TLRs AND MOBILE VLBI

Latitude: N 34 33' 58.71742''
Longitude: W 120 29' 56.14501''
Elevation: 629.148 meters
Survey Source/Date: DMA, DET. 1 GEODETIC SURVEY SQUADRON/01-NOV-81
Datum/Ellipsoid: NAD 1927 (WCPT)/CLARKE 1866

Comments: THIS PAD WAS ABANDONED BECAUSE OF RADIO FREQUENCY INTERFERENCE PROBLEMS.

Differential Coordinates FROM Observing Monument 7111 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA

Monument Number: 7223
Type of Monument: DMA DISK
Monument Inscription: VLBI STA 7223 1983
Systems Using Monument: MV-1

Latitude: N 34 33' 21.9231''
Longitude: W 120 36' 55.4513''
Elevation: 23.694 meters
Survey Source/Date: PRELIMINARY ADJUSTMENT DETACHMENT 1 DMAHTC-GSS/
Datum/Ellipsoid: NAD/WCPT

Comments: THIS IS THE NEW SITE ON SOUTH COAST OF VAFB.

Differential Coordinates FROM Observing Monument 7223 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA

Monument Number: 7880
Type of Monument: DMA DISK
Monument Inscription: 7880-1983
Systems Using Monument: TLRS

Latitude: N 34 33' 21.4767''
Longitude: W 120 36' 55.5099''
Elevation: 23.747 meters
Survey Source/Date: PRELIMINARY ADJUSTMENT DETACHMENT 1 DMAHTC-GSS/
Datum/Ellipsoid: NAD 1927/WCPT

Comments: THIS MONUMENT WAS PLACED DURING THE CONSTRUCTION OF THE NEW
VLBI STATION. THE MONUMENT IS ABOUT 12" ABOVE GROUND LEVEL.

Differential Coordinates FROM Observing Monument 7880 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA

Monument Number: 7887
Type of Monument: DMA DISK
Monument Inscription: 7887-1983
Systems Using Monument: TLRs

Latitude: N 34 33' 58.455''
Longitude: W 120 29' 58.274''
Elevation: 636.450 meters
Survey Source/Date: DMA, DET. 1 GEODETIC SURVEY/01-MAR-83
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS COLLOCATION SITE ON OAK MOUNTAIN IS NOW ABANDONED. THE STATION WAS DESTROYED WHEN AN ANTENNA WAS BUILT OVER IT.

Differential Coordinates FROM Observing Monument 7887 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- SITE SKETCH --

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA

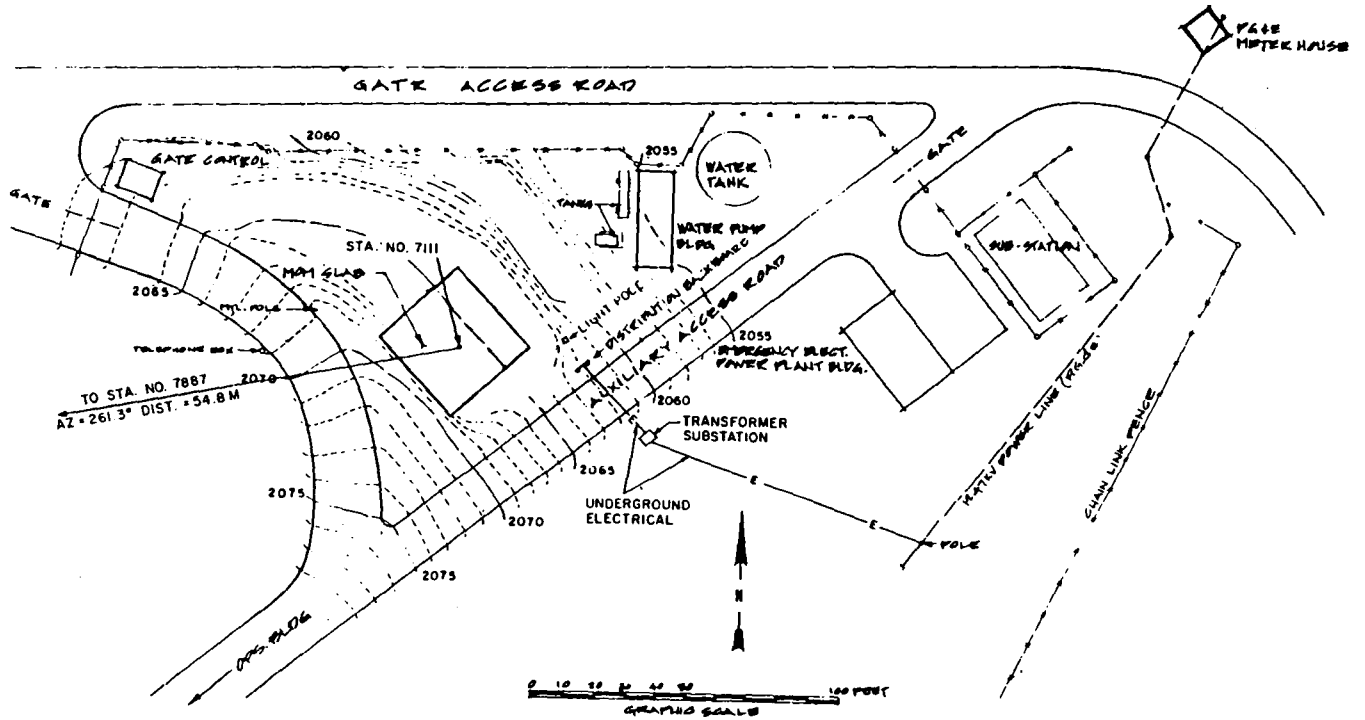


Figure 4-VANBRG. VANDENBERG Site Sketch (Old)

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 9
 Current Site Name: VANDENBERG
 Location: VANDENBERG AIR FORCE BASE, CA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7111	TLRS-1	71111101	28-APR-82	25-MAY-82	YES
7887	TLRS-1	78871101	25-JAN-83	21-FEB-83	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7111	MV-2	71115201	01-SEP-81	02-SEP-81	YES
7111	MV-2	71115202	22-FEB-83	23-FEB-83	YES
7111	MV-2	71115202	24-FEB-83	24-FEB-83	YES
7111	MV-2	71115201	01-SEP-81	02-SEP-81	YES
7111	MV-2	71115202	21-FEB-83	22-FEB-83	YES
7223	MV-1	72235101	23-AUG-83	24-AUG-83	YES
7223	MV-1	72235101	26-AUG-83	27-AUG-83	YES
7223	MV-1	72235101	28-AUG-83	29-AUG-83	YES
7223	MV-1	72235101	30-AUG-83	31-AUG-83	YES
7223	MV-1	72235101	31-OCT-83	01-NOV-83	YES
7223	MV-1	72235101	03-NOV-83	04-NOV-83	YES
7223	MV-1	72235101	08-NOV-83	09-NOV-83	YES
7223	MV-1	72235101	10-NOV-83	11-NOV-83	YES
7223	MV-1	72235101	12-NOV-83	12-NOV-83	YES
7223	MV-1	72235101	20-FEB-84	21-FEB-84	YES
7223	MV-1	72235101	23-FEB-84	24-FEB-84	NO
7223	MV-1	72235101	26-FEB-84	27-FEB-84	NO
7223	MV-1	72235101	29-FEB-84	01-FEB-84	NO
7223	MV-1	72235101	03-MAR-84	04-FEB-84	NO
7223	MV-1	72235101	09-APR-84	10-APR-84	NO
7223	MV-1	72235101	12-APR-84	13-APR-84	NO
7223	MV-1	72235101	14-JUL-84	16-JUL-84	NO
7223	MV-1	72235101	21-JUL-84	22-JUL-84	NO
7223	MV-1	72235101	23-JUL-84	25-JUL-84	NO
7223	MV-1	72235101	31-JUL-84	02-AUG-84	NO
7223	MV-1	72235101	07-AUG-84	09-AUG-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7223	MV-1	72235101	22-OCT-84	23-OCT-84	NO
7223	MV-1	72235101	25-OCT-84	26-OCT-84	NO
7223	MV-1	72235101	28-OCT-84	29-OCT-84	NO
7223	MV-1	72235101	31-OCT-84	01-NOV-84	NO
7223	MV-1	72235101	09-JAN-85	10-JAN-85	NO
7223	MV-1	72235101	12-JAN-85	13-JAN-85	NO
7223	MV-1	72235101	15-JAN-85	16-JAN-85	NO
7223	MV-1	72235101	18-JAN-85	19-JAN-85	NO
7223	MV-1	72235101	01-MAR-85	02-MAR-85	NO
7223	MV-1	72235101	04-MAR-85	05-MAR-85	NO
7223	MV-1	72235101	07-MAR-85	08-MAR-85	NO
7223	MV-1	72235101	10-MAR-85	11-MAR-85	NO
7223	MV-1	72235101	13-MAR-85	14-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 9
Current Site Name: VANDENBERG
Location: VANDENBERG AIR FORCE BASE, CA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

MV-1	Continuing
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-- SITE INFORMATION --

Site Number: 413

Current Site Name: VERNAL

Other Site Name:

Location: VERNAL, UT

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE STATION IS LOCATED ON AN ABANDONED SITE OF UINTA SEISMOLOGICAL OBSERVATORY IN NORTHEAST UTAH. THE SITE WAS DESTROYED WHEN THE TEMPORARY OBSERVATORY LOCATION WAS RETURNED TO THE BUREAU OF LAND MANAGEMENT, THUS MAKING SEVERAL YEARS OF DATA USELESS. THE PROJECT PLANS TO RE-CONSTRUCT THE SITE.

Site Topo Map: VERNAL SOUTHEAST, UTAH. N4015-W10930/7.5, 1964. U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: UINTA BASIN

Local Geology: DUCHESNE RIVER FORMATION. TERTIARY SEDIMENTS-SHALES, CONGLOMERATES, AND SANDSTONES. BEDROCK-MORRISON SANDSTONE (JURASSIC).

