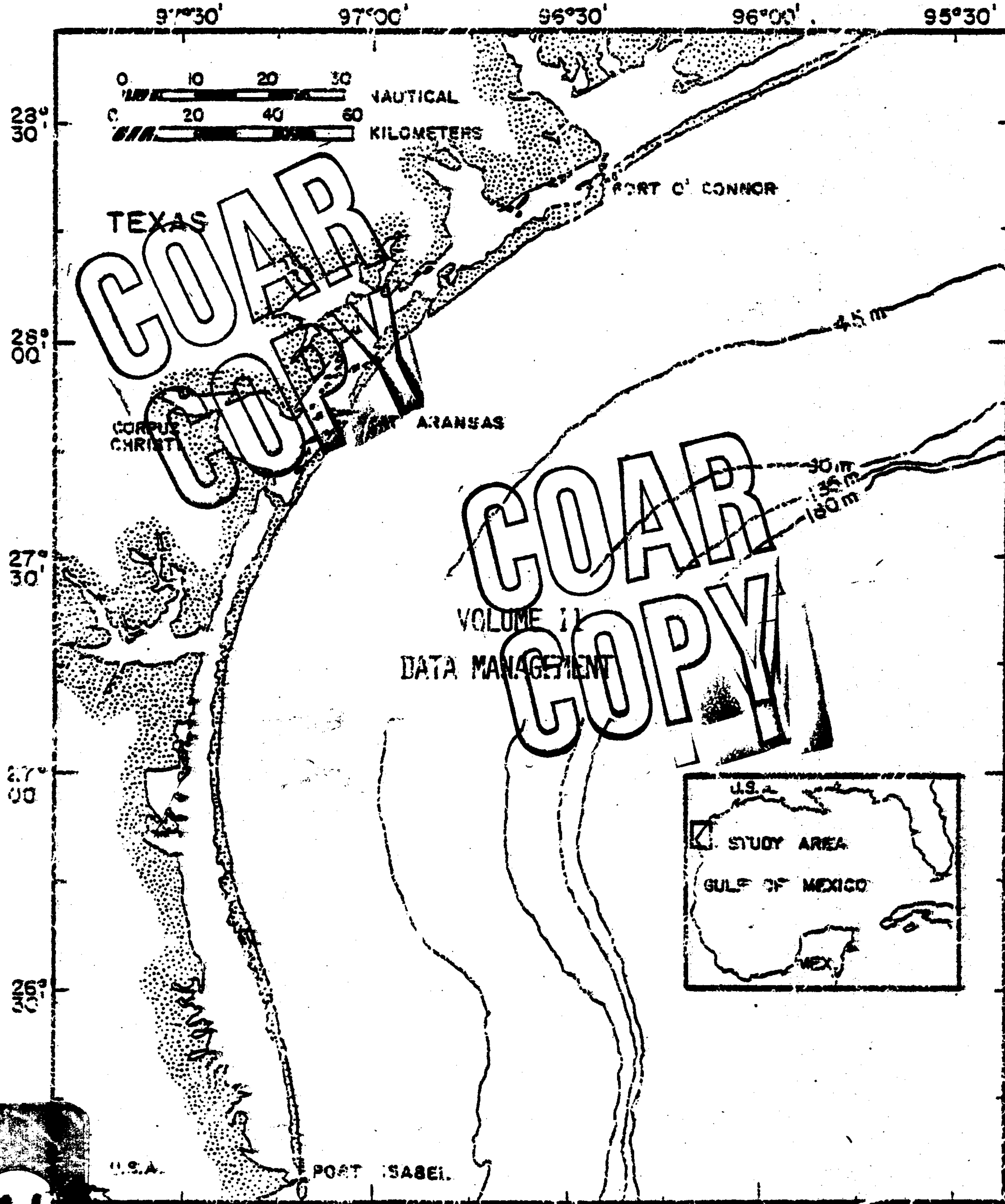
ENVIRONMENTAL STUDIES, SOUTH TEXAS OUTER CONTINENTAL SHELF, 1975-1977



VOLUME II

DATA MANAGEMENT

ENVIRONMENTAL STUDIES,

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1975-1977

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DATA MANAGEMENT

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PREFACE

The following pages present, in extensive detail, the functions of data management that were performed during the south Texas outer continental shelf environmental studies program funded by the Bureau of Land Management, an agency of the Department of the Interior. The general attitude of persons not acquainted with the specific functions and philosophies of data management is that data management is simply the capture of data, maintenance of this data on files,and the presentation of the final data to users. As we hope will be apparent from the contents of this document, data processing is not quite as simple as what was presented above. The lack of simplicity relates to the vast number of variations, considerations, and peculiarities of applications of data that can occur in any multidisciplinary program such as the one described here.

The presentation of data completes the cycle of data management which includes the capture and verification of data, maintenance of data, and finally presentation to the user. The last phase is the one for which the entire scheme of data management is developed; to allow the users to evaluate and interpret the results of their data collection. For this presentation of data to be useful, however, a great deal of forethought is required of the managers. Forethought and extensive planning are the keys to successful data management. Hindsight, on the other hand, is great but from experience we can state that it will never provide success when one is charged with managing as large a multidisciplinary data base as was developed during the south Texas study.

This development is our impression of how a data management structure should be developed and the functions that should be served by this structure. The following pages are a compilation of activities conducted during the south Texas program as well as activities and functions of data management that should have been conducted, based on hindsight, but were not because of lack of adequate planning. In essence, we have prepared the text to serve as a manual detailing how data should be managed in an environmental studies program. Most of the material is presented in general enough terms so that the philosophies presented here can be applied to numerous situations. We hope that this document can serve as a guide to future program development in respect to multidisciplinary environmental studies.

Acknowledgement is given to all the scientists and computer personnel that aided in the program development and function of data management, upon which this document is based. Special thanks are given to N. Rabalais, D. Kalke, G. Merkord, T. Burton, D. Burton, J. Holt, and S. Holt for their valuable assistance and patience during data synthesis and integration. We would like to also acknowledge Nick Fowler, the original data manager of the south Texas program, for his initial planning and development which served as the basis of the data management structure detailed in the following pages. We further thank the Bureau of Land Management for the funding they provided to conduct the activities of data management required to make the south Texas study a success.

CHAPTER ONE

INTRODUCTION

Purpose and Function

The success of a large multidisciplinary, multi-institutional research program such as that conducted on the south Texas outer continental shelf (STOCS) depends upon a firm basis of organization and management. At the center of this basis is the Program Management Staff which provides the means of coordinating the various activities of the scientists, to ensure that the data generated by the numerous study elements are generally compatible and able to be integrated into a final product, meeting the goals of the program. The general functions of a program management staff include program-wide activities coordination, logistics support, financial monitoring and data management. In terms of the research aspects of a multidisciplinary program, the two most important activities from above are logistics support, for field activities and data collection, and data management for inventory control, data archiving, synthesis and integration.

In order for a multidisciplinary research program to accomplish the general goals of systems analysis and data integration, it is a necessity for the program manager and data manager to work very closely as a team. This team concept serves as the unifying factor in the administration of a program and allows for full coordination of the primary task of the program, data collection. This coordination begins with the logistics planning and ends with the final reporting of data in a form suitable to meet the program goals. Although redundant, the concept of a team effort between the program manager and the data manager, emphasizing continual communication, will be reiterated throughout the text. The contents of this document focus on the activities of data management that were conducted during the STOCS environmental study program. Much of the structure and function described here, however, did not exist from the onset of this program, but rather was instituted as the program continued to develop. We were not fortunate in having a document such as this to use as a guide in devising a strong data management scheme. Therefore, the descriptions in the following chapters are based upon the initial data management design of the STOCS program plus structure, function, and design that were either instituted as the program continued or we feel should have been instituted based upon our experiences in managing the STOCS research program. It is hoped that this presentation will serve as a guide for future programs similar to the STOCS study that are faced with the task of developing and managing an extensive base of scientific data.

Data management is a support function for administrative and scientific program management, and provides functional outputs to users at all stages of the program. Management of data acquired in a multidisciplinary research program consists of establishing and monitoring schedules for the collection, processing, validation, dissemination, and archiving of data for a given study area and relating that study area to other scientific areas within the program. The definition of specific data management functions may be summarized as follows:

1) Establishment of criteria for data information products required by the various users;
2) Design and implementation of standardized methods and handling, recording, and reporting of both field and laboratory data;
3) The design of data file organization for timely and cost effective access and archiving;

4) The processing, quality control and analysis of data for the scientists and other potential users.

Data management provides both short-term and long-term support to program administration. Short-term management includes day-to-day monitoring of program activities to provide the program manager with the status of sample inventories, shipboard activities, and laboratory analyses to ensure proper data collection, validation and processing. The longer-term activities of data management are designed for data analysis, report writing, data integration and provision of a feedback mechanism to allow for adjustments in the scientific design of the field studies. By the various activities outlined above, in addition to data processing and analytical services, data management serves to systematize, unitize and centralize research activities with respect to data utilization and evaluation.

Personnel Structure

The personnel structure for the proper management of a multidisciplinary program is highly variable and solely dependent upon the needs of the program participants and the sophistication desired in terms of data synthesis and integration. This is one area of a program, however, that should not be sacrificed for something else. The smooth operation and timely reporting of information is totally dictated by the sufficient staffing of a data management component in any multidisciplinary research effort.

Figure 1 illustrates a typical personnel structure for data management. It includes a program manager that is conversant in all scientific disciplines required in the performance of the research as well as familiarity with standard synthesis, correlation and interpretation procedures associated

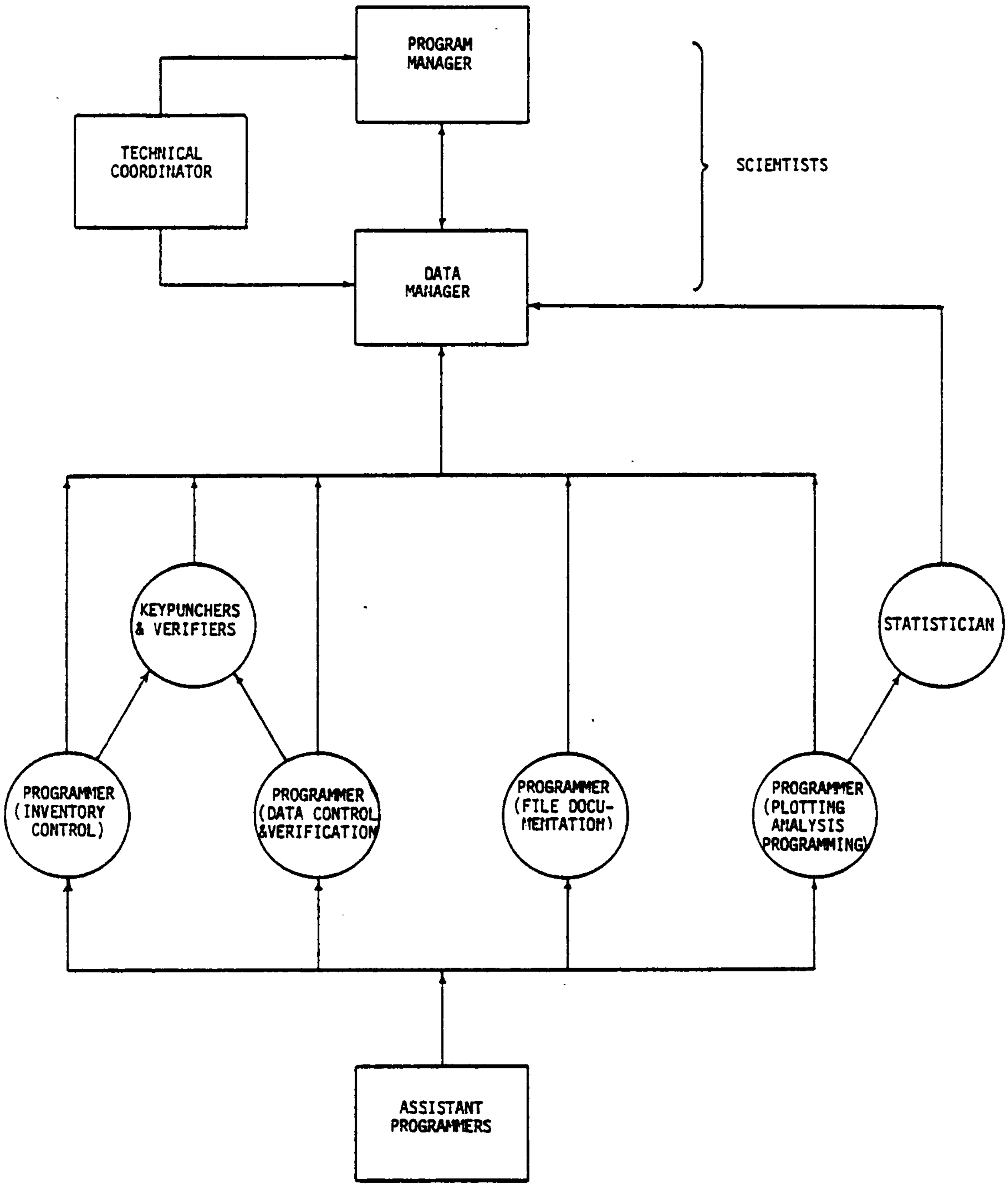


Figure 1. Data management personnel structure.

with muldisciplinary work. Also included in the management structure and working directly with the program manager is the data manager and his staff. The data manager establishes synthesis activities including development of a data base. He also consults with the scientists at the onset of the research program concerning experimental design, analysis, and interpretation as well as format for reporting data.

The technical coordinator (Figure 1) is the cog of the program in terms of data collection and field activities. He manages ship logistics and schedules, develops the sample inventories from cruise itineraries and is responsible for quality control and sample delivery to the scientists. He works under the direct supervision of both the program manager and data manager in the initial planning component of the program, data collection. He also initiates the development of a data base by providing the sample inventory information to the data staff for keypunching (Figure 1).

Included in the data management staff are personnel to conduct the exercises of inventory control, data control and verification, file documentation, and support activities such as plotting and general program writing (Figure 1). The aspects of plotting and program writing would be utilized by the statistician to develop his analysis strategies for data synthesis and integration. He would be responsible for reporting the data, in usable forms, to the scientists via the data manager and program manager (Figure 1).

