U.S. Department of Transportation
United States Coast Guard

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United States Coast Guard

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COMMANDANT INSTRUCTION 16450.1

Subj: SPILL PLANNING, EXERCISE AND RESPONSE SYSTEM (SPEARS)

Ref: (a) Property Management Manual, COMDTINST M4500.5

1. PURPOSE. To implement a standardized, computer-based information management and decision support tool, for oil and hazardous chemical pollution. SPEARS will be used to support spill response and a systematic approach to risk analysis, contingency plan and exercise development. SPEARS will increase the effectiveness of the Coast Guard On-Scene Coordinators' (OSC) response, minimizing the environmental and economic damage caused by pollution incidents. The information contained in this notice will be incorporated into the next change to Marine Safety Manual Vol. IX, COMDTINST M16000.14.

2. ACTION. District Commanders and Commanding Officers of Activities, Marine Safety Offices and Units, Captains of the Port (COTP), Headquarters units, and affected Headquarters program managers shall comply with the requirements of this instruction and ensure that all personnel involved in contingency planning and pollution response actions are familiar with the operation and application of SPEARS.

3. DIRECTIVES AFFECTED. None.

4. BACKGROUND.

   a. The Oil Pollution Act of 1990 (OPA 90) placed greater emphasis on immediate and effective removal of pollution and response preparedness. In addition to the

responsibility of coordinating the Area Committee and developing comprehensive Area Contingency Plans (ACP), OSCs were tasked with managing an increasing amount of information on commercial, federal, and local government response organizations and their resources. Concurrent with OPA 90, many states passed oil spill legislation and formed new response organizations. These agencies obtained additional information on environmentally sensitive and economically critical areas. Site specific and geographic response strategies were developed for many of these identified areas. The existing paper-based information management system is already heavily taxed while pollution response and planning continues to become more and more complex. Recent Incident-Specific Preparedness Reviews and National Preparedness for Response Exercise Program area exercises have shown significant shortfalls in spill information management and the ability to capitalize on contingency planning information.

b. In response to this need for an integrated information management system, the Coast Guard, with the cooperation and technical support of NOAA, leveraged existing response and planning tools with new software to create SPEARS. Components from the Environmental Protection Agency's and National Oceanic and Atmospheric Administration's (NOAA) Computer-Aided Management of Emergency Operations (CAMEO) and NOAA's Spill Tools form the foundation of SPEARS.

5. DISCUSSION.

a. SPEARS software, and the supporting hardware, have been issued to all Districts, Marine Safety Offices and Units, COTPs, Strike Teams, and the National Strike Force Coordination Center. SPEARS training has been provided to personnel at these units as well. Additional equipment, hardware upgrades, and training will be provided as funding permits. Enhancements and additions to the software will be continuous.

b. Currently, the Macintosh-based system contains thirty-six different models, databases, data templates and an integrated Geographic Information System (GIS) specifically designed for oil and hazardous substance planning and response. Key components include:

(1) Oil fate and effects "weathering" model.
(2) Tide and current prediction model.
(3) Database of over 1000 oils and their properties.
(4) Databases on the National Product Schedule, sorbents, and wildlife.
(5) Dispersant and in-situ burn planners.
(6) Air plume and trajectory model for hazardous substances.

(7) Database on over 4,000 chemicals and their properties.
(8) Historical pollution and casualty data and facility information is downloaded from the Marine Safety Information System (MSIS) and automatically "linked" to and plotted on the GIS.

c. The regular use of SPEARS offers the following advantages:

(1) SPEARS is an easily accessible repository for spill planning and response information. Data and information, currently stored in paper versions of ACPs, may be digitized, entered into SPEARS data templates and geo-referenced in the GIS for instantaneous access and manipulation. Additionally, SPEARS may be used to support the creation and publication of paper-based ACPs.

(2) OSCs now have the capability to routinely use NOAA's Spill Tools that have previously been accessible only through their NOAA Scientific Support Coordinator (SSC). Regular use and experience with these models, the dispersant planner, and the in-situ burn calculator will familiarize response personnel with the parameters of the tools, and the information that is needed to make an effective response decision. However, this system is not intended to replace the SSC's support. NOAA's SSCs will continue to be the primary source of scientific and environmental information and interpretation for the OSCs.

(3) SPEARS empowers field units with the ability to conduct risk assessment and analysis. Historical oil and chemical spills can be imported from MSIS and displayed in the GIS. Pollution trends and trouble spots can be identified and targeted with extra harbor patrols and other prevention resources.

(4) SPEARS can be used to support the recently adopted Incident Command System (ICS) during responses and exercises. For example, the Spill Tools and Area Contingency Plan information, entered into SPEARS, may be utilized by the Operations and Planning sections of the ICS. The Geographic Information System can be used to display the near real-time positions of operational assets and response equipment as well as the location of the discharged oil and the extent of impacted shorelines.

(5) SPEARS provides OSCs with the capability to assimilate, analyze and more efficiently manage significant amounts of information. This increased ability to integrate and quickly retrieve this information will optimize the value of contingency planning, and expedite effective decision-making during a response.

(6) SPEARS, and the Macintosh platform, allow OSCs to transmit digital images, data and maps to its external customers and chain of command. NOAA's First Class E-

Mail system and the Internet can be utilized to electronically transmit digital information outside of the unit or command post.

d. All of the functionalities of SPEARS will be incorporated into the incident response and waterways management functions of the forthcoming Marine Safety Network (MSN). Barring any unforeseen circumstances, all of the SPEARS components, and the data entered into the system, will be transformed into Windows NT compatible software for operation on the PC-based Standard Workstation III. However, implementation of these functions is several years away. In the interim, SPEARS will meet our tactical and strategic information management needs for oil and hazardous substance response and planning.

e. The implementation of SPEARS also underscores the Commandant's goal of pursuing and exploiting new technologies to achieve gains in productivity and enhance mission performance. Finally, SPEARS will facilitate the achievement of several of the goals specified in the Marine Safety and Environmental Protection (G-M) Business Plan.

f. A complete discussion about the use and application of SPEARS is contained in the enclosed SPEARS Operations and Reference Guide.

6. EQUIPMENT AND SOFTWARE.

a. SPEARS was designed to operate on Apple Macintosh Quadra 650 computers and Powerbook laptop computers and is compatible with versions 7.1 and 7.5 of the operating system software. G-MOR purchased new Quadra 650 computers and peripheral equipment for the purpose of operating SPEARS. Enclosure (1) lists all of the hardware, software, and peripheral equipment that was provided to users.

b. Equipment and software shall be accounted for in accordance with reference (a). In order to properly account for all equipment and software, it must be placed on the unit's Personal Property Accountability (PPA) system. As is the case for all items purchased with CERCLA funds, all of the equipment and software remain the property of the U.S. Environmental Protection Agency. U.S. Coast Guard units are "custodians" for the equipment. Hardware, upgrades and peripheral equipment purchased with Coast Guard funds should be accounted for on the unit's PPA system as well.

c. To avert SPEARS operation malfunctions and system conflicts, do not install extraneous software on the Quadra computer. Since the equipment, and the supporting software, was purchased primarily with CERCLA funds, it must be used exclusively for oil and hazardous chemical pollution-related risk analysis, preparedness, exercises, or response. Any additional software loaded on the SPEARS platform must be used to support or facilitate the execution of these missions.

d. Further distribution of SPEARS software is strictly prohibited. SPEARS software may neither be given to nor provided to any entity outside of the Coast Guard. There are copyright restrictions and liability concerns which restrict further distribution. SPEARS' CAMEO components and its Geographic Information System, called Mapping Applications for Response & Local Operational Tasks (MARPLOT), may be purchased separately from the National Safety Council Distribution Center at (202) 293-2270 or (800) 621-7619. Once an entity properly owns the rights to MARPLOT, geo-referenced Area Contingency Planning information can be shared. If there are any questions, please contact the project officer at G-MOR for policy clarification.

7. TRAINING.

a. Commandant (G-MOR), assisted by G-MRP and G-WTT, have initiated a Front End Analysis (FEA) to determine the training requirement for SPEARS and its applications. Until this FEA is completed, and its recommendations implemented, Headquarters and District-sponsored SPEARS training will be provided as resources permit.

b. Each District will assign a District Response Advisory Team member or other staff member as the District SPEARS Coordinator.

c. During this interim period, the National Strike Force will offer SPEARS training as part of their syllabus during the annual training sessions with the field units. The refresher training will focus on the response-orientated components of SPEARS such as the Spill Tools and CAMEO. It is not expected that the Strike Teams will be able to train field personnel to the level that is obtained during the comprehensive, initial five day-long sessions. However, as Strike Team members become more experienced with the system, the level of training available to the field units is expected to increase.

d. Since the CAMEO convention forms the foundation of SPEARS, Coast Guard personnel are encouraged to attend CAMEO training sessions which are available through a wide variety of commercial and government institutions. This is an appropriate use of unit or District CERCLA funds.

8. RESPONSIBILITIES/PROCEDURES.

a. Commanding Officers of Marine Safety Offices, Commanding Officers of Activities, and Captains of the Port shall utilize the information, databases and decision support tools when executing a response to a major or medium oil or hazardous substances pollution incident. These components may be used, at the OSC's discretion, to support the response to discharges or releases of a lesser magnitude.

b. Coast Guard OSCs may use the risk analysis and contingency planning components of SPEARS to augment local risk management and to enhance the subsequent amendments to their ACPs. SPEARS, and the accompanying word processing, data

management and graphics software, may be used to digitize portions of the ACP for Coast Guard use. This software may also be used to produce maps, images or documents, for the printed copy of the ACP, that cannot be created on the CG Standard Workstation II (Unisys).

c. OSCs may utilize state or locally generated maps of environmentally sensitive areas, created on a GIS other than MARPLOT, if this will facilitate the external dissemination of contingency planning information within the OSC's area of responsibility. However, other geographical information systems shall not be operated on the SPEARS platform.

d. G-MOR shall provide program support including system and software development, hardware acquisition and policy concerning the use of SPEARS.

e. G-MRI shall provide technical support including administration of the Marine Safety Field Access (MSFA) data files and software development. In FY98, G-MRI will assume all of the SPEARS technical support functions currently provided by an outside contractor.

f. G-MOR and G-MRI shall ensure all of the existing SPEARS applications are properly translated and integrated into the Marine Safety Network's incident response and waterways management modules. Additionally, information entered into SPEARS by field units will be able to be converted into the Windows NT environment for future use on the forthcoming CG Standard Workstation III.

Encl: (1) SPEARS Equipment List
(2) SPEARS Operations and Reference Guide

SPEARS EQUIPMENT LIST

List of all the hardware, software, and peripheral equipment that was provided to District Offices, Activities, MSOs, the Strike Teams and the NSFCC:

(1) Apple Macintosh Quadra 650 with 8 MB of RAM and a 230 MB hard drive*

(2) 14 inch color display monitor

(3) Apple II keyboard and mouse

(4) Bernoulli Multidisk IOMEGA 150

(5) IOMEGA MAC1B tools

(6) Apple QuickTake Digital Camera

(7) HP 560C Color Printer

(8) SCSI system cable

(9) SCSI Terminator

(10) SPEARS integrated software package

(11) Microsoft Office Suite (PowerPoint, Word, & Excel)

(12) Microphone Lite Software

(13) SAM Anti-Virus

(14) Norton Utilities

*Additional funding was forwarded to Districts, units and the NSFCC for the purpose of purchasing a 14,400 or 28,800 bps fax/modem and upgrading the original configuration to a 1.0 gigabyte hard drive and 24 MB of RAM. All of the Macintosh Quadras should be upgraded to this level.

SPEARS
OPERATIONS AND
REFERENCE GUIDE

United States Coast Guard

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Chapter 1.0

Introduction to SPEARS

The purpose of this chapter is to introduce you to the history, concepts of development, and use of the U.S. Coast Guard **S**pill **P**lanning, **E**xercise **A**nd **R**esponse **S**ystem (SPEARS). Since the system is an amalgam of other programs, understanding the development concepts will enable users to create a better strategy for using SPEARS. This chapter is also a review of the design history of SPEARS, and its close association with CAMEO (Computer-Aided Management of Emergency Operations), so users can understand why SPEARS looks and operates as it does. Finally, this chapter provides the proper procedure for installing SPEARS. The Coast Guard's policy on the use and application of SPEARS, and the hardware it operates on, is included in the current SPEARS Commandant Instruction 16450.1 (series).

History

Many of the information management concepts applied in SPEARS can trace their roots back to the founding of the Coast Guard and the marine safety program. Information tracking has been a daily prerequisite for the Coast Guard. Until fairly recently, the task of information tracking was traditionally performed using logs, files and folders stored in cabinets or binders with some semblance of organization. The first major step in moving from a manual, paper-based system was the introduction of the Standard Workstation and the Marine Safety Information System (MSIS) in the early 1980s. The intent of MSIS was to automate the collection, collation, and storage of information that had been previously recorded by hand on paper. This first-generation electronic model, or paradigm, has evolved and improved over the past years. However, the Coast Guard's information management system has not kept up with demands

imposed on it by its people and programs, and the rapid pace of technology. What eventually became SPEARS was a significant leap forward in both respects.

Early attempts by the Coast Guard to develop or apply an integrated information management system was met with limited success. The USCG Research & Development Center and the National Oceanic and Atmospheric Administration (NOAA) created Port Projects for contingency planning, the River Information Management System (RIMS) and, with the Environmental Protection Agency's assistance, CAMEO. While most of these prototypes demonstrated the viability and benefits of integrated information management (and were eventually incorporated into SPEARS) their *individual* implementations were never fully realized. The Coast Guard was unable to provide financial support for these systems and a comprehensive policy for their use. These systems were "issued" to the field units without the prerequisite supporting infrastructure.

Spill Response and Information System (SRIS)

Since 1986, NOAA, EPA, and the Coast Guard have been engaged in developing the capability to use personal computers for planning for, and responding to, oil and chemical spills. The first product to be developed, tested, and implemented was CAMEO--a Macintosh-based program for storing, analyzing, and reporting data on over 4000 chemical products and hazardous substances. Through the late 1980s and early 1990s, numerous Macintosh platforms were acquired and provided to Marine Safety Offices to operate the CAMEO software; primarily for hazardous substance response. The Coast Guard and the R&D Center then looked to expand the capabilities of CAMEO to include oil pollution threat assessment, contingency planning, and oil spill response. The combined information, planning, and modeling tool was labeled the Spill Response Information System (SRIS). SRIS originally consisted of four parts ("modules"): Port Study; CAMEO; Contingency Planning Model; and the Contact List. G-MER and R&D developed a prototype that was tested in 12 ports in the early 1990s.

At the same time, the Oil Pollution Act of 1990 (OPA 90) was beginning to be implemented. OPA 90 placed greater emphasis on immediate and effective removal of pollution and response preparedness. In addition to the responsibility of coordinating the Area Committee and developing comprehensive Area Contingency Plans (ACP), OSCs were tasked with managing an increasing amount of information on commercial, federal, and local government response organizations and their resources. Concurrent with OPA 90, many states passed oil spill legislation and formed new response organizations. These agencies obtained additional information on environmentally sensitive and economically critical areas. Site specific and geographic response strategies were developed for many of these identified areas. The existing paper-based information management system was already taxed to its limits.

SPEARS

The SRIS package eventually evolved into what is now known as SPEARS with the addition of two significant components; NOAA's Spill Tools and the Coast Guard's MSIS-related modules. NOAA's oil weathering model, tide and current tables, dispersant planner, and collection of databases greatly increased the system's capabilities. The Coast Guard modified existing CAMEO products for oil spill response and developed three products that were able to use updated MSIS information on facilities, industry contacts and historical spills. These products allowed MSO personnel to conduct an analysis and subsequent management of risks in their port for the first time.

All of the functionalities of SPEARS will be incorporated into the forthcoming Ports and Waterways Management Information System (PAWMIS) of the Marine Safety Network (MSN). Barring any unforeseen circumstances, all of the SPEARS components, and the data entered into the system, will be transformed into Windows NT compatible software for operation on the PC-based Standard Workstation III. However, implementation of MSN is several years away. SPEARS is a comprehensive interim system that will meet our tactical and strategic information management needs and will continue to function on the

Macintosh platform even after the full implementation of PAWMIS and the MSN on the new PC-based Standard Workstation

CAMEO: The Foundation of SPEARS

Learning from the R & D efforts, and maximizing resources while minimizing costs, the Coast Guard chose to use CAMEO as the cornerstone from which SPEARS would be built. The following are some of the reasons why CAMEO was selected to form the foundation of SPEARS:

Developed for emergency response and planning for chemical incidents, a factor the Coast Guard needs to address;

Has similar modules that address Coast Guard needs; Surprisingly good fit to MSIS data;

Is an inter-agency tool and is supported by EPA and NOAA; Facilitates continual enhancements for USCG benefits;

Runs on computers already at the MSOs (Macintosh); Has the key components of the next generation of MSIS - PAWMIS/MSN - including GIS and modeling capabilities;

Has training, documentation and technical support in place; Training is relatively easy and personnel already have received training;

Can be easily and inexpensively modified to suit USCG needs; Has the capability of easily importing/exporting data; natural progression for some units that employed early versions of CAMEO or NOAA Port Studies; and

NOAA's Spill Tools employ the CAMEO convention as well.

With those factors in mind, making CAMEO a foundation and a large subset within SPEARS was common sense and clearly an advantage. However, being reliant upon CAMEO means that SPEARS must use and comply with key CAMEO conventions and tools.

SPEARS and CAMEO Consistencies

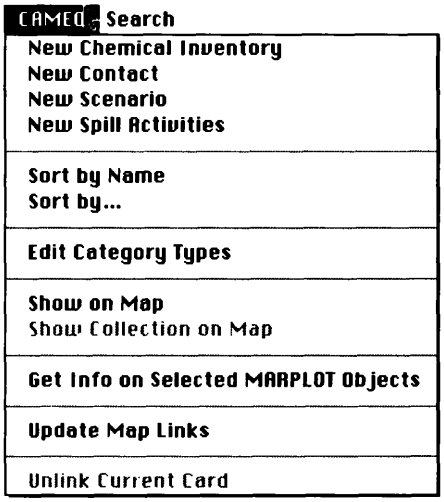


Figure 1

You will notice that there is a CAMEO menu bar item but no SPEARS menu bar item. That is because the majority of the operational capabilities in SPEARS exist in CAMEO already. Since virtually nothing has changed with these commands, it was felt that maintaining the CAMEO menu bar name was appropriate and would help reduce the need for separate documentation. Thus, the SPEARS documentation is not complete without copies of the CAMEO User's Manuals.

Commands consistent between CAMEO and SPEARS include:

- Combine Searches
- Creating new cards
- Editing "Types"
- Import/Export
- Reports
- Searching
- Sharing
- Showing on Map
- Sorting
- Subset Searches
- Unlinking Current Card
- Updating Map Links
- View/Print Collection

Again, this consistency is important for training. It is likely CAMEO training will be available on a more frequent basis than SPEARS training. Thus, by maintaining consistency in the use of the primary set of commands, new users can learn the "basics" for SPEARS, or experienced users can refresh their skills, by simply attending a CAMEO class.

A complete discussion of the changes to CAMEO for SPEARS and the interface, functional and structural issues of using the CAMEO convention, are included at the end of this chapter.

Installation of CAMEO and SPEARS

Because SPEARS relies so heavily on the CAMEO resources and convention, it is imperative that CAMEO be installed before the SPEARS modules are added. This is mandatory since installing CAMEO takes care of installing the fonts and reports support files which SPEARS will look for later.

The procedure for installing SPEARS from scratch is as follows:

Install CAMEO first using the disks and instructions provided. Be sure to install the fonts and reports modules.
Put the Bernoulli cartridge holding the SPEARS files into the Bernoulli drive.

Copy the fonts in the SPEARS Fonts folder into the System folder.
Double-click on the Install Reports file to install the report files and application on your hard drive.

Copy all the files in the SPEARS folder onto your internal drive.
Open the SPEARS folder on your internal drive. Locate the MARPLOT Folder.

Open the folder, "Your Maps" on the Bernoulli cartridge.
Select all the map folders and copy them into the MARPLOT Folder on your internal drive.

After copying over the files, eject the Bernoulli drive and launch SPEARS going through each module in the system to ensure it is properly loaded. Pay particular attention to the links between the Facility Information and Past Spills modules and MARPLOT. The first time you launch ADIOS, ALOHA, Shio and MARPLOT, you will be prompted for the location of the application. Navigate between the SPEARS folder level and the ADIOS, ALOHA, Shio and MARPLOT folders to find them. Once you have located them the first time, you will not have to tell SPEARS where to find them

again. Finally note the fonts to see if the CAMEO and MARPLOT fonts are properly installed in your system.

NOTE: Do not erase the files on the Bernoulli cartridge or lose the cartridge since that is your baseline version of not only SPEARS but your port data as well.

SPEARS File Hierarchy

Since SPEARS employs a number of CAMEO conventions, it is important to understand what the key ones are and their implications to working in SPEARS. The first of these is that the SPEARS stacks must fit into the CAMEO scheme. All modifications were made carefully to fit the CAMEO paradigms. Even though CAMEO is a subset of SPEARS, the folder names, location where files are stored and subsequent operating conventions must follow the CAMEO rules. This means that certain file names should not be changed. Similarly, the file hierarchy is important. It is critical that the following file hierarchy is maintained for SPEARS to operate properly.

NOTE: Items in **Bold** are CAMEO files, items in *Italics* are Spill Tools and Underlined items are items that are unique to or modified for SPEARS):
Your Hard Disk

SPEARS 1.0 (folder)

ADIOS Folder
ADIOS
OilLib
OiILib.idx

ALOHA 5.2 (folder)
ALOHA
ALOHA Helps
ALOHA Resources
ALOHA.prf
AlohaSpy
ChemLib
ChemLib.idx
ChemLib.wrn
ChemManager
CityLib
CityLib.idx

ATSDR Chemical Data

Building Plans
Burn Calculator
CAMEO Map (folder)
    CAMEO Facilities.LYR
    CAMEO Facilities.OBJ
    CAMEO Facilities.SUM
    NAME.MAP
    Past Spills.LYR
    Past Spills.OBJ
    Past SpilIs.SUM
CAMEO Codebreaker
CAMEO Extras (folder)
    ADIOS 1.1.3 nonFPU
    ALOHA 5.2 nonFPU
    CAMEO Fonts
    Field Loading Procedure
    Install Reports Runtime
    MARPLOT Fonts
    Updater
CAMEO Help
CAMEO Navigator
CAMEO Resources 1
CAMEO Resources 2
CAMEO Resources 3
CAMEO Resources MARPLOT
Census Population Data
Chemical Inventory
Contacts
Dispersant Planner
Facility Information
Fishes
Glossary
Incident Report
Linker (folder)
    Linker
    links.dbf
    links.mdx
Marine Birds
Marine Mammals
MARPLOT Folder
    (Folders with County names on them)
        (Files for each layer with extensions.LYR,

.NNX, .OBJ, .SUM and a NAME.MAP file)
FRIENDS
ALOHA.MNU
ALOHA.VWR
CAMEO.MNU
CAMEO.VWR
LAYERS.PLT
MARPLOT
PWC_MAP
(Associated LYR, NNX, OBJ and SUM files)
SEARCHES
SETTINGS.PLT
USERMAP
NAME.MAP
VIEWS
WORLDMAP
NAME.MAP
States.Lyr
States.Obj
States.Sum
World.Lyr
World.Obj
World.Sum
XTRAMAPS.PLT
NCP Product List
Oil Properties
Oil Spill History
Past Spills
Regions
Reports (folder)
Search Collection
CAMEO search report formats (18)
SPEARS report formats (50)
Response Resources
RIDS
Scenarios
Sensitive Areas
Shellfish
Shio **(folder)**
Shio
Location tide and current data files (40)
Sorbent Data

Special Populations
Spill Activities
Synonyms.txt
Toxic Release Annual Report
Transportation
Turtles
Unit Conversion

Other files necessary for SPEARS are stored in other folders on the hard disk. This includes those items installed by CAMEO such as the fonts (CAMEO and MARPLOT) in the System Fonts folder and a separate Reports System folder in the System folder (plus an Preference file in the Preferences folder). If you wish to use SPEARS independently on any Macintosh using a Bernoulli drive, you must have all these files in their proper locations.

The importance of following the CAMEO conventions so closely are twofold. First, it ensures a cohesive integrated package of software tools that could now be used with imported MSIS data for planning, exercises and responses. And, secondly, it allows users the opportunity of taking existing CAMEO training and then building on those skills to easily use the additions for SPEARS. Thus, learning how to search in CAMEO means you've learned how to search in SPEARS. More subtly, by following the CAMEO conventions, the Coast Guard now shares a common design convention with other CAMEO user, such as state emergency response offices, fire departments and EPA offices.

Interface, Functional and Structural Issues

There are three areas in which SPEARS draws upon the CAMEO program to provide a means of successfully integrating disparate components of the system. These three areas are:

Interface; or a consistent "look-and-feel";
Functional subroutines; like the search engine; and
Structural framework.

The first area defines the visual landscape in which SPEARS works. The second area defines the way the SPEARS performs functions. The last area is best seen in the way SPEARS segregates and handles local information.

These three areas determine the boundaries in which SPEARS must operate and physically reside. The following table lists the design parameters for the three areas described above.

CARD SIZE	Determined that it has to meet the lowest common denominator for the Macintosh - a 9 inch black and white monitor.	Interface and Functional
NAVIGATION	Used to move from module to module.	Functional
PALETTE	In SPEARS, it has been modified to allow users to add/delete items on the palette.	
ICONS	The use of icons to navigate and visually describe certain functions and objects are carried over from CAMEO.	Interface
SHADOWED FIELDS	Always represents that the field has a drop-down selection list if you click and hold the mouse button down on the field.	Interface and Functional
UNDERLINED	Underlined fields are those fields	Interface
FIELDS	available for users to modify locally at their discretion.	
FIELDS WITH NO UNDERLINING	These fields are locked and don't allow modifications at the local level. These are typically found in database modules.	Interface

DOUBLE-ANGLE () BRACKETS	The use of double-angled brackets around a field name (i.e., Comments) indicate that the fields beneath the title bar can "toggle" or hide to show another set of fields (i.e., Information Tracking). The data is not lost from the toggled field, only hidden. Clicking on the title bar again, toggles the fields back to their first orientation.	Interface and Functional
ON-LINE HELP	CAMEO uses a separate module that provides context-sensitive help to the module level. SPEARS help is provided in the same way.	Functional
REPORTS	CAMEO employs a third-party extension called "Reports!" by Nine to Five that allows a wider variety of reports to be created beyond the standard Hypercard reports. These reports are described in the CAMEO documentation. Report formats specific to SPEARS have been created and use the same Reports engine.	Functional
FONTS	This is related to the function of card size and amount of readable data on a card. In this instance, CAMEO provides its own fonts (CAMEO and MARPLOT) designed for use in the system. The CAMEO font is a sans serif font about half the size of 9 point and is used as a label for all the fields in the data template modules. The MARPLOT font is a symbology font with graphic icons in place of letters for use on maps to represent objects.	Interface and Functional

MENUS	Two menu bar items are direct descendants of the CAMEO system, the CAMEO and the Sharing menu. These allow the program to send messages to other modules and applications allowing them to integrate their functions with data in other parts of CAMEO and thus other parts of SPEARS. Details on the specifics of the menu items are described throughout the SPEARS and CAMEO documentation in areas appropriate for the topic.	Interface, Functional and Structural
SEARCH ENGINE	Although specific to the menu commands, it is important to note that the CAMEO search engine is used to provide consistency in how searches are best performed within the CAMEO framework. Since SPEARS follows the CAMEO framework, if makes sense to use the same search engine.	Functional
IMPORT & EXPORT	Again, although specific to the Sharing menu command, the CAMEO Import/Export engine is the used by SPEARS. An enhancement was made with key SPEARS modules that takes the import process a step further in plotting and updating objects in MARPLOT "automatically." This is described elsewhere in the SPEARS documentation.	Functional and Structural
CAMEO RESOURCES STACKS	These stacks contain resources and programming that allow functions such as the search engine, import and export capability and linking to MARPLOT to work properly. These stacks cannot be renamed or moved for these functions to work properly.	Functional and Structural

Because SPEARS relies so heavily on the CAMEO resources and paradigm, it is imperative that CAMEO be installed before the SPEARS modules are added. This is mandatory since installing CAMEO takes care of installing the fonts and reports support files which SPEARS will look for later.

Changes to CAMEO for SPEARS

The table below lists the changes and additions to the CAMEO program that were effected for SPEARS.

FACILITY INFORMATION STACK	Modifications were made to accommodate the use of MSIS data. These include adding fields for Port Code, the MSIS FIN, and other ID numbers (for accommodating non-MSIS facilities); changing the types of Categories available; adding Location, River and River Mile fields; and adding fields to capture category specific information as well as products handled from MSIS.
CONTACTS STACK	Modified to handle MSIS data from the IPN modules. Primary changes were to add the capability of having Keywords and Response Zones identified (for use in building notification lists) and adding a field to track the IPN.
PAST SPILLS STACK	An additional stack added to capture cases from MSIS for plotting on MARPLOT and local analysis.
RESPONSE RESOURCES STACK	An additional stack added so information regarding response equipment, other resources, their specifications and owner can be tracked at the local level.

SENSITIVE AREAS STACK	An additional stack, based upon work done by NOAA, added so information regarding areas of environmental concern can be tracked at the local level.
SPILL ACTIVITIES STACK	An additional stack designed to allow local units to track/document their response activities easier. Also designed to allow the building of notification lists from the Contacts stack using certain criteria.
ATSDR CHEMICAL DATA STACK	An additional stack added to include the 60 Toxic Fact Sheets available from the Agency for Toxic Substances and Disease Registry. Data is to supplement RIDS in that it contains more toxicological information, such as pathways.
REPORTS	New reports were created to replace or supplement the existing ones.
IMPORT/EXPORT	The SPEARS stack scripts were slightly modified so that MSIS data for facilities and past spills would be plotted automatically into MARPLOT.

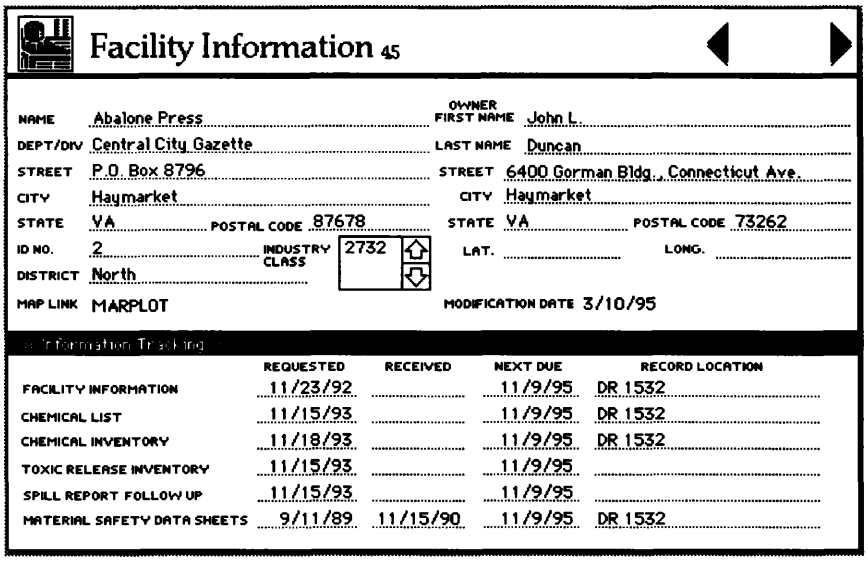
The remainder of the SPEARS Operations and Reference Manual is devoted to chapters focusing on individual components of the program. Chapter 2.0 looks exclusively at describing how SPEARS can be used and describes a number of ways the integrated package can be used in a wide range of situations. Chapter 3.0 describes the data updating process and delineates the steps necessary to download and update the MSIS information within SPEARS. An appendix follows the primary section and contains a number of "How To" sections designed to help refresh and provide initial materials for training SPEARS users. Additional materials may be added in the future as warranted.

Chapter 1.1

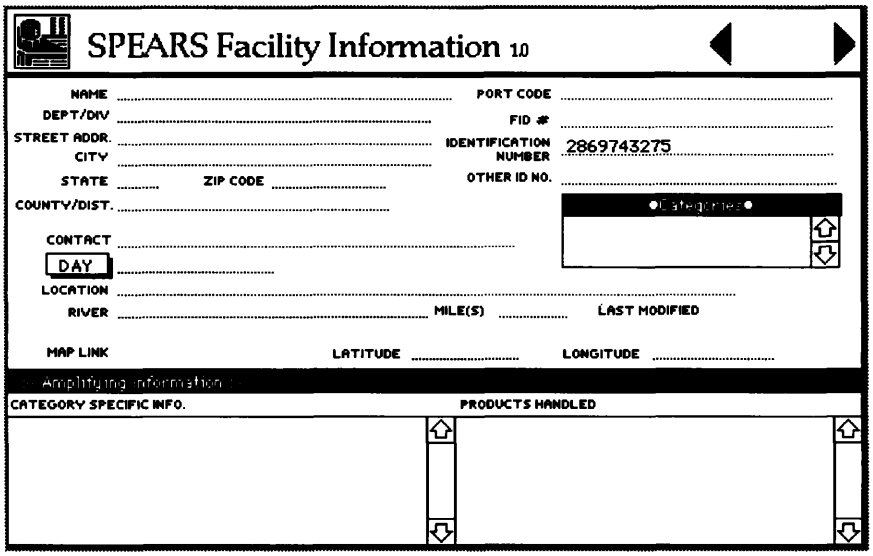
SPEARS Facility Information

Use the SPEARS Facility Information stack to keep track of basic information, such as location, ownership, and type of business, about facilities where crude oil, oil products, and/or hazardous chemicals are manufactured, stored, or processed. The SPEARS Facility Information stack will come pre-loaded with MSIS information for your unit. You can also create a record for additional non-MSIS facility, or for each new non-MSIS department/division within a large facility. New MSIS facilities should be entered directly into MSIS which will then be imported into SPEARS on the next update cycle. In this way, duplicate effort for entry of data will be avoided. You can also prepare cards in other stacks containing additional information about each facility described in the SPEARS Facility Information stack. For example, you can create cards in the CAMEO Chemical Inventory stack describing chemicals stored at a facility, and cards in the SPEARS Contacts stack describing contact people at each facility. You also can link cards in this stack to symbols marking the locations of facilities on maps in MARPLOT.

The SPEARS Facility Information module is based upon the CAMEO Facility Information module (version 4.5). Because of this fact, many of the basic functions in the two modules are nearly identical. As such, it is highly recommended that you read the CAMEO chapter of the Facility Information module to obtain an understanding of the basic functions in the module since they will not be covered in detail in this chapter. The figures below show the CAMEO version and then the SPEARS version of the Facility Information module. This is followed by a listing of the data fields in the SPEARS Facility Information module and the types of data expected to fill them. A table at the end of this chapter shows the relationship between the fields in the two modules.



CAMEO™ Facility Information Module



SPEARS Facility Information Module

Figure 2

Data field names and their content

Understanding the types of data fields and what information is expected to be entered into these fields is a crucial step in properly using this stack. This section lists the names of all the visible fields plus the type of data expected to be in it.

NAME	Be sure to use exactly the same name for this facility on cards in the Contacts, Chemical Inventory, Scenarios, Incident Report, and other stacks that contain information about this facility.
PORT CODE	Marine Safety Information System (MSIS) supplied information.
DEPT/DIV	Department or division of facility.
FID #	Facility ID Number (FID) for the facility. This is a locked field. The data in this field will only come from MSIS.
IDENTIFICATION NUMBER	This field will contain the FIN code from MSIS (which may not be unique). When adding a new card to this stack, an identification number will automatically be entered into this field. Since the user will never have to enter data into this field, the field is locked.
OTHER ID NO.	Alternate identification number(s). May be used to incorporate EPA or other agency facilities and/or ID numbers.
STREET/CITY/ STATE/ZIP CODE	Address information for the facility.
COUNTY/DISTRICT	Fire district or other political unit in which the contact is located.
CATEGORIES	Choose a category from the popup menu. Choose **Edit Categories** from the CAMEO menu to add or delete categories in this menu (see below).
CONTACT	Name of person to contact at the facility.
TELEPHONE NUMBER	Telephone number of contact. Choose a category from the popup menu. SPEARS supplies six categories: Day, Night, Emergency, FAX, Pager, and Cellular.

LOCATION	MSIS supplied data.
RIVER	River name derived from MSIS data.
MILE(S)	River mile derived from MSIS data.
LAST MODIFIED	The date in this field will be automatically modified to the current date whenever you modify information on a Facility Information card. The field is locked.
MAP LINK	If the Facility Information card is linked to an object on a map, the word, "MARPLOT" will appear here. If the card is not linked to a map object, it will be blank. The field is locked.
LATITUDE	Geographic coordinates (Latitude) of the facility (Example: 37.55 N).
LONGITUDE	Geographic coordinates (Longitude) of the facility. (Example:-122.058772).
COMMENTS	Keep your own notes in this field.
AMPLIFYING INFORMATION	When the Comments button is pressed, the heading changes to Amplifying Information and two new fields, Category Specific Info. and Products Handled, become visible. Fill in the appropriate information for the fields.

Items in the CAMEO menu

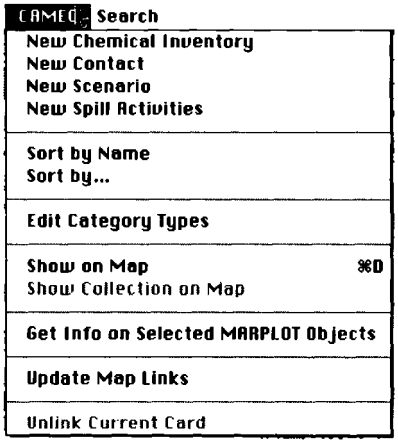


Figure 3

Choose **New Chemical Inventory*1** to add a new card for this facility to the Chemical Inventory stack. The facility name, ID number, department/division, address, and district will be copied onto a new Chemical Inventory card.

Choose **New Contact** to add a new card for this facility to the Contacts stack. The facility name, address, and ID number will be copied onto the new card.

Choose **New Scenario*2** to add a new card for this facility to the Scenarios stack. The facility name and ID number will be copied onto the new card.

Choose **New Spill Activities** to add a new card for this facility to the Spill Activities stack. The spill name, latitude, and longitude will be copied onto the new card.

Choose **Sort by** <field name> to sort the stack by the field that you chose when you last selected **Sort By...** (For example, if you last sorted the stack by selecting the Name field, **Sort by** <field name> will appear as **Sort by Name**.)

Choose **Sort By...** to sort the stack by any of the information fields on the Facility Information card. Double-click on the name of the field that you want to sort the stack by, or click once on the field name, then click **Select**.

*1 The CAMEO Chemical Inventory stack may be used to augment the Facility Information from MSIS which does not contain specific data on stored chemical materials. The use of this stack is at the discretion of the local unit. Refer to the CAMEO manual for more details on the chemical inventory stack.

*2 The CAMEO Scenarios stack may be used if a chemical inventory card has been created for a facility. The use of this stack is at the discretion of the local unit. Refer to the CAMEO manual for more details on the scenarios stack.

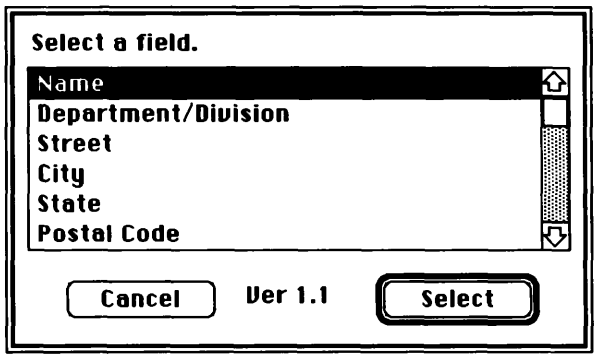


Figure 4

You can choose to sort the stack alphabetically (as text), by number (smallest to largest), or by date (earliest to latest). For example, to sort the stack alphabetically by facility name, choose **Sort by...**, then choose **Name** as the name of the field to sort the stack by, and finally, choose **Text** as the sort type.

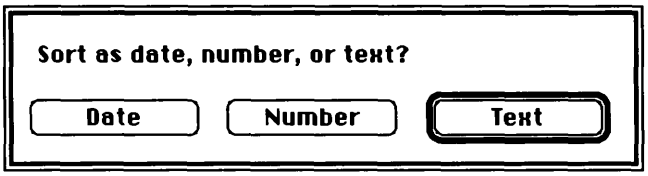


Figure 5

Choose **Edit Category Types** to add, delete, or modify entries in the popup menus.

> Be aware that when editing the list of Category Types, you will be switched to the background mode (signified by the hatching around the menubar) of Hypercard*3. In this mode, it is possible for you to add, delete or modify fields and buttons in the stack. Because of this, it is important that you only making changes to the list of types and then use the Close window box in the upper lefthand corner to exit from the background mode. You should not add, delete or modify any fields in SPEARS.

If a Facility Information card is linked to a symbol marking its location on a map, choose **Show on Map** to view the facility's map location.

*3 Refer to any Hypercard manuals such as The Complete Hypercard 2.1 Book for additional information on the structure, tools and commands in Hypercard.

If you have made a search of the Facility Information stack and have found a collection of cards that are linked to symbols on one or more maps, choose **Show Collection on Map** to view the symbols to which the cards are linked. The map to which the cards are linked will come forward, and the symbols on the map to which the cards are linked will all be selected. If the collected cards are linked to more than one map, SPEARS will ask you to select the map that you would like to view. Choose **Get Info on Selected MARPLOT Objects** to go quickly to the SPEARS stack(s) containing card(s) for object(s), such as symbols for facilities or transportation routes, that are selected on a map in MARPLOT. If the selected objects are linked to cards in more than one SPEARS/CAMEO stack, you'll see a list of all the stacks containing cards linked to selected objects, along with the number of cards in each stack linked to selected objects. Double-click on the name of one of the stacks (or click once, then click **Select**) to view the cards in this stack that are linked to selected objects. When more than one card in a stack is linked to selected objects, use the arrows at the top right comer of each card, the **Go** menu items **Next** and **Prev**, or the arrow keys on your keyboard to scroll through the linked cards. Choose **Clear Search** from the **Search** menu when you have finished viewing the cards, so that you can scroll through the entire stack.

Choose **Update Map Links** to repair all inconsistent links in the Facility Information stack by clearing the links from cards to non-existent map objects, and, for cards linked to objects that do not correctly "reciprocate" the link, by correcting the link information in those objects. This process could take a long period of time and should not be interrupted once started!

Choose **Unlink Current Card** to delete the link between the current Facility Information card and an object on a map in MARPLOT. The MARPLOT object to which the card is linked does not have to be selected when you do this. All information about the link will be removed from both SPEARS and MARPLOT. You can then choose to link the card to a different map object, if you like.

Items in the Search Menu

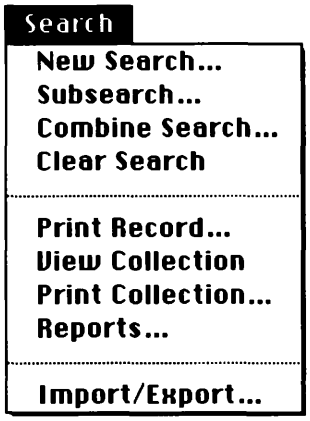


Figure 6

Choose from among the topmost four items to perform searches of the Facility Information stack for a particular facility name, industry class, or other criterion. Refer to the Search menu chapter to learn how to perform searches.

Choose **Print Record...** to print out the contents of the current Facility Information card in HyperCard's Print Report format. (Refer to your HyperCard manual to learn how to create or modify a Print Report format.)
If you've completed a search and have found a set of cards, choose **View Collection** to see a spreadsheet containing the information from the collected cards.

Choose **Print Collection** to print out the contents of all collected cards in HyperCard's Print Report format.

Choose **Reports...** to view a spreadsheet containing information from your Facility Information cards in one of seven formats. Choose **Print**

View... from the spreadsheet's File menu to print out a report. The seven formats are:

Products Handled by Facility is a list of all chemicals at the facility described on the current card. Choose **Print Preview** in the

File menu to view report. Choose **Print Report** in the **File** menu to print the report.

Contacts for Facility is a list of all contact people for the facility described on the current card. This information is drawn from the information that you've entered in the Contacts stack.

Contacts for Found Facilities is a list of all contact people for all facilities (1) included in a search collection, or (2) linked to symbols that you have selected on a map.

Mailing, once you have completed a search and have found a set of cards, allows you to list records for inclusion in a mail merge application. Only the cards found during your search will be included in the list.

Other lets you create your own report format, if you have a copy of Reports from Nine to Five Software (see "Licenses And Trademarks" in the CAMEO manual).

Choose **Import/Export** to import data from other HyperCard stacks or text files or to export the contents of Facility Information cards to other stacks or to text files.

The one field that is unique between all records in the Facility Information module, and is the one to be used during the updating of MSIS data into this SPEARS module, is the FID # field.

Refer to the "Import/Export" chapter of the CAMEO manual for further details on how to import and export data.

Entering Data

The stack has been designed so you can enter non-MSIS facilities allowing you to expand the list of facilities you may want to track and plot in MARPLOT. Some of these may be facilities not inspected by the Coast Guard but could impact the coastal zone during an incident. Other facilities may be those not normally maintained with MSIS.
To add a new Non-MSIS facility record, select the **New Card** command under the **Edit** menu. Then simply click on the field you wish to enter data. You can then move to the next field by using the Tab key or by clicking with the mouse on the next field you want to enter data. Fields that are boxed and have a drop shadow,

Figure 7

indicate that by clicking and holding down the mouse button on this field, a list of

possible entries are shown from which you can pick thereby reducing the chance of typing errors or non-standard entries.

Figure 8

Similarly, there are scroll fields with blackened title bars in which

Figure 9

clicking on them results in another type of pick list from which you can select your entry.

The difference between these two types of pick lists is that the first (with the drop shadow) has entries which the user cannot edit or modify. The second type (with the s) is editable. For the Facility Information stack, by selecting the **Edit Category Types** command under the CAMEO menu, you can add or delete items from the pick list. Another significant difference is that you can only have a single entry in the shadow field whereas the titlebar with s allows multiple entries.

A unique titlebar convention which SPEARS follows is the use of the double-angle brackets

Figure 10

to denote a set of toggle fields. When clicked on once, the fields beneath the blackened titlebar will toggle to another set of data. You are not losing the other set of data, merely hiding it. In the Facility Information stack, the Amplifying Information toggles to Comments.

Maps and the Facility Information stack

You can link cards in this stack to objects marking the location of facilities on MARPLOT map(s). You can make use of such links to quickly access information about a facility displayed on its card in this stack while you're working with a map in MARPLOT. Likewise, you can use the link while you're working in SPEARS to locate a facility quickly on a map. Also, once you've placed a symbol marking a facility's location on a map, and linked a card in this stack to it, you will be able to use the Scenarios stack to plot threat zones for the facility on a map. Refer to the "Scenarios" chapter in the CAMEO manual to learn how to do this.

Follow the steps below to create a link between a Facility Information card and a symbol marking the facility's location on a map displayed in MARPLOT. Refer to your MARPLOT manual to learn how to use MARPLOT's edit mode to place symbols and make other changes to a map.

1 Create a Facility Information card for the facility.

2 Click on the **MARPLOT** button,

Figure 11

in the CAMEO Navigator to open MARPLOT.

3 Open the map and select the **Layer List...** command under the **List** menubar item.

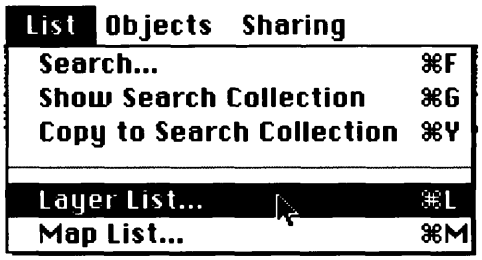


Figure 12

4 Unlock the CAMEO Facilities*4 layer by clicking once on the lock symbol on the left-hand side of the CAMEO Facilities row.

*4 SPEARS facilities are autoplotted and placed onto the CAMEO Facility layer to further integrate the CAMEO paradigm and tools with MSIS data.

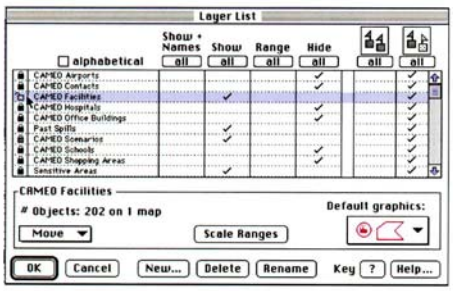


Figure 13

5 Find the facility's location on the map (zoom in if necessary). Make sure that the top overlay is the one on which you wish to place an object to represent the facility (refer to your MARPLOT manual to learn about map overlays).
Use the symbol tool, to place a symbol at that location to represent the facility. (If there is already a symbol on the map to represent the facility you can use it instead of creating a new object, provided it is not already linked to some other card.)

6 Make sure that this symbol object is selected, then choose **Link Object** from the MARPLOT **Sharing** menu.

Figure 15

7 MARPLOT will return you to the current card in CAMEO. If this isn't the card that you'd like to link to the MARPLOT symbol,

navigate through CAMEO to find the correct card. Choose **Link** from the small floating window in the foreground.