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 413
Current Site Name: VERNAL
Location: VERNAL, UT
Number of Observing Monuments: 1
Surveyed into National Network? NO

Monument Number: 7892
Type of Monument: NGS STATION DISK
Monument Inscription: VERNAL NCMN 1981
Systems Using Monument: TLRS AND MOBILE VLBI

Latitude: N 40 19' 36.59''
Longitude: W 109 34' 15.1''
Elevation: 1593.26 meters
Survey Source/Date: SOLUTION FROM THE FIRST TLRS OCCUPATION/
01-JUN-82
Datum/Ellipsoid: UNKNOWN

Comments: THIS MONUMENT WAS DESTROYED DURING THE OBSERVATORY TEAR DOWN.

Differential Coordinates FROM Observing Monument 7892 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 413
Current Site Name: VERNAL
Location: VERNAL, UT

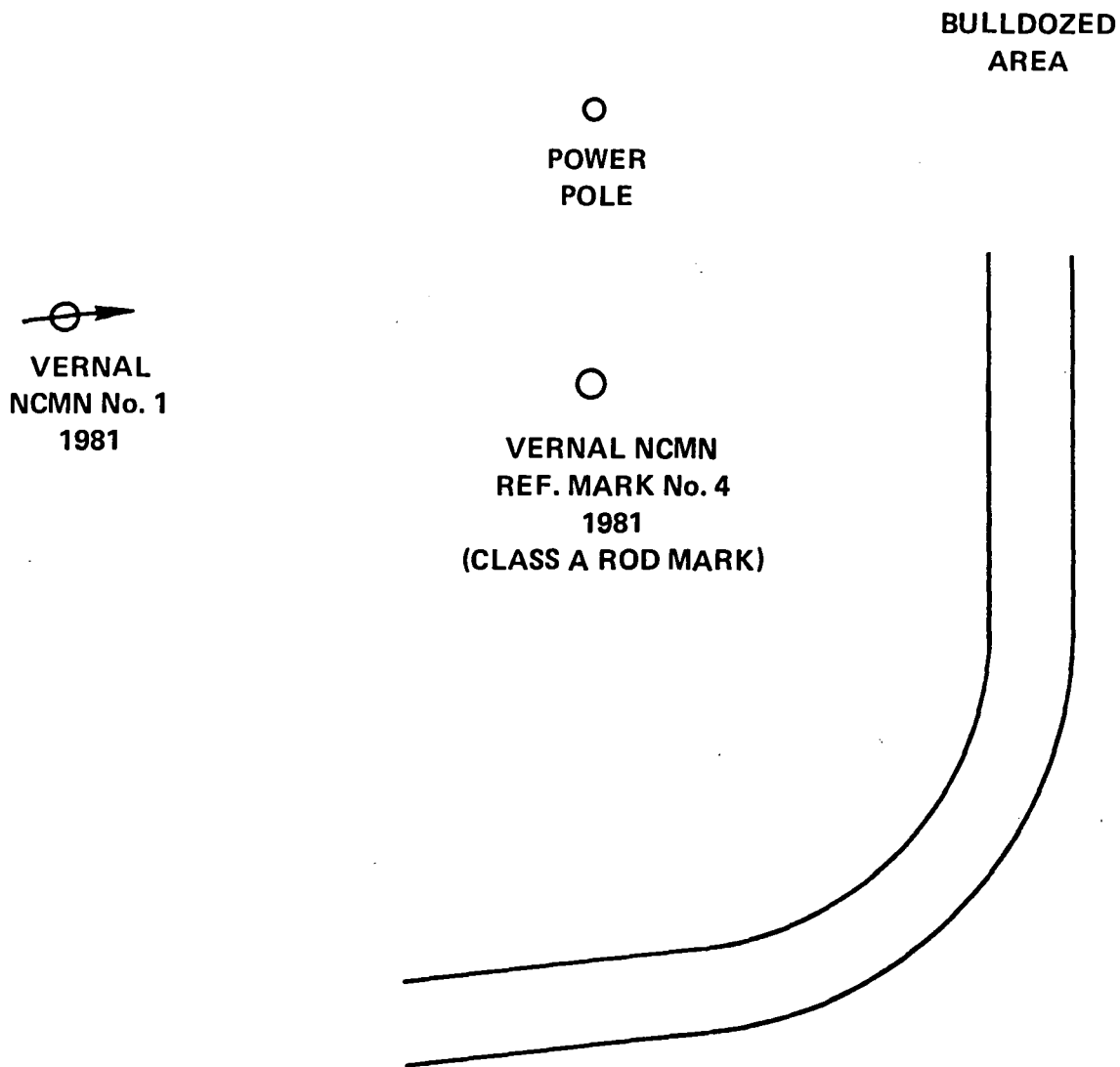
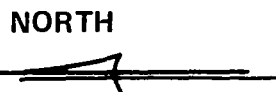


Figure 4-VERNAL. VERNAL Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 413
Current Site Name: VERNAL
Location: VERNAL, UT

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7892	TLRS-1	78921101	07-MAY-81	17-JUN-81	YES
7892	TLRS-1	78921102	31-MAY-82	21-JUL-82	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7280	MV-2	72805201	14-JUL-84	16-JUL-84	YES
7892	MV-3	78925301	25-APR-84	26-APR-84	YES

-- FUTURE OCCUPATION INFORMATION --

Site Number: 413
Current Site Name: VERNAL
Location: VERNAL, UT

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
-- None Planned --	

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
MV	MAY-85

-- SITE INFORMATION --

Site Number: 41

Current Site Name: WESTFORD

Other Site Name: HAYSTACK

Location: HAYSTACK OBSERVATORY, WESTFORD, MA

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, POLAR MOTION/EARTH ROTATION, AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE SITE IS LOCATED ON GOVERNMENT PROPERTY AT THE HAYSTACK OBSERVATORY NEAR WESTFORD, MASSACHUSETTS, APPROXIMATELY 30 MILES NORTHWEST OF BOSTON. TWO FIXED ANTENNAS, WESTFORD (18-METER NGS RADIO TELESCOPE) AND HAYSTACK (37-METER NERC RADIO TELESCOPE), ARE USED FOR VLBI EXPERIMENTS. IN ADDITION, THE LASER FACILITY LOCATED AT THE HAYSTACK OBSERVATORY ACCOMMODATES BOTH MOBILE LASER AND VLBI SYSTEMS.

Site Topo Map: BOSTON, MA 1:250,000 SCALE

-- GEOLOGICAL INFORMATION --

Geological Province: THE PIEDMONT PROVINCE

Local Geology: UNKNOWN

Comments: NONE

--- MONUMENT INFORMATION ---

Site Number: 41
 Current Site Name: WESTFORD
 Location: HAYSTACK OBSERVATORY, WESTFORD, MA
 Number of Observing Monuments: 3
 Surveyed into National Network? YES

Monument Number: 7091
 Type of Monument: NGS STATION DISK
 Monument Inscription: HAYSTACK INTER COMP 1977
 Systems Using Monument: MOBLAS

Latitude: N 42 37' 21.34080''
 Longitude: W 71 29' 17.27894''
 Elevation: 120.754 meters
 Survey Source/Date: NGS HAVAGO ADJUSTMENT OF 10-SEP-79/10-SEP-79
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: NONE

Differential Coordinates FROM Observing Monument 7091 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7205	----	-48.865	12.265	65.805
7209	----	-247.004	-815.719	-800.429

-- MONUMENT INFORMATION --

(Continued)

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

Monument Number: 7205
Type of Monument: REFERENCE POINT ON RADIO TELESCOPE
Monument Inscription: NONE
Systems Using Monument: 37-METER RADIO TELESCOPE (NEROC)

Latitude: N 42 37' 23.50569''
Longitude: W 71 29' 19.14134''
Elevation: 145.337 meters
Survey Source/Date: NGS HAVAGO ADJUSTMENT OF 10-SEP-79/10-SEP-79
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE SYSTEM IS ALSO REFERENCED AS HAYSTACK.

Differential Coordinates FROM Observing Monument 7205 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7091	HAYSTACK INTER COMP 1977	48.865	-12.265	-65.805
7209	----	-198.139	-863.983	-866.234

-- MONUMENT INFORMATION --

(Continued)

Site Number: 41
 Current Site Name: WESTFORD
 Location: HAYSTACK OBSERVATORY, WESTFORD, MA

Monument Number: 7209
 Type of Monument: REFERENCE POINT ON RADIO TELESCOPE
 Monument Inscription: NONE
 Systems Using Monument: 18-METER RADIO TELESCOPE (NGS)

Latitude: N 42 36' 46.24996''
 Longitude: W 71 29' 39.41928''
 Elevation: 115.424 meters
 Survey Source/Date: NGS HAVAGO ADJUSTMENT OF 10-SEP-79/10-SEP-79
 Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THE SYSTEM IS ALSO REFERENCED AS WESTFORD.