As stated previously, the design structure of data management is very flexible and dependent upon the program requirements. For the last year of the STOCS program we developed a special data management structure design more suitable for the sole task of synthesis and integration (Figure 2). This design was developed for two reasons: 1) inadequate emphasis had been placed on data management in previous years and the data base

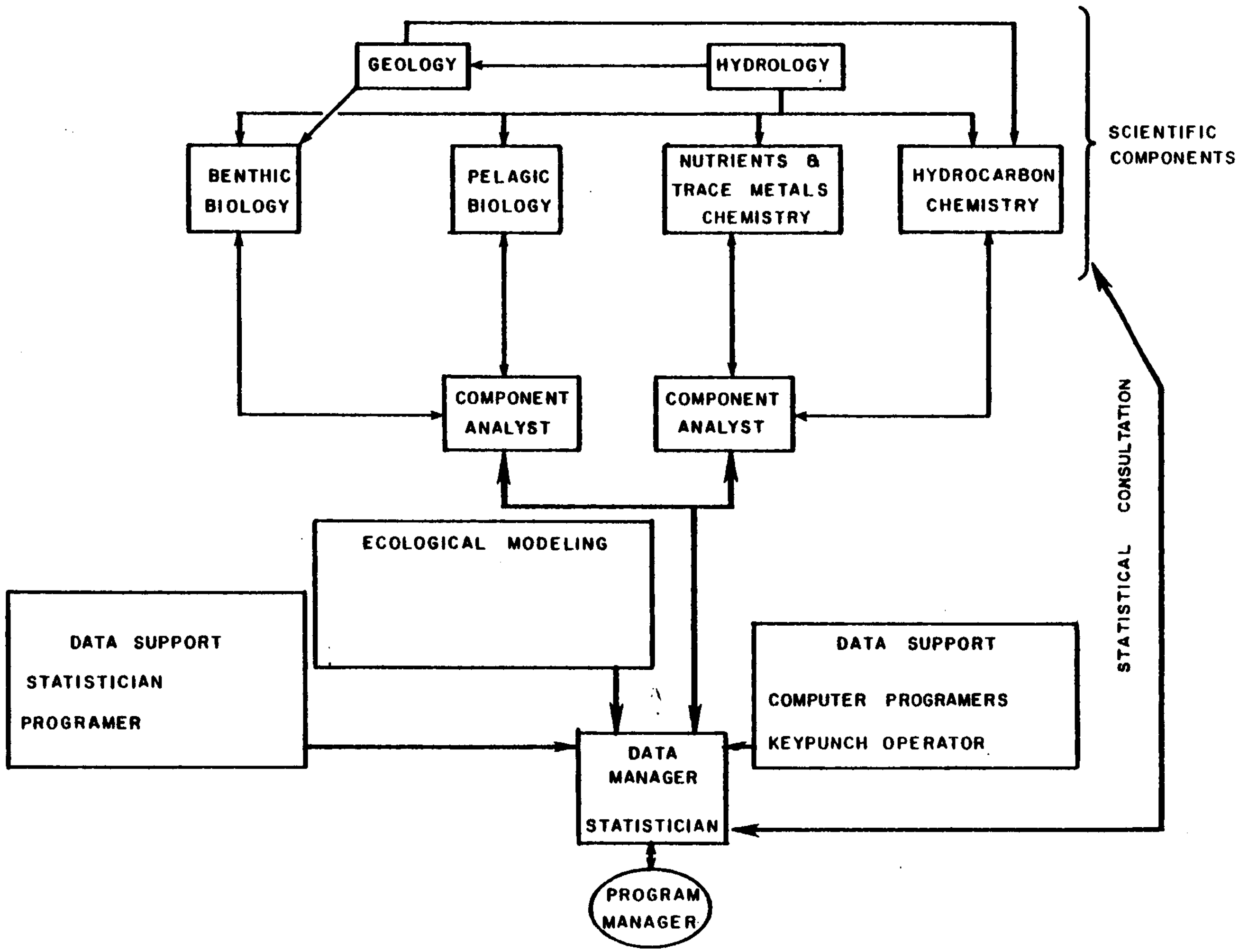


Figure 2. STOCS data management structure for the synthesis and integration effort.

required extensive work in order for it to be used efficiently; and 2) the number of scientists involved and their geographical distance from one another and the data management facility required intermediate coordination for the successful flow of information during data integration.

The only real difference between Figure 2 and Figure 1 deals with the component analysts in Figure 2. These persons were research associates that were familiar with data management functions and also conversant in the disciplines that they were communicating with (*e.g.* hydrocarbon chemistry). This intermediate component of the data management structure (Figure 2) produced a more efficient flow of information to the scientists and also aided the program manager in receiving a more timely interpretation of the data synthesis from the scientists for use in integration.

No matter what type of personnel structure is designed for data management, whether it be the one detailed here or another, the success of a multidisciplinary research program charged with the goals of data synthesis and integration will depend upon the forethought invested in this design. The mark of a good management structure is one capable of providing strong leadership, sound coordination, and appropriate logistics support. Without these factors, true integration is impossible.

Facilities Structure

The University of Texas computing facilities consist of Control Data Corporation (CDC) 6400/6600 computers on the Austin campus. These computers contain a maximum use storage capacity of approximately 600,000 words and disk system storage of approximately 6 hundred million characters. This facility is accessed by the Port Aransas Marine Laboratory, where the data management activities took place, through a series of phone lines. One phone line serves the remote job entry facility directly, controlling a Digital Equipment Company (DEC) PDP 11/34 Processor, a Decwriter teleprinter console, a DEC CR11 card reader and a DEC LP05 line printer.

A second phone line to the remote job entry facility supports time sharing use of the computer to a maximum of five multiplexed communication channels. This multiplexer has the capability of handling up to five data terminals (Cathode Ray Terminals-CRT) simultaneously.

Data is able to be entered through CRT's besides through batch processing via the card reader. These provide quick and efficient means of editing large files of data.

Access to the data base was permitted only to those individuals with both the proper account number and an appropriate password. In addition, the original data was maintained on magnetic tape. Data listing, synthesis and analysis were performed on data transferred from these magnetic tapes to temporary disc files.

Another important feature of the computing capabilities of the University of Texas is the access to a wide variety of proprietary software packages. With the availability of these packages, it was not necessary for the data management group to spend as much of their programming time developing all the software required for data file maintenance and data analysis. These software packages included, but were not restricted to, Statistical Packages for Social Sciences (SPSS), Biomedical Computer Program (BMD) and International Mathematical and Statistical Libraries (IMSL). Of the three packages, SPSS was the most widely used because; 1) it offered the most flexibility in terms of statistical analyses as compared to BMD; and 2) it required minimal program skills, whereas BMD required more advanced understanding of the operation mechanics.

Overview

The design and functioning of a successful data management scheme is dependent upon several properties of the program. Many of these have been outlined above and it is apparent from the previous section that the available computer facilities directly affects the amount of sophistication able to be emphasized in the functions of data management. Beyond the physical presence of facilities, however, is the ability to integrate these into a system that is both cost effective and meets the specific needs of the program.

The manner is which information flows within an organization depends basically on two things: 1) management philosophy; and 2) the approach used to design information systems. Management philosophy concerns the degree of centralization or decentralization of management authority and responsibility in the organization. Our analysis will not relate specifically to this consideration, but only treat it in an ancillary fashion. As to the second consideration, *i.e.*, the approach to the design of the information system in the organization, there are basically two broad approaches. These are: 1) the hierarchical approach; and 2) the systems approach. The hierarchical approach is further subdivided into two types: 1) with centralized data processing; or 2) with decentralized data processing (Burch and Strater, 1974).

The structure of the hierarchical approach for using centralized data processing involves control of data processing operations by one separate facility. Centralization is desirable when top management wishes to exercise direct control over the activities. On the other hand, the structure of the hierarchical approach for using decentralized data processing requires that each area have control over its own data processing activities.

Regardless of the type of data processing method employed, the general flow of information in the organization is the same. The major difference is that centralized data processing is controlled by a central authority whereas decentralized data processing is controlled by the area it serves.

The basic objective of the systems approach to information systems design is to make available a broad base of information, flowing at a timely basis. The key person involved in applying the systems approach is the systems analyst, who maintains a total view of the organization.

There are two types of information systems which can be developed using the systems approach: 1) the integrated system; and 2) the distributed system. The integrated information systems approach purports to channel all the data of an organization into a common data base and service all data processing and information functions for the entire organization. A distributed system's basic aim is to establish relatively independent subareas which are, however, tied together in the organization via communication interfaces.

The basic characteristics of the integrated system are: 1) fast response to queries via remote on-line terminals; 2) on-line mass storage; 3) instantaneous and simultaneous updating of files; and 4) centralized batch data processing in addition to on-line processing (Burch and Strater, 1974). Even though remote terminals and on-line processing are listed as characteristics of an integrated system, it is possible to design a system without these characteristics. An integrated system could be based solely on batch processing. The major disadvantages of a system lacking remote on-line processing is the inability to easily edit and correct data files.

The key component of the integrated system is the common data base. Selection of the file media to be used in designing a common data base depends on the alternatives available and purpose of the different files. An illustration of the integrated system and its common data base used in the STOCS study are shown in Figure 3.

Where there is need for periodic batch processing, file media, such as magnetic tapes, are acceptable. If the need, on the other hand, is for on-line inquiry into the file, a direct access storage device (DASD) is required. Both of these media are illustrated in the common data base (Figure 3).

The common data base does not necessarily mean one file, but rather a number of interrelated files which hold data for different applications. In our case the data files were divided into study elements, with subdivisions for year, and special applications.

Probable advantages of the Integrated Information System are:

1) Reduction of redundancy and duplication of files;
2) Reduction of programming work and standardization;
3) More security, controls, and protection of the common data base against access by unauthorized users;
4) Reduction in the amount of clerical intervention in the input, processing, and output operations, thereby minimizing the probability of errors;
5) The instantaneous and simultaneous updating of files (those on DASD), thus providing current status information;
6) More than one user can concurrently retrieve, update, or delete data from the common data base.

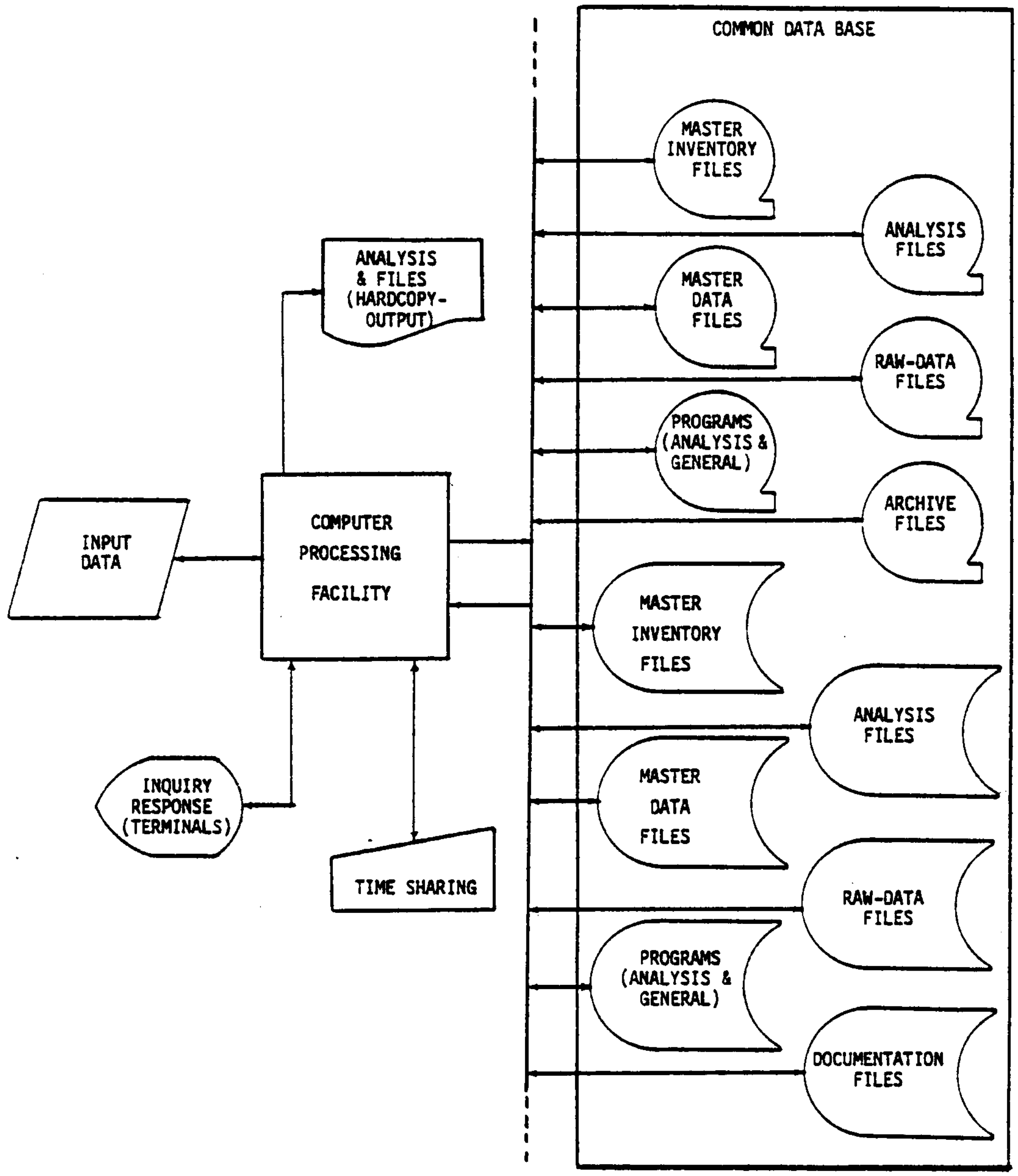


Figure 3. Representation of an integrated information system.