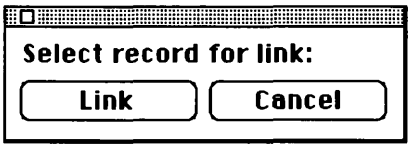


Figure 16

8 A link between the card and map symbol will be established automatically. Look in the MAP LINK field on the Facility Information card to see the word, "MARPLOT." This represents that this card has been linked to a MARPLOT object.

Once you have linked a Facility Information card and a symbol on a MARPLOT map, you can quickly refer to information in SPEARS while you're using MARPLOT, and vice versa. While you're working with a MARPLOT map, you can select a symbol that is linked to a Facility Information card. When you then choose **Get Info** from the MARPLOT Sharing menu, you will be brought to the card to which the symbol is linked. Likewise, while you're working in SPEARS, you can choose **Show On Map** from the CAMEO menu of a linked Facility Information card. You will be brought to the MARPLOT map, and the symbol to which the card is linked will be selected so that you can distinguish it from other map symbols. (You can also choose **Show Collection on Map** from any linked Facility Information card within a search collection; you will be brought to the map, and all symbols linked to collected cards will be selected.)

Deleting a map link...

Cards must be unlinked from objects prior to deleting either one or both of them. To delete the link between a Facility Information card and an object on a map in MARPLOT...

... go to the card you'd like to unlink and choose **Unlink Current Card** from the CAMEO menu,

or

...select the map symbol linked to the card, then choose **Unlink** from MARPLOT's Sharing menu.

In either case, all information about the link will be removed from both SPEARS and MARPLOT.

If you want to unlink a number of objects from their associated SPEARS card, you should...

...go to **Layer List** and unlock the layer that the objects you want to unlink are on,

...go to **Search** and find all the objects you wish to delete and then select Show All on Map command,

...select the **Get Info** command to create a search collection of all the found objects in the appropriate SPEARS stack,

...using the Application menu, go back to MARPLOT,

...select the Unlink Object(s) command under the CAMEO command under the Sharing menubar item,

...while the selected objects are still highlighted, delete them by pressing once on the "delete" key,

...go back to Hypercard through the Application menu,

...delete each card in the search collection using the **Delete Card** command.

Important Notes

The data in the latitude and longitude fields will not automatically change to reflect changes to the linked objects location in MARPLOT. So, if you move the object in MARPLOT, you must enter the new latitude and longitude positions in the Facility Information stack. It is recommended that if the MSIS latitude and longitude positional data is

incorrect, the proper sequence for correcting this problem is by moving the facility symbol in MARPLOT, noting the "correct" latitude and longitude and them making the change in MSIS. Then, at the next quarterly update from MSIS, the data will be changed in the SPEARS stack to reflect the change in MSIS.

Changing the MSIS latitude and longitude data alone will not reposition its associated MARPLOT object since the update procedure does not update the position of MARPLOT objects once they have been plotted.

The user should be aware that the SPEARS version of the Facility Information module is different from the CAMEOTM version even though the stack names are identical. The title of the card, "SPEARS Facility Information," is the quickest means of knowing which version you are using. Table 1 compares the fields found in the CAMEO Facility Information stack and the SPEARS version. This is important if you wish to incorporate data from CAMEO users into SPEARS. By linking the appropriate fields in the Import dialog box, facility information can be easily included from CAMEO. This comparison is between versions 1.0 of SPEARS and 4.5 of CAMEO.

TABLE 1: Field name alignment between CAMEO and SPEARS versions

CAMEO	SPEARS
Name	Name
	Category
Department/Division	Department/Division
Street	Street
City	City
State	State
Postal Code	Postal Code
	FID #
District	District
Identification Number	Identification Number
	Responsible Port Code
Owner Last	Contact Person
Owner First	
Owner Street	
Owner City	
Owner State	
Owner Postal Code	

	Day Phone
	Night Phone
	Emer. Phone
Latitude	Latitude
Longitude	Longitude
	River Mile
	River Name
Modification Date	Modification Date
	Products Handled
	Category Specific Info.
Comments	Comments
Map Link	Map Link
	Phone
	Location
	Alternative IDs
Industry Classification	Industry Classification
Facility Information Requested	
Facility Information Received	
Facility Information Due	
Facility Information Location	
Spill Report Requested	
Spill Report Received	
Spill Report Due	
Spill Report Location	
MSDS Requested	
MSDS Received	
MSDS Due	
MSDS Location	
Chemical List Requested	
Chemical List Received	
Chemical List Due	
Chemical List Location	
Chemical Inventory Requested	
Chemical Inventory Received	
Chemical Inventory Due	
Chemical Inventory Location	
Toxic Release Inventory Requested	
Toxic Release Received	
Toxic Release Due	
Toxic Release Location	

There are a couple of crucial caveats regarding integrating information from non-MSIS sources into SPEARS - especially in the Facility Information stack. First, there is no way to guarantee that you won't be adding duplicate entries of a facility. This is due to three factors. One, a non-SPEARS user will more than likely define a facility slightly differently than a SPEARS user would. Secondly, a non-SPEARS user will not use the FIN to uniquely identify a facility. Finally, there is no way to ensure the names of the facilities will be identical. Because of these last

two factors, comparing imported records to existing ones is very difficult and one should not rely upon the Import/Export update procedure (using matched records in a specified field) to do this properly for you. To better discern whether you do have duplicate entries or not, a more brute force method of comparing a list of facilities in both databases prior to merging is recommended.

Tips

1 To find all MSIS facilities in the Facility Information stack after other records (non-MSIS) have been added, simply search and find all records where the FID # field is not empty. Only MSIS records will have an FID # field.

2 To find all inactive MSIS facility records, search for Name contains character *. The asterix symbol is used in MSIS to denote inactive facility records.

3 To determine how many records you have in the Facility Information stack, select the **Show Stack Info...** command under the **Objects** menu. The number of cards listed in the dialog box is the number of facility records.

4 To find out how many facility records are plotted in MARPLOT, perform the search for where the Map Link field contains the word "MARPLOT."

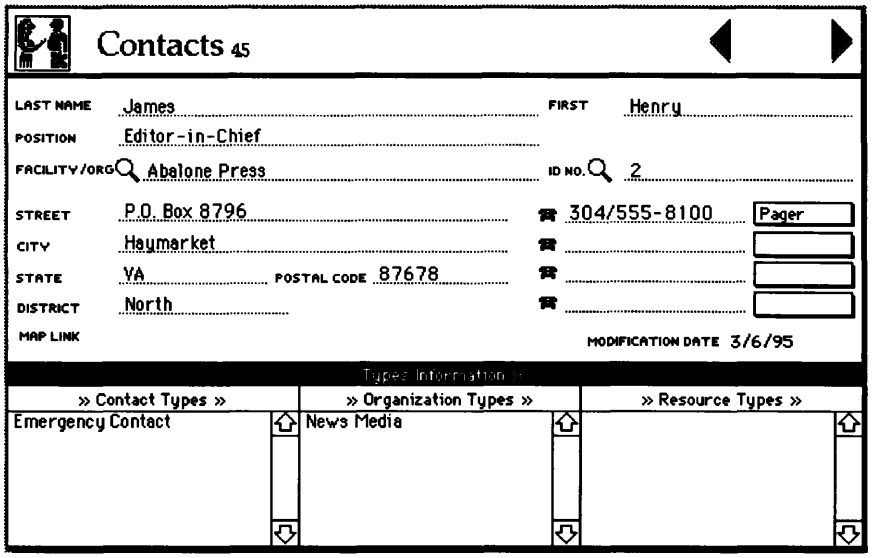
5 You can find all facilities within a region without using MARPLOT by defining the two opposing corners of a rectangular region and then searching within the specified coordinates. For example, search for latitude less than or equal to a specific upper lefthand coordinate, longitude less than or equal to a specific upper lefthand coordinate, latitude less than or equal to a specific lower righthand coordinate and longitude less than or equal to a specific lower righthand coordinate. Remember that the MSIS coordinates in SPEARS are in degrees decimal (i.e., 38.453).

6 By entering any non-MSIS facility in upper and lowercase characters, you will have a quick visual clue to MSIS facilities as you scan the records since these will all be in uppercase only.

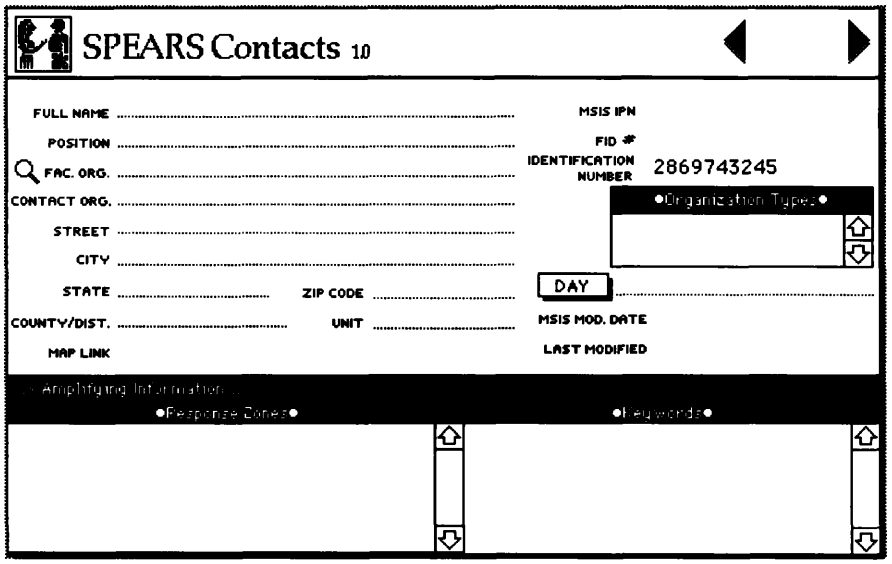
Chapter 1.2

Contacts

Use the SPEARS Contacts stack to keep a directory of names, telephone numbers, and areas of expertise of people or organizations associated with hazardous materials emergency response or planning. You can link SPEARS Contacts cards to symbols on a map representing locations of contact people or organizations. The SPEARS Contact stack comes preloaded with contact information for your unit from the Involved Party files in MSIS. Contact information created in MSIS within the Facility Information module is translated directly into the SPEARS Facility Information module. Because of this, facility contacts may not be listed in the Contacts module if they were never an involved party in an incident. A way to incorporate your facility contact information into the Contacts module is listed at the end of this chapter in the Tips section. The SPEARS Contacts module is based upon the CAMEO Contacts module (version 4.5). Because of this fact, many of the basic functions in the two modules are nearly identical. As such, it is highly recommended that you read the CAMEO chapter on the Contacts module to obtain an understanding of the basic functions in the module since they will not be covered in detail in this chapter. The figures below show the CAMEO version and then the SPEARS version of the Contacts module. This is followed by a listing of all the fields in the SPEARS Contacts stack and the type of information that should go into those fields. A table at the end of this chapter shows the relationship between the fields in the two modules.



CAMEO™ Contacts Module



SPEARS Contacts Module

Figure 17

Data field names and their content

FULL NAME	Full name of the contact person.
MSIS IPN	Involved Party Number (IPN) from MSIS.
POSITION	The contact's job title or position.

FID #	This is the facility ID number entered by the unit into MSIS. There is no standardization or guaranteed uniqueness to the data in this field.
FACILITY/ ORGANIZATION	The facility or organization or transportation route with which the contact is associated.
ORGANIZATION TYPES	Choose a type from the popup menu. SPEARS supplies ? types:. Choose **Edit Organization Types** from the CAMEO menu to add or delete categories in this menu (see below).
STREET/CITY/ STATE/ZIP CODE	Address information for the contact.
IDENTIFICATION NUMBER	This is typically the FIN from MSIS for a facility. Because it is generated by MSIS, it will be unique for all MSIS facilities in SPEARS. When a unit adds a non-MSIS facility, a unique number (non-FIN) will be generated by SPEARS and entered into this field. Any additional identification numbers should be entered, along with the group the number is associated with, into the Comments field.
TELEPHONE NUMBER	Telephone number of contact. Choose a category from the popup menu. SPEARS supplies six categories: Day, Night, Emergency, Fax, Pager, and Cellular.
DISTRICT	Port district or other area in which the contact is located.
MSIS CREATION DATE	Date record was created.
MAP LINK	If you have linked a Contacts card to an object on a map (see below), MARPLOT will appear in this field.
LAST MODIFIED	The date in this field will be automatically modified to the current date whenever you modify information on a Contacts card.
COMMENTS	Keep your own notes in this field.

AMPLIFYING INFORMATION	When the Comments button is pressed, the heading changes to Amplifying Information and two new fields, Response Zones and Keywords, become visible. Choose **Edit Response Zones** or **Edit Keywords**, respectively from the CAMEO menu to add or delete categories in this menu (see below).

Items in the CAMEO menu

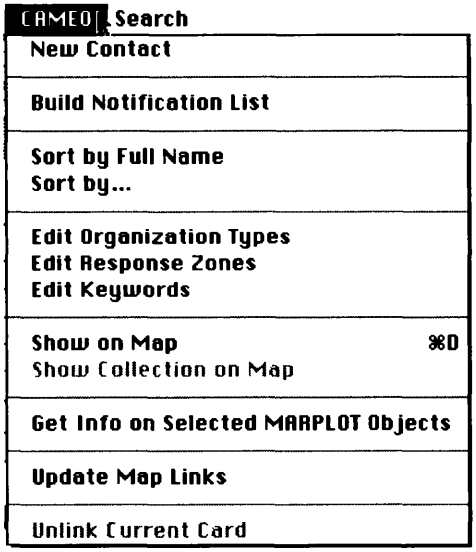


Figure 18

If there is an existing SPEARS Contact card for a particular facility, choose **New Contact** to add another contact for the same facility. The facility name, address, organization type, and ID number will be copied onto the new card. If you want to create a new contact card for someone not associated with a facility record, choose **New Card...** under the **Edit** menu.
Choose **Build Notification List** to create a list of contacts that need to be notified during or after a spill. When a notification list is created, you are prompted to perform a search of the SPEARS Contacts stack for the person(s) to be included on the list.

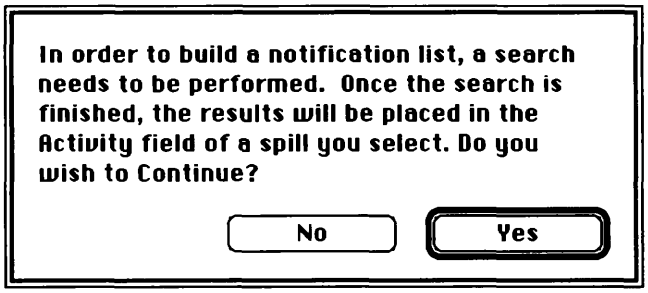


Figure 19

After you have input your search criteria and the search is performed. The list of contacts is entered into the Activity field of a card in the Spill Activities stack along with a time/date stamp.
Choose **Sort by <field name>** to sort the Contacts stack by the field that you chose when you last selected **Sort By...** (For example, if you last sorted the stack by selecting the **Full Name** field, Sort by <> will appear as **Sort by Full Name**.)

Choose **Sort By...** to sort the stack by any of the information fields on the Contacts card.

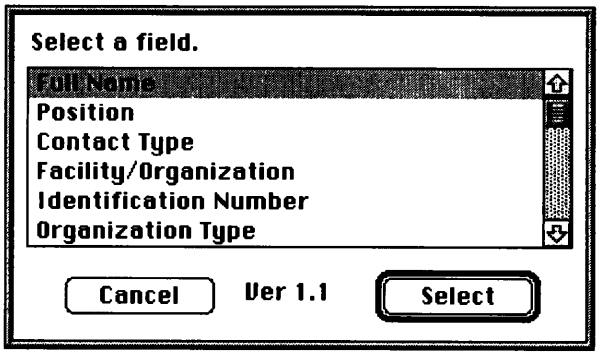


Figure 20

Double-click on the name of the field that you want to sort the stack by, or click once on the field name, then click **Select**.

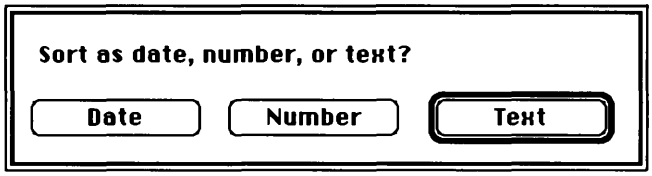


Figure 21

You can choose to sort the stack alphabetically (as text), by number (smallest to largest), or by date (earliest to latest). For example, to sort the stack alphabetically by full name, choose **Sort by...**, then choose **Full Name** as the name of the field to sort the stack by, and finally, choose **Text** as the sort type.

Choose **Edit Organization Types**, **Edit Response Zones**, or **Edit Keywords** to add, delete, or modify entries in any of the three Types popup menus.

Be aware that when editing the list of various Types, you will be switched to the background mode (signified by the hatching around the menubar) of Hypercard*1. In this mode, it is possible for you to add, delete or modify fields and buttons in the stack. Because of this, it is important that you only make changes to the list of types and then use the Close window box in the upper lefthand corner to exit from the background mode. You should not add, delete or modify any fields in SPEARS. Choose one of these three menu items from the CAMEO menu. You can add as many new types as you like; just type new types into the list displayed in the floating window. Delete an entry by selecting it, then pressing on the delete (backspace) key; press delete once to delete the entry and a second time to move the cursor to the end of the previous entry. Modify an entry by selecting, then modifying the text as you would do in a word-processing document. When you've made all the changes that you'd like, click within the close box in the upper left comer of the floating window. SPEARS will automatically re-alphabetize the list and remove any duplicate entries. Your new items will appear every time you access the list of types in the SPEARS Contacts stack.

If a SPEARS Contacts card is linked to a map object, choose **Show on Map** to view the contact's location on the map. The map to which the card is linked will come forward, and the symbol on the map to which the card is linked will be selected. If the Contacts card is not linked to a map, but references, via an Identification Number, to a card in the SPEARS Facility Information, Sensitive Areas, Special Populations, or Transportation stack that is linked to a map object, this object will be displayed when you choose **Show on Map**.

If you have made a search of this stack and have found a collection of SPEARS Contacts cards that are linked to symbols on one or more maps, choose **Show Collection on Map** to view the map locations of the collected contacts. The map to which the cards are linked will come forward, and the symbols on the map to which the cards are linked will

*1 Refer to any Hypercard manuals such as The Complete Hypercard 2.1 Book for additional information on the structure, tools and commands in Hypercard.

all be selected. If the cards for the collected contacts are linked to more than one map, SPEARS will ask you to select the map that you would like to view. Once you have made your selection, the selected map will be brought forward. All objects on the map linked to collected cards will be selected. If the collected Contacts cards are not linked to map objects, but reference, via Identification Numbers, cards in the SPEARS Facility Information, Sensitive Areas, Special Populations, and/or Transportation stacks that are linked to map objects, these objects will be displayed when you choose **Show Collection on Map**.

Choose **Get Info on Selected MARPLOT Objects** to go quickly to the SPEARS stack containing card(s) linked to object(s), such as symbols for contacts or facilities, that are selected on a map in MARPLOT. If the selected objects are linked to cards in more than one SPEARS/CAMEO stack, you'll see a list of all the stacks containing cards linked to selected objects, along with the number of cards in each stack linked to selected objects, when you choose this menu item. Double-click on the name of one of the stacks (or click once, then click **Select**) to view the cards in this stack that are linked to selected objects. When more than one card in a stack is linked to selected objects, use the arrows at the top right comer of each card, the **Go** menu items **Next** and **Prev**, or the arrow keys on your keyboard to scroll through the linked cards. Choose **Clear Search** from the Search menu when you have finished viewing the cards, so that you can scroll through the entire stack.

Choose **Update Map Links** to repair all inconsistent links in the SPEARS Contacts stack by clearing the links from cards to non-existent map objects, and, for cards linked to objects that do not correctly "reciprocate" the link, by correcting the link information in those objects. If you have established many map links, expect this update to be time-consuming.

Choose **Unlink Current Card** to delete the link between the current card in SPEARS and an object on a map in MARPLOT. The MARPLOT object to which the card is linked does not have to be selected when you do this, nor does the map to which the card is linked need to be open. All information about the link will be removed from both SPEARS and MARPLOT. You can then choose to link the card to a different map object, if you like.

Items in the Search menu

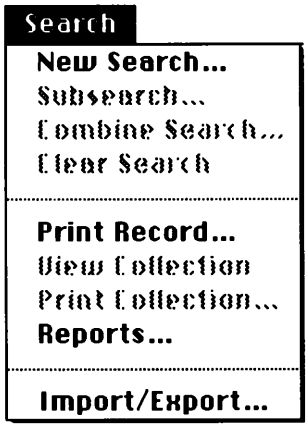


Figure 22

Choose from among the topmost four items in this menu to search the Contacts stack for a particular contact or facility name, organization type, or other criteria. Refer to the "Searching" chapter in the CAMEO manual to learn how to perform searches.

Choose **Print Record...** to print out the contents of the current Contacts card in HyperCard's Print Report format. (Refer to your HyperCard manual to learn how to create or modify a Print Report format.)

If you've completed a search and have found a collection of cards, choose **View Collection** to see a spreadsheet containing the information from the collected cards.

Choose **Print Collection** to print out the contents of all collected cards in HyperCard's Print Report format.

Choose **Reports...** to view a spreadsheet containing information in one of six formats from your Contacts cards based upon criteria associated with data in other SPEARS stacks. Choose **Print View...** from the spreadsheet's File menu to print the spreadsheet. The six formats are:

> **Contacts for Facility** is a list of all of the contacts at the facility shown on the current card.
>
> **Organizations of Type** is a list of all the organizations of a type that you specify. This list might include all of the chemical manufacturers that you've included in the Contacts stack.
>
> **Keywords of Type** is a list of all the keywords of a type that you specify. This list might include all of the Response agencies that you've included in the Contacts stack.

Response Zones of Type is a list of all of the response zones that you specify. This list might include all of the EPA regions that you've entered in the Contacts stack.

Choose **Mailing** to list records for inclusion in a mail merge application once you have completed a search and have found a collection of cards. Only the cards found during your search will be included in the list.

Choose **Other** to create your own report format, if you have a copy of ReportsTM from Nine to Five Software (see "Licenses And Trademarks" in the CAMEO manual).

Choose **Import/Export** to import data into the SPEARS Contacts stack from text files or other HyperCard stacks, or to export the contents of SPEARS Contacts cards to other stacks or to text files.

The one field that is unique between all records in the Contacts module, and is the one to be used during the updating of MSIS data into this SPEARS module, is the Identification Number Field.

Refer to the "Import/Export" chapter of the CAMEO manual for further details on how to import and export data.

Maps and the SPEARS Contacts stack

You can choose to link a SPEARS Contacts card to an object on a MARPLOT map, or you can choose simply to take advantage of existing links between maps and other stacks in order to access map objects from cards in this stack. You can accomplish this by referencing cards in these other stacks from SPEARS Contacts cards, via the Identification Number field. For example, you can generate a SPEARS Contacts card for a facility by choosing **New Contact** from the **CAMEO** menu of the SPEARS Facility Information card describing that facility. The SPEARS Contacts and SPEARS Facility Information cards both will display the same Identification Number. It is the shared Identification Number that is the

key to creating the association necessary to allow access to the related facility's symbol on a map from the SPEARS Contacts card.

You may wish to link SPEARS Contacts cards and map objects if you will need to refer quickly to information in the SPEARS Contacts stack while you're working with a map in MARPLOT. For example, during an emergency response, you may plot a CAMEO threat zone or ALOHA footprint on a map, then wish to quickly obtain telephone numbers of contact people at facilities within the footprint or zone, downwind of a chemical spill. If you expect only to refer occasionally to a map while you work with cards in the Contacts stack, though, you may prefer instead just to use existing links between maps and other stacks to access map objects from Contacts cards. Refer to the "Mapping" chapter in the CAMEO manual to learn more about the considerations to take into account whenever you need to decide whether or not to link a Contacts card to a map.

Making Use of Links to Other Stacks

When you link a SPEARS Facility Information, Special Populations, or Transportation card to a map object, and then enter the name and Identification Number of the facility, population location, or route on a SPEARS Contacts card, you will be able to access the same map object from any SPEARS Contacts card that references the linked card via a facility, transportation, or population Identification Number. Follow the steps below to create a SPEARS Contacts card that can take advantage of an existing link between a map and a facility, transportation, or population card to access a map object:

1 Link a SPEARS Facility Information, Special Populations, or Transportation card to a map object, such as a symbol marking the location of a facility or an open polygon tracing a route. (Refer to the "Mapping" chapter in the CAMEO manual to learn how to create map links.)

2 Enter the name of the facility, route, or population and its Identification Number onto a SPEARS Contacts card. Fill out the

remaining data fields on the card with information describing the contact.

3 Now that the Identification Number shown on the SPEARS Contacts card matches the identification Number on the linked card, you can access the map object from the SPEARS Contacts card. From the card's CAMEO menu, choose **Show on Map.** MARPLOT will come forward to display the map, and the object representing the facility, route, or population will appear selected, so that you can distinguish it from other objects on the map. (You also can use the CAMEO menu item **Show Collection on Map** to view map objects to which a collection of SPEARS Contacts cards are associated in this way.)

Creating and Using a Map Link

Follow the steps below to create a link between a SPEARS Contacts card and a symbol marking the contact's location on a map displayed in MARPLOT. Refer to your MARPLOT manual to learn how to use MARPLOT's edit mode to place symbols and make other changes to a map.

1 Create a SPEARS Contacts card.

2 Click on the **MARPLOT** button,

Figure 23

in the CAMEO Navigator to open MARPLOT.

3 Open the map and select the **Layer List...** command under the **List** menubar item.

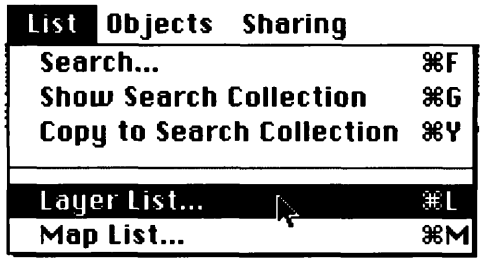


Figure 24

4 Unlock the CAMEO Contacts*2 layer by clicking once on the lock symbol on the left-hand side of the CAMEO Contacts row.

5 Find the contact's location on the map (zoom in if necessary). Use the symbol tool,

Figure 25

to place a symbol at that location to represent the contact's location. (If there is already a symbol on the map to represent this location you can use it instead of creating a new object, provided it is not already linked to some other card.)

6 Make sure that this symbol object is selected, then choose **Link Object** from the **CAMEO** submenu in MARPLOT's Sharing menu.

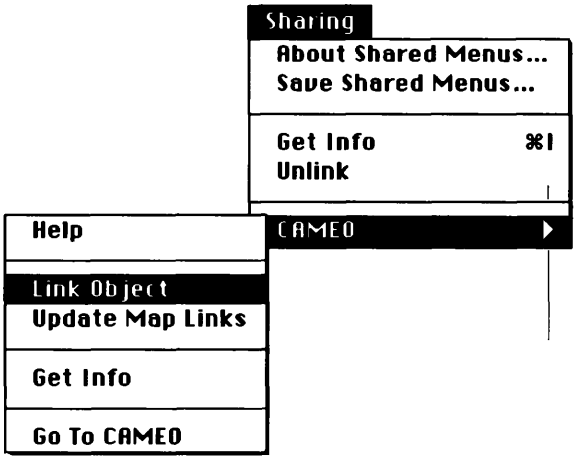


Figure 26

7 MARPLOT will return you to the current card in SPEARS. If this isn't the card that you'd like to link to the MARPLOT symbol, navigate through SPEARS to find the correct card. Choose **Link** from the small floating window in the foreground.

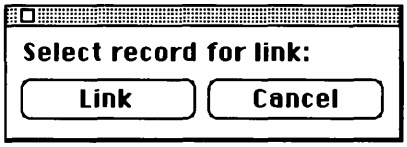


Figure 27

*2 SPEARS facilities are autoplotted and placed onto the CAMEO Facility layer to further integrate the CAMEO paradigm and tools with MSIS data.

8 A link between the card and map symbol will be established automatically. Look in the Map Link field on the Contacts card; MARPLOT should appear in this field.

Once you have linked a SPEARS Contacts card and a symbol on a MARPLOT map, you can quickly refer to information in SPEARS while you're using MARPLOT, and vice versa. While you're working with a MARPLOT map, you can select a symbol that is linked to a SPEARS Contacts card. When you then choose **Get Info** from the **CAMEO** submenu in MARPLOT's **Sharing** menu, you will be brought to the SPEARS Contacts card to which the symbol is directly linked. Likewise, while you're working in SPEARS, you can choose the **CAMEO** menu items **Show on Map** and **Show Collection on Map** to view the map symbols to which one or more SPEARS Contacts cards are directly linked. Note that when you choose **Show on Map**, once you've linked a SPEARS Contacts card directly to a map object, even though the card may reference a facility, special population, or route Identification Number, the symbol linked to the SPEARS Contacts card, instead of the object representing the facility, route, or population, will be displayed. For collections of SPEARS Contacts cards, **Show Collection on Map** works similarly.

Deleting a Map Link...

If you'd like to delete the link between a SPEARS Contacts card and an object on a map in MARPLOT...

... go to the card you'd like to unlink and choose **Unlink Current Card** from the CAMEO menu,

or

...select the map symbol linked to the card, then choose **Unlink** from MARPLOT's **Sharing** menu.

In either case, all information about the link will be removed from both SPEARS and MARPLOT.

TABLE 1: Field name alignment between CAMEO and SPEARS

CAMEO	SPEARS
Last Name	
First Name	
	Full Name
Position	Position
Facility/Organization	Facility/Organization
	Contact Org.
Street	Street
City	City
State	State
Postal Code	Postal Code
District	District
	Unit
Phonetype 1	
Phonetype 2	
Phonetype 3	
Phonetype 4	
Telephone I	day phone
Telephone 2	night phone
Telephone 3	emer. phone
Telephone 4	Fax phone
	Pager phone
	Cellular phone
	Response Zones
	Keywords
Contact Types	Contact Type
Organization Types	Organization Type
Resource Types	Resource Type
Modification Date	Modification Date
	IPN
	MSIS Date
	Phone
	FID #
Identification Number	Identification Number
Map Link	Map Link
Comments	Comments

Tips

1 You can also create a SPEARS Contacts card for a contact associated with a particular facility or special population by going to the SPEARS Facility Information or Special Populations card for the facility, then choosing **New Contact** from the **CAMEO** menu. The facility name, Facility ID # and Identification Number will be copied onto the new Contacts card. Be aware that since SPEARS is not a relational database, if the contact information for a facility changes in the Facility Information stack, it will not be reflected in the Contacts stack. You must make that change yourself.

2 Referring to Table 1, you can import contact information from a CAMEO stack into a SPEARS stack by matching up the appropriate fields. Note that there is no easy way to deal with the Last Name, First Name to Full Name field issues (two fields trying to concatenate information into a single field) in the present version of SPEARS or CAMEO. Also note that the CAMEO ID number needs to go into the IPN field.

Chapter 1.3

Past Spills

The Past Spills stack is a record of the details of spills entered into the USCG Marine Spill Information System (MSIS). MSIS provides all the data for cards in the Past Spills stack, except for information in the Map Link field. Past Spills cards are automatically linked to symbols on a map location of past spills. Except for updating the stack from MSIS, the local unit is not expected to make any additions to this stack.

This stack is designed to accept only MSIS data*1. There is no comments field for users to enter information as in the other SPEARS stacks. There is no equivalent for this stack in CAMEO.

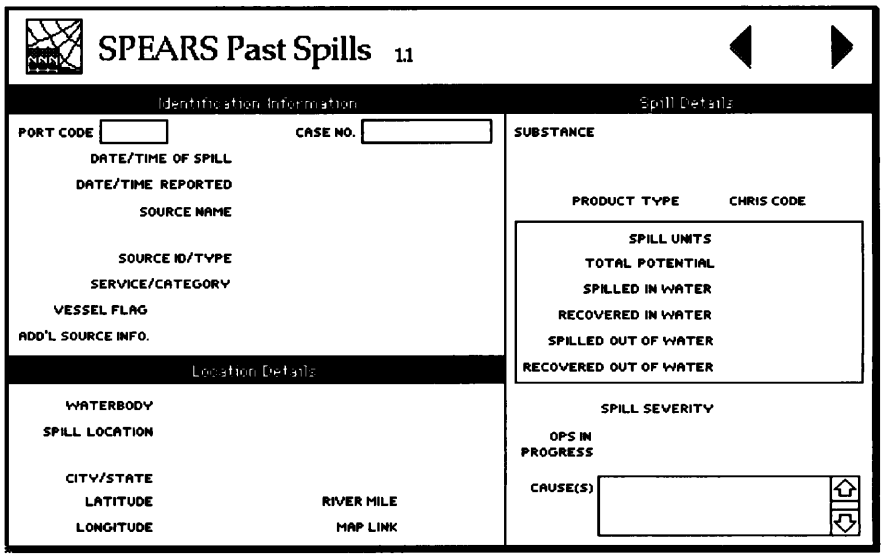


Figure 28

Data fields and their content

CASE NO.	Identification number of the spill.
PORT CODE	MSIS supplied data.

*1 This chapter was written for version 1.1 of the Past Spills stack. Differences between version 1.0 and 1.1 include the re-ordering of certain data fields, the inclusion of more vessel/facility specific information and the time of the incident and when reported.

DATE OF SPILL	The date the spill occurred.
TIME OF SPILL	The time the spill occurred.
DATE REPORTED	The date the spill was reported.
TIME REPORTED	The time the spill was reported
SOURCE NAME	Name of the spill source.
SOURCE ID/TYPE	Identification of the responsible party. Can be either a FIN or IPN. Type refers to the type of facility or vessel.
VESSEL FLAG	Country vessel is registered in.
ADD'L SOURCE INFO	Additional information about the source.
WATERBODY	Name of waterbody where spill occurred. This includes rivers, bays, and canals.
SPILL LOCATION	Location of spill.
CITY/STATE	City and State where spill occurred.
MILE(S)	River mile.
LATITUDE	Geographic coordinates (Latitude) of the facility in degrees decimal.
LONGITUDE	Geographic coordinates (Longitude) of the facility in degrees decimal.
MAP LINK	If you have linked a Past Spills card to an object on a map (see below), the word, "MARPLOT" will be shown in this field. If the field is blank, no link has been created for this record. Searching for all blank Map Link fields is a fast way to find all records not linked to MARPLOT so you can ascertain the reason why they aren't (i.e., bad or missing latitude/longitude data).
SUBSTANCES	Substances involved in the spill.

PRODUCT TYPE	One-letter code for the type of product spilled (C, G, N, O, P, or U - see table below).
CHRIS CODE	Three-letter CHRIS code for spilled substance.
SPILL UNITS	This lists the units used for the product amounts in the spill.
TOTAL POTENTIAL	Total potential amount of substance spilled.
SPILLED: IN WATER	Amount of product reported as spilled (without units) into the water.
RECOVERED: IN WATER	Amount of product reported as recovered (without units) from the water.
SPILLED: OUT OF WATER	Amount of product reported as spilled (without units) but not into the water.
RECOVERED: OUT OF WATER	Amount of product reported as recovered (without units) but not from the water.
SPILL SEVERITY	Severity of the spill.
OPS IN PROGRESS	Local events reported on-going at time of spill.
CAUSE(S)	Cause(s) of the spill.

The Past Spills stack employs codes within the Product Type field to facilitate easier searching of the data. There are six one-letter codes used. The table below lists the codes and their equivalent meaning.

C	**=**	**Chemicals**
G	**=**	**Garbage**
N	**=**	**Natural substances**
O	**=**	**Other oil products**
P	**=**	**Petroleum-based products**
U	**=**	**Unknown**

Using these codes to search should enable you to more easily segregate data within the Past Spills stack and in MARPLOT. For example, you could search for all C (chemical) spills, show the collection in MARPLOT and then change their object's color or symbol.

Items in the CAMEO menu

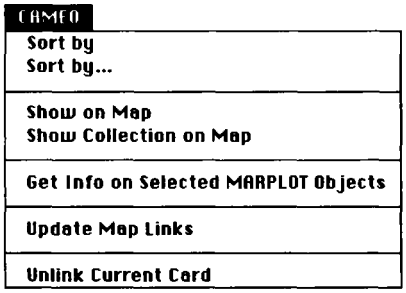


Figure 29

Choose **Sort by <field name>** to sort the Past Spills stack by the field that you chose when you last selected **Sort By...** (For example, if you last sorted the stack by selecting the **Case Number** field, **Sort by** <> will appear as **Sort by Case Number**.)

Choose **Sort By...** to sort the stack by any of the information fields on the Past Spills card.

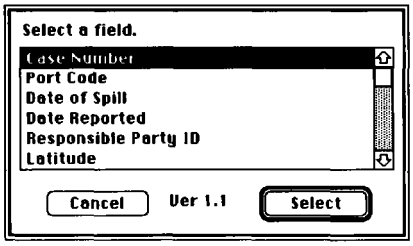


Figure 30

Double-click on the name of the field that you want to sort the stack by, or click once on the field name, then click **Select**.

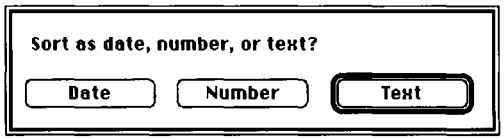


Figure 31

You can choose to sort the stack alphabetically (as text), by number (smallest to largest), or by date (earliest to latest). For example, to sort the stack alphabetically by last name, choose **Sort by...**, then choose **Last Name** as the name of the field to sort the stack by, and finally, choose **Text** as the sort type.

If a Past Spills card is linked to a map object, choose **Show on Map** to view the contact's location on the map. The map to which the card is linked will come forward, and the symbol on the map to which the card is linked will be selected. If the Past Spills card is not linked to a map, but

references, via an ID number, a card in the Facility Information stack that is linked to a map object, this object will be displayed when you choose **Show on Map**.

If you have made a search of this stack and have found a collection of Past Spills cards that are linked to symbols on one or more maps, choose **Show Collection on Map** to view the map locations of the collected spills. The map to which the cards are linked will come forward, and the symbols on the map to which the cards are linked will all be selected. If the cards for the collected spills are linked to more than one map, SPEARS will ask you to select the map that you would like to view. Once you have made your selection, the selected map will be brought forward. All objects on the map linked to collected cards will be selected. If the collected Past Spills cards are not linked to map objects, but reference, via ID numbers, cards in the Facility Information or Transportation stacks that are linked to map objects, these objects will be displayed when you choose **Show Collection on Map**.

Choose **Get Info on Selected MARPLOT Objects** to go quickly to the SPEARS stack containing card(s) linked to object(s), such as symbols for facilities, that are selected on a map in MARPLOT. If the selected objects are linked to cards in more than one SPEARS/CAMEO stack, you'll see a list of all the stacks containing cards linked to selected objects, along with the number of cards in each stack linked to selected objects, when you choose this menu item. Double-click on the name of one of the stacks (or click once, then click **Select**) to view the cards in this stack that are linked to selected objects. When more than one card in a stack is linked to selected objects, use the arrows at the top right corner of each card, the **Go** menu items **Next** and **Prev**, or the arrow keys on your keyboard to scroll through the linked cards. Choose **Clear Search** from the **Search** menu when you have finished viewing the cards, so that you can scroll through the entire stack.

Choose **Update Map Links** to repair all inconsistent links in the Past Spills stack by clearing the links from cards to non-existent map objects, and, for cards linked to objects that do not correctly "reciprocate" the link, by correcting the link information in those objects. If you have established many map links, expect this update to be time-consuming.

Choose **Unlink Current Card** to delete the link between the current card in SPEARS and an object on a map in MARPLOT. The MARPLOT object to which the card is linked does not have to be selected when you do this, nor does the map to which the card is linked need to be open. All information about the link will be removed from both SPEARS and MARPLOT. You can then choose to link the card to a different map object, if you like.

Items in the Search menu

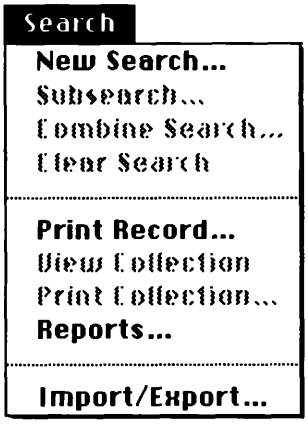


Figure 32

Choose from among the topmost four items in this menu to search the Past Spills stack for a particular case, source, product type, volume spilled or other criteria. Refer to the chapter in the CAMEO manual on "Searching" for more details on how to perform searches.

Choose **Print Record...** to print out the contents of the current Past Spills card in HyperCard's Print Report format. (Refer to your HyperCard manual to learn how to create or modify a Print Report format.)

If you've completed a search and have found a collection of cards, choose **View Collection** to see a spreadsheet containing the information from the collected cards.

Choose **Print Collection** to print out the contents of all collected cards in HyperCard's Print Report format.

Choose **Reports...** to view a spreadsheet containing information from your Past Spills cards in one of six formats. You will see a dialog box like the one below when choosing this command.

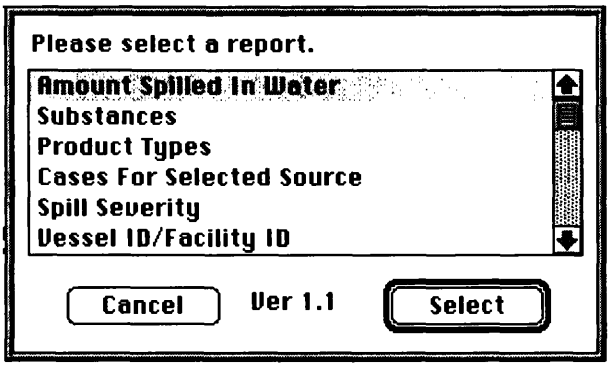


Figure 33

The six formats, which will take the default value or entry from the card you are on, are:

Amount Spilled in Water is a list of spills which involved a substance in the amount you specify (you will be prompted for the units).

Substances is a list of spills where involved a substance you specify.

Products Types is a list of spills which involved a product type you specify

Cases for Selected Source is a list of spills which involved a source type you specify (default being the record you are on).

Spill Severity is a list of spills with a severity you specify.

Vessel ID/Facility ID list records that match the ID number you specify.

Choose **Other** to create your own report format, if you have a copy of Reports from Nine to Five Software (see "Licenses And Trademarks" in the CAMEO manual).

Choose **Print View...** from the spreadsheet's **File** menu to print the spreadsheet.

Choose **Import/Export** to import data into the Past Spills stack from text files or other HyperCard stacks, or to export the contents of Past Spills cards to other stacks or to text files.

The one field that is unique between all records in the Past Spills module, and is the one to be used during the updating of MSIS data into this SPEARS module, is the **Identification Number** Field.
Refer to the "Import/Export" chapter of the CAMEO manual for further details on how to import and export data.

Using PivotTables

One of the more powerful functions of SPEARS is its ability to export data for use with other programs. A primary example of this is the use of the program Excel and its PivotTable function to assist in the analysis of Past Spills data.

Excel is a spreadsheet program provided as part of the standard suite of software with the SPEARS system. Traditionally, spreadsheet programs allow users to create tables with rows and columns of data for plotting and other analyses. Excel 5.0 has provided a new function called a PivotTable which allows users to create new types of interactive tables based upon the data entered into the rows and columns of a spreadsheet. An example of how to create and the power of PivotTables will be shown using COTP New York and MSO San Francisco spill data.

The first step is to export data matching a set of criteria from the Past Spills stack. In this case, a search for all spills since 1/1/91 is performed. This yields a search collection of 31 records. The import/export command is selected from the CAMEO menu and export is selected. Next, a new file must be opened to receive the data. By selecting the "New" button, a dialog box where the file name and location of the file is selected appears. An appropriate filename is chosen, "NY&SF 91-94" so the text file can be easily found later. Next, the fields with information of interest are selected to be copied into the text file. This is an important step since an analysis can only be done on data exported. In this example, all the fields

were downloaded. Once the fields are selected and linked, the OK button is selected and the data exported.

After the data has been exported, Excel can be started and the text file opened from the File menu (simply double-clicking on the text file itself would probably open the file using TeachText). The data comes in looking like the figure below.

PivotExample

	A	B	C	D	E	F	G
1	Case Number	Port Code	Date of Spill	Date Reported	Responsible Party ID	Latitude	Longitude
2	MC92001252	SFCMS	10-Jan-92	11-Jan-92	CG040505	37.590 N	123.215 W
3	MC92003237	SFCMS	3-Mar-92	3-Mar-92	CG006343	37.775 N	122.305 W
4	MC92005461	NYCCP	19-Mar-92	19-Mar-92	MOTBY001	40.662 N	74.070 W
5	MC92005485	NYCCP	15-Apr-92	15-Apr-92	KIBOF152	40.522 N	74.253 W
6	MC92006188	NYCCP	29-Dec-91	29-Dec-91	D252977	41.393 N	73.972 W
7	MC92006226	NYCCP	20-Apr-92	20-Apr-92	D173405	40.642 N	74.118 W
8	MC92008441	NYCCP	1-Jun-92	2-Jun-92	UNKLAND	40.910 N	73.780 W
9	MC92008871	SFCMS	8-Jun-92	8-Jun-92	D256587	38.650 N	123.550 W
10	MC92012433	SFCMS	3-Aug-92	3-Aug-92	SF000505	35.163 N	120.732 W
11	MC92015161	NYCCP	31-Aug-92	2-Sep-92	ERBOF054	40.762 N	73.943 W
12	MC92016276	NYCCP	28-Sep-92	28-Sep-92	LHBOF063	40.758 N	73.960 W
13	MC92017671	SFCMS	21-Oct-92	21-Oct-92	SF002054	37.800 N	122.267 W
14	MC92018235	NYCCP	28-Oct-92	28-Oct-92	UNKLAND	41.925 N	73.960 W
15	MC92018889	NYCCP	6-Nov-92	6-Nov-92	PRONY124	40.615 N	73.840 W
16	MC93000681	SFCMS	13-Jan-93	13-Jan-93	UNKLAND	37.500 N	122.017 W
17	MC93001005	NYCCP	18-Jan-93	18-Jan-93	L7925077	40.652 N	74.107 W
18	MC93004016	NYCCP	1-Jun-92	2-Jun-92	PRONY136	40.910 N	73.780 W
19	MC93005305	NYCCP	27-Mar-93	27-Mar-93	PRONY138	40.842 N	73.968 W
20	MC93008578	NYCCP	10-May-93	10-May-93	L8111697	40.483 N	73.783 W
21	MC93011836	SFCMS	27-Jan-92	27-Jan-92	D256253	39.150 N	124.175 W
22	MC93013118	NYCCP	25-Jul-93	25-Jul-93	D275552	40.615 N	73.840 W
23	MC93013853	NYCCP	5-Aug-93	5-Aug-93	PRONY157	40.410 N	73.995 W
24	MC93021629	SFCMS	30-Nov-93	30-Nov-93	SF002032	37.537 N	122.192 W

NY & SF 91-94

Figure 34

At this stage, you select the PivotTable... command from the menubar.

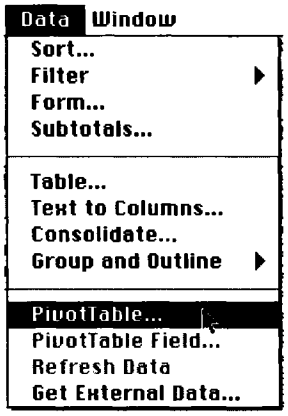


Figure 35

You are then led through a series of four dialog boxes. The third dialog box is where you actually set up the table by selecting the fields you want to analyze/compare.

Setting up the PivotTable is done by simply selecting the fields you want to compare/analyze from the list on the right and dragging it into the area you want the data to appear on the left. The Page data allows you to control the type of analysis done interactively or exchange row, column or data sets after the table has been created. The figure below shows a PivotTable using the NY & SF data being setup.

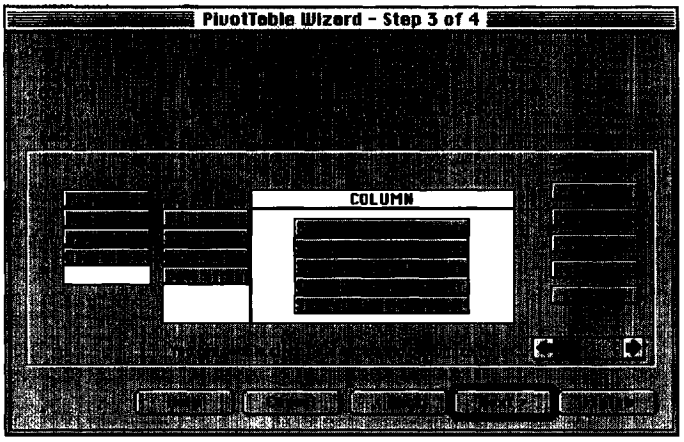


Figure 36

After the PivotTable has been setup, it is placed on the same worksheet as the original data but in its new table form as shown below.