Differential Coordinates FROM Observing Monument 7209 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7091	HAYSTACK INTER COMP 1977	247.004	851.719	800.429
7205	----	198.139	863.983	866.234

-- SITE SKETCH --

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

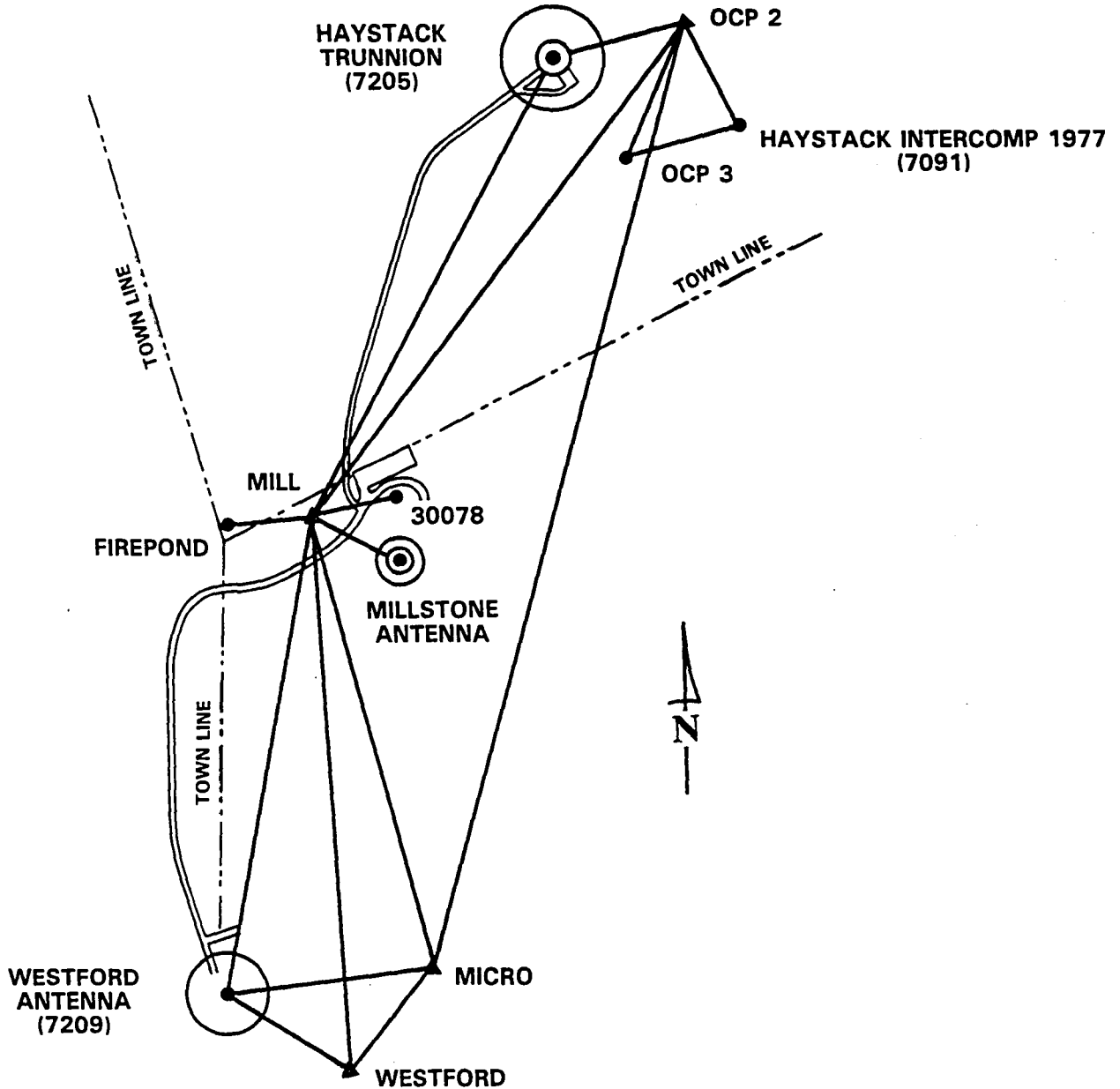


Figure 4-WSTFRD. WESTFORD Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 41
 Current Site Name: WESTFORD
 Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7091	MOBLAS-3	70910301	05-DEC-77	31-MAR-78	YES
7091	MOBLAS-7	70910702	10-JUN-79	14-NOV-80	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7205	HAYSTACK	72057401	09-SEP-76	09-SEP-76	YES
7205	HAYSTACK	72057401	29-SEP-76	29-SEP-76	YES
7205	HAYSTACK	72057401	04-OCT-76	04-OCT-76	YES
7205	HAYSTACK	72057401	09-OCT-76	09-OCT-76	YES
7205	HAYSTACK	72057401	11-OCT-76	11-OCT-76	YES
7205	HAYSTACK	72057401	14-OCT-76	14-OCT-76	YES
7205	HAYSTACK	72057401	13-DEC-76	13-DEC-76	YES
7205	HAYSTACK	72057401	15-DEC-76	15-DEC-76	YES
7205	HAYSTACK	72057401	27-MAR-77	27-MAR-77	YES
7205	HAYSTACK	72057401	26-JUN-77	26-JUN-77	YES
7205	HAYSTACK	72057401	24-SEP-77	24-SEP-77	YES
7205	HAYSTACK	72057401	13-DEC-77	13-DEC-77	YES
7205	HAYSTACK	72057401	13-JAN-78	13-JAN-78	YES
7205	HAYSTACK	72057401	24-FEB-78	24-FEB-78	YES
7205	HAYSTACK	72057401	17-MAY-78	17-MAY-78	YES
7205	HAYSTACK	72057401	09-APR-79	09-APR-79	YES
7205	HAYSTACK	72057401	03-AUG-79	03-AUG-79	YES
7205	HAYSTACK	72057401	25-NOV-79	25-NOV-79	YES
7205	HAYSTACK	72057401	11-APR-80	11-APR-80	YES
7205	HAYSTACK	72057401	26-JUL-80	26-JUL-80	YES
7205	HAYSTACK	72057401	27-JUL-80	27-JUL-80	YES
7205	HAYSTACK	72057401	26-SEP-80	26-SEP-80	YES
7205	HAYSTACK	72057401	27-SEP-80	27-SEP-80	YES
7205	HAYSTACK	72057401	28-SEP-80	28-SEP-80	YES
7205	HAYSTACK	72057401	29-SEP-80	29-SEP-80	YES
7205	HAYSTACK	72057401	30-SEP-80	30-SEP-80	YES
7205	HAYSTACK	72057401	01-OCT-80	01-OCT-80	YES
7205	HAYSTACK	72057401	02-OCT-80	02-OCT-80	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
 Current Site Name: WESFORD
 Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7205	HAYSTACK	72057401	16-OCT-80	16-OCT-80	YES
7205	HAYSTACK	72057401	17-OCT-80	17-OCT-80	YES
7205	HAYSTACK	72057401	18-OCT-80	18-OCT-80	YES
7205	HAYSTACK	72057401	19-OCT-80	19-OCT-80	YES
7205	HAYSTACK	72057401	20-OCT-80	20-OCT-80	YES
7205	HAYSTACK	72057401	21-OCT-80	21-OCT-80	YES
7205	HAYSTACK	72057401	22-OCT-80	22-OCT-80	YES
7205	HAYSTACK	72057401	03-NOV-80	03-NOV-80	YES
7205	HAYSTACK	72057401	01-DEC-80	01-DEC-80	YES
7205	HAYSTACK	72057401	19-DEC-80	19-DEC-80	YES
7205	HAYSTACK	72057401	07-JAN-81	07-JAN-81	YES
7205	HAYSTACK	72057401	22-JAN-81	22-JAN-81	YES
7205	HAYSTACK	72057401	12-FEB-81	12-FEB-81	YES
7205	HAYSTACK	72057401	27-FEB-81	27-FEB-81	YES
7205	HAYSTACK	72057401	16-MAR-81	16-MAR-81	YES
7205	HAYSTACK	72057401	13-MAY-81	13-MAY-81	YES
7205	HAYSTACK	72057401	16-JUN-81	16-JUN-81	YES
7205	HAYSTACK	72057401	17-JUN-81	17-JUN-81	YES
7205	HAYSTACK	72057401	18-NOV-81	18-NOV-81	YES
7205	HAYSTACK	72057401	19-NOV-81	19-NOV-81	YES
7205	HAYSTACK	72057401	18-JUN-82	18-JUN-82	YES
7205	HAYSTACK	72057401	19-JUN-82	19-JUN-82	YES
7205	HAYSTACK	72057401	20-JUN-82	20-JUN-82	YES
7205	HAYSTACK	72057401	05-MAY-83	05-MAY-83	YES
7205	HAYSTACK	72057401	23-SEP-83	23-SEP-83	YES
7205	HAYSTACK	72057401	28-OCT-83	28-OCT-83	YES
7205	HAYSTACK	72057401	17-NOV-83	17-NOV-83	YES
7205	HAYSTACK	72057401	22-DEC-83	22-DEC-83	YES
7205	HAYSTACK	72057401	24-FEB-84	25-FEB-84	NO
7205	HAYSTACK	72057401	19-APR-84	20-APR-84	NO
7205	HAYSTACK	72057401	19-MAY-84	20-MAY-84	NO
7205	HAYSTACK	72057401	30-AUG-84	31-AUG-84	NO
7205	HAYSTACK	72057401	02-SEP-84	03-SEP-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7209	WESTFORD	72097301	13-MAY-81	13-MAY-81	YES
7209	WESTFORD	72097301	16-JUN-81	16-JUN-81	YES
7209	WESTFORD	72097301	17-JUN-81	17-JUN-81	YES
7209	WESTFORD	72097301	24-JUN-81	24-JUN-81	YES
7209	WESTFORD	72097301	01-JUL-81	01-JUL-81	YES
7209	WESTFORD	72097301	08-JUL-81	08-JUL-81	YES
7209	WESTFORD	72097301	15-JUL-81	15-JUL-81	YES
7209	WESTFORD	72097301	22-JUL-81	22-JUL-81	YES
7209	WESTFORD	72097301	29-JUL-81	29-JUL-81	YES
7209	WESTFORD	72097301	05-AUG-81	05-AUG-81	YES
7209	WESTFORD	72097301	26-AUG-81	26-AUG-81	YES
7209	WESTFORD	72097301	02-SEP-81	02-SEP-81	YES
7209	WESTFORD	72097301	09-SEP-81	09-SEP-81	YES
7209	WESTFORD	72097301	16-SEP-81	16-SEP-81	YES
7209	WESTFORD	72097301	23-SEP-81	23-SEP-81	YES
7209	WESTFORD	72097301	30-SEP-81	30-SEP-81	YES
7209	WESTFORD	72097301	15-OCT-81	15-OCT-81	YES
7209	WESTFORD	72097301	21-OCT-81	21-OCT-81	YES
7209	WESTFORD	72097301	28-OCT-81	28-OCT-81	YES
7209	WESTFORD	72097301	04-NOV-81	04-NOV-81	YES
7209	WESTFORD	72097301	10-NOV-81	10-NOV-81	YES
7209	WESTFORD	72097301	18-NOV-81	18-NOV-81	YES
7209	WESTFORD	72097301	19-NOV-81	19-NOV-81	YES
7209	WESTFORD	72097301	24-NOV-81	24-NOV-81	YES
7209	WESTFORD	72097301	02-DEC-81	02-DEC-81	YES
7209	WESTFORD	72097301	16-DEC-81	16-DEC-81	YES
7209	WESTFORD	72097301	22-DEC-81	22-DEC-81	YES
7209	WESTFORD	72097301	06-JAN-82	06-JAN-82	YES
7209	WESTFORD	72097301	13-JAN-82	13-JAN-82	YES
7209	WESTFORD	72097301	20-JAN-82	20-JAN-82	YES
7209	WESTFORD	72097301	27-JAN-82	27-JAN-82	YES
7209	WESTFORD	72097301	01-FEB-82	01-FEB-82	YES
7209	WESTFORD	72097301	10-FEB-82	10-FEB-82	YES
7209	WESTFORD	72097301	17-FEB-82	17-FEB-82	YES
7209	WESTFORD	72097301	24-FEB-82	24-FEB-82	YES