Probable disadvantages of the Integrated Information System are:

1) To attain maximum effectiveness, the information systems personnel, especially the systems analysts, must have the necessary level of authority and responsibility to execute their tasks properly. Otherwise, the system is doomed to failure.
2) Without cooperation from all levels of management, the system will not accomplish its goals.
3) The need for qualified personnel to design, implement, and maintain a highly integrated system using sophisticated equipment.
4) There is a possibility that an integrated system might not be responsive to users' needs.
5) Down-time in integrated systems can be catastrophic. For example, if the CPU goes down, the total system is completely degraded unless the information system has backup facilities. However, backup facilities are costly and, of course, redundant.

Conditions which may bring about disadvantages in the use of an integrated information system are: 1) the different areas of the data base may not be related, consequently an expert in each area is required; 2) if the different information systems used by a program are developed separately the resulting management information system will be uncoordinated; and 3) to centralize control over an entire organization may not be practical.

Within the integrated system outlined above the data manager and his staff must consider a number of different activities in order to develop the properties of a common data base that completely fulfills the needs of <u>all</u> users. Many of these functions are covered in the general flow diagram of Figure 4 which presents an overview of the data management activities conducted during the STOCS study program. These

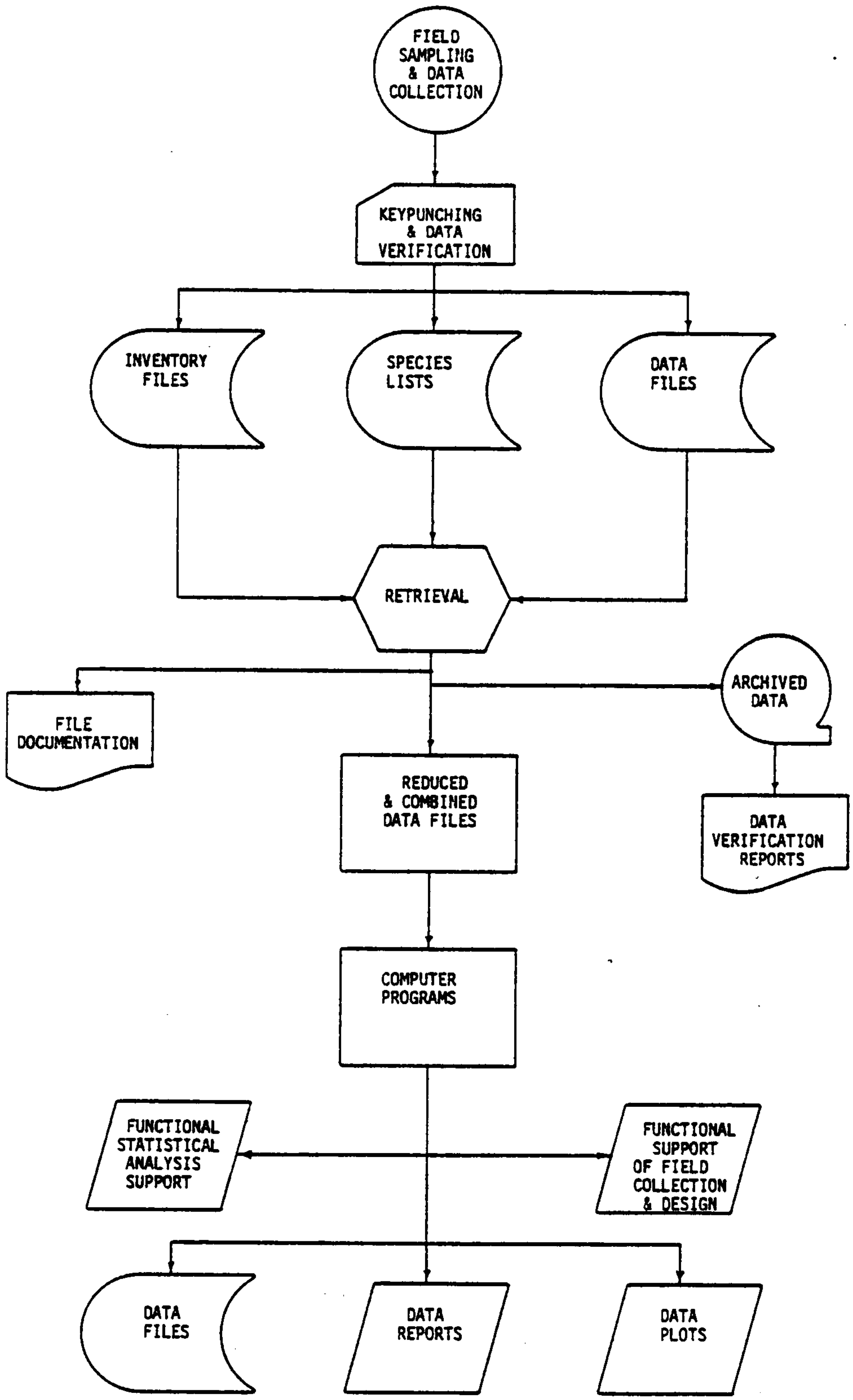
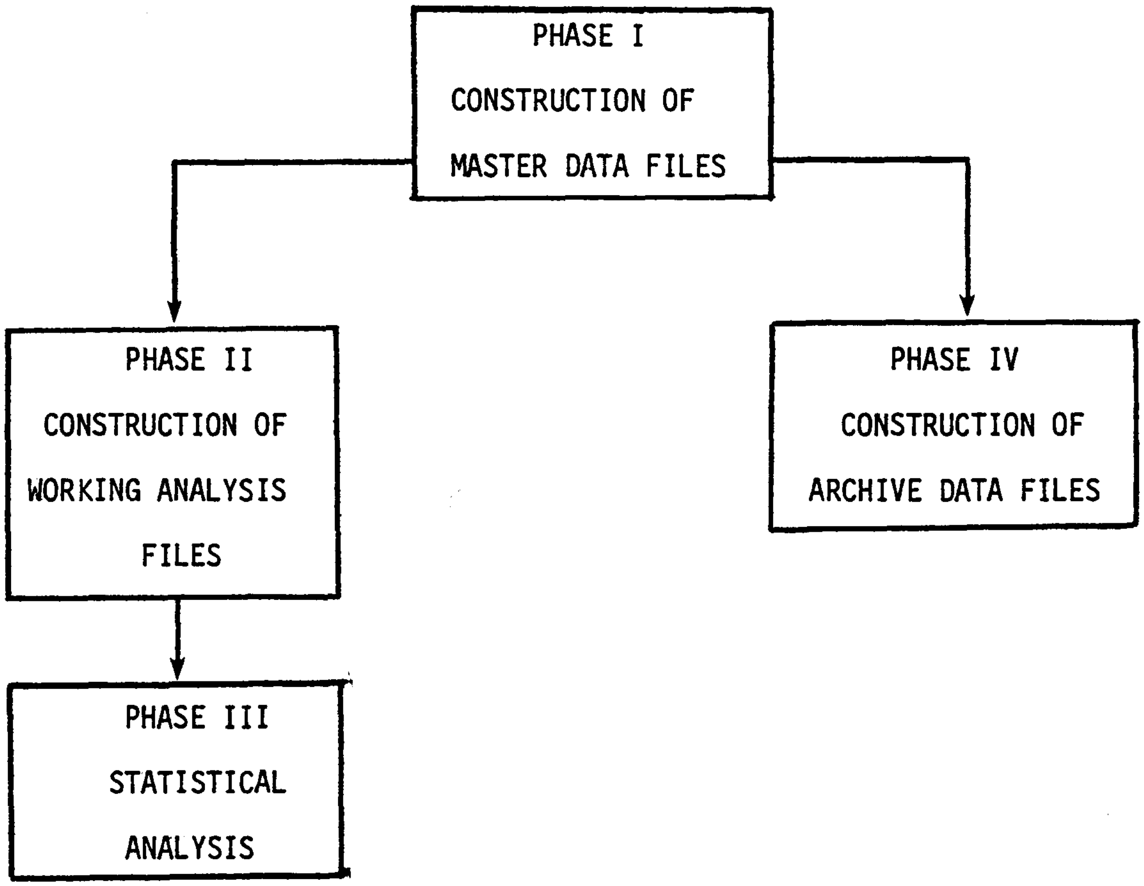


Figure 4. General scheme of data management activities.

activities are not unique to this program, however, and we believe that the flow diagram (Figure 4) is general enough to apply to a variety of different multidisciplinary research programs. In the following chapters an attempt will be made to cover in more detail many of the activities depicted in Figure 4.

In planning a data management scheme it is always useful to be able to judge what the breakdown would be in effort expended on different aspects of the program management. This information would help in identifying personnel needs and estimating the time to reach particular milestones in the program. As an example of the breakdown of effort in the STOCS program, Figure 5 presents the major aspects of data management presented in the following chapters and the amount of time that was proportioned to each phase.



PHASE	ROUGH ESTIMATE OF PERCENT OF TOTAL DATA MANAGEMENT EFFORT
I	70%
II	10%
III	15%
IV	5%

Figure 5. Time allocation to different data management tasks.

CHAPTER TWO

DATA FILE CONSTRUCTION

At the onset of the multidisciplinary program, data management activities encompass several major efforts including:

1) standardization of inventory records;
2) standardization of data reporting procedures and formats;
3) the development of a strategy for data file construction; and
4) data file management.

In terms of planning, this is probably the most important aspect of program development. Without adequate foresight and the investment of time in the procedures detailed below the development of a large data base to meet the needs of a variety of users is impossible.

Inventory and Control

The function of the inventory and control process was a) to coordinate the collection of data, b) to create data inventories for each sample, c) to provide a means for data tracking and validating, and d) to provide for the integrity and security of all data base entries. The activities of inventory and control also provided a means of monitoring the progress of the program by the program manager.

Inventory and control activities depended upon the cooperation and coordination of the data manager and technical coordinator. A detailed plan of each cruise itinerary was developed prior to the cruise. Shipboard personnel filled in sample inventory sheets and maintained logs. Sample recovery was measured against the sampling plan by use of these inventory sheets and logs.

The cruise itinerary developed served as a guide for the assignment of sample codes (discussed later), sampling locations, times of sampling, number of samples, and other needed information. The cruise itinerary was designed to allow sufficient time for preparation of equipment and any logistics involved in the shipboard sample collection process. Appropriate entries were made on the station log (Figures 6 and 7) to describe the samples and subsamples taken from them. In addition, as illustrated in Figures 6 and 7, the station log documented date and time on and off station and time of each sampling. Other remarks such as weather conditions were written at the bottom of the station log.

After a cruise the samples went to the lab for analyses, and the technical coordinator generated an accurate inventory record for each collected sample, based on the itinerary and the actual sample collection process. The inventory records generated by the technical coordinator were coded using the Master Inventory Format (Table 1) as a guide, then sent to the data manager for keypunching and verifying. Note that the codes included in this inventory format are included as part of Table 1.

After the inventory records were keypunched and verified, they were entered into the data base on temporary disk files for each study area. The inventory records were maintained on disk until a listing was sent to the scientists for verification of content or changes. The procedure followed in this process is illustrated in Figure 8. Any changes requested by the scientists were recorded on forms similar to Figure 9. The changes were made to the temporary disk file if needed, then the newly edited files were merged into a master inventory file for the appropriate year, as indicated by the flow diagram in Figure 10. Master inventory files were maintained both online and on backup magnetic tapes for 1975, 1976, and 1977 sampling years.

BENTHIC CRUISE

Station ____ CRUISE NO. ____ DEPTH ____ RECORDED BY ____

DATE ____ ARRIVEL (CST) ____ DEPARTURE (CST) ____

Time	Time	Time	Night Trawls
B ____ INF-MST ____	B ____ MEI-PA ssB ____	B ____ SED-tm HB-USGS ssB ____	Date ____ ARRIVAL ____ DEPARTURE ____
B ____ INF JSH-UT ssB ____	B ____ MEI-PB- ssB ____	B ____ SED HB-USGS ssB ____	B ____ EPI-tax ____
B ____ SED EWB-UT ssB ____	B ____ MEI-PC ssB ____	B ____ CHEM-trawl ____	B ____ EPI-fish DEW-UT ssB ____
B ____ INF-MST ____	B ____ MEI-PD ssB ____	B ____ EPI-hc CSG-TAMU ssB ____ ____	B ____ EPI-inv JSH-UT ssB ____
B ____ INF JSH-UT ssB ____	B ____ MEI-A ssB ____	B ____ EPI-hc CSG-TAMU ssB ____ ____	B ____ EPI-tax ____
B ____ SED ssB ____	B ____ ΔC^{13} PLP-UT ssB ____	B ____ EPI-hc CSG-TAMU ssB ____ ____	B ____ EPI-fish DEW-UT ssB ____
B ____ INF-MST ____	B ____ TOC PLP-UT ss ____	B ____ EPI-tm BJP-TAMU ssB ____ ____	B ____ EPI-inv JSH-UT ssB ____
B ____ INF JSH-UT ssB ____	B ____ SED RR-TAMU ssB ____	B ____ EPI-tm BJP-TAMU ssB ____ ____	B ____ EPI-tax ____
B ____ SED ssB ____	B ____ SED-hc PLP-UT	B ____ EPI-tm BJP-TAMU ssB ____ ____	B ____ EPI-fish DEW-UT ssB ____
B ____ INF-MST ____	B ____ SED HB-USGS ssB- ____	**Day Trawls**	B ____ EPI-inv JSH-UT ssB ____
B ____ INF JSH-UT ssB ____	B ____ SED-tm-grab ____	B ____ EPI-tax ____	
B ____ SED ssB ____	B ____ SED-tm HB-USGS ssB ____	B ____ EPI-fish DEW-UT ssB ____	
B ____ INF-MST ____	B ____ SED HB-USGS ssB ____	B ____ EPI-inv JSH-UT ssB ____	
B ____ INF JSH-UT ssB ____	B ____ SED-tm-grab ____	B ____ EPI-tax ____	
B ____ SED ssB ____	B ____ SED-tm HB-USGS ssB ____	B ____ EPI-fish DEW-UT ssB ____	
B ____ INF-MST ____	B ____ SED HB-USGS ssB ____	B ____ EPI-inv JSH-UT ssB ____	
B ____ INF JSH-UT ssB ____	B ____ SED-tm-grab ____	B ____ WAT JSH-UT bottom	
B ____ SED ssB ____	B ____ SED-tm HB-USGS ssB ____	Set and maneuver up to buoy ____ - ____	
B ____ MEI-MST ____	B ____ SED HB-USGS ssB ____		
B ____ MEI-FA WEP-TAMU ssB ____	B ____ SED-tm-grab ____		

Figure 6. Station log for benthic cruise.