PivotExample

2	Product Types	(All)				
3	Responsible Part	(All)				
4	Port Code	(All)				
5	Operation In Prog	(All)				
6	Causes	(All)				
7						
8				Data		
9	Spill Severity	Case Number	Date of Spill	Sum of Spill In Water	Sum of Spill Out Water	Sum of Total Potent
10	MEDIUM	MC92005485	4/15/92	12600	2100	750
11		MC92008441	6/1/92	11000	10000	300
12		MC93000681	1/13/93	1000	10	400
13		MC93004016	6/1/92	11000	10000	300
14		MC93005305	3/27/93	1000	1000	200
15		MC93011836	1/27/92	35000	0	350
16		MC94006763	4/5/94	3000	0	50
17	MEDIUM Sum			74600	23110	2350
18	MEDIUM Count			7	6	
19	MINOR	MC92001252	1/10/92	3015	0	99
20		MC92003237	3/3/92	1500	0	25
21		MC92005461	3/19/92	2000	6000	265
22		MC92006188	12/29/91	4800	0	250
23		MC92008871	6/8/92	1500	0	15
24		MC92012433	8/3/92	14700	4200	189
25		MC92015161	8/31/92	20000	5000	500

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Figure 37

The next figure shows the same PivotTable but listing only the cases from MSO SFO (note Port Code selection in upper lefthand comer of table) focusing on Spill Severity versus amounts spilled.

PivotExample

2	Product Types	(All)				
3	Responsible Part	(All)				
4	Port Code	SFCMS				
5	Operation In Prog	(All)				
6	Causes	(All)				
7						
8				Data		
9	Spill Severity	Case Number	Date of Spill	Sum of Spill In Water	Sum of Spill Out Water	Sum of Total Potent
10	MEDIUM	MC93000681	1/13/93	1000	10	400
11		MC93011836	1/27/92	35000	0	350
12		MC94006763	4/5/94	3000	0	50
13	MEDIUM Sum			39000	10	800
14	MEDIUM Count			3	2	
15	MINOR	MC92001252	1/10/92	3015	0	99
16		MC92003237	3/3/92	1500	0	25
17		MC92008871	6/8/92	1500	0	15
18		MC92012433	8/3/92	14700	4200	189
19		MC92017671	10/21/92	3000	5000	200
20		MC94000436	1/7/94	3150	16500	951
21	MINOR Sum			26865	25700	1480
22	MINOR Count			6	6	
23	POTENT	MC93021629	11/30/93	2800	0	50
24	POTENT Sum			2800	0	50
25	POTENT Count			1	1	

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Figure 38

In the next figure, the field "Causes" has been moved from the Page area in the upper left area down into the row area adjacent to the Spill Severity field leading to an even more specific breakdown of cases of Spill Severity and Causes versus amounts spilled.

PivotExample

	(All)		
	(All)		
	SFCMS		
	(All)		

Spill Severity	Causes	Case Number	Date of Spill	Sum of Spill In Water	Sum of Spill Out Water	Sum c
MEDIUM	COLLISION	MC9301183	1/27/92	35000	0	
	COLLISION Total			35000	0	
	POLLUTION	MC9300068	1/13/93	1000	10	
		MC9400676	4/5/94	3000	0	
	POLLUTION Total			4000	10	
MEDIUM Sum				39000	10	
MEDIUM Count				3	2	
MINOR	POLLUTION	MC9200125	1/10/92	3015	0	
		MC9200323	3/3/92	1500	0	
		MC9200887	6/8/92	1500	0	
		MC9201243	8/3/92	14700	4200	
		MC9201767	10/21/92	3000	5000	
		MC9400043	1/7/94	3150	16500	
	POLLUTION Total			26865	25700	
MINOR Sum				26865	25700	
MINOR Count				6	6	
POTENT	POLLUTION	MC9302162	11/30/93	2800	0	

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Figure 39

As you can see, by putting data into the PivotTable format, it is easier to compare numbers, analyze trends and plot data.

Maps and the Past Spills stack

Past spill records are automatically linked to a MARPLOT object when the MSIS data is initially loaded or updated if a latitude and longitude are available in the data. Records without a latitude and longitude are not plotted but identified at the end of the update procedure for the user to act on specifically. These actions might be to print out a report of the unlinked objects and manually plot the objects or not plot the objects at all. Having an object plotted in MARPLOT does not mean that the latitude and longitude coordinates are correct. Common errors in the latitude and longitude field include: an improperly placed decimal, no value, "0.0" as a default value, or inverted digits. Note that any corrections to the latitude and longitude values need to be made in MSIS. This correction should be noted in the Comments field in this stack along with the date. The data in SPEARS will be updated from the MSIS data, so it will be, at the most, a quarter late in having the corrected latitude/longitude values.

The user may note that not all Past Spills cards are linked to MARPLOT. This situation occurs when an incident involves more than one substance. In this case, the first card is linked to MARPLOT and then additional cards, with the same case number, are created for each additional substance involved. For that reason, to determine how many spill cases you have in the database, the easiest method is to go to MARPLOT, perform a search for objects that Have Any Namein the Past Spills layer on the CAMEO Map. The number of objects found in the Search Collection window will equal the number of Past Spills cases.

Similarly, when selecting a number of Past Spill symbols in MARPLOT and then getting info on them from CAMEO, you may selecte 8 objects in MARPLOT but are given a collection of 12 cards in the Past Spills stack. That is because one or more incidents involve more than a single substance

Changing the Location of a Past Spills Symbol

Very often, the location of a past spills symbol representing where an incident took place will not appear in the proper location. This will be due to the fact that the data from MSIS is incorrect. The procedure listed below will only correct the visual location of a symbol in MARPLOT.

1 Identify and select the Past Spills symbol in the wrong location.

2 Open the map and choose **Layer List...** from MARPLOT's **List** menu).

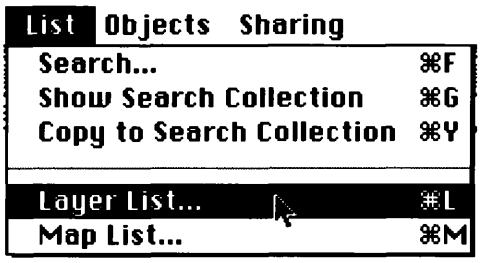


Figure 40

3 Unlock the Past Spills layer by clicking once on the lock symbol on the left-hand side of the Past Spills row.

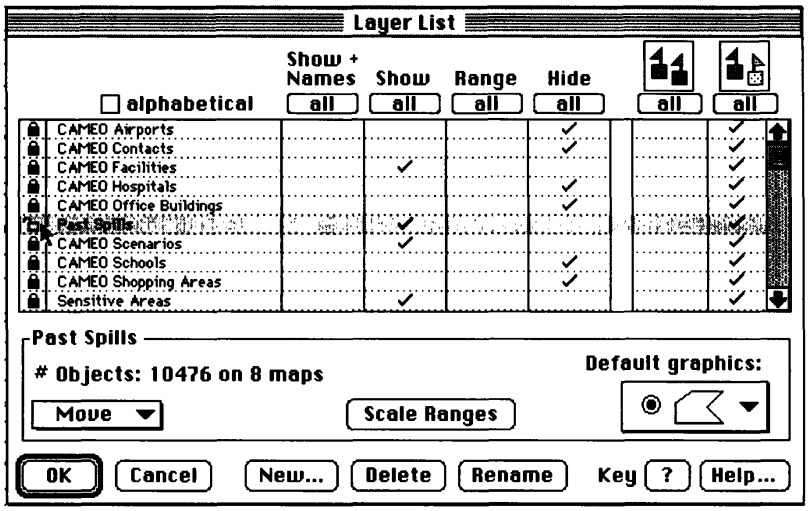


Figure 41

5 Using the Selection tool, click and move the symbol in question to its "proper" location. Alternately, you can double-click on the symbol and click on the Position button and enter in its "correct" latitude and longitude coordinates.

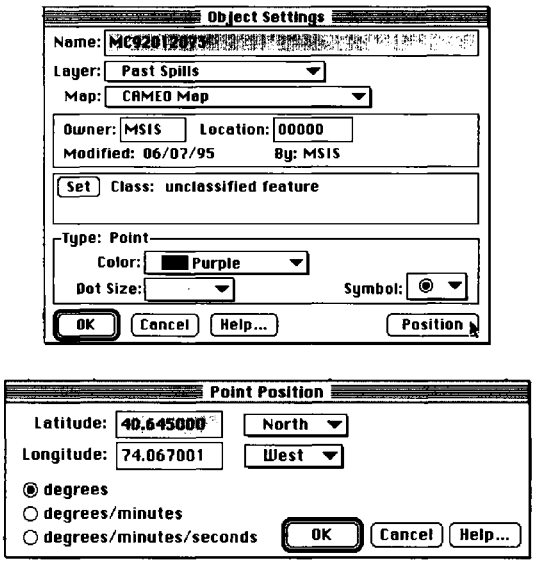


Figure 42

6 At this point, it is recommended that you record the case number, old position coordinates and new position coordinates in a log book. Eventually, the coordinates may be changed in MSIS. However, there are no immediate provision for the field to make

changes to closed records regularly. There may be a future opportunity to mke a batch of changes for a short period of time at some later date however. One important factor to consider, the repositioning of the Past Spills symbol(s) will not be impacted in any way by future updates from MSIS. Once an object has been plotted into MARPLOT, its position cannot be changed by the MSIS importation process - even if a different latitude and longitude have been entered. That change will only appear in text in the Past Spills stack for that record.

Deleting a Map Link...

If you'd like to delete the link between a Past Spills card and an object on a map in MARPLOT...

... go to the card you'd like to unlink and choose **Unlink Current Card** from the CAMEO menu,

or

...select the map symbol linked to the card, then choose **Unlink** from the MARPLOT **Sharing** menu.

In either case, all information about the link will be removed from both SPEARS and MARPLOT. To verify this, return to the Past Spills stack and find the record you just unlinked. The MAP LINK field should now be empty.

Tips

1 If you need to get a quick overview as to the extent of a particular issue, consider using the Reports... command rather than the Search command. If you can use one of the preformatted Reports, generating a report is faster than performing a complex search and allows you to see the records collectively in a spreadsheet. After you have performed a search, you can also use the "View Collection" command to obtain a spreadsheet-style report.

2 If you want to export data, you must perform a search. The Export command requires a search collection which using the Report...

command does not create. See the "How To" sheet explaining how to export data for use in a spreadsheet in Appendix A for further details on this procedure. Also refer to your CAMEO and Excel manuals for more details.

3 When performing a search for spill amounts, always include the spill units in your search criteria. Simply having a criteria all spills in water greater than 1000 may yield spills greater than 1000 gallons, barrels, or pounds. Be aware of the possible use of abbreviations for the units as well. To avoid potential problems, search using "contains words starting with" and entries such as "gal" (covers both "gallons" and "gal(s)") and "b" (covers both "barrels" and "bbls").

4 There is no reason why you can't separate Past Spill objects in MARPLOT onto different layers after they've been plotted. For example, you may wish to separate spills by year. To do this, follow these steps:

a) go to MARPLOT and make sure the Past Spills layer is unlocked;

b) create a new layer for the spill year you want;

c) return to SPEARS and search to find all the spills that took place in a particular year;

d) show that collection on the map;

e) choose the command **Move Objects to Layer** and select the new layer you created.

f) You can further differentiate these objects by color by either having each year being a different color or only the last one or two years one color and the rest another color. If you wish to view all the Past Spill objects as visually identical, you can choose to have all the objects in a layer displayed using its default graphics in the Layer List dialog box.

5 Remember to note what you've done, why and when in a log book so other users will understand what was done.

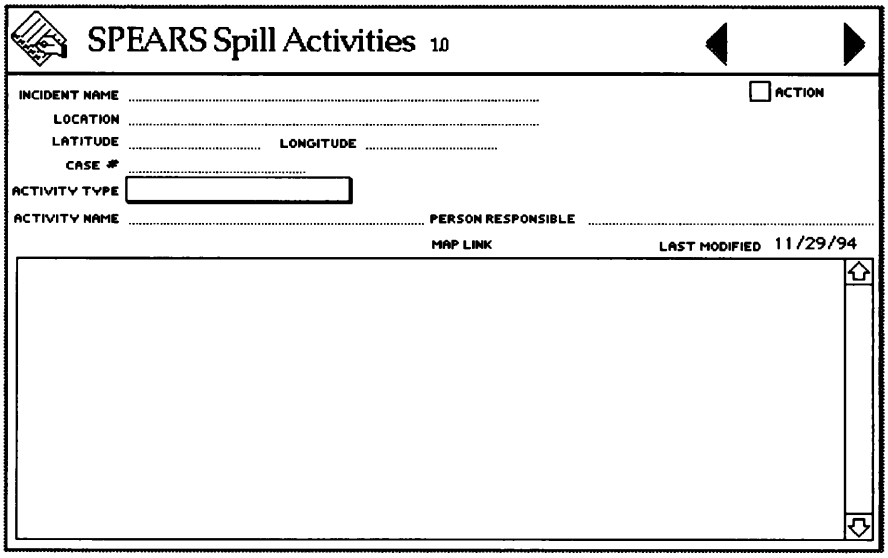
6 To evaluate one facet of the quality of the MSIS positional data, put a single large rectangle around your entire area of concern and then perform a search for all objects on the Past Spills layer

outside the selected object. By showing all the objects in the search collection and then performing a **Get Info** command under the Sharing menu and CAMEO sub-menu, you will then obtain a search collection of those records in the Past Spills stack. You can then export the case number, latitude and longitude and date of spill fields which could then be printed out for verification against the hardcopy spill reports.

Chapter 1.4

Spill Activities

Use the Spill Activities stack to keep a record of the activities occurring at a spill. You can link Spill Activities cards to symbols on a map representing locations of a spill. This stack comes with no data and is to be used at the discretion of the unit at the local level.



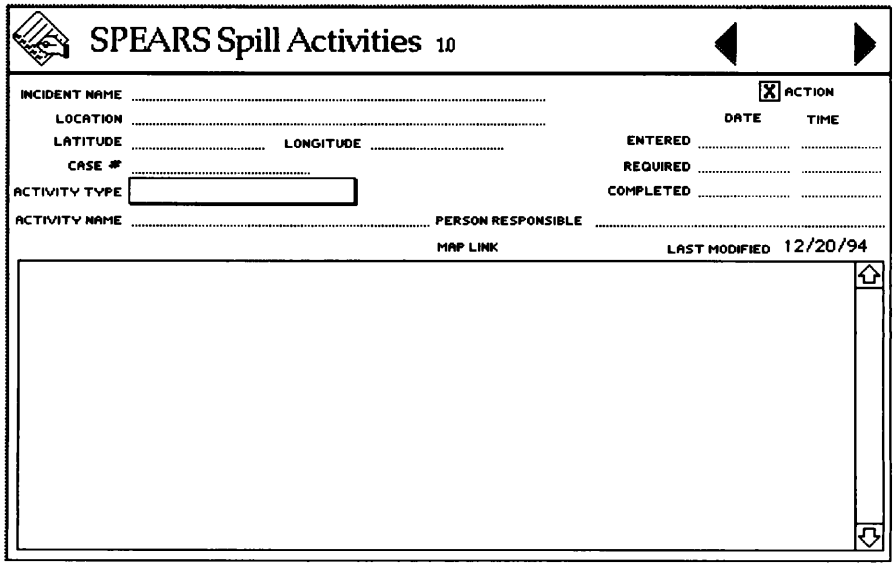


Figure 43

Data fields and their content

INCIDENT NAME	The name of the incident.
LOCATION	The location of the spill.
LATITUDE	Geographic coordinates (Latitude) of the facility. (Example: 29.55 N)
LONGITUDE	Geographic coordinates (Longitude) of the facility. (Example: 90.05 w)
CASE #	Case number of the spill.
ACTIVITY TYPE	Choose a type from the popup menu. SPEARS supplies ten predefined types (See figure below) that may be edited by the user.
ACTIVITY NAME	Enter a name that better describes the activity type (i.e., booming of river mouth).
ACTION	Press the button beside the Action field and three new lines of data appear: Entered, Required, and Completed with lines for data relating to the date and time an action was performed.
PERSON RESPONSIBLE	Enter the name of the person responsible for performing the actions.
MAP LINK	If you have linked a Spill Activities card to an object on a map (see below), the name of the linked map will appear in this field.
LAST MODIFIED	The date in this field will be automatically modified to the current date whenever you modify information on a Facility Information card.

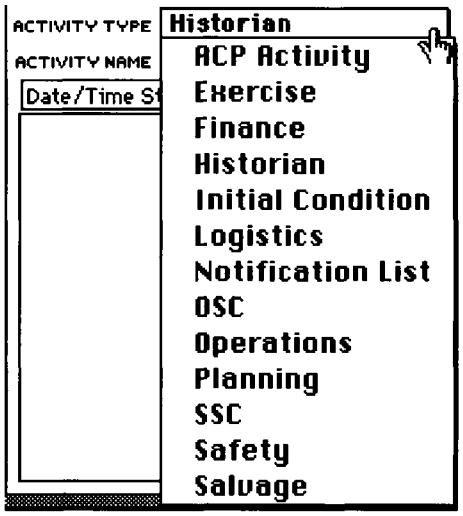


Figure 44

This is a list of available Activity Types referred to above. This list can be modified through the **Edit Activity Type** command under the **Search** menubar item.

Items in the CAMEO menu

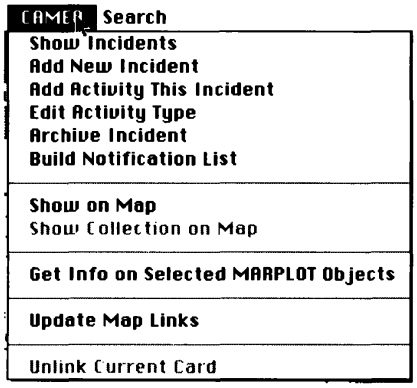


Figure 45

Note that there is no **Sort by** command as there is in all the other SPEARS stacks.

Multiple incidents can coexist in this stack. As each new card is added, the stack is sorted. Within each Incident Name, cards are ordered by Activity Type, entry date and time.

Show Incidents brings up a list of all the incidents in the stack from which you select one to view the first activity card for that incident.

Add New Incident adds a card and brings up a dialog box asking you to name the incident. Subsequent related activities will use this incident name as will the archived file.

Add Activity This Incident adds a card associated with the name of the incident you were viewing when you selected the command. At this stage, you need to add an activity type and an activity name which further describes the activity type (i.e., Operations; Booming of Guadalupe Slough).
I692*IMAGES:

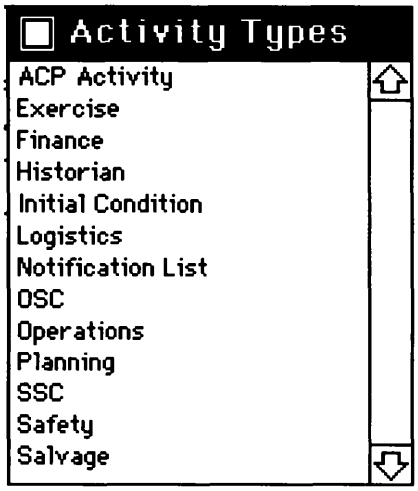


Figure 46

Choosing **Edit Activity Type** brings up a window with a scrolling field (shown right) in which you can edit the list of available activity types to select from.

When done editing the list, close it by clicking once on the close window box in the upper lefthand comer of the titlebar (Note: the list will automatically sort itself alphabetically upon closing).

Be aware that when editing the list of various Types, you will be switched to the background mode (signified by the hatching around the menubar) of Hypercard*1. In this mode, it is possible for you to add, delete or modify fields and buttons in the stack. Because of this, it is important that you only make changes to the list of types and then use the Close window box in the upper lefthand corner to exit from the background mode. You should not add, delete or modify any fields in SPEARS.
When activities at a spill are completed, the spill can be archived by choosing the **Archive Incident** command. Cards associated with the spill are cut from the SPEARS Spill Activities stack and are copied to a new stack named for the spill using the Incident Name.

*1 Refer to any Hypercard manuals such as The Complete Hypercard 2.1 Book for additional information on the structure, tools and commands in Hypercard.

Note that prior to archiving an incident, any cards with map links must be unlinked. Do this by searching for all cards with the same incident name and with the map link field not empty. Then select the **Unlink Current Card** command from the **CAMEO** menu. Omitting this step will interrupt the archiving procedure.

Choose **Build Notification List** to create a list of contacts that need notified during or after a spill. When a notification list is created, you are prompted to perform a search in the Contacts stack of the person(s) to be notified.

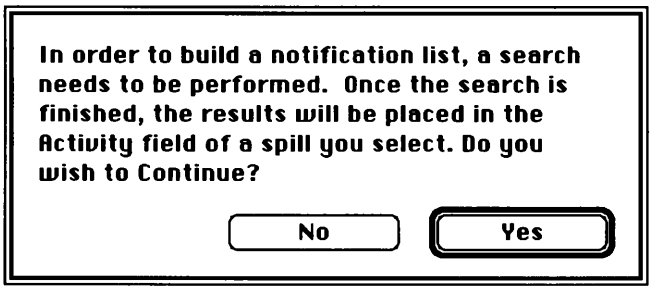


Figure 47

After you have input you search criteria and the search is performed. The list of contacts is entered into the Activity field of a card in the Spill Activities stack.

If a Spill Activities card is linked to a map object, choose **Show on Map** to view the spill's location on the map. The map to which the card is linked will come forward, and the symbol on the map to which the card is linked will be selected. If the Spill Activities card is not linked to a map,

but references, via an ID number, a card in the Facility Information stack that is linked to a map object, the related facility symbol will be displayed when you choose **Show on Map**.

If you have made a search of this stack and have found a collection of Spill Activities cards that are linked to symbols on one or more maps, choose **Show Collection on Map** to view the map locations of the collected spills. The map to which the cards are linked will come forward, and the symbols on the map to which the cards are linked will all be

selected. If the cards for the collected spills are linked to more than one map, SPEARS will ask you to select the map that you would like to view. Once you have made your selection, the selected map will be brought forward. All objects on the map linked to collected cards will be selected.

Choose **Get Info on Selected MARPLOT Objects** to go quickly to the SPEARS stack containing card(s) linked to object(s), such as symbols for contacts or facilities, that are selected on a map in MARPLOT. If the selected objects are linked to cards in more than one SPEARS/CAMEO stack, you'll see a list of all the stacks containing cards linked to selected objects, along with the number of cards in each stack linked to selected objects, when you choose this menu item. Double-click on the name of one of the stacks (or click once, then click **Select**) to view the cards in this stack that are linked to selected objects. When more than one card in a stack is linked to selected objects, use the arrows at the top right comer of each card, the **Go** menu items **Next** and **Prev**, or the arrow keys on your keyboard to scroll through the linked cards. Choose **Clear Search** from the Search menu when you have finished viewing the cards, so that you can scroll through the entire stack.

Choose **Update Map Links** to repair all inconsistent links in the Spill Activities stack by clearing the links from cards to non-existent map objects, and, for cards linked to objects that do not correctly "reciprocate" the link, by correcting the link information in those objects. If you have established many map links, expect this update to be time-consuming.

Choose **Unlink Current Card** to delete the link between the current card in SPEARS and an object on a map in MARPLOT. The MARPLOT object to which the card is linked does not have to be selected when you do this, nor does the map to which the card is linked need to be open. All information about the link will be removed from both SPEARS and MARPLOT. You can then choose to link the card to a different map object, if you like.

Items in the Search Menu

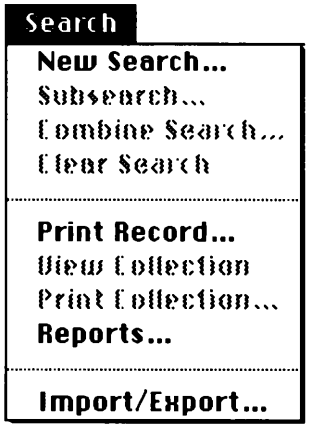


Figure 48

Choose from among the topmost four items in this menu to search the Spill Activities stack for a particular contact or incident name, activity type, or other criteria. Refer to the "Searching" chapter to learn how to perform searches.

Choose **Print Record...** to print out the contents of the current Spill Activities card in HyperCard's Print Report format. (Refer to your HyperCard manual to learn how to create or modify a Print Report format.)

If you've completed a search and have found a collection of cards, choose **View Collection** to see a spreadsheet containing the information from the collected cards.

Choose **Print Collection** to print out the contents of all collected cards in HyperCard's Print Report format.

Choose **Reports...** to view a spreadsheet containing information from your Spill Activities cards in one of five formats.

Choose **Print View...** from the spreadsheet's **File** menu to print the spreadsheet. The five formats are:

> **Activity Types** is a list of spills with a type of activity that you specify. For example, this list might include all spills where salvage operations were performed.
>
> **All Action Items** is a list of all of the spills where actions were required.

Completed Action Items is a list of all the spills where activities have been completed.

Uncompleted Action Items is a list of all of the spills where actions were required, but are not as yet completed.

Choose Other to create your own report format, if you have a copy of Reports from Nine to Five Software (see "Licenses And Trademarks" in the CAMEO manual).

Choose **Import/Export** to import data into the Spill Activities stack from text files or other HyperCard stacks, or to export the contents of Spill Activities cards to other stacks or to text files. Refer to the "Import/Export" chapter for further details on how to import and export data.

Maps and the Spill Activities stack

You can choose to link a Spill Activities card to an object on a MARPLOT map, or you can choose simply to take advantage of existing links between maps and other stacks in order to access map objects from cards in this stack. You can accomplish this by referencing cards in these other stacks from Spill Activities cards, via the ID field. For example, you can generate an activities card by choosing **Add Activity This Incident** from the **CAMEO** menu of the Spill Activities stack. Enter the ID NO. from the card in the other stack. It is the shared ID number that is the key to creating the association necessary to allow access to the related facility's symbol on a map from the Spill Activities card.

You may wish to link Spill Activities cards and map objects if you will need to refer quickly to information in the Spill Activities stack while you're working with a map in MARPLOT. For example, during an emergency response, you may plot a CAMEO threat zone or ALOHA footprint on a map, then wish to quickly obtain telephone numbers of contact people at facilities within the footprint or zone, downwind of a chemical spill. If you expect only to refer occasionally to a map while you

work with cards in the Spill Activities stack, though, you may prefer instead just to use existing links between maps and other stacks to access map objects from Spill Activities cards. Refer to the "Mapping" chapter to learn more about the considerations to take into account whenever you need to decide whether or not to link a Spill Activities card to a map.

Making Use of Links to Other Stacks

When you link a Facility Information or Transportation card to a map object, and then enter the ID number of the facility or route on a Spill Activities card, you will be able to access the same map object from any Spill Activities card that references the linked card via a facility or transportation ID number.

Follow the steps below to create a Spill Activities card that can take advantage of an existing link between a map and a facility, transportation, or population card to access a map object:

1 Link a Facility Information or Transportation card to a map object, such as a symbol marking the location of a facility or an open polygon tracing a route. (Refer to the "Mapping" chapter to learn how to create map links.)

2 Enter the spill name and ID number of the facility or route onto a Spill Activities card. Fill out the remaining data fields on the card with information describing the spill.

3 Now that the ID number shown on the Spill Activities card matches the ID number on the linked card, you can access the map object from the Spill Activities card. From the card's CAMEO menu, choose **Show on Map**. MARPLOT will come forward to display the map, and the object representing the facility, route, or population will appear selected, so that you can distinguish it from other objects on the map.

(You also can use the CAMEO menu item **Show Collection on Map** to view map objects to which a collection of Spill Activities cards are associated in this way.)

Creating and Using a Map Link

Follow the steps below to create a link between a Spill Activities card and a symbol marking the contact's location on a map displayed in MARPLOT. Refer to your MARPLOT manual to learn how to place symbols and make other changes to a map.

1 Create a Spill Activities card.

2 Click on the **MARPLOT** button,

Figure 49

in the CAMEO Navigator to open MARPLOT.

3 Open the map and choose **Layer List...** from MARPLOT's **list** menu).

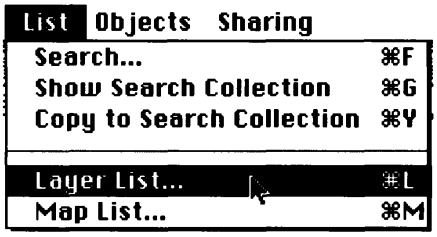


Figure 50

4 Unlock the appropriate layer by clicking once on the lock symbol on the left-hand side of the row you want to unlock.

5 Find the contact's location on the map (zoom in if necessary). Use the symbol tool,

Figure 51

to place a symbol at that location to represent the contact's location. (If there is already a symbol on the map to represent this location you can use it instead of creating a new object, provided it is not already linked to some other card.)

6 Make sure that this symbol object is selected, then choose **Link Object** from the MARPLOT Sharing menu.

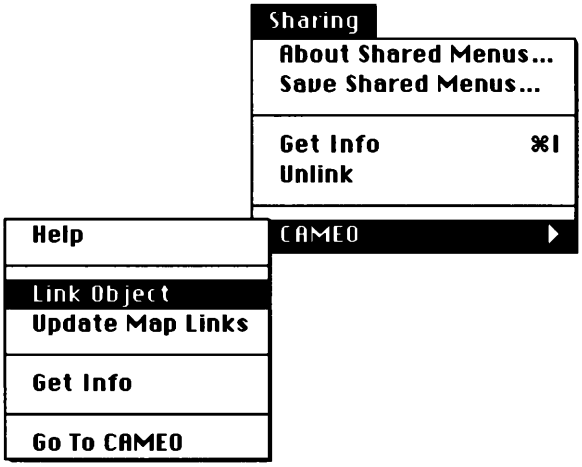


Figure 52

7 MARPLOT will return you to the current card in SPEARS. If this isn't the card that you'd like to link to the MARPLOT symbol, navigate through SPEARS to find the correct card. Choose **Link** from the small floating window in the foreground.

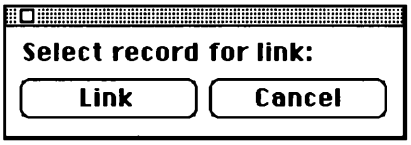


Figure 53

8 A link between the card and map symbol will be established automatically. Look in the MAP LINK field on the Spill Activities card to see the name of the map linked to it.

Once you have linked a Spill Activities card and a symbol on a MARPLOT map, you can quickly refer to information in SPEARS while you're using MARPLOT, and vice versa. While you're working with a MARPLOT map, you can select a symbol that is linked to a Spill Activities card. When you then choose **Get Info** from the **CAMEO** submenu in MARPLOT's **Sharing** menu, you will be brought to the Spill Activities card to which the symbol is directly linked. Likewise, while you're working in SPEARS, you can choose the **CAMEO** menu items **Show on Map** and **Show Collection on Map** to view the map symbols

to which one or more Spill Activities cards are directly linked. Note that when you choose **Show on Map**, once you've linked a Spill Activities card directly to a map object, even though the card may reference a facility, special population, or route ID, the symbol linked to the Spill Activities card, instead of the object representing the facility, route, or population, will be displayed. For collections of Spill Activities cards, **Show Collection on Map** works similarly.

Deleting a Map Link

If you'd like to delete the link between a Spill Activities card and an object on a map in MARPLOT...

... go to the card you'd like to unlink and choose **Unlink Current Card** from the CAMEO menu,
or

...select the map symbol linked to the card, then choose **Unlink** from MARPLOT's **Sharing** menu.

In either case, all information about the link will be removed from both SPEARS and MARPLOT.

Tips

1 The best strategy to use this stack is to try and track major decisions and activities rather than each action taken. Rather than tracking the nuts and bolts of the response to an incident, it may be better trying to capture the nuances and critical activities (i.e., when a spill is federalized, when equipment is deployed, when the status of the extent of a spill is made, what the cleanup measures are and who participated in the decision, etc.).

2 This may be a case where having more than one version of this stack operating within an EOC is good. For example, one version may focus on administrative issues while a second on operations

and a third on financial. In the end, they could be combined using the Import/Export command prior to archiving.

3 For use in planning, consider linking a card with the Activity Type of Planning and with the details of the plan (i.e., boom deployment strategy) to an inserted georeferenced picture of the plan done in MARPLOT. This then links the card to a single object that is uneditable and represents the entire strategy. To create the proper picture of the planning strategy, first create the necessary objects in MARPLOT for an area (i.e., boom, skimmer, staging, command post, recovery locations). Next, select only the objects you have added and then select the **Save as PICT...** command under the **File** menu. Select the option **Save Only Selected Objects** and enter a filename. This will save all the selected objects as a single georeferenced PICT*2. If you then select the **Insert Picture...** command under the **Edit** menu, you can insert the just saved PICT file and it will place it at the proper geocoordinates as a single object without you needing to select the Georeference button in the dialog box. Thus, you can link a single activity card to a single object (even though the object may appear to have more than one object in it). If you insert the picture into a planning layer and delete the objects you previously created, then the single object PICT for this plan on the planning layer can be easily shown or hidden as needed.

4 Don't underestimate the potential for the "archived" stack as a briefing tool during an incident. This is a fast way to update someone with a great deal of logistical and operational information as well as providing an opportunity to highlight key decisions made during the incident to that point. To do this, simply archive the incident before when the briefing is required

*2 MARPLOT automatically includes the georeferencing data as part of the PICT file's resource data. When pasting such an object back into MARPLOT, it recognizes and uses these coordinates for the image.

and send a copy of that archived stack to whomever needs it making sure to note the latest status of the incident.

Chapter 1.5

Response Resources

Use the Response Resources stack to keep track of equipment maintained at various sites, including facilities, Oil Spill Response Organizations (OSROs), state and local agencies. You can link Response Resources cards to symbols on a map representing the storage location. This stack comes with no data and may be used by the unit at the local level in conjunction with the on-line Response Resources Inventory (RRI) database maintained by the National Strike Force Coordination Center (NSFCC) in Elizabeth City, New Jersey. Details on the exact method by which data will be shared from RRI is still in the process of being developed.

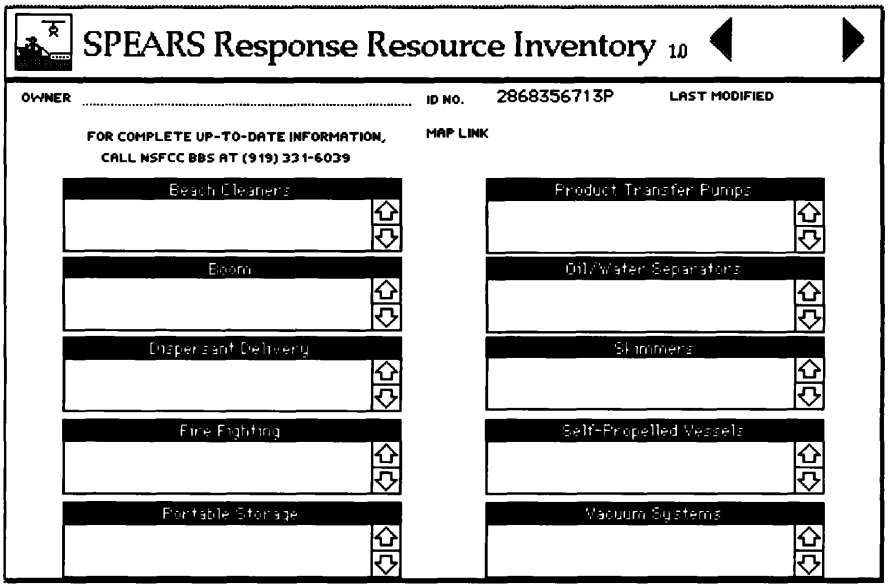


Figure 54

Data fields and their contents

NAME	The name of the response resource.
IDENTIFICATION NUMBER	The location of the spill.

MAP LINK	Will display the word, MARPLOT if linked to an object on a map.
BEACH CLEANERS	Lists beach cleaning resources (i.e., vacuum, washers, mechanical, etc.)
BOOM	Lists boom materials available (i.e., curtain, harbor, fire)
DISPERSANT DELIVERY	Lists items used to apply dispersants (i.e., planes, pumps, sprayers)
FIREFIGHTING	Lists firefighting equipment available.
PORTABLE STORAGE	Lists equipment available to temporarily store recovered oil (i.e., barges, tank trucks, bladders)
PRODUCT TRANSFER PUMPS	Lists pumps available to transfer oil (i.e., archimedean screw, bladeless, centrifugal, diaphram, peristaltic)
OIL/WATER SEPARATORS	Lists different types of separators available (i.e., coalescing, gravity, filter)
SKIMMERS	List different types of skimmers available (i.e., weir, centrifuge, vortex, belt)
SELF-PROPELLED VESSELS	Lists self-propelled oil recovery systems available (i.e., oleophilic, wier, suction)
VACUUM SYSTEMS	Lists types of vacuum systems available (i.e., barge, truck, loader)
LAST MODIFIED	The date in this field will be automatically modified to the current date whenever you modify the information to a record.

Items in the CAMEO menu

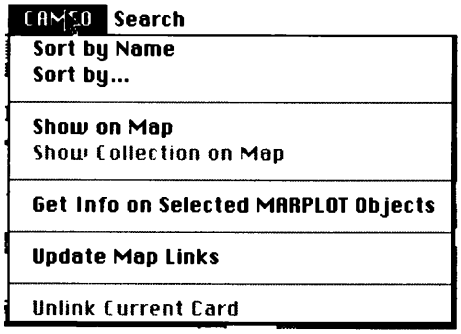


Figure 55

Choose **Sort by <field name>** to sort the Response Resources stack by the field that you chose when you last selected **Sort By...** (For example, if you last sorted the stack by selecting the **Name** field, **Sort by** <> will appear as **Sort by Name.**)

Choose **Sort By...** to sort the stack by any of the information fields on the Response Resources card.

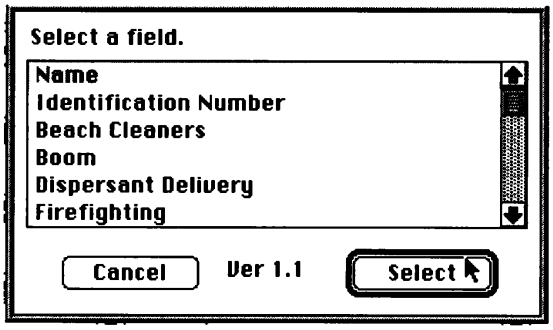


Figure 56

Double-click on the name of the field that you want to sort the stack by, or click once on the field name, then click **Select.**

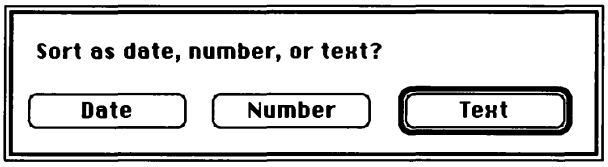


Figure 57

You can choose to sort the stack alphabetically (as text), by number (smallest to largest), or by date (earliest to latest). For example, to sort the stack alphabetically by last name, choose **Sort by...**, then choose **Name** as the name of the field to sort the stack by, and finally, choose **Text** as the sort type.

If a Response Resources card is linked to a map object, choose **Show on Map** to view the storage site's location on the map. The map to which the card is linked will come forward, and the symbol on the map to which the card is linked will be selected. If the Response Resources card is not linked to a map, but references, via an ID number, a card in the Facility Information stack that is linked to a map object, the related facility symbol will be displayed when you choose **Show on Map.**

If you have made a search of this stack and have found a collection of Response Resources cards that are linked to symbols on one or more maps, choose **Show Collection on Map** to view the map locations of the collected spills. The map to which the cards are linked will come forward, and the symbols on the map to which the cards are linked will all be selected. If the cards for the collected resources are linked to more than one map, SPEARS will ask you to select the map that you would like to view. Once you have made your selection, the selected map will be brought forward. All objects on the map linked to collected cards will be selected. If the collected Response Resources cards are not linked to map objects, but reference, via ID numbers, cards in the Facility Information stack that are linked to map objects, these objects will be displayed when you choose **Show Collection on Map.**

Choose **Get Info on Selected MARPLOT Objects** to go quickly to the SPEARS stack containing card(s) linked to object(s), such as symbols for equipment or facilities, that are selected on a map in MARPLOT. If the selected objects are linked to cards in more than one SPEARS/CAMEO stack, you'll see a list of all the stacks containing cards linked to selected objects, along with the number of cards in each stack linked to selected objects, when you choose this menu item. Double-click on the name of one of the stacks (or click once, then click **Select**) to view the cards in this stack that are linked to selected objects. When more than one card in a stack is linked to selected objects, use the arrows at the top right comer of each card, the **Go** menu items **Next** and **Prev**, or the arrow keys on your keyboard to scroll through the linked cards. Choose **Clear Search** from

the **Search** menu when you have finished viewing the cards, so that you can scroll through the entire stack.

Choose **Update Map Links** to repair all inconsistent links in the Response Resources stack by clearing the links from cards to non-existent map objects, and, for cards linked to objects that do not correctly "reciprocate" the link, by correcting the link information in those objects. If you have established many map links, expect this update to be time-consuming.

Choose **Unlink Current Card** to delete the link between the current card in SPEARS and an object on a map in MARPLOT. The MARPLOT object to which the card is linked does not have to be selected when you do this, nor does the map to which the card is linked need to be open. All information about the link will be removed from both SPEARS and MARPLOT. You can then choose to link the card to a different map object, if you like.

Choose **New Card** under the **File** menubar command to create a new Response Resources card.

Items in the Search Menu

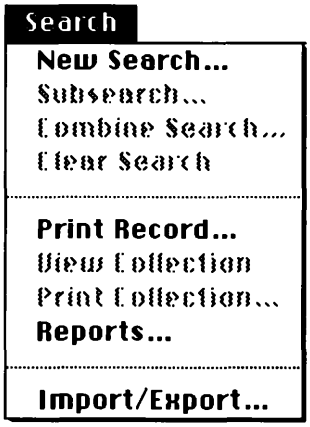


Figure 58

Choose from among the topmost four items in this menu to search the Response Resources stack for a particular name of a resource, specific equipment or other criteria. Refer to the chapter in the CAMEO manual on "Searching" to learn how to perform searches.

Choose **Print Record...** to print out the contents of the current Response Resources card in HyperCard's Print Report format. (Refer to your HyperCard manual to learn how to create or modify a Print Report format.)

If you've completed a search and have found a collection of cards, choose **View Collection** to see a spreadsheet containing the information from the collected cards.

Choose **Print Collection** to print out the contents of all collected cards in HyperCard's Print Report format.

Choose **Reports...** to view a spreadsheet containing information from your Response Resources stack. There are no specifically formatted report formats in this stack. The only choice you are given is "Other..." Choose **Print View...** from the spreadsheet's **File** menu to print the spreadsheet.

Choose **Import/Export** to import data into the Response Resources stack from text files or other HyperCard stacks, or to export the contents of Response Resources cards to other stacks or to text files. Refer to the "Import/Export" chapter in the CAMEO manual for further details on how to import and export data.

Maps and the Response Resources stack

You can choose to link a Response Resources card to an object on a MARPLOT map, or you can choose simply to take advantage of existing links between maps and other stacks in order to access map objects from cards in this stack. You can accomplish this by referencing cards in these other stacks from Response Resources cards, via the ID field.
You may wish to link Response Resources cards and map objects if you will need to refer quickly to information in the Response Resources stack while you're working with a map in MARPLOT. For example, during an emergency response, you may be responding to an oil spill in a certain coastal zone and wish to list all sites that have a specific type of skimmer or boom. If you expect only to refer occasionally to a map while you work with cards in the Response Resources stack, though, you may prefer instead just to use existing links between maps and other stacks to access map objects from Response Resources cards. Refer to the "Mapping" chapter to learn more about the considerations to take into account

whenever you need to decide whether or not to link a Response Resources card to a map.

Making use of links to other stacks

When you link a Facility Information or Transportation card to a map object, and then enter the ID number of the facility or route on a Response Resources card, you will be able to access the same map object from any Response Resources card that references the linked card via a facility or transportation ID number.

Follow the steps below to create a Response Resources card that can take advantage of an existing link between a map and a facility, transportation, or population card to access a map object:

1 Link a Facility Information or Transportation card to a map object, such as a symbol marking the location of a facility or an open polygon tracing a route. (Refer to the "Mapping" chapter to learn how to create map links.)

2 Enter the spill name and ID number of the facility or route onto a Response Resources card. Fill out the remaining data fields on the card with information describing the spill.

3 Now that the ID number shown on the Response Resources card matches the ID number on the linked card, you can access the map object from the Response Resources card. From the card's CAMEO menu, choose **Show on Map**. MARPLOT will come forward to display the map, and the object representing the facility, route, or population will appear selected, so that you can distinguish it from other objects on the map.
(You also can use the CAMEO menu item **Show Collection on Map** to view map objects to which a collection of Response Resources cards are associated in this way.)

Creating and using a map link

Follow the steps below to create a link between a Response Resources card and a symbol marking the object's location on a map displayed in MARPLOT. Refer to your MARPLOT manual to learn how to use MARPLOT to place symbols and make other changes to a map.

1 Create a Response Resources card.

2 Click on the **MARPLOT** button,

Figure 59

in the CAMEO Navigator to open MARPLOT.

3 Open the map and choose **Layer List...** from MARPLOT's <b>List</> menu).

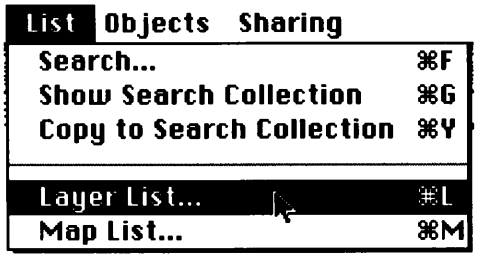


Figure 60

4 Unlock the appropriate layer by clicking once on the lock symbol on the left-hand side of the row you want to unlock.

5 Find the response resource's location on the map (zoom in if necessary). Use the symbol tool,

Figure 61

to place a symbol at that location to represent the response resource's location. (If there is already a symbol on the map to represent this location you can use it instead of creating a new object, provided it is not already linked to some other card.)

6 Make sure that this symbol object is selected, then choose **Link Object** from the MARPLOT **Sharing** menu.

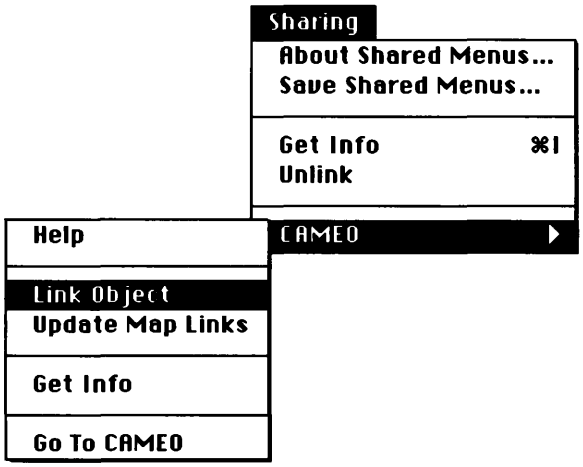


Figure 62

7 MARPLOT will return you to the current card in SPEARS. If this isn't the card that you'd like to link to the MARPLOT symbol, navigate through SPEARS to find the correct card. Choose **Link** from the small floating window in the foreground.

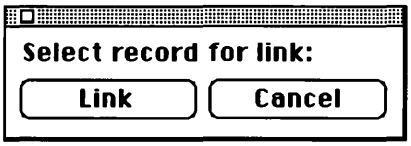


Figure 63

8 A link between the card and map symbol will be established automatically. Look in the MAP LINK field on the Response Resources card to see the name of the map linked to it.

Once you have linked a Response Resources card and a symbol on a MARPLOT map, you can quickly refer to information in SPEARS while you're using MARPLOT, and vice versa. While you're working with a MARPLOT map, you can select a symbol that is linked to a Response Resources card. When you then choose **Get Info** from the **CAMEO** submenu in MARPLOT's **Sharing** menu, you will be brought to the Response Resources card to which the symbol is directly linked. Likewise, while you're working in SPEARS, you can choose the **CAMEO** menu items **Show on Map** and **Show Collection on Map** to view the

map symbols to which one or more Response Resources cards are directly linked. Note that when you choose **Show on Map**, once you've linked a Response Resources card directly to a map object, even though the card may reference a facility, special population, or route ID, the symbol linked to the Response Resources card, instead of the object representing the facility, route, or population, will be displayed. For collections of Response Resources cards, **Show Collection on Map** works similarly.

Deleting a Map Link

If you'd like to delete the link between a Response Resources card and an object on a map in MARPLOT...

... go to the card you'd like to unlink and choose **Unlink Current Card** from the CAMEO menu,

or

...select the map symbol linked to the card, then choose **Unlink** from MARPLOT's **Sharing** menu.

In either case, all information about the link will be removed from both SPEARS and MARPLOT.

Tips

1 Clicking once on the blackened titlebars above each category field brings up a list of standardized items consistent with the NSFCC RRI database items.

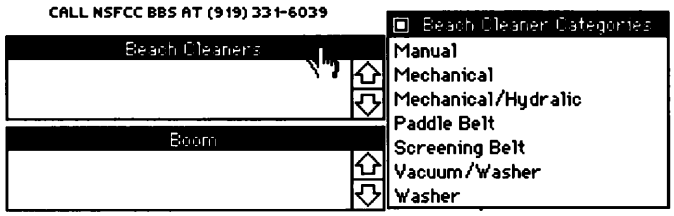


Figure 64

This is not the typical pick list found in other locations in SPEARS. This list is only for serving as a point of reference for data entry

and cannot be edited by the user. You cannot enter an item by simply clicking on a word in the list as you can with the "Type" (i.e., facility type or organization type) fields in other stacks.