7209	WESTFORD	72097301	03-MAR-82	03-MAR-82	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7209	WESTFORD	72097301	10-MAR-82	10-MAR-82	YES
7209	WESTFORD	72097301	24-MAR-82	24-MAR-82	YES
7209	WESTFORD	72097301	29-MAR-82	29-MAR-82	YES
7209	WESTFORD	72097301	07-APR-82	07-APR-82	YES
7209	WESTFORD	72097301	13-APR-82	13-APR-82	YES
7209	WESTFORD	72097301	26-APR-82	26-APR-82	YES
7209	WESTFORD	72097301	03-MAY-82	03-MAY-82	YES
7209	WESTFORD	72097301	10-MAY-82	10-MAY-82	YES
7209	WESTFORD	72097301	17-MAY-82	17-MAY-82	YES
7209	WESTFORD	72097301	02-JUN-82	02-JUN-82	YES
7209	WESTFORD	72097301	07-JUN-82	07-JUN-82	YES
7209	WESTFORD	72097301	16-JUN-82	16-JUN-82	YES
7209	WESTFORD	72097301	17-JUN-82	17-JUN-82	YES
7209	WESTFORD	72097301	18-JUN-82	18-JUN-82	YES
7209	WESTFORD	72097301	19-JUN-82	19-JUN-82	YES
7209	WESTFORD	72097301	20-JUN-82	20-JUN-82	YES
7209	WESTFORD	72097301	21-JUN-82	21-JUN-82	YES
7209	WESTFORD	72097301	28-JUN-82	28-JUN-82	YES
7209	WESTFORD	72097301	12-JUL-82	12-JUL-82	YES
7209	WESTFORD	72097301	19-JUL-82	19-JUL-82	YES
7209	WESTFORD	72097301	26-JUL-82	26-JUL-82	YES
7209	WESTFORD	72097301	04-AUG-82	04-AUG-82	YES
7209	WESTFORD	72097301	09-AUG-82	09-AUG-82	YES
7209	WESTFORD	72097301	16-AUG-82	16-AUG-82	YES
7209	WESTFORD	72097301	23-AUG-82	23-AUG-82	YES
7209	WESTFORD	72097301	30-AUG-82	30-AUG-82	YES
7209	WESTFORD	72097301	07-SEP-82	07-SEP-82	YES
7209	WESTFORD	72097301	13-SEP-82	13-SEP-82	YES
7209	WESTFORD	72097301	20-SEP-82	20-SEP-82	YES
7209	WESTFORD	72097301	27-SEP-82	27-SEP-82	YES
7209	WESTFORD	72097301	04-OCT-82	04-OCT-82	YES
7209	WESTFORD	72097301	13-OCT-82	13-OCT-82	YES
7209	WESTFORD	72097301	18-OCT-82	18-OCT-82	YES
7209	WESTFORD	72097301	25-OCT-82	25-OCT-82	YES
7209	WESTFORD	72097301	01-NOV-82	01-NOV-82	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
 Current Site Name: WESTFORD
 Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7209	WESTFORD	72097301	08-NOV-82	08-NOV-82	YES
7209	WESTFORD	72097301	15-NOV-82	15-NOV-82	YES
7209	WESTFORD	72097301	22-NOV-82	22-NOV-82	YES
7209	WESTFORD	72097301	29-NOV-82	29-NOV-82	YES
7209	WESTFORD	72097301	06-DEC-82	06-DEC-82	YES
7209	WESTFORD	72097301	15-DEC-82	15-DEC-82	YES
7209	WESTFORD	72097301	16-DEC-82	16-DEC-82	YES
7209	WESTFORD	72097301	20-DEC-82	20-DEC-82	YES
7209	WESTFORD	72097301	27-DEC-82	27-DEC-82	YES
7209	WESTFORD	72097301	03-JAN-83	03-JAN-83	YES
7209	WESTFORD	72097301	10-JAN-83	10-JAN-83	YES
7209	WESTFORD	72097301	17-JAN-83	17-JAN-83	YES
7209	WESTFORD	72097301	24-JAN-83	24-JAN-83	YES
7209	WESTFORD	72097301	31-JAN-83	31-JAN-83	YES
7209	WESTFORD	72097301	07-FEB-83	07-FEB-83	YES
7209	WESTFORD	72097301	14-FEB-83	14-FEB-83	YES
7209	WESTFORD	72097301	28-FEB-83	28-FEB-83	YES
7209	WESTFORD	72097301	07-MAR-83	07-MAR-83	YES
7209	WESTFORD	72097301	14-MAR-83	14-MAR-83	YES
7209	WESTFORD	72097301	21-MAR-83	21-MAR-83	YES
7209	WESTFORD	72097301	28-MAR-83	28-MAR-83	YES
7209	WESTFORD	72097301	04-APR-83	04-APR-83	YES
7209	WESTFORD	72097301	11-APR-83	11-APR-83	YES
7209	WESTFORD	72097301	18-APR-83	18-APR-83	YES
7209	WESTFORD	72097301	25-APR-83	25-APR-83	YES
7209	WESTFORD	72097301	02-MAY-83	02-MAY-83	YES
7209	WESTFORD	72097301	05-MAY-83	05-MAY-83	YES
7209	WESTFORD	72097301	09-MAY-83	09-MAY-83	YES
7209	WESTFORD	72097301	16-MAY-83	16-MAY-83	YES
7209	WESTFORD	72097301	23-MAY-83	23-MAY-83	YES
7209	WESTFORD	72097301	31-MAY-83	31-MAY-83	YES
7209	WESTFORD	72097301	06-JUN-83	06-JUN-83	YES
7209	WESTFORD	72097301	07-JUN-83	07-JUN-83	YES
7209	WESTFORD	72097301	08-JUN-83	08-JUN-83	YES
7209	WESTFORD	72097301	09-JUN-83	09-JUN-83	YES
7209	WESTFORD	72097301	13-JUN-83	13-JUN-83	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
 Current Site Name: WESTFORD
 Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7209	WESTFORD	72097301	20-JUN-83	20-JUN-83	YES
7209	WESTFORD	72097301	28-JUN-83	28-JUN-83	YES
7209	WESTFORD	72097301	05-JUL-83	05-JUL-83	YES
7209	WESTFORD	72097301	11-JUL-83	11-JUL-83	YES
7209	WESTFORD	72097301	25-JUL-83	25-JUL-83	YES
7209	WESTFORD	72097301	01-AUG-83	01-AUG-83	YES
7209	WESTFORD	72097301	08-AUG-83	08-AUG-83	YES
7209	WESTFORD	72097301	15-AUG-83	15-AUG-83	YES
7209	WESTFORD	72097301	22-AUG-83	22-AUG-83	YES
7209	WESTFORD	72097301	29-AUG-83	29-AUG-83	YES
7209	WESTFORD	72097301	30-AUG-83	30-AUG-83	YES
7209	WESTFORD	72097301	02-SEP-83	02-SEP-83	YES
7209	WESTFORD	72097301	07-SEP-83	07-SEP-83	YES
7209	WESTFORD	72097301	12-SEP-83	12-SEP-83	YES
7209	WESTFORD	72097301	17-SEP-83	17-SEP-83	YES
7209	WESTFORD	72097301	22-SEP-83	22-SEP-83	YES
7209	WESTFORD	72097301	27-SEP-83	27-SEP-83	YES
7209	WESTFORD	72097301	02-OCT-83	02-OCT-83	YES
7209	WESTFORD	72097301	07-OCT-83	07-OCT-83	YES
7209	WESTFORD	72097301	12-OCT-83	12-OCT-83	YES
7209	WESTFORD	72097301	17-OCT-83	17-OCT-83	YES
7209	WESTFORD	72097301	22-OCT-83	22-OCT-83	YES
7209	WESTFORD	72097301	27-OCT-83	27-OCT-83	YES
7209	WESTFORD	72097301	01-NOV-83	01-NOV-83	YES
7209	WESTFORD	72097301	06-NOV-83	06-NOV-83	YES
7209	WESTFORD	72097301	11-NOV-83	11-NOV-83	YES
7209	WESTFORD	72097301	16-NOV-83	16-NOV-83	YES
7209	WESTFORD	72097301	21-NOV-83	21-NOV-83	YES
7209	WESTFORD	72097301	26-NOV-83	26-NOV-83	YES
7209	WESTFORD	72097301	01-DEC-83	01-DEC-83	YES
7209	WESTFORD	72097301	06-DEC-83	06-DEC-83	YES
7209	WESTFORD	72097301	11-DEC-83	11-DEC-83	YES
7209	WESTFORD	72097301	16-DEC-83	16-DEC-83	YES
7209	WESTFORD	72097301	21-DEC-83	21-DEC-83	YES