WATER COLUMN CRUISE - ALL STATIONS

STATION__________ DATE____________ ARRIVAL (CST)__________ DEPARTURE(CST)____________

DEPTH____________ RECORDED BY__________________ CRUISE NO.__________________

_____STD _____
_____Transm _____
_____Photo. _____
_____DOX sfc. _____
_____DOX 1/2pz _____
_____DOX BOT
_____NUT sfc
_____NUT 1/2pz
_____NUT bot
_____LH sfc _____
_____LH 1/2 pz
_____LH bot
_____FPL sfc _____
_____FPL-A ss _____
_____FPL 1/2pz
_____FPL-A ss _____
_____CHL-p sfc
_____CHL-n sfc
_____CHL-p 1/2pz

_____CHL-n 1/2pz
_____CHL-p bot
_____CHL-n bot
_____C^{14}-nano
_____C^{14}-phyto
_____MPL_____ ½p.z. n.f.
_____MPL ½p.z. f.
_____MPL p.z. n.f.
_____MPL pz f.
_____MPL bot.n.f.
_____MPL bot.f.
_____PROT sfc.
_____PROT ½ p.z.
_____MPL_____ vert. tow 25 - sfc
_____MPL-A ss_____
_____MPL vert. tow 50 - 25
_____MPL-A ss _____
_____MPL vert. tow bot - 50
_____MPL-A ss_____

_____WAT-h_____ Part.
_____WAT-h_____ Diss.
_____FLU_____
_____ZPL_____ _____
_____ZPL-A ss_____
_____ZPL_____ _____
_____ZPL-A ss_____
_____ZPL_____ _____
_____ZPL-A ss_____
_____ZPL-CHEM Tow_____
_____ZPL-hc
_____ZPL-tm
_____Part. tm_____
_____Ichthyo_____ _____
_____Neu_____ Day
__________ __________
_____ZPL-CHEM-tax ss _____
_____LMWH-SED_____

1/2 p.z. = _____

Nansen Bottles to verify STD Profile_____

NIGHT NEUSTON:

_____NEU_____

Date:__________

Arrival:__________

Departure:__________

Figure 7. Station log for pelagic cruise.

TABLE 1

DESCRIPTION OF MASTER DATA FILE INVENTORY FORMAT
WITH ALL CODE DESCRIPTIONS

Columns	Field Type	Description
1	I1	Always 0 (zero)
2-3	I2	Study area (see study area key)
4-6	I3	Always 210 for master files
7	I1	Card type, always 1 for inventory
8	I1	Study subarea
9-10	2X	Blank
11-14	A4	Sample code
15-16	I2	Month
17-18	I2	Day
19-20	I2	Year
21-24	I4	Time of day (local central daylight time or central standard time)
25	1X	Blank
26	I1	Sample collection area 1 = Transect 1 2 = Transect 2 3 = Transect 3 4 = Transect 4 7 = Rig Monitoring Area 8 = Southern Bank 9 = Hospital Rock
27	1X	Blank
28	I1	Station
29	A1	D=Day; N=Night
30-32	A3	Type of sample (see key to codes)
33-36	A4	Sample disposition (see key to codes)
37-39	A3	Sample use (see key to codes)
40-42	A3	Principal investigator (see key codes)
43	I1	Replicate code 0 = not a replicate sample 1 = 1st replicate sample 2 = 2nd replicate sample etc.
44	I1	Filtered code 0 = not applicable 1 = sample is a filtered sample 2 = sample is not a filtered sample
45	I1	Relative Depth Code 0 = not coded 1 = surface 2 = 1/2 photic zone 3 = photic zone 4 = photic zone to bottom 5 = bottom 6 = not applicable 8 = actual depth in meters given in cols. 54-56 9 = vertical tow; all depths sampled

TABLE 1 CONT.'D

Columns	Field Type	Description
46	I1	Dissolved particle code
47	I1	Pooled Code 0 = not a pooled sample 1 = a pooled sample
48	I1	Live code
49	I1	Archive code 0 = not an archive sample 1 = an archive sample
50	I1	Quality control code 0 = not a quality control sample 1 = a quality control sample
51	I1	Contracted code Blank or 0 = BLM contracted sample 1 = not a BLM contracted sample
52-60	I2	Cruise number
54-56	I3	Sample depth in meters
57-60	A4	Parent sample code for subsamples Note: for a sample which is not a subsample this field will contain XXXX or be blank
61	1X	Blank
62-69	A8	Previous sample code--allows reference to 1975, 1976, 1977 final reports to BLM Note: most codes will be standard 4 character variety (in col.s 62-65);the additional cols. in this field are for pooled samples. E.G.= A) AAAA-C indicates a pooled sample made up of samples AAAA, AAAB, AAAC B) AAZY-BAA indicates a pooled sample made up of samples AAZY, AAZZ, ABAA

Key to Codes

Sample Type--Sample Usage	Disposition and Principal Investigator
BAG-BAC(sediment bacteriology)	TAMU-Texas A&M University
CHG-HC (sediment hydrocarbons)	
CHG-MST(chemistry grab)	LHP-Linda H. Pequegnat
CHG-TM (sediment trace metals)	CSG-C. S. Giam
CHG-TEX(sediment texture)	TSP-E. Taisoo Park
CHL- (total chlorophyll-1975)	BJP-B. J. Presley
CHT-HC (epifauna hydrocarbons)	WMS-William M. Sackett
CHT-MST(epifauna chemistry trawl)	WEP-Willis E. Pequegnat
CHT-TM (epifauna trace metals)	RR -Richard Rezak
EPI-FSH(epifauna demersal fish)	WEH-William E. Haensly
EPI-HC (epifauna hydrocarbons)	JN -Jerry Neff
EPI-HPT(epifauna histopathology)	JRS-John R. Schwarz
EPI-INV(epifauna invertebrates)	JHW-John H. Wormuth

TABLE 1 CONT.'D

Key to Codes cont.'d

Sample Type--Sample Usage

EPI-MST(epifauna master)
ICH- (ichthyoplankton)
INF-MST(infauna master)
INF-SED(infauna sediment)
INF-TAX(infauna taxonomy)
LGT-PZ (photometry)
LMW-HC (low-molecular-weight hydrocarbons)
MNK-TM (macronekton trace metals)
MMS-C13(total organic carbon and delta C13 in sediment)
MMS-MEI(meiofauna)
MMS-MST(meiofauna master grab)
MYG-MYC(sediment mycology)
NEU-TAX(neuston taxonomy)
SED- (sediment)
SED-HC (sediment hydrocarbons)
SED-MPL(sediment microzooplankton)
SED-TM (sediment trace metals)
SDG-DEP(sediment deposition)
STD-ST (salinity-temperature-depth)
TDC-ST (temperature-depth-conductivity)
TRM-TUR(transissometry-turbidity)
VT -MPL(microzooplankton-vertical tow)
WAT- (water column)
WAT-ATP(adenosine-tri-phosphate)
WAT-BAC(water column bacteriology)
WAT-C13(Delta C13)
WAT-CLN(chlorophyll-nannoplankton-76-77)
WAT-CLP(chlorophyll-phytoplankton-76-77)
WAT-DO (dissolved oxygen)
WAT-FLU(fluorescence)
WAT-HC (water hydrocarbons)
WAT-LH (low-molecular-weight hydrocarbons)
WAT-MPL(microzooplankton)
WAT-MYC(water column mycology)
WAT-NUT(nutrients)
WAT-N14(carbon14 nannoplankton)
WAT-PHY(phytoplankton)
WAT-PRO(protozoa)
WAT-P14(carbon14 phytoplankton)
WAT-SSM(water-suspended sediment)
WAT-TOC(total organic carbon)
ZCT-TM (zooplankton trace metals)
ZPL-HC (zooplankton hydrocarbons)
ZPL-TAX(zooplankton taxonomy)
ZPL-TM (zooplankton trace metals)

Disposition and Principal Investigator

UT-Port Aransas Marine Lab

PLP-Patrick L. Parker
NPS-Ned P. Smith
CVB-Chase van Baalen
JSH-J. Selmon Holland
DEW-Donald E. Wohlschlag
DK -Daniel Kamykowski
PJ -Patricia Johansen

UT-Geophysical Laboratory-Galveston

EWB-E. W. Behrens

UTSA-Univ. of Texas San Antonio

SAR-Sanuel A. Ramirez
OWV-O. W. Van Auken

UT-Austin

PJS-Paul J. Szaniszlo

USGS-Corpus Christi

HB -Henry Berryhill

RICE-Rice University
RU -Rice University

REC-Richard E. Casey

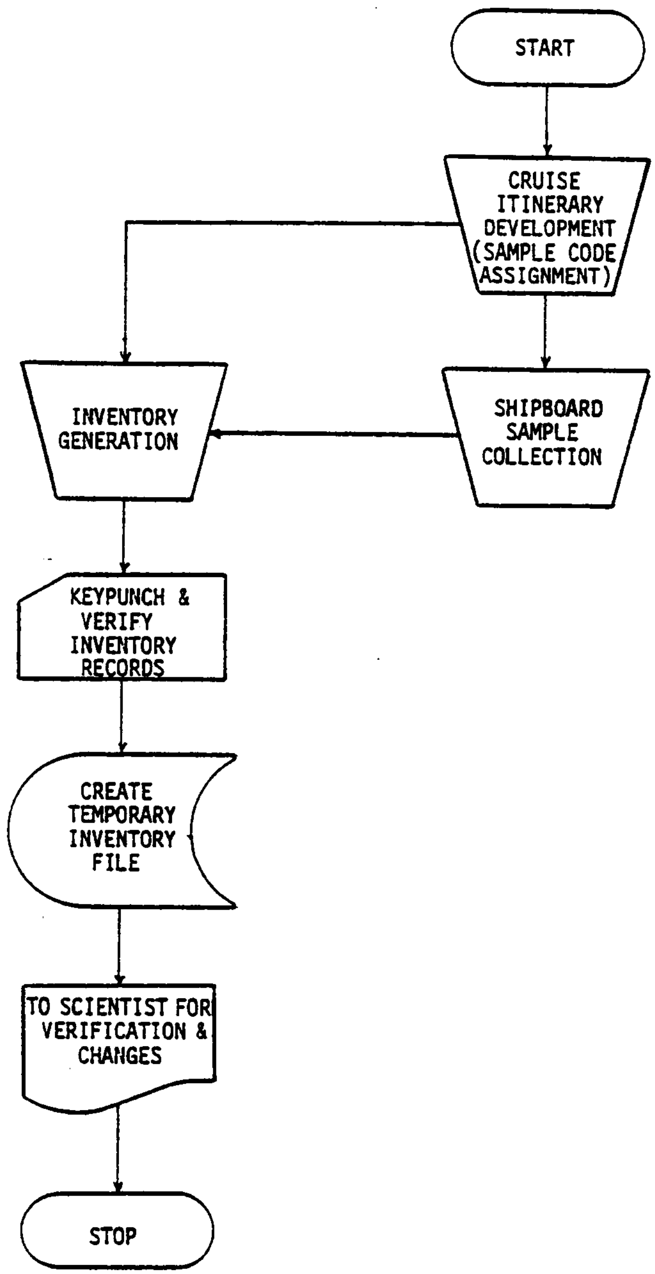


Figure 8. Scheme for generation of sample inventory information.

BLM-OCS-55-2-1

INVENTORY CHANGE FORM

	Change	Changed
Sample code is ________, should be ________	______	________
Trans is _____, should be ________	______	[________]
Station is _________, should be ________	______	[________]
Cruise is ________, should be ________	______	[________]
Type is __________, should be _________	______	________
Use is _______, should be __________	______	________
PI is _________, should be _________	______	________
Depth code is ________, should be ________	______	________
Subsamp. is _________, should be _________	______	________
is _________, should be _________	______	________
is _________, should be _________	______	________
is _________, should be _________	______	________
is _________, should be _________	______	________
is _________, should be _________	______	________

Changed:

On inventory master printout	_/_/_	________
On computer center data form copy	_/_/_	________
On permanent file data file ______,PF______	_/_/_	________

Figure 9. Format of the inventory change request form.

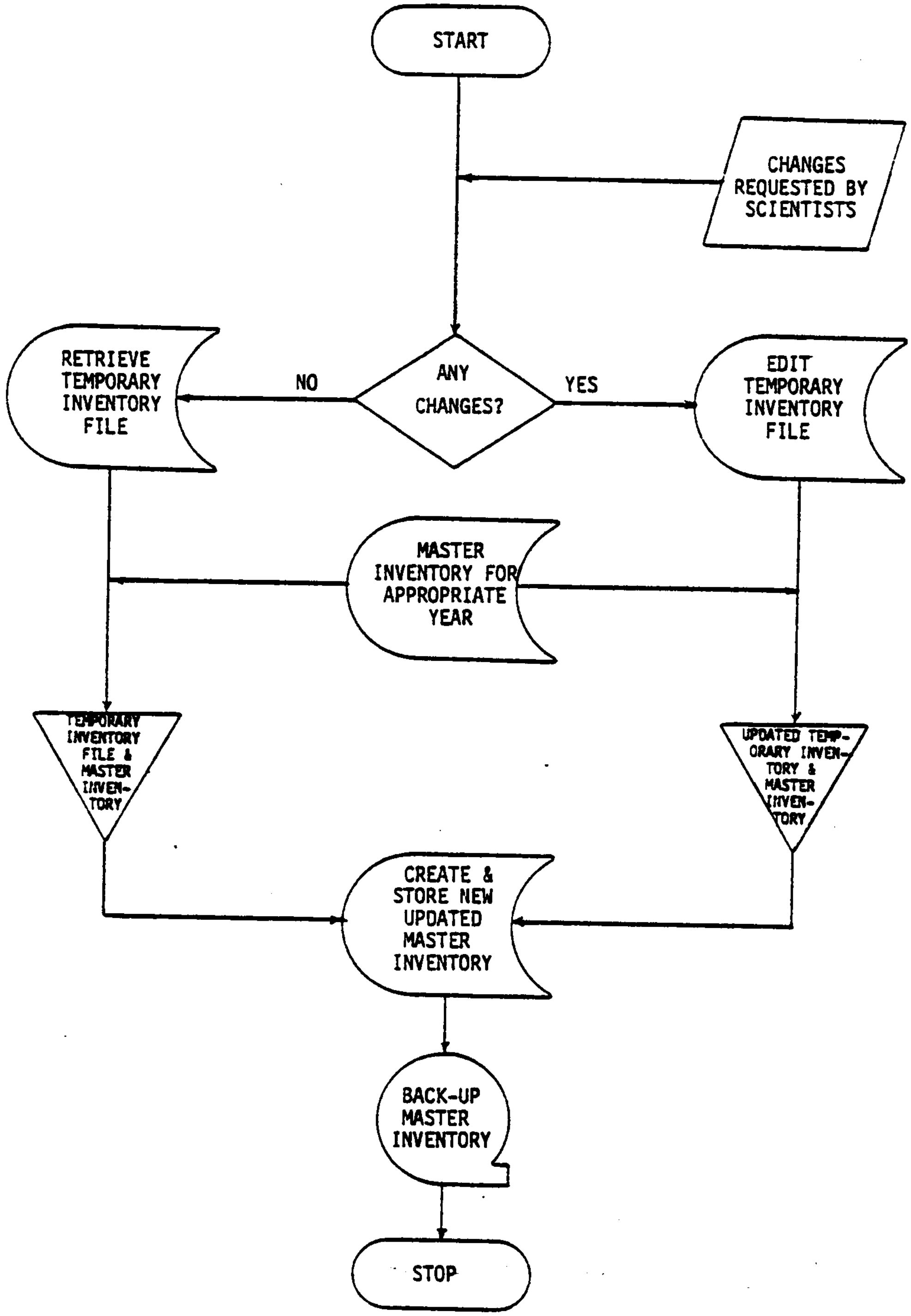


Figure 10. Processes followed in updating, including error correction, of sample inventory files.