2 It is important to remember that SPEARS only allows one-to-one links between a single map object and one card in any particular SPEARS stack. Because you are listing more than a single piece of equipment per card, this means you have to carefully plan how you use the linking function. For example, if you have a card containing information on skimmers, boom, vehicles and portable storage equipment, you cannot link that card to four different symbols at four different locations in MARPLOT. However, if that equipment is stored at a single warehouse location, then you can link that card to a symbol representing the warehouse and all the equipment within it.

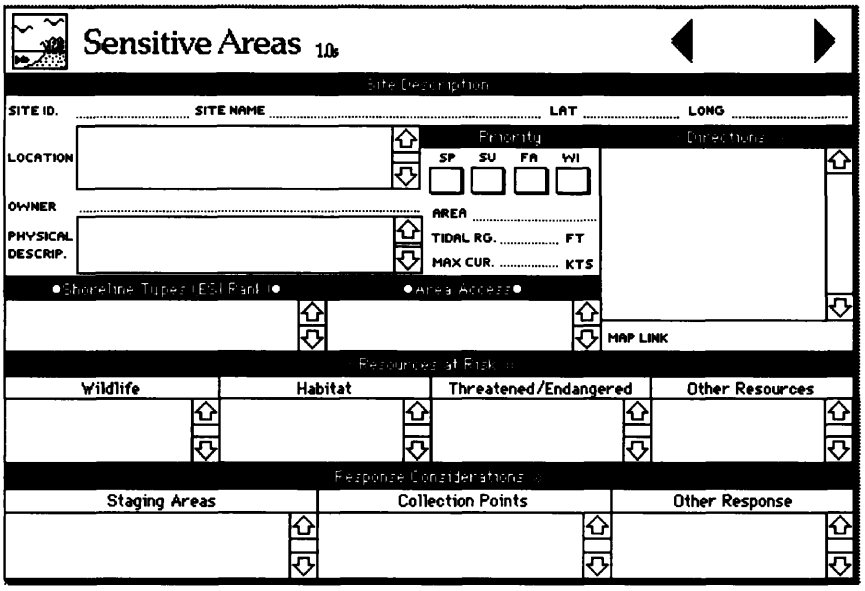
Chapter 1.6

Sensitive Areas

Use the Sensitive Areas stack to keep track of environmentally sensitive areas that have been identified as requiring special attention and/or protection during incidents. Examples of these types of areas include wetlands, bird rookeries, seal haul-out sites, anadromous fish spawning areas, endangered plant habitat, commercial fishery areas, archaelogical sites, protected sites (i.e., Marine Sanctuaries or State Parks), high recreational use areas, and others. You can link Sensitive Areas cards to symbols or polygons on a map representing the area of concern and assign a response priority to the site.

This stack comes with no data and is to be used by the unit at the local level as part of the area planning process. Much of the data can be obtained from existing Port Projects or NOAA Environmentally Sensitive Index (ESI) atlases. More specific information on the susceptability of certain wildlife to oils is also available in the Fishes, Marine Birds, Marine Mammals, Shellfish, and Turtles stacks within SPEARS. Further information can be obtained by working with local and regional experts on the natural resources in your zone of responsibility.

The figures below are screenshots of the Sensitive Areas stack. Since there are three sets of toggle fields in this stack (denoted by the " " symbols around the field name), two figures were required to show all the available data fields. Note the change in the Directions, Resources at Risk and Response Consideration fields between figures.



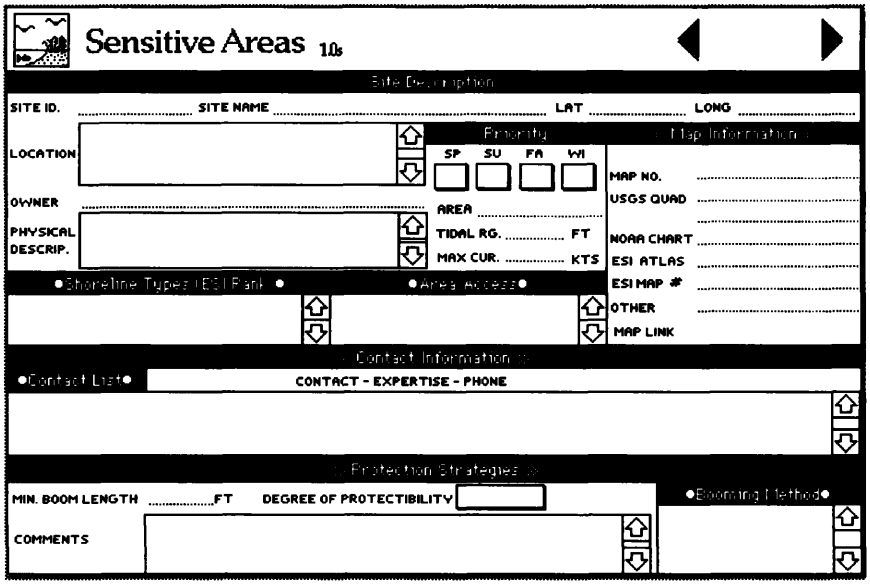


Figure 65

Data fields and their contents

SITE ID	Requires a unique site identification number.
SITE NAME	The name of the sensitive area - the more specific and unique the better.
LATITUDE	Geographic coordinates (Latitude) of the facility (Example: 37.559 N).

LONGITUDE	Geographic coordinates (Longitude) of the facility (Example: -122.433385).
LOCATION	Description of the location of the site.
OWNER	Property owner or manager.
PHYSICAL DESCRIPTION	Narrative description of the site and its predominant characteristics.
SPRING PRIORITY	Priority of site for response/cleanup activities during the Spring season (April - June) with A being the highest priority rating.
SUMMER PRIORITY	Priority of site for response/cleanup activities during the Summer season (July - September).
FALL PRIORITY	Priority of site for response/cleanup activities during the Fall season (October - December).
WINTER PRIORITY	Priority of site for response/cleanup activities during the Winter season (January - March).
AREA	Approximate area of site.
TIDAL RANGE	Difference, when applicable, between maximum high and minimum low tides at the site in a year.
MAX CURRENTS	Maximum typical current adjacent site.
MAP NO.	Filled with user defined/assigned map number in which the site appears.
USGS QUAD	Filled with the USGS Quad number in which the site appears.
NOAA CHART	Filled with the NOAA Chart number in which the site appears.

ESI ATLAS	Filled with the name of the ESI Atlas in which the site appears.
ESI MAP #	Filled with the ESI Map number in which the site appears.
OTHER MAP	Filled with the number of any other map in which the site appears.
DIRECTIONS	Narrative description of how to get to the site.
AREA ACCESS	Brief description of accessability of site by foot, car, boat or helicopter. Should include details on differentiating what type of access (i.e., light equipment, heavy equipment, no equipment).
SHORELINE TYPES	Lists the different types of environmentally sensitive index (ESI) categories that can be used to help characterize a section of shore (from exposed rocky shores to wetlands).
CONTACT	Primary contact for the site. May be land manager, owner, natural resources trustee or technical expert.
BOOMING METHOD	If applicable, preferred booming method identified to protect site.
PROTECTABILITY	Subjective ranking of how easily or effectively a site can be protected from oil (high, medium or low).
PROTECTION COMMENTS	Additional information which may help or clarify recommended protection strategy.
MIN BOOM LENGTH	The minimum total length of boom required to safely and adequately protect a site.
OTHER RESOURCES	A list of other resources which may be impacted by an oil spill (i.e., mariculture facilities, archeological sites, etc.).

THREATENED/ ENDANGERED	Listing of any threatened or endangered species (plant or animal) known to use the area.
HABITAT	Description of how the site is critical as a habitat to wildlife.
WILDLIFE	Listing of wildlife known to use the site on a regular basis. Should include any seasonal details.
OTHER RESPONSE CONSIDERATIONS	Description of any special conditions or factors not covered in the other fields.
COLLECTION POINTS	Pre-determined locations where oil can be easily collected with minimal environmental impacts.
STAGING AREAS	Pre-determined locations where equipment can be strategically off-loaded or operated with minimal environmental impacts.

Items in the CAMEO Menu

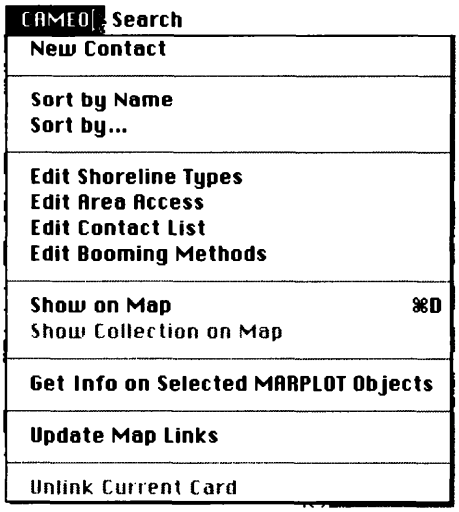


Figure 66

Choose **New Contact** to create a card in the Contacts stack for this site. Information from the Site ID, Site Name, Latitude, Longitude, Owner, Shoreline Type and Contact Information fields will be copied onto the new Contact card.

Choose **Sort by <field name>** to sort the Sensitive Areas stack by the field that you chose when you last selected **Sort By...** (For example, if you last sorted the stack by selecting the **Name** field, **Sort by** <> will appear as **Sort by Name.)**. Choose **Sort By...** to sort the stack by any of the information fields on the Sensitive Areas card.

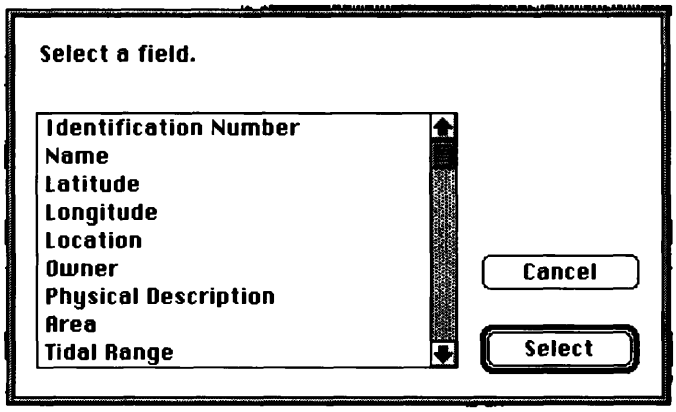


Figure 67

Double-click on the name of the field that you want to sort the stack by, or click once on the field name, then click Select.

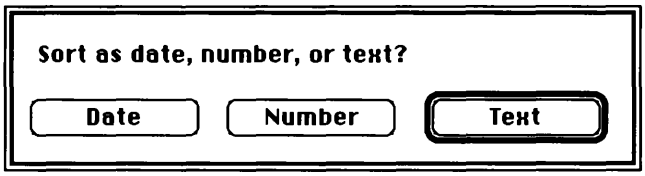


Figure 68

You can choose to sort the stack alphabetically (as text), by number (smallest to largest), or by date (earliest to latest). For example, to sort the stack alphabetically by last name, choose **Sort by...**, then choose **Name** as the name of the field to sort the stack by, and finally, choose **Text** as the sort type.

Choose **Edit Shoreline Types**, **Edit Area Access**, **Edit Contact List**, or **Edit Booming Methods** to add, delete, or modify entries in any of the four Types popup menus.

Be aware that when editing the list of various Types, you will be switched to the background mode (signified by the hatching around the menubar) of Hypercard*1. In this mode, it is possible for you to add, delete or modify fields and buttons in the stack. Because of this, it is important that

*1 Refer to any Hypercard manuals such as The Complete Hypercard 2.1 Book for additional information on the structure, tools and commands in Hypercard.

you only making changes to the list of types and then use the Close window box in the upper lefthand corner to exit from the background mode. You should not add, delete or modify any fields in SPEARS.

Choose one of these four menu items from the CAMEO menu. You can add as many new types as you like; just add any new types into the list displayed in the floating window by entering them at the end of the list. Delete an entry by selecting it, then pressing on the delete (backspace) key; press delete once to delete the entry and a second time to move the cursor to the end of the previous entry. Modify an entry by selecting, then editing the text as you would do in a word-processing document. When you've made all your changes, click within the close box in the upper left corner of the floating window. SPEARS will automatically re-alphabetize the list and remove any duplicate entries (spaces do count). Your new items will appear every time you access the list of types in the SPEARS Sensitive Areas stack.

If a Sensitive Areas card is linked to a map object, choose **Show on Map** to view the site's location on the map. The map to which the card is linked will come forward, and the symbol on the map to which the card is linked will be selected.

If you have made a search of this stack and have found a collection of Sensitive Area cards that are linked to symbols on one or more maps, choose **Show Collection on Map** to view the map locations of the collected sites. The map to which the cards are linked will come forward, and the symbols on the map to which the cards are linked will all be selected. All objects on the map linked to collected cards will be selected.

Choose **Get Info on Selected MARPLOT Objects** to go quickly to the SPEARS stack containing card(s) linked to object(s), such as symbols for equipment or facilities, that are selected on a map in MARPLOT. If the selected objects are linked to cards in more than one SPEARS/CAMEO stack, you'll see a list of all the stacks containing cards linked to selected objects, along with the number of cards in each stack linked to selected

objects, when you choose this menu item. Double-click on the name of one of the stacks (or click once, then click **Select**) to view the cards in this stack that are linked to selected objects. When more than one card in a stack is linked to selected objects, use the arrows at the top right comer of each card, the **Go** menu items **Next** and **Prev**, or the arrow keys on your keyboard to scroll through the linked cards. Choose **Clear Search** from the **Search** menu when you have finished viewing the cards, so that you can scroll through the entire stack.

Choose **Update Map Links** to repair all inconsistent links in the Sensitive Areas stack by clearing the links from cards to non-existent map objects, and, for cards linked to objects that do not correctly "reciprocate" the link, by correcting the link information in those objects. If you have established many map links, expect this update to be time-consuming.

Choose **Unlink Current Card** to delete the link between the current card in SPEARS and an object on a map in MARPLOT. The MARPLOT object to which the card is linked does not have to be selected when you do this, nor does the map to which the card is linked need to be open. All information about the link will be removed from both SPEARS and MARPLOT. You can then choose to link the card to a different map object, if you like.

Items in the Search Menu

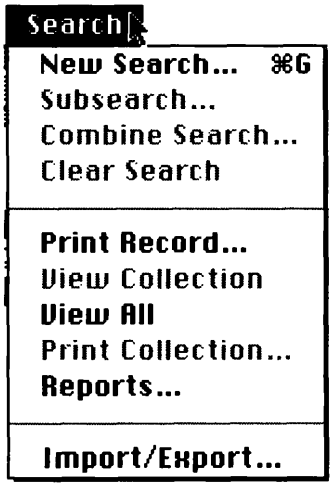


Figure 69

Choose from among the topmost four items in this menu to search the Sensitive Areas stack for a particular name of a site, shoreline type, location or other criteria. Refer to the "Searching" chapter in the CAMEO manual to learn how to perform searches.

Choose **Print Record...** to print out the contents of the current Sensitive Areas card using Hypercard's Print Report format.

A default form has been included with this stack. (Refer to your HyperCard manual to learn how to create or modify a Print Report format.)

If you've completed a search and have found a collection of cards, choose **View Collection** to see a spreadsheet containing the information from the collected cards.

Choose **Print Collection** to print out the contents of all collected cards in Hypercard's Print Report format.

Choose **Reports...** to view a spreadsheet containing information from your Sensitive Areas stack. There are is one specifically formatted report formats in this stack, Sensitive Areas. Choose **Print Uiew...** from the spreadsheet's File menu to print out a report.

Choose **Import/Export** to import data into the Sensitive Areas stack from text files or other HyperCard stacks, or to export the contents of Sensitive Areas cards to other stacks or to text files. Refer to the "Import/Export" chapter in the CAMEOTM manual for further details on how to import and export data.

Entering Data

This stack has been designed so you can enter information about areas of high environmental concern. By entering these sites into SPEARS, you can plot, view, sort and analyze the information for planning, exercise and response considerations. Some sites may be identified by a single point on a map. Others may encompass an area. In either instance, specific information can be entered into this stack and then linked to an object in MARPLOT. Note that this stack is designed to track physical locations (i.e., a shoreline segment), not the actual resource (i.e., the brown pelican that uses the area).

To enter data, simply click on the field you wish to enter data. You can then move to the next field by using the Tab key or by clicking with the

mouse on the next field you want to enter data. There are is only one mandatory field in this stack - the Site ID field. You must enter an ID number into this field and you should attempt to make it unique. All fields can accept alpha as well as numeric characters. You can enter the latitude and longitude data in any format. MARPLOT does not use these coordinates for plotting on the map (i.e., if you move the linked object in MARPLOT, it does not change the latitude/longitude data on the associated SPEARS card nor vice versa). You must position the location of the object representing this area on MARPLOT manually. The coordinates on the card may help in this regard.

Fields that are boxed and have a drop shadow, DAY indicate that by clicking and holding down the mouse button on this field, a list of possible entries are shown from which you can pick thereby reducing the chance of typing errors or non-standard entries.

Figure 70

In this stack, there are five drop shadow fields. Four are related to seasonal priorities. The choices in these fields run from A - C with an choice to clear the field. A is the highest priority. Information entered into the fields describing the Resources at Risk should include details which enhance the selection of seasonal priorities (i.e., breeding season during Winter months). It is important that you establish the criteria for how you prioritize the areas and seasons and list it within the SPEARS SOP.
The fifth drop shadow field is the Degree of Protectability. This field contains entries for high, medium, low and clear entry. Again, being a subjective selection, a discussion of the criteria for choosing the degree for an area should be discussed within the SPEARS SOP.

This stack also contains scroll fields topped with blackened title bars

Figure 71

Clicking once on this titlebar results in the
display of another type of pick list from which you can select your entry.
The difference between these two types of pick lists is that the first (with

the drop shadow) has entries which the user cannot edit or modify. The second type (with the s) is editable. Another significant difference is that you can only have a single entry in the shadow field whereas the titlebar with s allows multiple entries.

For the Sensitive Areas stack, you can select the **Edit Shoreline Types, Edit Area Access, Edit Contact List, or Edit Booming Methods** command under the CAMEO menu and add or delete items from their pick lists.

A unique titlebar convention which SPEARS follows is the use of the double-angle brackets

» Protection Strategies »

Figure 72

to denote a set of toggle fields. When clicked on once, the fields beneath the blackened titlebar will toggle to another set of data. You are not losing the other set of data, merely hiding it. In the Sensitive Areas stack, there are three sets of toggle fields:

Directions	<--->	Map Information
Contact Information	<--->	Resources at Risk
Protection Strategies	<--->	Response Considerations

Maps and the Sensitive Areas stack

You can choose to link a Sensitive Areas card to an object on a MARPLOT map, or you can choose simply to take advantage of existing links between maps and other stacks in order to access map objects from cards in this stack. You can accomplish this by referencing cards in these other stacks from Sensitive Areas cards, via the ID field.

You may wish to link Sensitive Areas cards and map objects if you will need to refer quickly to information in the Sensitive Areas stack while you're working with a map in MARPLOT. For example, during an emergency response, you may be responding to an oil spill in a certain coastal zone and wish to list all sites that have a seasonal priority of "A" or has a specific shoreline type. If you expect only to refer occasionally to a map while you work with cards in the Sensitive Areas stack, though, you may prefer instead just to use existing links between maps and other

stacks to access map objects from Sensitive Areas cards. An example of this would be if you created a notification list in the Spill Activities stack, found one of the contacts listed in the Contacts stack and then wanted to see more information about their role in the Sensitive Areas stack. Refer to the "Mapping" chapter to learn more about the considerations to take into account whenever you need to decide whether or not to link a Sensitive Areas card to a map.

Creating and Using a Map Link

Follow the steps below to create a link between a Sensitive Areas card and a symbol marking the object's location on a map displayed in MARPLOT. Refer to your MARPLOT manual to learn how to use MARPLOT to place symbols and make other changes to a map.

1 Create a Sensitive Areas card.

2 Click on the **MARPLOT** button,

Figure 73

in the CAMEO Navigator to open MARPLOT.

3 Open the map and select the **Layer List...** command under the **List** menubar item.

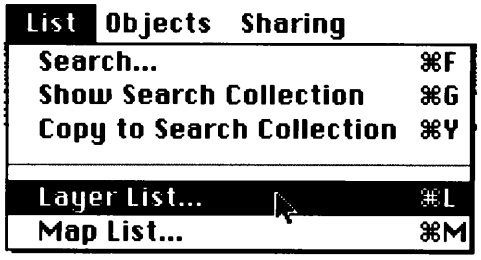


Figure 74

4 Unlock the Sensitive Areas layer by clicking once on the lock symbol on the left-hand side of the Sensitive Areas row.

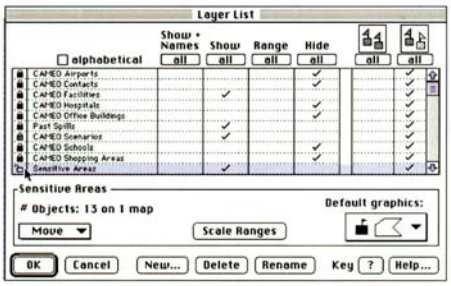


Figure 75

5 Find the location on the map (zoom in if necessary) where you wish to place the sensitive area symbol or polygon. In this instance, we will use the symbol tool,

Figure 76

to place a symbol at that location to represent the location of the sensitive area. (If there is already a symbol on the map to represent this location you can use it instead of creating a new object, provided it is not already linked to some other card.)

6 Make sure that this symbol object is selected, then choose **Link Object** from the MARPLOT Sharing menu.

Figure 77

7 MARPLOT will return you to the current card in SPEARS. If this isn't the card that you'd like to link to the MARPLOT symbol, navigate through SPEARS to find the correct card. Choose Link from the small floating window in the foreground.

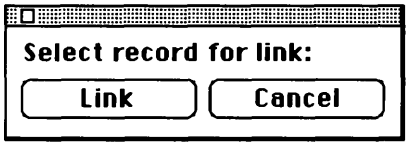


Figure 78

8 A link between the card and map symbol will be established automatically. Look in the MAP LINK field on the Sensitive Areas card to see the word, MARPLOT" entered to verify the link has been established.

Once you have linked a Sensitive Areas card and a symbol or polygon on a MARPLOT map, you can quickly refer to information in SPEARS while you're using MARPLOT, and vice versa. While you're working with a MARPLOT map, you can select a symbol that is linked to a Sensitive Areas card. When you then choose **Get Info** from the MARPLOT **Sharing** menu, you will be brought to the Sensitive A reas card to which the symbol is directly linked. Likewise, while you're working in SPEARS, you can choose the **CAMEO** menu items **Show On Map** and **Show**

Collection on Map to view the map symbols to which one or more Sensitive Areas cards are directly linked.

Deleting a Map Link

If you want to delete the link between a Sensitive Areas card and an object on a map in MARPLOT...

... go to the card you want to unlink and choose **Unlink Current Card** from the CAMEO menu,

or

...select the map symbol linked to the card, then choose **Unlink** from the MARPLOT **Sharing** menu.

In either case, all information about the link will be removed from both SPEARS and MARPLOT.

Tips

1 It is crucial that you discuss how you are going to identify and provide a name and ID number for shoreline segments with the natural resource trustee(s) and other pertinent environmental agencies. More often than not, there is an existing system which you can apply.

2 Refer to the Import section of the CAMEO Manual to aid in the importation of data from other sources that could help accelerate the process of adding information on sensitive areas within your zone. By using the Import command, you can easily create a card for all the shoreline segments if they already exist in another database by simply importing the segment name, ID number, latitude, longitude and other information that matches the fields listed at the beginning of this chapter.

3 Don't be afraid to export data to share with other so they can provide more details to the records you already have.

4 Develop a strategy for developing the Sensitive Areas stack. Typically, this would involve a fair portion of research, data collection and meetings with the natural resource trustee(s) followed by intensive data entry and plotting in MARPLOT. The latter two steps could be further broken down by priority areas. Remember that SPEARS is a living program and that stacks such as the Sensitive Areas stack are never really truly finished.

5 For certain key resources, don't overlook the possibility of including a graphic (picture or photo) as a non-georeferenced, framed object in MARPLOT.

6 During incidents, it may be better to keep notes of important changes or additions that need to to be made to the stack and make them after the incident or during a lull in activity.

Chapter 2.0

Examples of SPEARS Use

This chapter is designed to describe how SPEARS might be used in certain, common situations. Due to design consideration, procedures performed in one order may be more expedient and effective than the same procedure performed in a different order. An example of this is when you are creating a new facility record and object for that record to link to in MARPLOT.

This chapter is supplemented by Appendix A which contains a series of "How To" papers describing specific procedures in "cookbook" format for performing certain key functions in SPEARS.

This chapter will speak more to the general use strategy of SPEARS as a tool. Reading Chapter 1.0: *INTRODUCTION TO SPEARS* will provide a basis for obtaining a better grasp of why these techniques might work better than others. The design considerations of SPEARS plays a primary role in the how and why of using SPEARS.

Customizing SPEARS

The easiest and probably first steps you can take to make SPEARS more efficient for your use is to take the time to customize SPEARS to your needs. There are several places in the system to alter items making them better suited for your site and use.

The first and simplest place to make a change is in the CAMEO Navigator palette. The version that SPEARS employs has been enhanced to allow users to not only change the look of the navigation palette, but also add or delete navigation icons from the palette as is desirable.
The changes regarding the look of the CAMEO Navigator should not be underestimated in their ability to impact the effective use of SPEARS. There are two primary ways to change the look of the palette. Start by clicking once on the zoom box in the upper righthand corner of the

palette. This will show the edit bar along the bottom of the palette. The icon on the far lower left corner is used to change the aspect ratio of the palette. The two center checkboxes allow you to hide/show the icons and/or names. The last icon (the one that looks like a floppy disk) allows you to add or delete icons from the palette.

The first is to simply chose to show/hide icons and names. The most common way to view the CAMEO Navigator is with both icons and names visible and is shown in the figure below. Do this by making sure both checkboxes are checked.

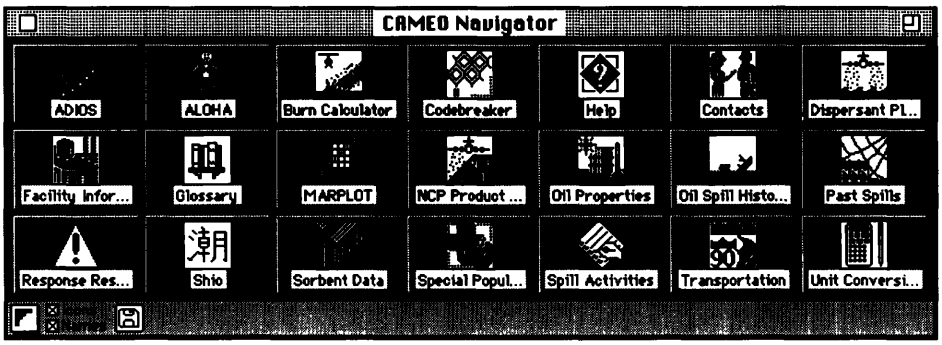


Figure 79

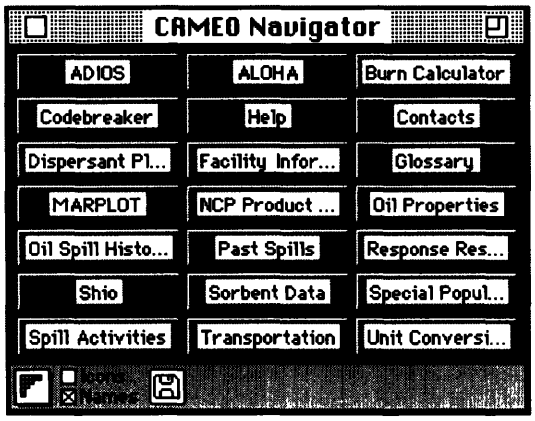


Figure 80

Another way to view the CAMEO Navigator is by name only without the graphic icons. This may be more critical when working on a smaller monitor, like on an SE/30 or a laptop. Note only the "Names" checkbox is checked. Another way to view the CAMEO Navigator is by icon only. This is probably the second most common way to view the CAMEO Navigator but means being familiar with the icons. This could be a problem if SPEARS is being used by many "part-time" users who may not remember what module each icon represents. This icon-only view is shown in the figure that follows.

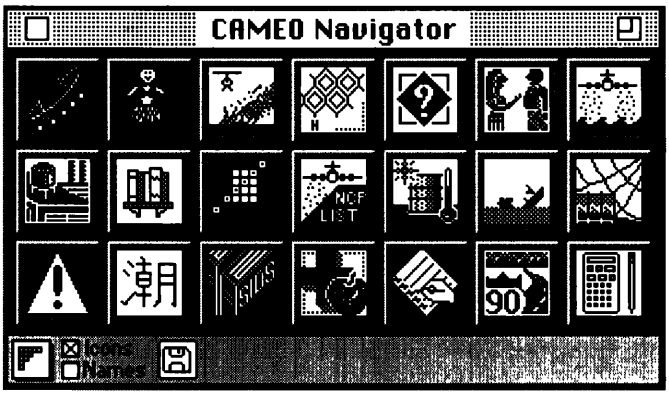


Figure 81

You can also adjust the aspect ratio of the Navigator palette. This command only allows you to select the viable combinations that best fill a rectangular palette and can fit onto your monitor. The two figures that follow show how changing from 7 x 3 to 3 x 7 effects the CAMEO Navigator. (The figure above depicting the names only palette was done in the 3 x 7 ratio which was changed to best fit the space. SPEARS does not change the aspect ratio for you automatically when shifting between types of views.) Note the horizontal axis is listed first.

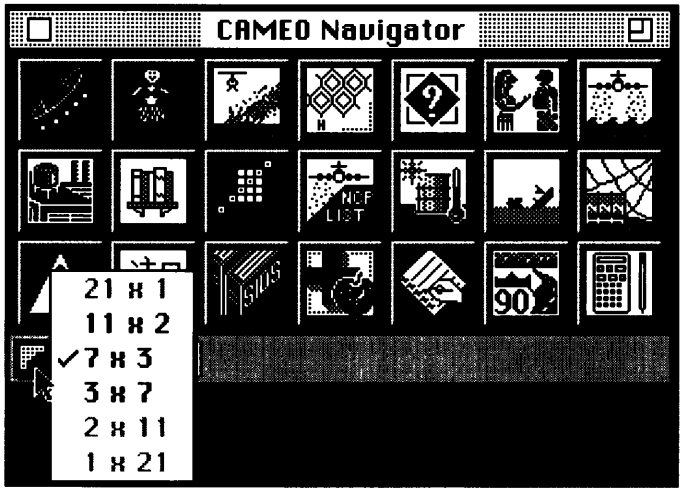


Figure 82

Figure 83

It should be clear by now that changing the way one navigates around SPEARS can be easily modified in a fairly wide variety of ways. Why is this important? The reason is that the CAMEO Navigator is one of the first and most often encountered aspects of SPEARS. By deleting certain items from the CAMEO Navigator (described below), you can, in a very subtle and innocuous fashion, control which modules casual users or browsers will have access. Obviously, it doesn't take much for a user to go directly to a module through the Finder, but, if you set up the system so one either uses an icon from the desktop or a menu item under the Apple menubar command to launch the CAMEO Navigator as a primary means of entering SPEARS, then this serves as the index to the rest of SPEARS for the majority of users and makes learning how to start SPEARS as simple as selecting an icon on the desktop or an item from the Apple menu.*1

The other means of altering the look of the CAMEO Navigator is to actually add or delete items as mentioned earlier. This is an extremely powerful way of not only limiting access to certain modules, but also reducing the confusion of having modules visible that your office may never use (i.e., Toxic Release Inventory). In essence, SPEARS was designed to provide the user a means of creating a custom "buffet" of modules that they would use as SPEARS.

It is important to note that non-SPEARS files, even applications, can be added to the CAMEO Navigator. This affords a central starting point for any use of SPEARS be it for creating briefings with PowerPoint or form letters in Word. This is important not only for simplified orientation to

*1 Adding a SPEARS item to the Apple menu requires making an alias of the CAMEO Navigator module and moving it into the Apple Menu Items folder in the System folder. You can rename the alias to SPEARS so launching the CAMEO Navigator to get into SPEARS is not as confusing to the novice user.

SPEARS, but also to reduce the problems and probability of someone inadvertantly moving, renaming or deleting any SPEARS modules. Although a simple process, altering the CAMEO Navigator palette should only be done by the SPEARS system administrator.

The dialog box which enables you to add or delete files to the CAMEO Navigator is shown below. The files can be in any folder and even on a Bernoulli cartridge. The first time you launch a file or application not at the same file directory level as the CAMEO Navigator, it will ask you to find the file. At that point, it will memorize the path to that file and not need to ask you again for its location the next time you select that file from the palette.*2 If you do select files from a Bernoulli cartridge, that cartridge must be loaded before selecting the icon from the CAMEO Navigator or it will not be able to find the file.

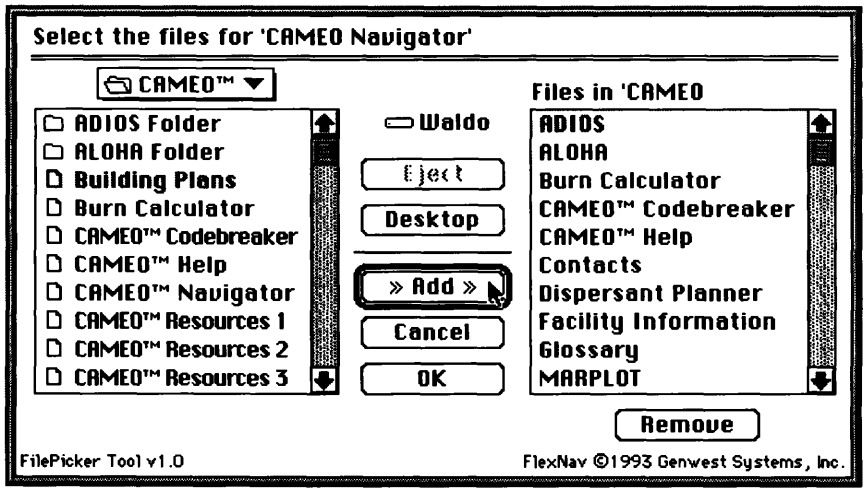


Figure 84

There are other areas where SPEARS can be customized. The vast majority of the remainder of these modifications are through menubar commands, for example adding types to pick lists once you are already in a module. Refer to specific chapters on these modules for details.

*2 For training purposes, since the path has been memorized for your computer, you will need to run through each icon that uses an application in the CAMEO Navigator after loading it onto the student computers so it knows the path when the students select the files and won't bring up the "find the application" dialog box.

An additional method by which you can customize your access of SPEARS is by simply making an alias*3 of the CAMEO Navigator and placing it on the desktop. You can even rename it "SPEARS Navigator" to reduce user confusion as to where to go to launch SPEARS.

Using SPEARS in Planning

SPEARS is intended to be used vigorously and regularly in the planning process. It may be used to supplement or in the future replace your hard copy ACP as the primary planning tool. Listed below are some ways in which SPEARS can be used:

Capturing information on key environmentally sensitive areas in both the Sensitive Areas stack and MARPLOT for your zone of responsibility along with contact information which could be automatically copied to the Contacts stack for use in building a notification list in the Spill Activities stack during an incident. Using MARPLOT, major transportation corridors involving large amounts of oil (i.e., tanker routes) or hazardous chemicals (i.e., ammonia or LNG barges) can be plotted and, using the

Make New Polygon... command, a risk analysis for that corridor can be performed (see following 4 figures).

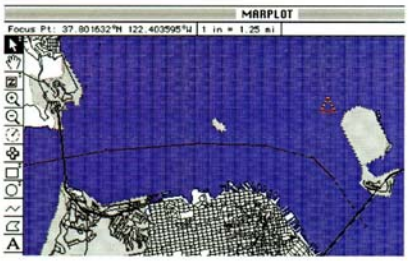


Figure 85

*3 See documentation accompanying System 7.1 on the use of "aliases."

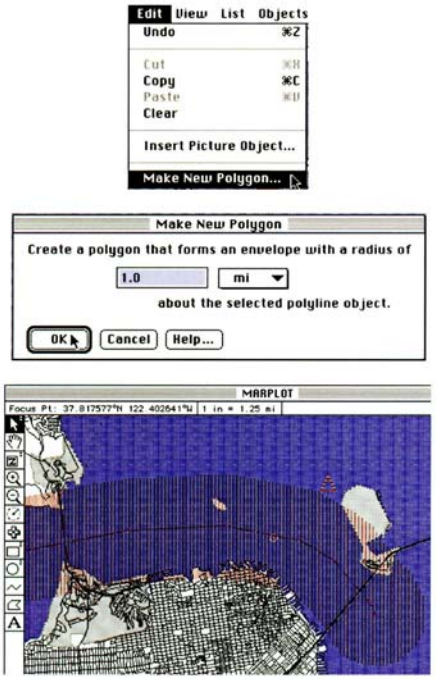


Figure 86

Using information from the Sensitive Areas and Past Spills stacks plotted in MARPLOT, you can pre-identify and plot likely staging areas and potential sites for command posts that could be used during major incidents.
Boom placement strategies can be described in the Spill Activities stack and displayed in MARPLOT. Again, the scenarios can be augmented by data from ADIOS and Shio.

Using the Building Plans, Chemical Inventory and Screening & Scenarios stacks in CAMEO, MSIS data in the Facility Information stack can be significantly supplemented. The Building Plans stack allows you to enter complex site plans or scanned images of buildings for reference during incidents. The Chemical Inventory stack allows you to track information about a chemical facility down to the individual chemical level (instead of simply HAZMAT) and specify its amounts, storage container types and potential hazards plus show its location in the Building Plans stack. The Screening & Scenarios stack allows you the opportunity to standardize and evaluate the potential risk a site might proved to the area following established SARA Title III Hazard's Analysis methods.

SPEARS can be used to facilitate and coordinate the planning effort of many groups by helping to visualize information on a common map and showing spatial relationships that might have gone unnoticed in a text-based database. Real-time planning can also be performed with SPEARS if it is displayed on a large screen or monitor for everyone to see and comment on during a meeting.

After identifying the response resources available and their storage locations, evaluation scenarios could be performed on the practical use of dispersants or in trying to burn spilled oil using the Dispersant Mission Planner and Burn Calculator. The worst likely release parameters can be culled from the Past Spills stack and augmented by ADIOS for slick size and dispersability of oils and Shio for typical fides and currents for a location.

The CAMEO Special Populations stack should be used to capture significant human population use areas (i.e., schools, hospitals, shopping malls, parks, business districts and transportation hubs) as well as locations designated as shelters.

If the ACP has been translated to a word processing document stored on your hard disk, that file could be added to the Navigator palette so you could refer to it directly when needed.

SPEARS can be used to evaluate response strategies for their practical considerations of environmental, response and human population factors. A library of scenarios may be kept in the Spill Activities stack where you could add a new type called, "Drill Scenarios."

You can capture site plans or ship diagrams by drawing or scanning*4 in the diagrams and placing them either in the Building Plans stack or in MARPLOT as a non-georeferenced picture.

You can plot several objects in MARPLOT, save these as a picture then insert them back into MARPLOT as a single, georeferenced, uneditable object which then could be linked to a single card in a stack such as the Spill Activities module. This is especially useful for projects such as boom deployment plans with many objects but only a single plan.

Using SPEARS in Exercises

SPEARS can be used to help generate and evaluate exercises. Listed below are some ways in which SPEARS can be used:

ADIOS and Shio can be used to tailor exercises to specific oils and locations without significant changes to the cause of a spill in an exercise.

The Dispersant Mission Planner and Burn Calculator can be used to develop an exercise scenario to test specific operational concerns (i.e., Is the use of the only available platform for dispersant application appropriate for the most typical worst case spill scenario?).

MARPLOT can be used to identify facilities or high public use sites (i.e., hospitals, schools and shopping centers) that should be evaluated to see how they would interface with any major responses impacting their sites.

*4 In the absence of a scanner or lack of access to one, you can fax the site plan to the Mac's fax/modem which would then store the file as a 300 dpi PICT - the equivalent of a scanned image.

Based upon information from the ACP, high-profile or high probability locations can be identified for exercises. The Spill Activities stack could be used by an observer to capture key decisions points during an exercise for discussion during the exercise de-briefing session.

The Spill Activities stack could be used to create a catalog of exercises that could be used repeatedly with little modification. The Response Resources stack, along with the Facility Information stack, could be use to help evaluate whether there really is enough boom to handle all the oil in the zone.

If there is a desire to perform a field exercise with deployment of equipment, Shio could be used to determine the best times, dates, and location to hold such a drill.

Using SPEARS in Responses

SPEARS can be used during a response in many different ways. Besides the obvious ways specific to the use of individual stacks (i.e., the Spill Activities stack), there are ways which more than one part of SPEARS can be used synergistically to advantage during a response. Listed below are some ways in which SPEARS can be used:

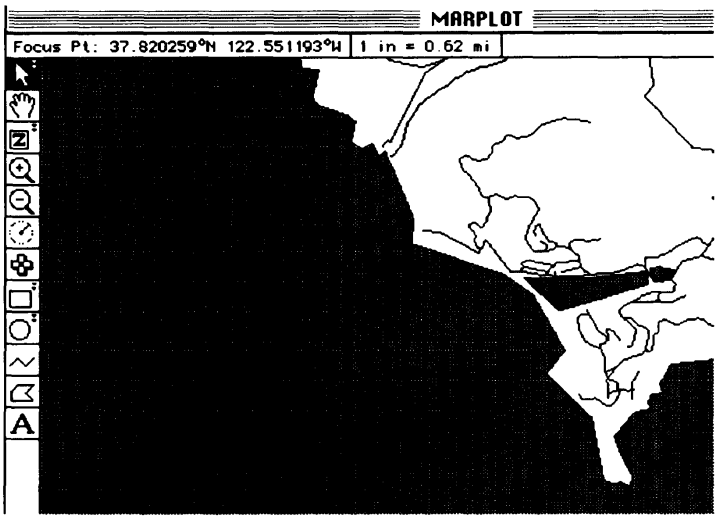
Combining the Unit Conversions stack and ADIOS, the area, volume or thickness of an oil slick can be calculated.

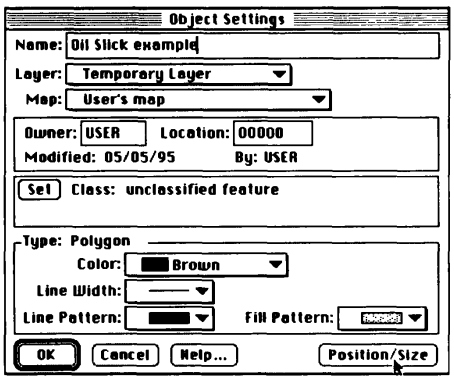
ADIOS and the Response Resources stack can help identify the best equipment to deal with oil as it changes over time (i.e., a skimmer to handle light oils if the response happens immediately versus a heavier skimmer to handle oil that has weathered and become more viscous).

Shio can be used during groundings to show tidal cycles and current vectors over an extended period of time. ADIOS, Shio and MARPLOT could be used to help determine the best location and time to try and capture oil against the shoreline.

Given edge coordinates of an oil slick, MARPLOT can be used to plot and provide an estimate of the slick area which in turn can

be used by ADIOS to determine how much oil was spilled or with the Unit Conversions stack to estimate how much oil is in the slick (see following 3 figures).





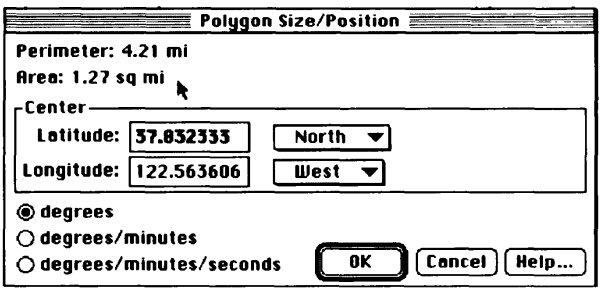


Figure 87

ALOHA and MARPLOT could be used to estimate a corridor of concern for free-floating barges or cylinders of hazardous chemicals during flooding incidents.

SPEARS can be used to capture and transmit digital photos related to specific locations in MARPLOT along with cards from the Spill Activities stack describing what is being shown. ADIOS and the Unit Conversions calculator can be used to help confirm the Responsible Party's initial estimates on the amounts of oil spilled and cleaned-up.

SPEARS can be used as a briefing tool, either as a means to present the brief or as a method for creating materials for the briefs. Additionally, electronically transferred files or screen shots can be used to aid in briefing remote locations. In theory, SPEARS could be used in an IC to help coordinate and capture information from each functional group (i.e., logistics, operations, communication) while minimizing the need for redundant data entry for both text and geographic information.

Using SPEARS in Day-To-Day Operations

Besides being used in planning, exercises and responses, SPEARS could be used daily for standard operations. Listed below are some ways SPEARS can be used for:

Determining the geographic focus of port activities such as harbor patrols and inspections based upon Past Spills, Sensitive Areas and/or density of facilities.

Augmenting the Business Plan by allowing you to evaluate density and spatial distribution of spills by various criteria, such as size, product, date, source or cause. This evaluation could, in turn, be used to determine harbor patrol schedules, target investigations, and identify locations for primary pollution prevention activities.

Tracking the status of on-going operations within the port using MARPLOT or Spill Activities (including items such as SAR cases, safety zones, explosive loading monitoring and other on-going operations).

Quality control in helping to upgrade/update inaccurate or missing MSIS information as part of the regular inspection or harbor patrol efforts.

Isolating specific cases (based on source, product or location) for investigations and implementation of prevention programs.
Evaluating the impact of prevention activities by plotting and analyzing Past Spills with Excel.

Building rapport with LEPCs, facilities and other agencies that USCG could interface with during responses.
Training as a tool to help new personnel become familiar with the zone, its critical commodities and areas of concern.

Public outreach by reducing the efforts required to reply to FOIAs and by providing more comprehensive information in a more timely manner.
Assessing the use of resources and focus of activities within the zone on a regular basis.

Helping to ascertain the approximate latitude and longitude coordinates for various locations of interest through MARPLOT.

These examples are representative of only a sample of some of the potential uses of SPEARS. Because of the versatility and modularity of the program, numerous other variations and combinations are possible. The power of SPEARS is in allowing local users to determine their information needs and then adapt SPEARS to that need by mixing and matching tools and functions.

Chapter 3.0

SPEARS Updating Procedures

The purpose of this chapter is to provide you with a methodology by which you will perform the quarterly update of data from MSIS. It is imperative that users feel confident about downloading and importing MSIS data into their SPEARS files so they may continue to be current with MSIS data.

The methodology section is followed with a simplified data map table showing the relationship between the MSIS product set data fields from which SPEARS uses data from and the matching SPEARS modules and data fields into which this data is imported. This is being provided so the user has a better understanding of where data corrections need to be made within MSIS so it will appear in SPEARS.

One of the key aspects of SPEARS is the importation and integration of MSIS data. This paper will detail the procedure for accessing the USCG mainframe in, Washington, DC which stores the translated MSIS data and downloading it into the unit SPEARS computer. It should be reviewed prior to every quarterly data transfer so that the proper procedure is understood and followed.

The example in this paper uses MSO Boston. It is also assumed that the preferred telecommunciations software, Microphone L T, has been already properly installed and configured.

Methodology

1) Verify that the proper telecommunications protocols are as follows:

Data bits: 8, Stop Bit: 1 (or auto), Parity: None

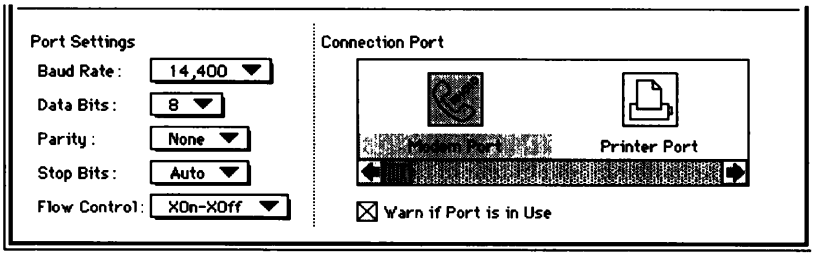
Baud rate: 14.4 kps or lower, Flow Control:

XOn-XOff

File Transfer protocol: Zmodem or Kermit

File Transfer type: ASCII

Terminal emulation: VT100 or VT102



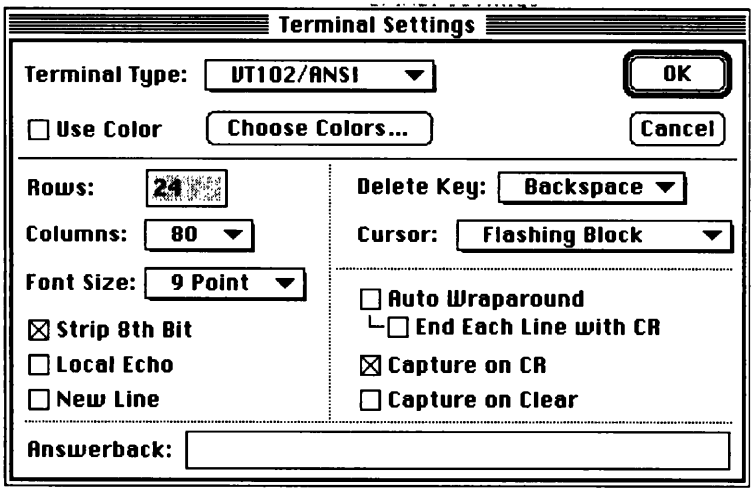


Figure 88

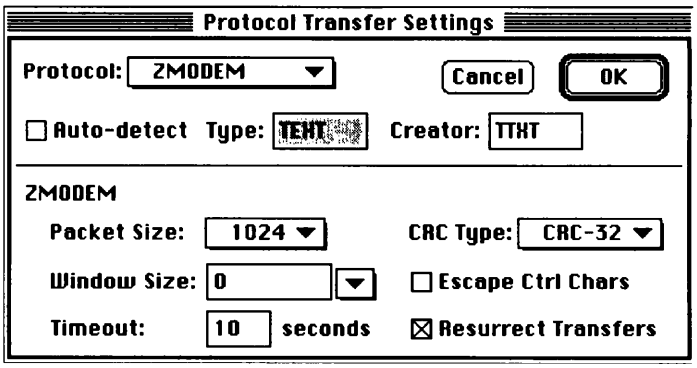


Figure 89

2) Verify that you have the correct telephone number to connect to the Marine Safety Field Access system (MSFA) in Washington, DC at USCG Headquarters. The correct number is: **202-267-4333.**

   If you do not have a service with this number, create one. Be sure to include the proper prefix to access a long-distance line. In most federal offices, this means dialing "8-1" prior to the number.