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7209	WESTFORD	72097301	26-DEC-83	26-DEC-83	YES
7209	WESTFORD	72097301	31-DEC-83	31-DEC-83	YES
7209	WESTFORD	72097301	04-JAN-84	05-JAN-84	NO
7209	WESTFORD	72097301	09-JAN-84	10-JAN-84	NO
7209	WESTFORD	72097301	14-JAN-84	15-JAN-84	NO
7209	WESTFORD	72097301	24-JAN-84	24-JAN-84	NO
7209	WESTFORD	72097301	25-JAN-84	26-JAN-84	NO
7209	WESTFORD	72097301	29-JAN-84	30-JAN-84	NO
7209	WESTFORD	72097301	03-FEB-84	04-FEB-84	NO
7209	WESTFORD	72097301	13-FEB-84	14-FEB-84	NO
7209	WESTFORD	72097301	18-FEB-84	19-FEB-84	NO
7209	WESTFORD	72097301	23-FEB-84	23-FEB-84	NO
7209	WESTFORD	72097301	28-FEB-84	28-FEB-84	NO
7209	WESTFORD	72097301	09-MAR-84	10-MAR-84	NO
7209	WESTFORD	72097301	14-MAR-84	14-MAR-84	NO
7209	WESTFORD	72097301	15-MAR-84	16-MAR-84	NO
7209	WESTFORD	72097301	19-MAR-84	20-MAR-84	NO
7209	WESTFORD	72097301	25-MAR-84	26-MAR-84	NO
7209	WESTFORD	72097301	30-MAR-84	31-MAR-84	NO
7209	WESTFORD	72097301	23-APR-84	24-APR-84	NO
7209	WESTFORD	72097301	26-APR-84	27-APR-84	NO
7209	WESTFORD	72097301	28-APR-84	29-APR-84	NO
7209	WESTFORD	72097301	05-MAY-84	06-MAY-84	NO
7209	WESTFORD	72097301	08-MAY-84	09-MAY-84	NO
7209	WESTFORD	72097301	13-MAY-84	14-MAY-84	NO
7209	WESTFORD	72097301	18-MAY-84	18-MAY-84	NO
7209	WESTFORD	72097301	23-MAY-84	24-MAY-84	NO
7209	WESTFORD	72097301	28-MAY-84	29-MAY-84	NO
7209	WESTFORD	72097301	02-JUN-84	03-JUN-84	NO
7209	WESTFORD	72097301	07-JUN-84	08-JUN-84	NO
7209	WESTFORD	72097301	12-JUN-84	13-JUN-84	NO
7209	WESTFORD	72097301	17-JUN-84	18-JUN-84	NO
7209	WESTFORD	72097301	22-JUN-84	23-JUN-84	NO
7209	WESTFORD	72097301	27-JUN-84	28-JUN-84	NO
7209	WESTFORD	72097301	30-JUN-84	01-JUL-84	NO
7209	WESTFORD	72097301	02-JUL-84	03-JUL-84	NO

-- PREVIOUS OCCUPATION INFORMATION --

(Continued)

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7209	WESTFORD	72097301	12-JUL-84	13-JUL-84	NO
7209	WESTFORD	72097301	17-JUL-84	18-JUL-84	NO
7209	WESTFORD	72097301	27-JUL-84	27-JUL-84	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 41
Current Site Name: WESTFORD
Location: HAYSTACK OBSERVATORY, WESTFORD, MA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
----- MTLRS-1	----- JUL-85

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
----- WESTFORD	----- Continuing

-- SITE INFORMATION --

Site Number: 119

Current Site Name: WETTZELL

Other Site Name:

Location: WETTZELL, WEST GERMANY

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED NEAR WETTZELL APPROXIMATELY FIFTY KILOMETERS NORTHEAST OF MUNICH, WEST GERMANY. THE SITE IS OPERATED BY THE GERMAN GEODETIC RESEARCH INSTITUTE. THE SITE CONSISTS OF A FIXED LASER HOUSED IN A BUILDING WITH A MOVABLE ROOF, THE 20-METER VLBI RADIO TELESCOPE, AND A CONCRETE MONUMENTED PAD COMPATIBLE FOR OCCUPATION BY THE EUROPEAN MODULAR TRANSPORTABLE LASER RANGING SYSTEM (MTLRS).

Site Topo Map: ALL MAPS AND PUBLICATIONS ISSUED BY IFAG ARE EXCLUSIVELY DISTRIBUTED AND SOLD BY THE AUSSENSTELLE BERLIN.

-- GEOLOGICAL INFORMATION --

Geological Province: UNKNOWN

Local Geology: UNKNOWN

Comments: NONE

-- MONUMENT INFORMATION --

Site Number: 119
 Current Site Name: WETZELL
 Location: WETZELL, WEST GERMANY
 Number of Observing Monuments: 3
 Surveyed into National Network? YES

Monument Number: 7224
 Type of Monument: INTERSECTION OF AXES OF ROTATION
 Monument Inscription: NONE
 Systems Using Monument: 20-METER FIXED VLBI ANTENNA

Latitude: N 49 08' 44.869''
 Longitude: E 12 51' 42.491''
 Elevation: 622.600 meters
 Survey Source/Date: PRELIMINARY SURVEY/01-SEP-83
 Datum/Ellipsoid: EUROPEAN 50/INTERNATIONAL

Comments: THE HEIGHT ABOVE THE ELLIPSOID IS 625.5 METERS.

Differential Coordinates FROM Observing Monument 7224 TO
 Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z
7834	----	-10.07	46.14	-11.11

-- MONUMENT INFORMATION --

(Continued)

Site Number: 119
Current Site Name: WETTZELL
Location: WETTZELL, WEST GERMANY

Monument Number: 7599
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: MTLRS

Latitude: N 49 08' 45.20''
Longitude: E 12 52' 43.40''
Elevation: 610.60 meters
Survey Source/Date: INSTITUT FUR ANGEWANDTE GEODASIE/05-JUL-84
Datum/Ellipsoid: EUROPEAN 50/INTERNATIONAL

Comments: THE HEIGHT ABOVE THE ELLIPSOID IS 613.5 METERS.

Differential Coordinates FROM Observing Monument 7599 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- MONUMENT INFORMATION --

(Continued)

Site Number: 119
Current Site Name: WETTZELL
Location: WETTZELL, WEST GERMANY

Monument Number: 7834
Type of Monument: INTERSECTION OF AXES OF LASER
Monument Inscription: NONE
Systems Using Monument: WETZEL FIXED LASER

Latitude: N 49 08' 44.624''
Longitude: E 12 52' 44.822''
Elevation: 614.440 meters
Survey Source/Date: INSTITUT FUR ANGEWANDTE GEODASIE/01-DEC-76
Datum/Ellipsoid: EUROPEAN 50/INTERNATIONAL

Comments: THE HEIGHT ABOVE THE ELLIPSOID IS 617.35 METERS.

Differential Coordinates FROM Observing Monument 7834 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 119
Current Site Name: WETZELL
Location: WETZELL, WEST GERMANY

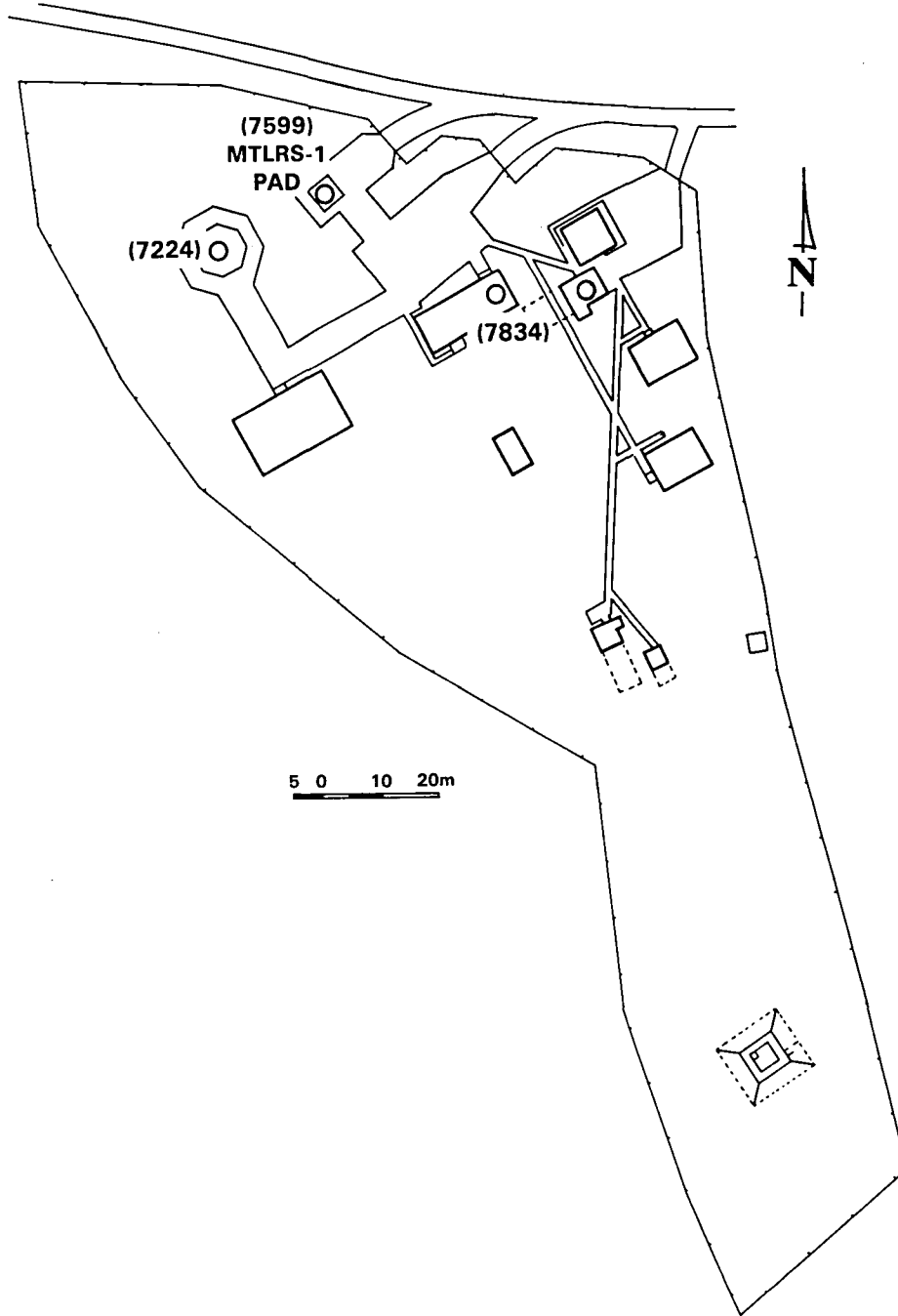


Figure 4-WETZEL. WETZELL Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 119
Current Site Name: WETTZELL
Location: WETTZELL, WEST GERMANY