Data Coding

Scientific data obtained aboard ship or generated in the laboratory, that were amenable to meaningful quantitative data analysis by digital computer were coded on data coding sheets. Ideally data should be obtained from the scientists on standardized coding sheets ready for keypunching. A well-conceived data coding form will allow the data to be compatible to any previous years for which the data may have been reported. Also, compatibility for data reporting between similar study areas (for example, body burden hydrocarbons and sediment hydrocarbons) can be achieved from a well designed coding format.

To standardize data reporting procedures and formats, meetings were held between the scientists, the program manager and the data manager to determine the scientists usual method of recording data. A form was then developed for each scientist which would allow ease of keypunching, while still approximating the scientists standard recording format. In most cases, this was completely successful, with the scientist using the form to record data and sending a copy to the data manager for keypunching and verifying.

This aspect of data reporting takes much insight and planning on the part of the data manager, program manager, and the scientists. Moreover, a well conceived data coding form may save valuable computer time, programmers' time, and reformatting time. See Figure 11 for an illustration of the Data Coding Forms developed for the STOCS study.

Sample Code

The function of a sample code was two-fold: a) to provide a brief, unambiguous identification for a sample; and b) to allow easy retrieval and manipulation. If the volume of data that has to be processed is large

BLM-STOCS-001-3-1
6/76

FOR COMPUTER CENTER USE

HYDROGRAPHIC DATA
DATA REPORTING FORM
PAGE_____OF_____

Individual Responsible for Form______
Transect_____ Station_____ Depth_____
Date_____ Time_____ CST/CDT_____

0 0 1 3 0 0 1

Sample name

Calibration Temps (°C)
Bucket therm. temp _____
Revers therm. temps: left_____ right _____
Refer. therm. temps: left_____ right _____
Bottom calibr'n temps: left_____ right _____
avg._____
Calibr'n salinities: sfc._____ btm._____

Depth (M)	Temp. (°C)	Salin. (PPT)	Depth (M)	Temp. (°C)	Salin. (PPT)
15	18	23	15	18	23

Figure 11. Examples of data coding forms used during the 1976 STOCS study.

Figure 11 Cont.'d

INVERTBRATE EPIFAUNA and
MACROINFAUNA
DATA REPORTING FORM
PAGE _____ OF ________

BLM-OCS-006-2-1
6/76

FOR COMPUTER CENTER USE

0062002
1 2 3 4 5 6 7

Sample name _ _ _ _ (8 9 10 11)
Sample type _ (12)

1- EPIFAUNA
2- INFAUNA

Collection Period ________
Station _ _ (13) Transect _ _ (15) Replicate _ (17)
Water Depth _ _ _ (18) M
Day _ _ (21) Month _ _ (23) Yr _ _ (25)
Time _ _ _ _ (27) Day / Night _ (31)

Genus	Species	Total Number	Males	Females	F/ eggs	Comments
32		66	71	74	77	

HYDROCARBON RAW DATA
DATA REPORTING FORM
0 0 8 2 0 0 3
1

BLM-STOCS-008-2-3
1/77

For Computer Center Use

INDIVIDUAL RESPONSIBLE FOR FORM ________
CRUISE ______ TRANS. ______ STA. ______
DATE ______________

Card 0 0 1 (8) Sample Code _ _ _ _ (11) Wet Wt. _ _ _ _ _ _ _ _ _ _ (15) Dry Wt. _ _ _ _ _ _ _ _ _ _ (25)
Total nonsaponifiable wt. (gms) _ _ _ _ _ _ _ _ (35) Total column wt _ _ . _ _ _ _ _ (43)

Card 0 0 2 (8) _ _ _ _ (11) (Dup)

Wt. Hexane Fraction (gms) _ _ . _ _ _ _ _ (15)
Wt. Benzene Fraction (gms) _ _ . _ _ _ _ _ (23)
Wt. Methanol Fraction (gms) _ _ . _ _ _ _ _ (31)
Fraction _ (39) (1=hexane, 2=benzene, 3=methanol)
Total dilution volume (µl) _ _ _ _ . _ (40)
Injection volume _ _ _ _ (46)
Date _ _ (50) / _ _ (52) / _ _ (54) Time _ _ _ _ (56) Machine _ _ (60) Attenuation _ _ _ (62)

Card 0 0 3 (8) _ _ _ _ (11) (Dup) Fraction _ (15)

Time	Known	Int. Value	Time	Known	Int. Value
_ _ _ _ (16)	_ _ _ _ (20)	_ _ _ _ _ _ _ _ . (24)	_ _ _ _ (16)	_ _ _ _ (20)	_ _ _ _ _ _ _ _ . (24)
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .
_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .	_ _ _ _	_ _ _ _	_ _ _ _ _ _ _ _ .

Figure 11 Cont.'d

the length of the sample code can adversely affect both processing efficiency and accuracy. Efficiency is affected because, as more characters are used in a sample code, more time must be spent in reporting, recording, acknowledging and understanding. Moreover, the amount of space required to record and store the necessary characters is important. This effect on efficiency occurs with manual operations and in machine execution. Accuracy on the other hand, is difficult to achieve when a lengthy sample code must be used by many different individuals in the processing of data.

There are many possible arrangements of digits, letters, and special characters which can be designed into a sample coding scheme. A great deal of thought must go into the design of a coding scheme if it is to satisfy a variety of users. The following considerations were kept in mind at the time a coding scheme was developed for the STOCS study.

1. The coding scheme must logically fit the needs of the users and the processing method used.
2. Each sample code must be a unique representation for the sample it identifies.
3. The code design must be flexible in order to accommodate changing requirements.
4. The code structure must be easily understood by various users in the organizations. It should be as simple, practical, and meaningful as possible.

Keeping the previous considerations in mind, a four character alphabetic coding scheme was developed for the STOCS study. The first character of the sample code had a special significance for all users. For 1975 data the first character was a blank. For 1976 data the first character was an A, and for the 1977 data the first character was a B. The four character alphabetic sample code allowed access to 17,576 sample codes per year.

Designing a coding scheme was one of the most important tasks for the data manager and technical coordinator. The coding scheme was designed to accumulate and classify all data, in the most efficient and economical way, and respond to the informational requirements of a variety of users.

The use of a four character alphabetic sample code facilitated the processing of data. In communication between the data management and the scientists, the four character sample code allowed easy retention. Also, the code was short and unique allowing for a great deal of flexibility. The significance of the first character of the sample code conveyed a meaningful message. Moreover, the four character sample code fit the needs of all participants in the study.

Data File Maintenance

The construction of master data files consisted of three major steps, including: 1) construction of raw-data master files; 2) error detection and correction of raw-data master files; 3) construction of final master data files. Each of these tasks is discussed below in detail.

Results of laboratory analysis were recorded on the standardized coding forms developed by the scientists and the data management staff. Some format variation was allowed for different study areas. The lab data was then sent to the data management for keypunching and verification (Figure 12). For some study areas preliminary calculations were

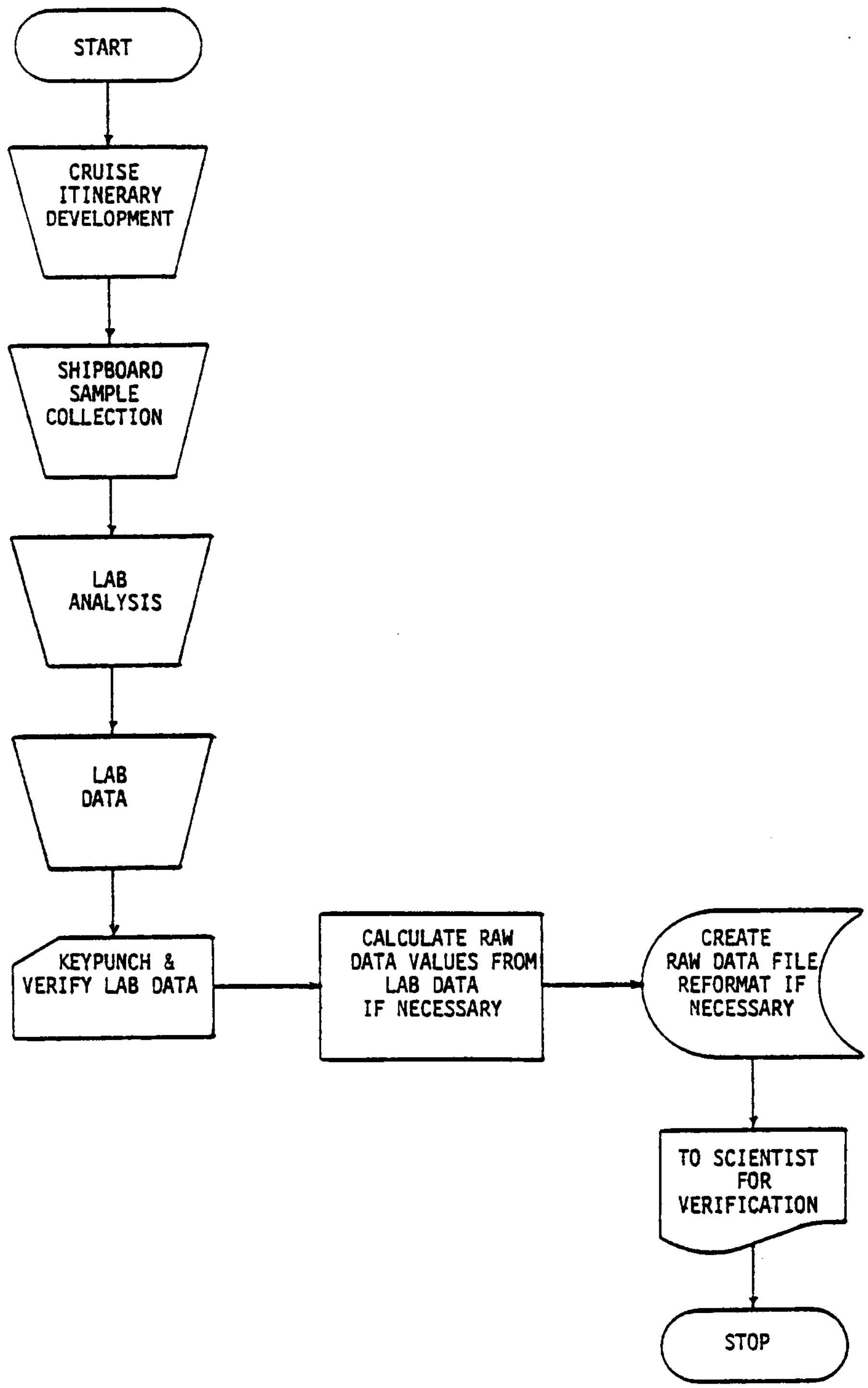


Figure 12. Procedure for keypunching and verification of data.

necessary to arrive at suitable raw data values. For example, for high-molecular-weight hydrocarbons, relative concentrations for different compounds were calculated from gas chromatograph (GC) retention interval information supplied by the scientist. For sediment texture, distributional characteristics (*e.g.* mean, standard deviation, skewness, and kurtosis) were calculated from the particle size data supplied by the scientist. Any calculations necessary to transform lab data into the required raw data values were performed with data management programs (Figure 12). Upon completion of these tasks the raw data were entered into the data base on disk files for each study area for each year. If necessary, reformatting of the raw data file was done at this time to make it compatible to existing files for the study area. A listing was sent to the scientist for verification and changes (Figure 12). Any changes requested by the scientist in the raw data file were submitted to the data management staff using a new coding form for the sample or subsample in question. The requested changes were made to the raw data (Figure 13).

Raw data master files for each study area for each year were then created (Figure 13). These files consisted of the raw data lines with the correct inventory record inserted before each sample. Merging programs written by the data management staff were tailored specifically for this task. The cornerstone of the merging programs was a matchup of sample codes, the sample codes occurring on data lines and inventory lines. The merging programs accepted a raw data file and randomly accessed the appropriate year master inventory file selecting out the correct inventory record (Figure 13). The resulting merged file was the raw data master file. It was maintained on disk until a listing was sent to the scientist and a response was received concerning its accuracy.