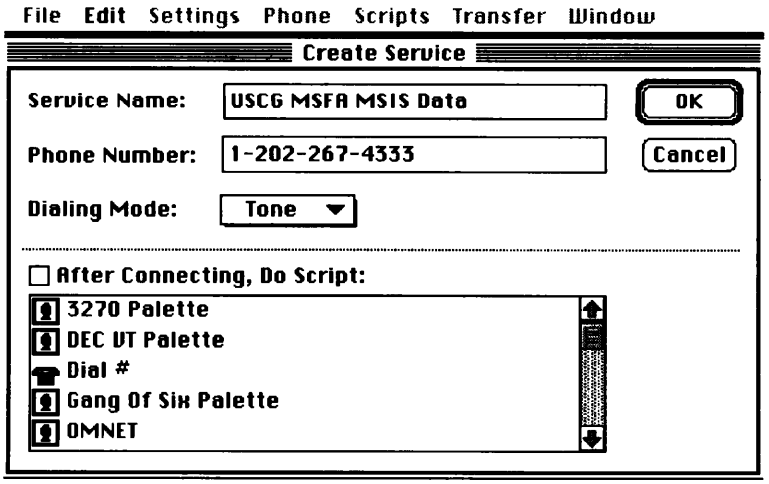


Figure 90

3) Select the USCG MSFA MSIS Data service. This will automatically dial the MSFA system in Washington.

4) Once a connection has been established, press the enter or return key once. The MSFA system will respond with the login prompt.

5) In lowercase, type the letters, msfa followed by a return. You will then get a prompt for the password

```
ATE1QV1&C1&D0M1&Q5%C1S46=138S0=0
OK
ATDT1-202-267-4333
CARRIER 14400

PROTOCOL: LAP-M

COMPRESSION: V.42BIS

CONNECT 14400



CHASE IOLAN  Terminal Server  v2.2.04  - TCP
GMnet comm server, USCG HQ, G-MIM

Please type HELP at command prompt if you need assistance.


UNIX(r) System V Release 4.0 (mp690.comdt.uscg.mil)

login: msfa
11:43:02 AM
```

Figure 91

6) Next, you will get a prompt for the password. Type, in lowercase, the lettters, msfa followed by a return. This will log you onto the MSFA system.

7) You now will be prompted by the system for your unit identification. Type in you 5 letter MSIS unit designation code (i.e., BOSMS) followed by a return. Note that even if you enter your identification code in lowercase, MSFA will automatically convert it to uppercase.

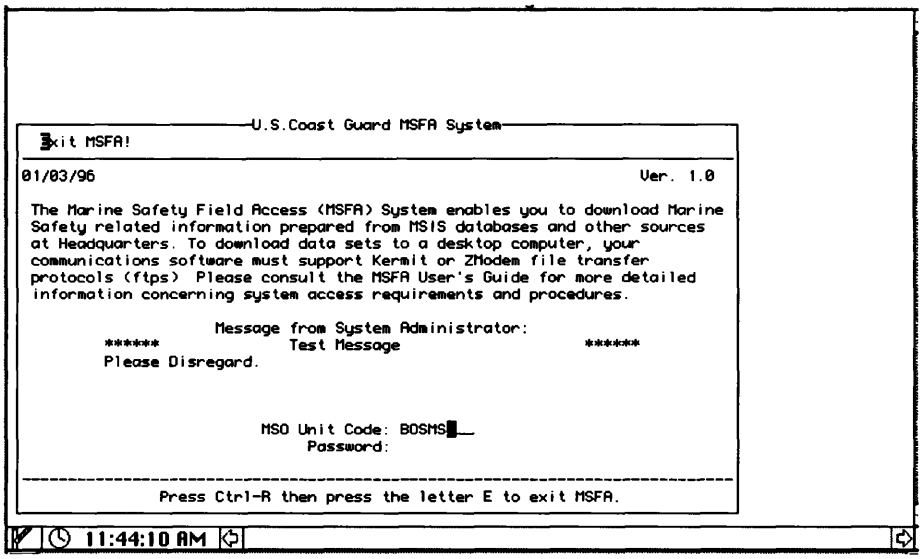


Figure 92

8) You now will be prompted by the system for your unit password. Type in your 5 letter MSIS unit designation code plus the letters, pw (i.e., BOSMSPW) followed by a return. If you incorrectly enter your identification code or password, you will be given the opportunity to correct your entry or try again.

9) Once you have entered MSFA and it recognizes which unit you are, you will be presented with the main menu. There are four options on the main menu:

    1) Download data sets;

    2) Change password;

    3) Send message to System Administrator; or

    4) Exit the system

To download the MSIS data for SPEARS, press 1 and a return.

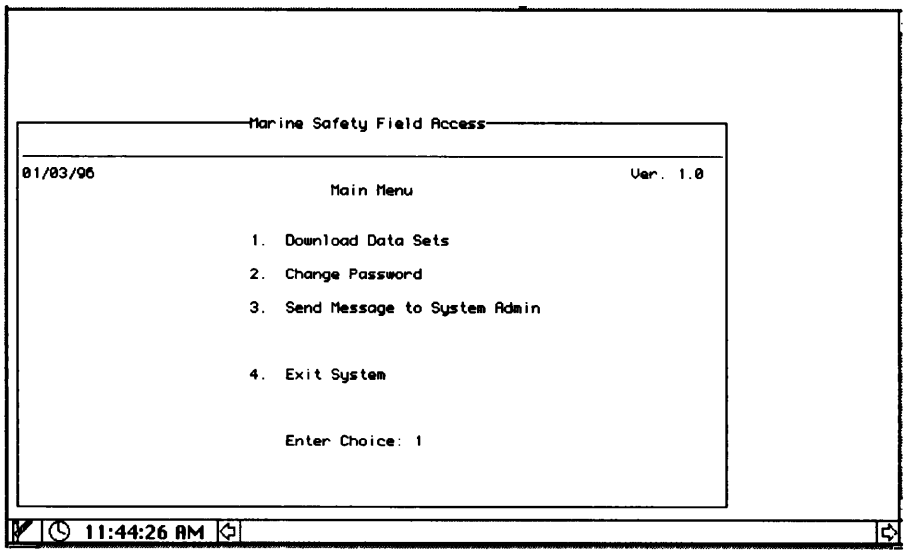


Figure 93

10) You will be presented with a directory listing of files which you may download. Select the ones you wish to download by typing an **X** followed by a return next to the filename. If you want to skip a file (don't download it), simply press the return key. Do not use the mouse, arrow or tab keys to try to move between filenames.

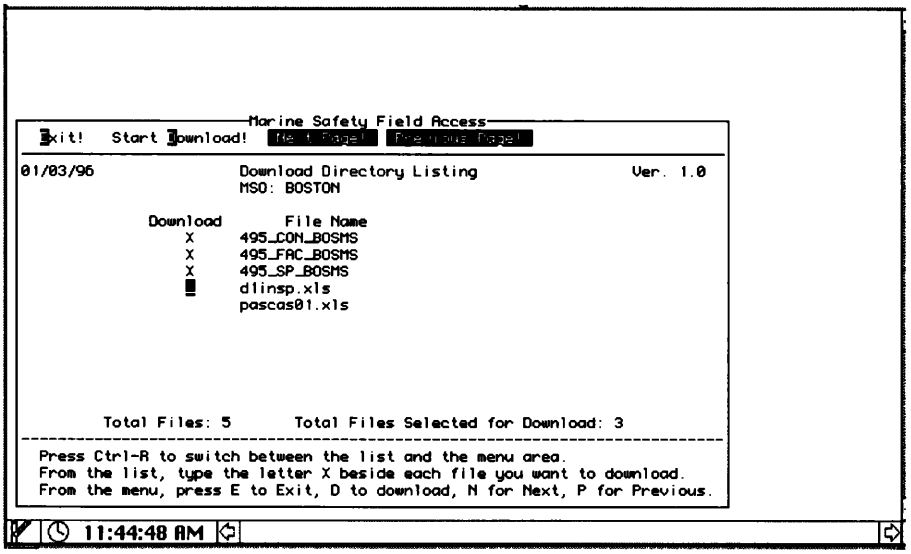


Figure 94

11) After you have selected the file(s) you want to download, press **Control-R** to switch to the MSFA on-screen menubar.

12) Next, press the **D** key specifying you want to select the download command in the MSFA on-screen menubar.

13) The next screen is the download menu. There are 3 options on the download menu:

    1) Zmodem;

    2) Kermit; or

    3) Return to Main Menu

For downloading the MSIS data, use the Zmodem option only.

Press **1** followed by a return.

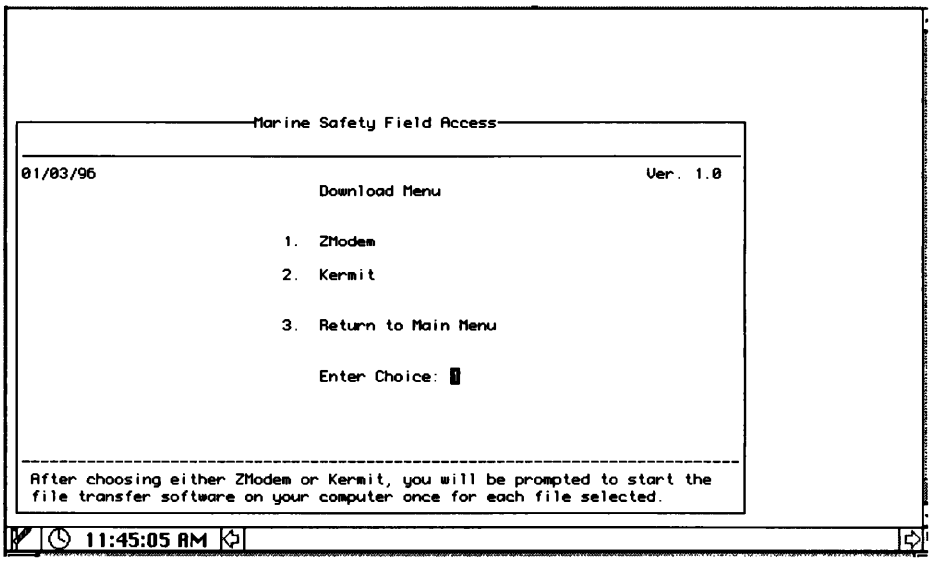


Figure 95

14) The next screen you will see is the file download screen. The name of the file which the MSFA system will download will be shown. If it is the correct file, press the return key. This will initiate the download protocols on the MSFA system which will now await an "electronic handshake" from your computer before it begins sending data.

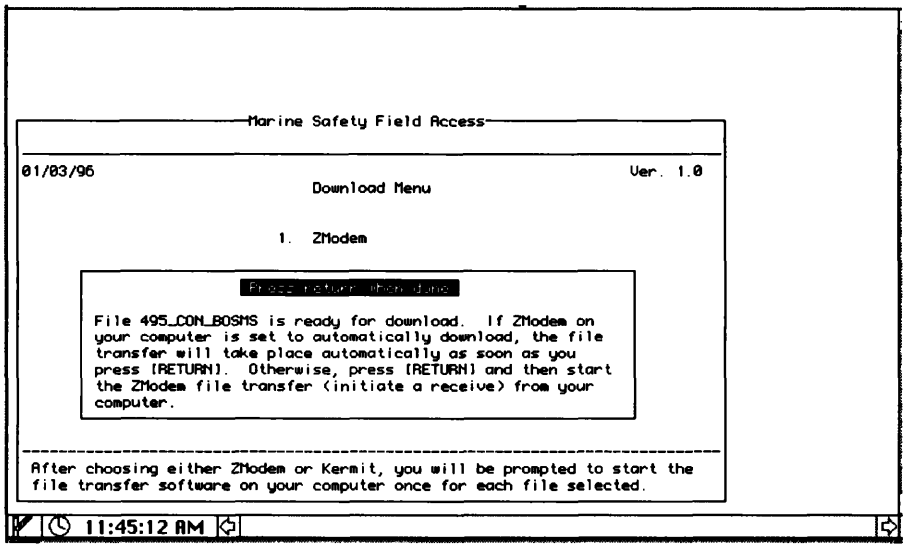


Figure 96

15) To send the "electronic handshake" and start the transfer of data, select the "Receive" command from your telecommunications software menu and then select the location (i.e., folder) where to save the file on your hard disk. The recommended location is the MSIS Data folder.

Figure 97

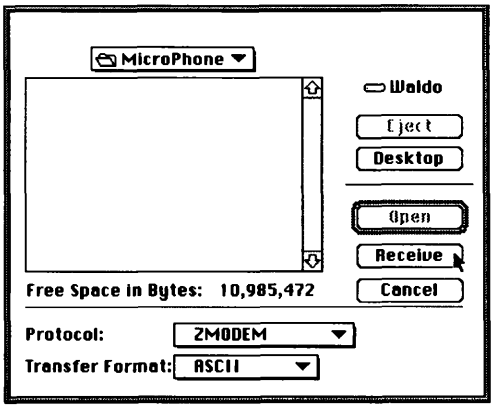


Figure 98

Once you have done this, you will be shown a dialog box informing you the download is proceeding. This box will also tell you the file name, how fast it is transferring data and how long it will take.

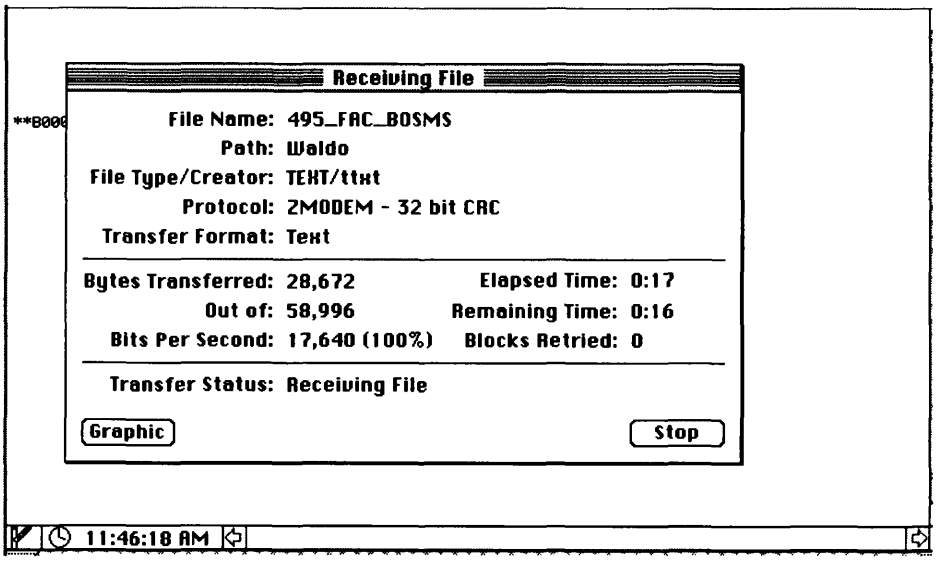


Figure 99

16) If you are downloading more than one file, you will see the download screen before it transfers each subsequent file. Press return to continue with the downloading. You will need to choose the receive command on your computer each time as well.

17) The MSFA system will inform you when all the files you have selected to download have been transferred. Press the return key to continue. This will return you to the Main Menu.
If you encounter any problems during the downloading of files, you can return to the main menu and then try downloading them again or disconnect and dial back into the system and start over. If you still encounter problems, contact technical support.

18) After you've been returned to the Main Menu, you can choose to download more files, change your password, send a message to the System Administrator (especially if you encountered any difficulties or it took much longer than you thought it should) or exit the system.

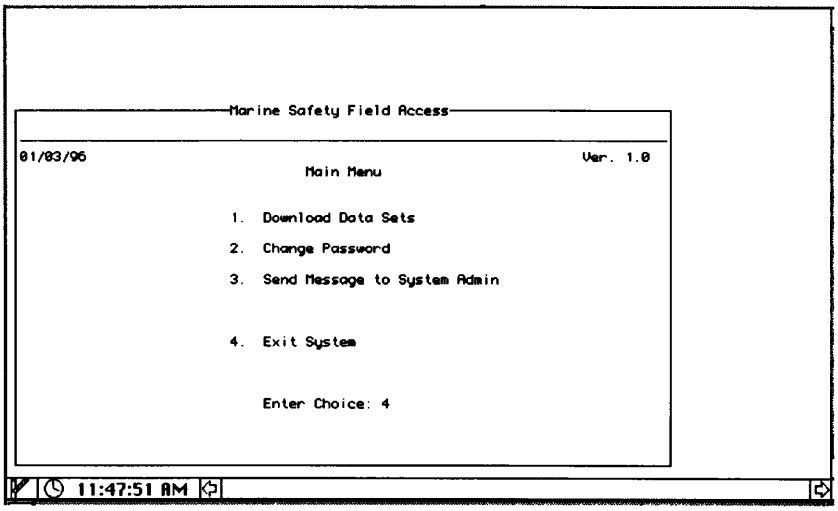


Figure 100

In this example, we are now finished and will press **4** to exit the system. Once you have done this, MSFA will automatically log you off the system and disconnect you after a few seconds. Verify that you are indeed disconnected by selecting the Hang

Up command in your telecommunications software. You can then Quit your telecommunications software.

The Data Map

Listed below are two sets of tables. The first lists the the MSIS product sets from which data are exported from and the appropriate SPEARS module the data is designated to be imported into. The second provides a listing of the SPEARS modules and then the MSIS product sets which it derives its data from.

MSIS PRODUCT SETS	SPEARS MODULE
FFID	Facility Information, Contacts
FFIP	Contacts
FFPS	Facility Information
IATR	Past Spills
MCDD	Past Spills
MCIR	Past Spills
MCPD	Past Spills
MPIR	Past Spills
MPNS	Past Spills
MPVS	Past Spills
PNID	Contacts

SPEARS MODULE	MSIS PRODUCT SETS USED
Facility Information	FFID, FFPS (specific to category selected within MsIs)
Contacts	FFID, FFIP, PNID
Past Spills	MCIR, MCPD, MCDD, MPIR, MPNS, MPVS, IATR

The following figures are screen shots of the Facility Information, Contacts and Past Spills modules with the fields filled in with the MSIS Product that provides data to those specific fields. It must be noted that some fields, especially within the Past Spills module, are created from combining data from different fields within an MSIS product set.

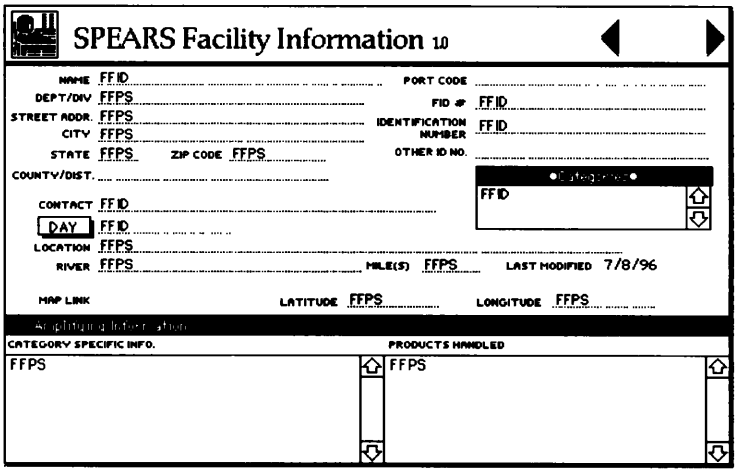


Figure 1: Facility Information Module with Matching MSIS Product Set Information

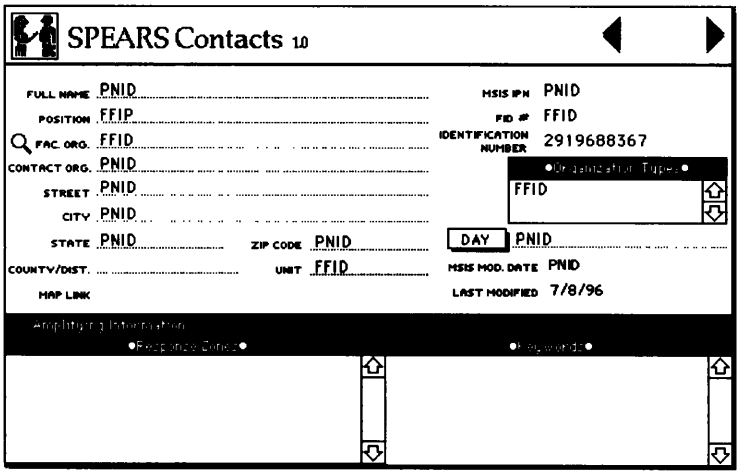


Figure 2: Contacts Module with Matching MSIS Product Set Information

Figure 101

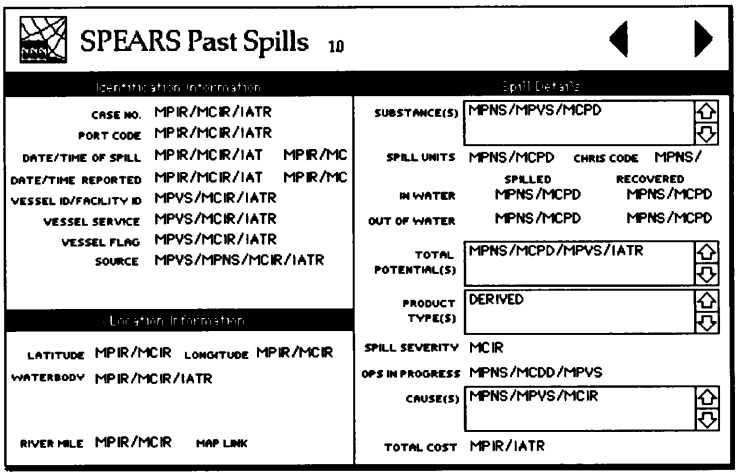


Figure 3: Past Spills 1.0 Module with Matching MSIS Product Set Information

Figure 4: Past Spills 1.0 Module with Matching MSIS Product Set Information

Figure 102

These data tables are provided so that you have a better understanding of where the SPEARS data is coming from within MSIS. This is important for two reasons. First, it allows you to have a better sense of which MSIS data fields are being used in SPEARS and, hence, critical to fill out so that more complete SPEARS records can be derived. Secondly, if you wish to go into MSIS and make corrections, these tables and figures should enable you to determine which screens and fields you must go to within MSIS to make the appropriate corrections.

APPENDIX A

"How To" information sheets

USER NOTES ON:
HOW TO FIND A STREET BY INTERSECTION IN MARPLOT

These notes provide only a simple summary of one way to find a street and a specific intersection in MARPLOT. Its purpose is to help provide a reminder of how to find a street if the user has not done so in a while. Refer to the MARPLOT manual for more details on the search command.

1) Open the MARPLOT application by launching SPEARS and selecting MARPLOT from the CAMEO Navigator palette.

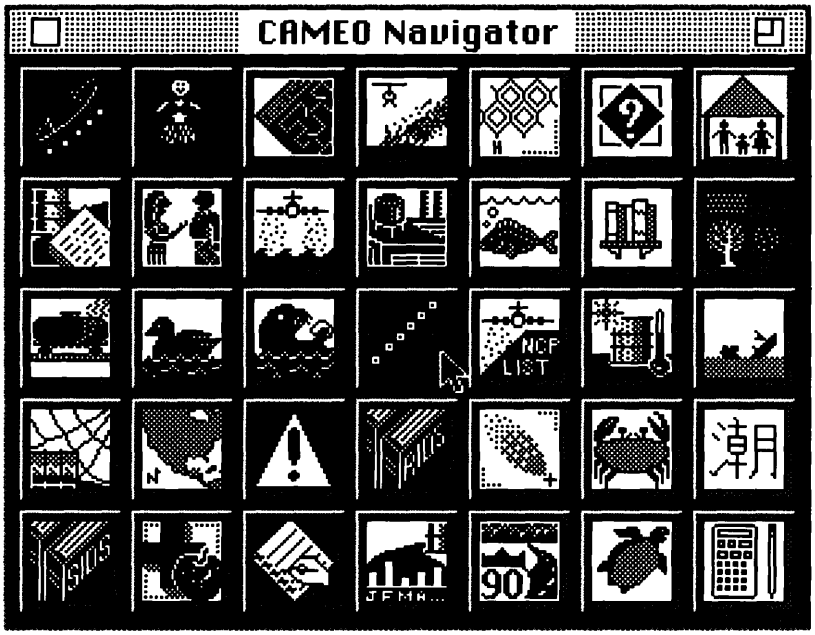


Figure 103

2) Click once on the mouse when the banner screen comes up to go to map. The banner screen will stay on the screen until you click the mouse once.

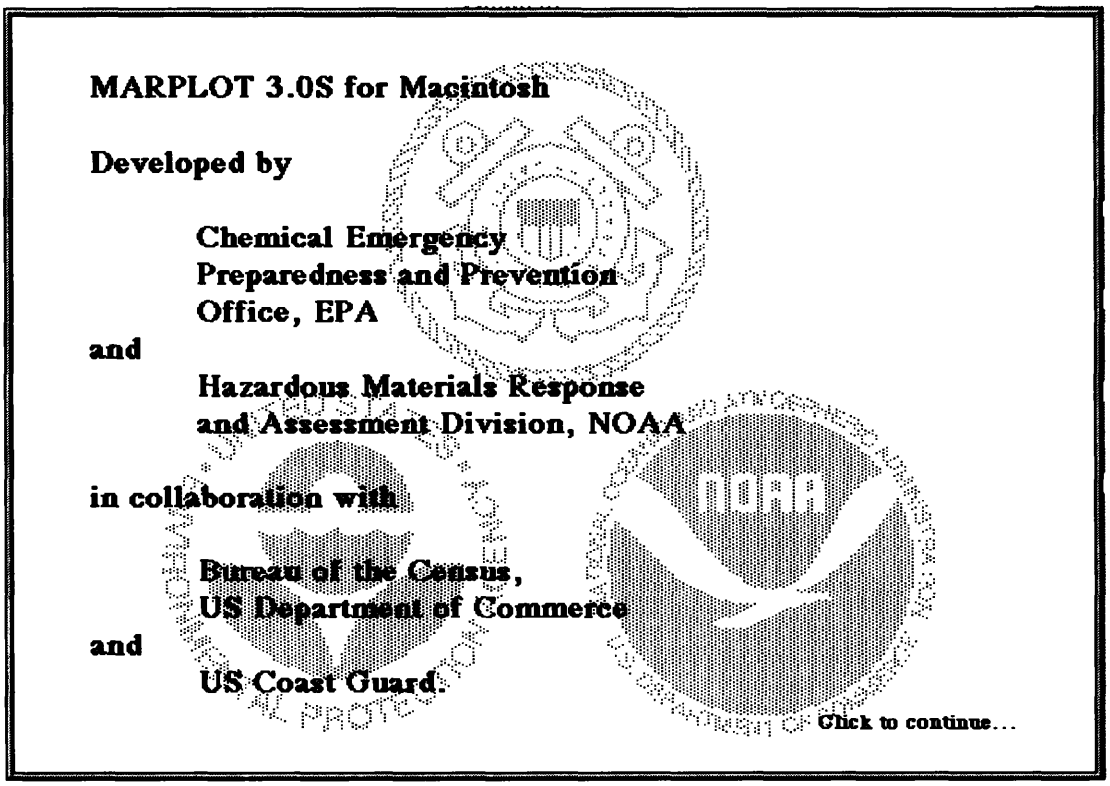


Figure 104

3) After your map is finished drawing on the screen (you can stop the drawing sooner by hitting the "esc" key once), select the "Search..." command under the List menubar command.

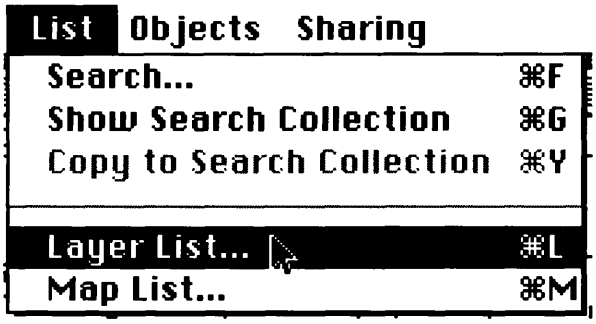


Figure 105

4) When the Search Criteria dialog box appears, we enter our search criteria - objects with names that beging with "Lafayette." In this example, we choose to search a single layer (although the Roads layers is the only layer searched, you can search more than one layer at once) and the map(s) you want to cover in your search. Next, type in the name of the street you want

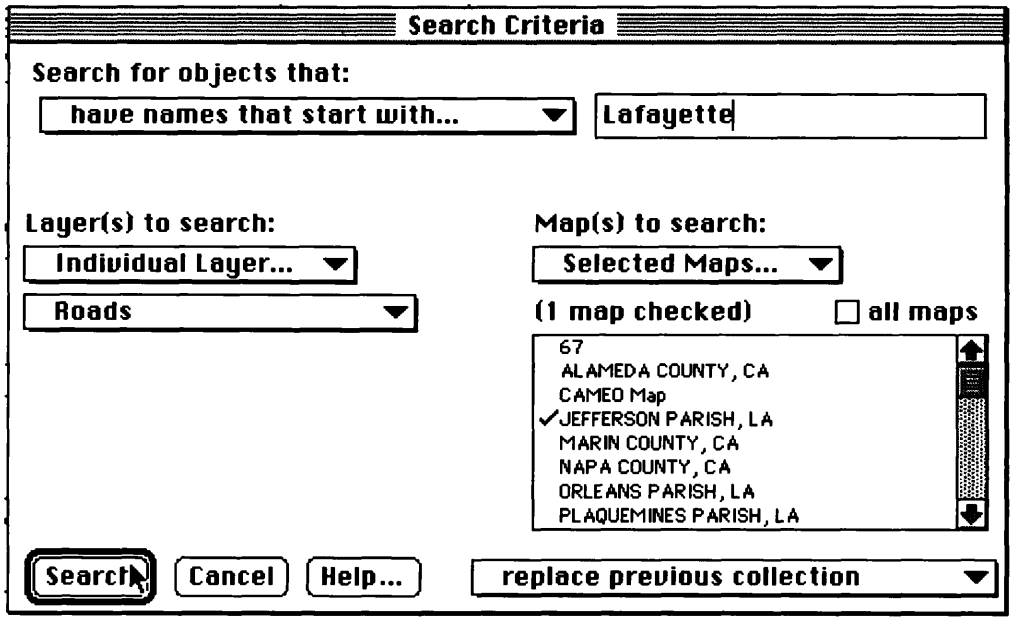


Figure 106

5) After the matching streets have been found, select the one you want and click once on the "Intersections" button. In this example, we will be looking for the intersection of Lafayette St. and 5th St.

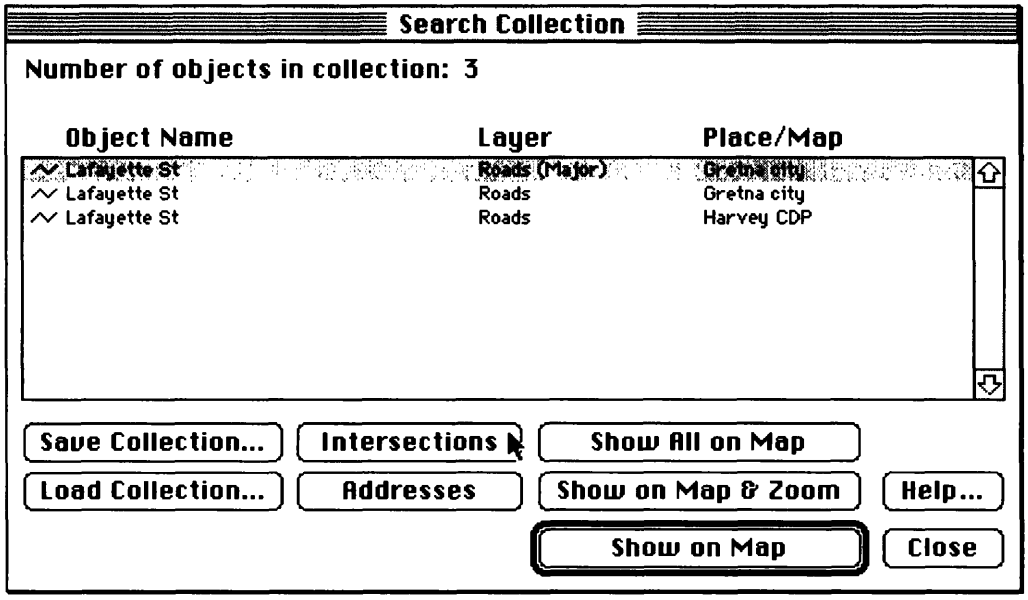


Figure 107

6) After the Intersections dialog box appears, select the cross-street (you may need to scroll down to find the street name) and then click once on the "Show on Map & Zoom" button.

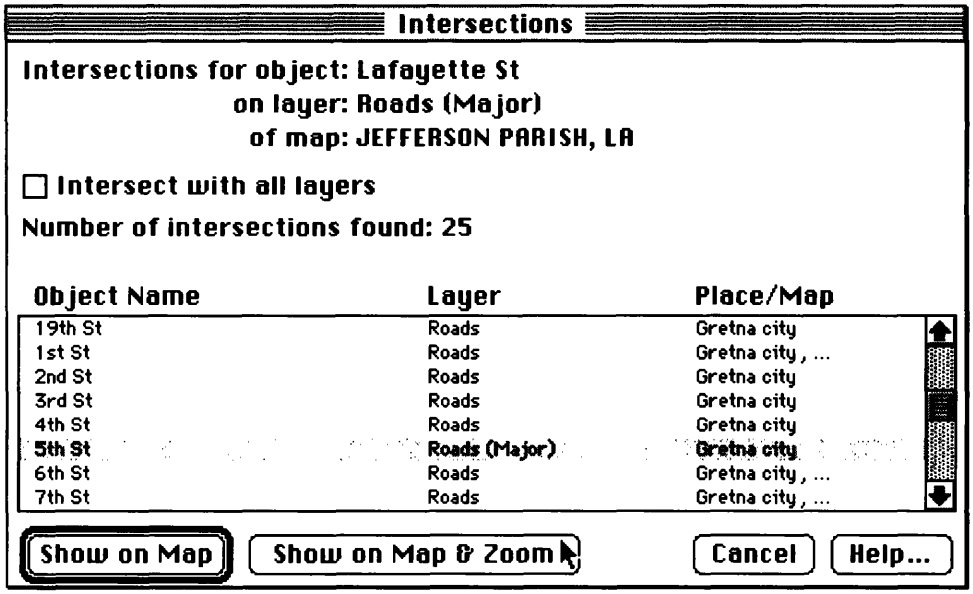


Figure 108

7) Selecting the "Show on Map & Zoom" button will show you the intersection automatically at a scale of 1 inch = 0.07 miles. Selecting the "Show on Map" button would return you to the map centered on the intersection but at the same scale prior to performing the search.

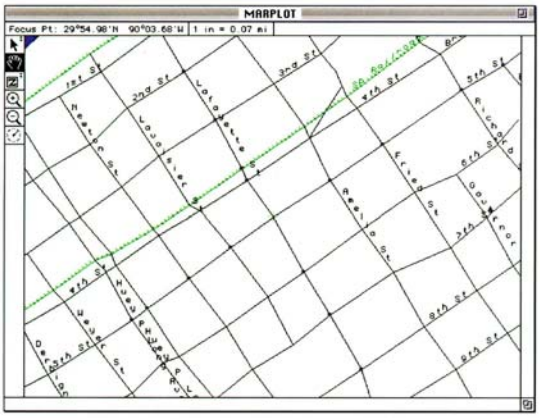


Figure 109

8) You can select intersections with other layers as well (i.e., roads with railroads or roads with shoreline) by simply checking the "Intersect with all layers" checkbox in the "Intersections" dialog box.

USER NOTES ON:

ADDING NON-MSIS FACILITY INFORMATION (SUCH AS CAMEO DATA) TO THE FACILITY INFORMATION MODULE

The SPEARS Facility Information module is designed to specifically handle MSIS data. The Category types and modifications to the CAMEO version were all performed with this in mind. The module is also designed to handle non-MSIS facility information. With small sets of data, this is a very straightforward operation and described in the chapter on the Facility Information module. However, when adding a large number of records, such as those from a CAMEO user, there are certain key factors that must be kept in mind to avoid problems later. These factors are described in this paper. Note that the steps describe can also be used for rhe Contacts module.

1) Before you do anything on the computer, you need to take the time to discern the structure of the data you will be putting into the Facility Information module. This is important since you have to put the right data into the appropriate field. If you don't do this, then you may put data into the inappropriate field and this could have unpredictable effects when you perform a search in the stack later. The table below shows the field names in the Facility Information module and those fed by MSIS.

FIELD NAMES	**MSIS DATA FIELDS**
Name	X
Category	X
Department / Division	X
Street	X
City	X
State	X
Postal Code	X
FID #	X

District	
Alternative IDs	
Responsible Port Code	X
Contact Person	X
Day Phone	X
Night Phone	X
Emer. Phone	X
Latitude	X
Longitude	X
River Mile	X
River Name	X
Modification Date	X
Products Handled	X
Category Specific Info.	X
Comments	
Location	X
Identification Number	X
Industry Classification	

2) When examining your data and considering how to merge it with the other data in the Facility Information module, you need to consider fields that are more sensitive to inappropriately formatted data than others. Not doing so may negatively impact your use of the data later on in functions such as searches and generating reports. These fields include the name, address fields, latitude and longitude. A complete list contrasting both the SPEARS and CAMEO Facility Information module fields can be found in Chapter 1.1 of the SPEARS manual (similarly, the list of SPEARS and CAMEO fields for the Contacts module can be found in Chapter 1.2). Possible data integrity issues to look for include:

inconsistent use of abbreviations;
inconsistent use of facility name; and
incorrect data.

2a) Special considerations: You may want to be able to search and find just those records you are going to add to the facility stack. If you have not added non-MSIS data previously, this is done by simply searching for all

the empty FID # fields*1 since only MSIS records will have data in those fields. If, however, you have previously added non-MSIS data, then you should consider finding those records, before adding the new ones, and adding something to their comments field or category type field that would allow you to perform an exclusionary search that would ignore these records as well. For example, you could add the original data source and date in the Comments field.

3) At this stage, consider how you want to add the data to the stack. There are two methods - append or update. If you have added this data previously and need to have the latest changes made to your version of the data, then you need to update the data. This may also be the preferred method if the data source has done some coordination with you on facility name and/or identification numbers. Since this is typically not the case, you should consider always appending the data to your stack. There are two good reasons to do this. First, it allows you to easily review the imported data to see how successful and "clean" the transfer was. Two, it allows you to easily delete those newly imported records if there are problems since they would all be at the "end" of the stack.

4) Create a log to capture the source, type and date of the data transfer. Note the inconsistencies identified in Step 2 and intended steps to address them. You should note the number of records that are to be added and the method used.

5) Before importing data into any stack, make a copy of the SPEARS stack in case the import is improperly performed. This is the easiest way of recovering from the improper importing of data into a stack. You should keep the CAMEO stack as isolated from the SPEARS stacks as possible. Do not try to simply copy the CAMEO stack into the SPEARS folder since the Facility Information stack in both CAMEO and SPEARS have identical names. The best method is to keep the CAMEO stack you want to import data from on a floppy or Bernoulli drive.

*1 It should be remembered, though, that the key field for finding unique records is the Identification Number field which contains the FIN. This field, however, will not be empty for non-MSIS facilities since a unique identification number is added by the program for all records if they do not have one already.

6) When you are prepared to import the data into the SPEARS stack, refer to the notes at the end of Chapter 1.1 and follow the steps described in the CAMEO manual on importing data.

7) After you have imported the data into the Facility Information stack, quickly review the records. Look for data in the improper location, blank records, and partially filled cards. Blank records or a series of partially filled cards are often caused by imbedded carriage returns in the data source. The import procedure interprets carriage returns as "create a new card." Imbedded carriage returns are difficult to find, but will only be in multiple line fields. SPEARS and CAMEO trap for carriage returns at the end of single line entries automatically removing them. This can be a significant problem if you are importing data from a non-Hypercard database such as a spreadsheet or text file.

8) After reviewing the imported data, if you are satisfied as to its acceptability, you need to consider whether you want to resort the stack alphabetically by facility name, numerically by ID number or not at all. Sorting is always in a descending order (i.e., 1-100 and A-Z with blanks being the lowest value). If the order of data is not significant to you, you would probably be best served by not sorting the stack at all. If you do sort the stack, note the criteria in the log book so other users can discern the logic of the order (it may not be readily apparent).

USER NOTES ON:
IMPORTING TO THE SPEARS CONTACTS STACK

SPEARS has been designed to receive periodic updates from MSMS. These notes provide guidance for importing the MSMS textfile for the SPEARS Contacts stack. ALWAYS make a backup of the file you intend to import data into prior to performing the procedure in the event something goes wrong.

1) Insert the floppy disk containing the MSIS Contacts text file and copy the contact file into the MSIS Data folder on your hard disk.

2) Launch the SPEARS Contacts stack and Select Import/Export... from the **Search** menu. This will bring up the following dialog box:

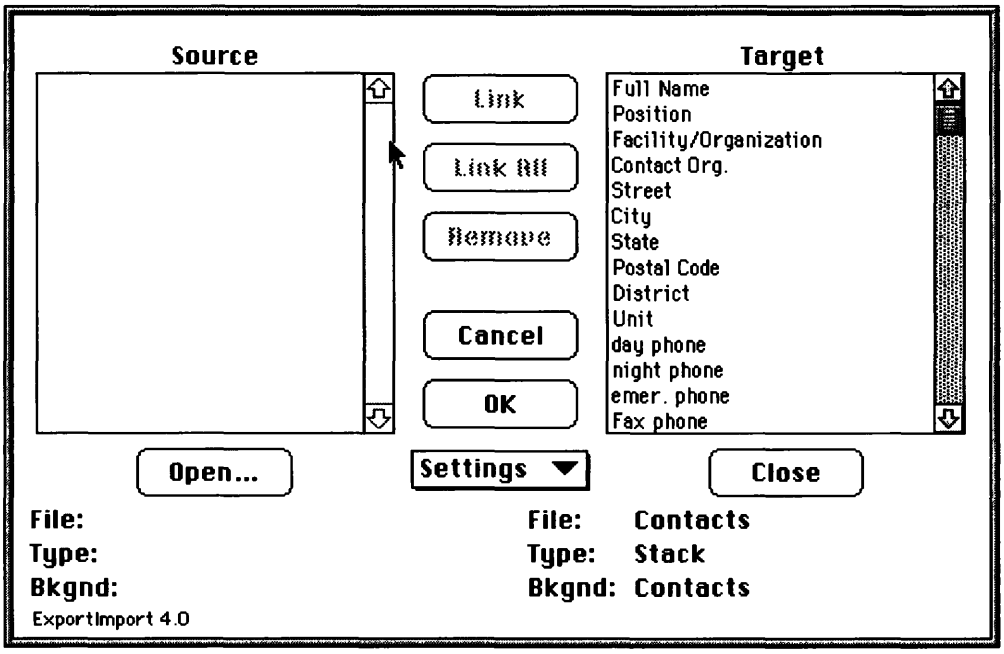


Figure 110

The "Target "of this import is the SPEARS Contacts stack. The list of SPEARS Contacts field names appears in the Target box on the right.

3) Click on the Open... button on the bottom left side under "Source" and navigate to the text file to be imported. Its name will be of the form UNIT_contacts.mac.

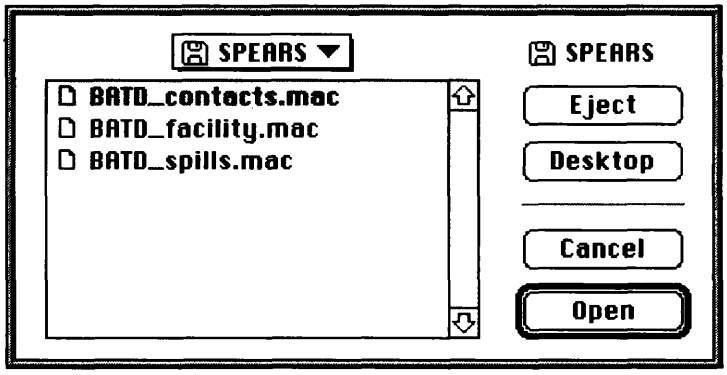


Figure 111

4) Select the file name and click on the Open button at the lower right.

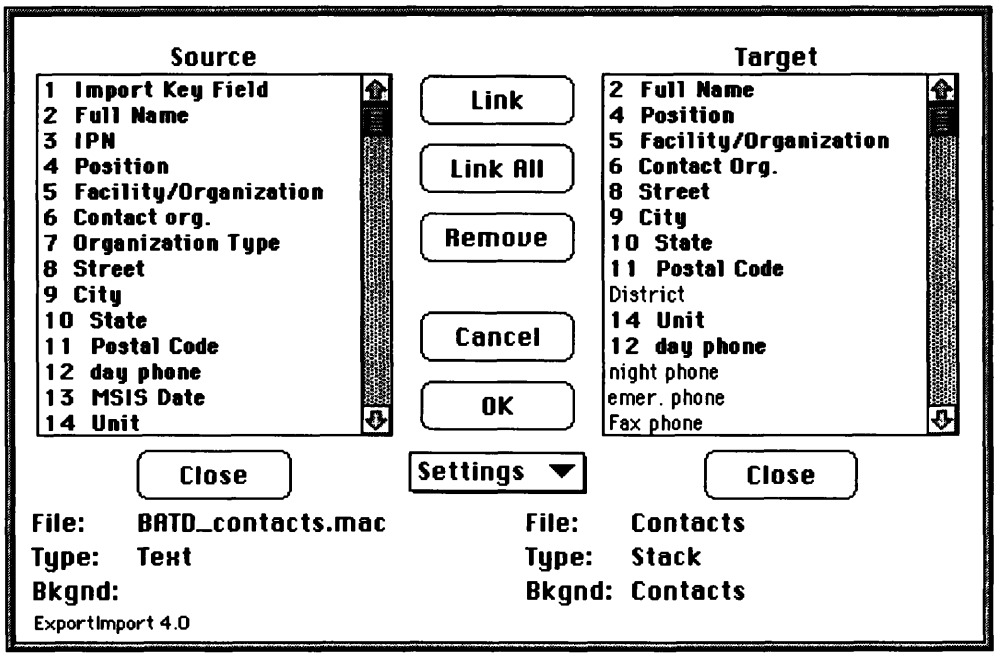


Figure 112

The "Source" side of the Import/Export screen contains the field names of the import text file. Note that all the field names on the Source side are numbered from 1 to 15 and are in bold. On the Target side, the SPEARS Contacts stack field names that are identical are numbered and are in bold. This indicates that field names from the Source are linked or mapped to the identical field names in the Target.

5) Now click and hold on the Settings button and select Prefs... On every MSIS update cycle, you will be potentially updating existing cards as well as adding new cards to your SPEARS Contacts stack.

6) Click on the Update: radio button.

Figure 113

7) Now under the Key Field: label, click and hold in the field with the down arrow and scroll down to the field named **Import Key Field**. This is a unique identifier that is used to locate the correct card to update.

8) Click on the radio button "Add" (if it's not already on) and then click on OK. Back at the Import/Export screen, click on OK to begin the import process.

A horizontal bar indicates the progress of the import. After the bar has moved to 100%, the screen will go partially blank and the cursor will become a watch for a time. You should also hear and see visual clues that your hard drive or Bernoulli drive is reading and writing. This processing can take several minutes depending on the size of the import text file and the original size of your stack. The import will be complete when the SPEARS Contacts window reappears.

USER NOTES ON:
HOW TO LINK A FACILITY RECORD TO A MARPLOT OBJECT

These notes provide only a simple summary of one way to link a record from the Facility Information stack to a MARPLOT map. These steps also can be used with the Contacts, Response Resources, Sensitive Areas, Special Populations, Spill Activities and Transportation stacks. Refer to the CAMEO and MARPLOT manuals for more details on linking objects.

1) Launch SPEARS and open the Facility Information stack by opening the CAMEO Navigator and selecting the Facility Information icon.