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7834	WETLAS	78343001	01-MAY-76	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7224	20-METER	72247801	01-JUL-84	31-AUG-88	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 119
Current Site Name: WETTZELL
Location: WETTZELL, WEST GERMANY

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
WETLAS	Continuing

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----
FIXED	Continuing

-- SITE INFORMATION --

Site Number: 806

Current Site Name: WHITEHORSE

Other Site Name:

Location: WHITEHORSE, YUKON TERRITORY, CANADA

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 133

Current Site Name: YARAGADEE

Other Site Name:

Location: YARAGADEE, AUSTRALIA

Geographic Region: AUSTRALIA

Tectonic Plate: AUSTRALIAN-INDIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED ON THE WEST COAST OF AUSTRALIA, 53 MILES EAST SOUTHEAST OF GERALDTOWN AND 218 MILES NORTH OF PERTH. THE MONUMENTED PAD IS COMPATIBLE FOR OCCUPATION BY MOBILE LASER SYSTEMS. MOBLAS-5 FIRST OCCUPIED THE STATION IN AUGUST 1979 AND IS SCHEDULED TO REMAIN THROUGH 1988. THIS SITE PLAYS A KEY ROLE IN THE MEASUREMENT OF THE AUSTRALIAN PLATE MOVEMENT.

Site Topo Map: SERIES R611 SHEET 1939 'MINGENEW', DIVISION OF NATIONAL MAPPING, AUSTRALIA

-- GEOLOGICAL INFORMATION --

Geological Province: PERTH BASIN

Local Geology: JURASSIC YARAGADEE FORMATION; SANDSTONE, SILTSTONE, SHALE. THE TERRAIN IS COVERED BY LOW SCRUB.

Comments: THE SITE IS ON THE EDGE OF AN ESCARPMENT RUNNING NORTHEAST FROM WHICH A FLAT PLATEAU EXTENDS TOWARDS THE NORTH.

-- MONUMENT INFORMATION --

Site Number: 133
Current Site Name: YARAGADEE
Location: YARAGADEE, AUSTRALIA
Number of Observing Monuments: 1
Surveyed into National Network? YES

Monument Number: 7090
Type of Monument: UNKNOWN
Monument Inscription: NONE
Systems Using Monument: MOBLAS

Latitude: S 29 02' 51.8303''
Longitude: E 115 20' 43.1805''
Elevation: 266.568 meters
Survey Source/Date: AUSTRALIAN DIVISION OF THE NATIONAL MAPPING/
24-SEP-79
Datum/Ellipsoid: AUSTRALIAN GEODETIC 1966/AUSTRALIA NATIONAL

Comments: NONE

Differential Coordinates FROM Observing Monument 7090 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 133
Current Site Name: YARAGADEE
Location: YARAGADEE, AUSTRALIA

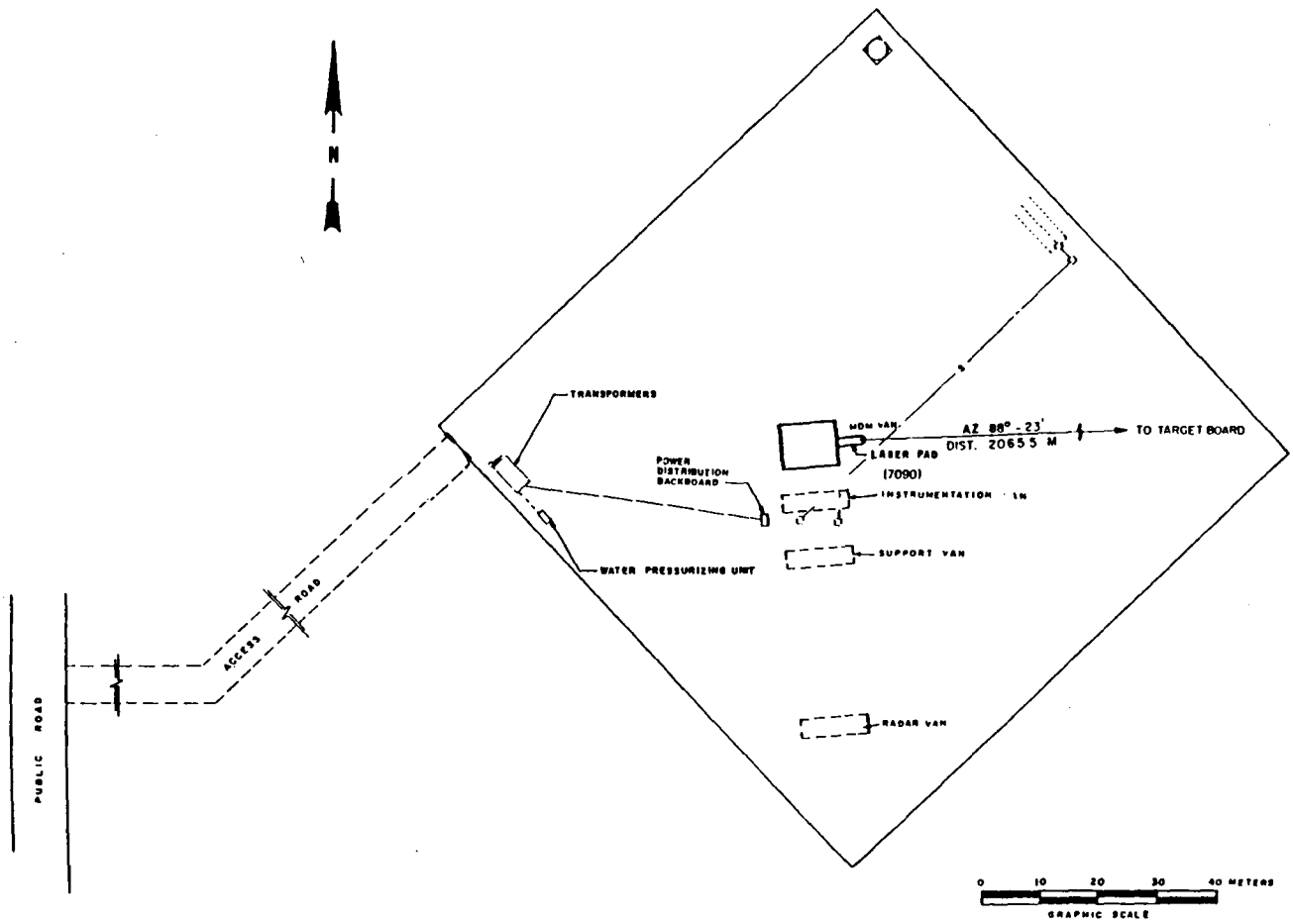


Figure 4-YARGAD. YARAGADEE Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 133
Current Site Name: YARAGADEE
Location: YARAGADEE, AUSTRALIA

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7090	MOBLAS-5	70900501	31-JUL-79	31-DEC-88	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
--------------------	---------------------	--------------------------	------------------	----------------	-----------------

-- No Previous Occupations --

-- FUTURE OCCUPATION INFORMATION --

Site Number: 133
Current Site Name: YARAGADEE
Location: YARAGADEE, AUSTRALIA

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
-----	-----

-- None Planned --

-- SITE INFORMATION --

Site Number: 408

Current Site Name: YELLOWKNIFE

Other Site Name:

Location: YELLOWKNIFE, NORTHWEST TERRITORY, CANADA

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

-- Site Information Not Yet Available --

-- SITE INFORMATION --

Site Number: 202

Current Site Name: YUMA

Other Site Name:

Location: YUMA PROVING GROUNDS, AZ

Geographic Region: NORTH AMERICA

Tectonic Plate: NORTH AMERICAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING THE DETERMINATION OF REGIONAL DEFORMATION AND INTERCOMPARISON OF MEASUREMENT TECHNIQUES.

Site Description: THE NEW SITE IS LOCATED ON AN ABANDONED MORTAR GP-21A PAD ON THE U.S. ARMY YUMA PROVING GROUNDS. THE OBSERVING MONUMENT IS SET IN THE MORTAR PAD TO THE WEST OF THE GUN MOUNT AREA. THE ELECTRONICS VAN FOR THE MOBILE VLBI SYSTEMS LOCATES ON THE EAST SIDE OF THIS GUN MOUNT. BOLT INSERTS HAVE BEEN PLACED IN THE PAD AROUND THE OBSERVING MONUMENT MAKING IT COMPATIBLE FOR OCCUPATION BY TLRS-2.

Site Topo Map: IMPERIAL RESERVOIR, ARIZONA. U.S.G.S., RESTON, VA 22092

-- GEOLOGICAL INFORMATION --

Geological Province: MOJAVE DESERT

Local Geology: QUATERNARY ALLUVIUM

Comments: THE ORIGINAL SITE WAS OCCUPIED BY MV-2; THE NEW SITE WAS CHOSEN FOR SAFETY REASONS.