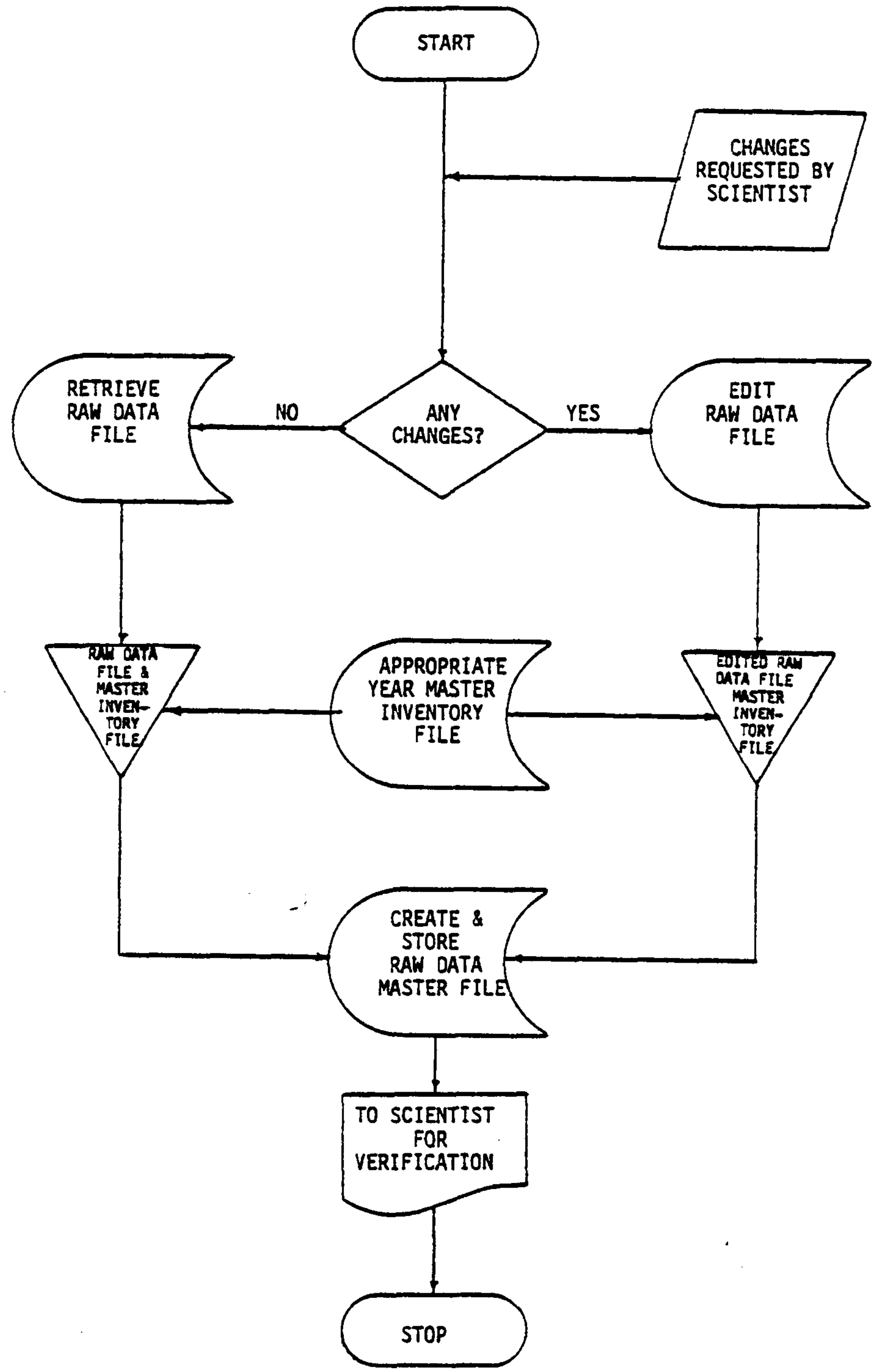


Figure 13. Processes of data updating, including error correction, and merging with inventory file.

The response from the scientist concerning the accuracy of the raw-data master file, dictated what direction the data management staff then followed (Figure 14). If the changes requested by the scientist were few, editing the raw data master file, the raw data file (if necessary), and the appropriate year master inventory file (if necessary) often sufficed. If the changes requested were major, however, it was more efficient to edit the raw data file and/or the appropriate year master inventory file, then to remerge these two files recreating the raw data master file (Figure 14). If no changes were requested by the scientist, normal processing of the raw-data master file could continue.

Error Detection

The next steps in the construction of master data files were additional error detection and correction of the raw data master files. This task was accomplished using two procedures, an automated and a non-automated quality control.

In the automated quality control procedure, the master data files were checked using three programs written by the data management staff. The first program used was a file check program (FILECK), which was designed to test a master data file for proper card (line) order and consistency within each sample (Figure 15). Within a sample, there were several card (line) types and one or more cards of each type. Each line was checked for card type and sample code. Card type must increase sequentially and all sample codes must be the same within a sample. If these conditions failed, an appropriate message was written. If a certain number of card types or a certain number of cards of a specific type were expected for each sample in a master card file, the file check program detected any missing or extra cards and an appropriate message was written. Each input line was

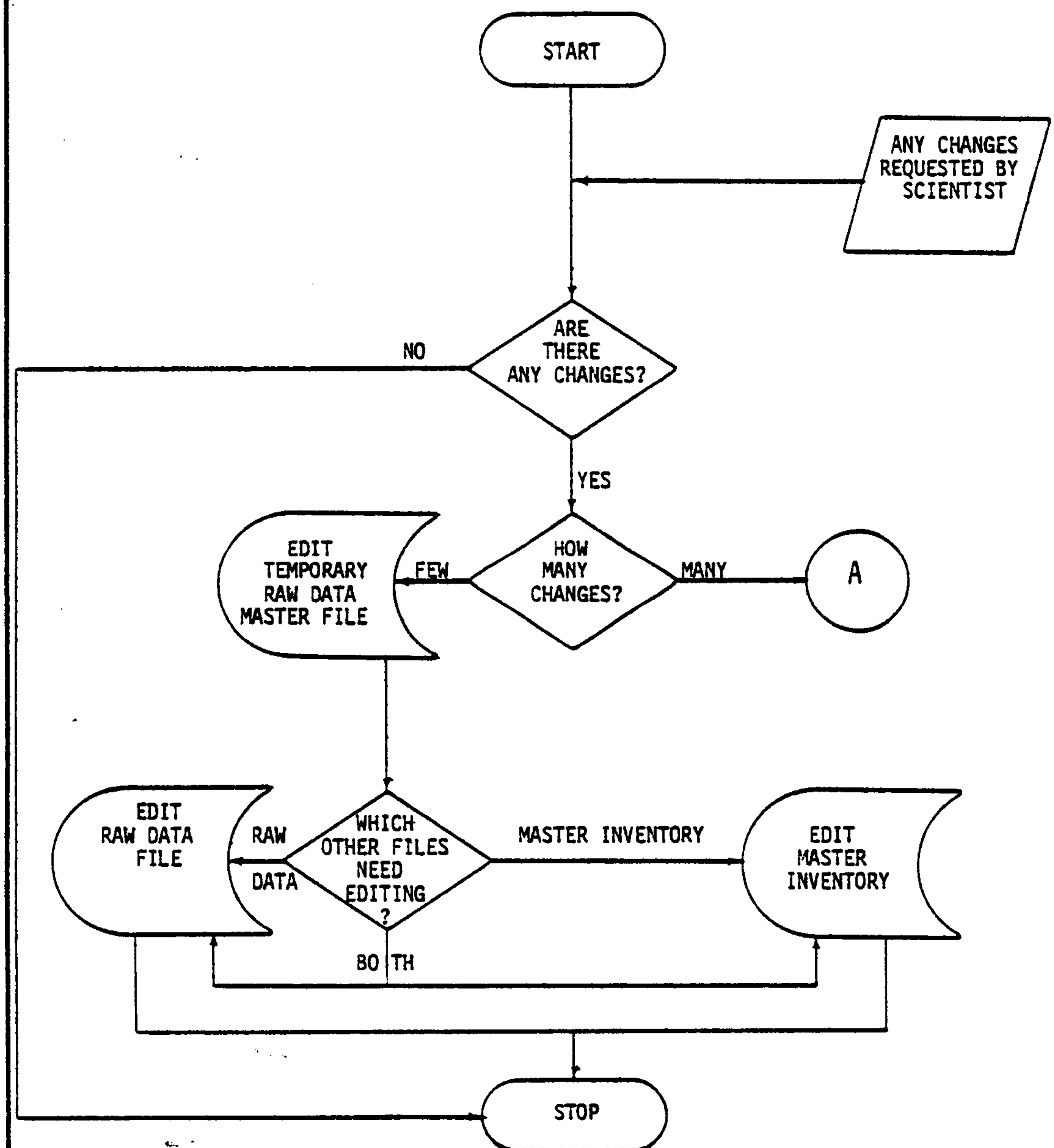


Figure 14. Procedures followed for verification and editing of master data files.