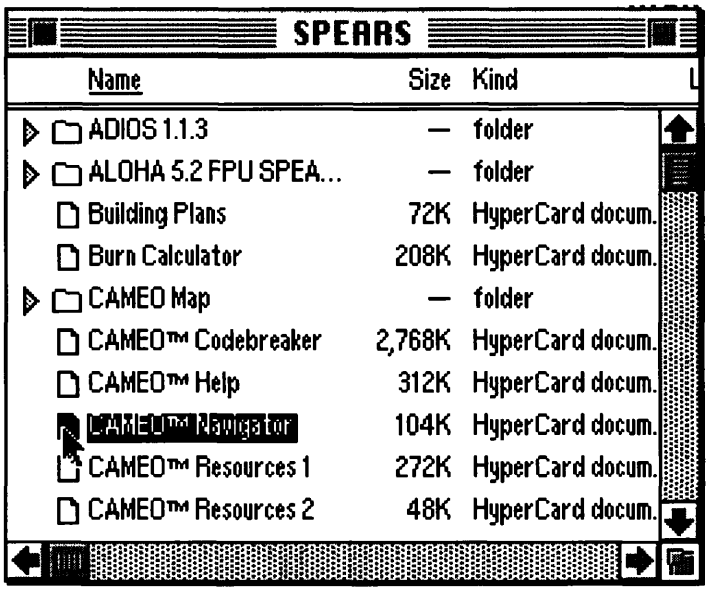


Figure 114

2) Create anew facility card. In this example, we will create a new facility card for "Acme Chemicals, Inc." Assuming you have all the appropriate information, enter the data. Note the address and latitude\longitude information for later use.

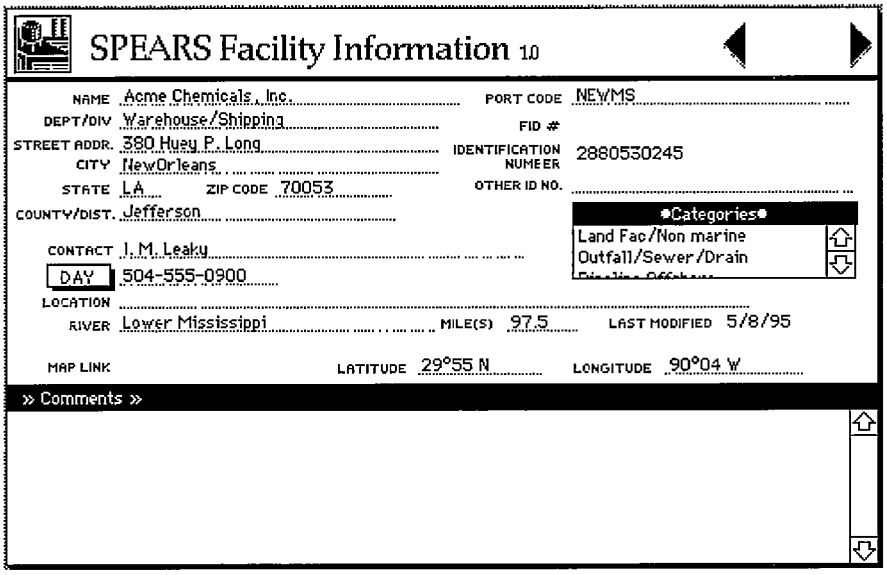


Figure 115

3) Bring up the CAMEO Navigator palette and select the MARPLOT icon.

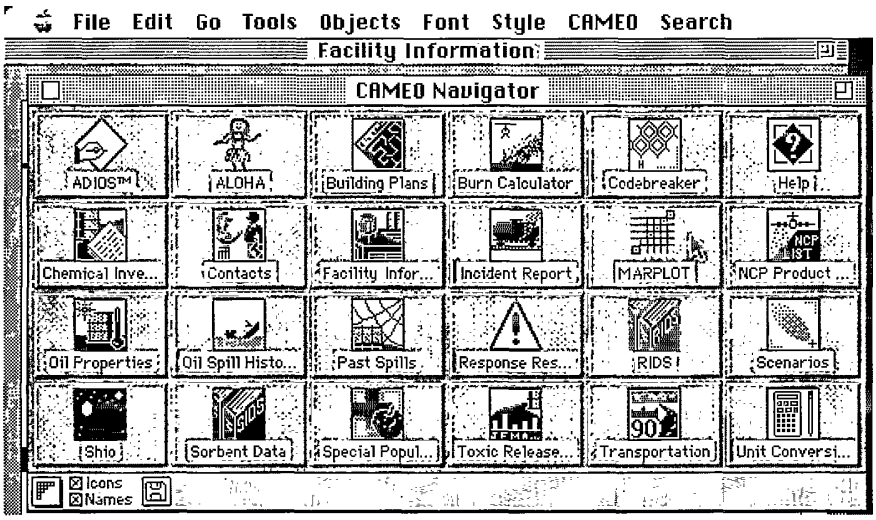


Figure 116

4) After clicking once when the MARPLOT banner screen appears, you can interrupt the drawing of the map by hitting the "ESC" key once ont the keyboard.

5) Under the "View" menubar command, select the "Set Scale..." command.

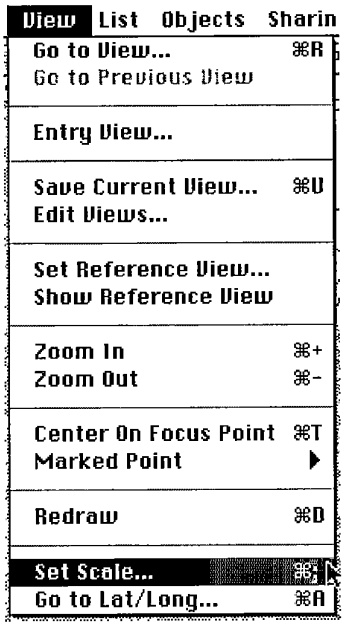


Figure 117

6) In the "Set Scale" dialog box, enter a small value such as ".1" so you only see a small portion of the map.

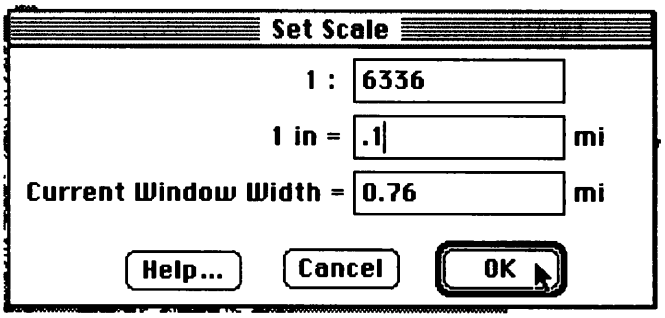


Figure 118

7) After the map has redrawn, go to the "View" menu and select the "Go to Lat/Long..." command.

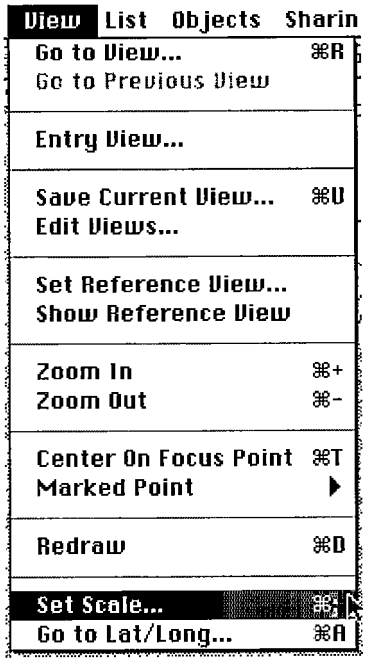


Figure 119

8) Enter the coordinates for the facility you want to create an object for linking in the "Go to Lat/Long" dialog box (note that this is the latitude and longitude entered on the facility information card).

Figure 120

9) Using the "Go to Lat/Long..." command will get you close to the location of the facility. Now, either using visual cues on the map or additional information such as intersection or address, you can further refine the location where you wish to place the facility symbol.

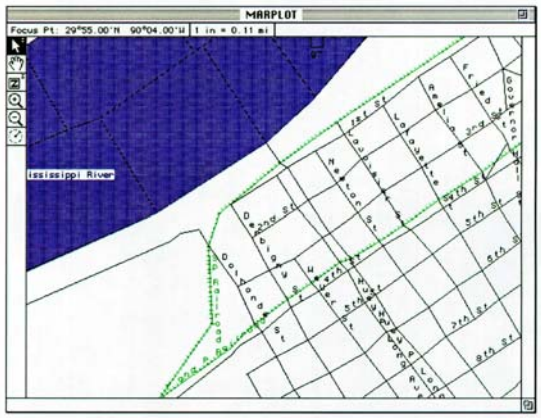


Figure 121

10) In this case, we will use the address. Click once on an adjacent street.

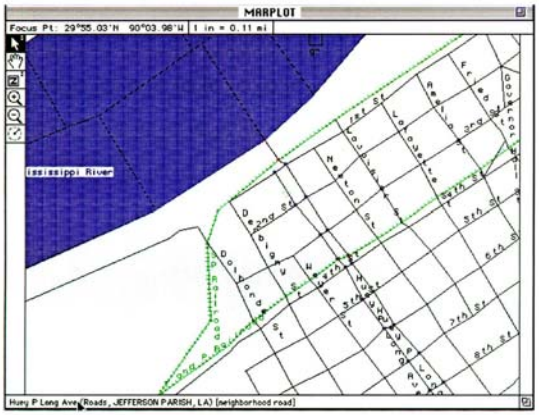


Figure 122

11) Under the "Objects" menubar command, select "Segment Settings..."

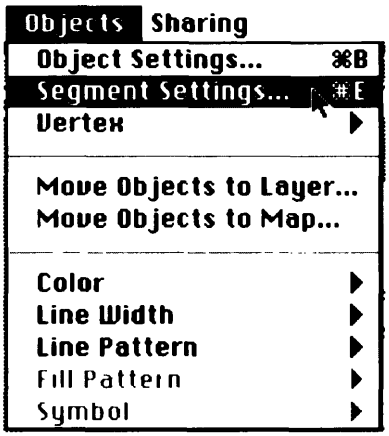


Figure 123

12) This will display the address information for the selected street segment. symbol.

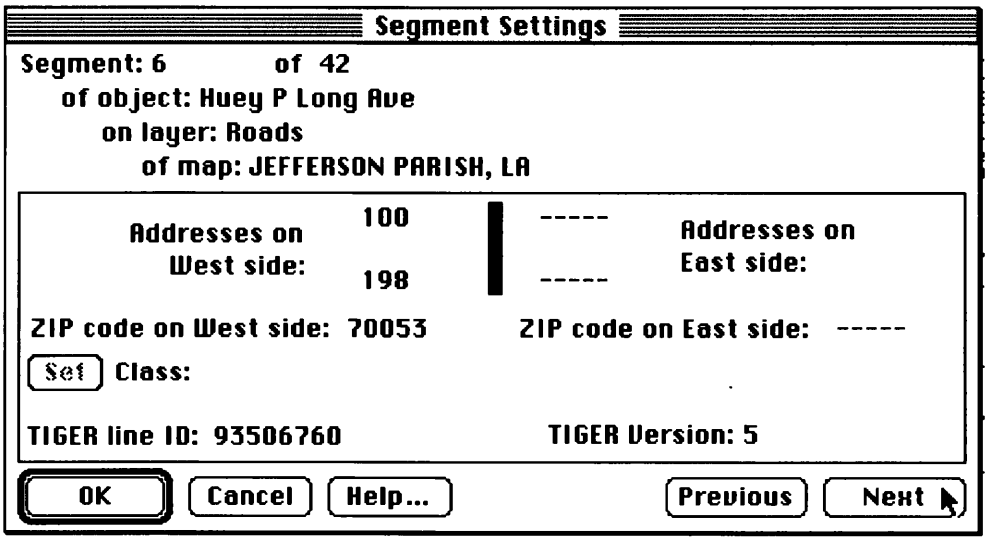


Figure 124

13) Continue selecting street segments and using the "Segment Settings..." Next command until you have found the street segment where the facility is located. By noting the street address, you will be able to discern which side and end of the street the facility symbol should be placed. This relative accuracy is probably more important than the absolute accuracy for the location of the facility symbol.

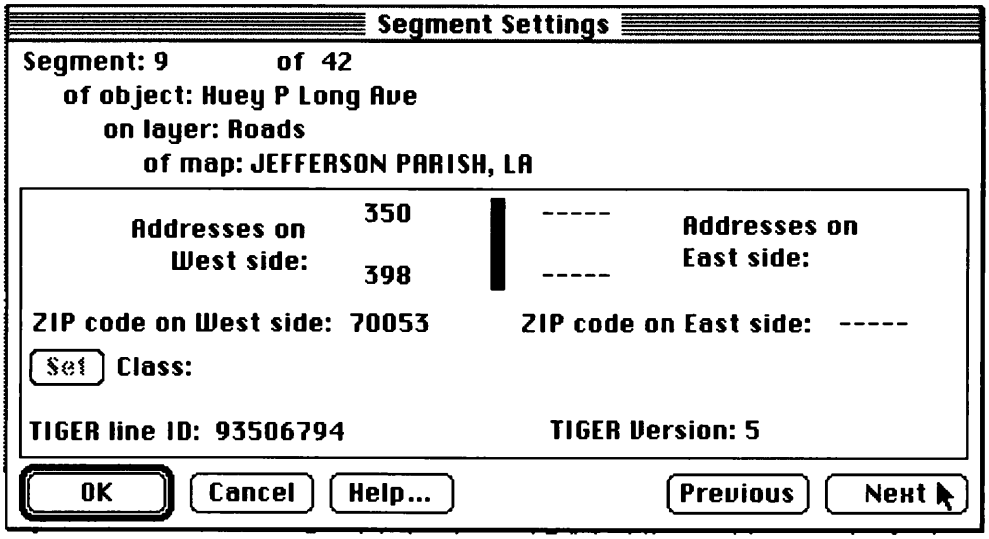


Figure 125

14) Still before placing a symbol down for the facility, go to the "List" menubar and select the "Layer List..." command.

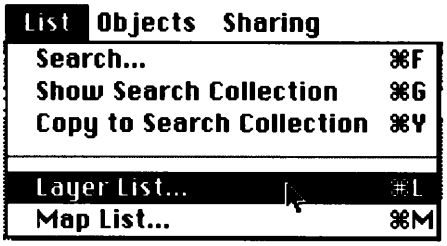


Figure 126

15) Once in the "Layer List" dialog box, you can either unlock an existing layer (by clicking once on the lock symbol adjacent to the layer you wish to unlock) or create a new layer. In this example, we will create a new layer by clicking once on the "New" button. A Name Layer dialog box will appear.

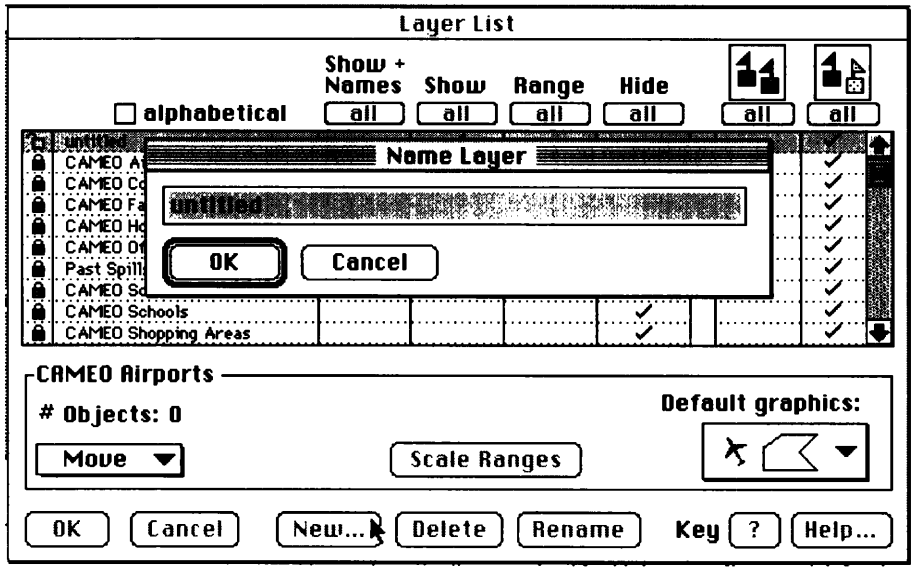


Figure 127

16) In the "Name Layer" dialog'box, the name of the new layer has been entered as "Non-MSIS Facilities" Doing this may help in keeping unique data sets within SPEARS more discreet in MARPLOT. (The strategy and protocol for doing this should be included in the SPEARS SOP.)

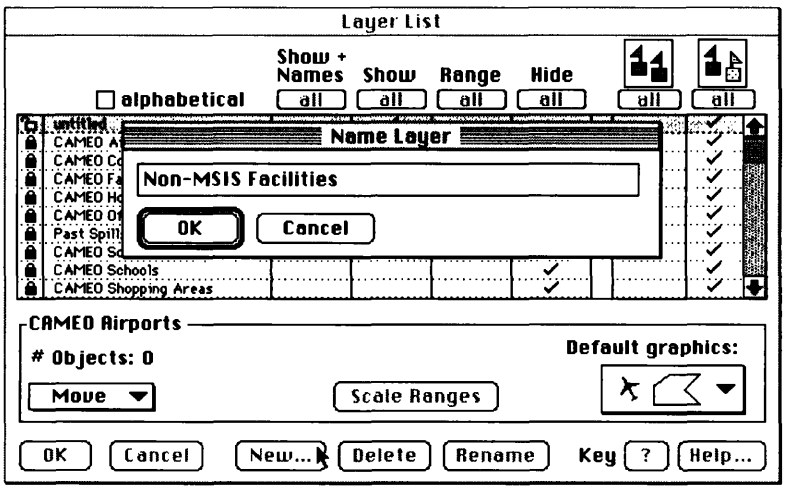


Figure 128

17) When completed, clicking on the "OK" button reverts back to the "Layer List" dialog box showing the new layer. Keep the other default settings as they are at this time. Clicking "OK" here brings you back to the map. It is wise to unlock only the layer(s) you are modifying to avoid accidental changes to objects in other layers.

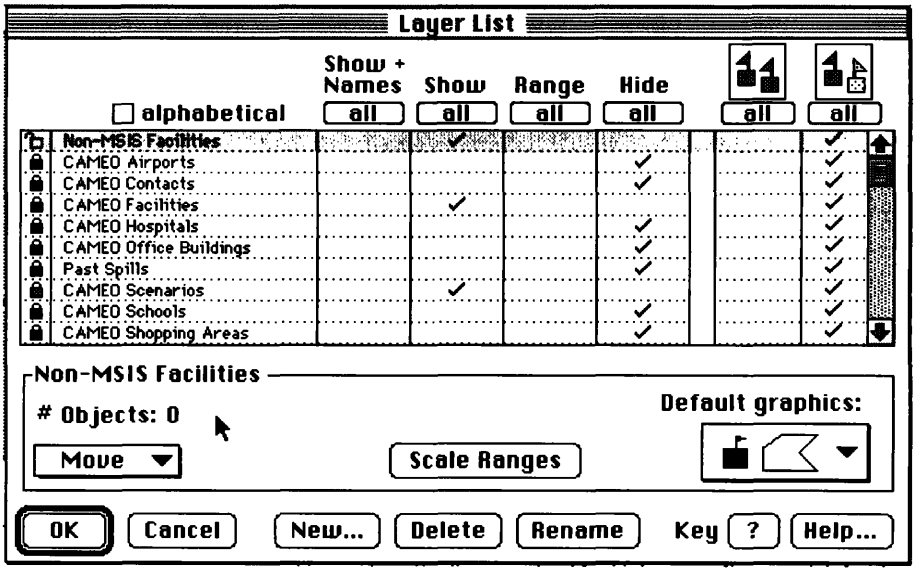


Figure 129

18) Now select the Symbol tool from the toolbar and click once at the location of the facility (selected street segment will have orange handles at either end). Note that the symbol is being placed on the west side of the street (address was 380 Huey P. Long).

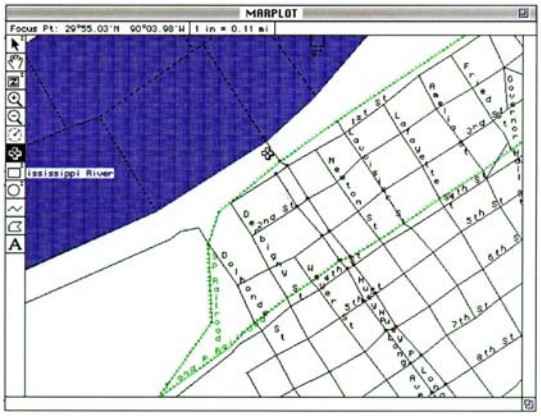


Figure 130

19) A dialog box will appear allowing you to enter the name of the facility and verify/change any of the layer or object information. In this example, we have chosen to save the object information in the "User's map" folder, changed the color of the symbol to red and selected a symbol that we recognize as representing a chemical facility. Again, these parameters may be standardized within your office and should be addressed in the SPEARS SOP. When done with the Object Settings, click "OK."

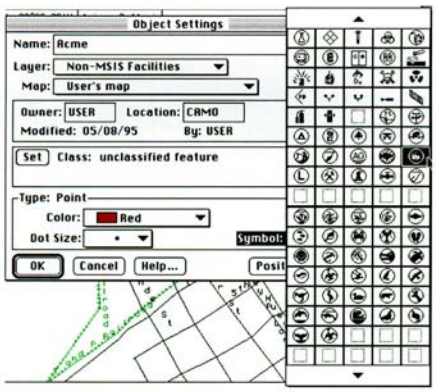


Figure 131

20) Note that whatever facility name was entered in the "Object Settings" dialog box will be appear on the map, but it will be replaced after a link has been established by the record name in the SPEARS stack.

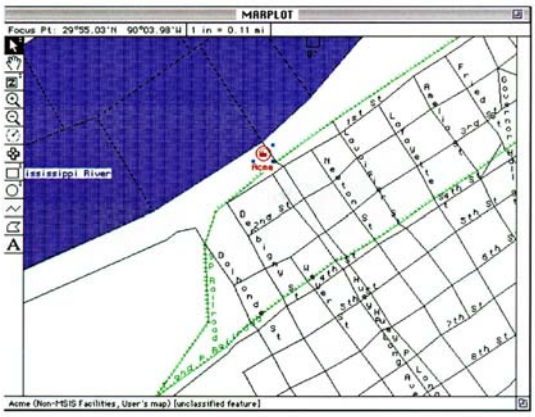


Figure 132

21) To link this symbol with the right facility record, go to the "Sharing" menubar command and select "Link Object" within the CAMEO hierarchical menu.

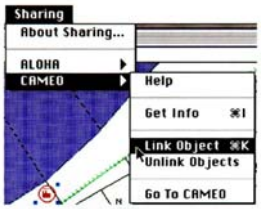


Figure 133

22) Since we created a new layer in MARPLOT and did not use one of the CAMEO layers, but are linking it to a stack with the CAMEO toolset, you will see a dialog box like the one shown below. This dialog box will always appear when you try to link a MARPLOT object not in a CAMEO layer to a stack with the CAMEO toolset (i.e, search, import/export or CAMEO menu). CAMEO likes to keep its map object information in its own CAMEO map folder. Since we are storing the Non-MSIS layer information in the User's map folder, MARPLOT is just giving us a chance to reconsider if we want to do this. We do. Click on "Yes."

23) This command will bring you back to the last stack you were in SPEARS before launching MARPLOT. A new floating Link palette will appear. This palette will remain on the screen until you either click on the "Link" or "Cancel" buttons - even if you perform a search or move to another Hypercard stack. When you are at the right facility record, click on the "Link" button.

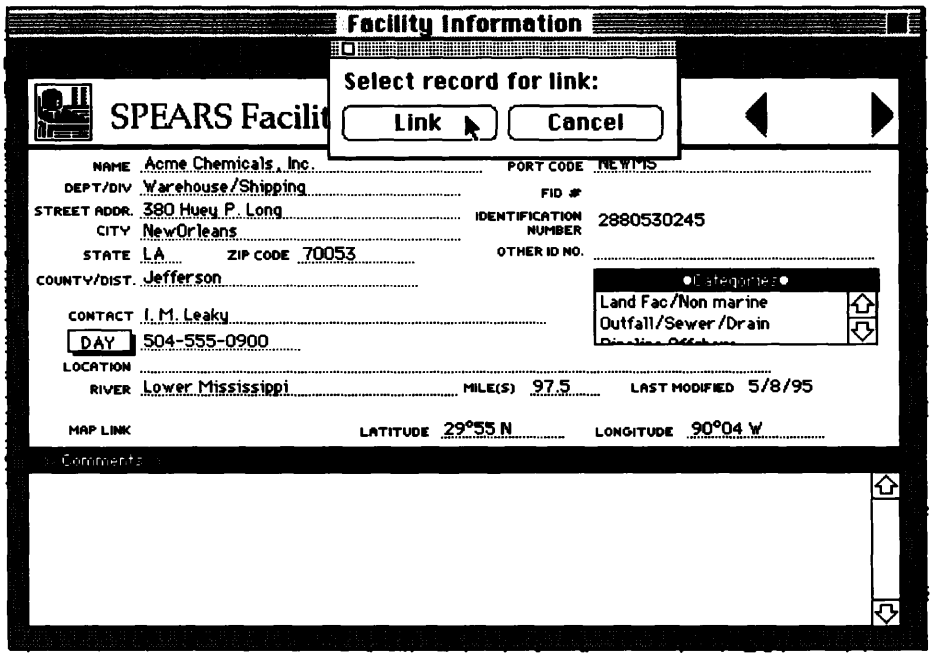


Figure 135

24) The "Link Object" command is completed by bringing you back to MARPLOT. Note that the facility symbol name has been changed to match the facility name in the linked record.

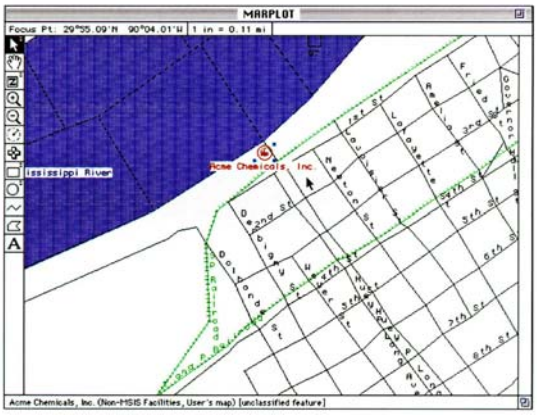


Figure 136

25) When you look at the facility record for "Acme Chemicals, Inc." the word "MARPLOT" has been put into the Map Link field showing that this record is linked to an object in MARPLOT. Now, using the "Show on Map" command under the CAMEO menubar will automatically launch MARPLOT and center your view on this record's symbol.

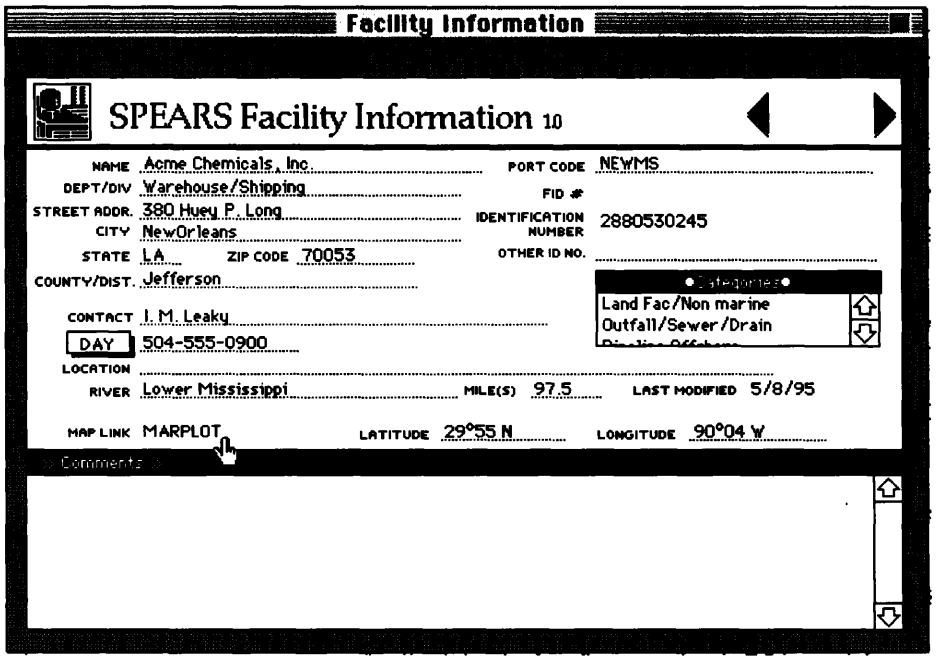


Figure 137

26) To unlink the record and object, go to the "CAMEO" menu in CAMEO and select the "Unlink Current Card" command or the "Sharing" menu in MARPLOT and select the "Unlink Objects" command under the CAMEO sub-menu.

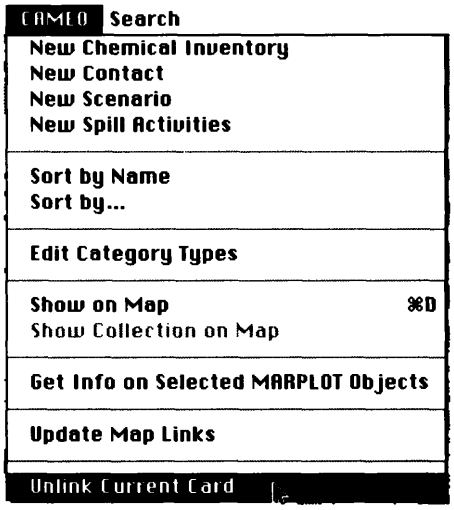


Figure 138

USER NOTES ON:

HOW TO COMPLETELY REBUILD THE FACILITY INFORMATION MODULE

SPEARS has been designed to receive periodic updates from MSIS. Due to the potential ,for a user to accidently 1354 append|&end_TA&| *data records to a stack rather than* 1354 updated TA & *(which replaces existing records with new data) and obtain duplicate records, this document was created to help users recover from such an error. This procedure may be also applicable in other situations where the Facility Information module may be corrupted. Be forewarned that this procedure presupposes that you still have the original data files from which you can reload the "new" Facility Information module. This procedure requires a series of complex steps, so all care should be taken to avoid damaging or corrupting your SPEARS modules so you do not have to perform this operation.*
Note that the steps describe can also be used for rebuilding the Past Spills module and, from steps 9 on, the Contacts module.

1) Open MARPLOT. Since data in the Facility Information modules is linked to objects in MARPLOT, the links need to be broken and the old objects deleted so when you rebuild the Facility Information module, the links between objects in MARPLOT and the Facility Information stack are properly re-created.

2) Select the "Layer List..." command under the "List" menubar item.

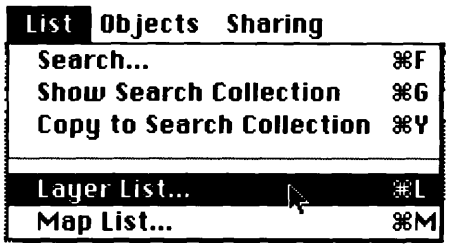


Figure 139

3) Select the CAMEO Facility layer and unlock it by clicking once on the lack symbol adjacent to the layer name.

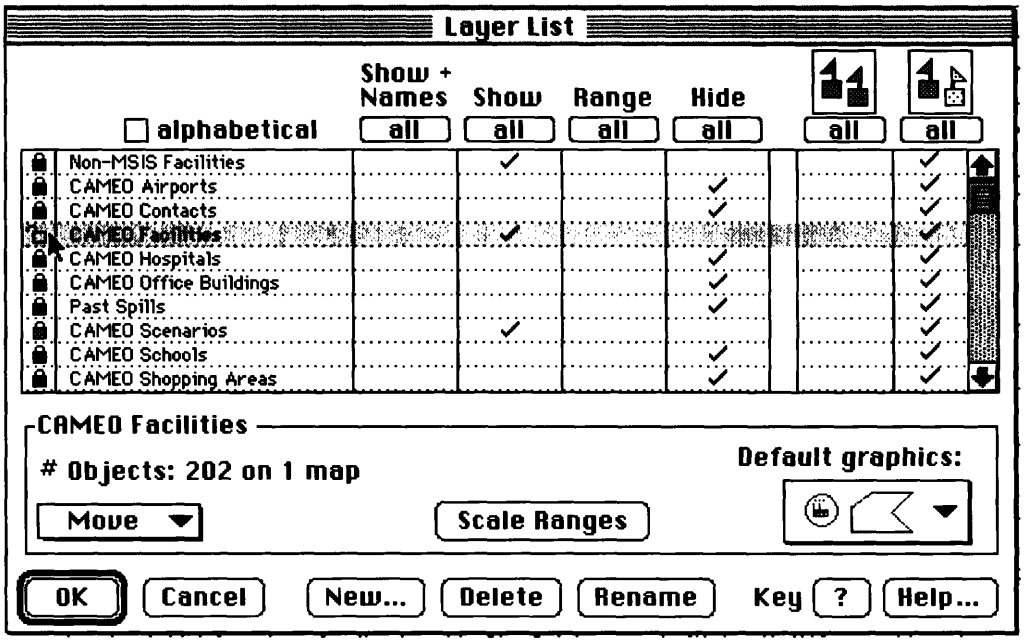


Figure 140

4) You now need to select all the facility objects in MARPLOT so you can unlink them. Do this by selecting the Search command and choosing to find objects that have any name in the CAMEO Facilities layer (note that if you have other layers with objects linked to the Facility Information stack, you need to select the objects in those layers as well) on all maps.

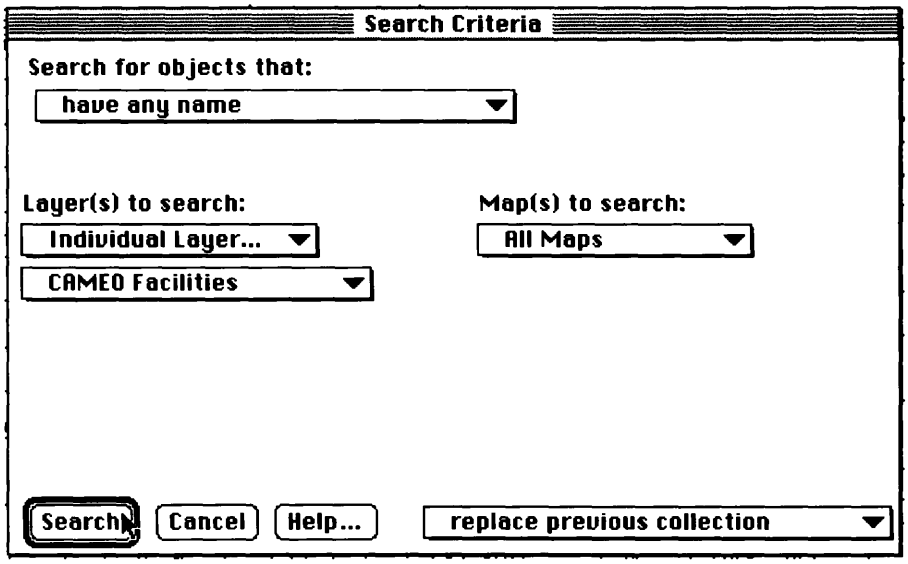


Figure 141

5) MARPLOT will then list all the facilities that match your search criteria. You can chose to show them all on the map if you wish. Note that all the objects have been selected.

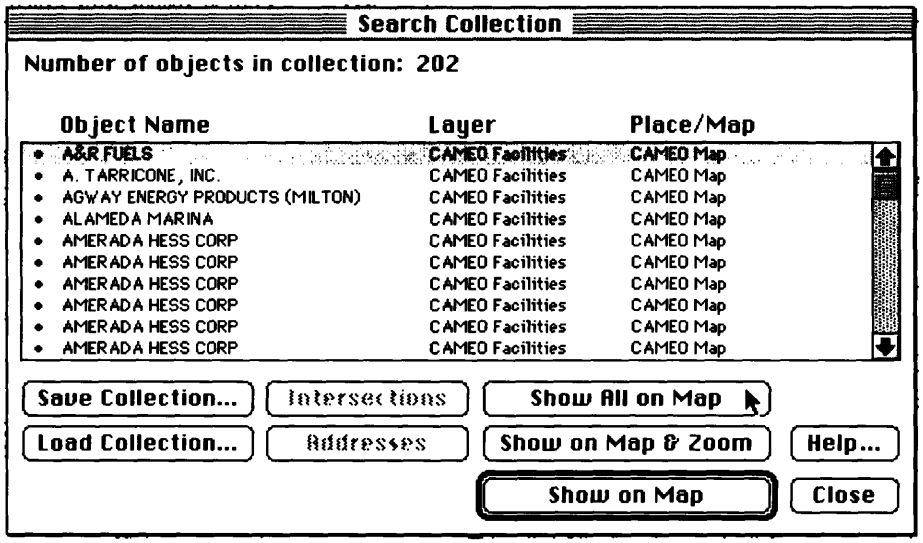


Figure 142

6) MARPLOT may bring up the dialog box shown below. This occurs when you have a collection of search objects, some of which are not linked to an object in MARPLOT. From this dialog box, you can either view in MARPLOT the objects that are linked or stay in the stack you're in and view the collection of cards with records not linked to MARPLOT. In this instance, select the command, "Continue" to go to MARPLOT with the selected objects highlighted.

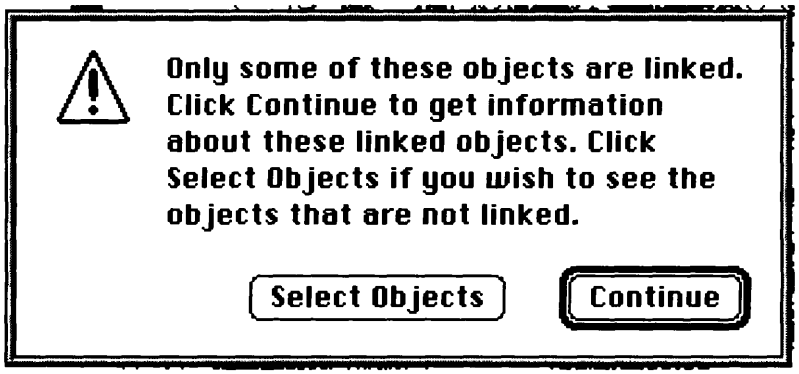


Figure 143

7) Select the "Unlink" command under the "Sharing" menubar item. Be patient, this command may take a few minutes to complete.

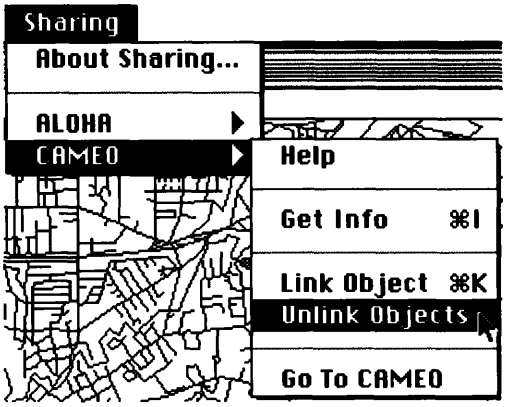


Figure 144

8) Now that the objects are unlinked, and while they are still selected, go to the "Edit" menubar item and select the "Clear" command to delete all the facility objects. These objects will be replaced when you import the data into the "new" Facility Information module.

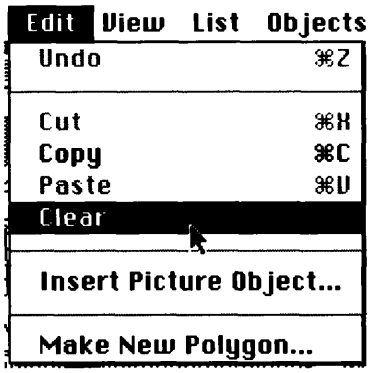


Figure 145

9) Next we need to replace the corrupted Facility Information module. To begin the process, select the "Go to CAMEO" command under the "Sharing" menubar item and then go to the Facility Information module by clicking once on its icon in the CAMEO Navigator.

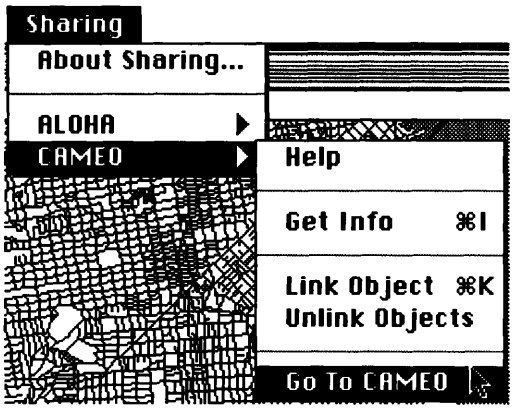


Figure 146

10) Select the "New Stack..." command under the "File" menubar item.

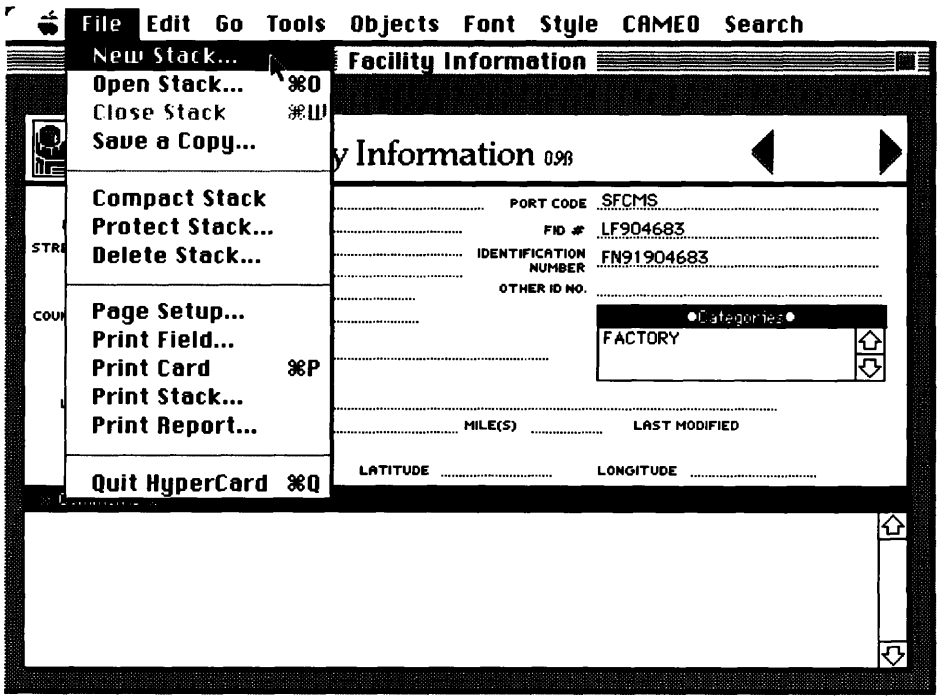


Figure 147

11) Select the checkbox labeled, "Copy current background" and type in the name, "Facility Information New." You need to rename the new stack something different so it doesn't replace your old Facility Information stack. You should not delete the corrupted Facility Information module until you're absolutely sure you've recovered the facility data. Save the new Facility Information module with the rest of your SPEARS stacks.

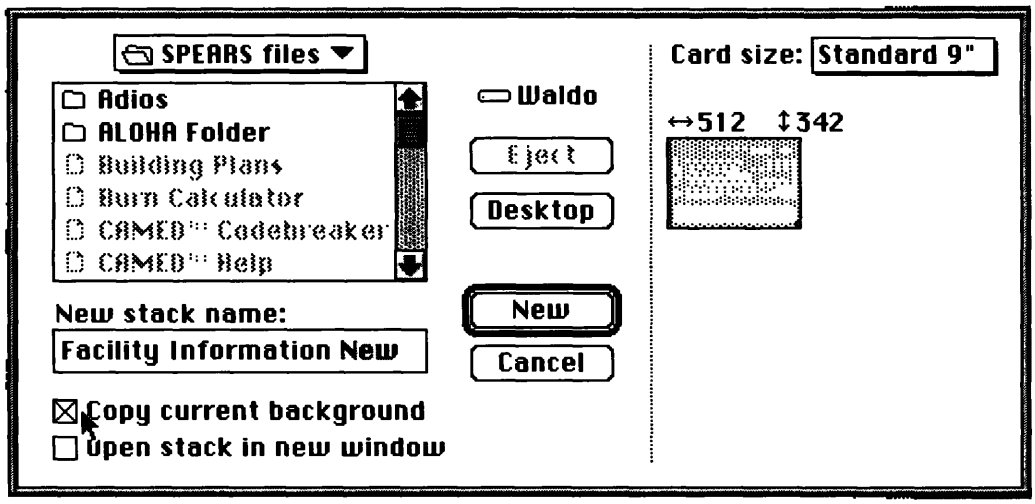


Figure 148

12) A new stack will appear called, "Facility Information New" which will only have one empty record in it. Note the ID number for this record. This will be important later since you will need to delete the blank record after loading the MSIS data into this module. You can verify this by selecting the command, "Stack Info..." under the "Objects" menubar command which brings up the dialog box shown below. Click on the "Ok" button to go back to your stack.

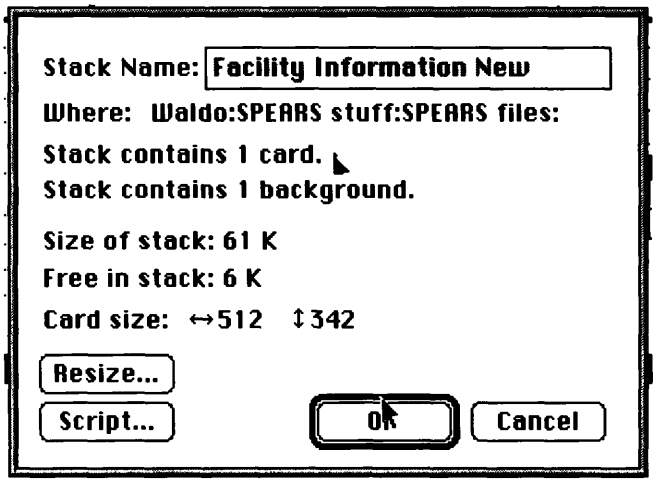


Figure 149

13) Once you have a new, empty Facility Information stack, move the cursor up to the upper righthand comer of the screen and select the command, "Finder" under the Application menubar item (you may have more items in the Application menu, such as MARPLOT). This will take you to the desktop. Then select the command, "Hide Others" from the Application menu so any active applications are hidden on the screen.

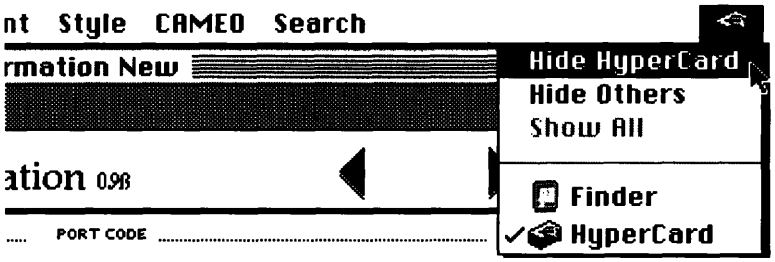


Figure 150

14) You will now be on left with only the desktop of your Mac visible. Next, you need to change the names of the stacks so that the new, empty stack is renamed, "Facility Information" and the old stack is appended with the word, "Old." Again, this is necessary because SPEARS can only one copy of a Facility Information stack and it MUST be that name to work properly. To do this, navigate to the Facility Information module inside the CAMEO folder. Now, you can either move the old stack to another folder to avoid confusion or copy the stack onto a floppy disk and then throw the stack on the hardisk into the trash. Either way, you should not leave a copy of the old stack in the CAMEO folder. This could cause SPEARS to become confused when navigating between modules.

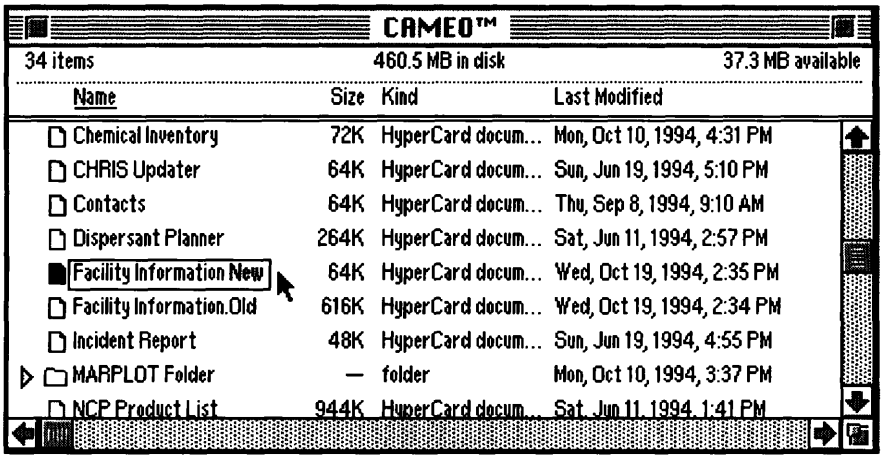


Figure 151

15) At this point, go back to the Application menu and check to see if MARPLOT is active. If it is, skip forward to the next step. If it isn't, go to the desktop, find MARPLOT and launch the application.

16) To continue the process, we need to go back to Hypercard. You do this by simply selecting "Hypercard" from the Application menu in the upper right-hand comer of the screen.