-- MONUMENT INFORMATION --

Site Number: 202
Current Site Name: YUMA
Location: YUMA PROVING GROUNDS, AZ
Number of Observing Monuments: 2
Surveyed into National Network? YES

Monument Number: 7273
Type of Monument: USC & GS STATION DISK
Monument Inscription: LORAC WEST 1956
Systems Using Monument: MOBILE VLBI AND LASERS

Latitude: N 32 54' 12.793''
Longitude: W 114 20' 12.087''
Elevation: 241.677 meters
Survey Source/Date: NGS PRELIMINARY ESTIMATE/04-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS IS NOW AN ABANDONED SITE.

Differential Coordinates FROM Observing Monument 7273 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --

-- MONUMENT INFORMATION --

(Continued)

Site Number: 202
Current Site Name: YUMA
Location: YUMA PROVING GROUNDS, AZ

Monument Number: 7894
Type of Monument: NGS STATION DISK
Monument Inscription: YUMA NCMN 1983
Systems Using Monument: MOBILE LASER

Latitude: N 32 56' 21''
Longitude: W 114 12' 11''
Elevation: 241.7 meters
Survey Source/Date: RICHARD EANES (UNIVERSITY OF TEXAS)/04-JAN-84
Datum/Ellipsoid: NAD 1927/CLARKE 1866

Comments: THIS IS THE NEW SITE ON THE MORTAR PAD LOCATED ON THE FIRING RANGE.

Differential Coordinates FROM Observing Monument 7894 TO
Reference Monuments and Other Observing Monuments

Mon. Number	Monument Inscription	---- Differential Coordinates ----		
		X	Y	Z

-- Differential Coordinate Information Not Available --				

-- SITE SKETCH --

Site Number: 202
Current Site Name: YUMA
Location: YUMA PROVING GROUNDS, AZ

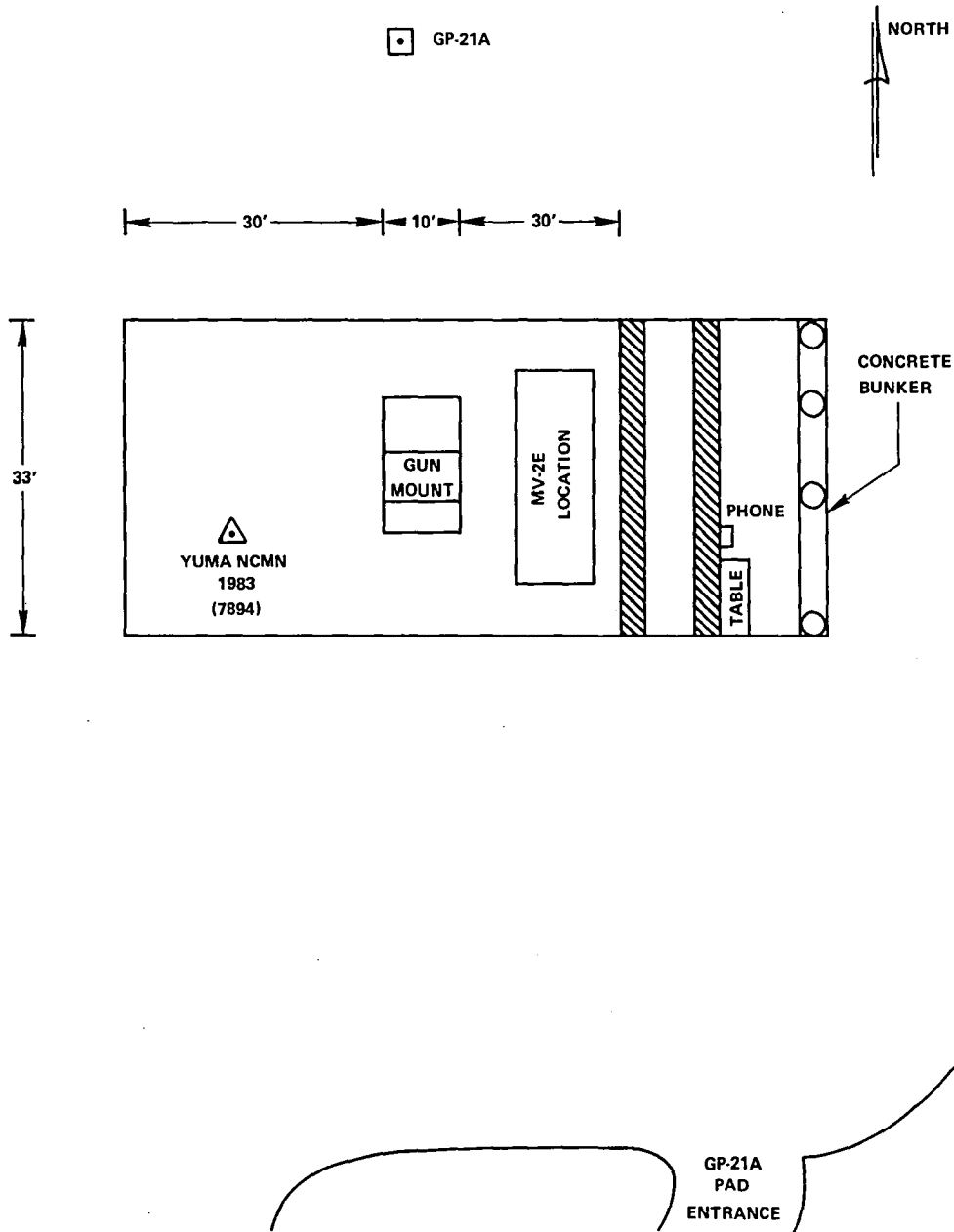


Figure 4-YUMA. YUMA Site Sketch

-- PREVIOUS OCCUPATION INFORMATION --

Site Number: 202
Current Site Name: YUMA
Location: YUMA PROVING GROUNDS, AZ

-- SLR OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7894	TLRS-1	78941101	22-FEB-83	04-JUL-83	YES

-- VLBI OCCUPATIONS --

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date	Data in DIS?
7273	MV-2	72735201	15-MAY-81	16-MAY-81	YES
7894	MV-2	78945201	03-NOV-83	04-NOV-83	YES
7894	MV-2	78945201	05-NOV-83	06-NOV-83	YES
7894	MV-2	78945202	31-OCT-84	01-NOV-84	NO
7894	MV-3	78945303	01-MAR-85	02-MAR-85	NO

-- FUTURE OCCUPATION INFORMATION --

Site Number: 202
Current Site Name: YUMA
Location: YUMA PROVING GROUNDS, AZ

-- SLR OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- VLBI OCCUPATIONS --

Occupying System	Planned Occupations
---------------------	------------------------

-- None Planned --

-- SITE INFORMATION --

Site Number: 882

Current Site Name: ZIMMERWALD

Other Site Name:

Location: BERN, SWITZERLAND

Geographic Region: EUROPE

Tectonic Plate: EURASIAN

-- Site Information Not Yet Available --

SECTION 5. OBSERVING SCHEDULES

SATELLITE LASER RANGING (SLR) OBSERVING PROGRAM FOR 1985 THROUGH 1986 AS OF 30-NOV-84						N. AMERICA		PACIFIC	S.A.	EURASIA					AUS.						
						Q	F	M	M	H	H	A	M	W	K	G	J	H	S	Y	O
						U	T	Z	O	U	A	R	A	E	O	R	R	R	M	A	R
						I	T	G	N	A	W	E	T	T	T	A	U	S	S	R	O
N	D	L	S	H	A	Q	E	Z	W	S	S	T	A	G	R						
C	A	A	F	P	N	I	I	R	E	J	S	L	M	T	A	A					
Y	V	N	C	K	E	I	P	A	L	K	E	M	N	O	D	L					
YR	MON	TLRS-1	TLRS-2	TLRS-3	TLRS-4	MILRS-1	M	F	M	M	F	F	F	F	F	F	F	F	M	F	
85	JAN	C TOLO G	EASTER G			EUROPE T	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
	FEB	C TOLO G	EASTER G			..	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
	MAR	IQUIE R	EASTER G			..	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
	APR	IQUIE R	EASTER G			(T)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
	MAY	(T)	(T)	GSFC C		GSFC C	G	G	G	C	G	G	G	G	G	G	G	G	G	G	
	JUN	ENSND R	HUAHNE G	GSFC C		GSFC C	G	*	*	C	*	G	G	G	G	G	G	G	G	G	
	JUL	ENSND R	HUAHNE G	GSFC C		WSTFRD I	G	*	*	C	*	G	G	G	G	T	G	G	G	G	
	AUG	SN LUC R	HUAHNE G	MOJAVE RI	GSFC C	WSTFRD I	*	*	*	C	*	G	G	G	G	T	G	G	G	G	
	SEP	SN LUC R	HUAHNE G	MOJAVE RI	GSFC C	(T)	*	*	*	C	*	G	G	G	G	T	G	G	G	G	
	OCT	FLGSTF RI	HUAHNE G	MOJAVE RI	PLATVL RI	EC MED R	*	*	*	G	G	*	G	G	G	T	G	G	G	G	
	NOV	FLGSTF RI	(T)	(T)	PLATVL RI	..	*	*	*	G	G	*	G	G	G	G	G	G	G	G	
	DEC	(T)	EASTER G	EC MED R	OVRO RI	..	*	*	*	G	G	*	G	G	G	*	G	G	G	G	
86	JAN	C TOLO G	EASTER G	..	OVRO RI	..	*	*	G	G	*	G	G	G	*	G	G	G	G	G	
	FEB	C TOLO G	EASTER G	..	MOJAVE RI	..	*	*	*	G	*	G	G	*	G	G	G	G	G	G	
	MAR	IQUIE G	EASTER G	..	MOJAVE RI	..	*	*	*	G	*	G	G	*	G	G	G	G	G	G	
	APR	IQUIE G	(T)	..	YUMA RI	..	*	*	*	G	*	G	G	*	G	G	G	G	G	G	
	MAY	(T)	HUAHNE G	..	YUMA RI	..	*	*	*	G	*	G	G	*	G	G	G	G	G	G	
	JUN	ENSND R	HUAHNE G	..	SN LUC R	..	G	*	*	G	*	G	G	*	G	G	G	G	G	G	
	JUL	ENSND R	HUAHNE G	..	SN LUC R	..	G	*	*	G	*	G	G	*	G	G	G	G	G	G	
	AUG	BEAR L R	HUAHNE G	..	PLATVL RI	..	*	*	G	G	*	G	G	*	G	G	G	G	G	G	
	SEP	BEAR L R	HUAHNE G	..	PLATVL RI	..	*	*	G	G	*	G	G	*	G	G	G	G	G	G	
	OCT	FLGSTF RI	(T)	..	PLATVL RI	..	*	*	G	G	*	G	G	*	G	G	G	G	G	G	
	NOV	FLGSTF RI	EASTER G	..	PLATVL RI	..	*	*	G	G	*	G	G	*	G	G	G	G	G	G	
	DEC	(T)	EASTER G	(T)	(T)	(T)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
87	JAN	TBD	TBD	TBD	TBD	TBD															