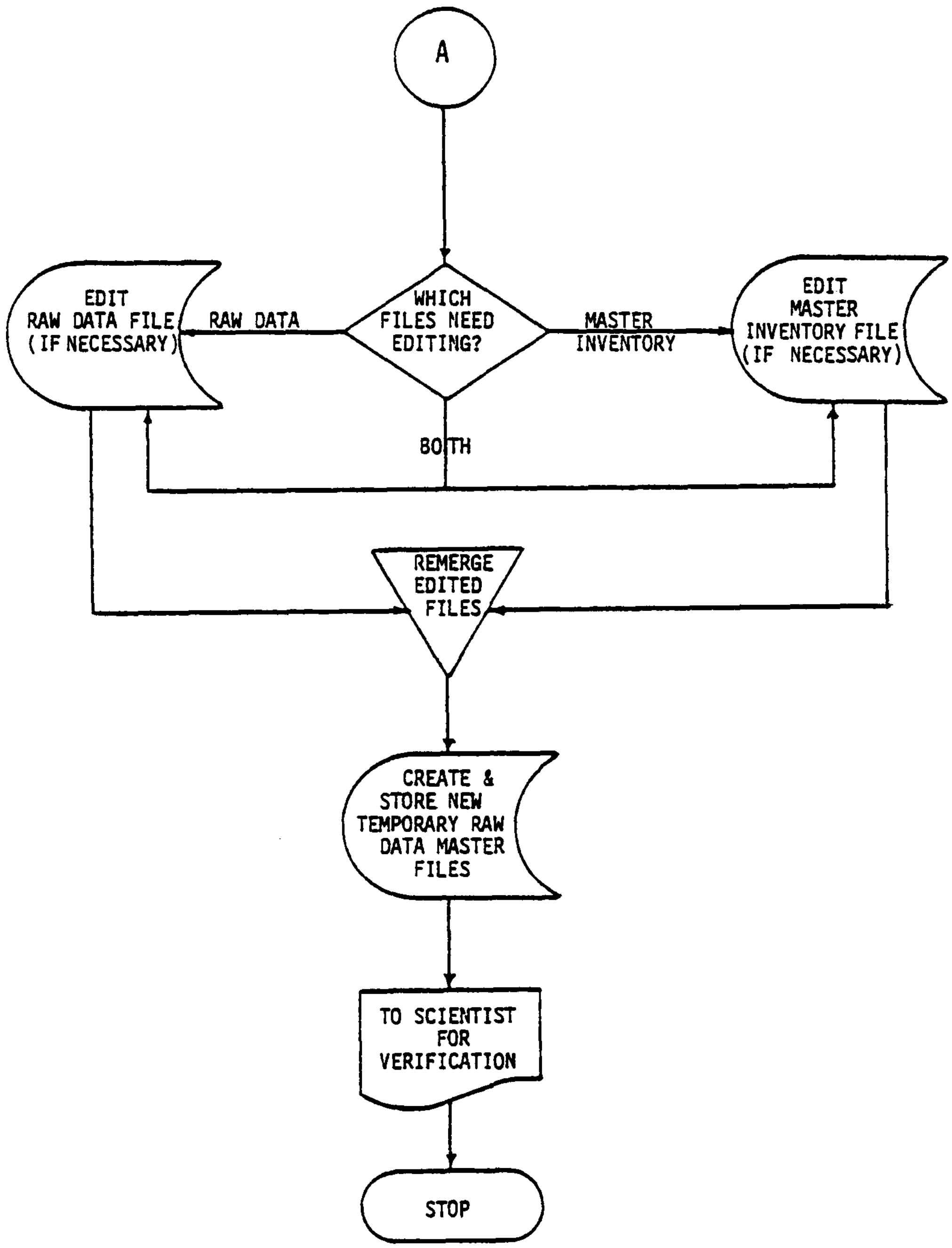


Figure 14 Cont.'d

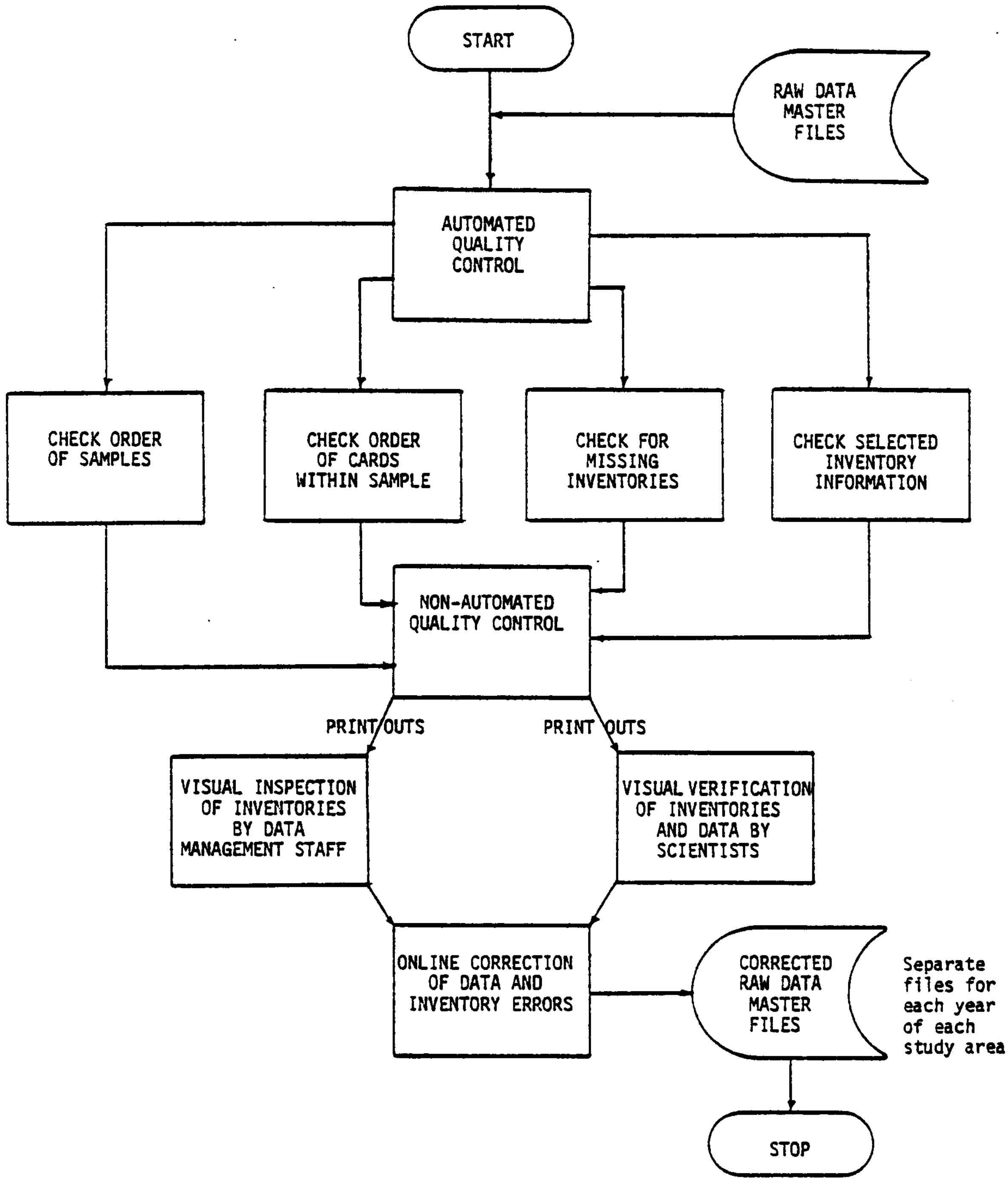


Figure 15. Automated and non-automated error detection processes used for master data file.

also scanned for any bad characters which may have been generated during processing, with appropriate error messages being written.

The second phase in the automated error detection of master data files was the use of an order check (ORDERCK) program (Figure 15). This program checked the order of the samples on a file by creating an order key for each line of a file and writing messages on output if the order keys were not in order of ascending magnitudes. This program assumed that all lines (cards) for a sample were together. The order of the samples or the order of lines within a sample were both checked. A check was also made for duplicate sample codes for two different samples.

The third phase in the automated error detection of master data files was the check of selected inventory information (Figure 15). As an example, a replicate check (REPCK) program was used. Replicates, as here defined, are samples of the same type, taken at the same geographical location and depth, during the same collection period and year. The replicate check program checked replicate numbers on inventory lines of master data files. The replicate check program inspected period, transect, station, day-night and relative depth. If none of these factors changed between two inventory lines, then the corresponding samples were assumed to be replicates (as here defined) and the replicate numbers were inspected. If the replicate numbers were incorrect (not ascending starting with 1) an error message was written on output. It was important that replicates be systematically numbered for easy identification. Such numbering allowed replicates to be averaged. Most statistical analyses were performed on average values across replicates.

An important assumption made by the file check, order check, and replicate check programs is that the master data file be properly sorted before running any of the programs. The desired order of samples on the master data file is in ascending order by period, then transect within period, then station within transect, then day-night within station, and finally replicate number within day-night. Files ordered by additional characteristics (*e.g.* depth in meters) required slight modification of the procedures. At every step of the automated error detection procedure, a correction that changed the order of a master data file required sorting and order checking before further processing.

A generalized sorting program was written by the data management staff to accomplish file sorting. The sorting program utilized the UT sort merge tape to tape sorting routine. Data files of any length were accepted by the sorting program. Also, a maximum of 18 characters were used to construct a sorting key. Sorting could be done either line by line or on the basis of samples.

The non-automated quality control procedure for error detection and correction of master data files required visual inspection of inventories by the data management staff and visual inspection of inventories and data by scientists (Figure 15). Online correction of data and inventory errors followed (if necessary). Upon completion of the automated and non-automated quality control procedures described above, the raw data master files were ready for further processing.

CHAPTER THREE

DATA BASE FILE ORGANIZATION

General Aspects

At every step of the reading, reformatting, editing, storing, retrieving, analyzing, and reporting of data, computer programs are involved. Over 100 of these programs were written for general use in the STOCS study, and many more in response to special requests. The data service request (Figure 16) enabled the efficient scheduling of such tasks that resulted from requests by the scientists. The programs were documented (Figure 17) to facilitate intragroup communication, to assure that new users were able to use the system, and to preserve these programs for future use.

In general, the programs developed by data management covered the four major areas listed below:

1. Short standard statistical programs. Many standard statistical calculation programs such as chi-square, one-way analysis of variance, scatterplots and linear regression and correlation were written for data analysis. Such programs were applicable to the data from a number of study areas.
2. Short non-standard routines. Several mathematical and statistical analysis routines were written which were nonstandard but applicable to a number of study areas. In general, there are many necessary calculations not readily available in existing software packages. In particular, diversity and equitability calculations were written as function sub-programs and subroutines and imbedded in table-generating programs and used to generate epifauna, infauna, demersal fish, zooplankton and phytoplankton data tables.

BLM-STOCS-556-2

DATA MANAGEMENT SERVICE REPORT

Date submitted: ____________

Submitted by: ____________

Date Needed: ____________

Type: ____ Data file

____ Data report

____ Programming

____ Consulting

____ Corrections

For Computer Center Use

Proj. No. ____________

Assigned to ____________

Date: ____________

Completed: ____________

Notes: ____________

Describe: ____________

Figure 16. Data management service request form.

Date ______________

Program Name ______________________________ Object name __________

Common Name ______________________________

Programmer ______________________________

Source PF ______________________________ Object PF __________

Purpose ______________________________

Special compilation or run requirements ______________________________

Execution format ______________________________

Files:
(Input/output, file name or type, PF where found, use in program, number in program, any special required editing or sorting before use.)

Figure 17. Program documentation form-STOCS study.

3. Data treatment programs. Several study areas required multi-stage programs that included mathematical and statistical analyses of "raw" data. These programs were highly specific to a study area and generally expensive to develop, both in programmer time and computer time. Included in this category were:

   a) sediment texture analysis; and

   b) distribution of HMW-hydrocarbons gas-chromatograph peaks.

4. Complex Analysis and evaluation programs. Several scientists chose to work with data management in developing programs that go beyond routine analysis and reporting of the basic data collected. Some of these programs involved predictive modeling while others were directed towards evaluating the current data acquisition structure in an effort to propose an improved sampling methodology. An example of this type of program was an iterative parameter estimation routine for nonlinear regression modeling.

Many of the programs detailed above plus those described in the previous chapters were designed to work with a data base that had a specific organized structure. This organized structure is detailed below. It must be kept in mind, however, that it is not necessarily the structure that is important but rather the philosophy that goes into creating this structure.

Data File Coding

Each data file within the data base was assigned a seven digit alphanumeric code. The first character was an F signifying a data file in some degree of preparation. The next two characters were a numerical code for study area. A list of the data base study area keys is given in Table 2. The next three characters were numerical, usually 201, for raw data files,

TABLE 2

STUDY AREA KEY

01 - Salinity, Temperature and Depth
03 - Dissolved Oxygen, Nutrients
04 - Low-Molecular-Weight Hydrocarbons
05 - High-Molecular-Weight Hydrocarbons, Benthic Vertebrates
06 - Invertebrate Epifauna and Infauna
07 - Epifauna Fish
08 - High-Molecular-Weight Hydrocarbons, Sediment, Particulate, Dissolved, Zooplankton
09 - Chlorophyll _a_
10 - Adenosine Tri-phosphate (ATP)
11 - Phytoplankton
12 - Fluorescence
13 - Meiofauna
14 - Neuston
15 - Trace Metals
16 - Carbon 14
19 - Sediment Texture
23 - Protozoa (Microzooplankton)
24 - Zooplankton
25 - Shelled Microzooplankton
26 - Total Organic Carbon and Delta Carbon 13
27 - Light Absorption (Photometry)
30 - Histopathology
40 - Benthic Bacteriology
41 - Water Column Bacteriology
42 - Benthic Mycology
43 - Water Column Mycology

and 210 for master data files with inventories. The last character was alphabetic. For 1975 data the last character was an A; for 1976 data a B; and for 1977 data a C. Rig monitoring data files ended with an R. When more than one master data file was present for a given year (*e.g.* trace metals - zooplankton and sediment - Table 3) then the A, B, and C was replaced on the file code by the principal investigator's first initial of his last name. Therefore, to determine the year of these data files the inventory line had to be inspected. An example of the above mentioned coding scheme is the file F03210A. This file would be a data file (F), a dissolved oxygen, nutrient file (study area 03), a data file with inventories (210), and a 1975 data file (A).

A total of 85 data files were constructed and maintained during the STOCS study program. The final data base used during data synthesis and integration was comprised of 198,534 lines of data with approximately 80 characters per line. In addition, nine species list files were developed to be used with certain of the biological data files. A complete listing of these data files with the sampling years they represent is illustrated in Table 3. Note that those data files pertaining to the special period for rig monitoring are also indicated. Descriptions of each of these files and their format specifications as well as other documentation information can be found in Appendix A of this volume.

Construction of Statistical Analysis Files

The purpose of the raw data master files was to preserve the STOCS study raw data in detail and in a systematic and logical form. Such files are not the easiest files for statistical analysis. Much of the information is not needed for these analyses. Furthermore, the variables of interest for statistical analysis are often functions of the raw data values. For example, for high-molecular-weight hydrocarbons, the variables of interest

TABLE 3

LISTING OF STUDY AREA DATA FILES
AND THE YEARS FOR WHICH THEY CONTAIN DATA
(INDICATED BY X)

Study Element	Study Area	1975	1976	1977	Rig	Species List
Salinity, Temperature, Depth	01	X	X	X	X	
Dissolved Oxygen and Nutrients	03	X	X	X		
Low-Molecular-Weight Hydrocarbons (Water Column)	04	X	X	X	X	
Low-Molecular-Weight Hydrocarbons (Sediment)	04			X		
Hydrocarbons in Epifauna	05	X	X	X	X	X
Benthic Invertebrates Macrofauna (Epifauna)	06	X	X	X	X	X
Benthic Invertebrates Macrofauna (Infauna)	06	X	X	X	X	X
Epifauna Fish	07	X	X	X	X	X
High-Molecular-Weight Hydrocarbons (dissolved, particulate, zooplankton, and sediment)	08	X	X	X	X	
Chlorophyll _a_	09	X	X	X		
ATP (adenosine tri-phosphate)	10	X	X			
Phytoplankton	11	X	X	X		X
Fluorescence	12			X		
Meiofauna	13		X	X	X	
Neuston	14		X	X		X
Trace Metals (Zooplankton)	15	X	X	X		
Trace Metals (Sediment)	15		X	X	X	
Trace Metals (Suspended Sediment)	15				X	
Trace Metals (Epifauna)	15				X	

TABLE 3 CONT.'D

Study Element	Study Area	1975	1976	1977	Rig	Species List
Carbon 14 Phytoplankton	16			X		
Sediment Textural Analysis (Infauna, Meiofauna)	19		X	X	X	
Sediment Textural Analysis (Bacteriology and Mycology)	19			X		
Protozoa (Microzooplankton)	23	X	X	X		X
Zooplankton	24	X	X	X		X
Microzooplankton and Benthic Forams	25	X	X	X		X
Total Organic Carbon and Delta Carbon 13 in Sediment	26			X		
Photometry	27		X	X		
Histopathology (Invertebrate Epifauna)	30		X	X		X
Histopathology (Demersal Fishes)	30		X	X		X
Histopathology (Gonadal Tissue)	30		X	X		X
Sediment Bacteriology (Biology)	40			X		
Sediment Bacteriology (Hydrocarbon)	40			X		
Sediment Bacteriology (Experimental)	40			X		
Water Column Bacteriology (Biology)	41			X		
Benthic Mycology (Biology)	42			X		
Benthic Mycology (Hydrocarbon)	42			X		
Water Column Mycology (Biology)	43			X		
Water Column Mycology (Hydrocarbon)	43			X		

to the scientists were ratios of the concentrations of different compounds while the raw data values are concentrations for individual compounds. For benthic invertebrates, raw data were species abundances but variables of interest included community parameters such as diversity and equitability. For such reasons, a series of statistical analysis files were constructed from the raw data master files.

The first step in constructing statistical analysis files was to merge the data from the different years for a study area (Figure 18). Then each scientist was asked to select the variables for his study area which were appropriate for statistical analysis. These variables were read from the raw data master files or calculated from these files and placed in a first level analysis file (a separate file being constructed for each study area). Note that the first level analysis file for a study area combined data from all years for that study area. If construction of a first level analysis file required computations based on raw data values, then this file was sent to the scientists for verification (Figure 18). Any errors detected were then corrected by either online editing or recalculation from the raw data values. The exercise involved in constructing first level files often revealed errors in the data not detected previously, thus serving as an additional check on data accuracy.

The first level analysis files were used for a few statistical analyses. The first level files included separate data for all replicates. For most statistical analyses, it was desirable to analyze values averaged over replicates. A set of second level analysis files were constructed on the basis of average values across replicates (Figure 19). A separate file was constructed for each study area.