Figure 152

17) Note, that at this time, the stack name in the titlebar has been changed to reflect the deletion of the word, "New" from the end of the stack name.

18) Now select the "Import/Export" command under the CAMEO menubar.

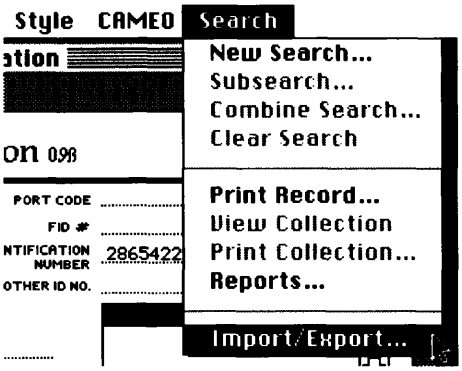


Figure 153

19) A dialog box will appear. Select "Import."

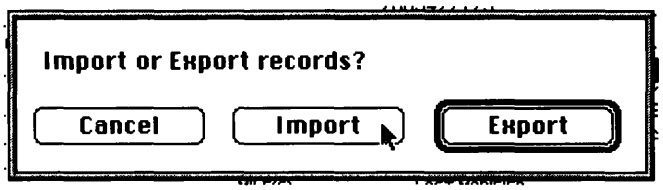


Figure 154

20) The Import/Export dialog window appears and you now must select the data file from which data will be imported into the new Facility Information stack. Note that the Facility Information stack is initially loaded for you so you may not have the original facility information data file, only the latest update. If you don't have the original data, your stack will have incomplete data. Please contact technical support if this is your case. If not, select the file from which you want to import data. If you have more than one data file to load, repeat steps 18 - 24 until you've loaded all the data.

Figure 155

21) Once the file is opened, field names that match will highlight themselves for automatic linking. You do not need to add or remove any fields from this selected set. Next you need to select the "Prefs..." command under the "Settings" pull-down selection. This will bring up yet another dialog box in which you select the choices, "Update," "Add" and then select a key field.

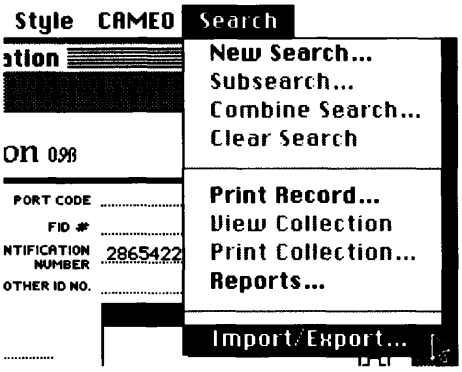


Figure 156

22) To select the key field, the only unique record number in the Facility Information stack, click and hold the mouse button down on the shadowed text field and look for the field name, "Identification Number."

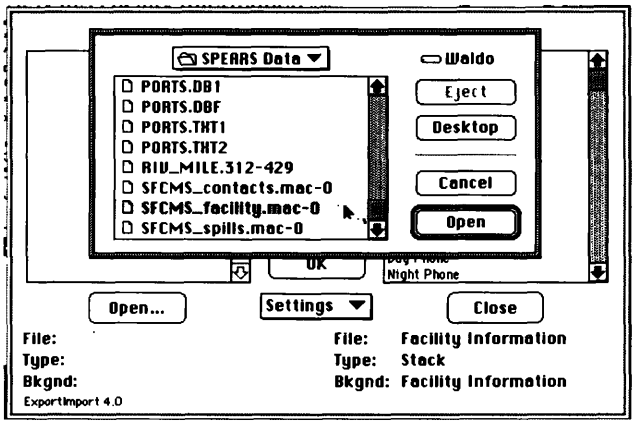


Figure 157

23) After selecting "Identification Number" as the key field, click once on the "OK" button. This will bring you back to the initial Import/Export dialog box at which time clicking on the command "OK" will perform the import. Be aware that this procedure may take a long time since it will be putting objects into MARPLOT and updating map links as part of the process.

24) After the map linking and updating process is complete, you will receive the dialog box below telling you the import procedure is finished.

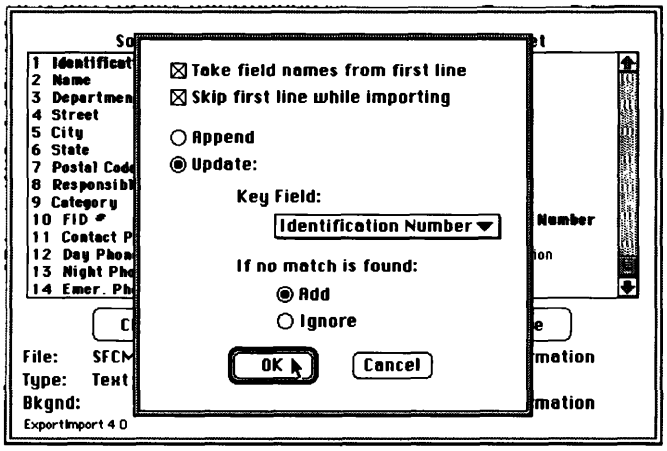


Figure 158

25) At this stage, you should have reconstructed your Facility Information stack for one set of data. If your port has an MSD, then there may be additional MSIS facility information files which you will need to import as well (repeat steps 18 -24). If you still have items not linking that should be, choose the Update Map Link command and wait. Refer to the MARPLOT manual for more specific details or if you have any additional problems.

USER NOTES ON:

EXPORTING DATA FROM SPEARS FOR USE IN A SPREADSHEET

These notes provide only a simple summary of one method in exporting data from the SPEARS Past Spills stack into a text file for use with Excel. A more complete discussion on importing and exporting data can be found in the CAMEO manual.

1) Before exporting data into any stack, make a copy of the SPEARS stack in case problems are encountered in the middle of the export process. This will ensure you will not corrupt your data.

2) Open the SPEARS Past Spills stack.

3) Perform a search for those records you wish to analyze or compare outside of SPEARS. In this example, we are going to find all spills in 1992 greater than or equal to 1000 gallons.

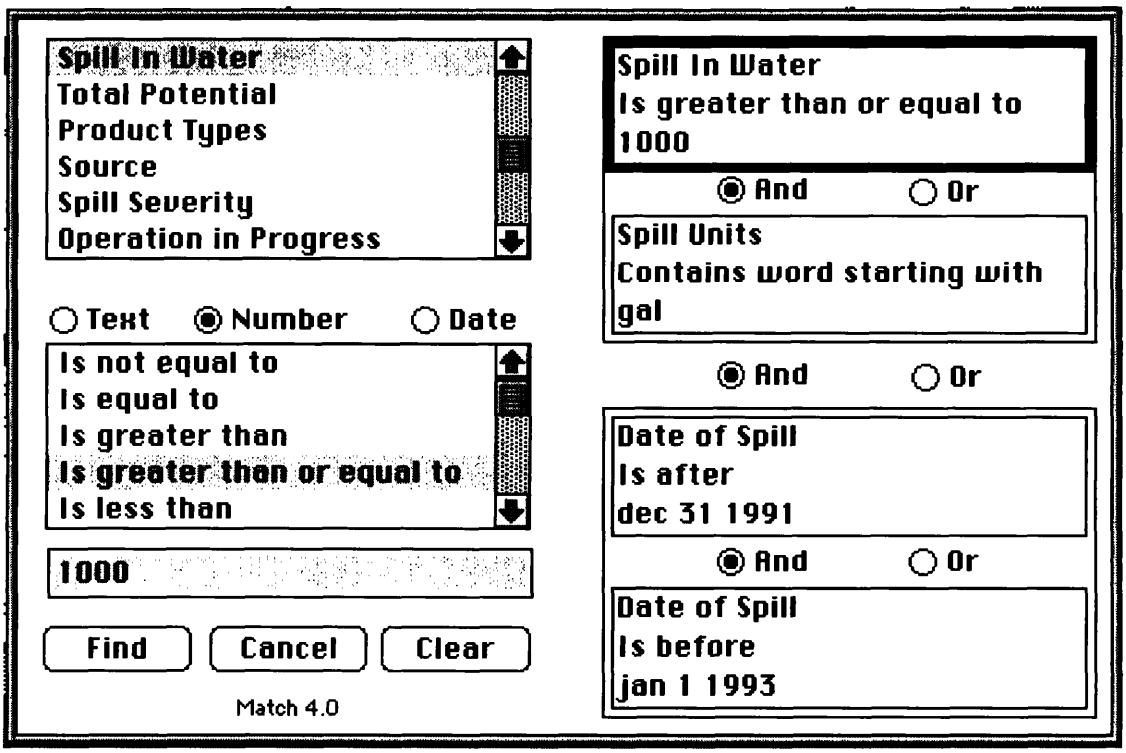


Figure 159

4) In this example, 19 matching records were found. You must have performed a search and have a search collection shown for the export to work on a subset of the entire stack.

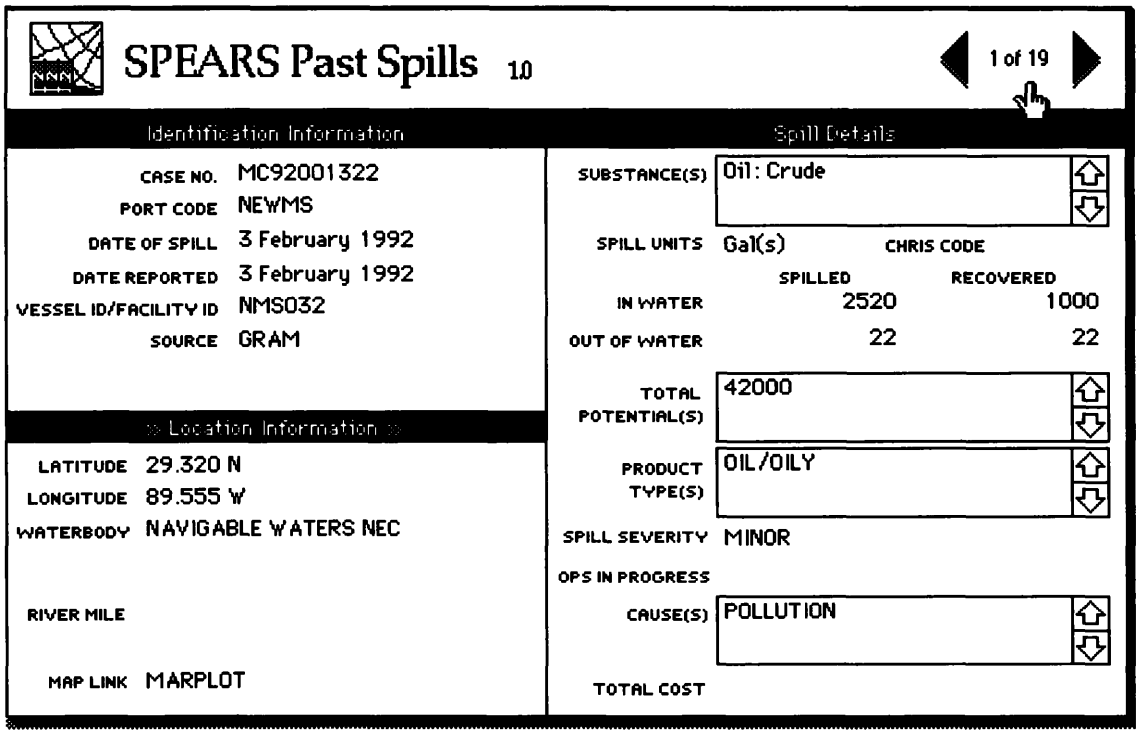


Figure 160

5) Next, select the Import/Export command under the Search menubar item.

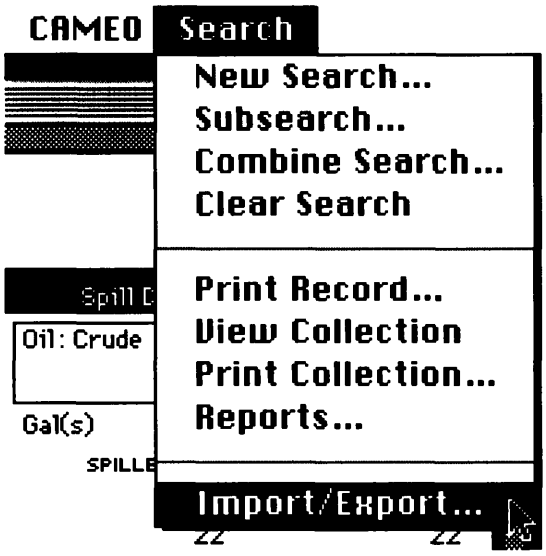


Figure 161

6) A dialog box will appear allowing you to choose to import or export data. The dialog box will also reinforce the fact that you have a subset of data selected (in this example, 19 records). Select the Export command.

Figure 162

7) Next, you will see the import/export dialog box with the field names from the Past Spills stack in the left box and an empty box on the right. You now need to open a Target file into which you will export the data into from the Past Spills stack (source). Click once on the Open... button.

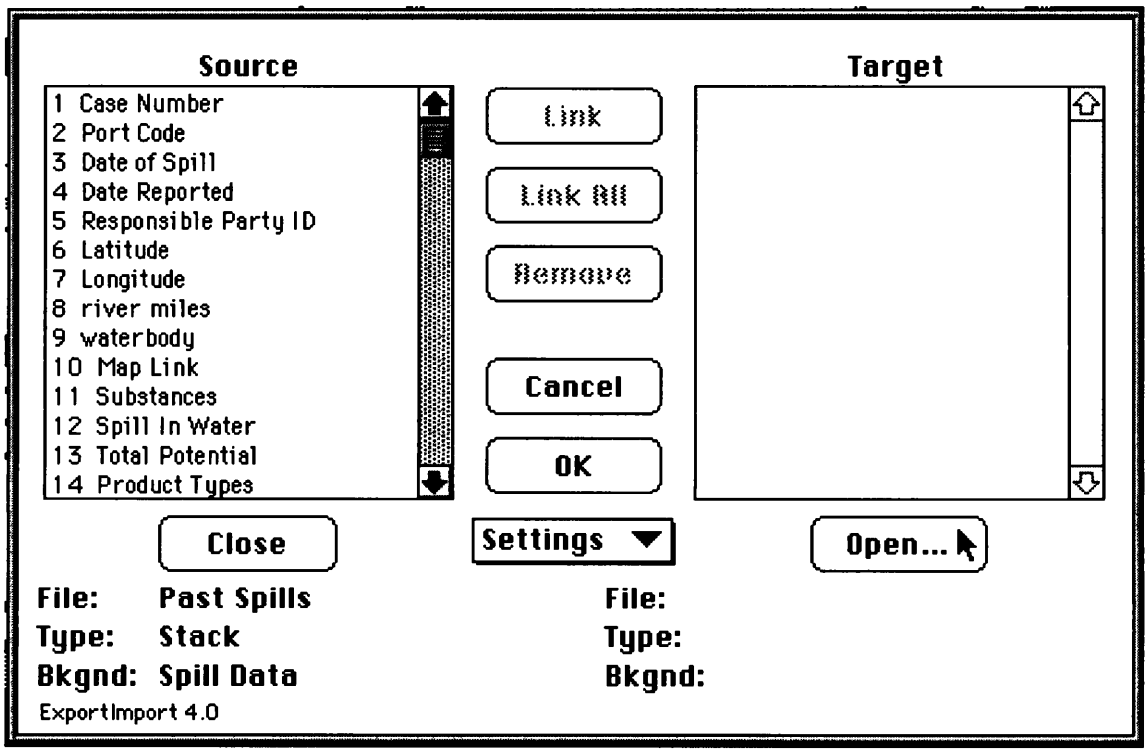


Figure 163

8) Next, you need to locate where you want to store the file which will hold the exported data. In this example, since the data will be used in an Excel spreadsheet, the file is being stored in the Excel folder. Initially, the dialog box will display the CAMEO folder. To store the file elsewhere, you must navigate to the folder you wish to store the file in (you may wish to create a folder called, "Exported data" to help standardize this step - this should be an item covered in the SPEARS SOP) and then click on the New button.

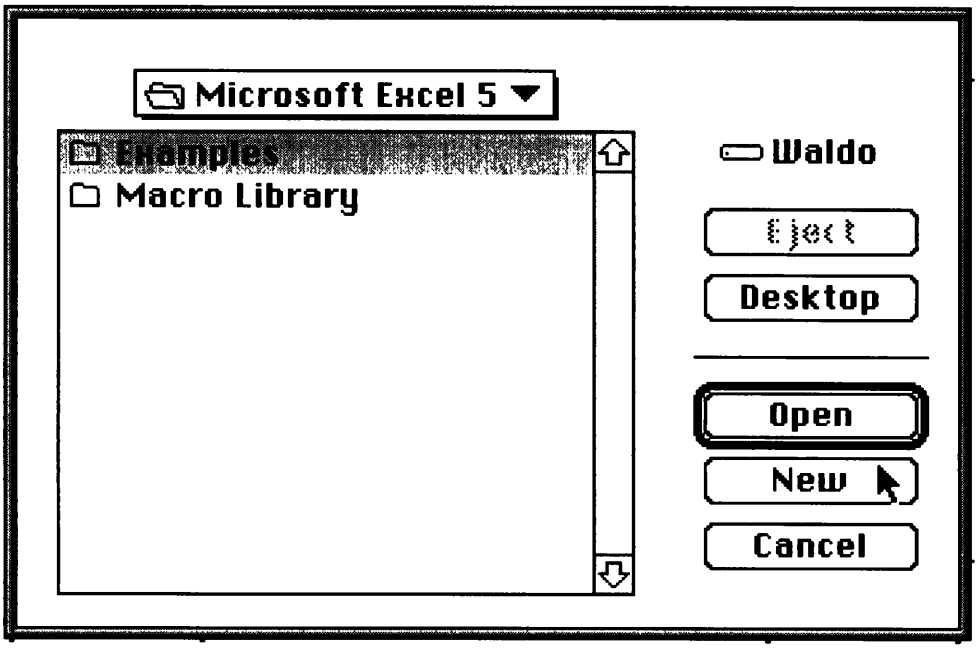


Figure 164

9) You now must name the file you are going to store the data within. Try to name it so you can easily determine the data contents from the filename. When you have selected a name, click on the Save button.

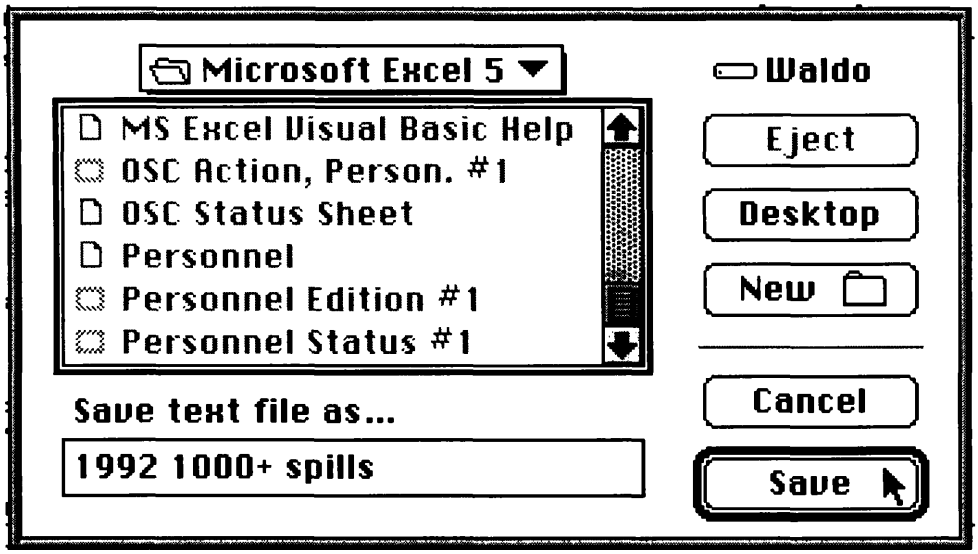


Figure 165

10) You will now be returned to the Export dialog window where you need to select the fields of data you wish to export from the Past Spills stack (in the order you want them to appear) into the export file. In this example, the fields selected are the Case Number, Port Code, Date of Spill, Spill In Water, Spill Units, Product Types and Total Potential. To add a field to the Target list window, simply select the field name in the Source window and click on the Link button. (Note the filename under the Target window to ensure you are exporting the data into the proper file.)

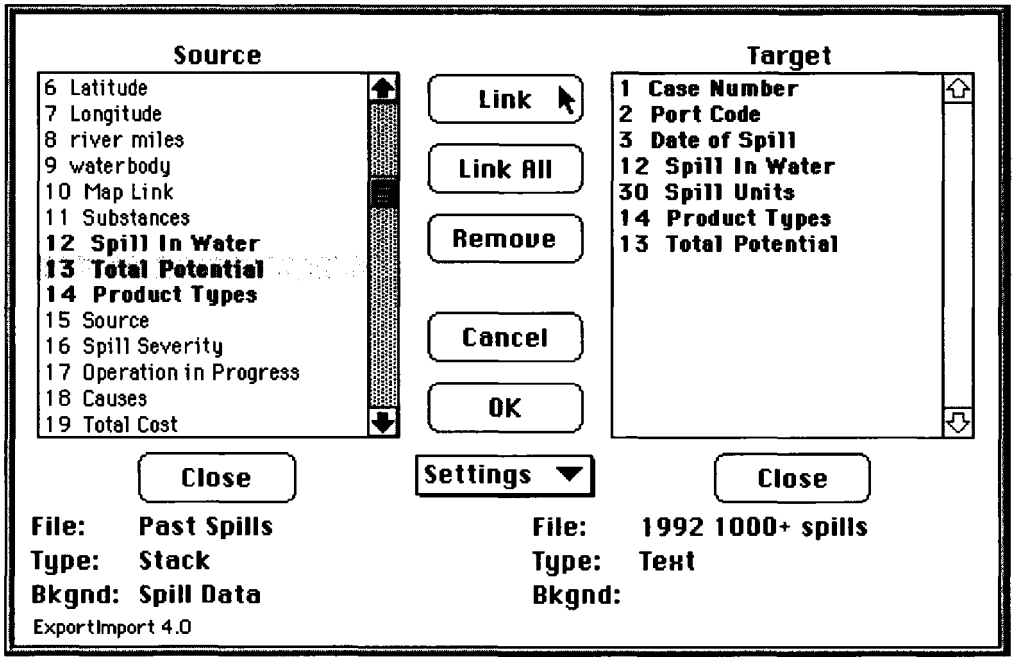


Figure 166

11) After you have selected all the necessary data fields, click on the OK button. This will begin the export procedure. You will see a progress bar while the data is being exported. Then it is done, you will be returned to the Past Spills stack. You have now completed the exporting of data from the Past spills stack.

12) To work with the data in Excel and create a chart, simply open the application Excel (you need to do this instead of simply opening the exported data file directly since it is a text-only file and will default to be opened by either Teach text or Word.)

13) After opening Excel, select the Open... command under File and find the export file. It should be the same folder you named it in Step #8.

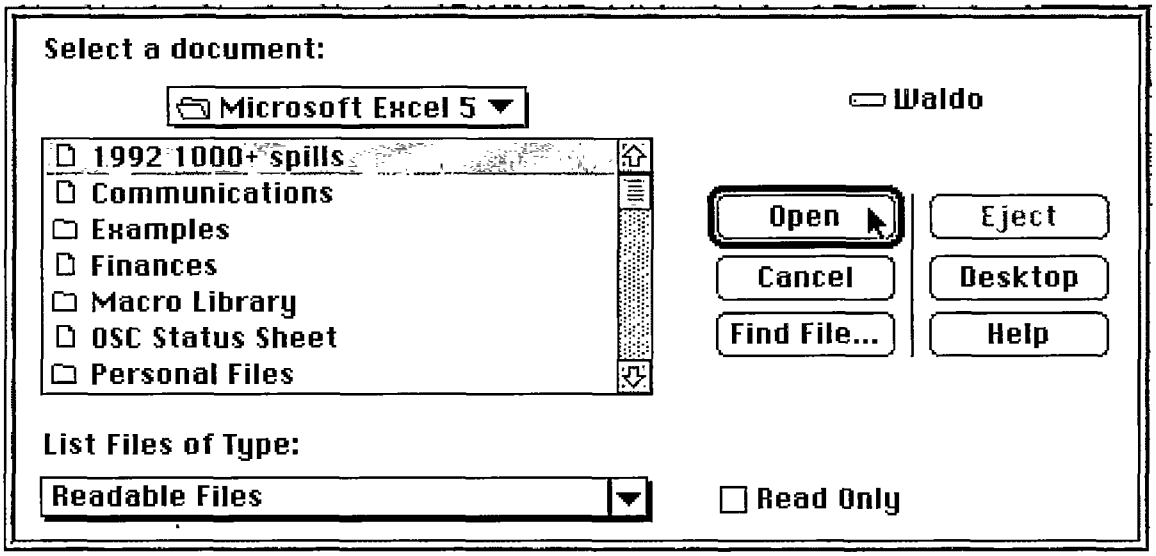


Figure 167

14) In Excel 5.0, you will be presented with a dialog box next. This is Microsoft's Wizard funtion designed to help ease the swapping of data and formats. For text files exproted from SPEARS, simply click on the Finish button. Steps 2 and 3 allow you to owrk with other types of delimited files and formats. Do not worry about those steps at this time.

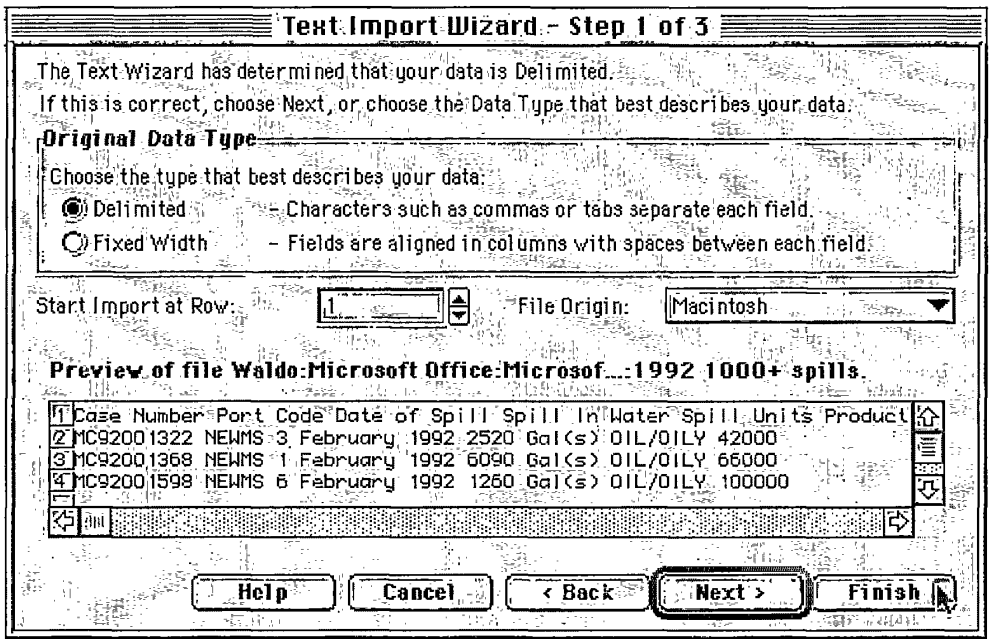
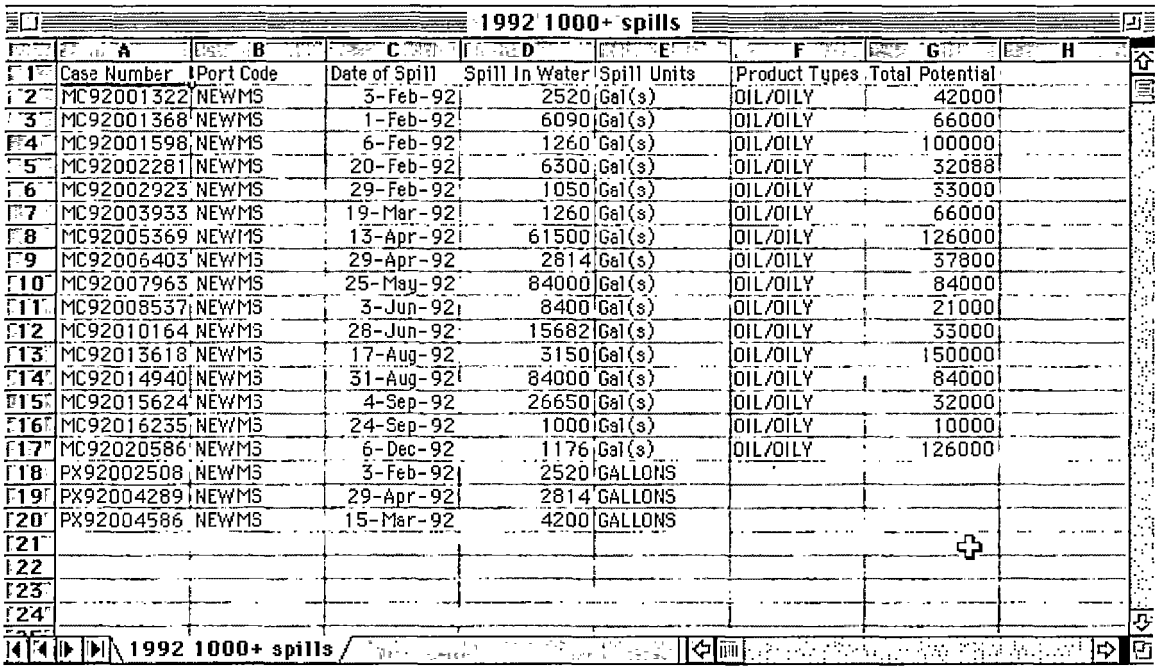


Figure 168

15) You will finally see the data exported from the Past Spills stack in a spreadsheet. Now you can double-check to see if your search criteria was maintained and perform other analyses with the exported data. You can now save the file as an Excel spreadsheet (make sure you change the name slightly if you intend on using the original text file for other uses).



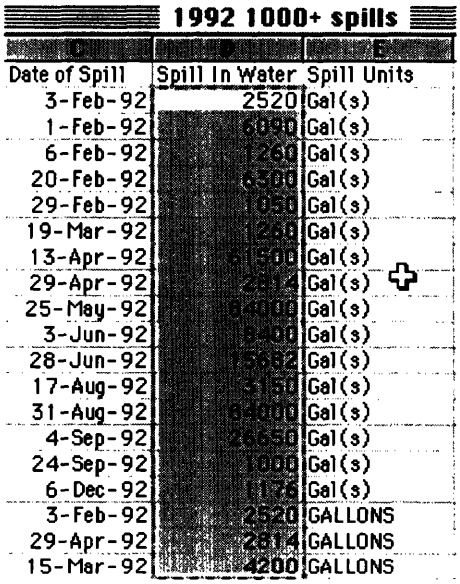
1992 1000+ spills

	A	B	C	D	E	F	G	H
1	Case Number	Port Code	Date of Spill	Spill In Water	Spill Units	Product Types	Total Potential	
2	MC92001322	NEWMS	3-Feb-92	2520	Gal(s)	OIL/OILY	42000	
3	MC92001368	NEWMS	1-Feb-92	6090	Gal(s)	OIL/OILY	66000	
4	MC92001598	NEWMS	6-Feb-92	1260	Gal(s)	OIL/OILY	100000	
5	MC92002281	NEWMS	20-Feb-92	6300	Gal(s)	OIL/OILY	32088	
6	MC92002923	NEWMS	29-Feb-92	1050	Gal(s)	OIL/OILY	33000	
7	MC92003933	NEWMS	19-Mar-92	1260	Gal(s)	OIL/OILY	66000	
8	MC92005369	NEWMS	13-Apr-92	61500	Gal(s)	OIL/OILY	126000	
9	MC92006403	NEWMS	29-Apr-92	2814	Gal(s)	OIL/OILY	37800	
10	MC92007963	NEWMS	25-May-92	84000	Gal(s)	OIL/OILY	84000	
11	MC92008537	NEWMS	3-Jun-92	8400	Gal(s)	OIL/OILY	21000	
12	MC92010164	NEWMS	28-Jun-92	15682	Gal(s)	OIL/OILY	33000	
13	MC92013618	NEWMS	17-Aug-92	3150	Gal(s)	OIL/OILY	150000	
14	MC92014940	NEWMS	31-Aug-92	84000	Gal(s)	OIL/OILY	84000	
15	MC92015624	NEWMS	4-Sep-92	26650	Gal(s)	OIL/OILY	32000	
16	MC92016235	NEWMS	24-Sep-92	1000	Gal(s)	OIL/OILY	10000	
17	MC92020586	NEWMS	6-Dec-92	1176	Gal(s)	OIL/OILY	126000	
18	PX92002508	NEWMS	3-Feb-92	2520	GALLONS			
19	PX92004289	NEWMS	29-Apr-92	2814	GALLONS			
20	PX92004586	NEWMS	15-Mar-92	4200	GALLONS			
21								
22								
23								
24								

1992 1000+ spills

Figure 169

16) To create a graph of all spills in water, simply select the column of amounts spilled in water and copy it into the clipboard.



1992 1000+ spills

Date of Spill	Spill In Water	Spill Units
3-Feb-92	2520	Gal(s)
1-Feb-92	6090	Gal(s)
6-Feb-92	1260	Gal(s)
20-Feb-92	6300	Gal(s)
29-Feb-92	1050	Gal(s)
19-Mar-92	1260	Gal(s)
13-Apr-92	61500	Gal(s)
29-Apr-92	2814	Gal(s)
25-May-92	84000	Gal(s)
3-Jun-92	8400	Gal(s)
28-Jun-92	15682	Gal(s)
17-Aug-92	3150	Gal(s)
31-Aug-92	84000	Gal(s)
4-Sep-92	26650	Gal(s)
24-Sep-92	1000	Gal(s)
6-Dec-92	1176	Gal(s)
3-Feb-92	2520	GALLONS
29-Apr-92	2814	GALLONS
15-Mar-92	4200	GALLONS

Figure 170

17) Next, under the Excel Insert menubard, select the Chart command and, As New Sheet. This will open a new layer in this file that will hold the chart you will create.

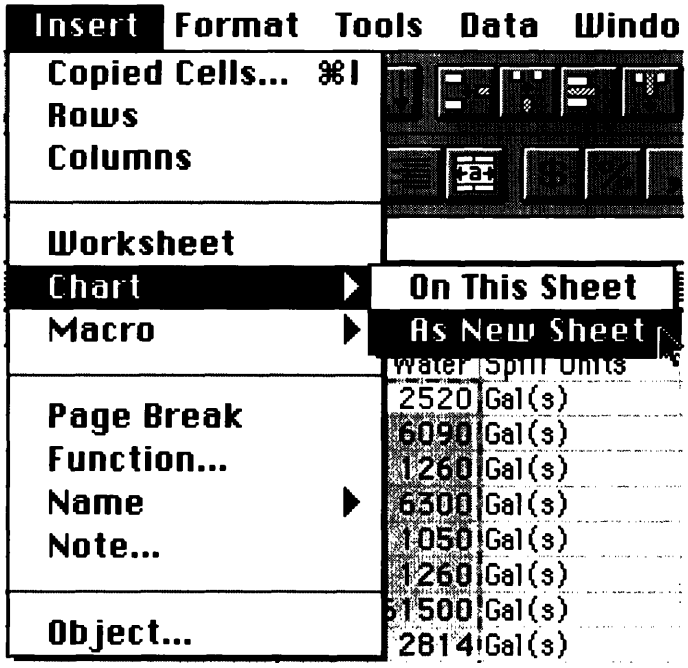


Figure 171

18) After the new blank sheet is brought up on your screen, select the Paste command to paste the column of spill amount data you previously copied into the chart sheet. You will probably see a bar graph created. Note that the filename has not changed but you now have two tabs at the lower lefthand corner of the spreadsheet. Clicking on those tabs move you between the different sheet layers in this file. This bar graph below shows how a few large spills could skew the perception of the size of incidents in a port if a simple average is used.

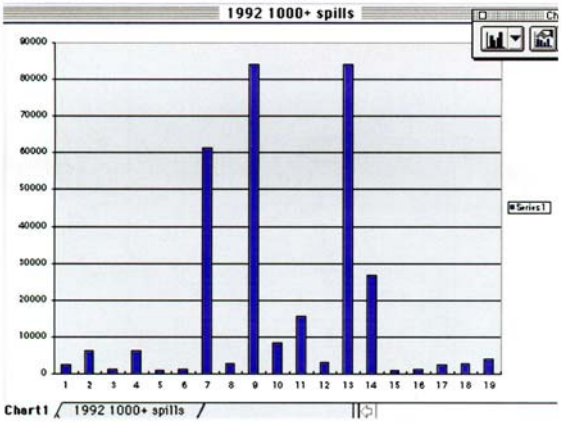


Figure 172

19) To change the bar graph into a another type of chart, simply select the chart tools and the graph type you wish to use.

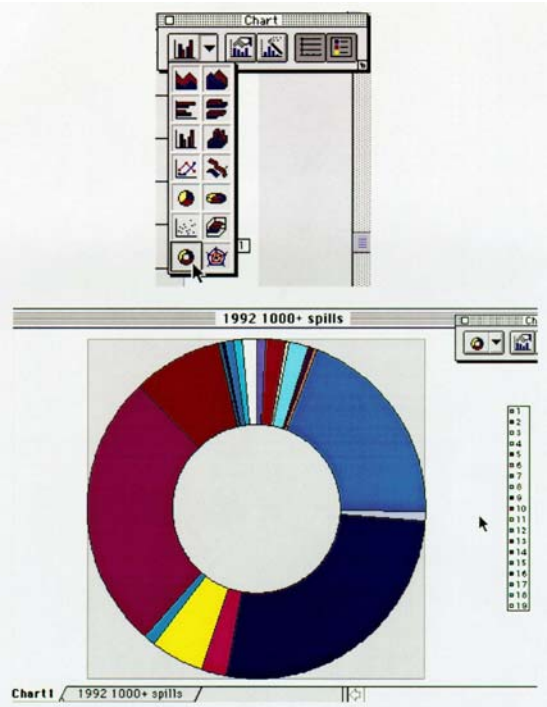


Figure 173

20) Excel is a very powerful program. To better understand its capabilities and how to perform certain analyses, please refer to the Excel documentation.

USER NOTES ON:

USING SPEARS TO ESTIMATE THE SIZE AND TO PLOT THE LOCATION OF AN OIL SPILL

SPEARS contains several modules which can be used to help visualize the size, location and potential impacts of an oil slick. SPEARS can also be used to estimate the potential area an oil spill may cover. This paper details one way SPEARS can be used to help estimate an oil slick size and its potential impacts to an area.

This example is based upon a spill of a known quantity of a known oil product at a specific location.

1) For this paper, the spilled oil product will be Fuel Oil Number 6, commonly referred to as Bunker C. The amount spilled will be 5000 gallons over the course of two hours on October 31, 1995 starting at 0530 right adjacent to the south tower of the Golden Gate Bridge in San Francisco, CA.

2) The first thing you want to do is, if you have the name of the product, look it up in the Oil Properties database. Key pieces of information you will want to focus on include dispersability and toxicity. If the oil is a common one, consider looking in the Oil Spill History stack for lesson learned from previous significant spills.

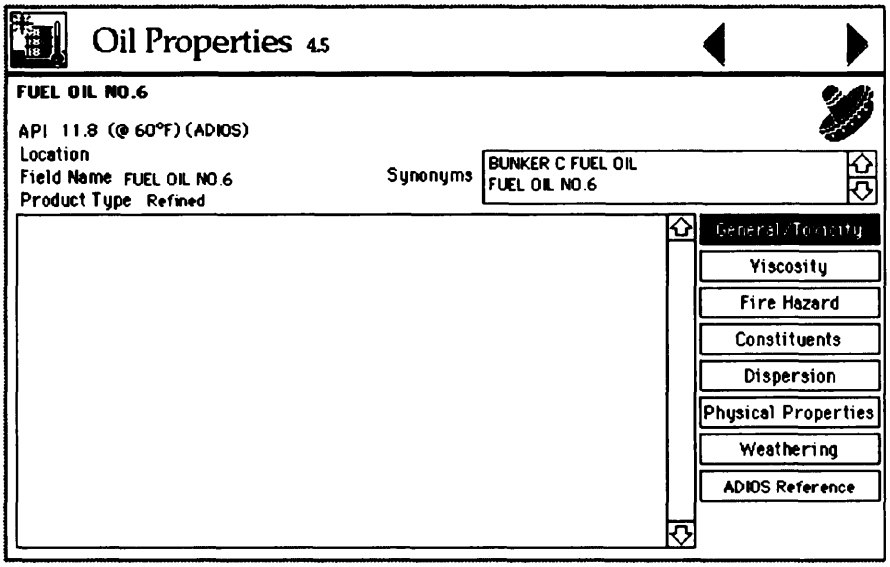


Figure 174

3) If you are going to be using MARPLOT to help visualize this incident, you need to start using it as soon as you start receiving pertinent information, such as the location. Start MARPLOT, localize the area on the map and generate a printout of the area for use as an initial baseline map from which overflights, field investigators and other personnel can refer to and capture information on.

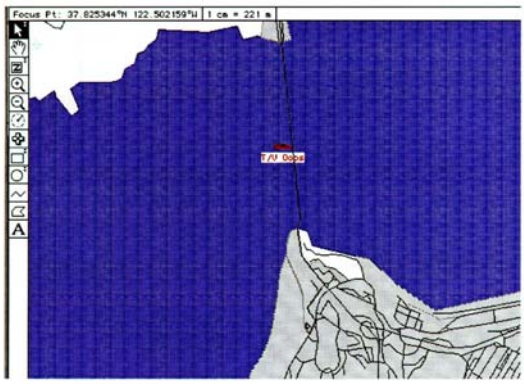


Figure 175

4) Once you have the product and amount, you can now use ADIOS to determine how much oil will be there now (0830 or three hours after the spill first started) and how much will be there 12 and 24 hours from now.

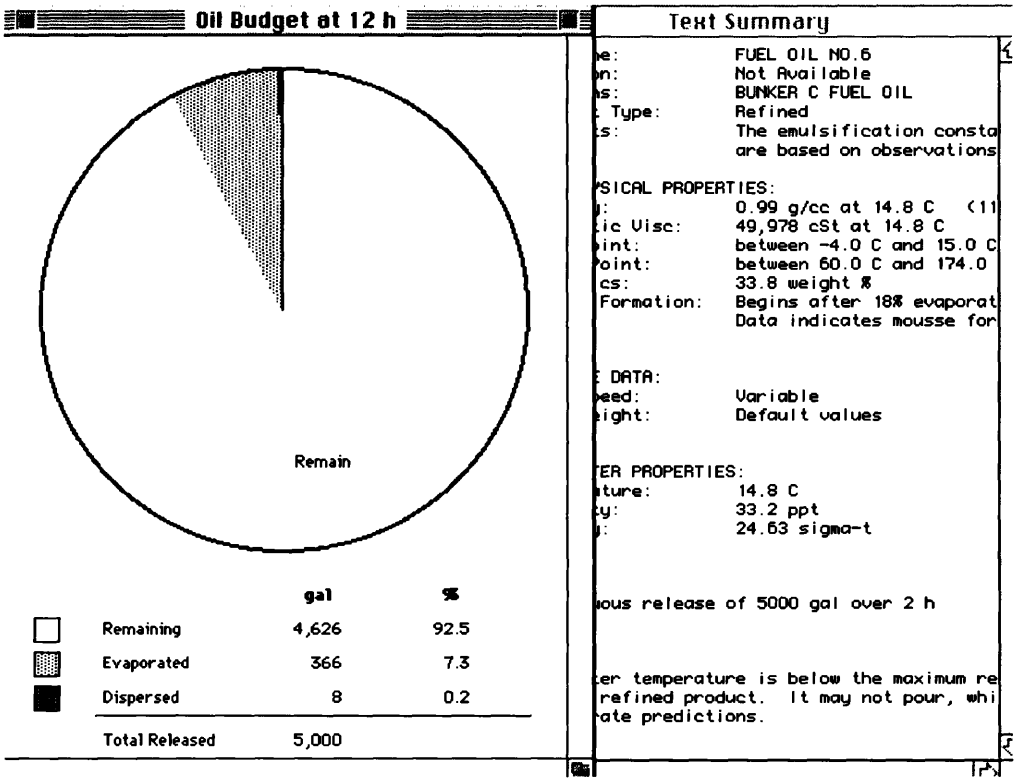
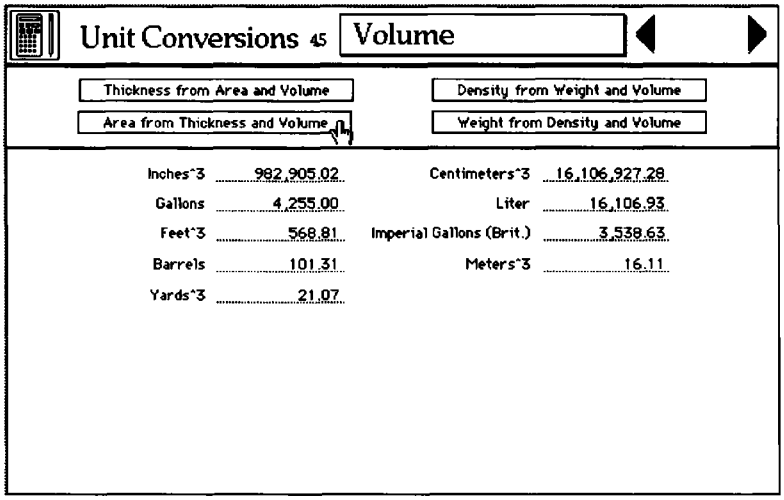
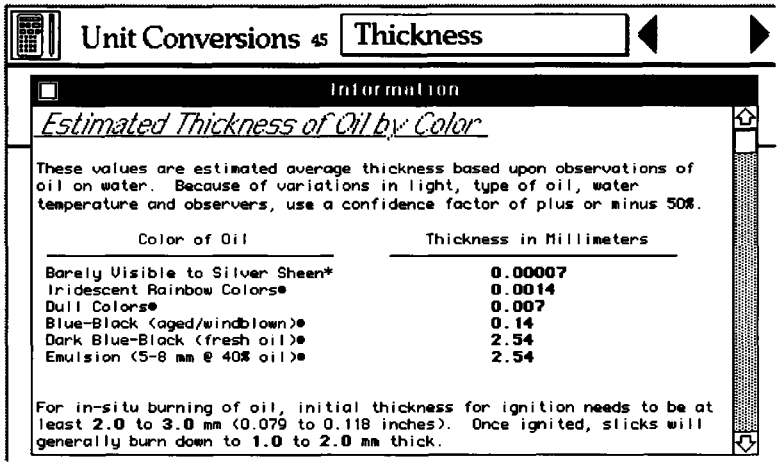


Figure 176

5) Given the volume of surface oil calculated by ADIOS at 12 (4626 gal.) and 24 (4255 gal.) hours, you can now open the Unit Conversions stack and, with the volumes and an estimated slick thickness for fresh oil (2.54 ram), determine the area of coverage at 12 (6894 m2) and 24 (6341 m2) hours.


Unit Conversions 45
Volume
Thickness from Area and Volume
Density from Weight and Volume
Area from Thickness and Volume
Weight from Density and Volume
Inches^3 982,905.02
Gallons 4,255.00
Feet^3 568.81
Barrels 101.31
Yards^3 21.07
Centimeters^3 16,106,927.28
Liter 16,106.93
Imperial Gallons (Brit.) 3,538.63
Meters^3 16.11


Unit Conversions 45
Thickness
Information
Estimated Thickness of Oil by Color
These values are estimated average thickness based upon observations of oil on water. Because of variations in light, type of oil, water temperature and observers, use a confidence factor of plus or minus 50%.
Color of Oil
Thickness in Millimeters
Barely Visible to Silver Sheen* 0.00007
Iridescent Rainbow Colors* 0.0014
Dull Colors* 0.007
Blue-Black (aged/windblown)* 0.14
Dark Blue-Black (fresh oil)* 2.54
Emulsion (5-8 mm @ 40% oil)* 2.54
For in-situ burning of oil, initial thickness for ignition needs to be at least 2.0 to 3.0 mm (0.079 to 0.118 inches). Once ignited, slicks will generally burn down to 1.0 to 2.0 mm thick.