NOTES: M = MOBLAS
 F = Fixed SLR
 G = Global Studies (Plate Motion, Stability)
 I = Intercomparison with VLBI Measurements
 R = Regional Deformation
 C = Collocation
 T = Testing
 (T) = International Travel
 * = Supporting Base Station for TLRS Measurements

VERY LONG BASLINE INTERFEROMETRY (VLBI) OBSERVING PROGRAM FOR 1985 AS OF 30-NOV-84			NORTH AMERICA						PACIFIC			EURASIA				
			M	H	F	W	R	F	A	V	H	K	K	O	W	
			O	J	T	S	C	R	L	A	A	A	S	N	E	
			O	V	A	D	F	M	N	N	N	W	A	H	S	T
			R	V	C	A	R	N	K	Q	R	I	L	M	L	E
			O	E	R	V	D	D	S	N	G	I	N	A	A	L
DATE	EXPT. ID	MV-2, 3 SITES	T			T T			T T							
JAN	09	85A	DEADMN	S PAUL	(R)	R					R					
	12	85B	MON PK	BL BUT	(RI)	RI	RI				R					
	15	85C	OCTILO	BL BUT	(R)	R					R					
	18	85D	JPL	PINYON	(R)	R					R					
FEB																
MAR		NATL 1				PS		(PS)	PS						PS	PS
	01	85E	MON PK	YUMA	(R)	RI	RI		RI		R					
	04	85F	P VRDS	OCTILO	(R)	R	R				R					
	07	85G	JPL	PRBLSM	(R)	R	R				R					
	10	85H	PRSDIO	FT ORD	(R)	R	R	R	R		R					
	13	85I	PRSDIO	PT REY	(R)	R	R	R	R		R					
APR		NPAC 1				PS	PS			PS					(P)	
	28	85J	ELY	PLATVL	(R)	R	R	R								
MAY	02	85K	VERNAL	PLATVL	(R)	R	R	R								
	06	85L	FLGSTF	PLATVL	(RI)	RI	RI	RI								
	07	NAPS A/85M		PLATVL	(S)	S	S	S	S							
	11	85N	MON PK	QUINCY	(RI)	RI	RI	RI	RI		R					
		NATL 2				PS		(PS)	PS						PS	PS
JUN		POLAR 1				PS			PS	PS					PS	PS
JUL		EPAC 1				PS			PS		PS	PS	PS		(P)	
		WPAC 1				(PS)			PS		PS	PS	PS		P	
		85O	SND PT	NOME	(R)						R					
		85P	KODIAK	NOME	(R)						R					
AUG		85Q	YKTAGA	SRDOGH	(R)						R					
		85R	W HRSE	SRDOGH	(R)						R					
		NAPS B/85S	PNTCTN	YLWKNF	(S)			S			S			S		
		NAPS C				S		S	S		S			S		
		EPAC 2				PS			PS		PS	PS	PS		(P)	
		WPAC 2				(PS)			PS		PS	PS	PS		P	
SEP		NPAC 2				PS	PS			PS					(P)	
OCT		NATL 3				PS		(PS)	PS						PS	PS
	23	85T	JPL	MAMOTH	(R)	R	R				R					
	26	85U	JPL	PRBLSM	(R)	R	R				R					
	29	85V	JPL	PINYON	(R)	R	R				R					
NOV	01	85W	YUMA	PINYON	(RI)	RI		RI			R					
		POLAR 1				PS			PS	PS					PS	PS
DEC																
MONTHLY POLARIS OBS.						PS	PS	PS							PS	PS

NOTES: T = TVDS Required
P = Plate Motion
S = Plate Stability
R = Regional Deformation
I = Intercomparison
() = Tag Along Mode

Table 5-1

Key to Site Name Abbreviations

Abbreviation	Site Name	Site Location
ALGNON	ALGONQUIN	ALGONQUIN, ONTARIO, CANADA
AREQIP	AREQUIPA	AREQUIPA, PERU
BEAR L	BEAR LAKE	BEAR LAKE, UT
BL BUT	BLACK BUTTE	BLACK BUTTE MOUNTAIN, CA
C TOLO	CERRO TOLOLO	CERRO TOLOLO, CHILE
DEADMN	DEADMAN LAKE	DEADMAN LAKE, CA
EASTER	EASTER ISLAND	EASTER ISLAND, CHILE
ELY	ELY	ELY, NV
EC MED	----	EASTERN MEDITERRANEAN AREA SITE
ENSNDA	ENSENADA	ENSENADA, BAJA, MEXICO
FLGSTF	FLAGSTAFF	FLAGSTAFF, AZ
FRBNKS	FAIRBANKS	FAIRBANKS, AK
FT DAV	FORT DAVIS	FORT DAVIS, TX
FT ORD	FORT ORD	FORT ORD, CA
GRASSE	GRASSE	GRASSE, FRANCE
GSFC	GREENBELT	GORF, GSFC, GREENBELT, MD
HAT CR	HAT CREEK	HAT CREEK RADIO ASTRO. OBS., CASSEL, CA
HAWAII	HALEAKALA	LURE OBS., MOUNT HALEAKALA, MAUI, HI (LASER)
HAWAII	KOKEE PARK	KOKEE PARK, KAUAI, HI (VLBI)
HRSTMN	HERSTMONCEUX	ROYAL GREENWICH OBS., GREAT BRITAIN
HUAHNE	HUAHINE	HUAHINE, SOCIETY IS, FRENCH POLYNESIA
IQUIQE	IQUIQUE	IQUIQUE, CHILE
JPL	PASADENA	JET PROPULSION LAB, PASADENA, CA
JRUSLM	JERUSALEM	JERUSALEM, ISRAEL
KODIAK	KODIAK	KODIAK, AK
KOTWJK	KOOTWIJK	KOOTWIJK OBS., APELDOORN, NETHERLANDS
KSHIMA	KASHIMA	KASHIMA, JAPAN
KWAJLN	KWAJALEIN	KWAJALEIN, MARSHALL ISLANDS
LA JOL	LA JOLLA	LA JOLLA, CA
MAMOTH	MAMMOTH LAKES	MAMMOTH LAKES, CA
MATERA	MATERA	MATERA, ITALY
MOJAVE	MOJAVE	BARSTOW, CA
MON PK	MONUMENT PEAK	MOUNT LAGUNA, CA
MZTLN	MAZATLAN	MAZATLAN, SINALOA, MEXICO
NOME	NOME	NOME, AK
OCTILO	OCOTILLO	OCOTILLO, CA
ONSALA	ONSALA	ONSALA, SWEDEN
ORORAL	ORORAL	ORORAL VALLEY, AUSTRALIA
OTAY	OTAY MOUNTAIN	OTAY MOUNTAIN, SAN DIEGO, CA
OVRO	OWENS VALLEY	OWENS VALLEY RADIO OBS., BIG PINE, CA
PINYON	PINYON FLAT	PINYON FLAT, CA
PLATVL	PLATTEVILLE	PLATTEVILLE, CO
PNTCN	PENTICTON	PENTICTON, BRITISH COLUMBIA, CANADA
PRBLSM	PEARBLOSSOM	PEARBLOSSOM, CA

Table 5-1 (Continued)

Key to Site Name Abbreviations

Abbreviation	Site Name	Site Location
PRSDIO	PRESIDIO	SAN FRANCISCO, CA
PT REY	POINT REYES	POINT REYES, CA
PVRDS	PALOS VERDES	PALOS VERDES, CA
QUINCY	QUINCY	QUINCY, CA
RCHMND	RICHMOND	PERRINE, FL
S AM	-----	SOUTH AMERICA (SITE UNDESIGNATED)
S PAUL	SANTA PAULA	SANTA PAULA, CA
SAO PL	SAO PAULO	SAO PAULO, BRAZIL
SMSATO	SIMOSATO	SIMOSATO HYDROGRAPHIC OBSERVATORY, JAPAN
SND PT	SAND POINT	SAND POINT, AK
SN LUC	CABO SAN LUCAS	CABO SAN LUCAS, MEXICO
SNTAGO	SANTIAGO	SANTIAGO, CHILE
SOCORO	SOCORRO ISLAND	SOCORRO, REVILLAGIGEDO ISLANDS, MEXICO
SRDOGH	SOURDOUGH	SOURDOUGH, AK
VANBRG	VANDENBERG	VANDENBERG AIR FORCE BASE, CA
VERNAL	VERNAL	VERNAL, UT
WETZEL	WETTZELL	WETTZELL, WEST GERMANY
WHRSE	WHITEHORSE	WHITEHORSE, YUKON TERRITORY, CANADA
WSTFRD	WESTFORD	HAYSTACK OBSERVATORY, WESTFORD, MA
YARGAD	YARAGADEE	YARAGADEE, AUSTRALIA
YKTAGA	CAPE YAKATAGA	CAPE YAKATAGA, AK
YLWKNF	YELLOWKNIFE	YELLOWKNIFE, NORTHWEST TERRITORY, CANADA
YUMA	YUMA	YUMA PROVING GROUNDS, AZ

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