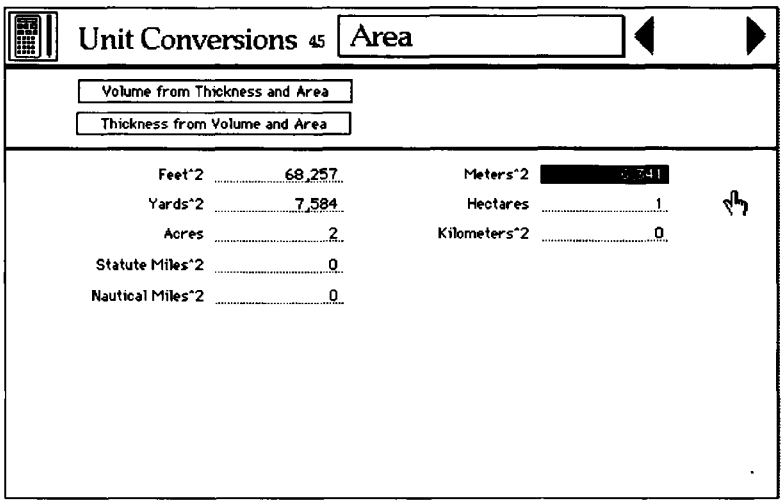
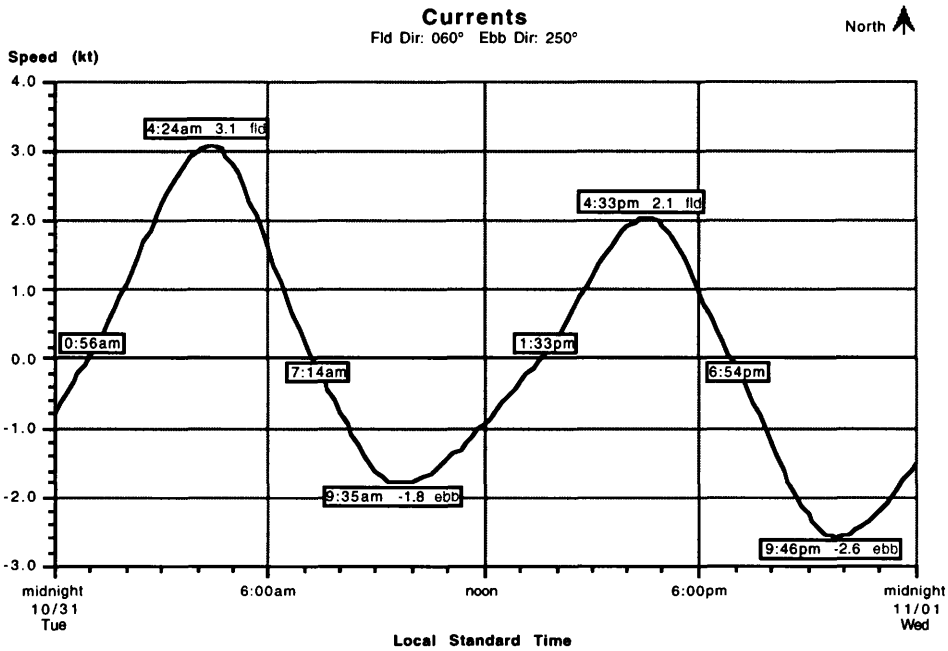

Unit Conversions 45
Area
Volume from Thickness and Area
Thickness from Volume and Area
Feet^2 68,257
Yards^2 7,584
Acres 2
Statute Miles^2 0
Nautical Miles^2 0
Meters^2
Hectares 1
Kilometers^2 0

Figure 177

6) Once you have obtained the areas of coverage (for 12 and 24 hours), you can now open Shio and obtain tidal current vectors and speeds for the area for the same timeframes.



Golden Gate Bridge 0.46 nmi. east of

Text Summary

Latitude: 37°49.20'
Longitude: 122°28.37'

Maximum Flood Direction: 060°
Maximum Ebb Direction: 250°

Time offsets	Hour:Min
Minimum Before Flood	-00:20
Flood	-00:01
Minimum Before Ebb	-00:28
Ebb	-00:36

Flood Speed Ratio: 0.9
Ebb Speed Ratio : 0.7

Based on San Francisco Bay Ent.

From Tue 10/31/1995 to Tue 10/31/1995 Local Standard Time

Warnings:
* Large current eddies which cause ships to sheer off course are reported near the foundation piers of Golden Gate Bridge and San Francisco-Oakland Bay Bridge.

Date	Time	Max Vel(kt)	Description
10/31/1995	00:56	0.0	Min Before Flood
Tue	04:24	+ 3.1	Max Flood
	07:14	0.0	Min Before Ebb
	09:35	- 1.8	Max Ebb
	13:33	0.0	Min Before Flood
	16:33	+ 2.1	Max Flood
	18:54	0.0	Min Before Ebb
	21:46	- 2.6	Max Ebb

Figure 178

7) With the area of coverages and tidal information, you can now switch to MARPLOT and, using the circle tool, draw an object with approximately the same areas as those you've calculated and plot them along the path that you've estimated from the weather and Shio data.

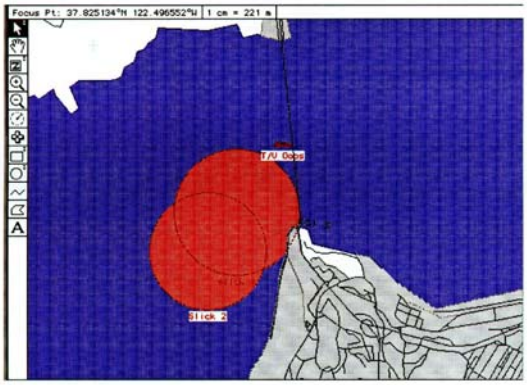


Figure 179

8) Once the calculated oil slicks have been plotted, you can select and identify all the sensitive areas inside the slicks (if any) in MARPLOT then display the associated SPEARS stack data.

9) The most important aspect of using this method to estimate the slick size is to verify and correct the estimates with the real-world facts. When using any model, you should always groundtruth the results with real-world observations. Despite what the models may say, if the slick is behaving differently based upon eyewitness accounts, believe the observers.

USER NOTES ON:

CREATING A NEW INTERSECTION IN MARPLOT

The TIGER maps that are provided for use with the MARPLOT application are a snapshot of the surface features for counties within the US from the early 1990's. Additionally, specific features are subject to the variability of detail provided by each county to the Bureau of Census for inclusion on these maps. As such, there may be a need to modify or add new streets, roadways, highways, waterways, etc. over time. The purpose of this paper is to describe how to create a new street in MARPLOT 3.0 and intersect it properly with an existing street. The same technique could be used for creating a new waterbody tributary or railroad spur.

1) Open MARPLOT and identify the location where the street is to be added. This can be done either by searching for a street name or moving around the map until the location is found. In this example, we are going to add a street, April Drive and have it intersect Clearview Avenue.

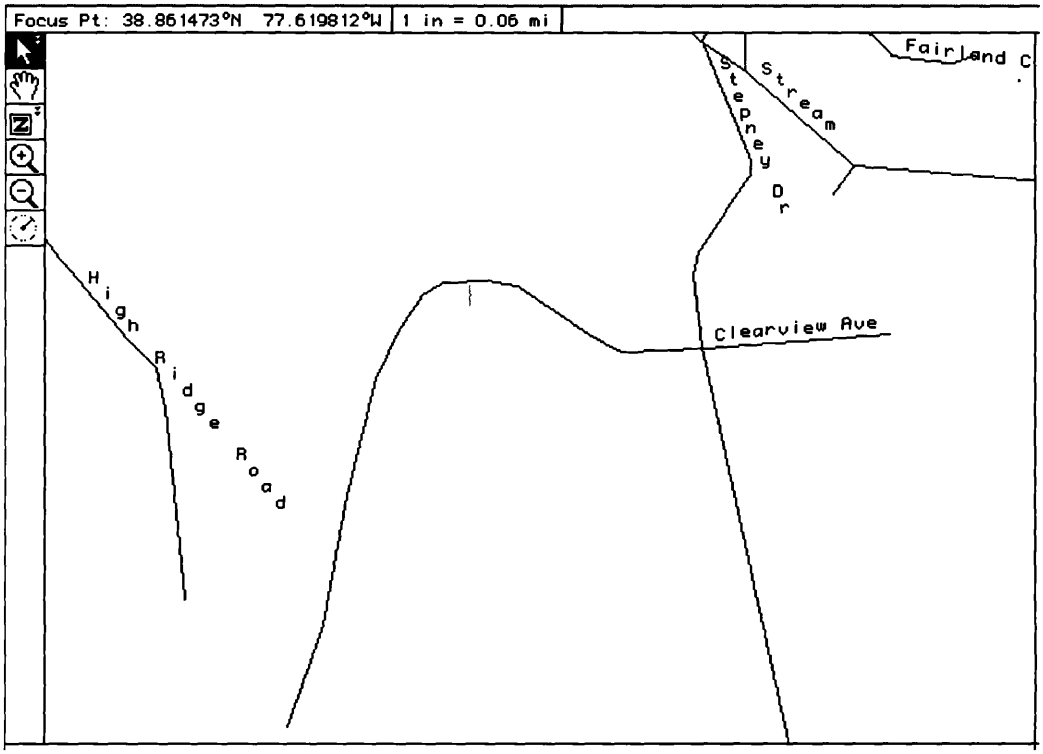


Figure 180

2) Unlock the Roads layer (either major or regular as required) so the editing tools appear on the left side of the screen. You should get in the habit of only unlocking the layer you are working on so you don't accidently change other features inadvertantly. Also note that unlocking the roads layer allows you to easily modify other streets, perhaps accidentally. Be careful!

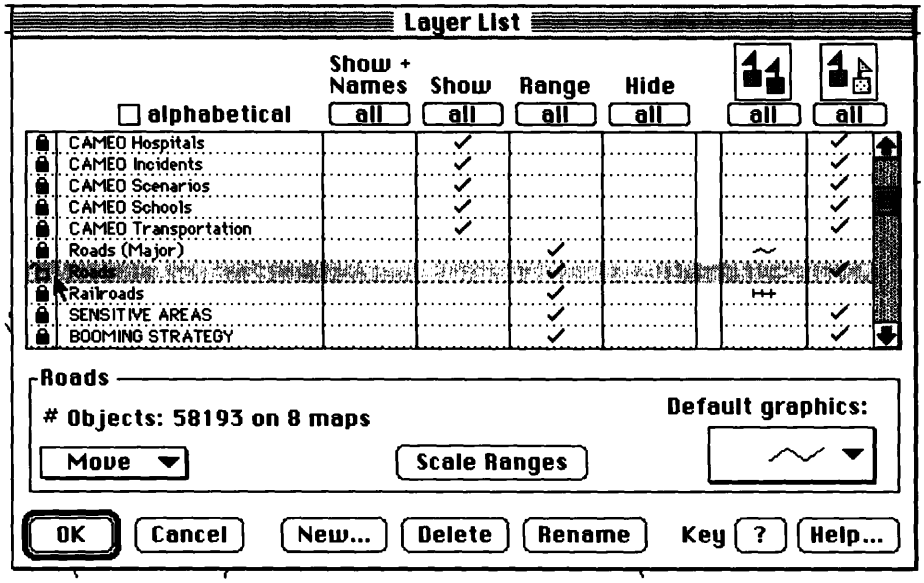
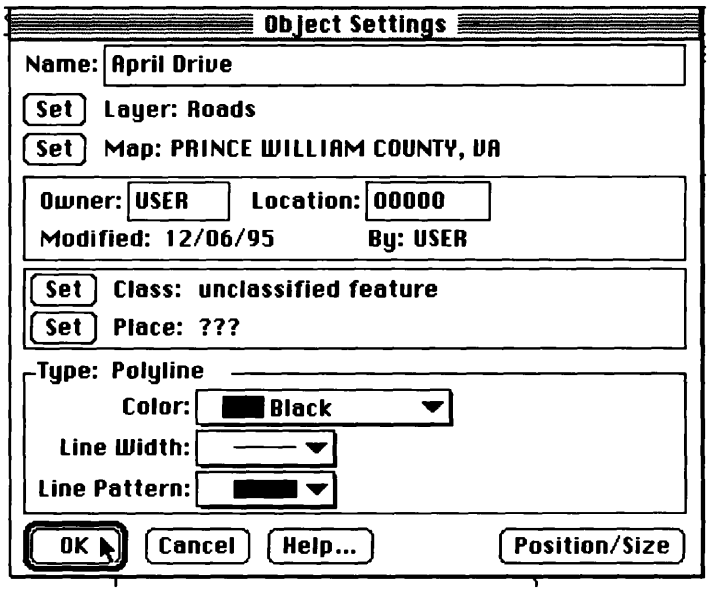


Figure 181

3) Add the necessary polyline to represent the new street by selecting the polyline tool and clicking on the map where the street should be. Double-click when you are done drawing the polyline. You will then be asked for the object name and given the opportunity to change the other object attributes. You can add other pertinent information for this new street, such as address ranges and zip code, in the the segment settings dialog box later. Note which map folder the object was added to. This will make searches within Prince William County include the new road. If this was added to the User's Map, then that map would have to be included in any street searches to guarantee that this added street would be included in the search.


Object Settings
Name: April Drive
Set Layer: Roads
Set Map: PRINCE WILLIAM COUNTY, VA
Owner: USER Location: 00000
Modified: 12/06/95 By: USER
Set Class: unclassified feature
Set Place: ???
Type: Polyline
Color: Black
Line Width:
Line Pattern:
OK
Cancel
Help...
Position/Size

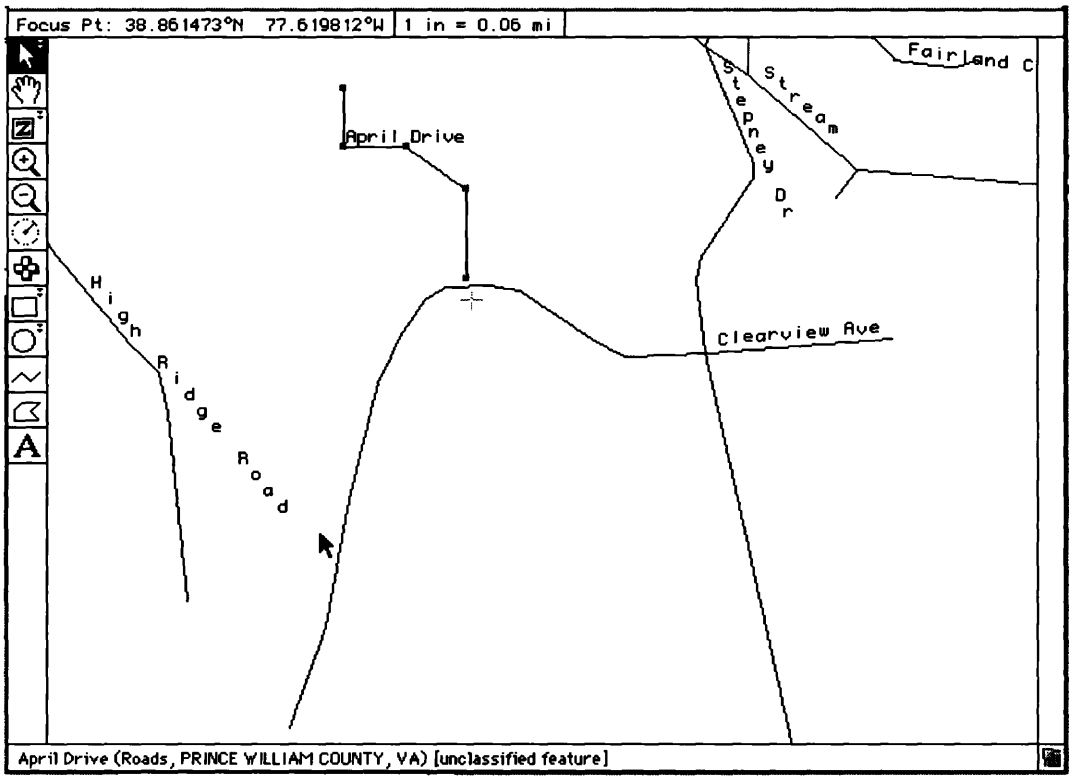

Focus Pt: 38.861473°N 77.619812°W
1 in = 0.06 mi
April Drive
High Ridge Road
Stepney Dr
Stream
Fairland C
Clearview Ave
April Drive (Roads, PRINCE WILLIAM COUNTY, VA) [unclassified feature]

Figure 182

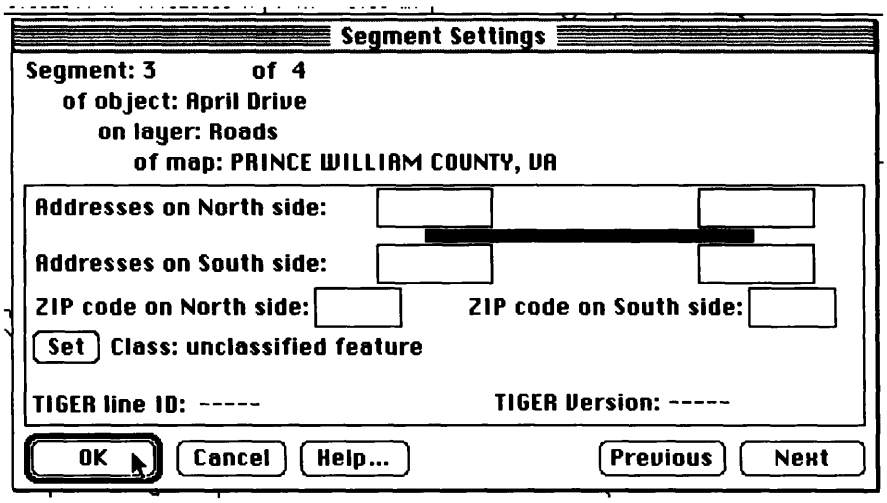


Figure 183

4) Next, you need to identify the point where the new street intersects the street already on the TIGER map. Once you have identified this intersection, click once on the existing street (the street you want to intersect the new street with, in this case, Clearview Avenue). This will display the verticies along the polyline (shown as boxes in the figure below).

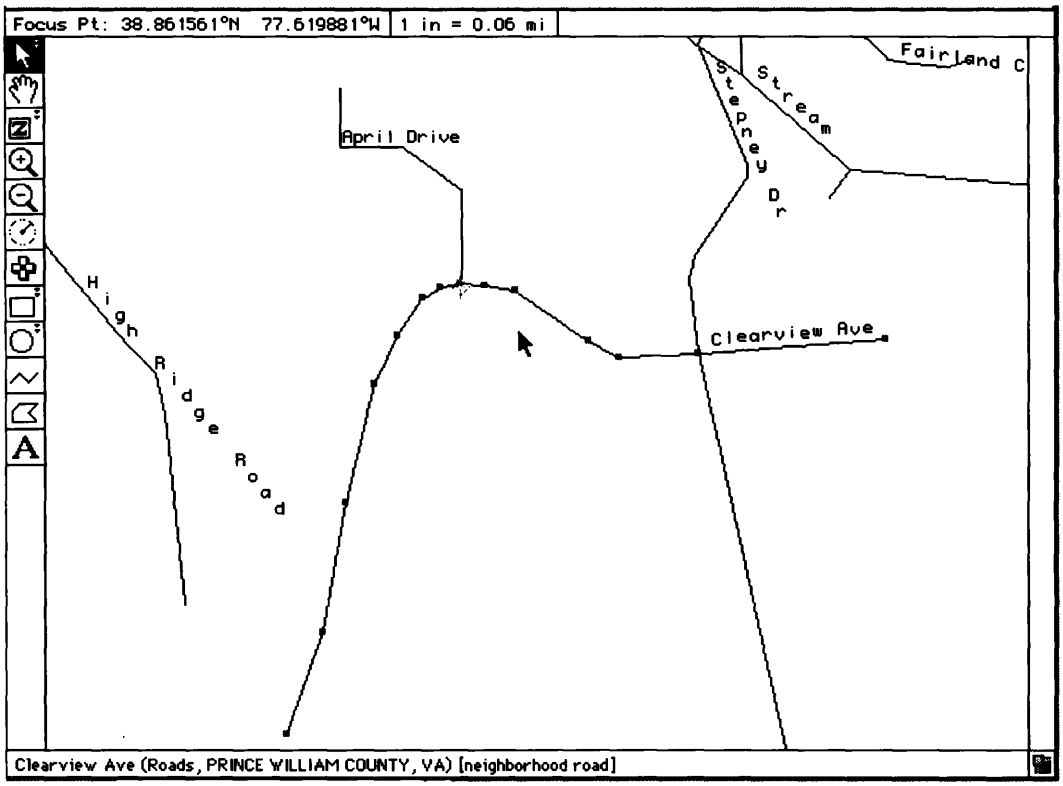


Figure 184

5) Now select the vertex closest to the point of intersection and move it to the intersection point if necessary or add a vertex using the Insert Vertex at Focus Point command. In this case, we are going to have to add a vertex. We do this by simply clicking once where we want to add the new vertex and then select the Insert Vertex at Focus Point command.

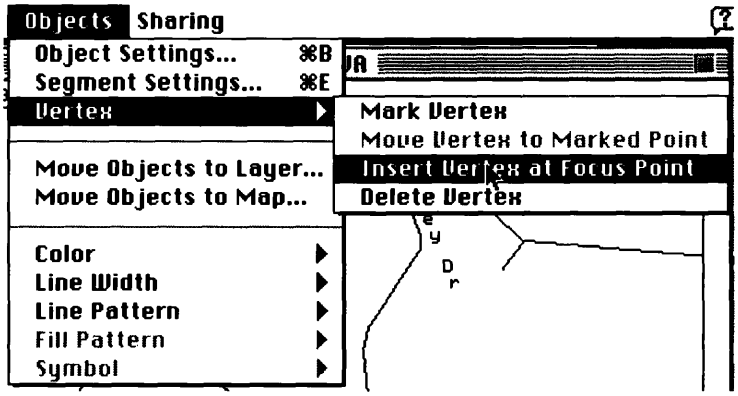


Figure 185

6) Next, click once on the vertex you just added and select the Mark Vertex command to identify this point as being the one you want to work with. You will know the vertex has been marked by the new crosshair with ball appearing over the point along with the notation at the bottom of the screen as to the lat/long of the marked point.

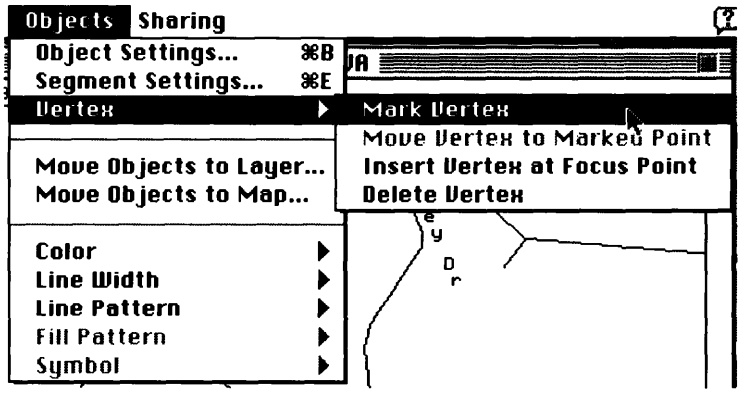


Figure 186

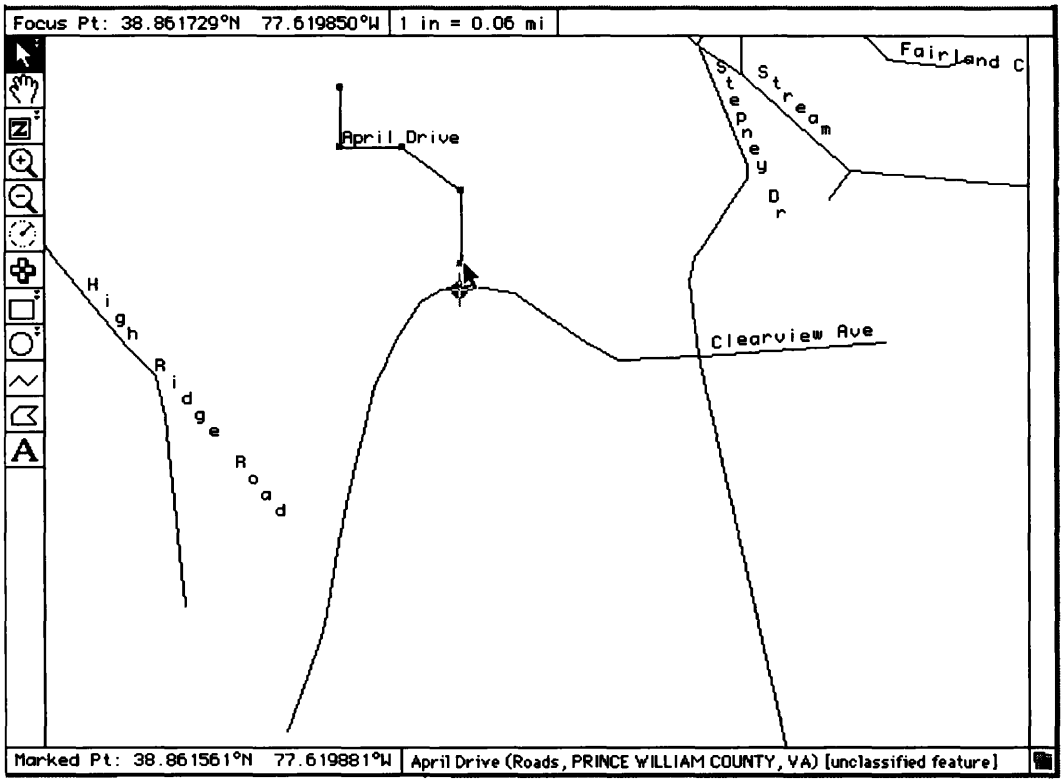


Figure 187

7) Click once on the point of the street you just added (April Drive) that you want to intersect Clearview Avenue and select the Move Vertex to Marked Point command. This is required so MARPLOT knows that these objects are supposed to intersect and recognize this intersection for searches. Simply crossing polylines do not make an intersection.

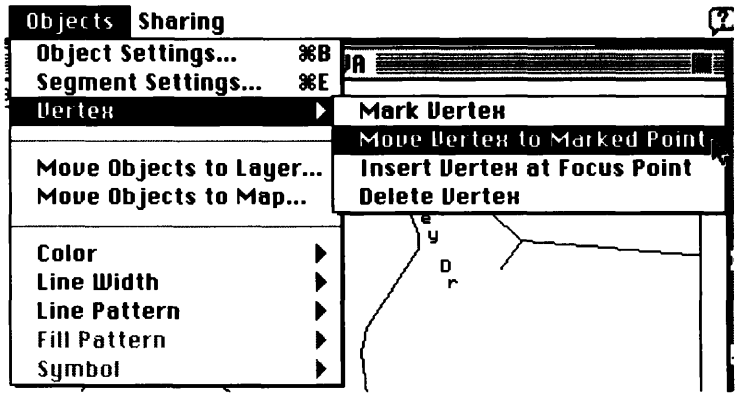


Figure 188

8) To verify that the intersection has indeed been established, perform a search on the existing street (Clearview Avenue), select intersections and look for the name of the new street (April Drive).

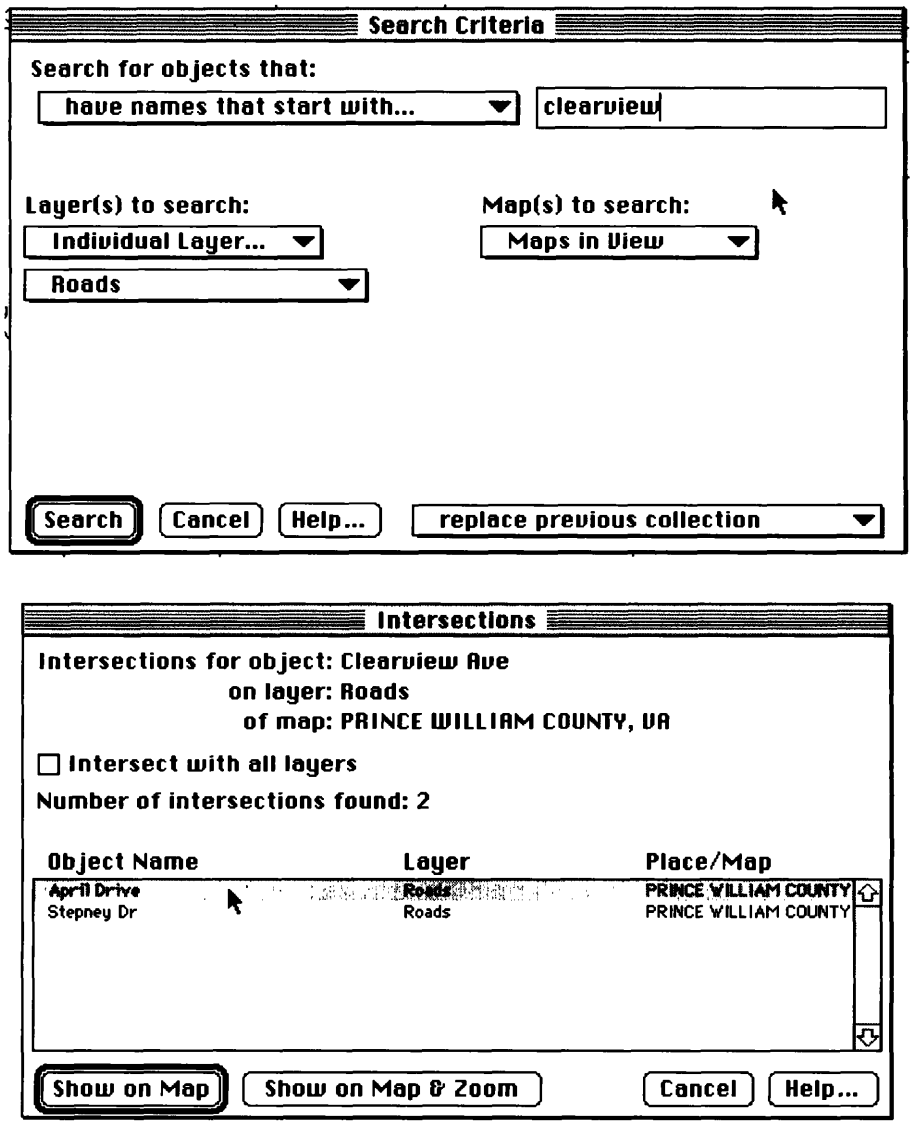


Figure 189

9) When you are done, note in a logbook what street has been added, in what county, when and any other pertinent data. This is critical because if the TIGER maps are replaced, the new street may not be on that one either and may have to be added again.

USER NOTES ON:

DOWNLOADING MSIS DATA

One of the key aspects of SPEARS is the importation and integration of MSIS data. This paper will detail the procedure for accessing the USCG mainframe in Washington, DC which stores the translated MSIS data and downloading it into the unit SPEARS computer.
This example uses MSO Boston. It is also assumed that the telecommunciations software, Microphone LT, has been properly installed and configured.

1) Verify that the proper telecommunications protocols are as follows:

Data bits: 8, Stop Bit: 1 (or auto), Parity: None
Baud rate: 14.4 kps or lower, Flow Control: XOn-XOff
File Transfer protocol: Zmodem or Kermit
File Transfer type: ASCII
Terminal emulation: VT100 or VT102

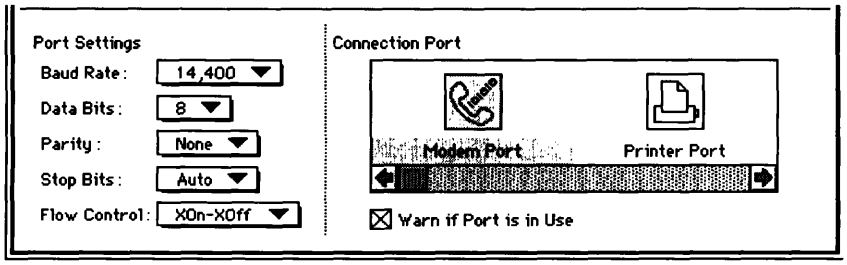
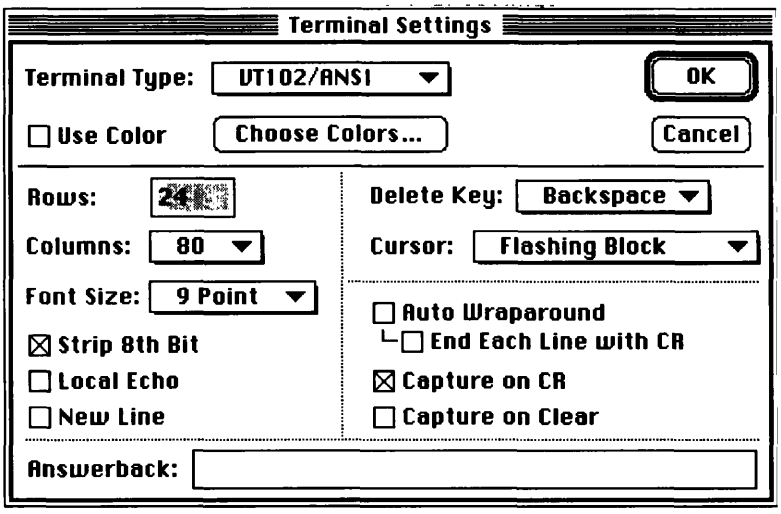


Figure 190



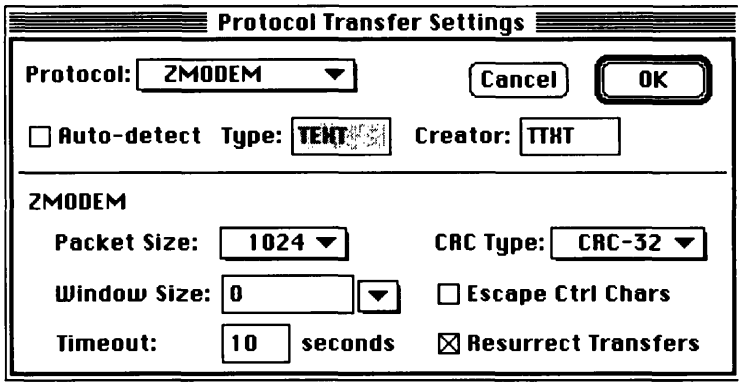


Figure 191

2) Verify that you have the correct telephone number to connect to the Marine Safety Field Access system (MSFA) in Washington, DC at USCG Headquarters. The correct number is: 202-267-4333.

If you do not have a service with this number, create one. Be sure to include the proper prefix to access a long-distance line. In most federal offices, this means dialing "8-1" prior to the number.

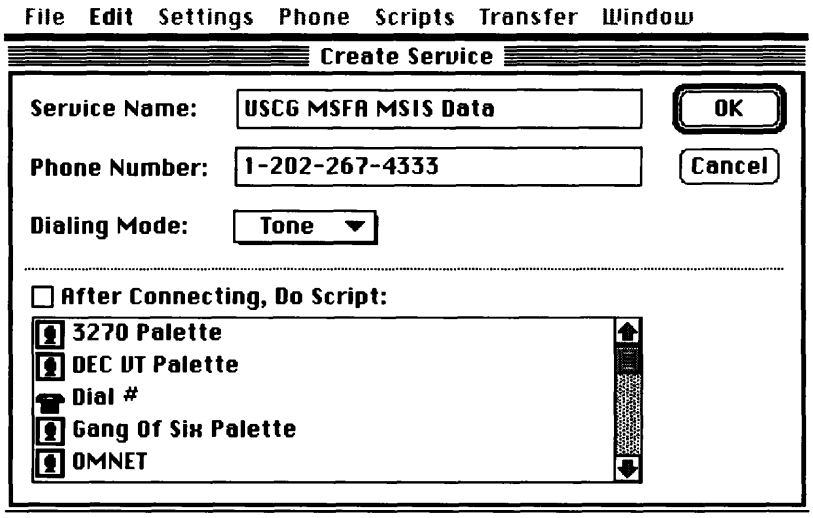


Figure 192

3) Select the USCG MSFA MSIS Data service. This will automatically dial the MSFA system in Washington.

4) Once a connection has been established, press the enter or return key once. The MSFA system will respond with the login prompt.

5) In lowercase, type the letters, msfa followed by a return. You will then get a prompt for the password

```
ATE1QV1&C1&D0M1&Q5%C1S46=138S0=0
OK
ATDT1-202-267-4333
CARRIER 14400

PROTOCOL: LAP-M

COMPRESSION: V.42BIS

CONNECT 14400



CHASE IOLAN  Terminal Server  v2.2.04  - TCP
GMnet comm server, USCG HQ, G-MIM

Please type HELP at command prompt if you need assistance.


UNIX(r) System V Release 4.0 (mp690.comdt.uscg.mil)

login: msfa
11:43:02 AM
```

Figure 193

6) Next, you will get a prompt for the password. Type, in lowercase, the lettters, msfa followed by a return. This will log you onto the MSFA system.

7) You now will be prompted by the system for your unit identification. Type in you 5 letter MSIS unit designation code (i.e., BOSMS) followed by a return. Note that even if you enter your identification code in lowercase, MSFA will automatically convert it to uppercase.

```
U.S.Coast Guard MSFA System
Exit MSFA!
01/03/96                                                    Ver. 1.0

The Marine Safety Field Access (MSFA) System enables you to download Marine
Safety related information prepared from MSIS databases and other sources
at Headquarters. To download data sets to a desktop computer, your
communications software must support Kermit or ZModem file transfer
protocols (ftps). Please consult the MSFA User's Guide for more detailed
information concerning system access requirements and procedures.

                Message from System Administrator:
******                Test Message                    ******
Please Disregard.

                MSO Unit Code: BOSMS
                     Password:

Press Ctrl-R then press the letter E to exit MSFA.
11:44:10 AM
```

Figure 194

8) You now will be prompted by the system for your unit password. Type in you 5 letter MSIS unit designation code plus the letters, pw (i.e., BOSMSPW) followed by a return.

If you incorrectly enter your identification code or password, you will be given the opportunity to correct your entry or try again.

9) Once you have entered MSFA and it recognizes which unit you are, you will be presented with the main menu. There are four options on the main menu:

   1) Download data sets;

   2) Change password;

   3) Send message to System Administrator; or

   4) Exit the system

To download the MSIS data for SPEARS, press **1** followed by a return.

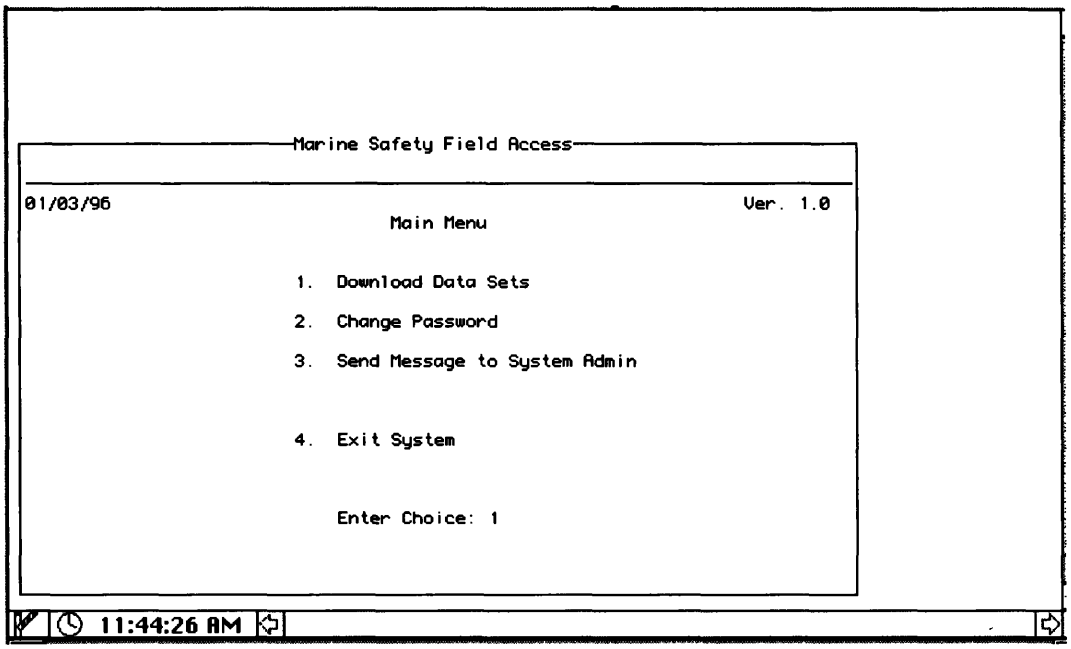


Figure 195

10) You will be presented with a directory listing of files which you may download. Select the ones you wish to download by typing an **X** followed by a return next to the filename. If you want to skip a file (don't download it), simply press the return key.

Do not use the mouse, arrow or tab keys to try to move between filenames.

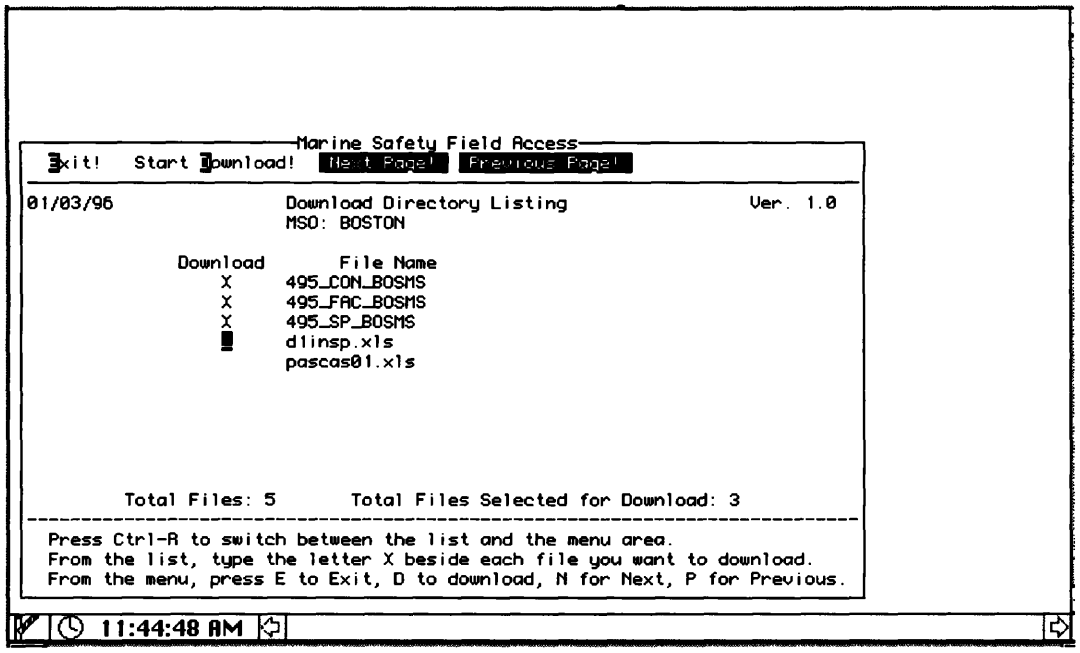


Figure 196

11) After you have selected the file(s) you want to download, press **Control-R** to switch to the MSFA on-screen menubar.

12) Next, press the **D** key specifying you want to select the download command in the MSFA on-screen menubar.

13) The next screen is the download menu. There are 3 options on the download menu:

    1) Zmodem;

    2) Kermit; or

    3) Return to Main Menu

For downloading the MSIS data, use the Zmodem option only. Press **1** followed by a return.

```
Marine Safety Field Access

01/03/96                                                    Ver. 1.0
                          Download Menu

                     1.   ZModem
                     2.   Kermit

                     3.   Return to Main Menu

                          Enter Choice: 1

After choosing either ZModem or Kermit, you will be prompted to start the
file transfer software on your computer once for each file selected.

11:45:05 AM
```

Figure 197

14) The next screen you will see is the file download screen. The name of the file which the MSFA system will download will be shown. If it is the correct file, press the return key. This will initiate the download protocols on the MSFA system which will now await an "electronic handshake" from your computer before it begins sending data.

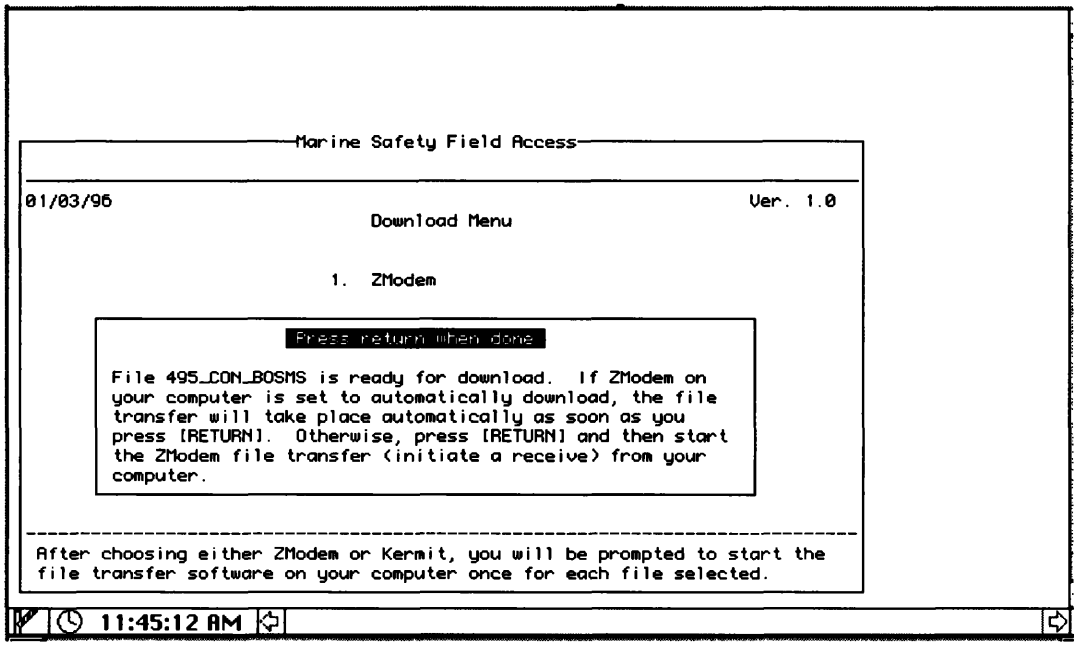


Figure 198

15) To send the "electronic handshake" and start the transfer of data, select the

"Receive" command from your telecommunications software menu and then select where to save the file on your hard disk.

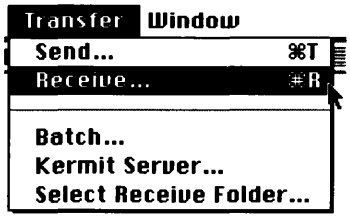


Figure 199

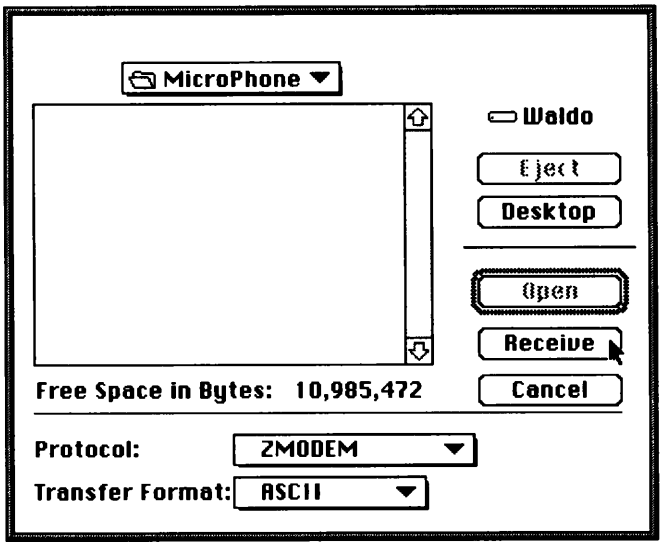


Figure 200

Once you have done this, you will be shown a dialog box informing you the download is proceeding. This box will also tell you the file name, how fast it is transferring data and how long it will take.

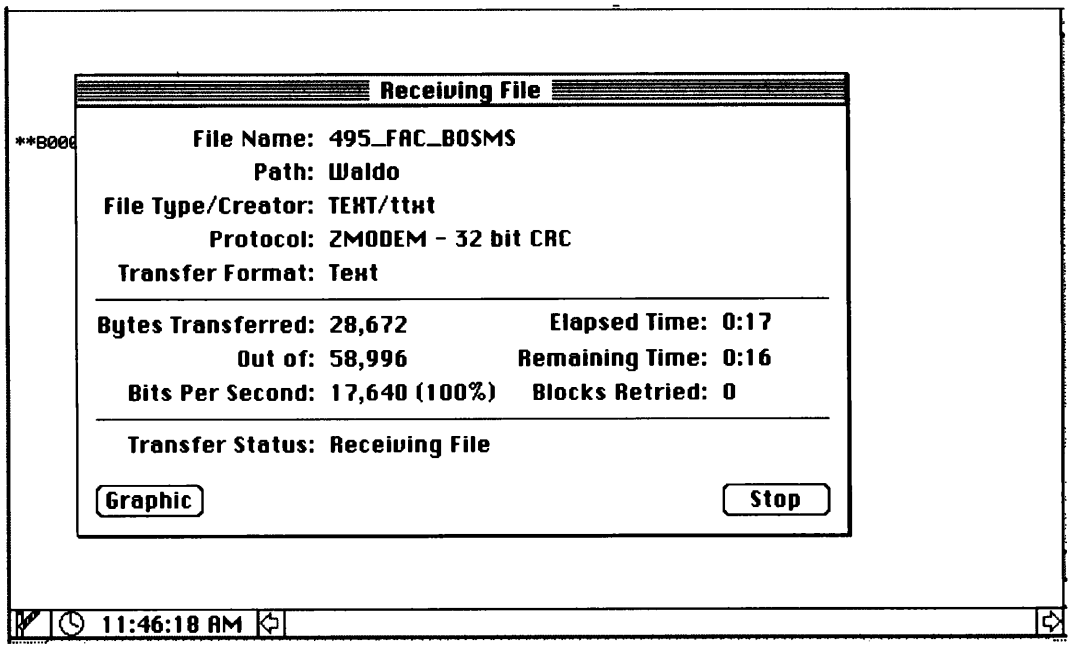


Figure 201

16) If you are downloading more than one file, you will see the download screen before it transfers each subsequent file. Press return to continue with the downloading. You will need to choose the receive command on your computer each time as well.