Statistical questions concerning one variable or a set of variables which were all from the same study area could be addressed by analysis of

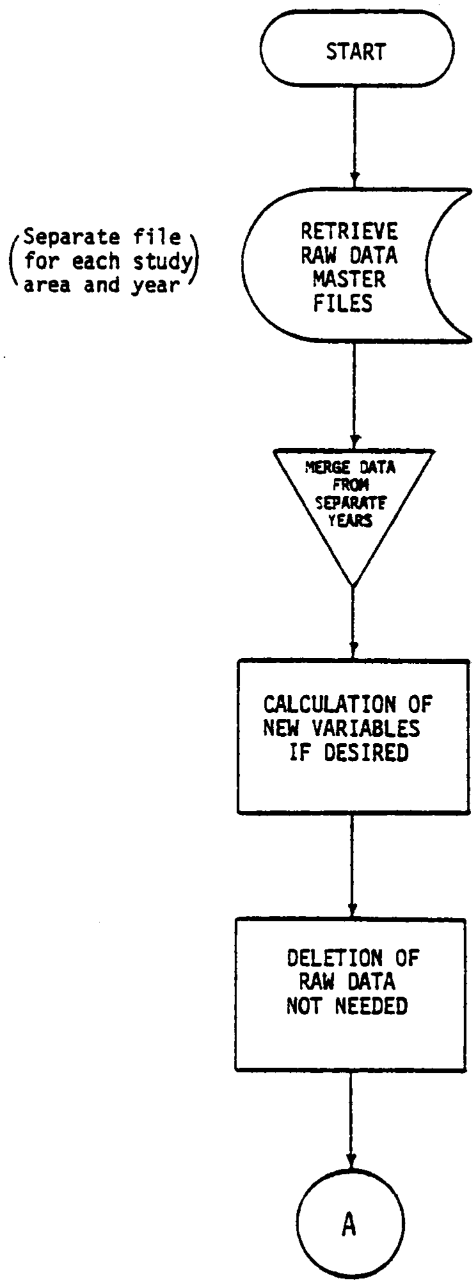


Figure 18. First step in constructing statistical analysis files.

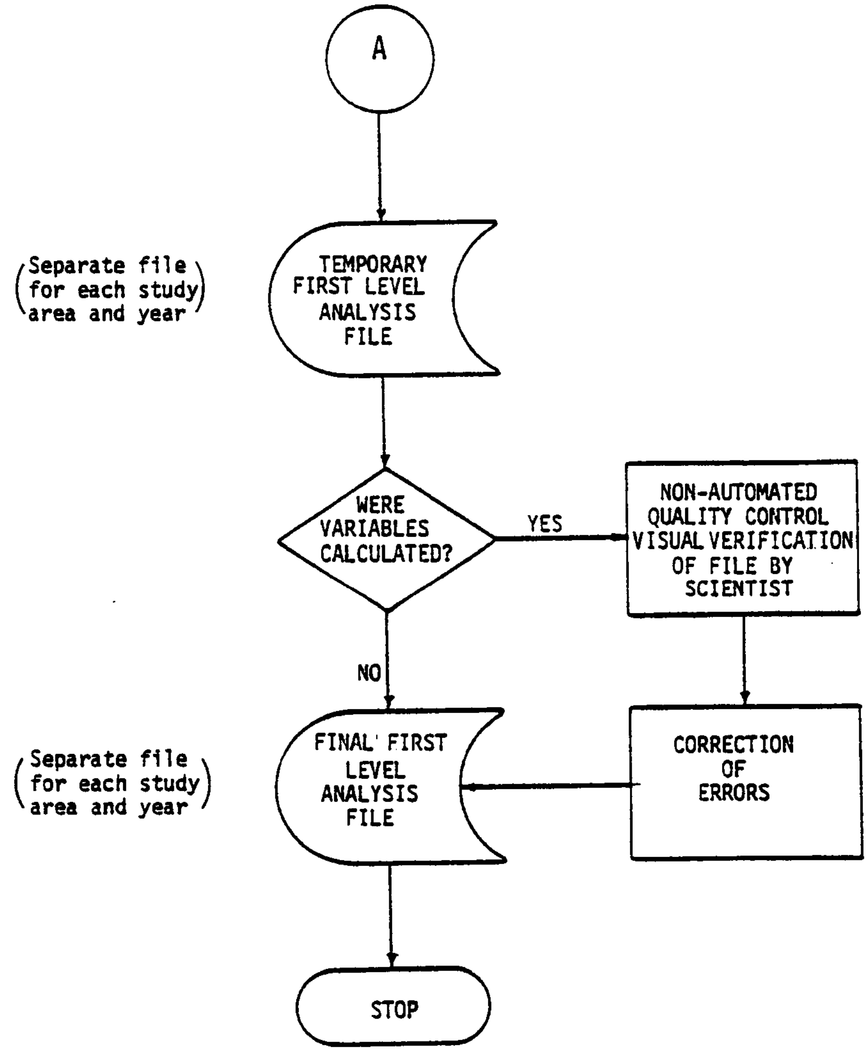


Figure 18 Cont.'d

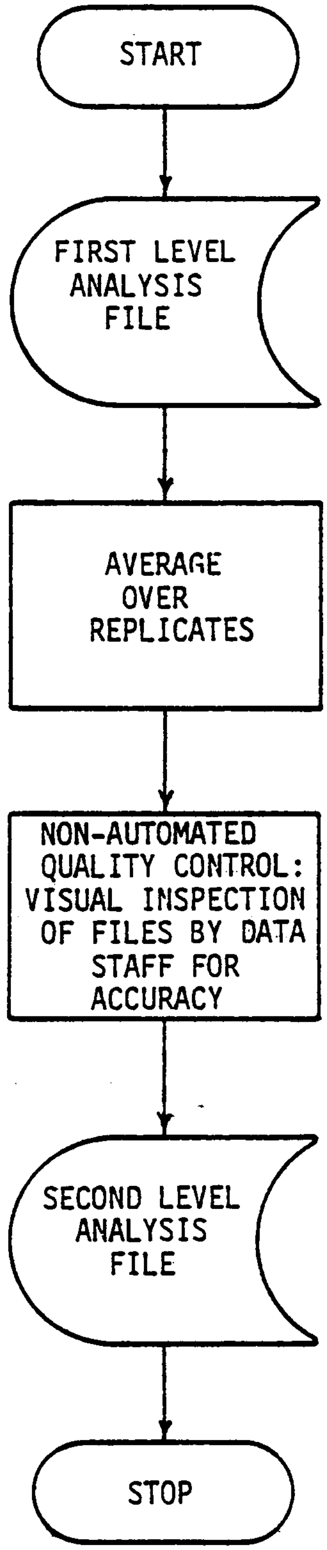


Figure 19. Construction steps for second level statistical analysis files.

first level of second level analysis files. For statistical questions concerning a set of variables from different study areas, a series of third level analysds files were required. The third level analysis files were constructed by merging variables from different study areas (Figure 20). This merging was achieved by matching up values obtained from the same collection site (transect, station, depth) and during the same time period (year, month). For example, Transect I, Station 1, surface, spring 1975 values from one study area were matched up with the Transect I, Station 1, surface, spring, 1975 values from other study areas, and so on. For example, general pelagic and benthic analysis files (third level files) were constructed by merging selected variables from a large number of study areas. A few smaller third level files were constructed by merging selected benthic variables from a few study areas. All statistical analyses were performed on analysis files from two of the three levels.

Data Archiving

As part of any multidisciplinary research program, plans should be developed for data archiving to ensure the proper maintenance of the data base for future use. As part of the STOCS study we were required by the contractor, the Bureau of Land Management, to archive the data base for the Environmental Data Information Service (EDIS) which is an agency of the National Oceanic and Atmospheric Administration.

The construction of archive data tapes for the EDIS encompassed three major efforts including: 1) the construction of documentation files for each study area; 2) the construction of a directory file for each magnetic tape required to archive the documentation files and STOCS study master data files; and 3) the recoding of files and copying to magnetic tape. Each of these efforts is discussed in detail below.

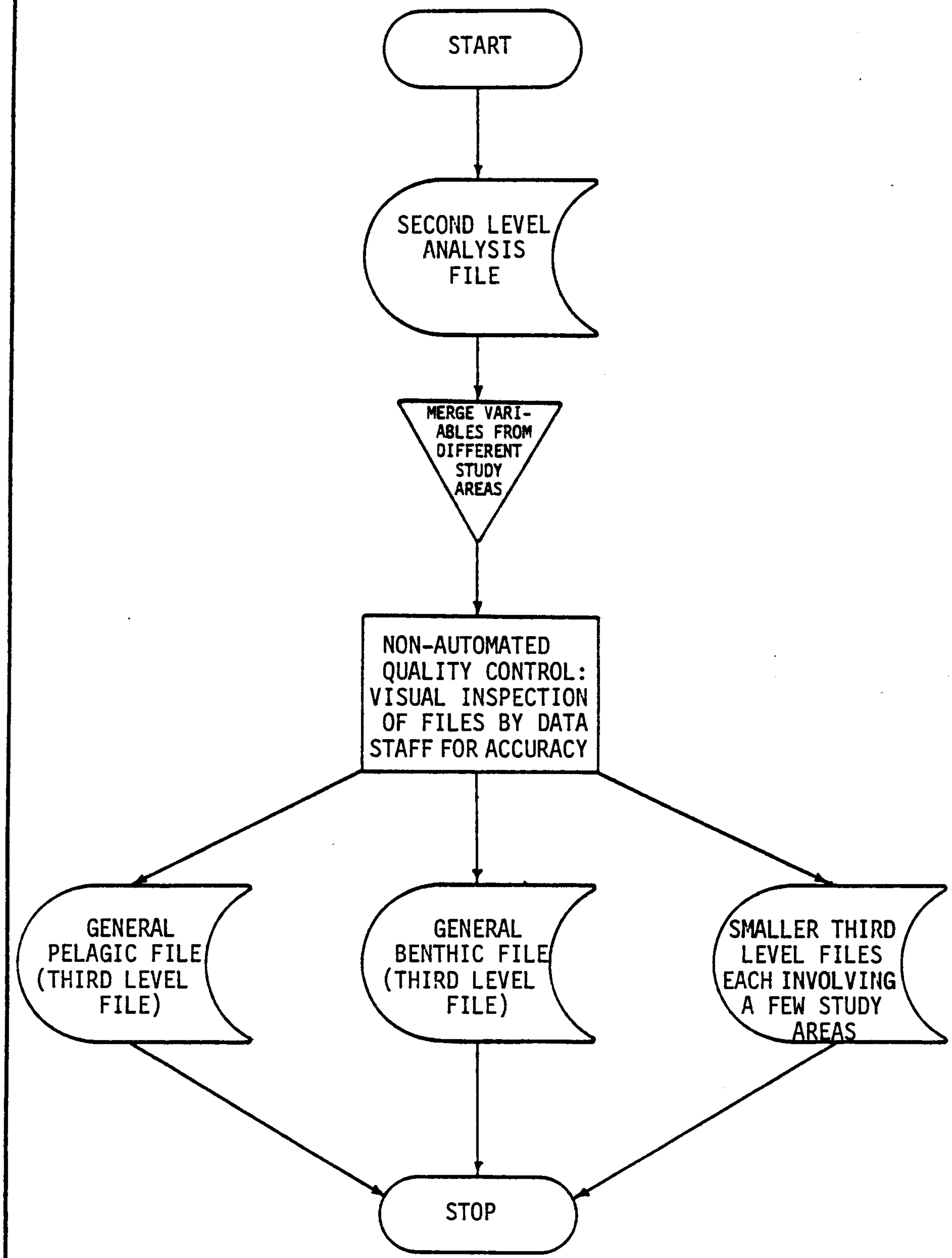


Figure 20. Construction steps for third level statistical analysis files.

Documentation files originated with the need for a guide to the master data files. Compatibility between years within study areas was achieved at an early stage in the STOCS project. Due to the diversity of study areas, however, it was impossible to achieve any great degree of compatibility between study areas. Consequently, a documentation file for each study area was constructed comprising the following information: 1) data type; 2) principal investigator; 3) associate investigators; 4) a directory for the study area; 5) scientific methods; 6) data format; and 7) comments. Appendix A of this volume illustrates the documentation file for each study area. Each documentation file contains a detailed explanation of the sample master inventory format (card type 1) as well as description of the data formats for that file (card type 2+). The inventory format, while the same for each study area, is repeated in each documentation file in an attempt to create self contained units requiring minimal outside reference.

After construction of the documentation files, the length (lines of information) of each file (both documentation and data files) was calculated using a program (NCOUNT). Because of the physical length of the files, three magnetic tapes were required to archive the STOCS data files. A directory file was constructed for each magnetic tape. The directory file included a listing of the files and file lengths for a tape. When a magnetic tape was written, the appropriate directory file was placed as the first file on that tape. The first three files given in Appendix A illustrate the tape directories of the three magnetic tapes required to archive the STOCS data base. Note that the first line of each directory file (*i.e.* the first line on each tape) gives the character set used in constructing the tape. This line allows offsite users to quickly identify problems in decoding the tape.

The next step in the archiving of the STOCS master data files included two phases: 1) onsite formatting and 2) offsite formatting of the files to be archived. Onsite formatting required minimal effort which included simply setting up the job control language to copy the desired files to the magnetic tape in the order necessary (corresponding to the directory file for the magnetic tape). The second phase, offsite formatting, however, required considerably more effort on the part of the data management staff.

The data management staff built the data tapes on a Control Data Corporation (CDC) system. This hardware was not directly compatible with the IBM system of EDIS. The two different systems (CDC and IBM) presented a problem because they use different character codes and tape formats. The data management staff initially anticipated that EDIS, given their wide experience with data from various sites, would already have a program library which would easily allow them to translate standard CDC tapes. Conversations with EDIS, however, revealed that the branch responsible for the data did not have access to the necessary translating programs.

Because of this problem the data management staff wrote programs to convert CDC binary codes to IBM compatible BCD codes. Tapes were then constructed with the following specifications:

1) odd parity;
2) 7 track;
3) character code = 6 - bit BCD codes;
4) blocking = 5120 characters/code;
5) density = 800 BPI.

These specifications met the requirements of EDIS. For verification of the information on the EDIS tapes translating programs had to be written so that these tapes could be interpreted by the CDC hardware. In contrast, the tapes that were retained on site (CDC) for the STOCS program had the following specifications;

1) odd parity;
2) 7 tracks;
3) character code = 6 - bit CDC binary code;
4) blocking = 5120 characters/block;
5) density = 800 BPI.

The process followed in construction of archive data tapes both for onsite use as well as offsite use is illustrated by the flow diagram in Figure 21. Besides the EDIS storage of the data, a complete set of the archived data tapes will be kept at the University of Texas and Texas A&M University as indicated in Figure 21.

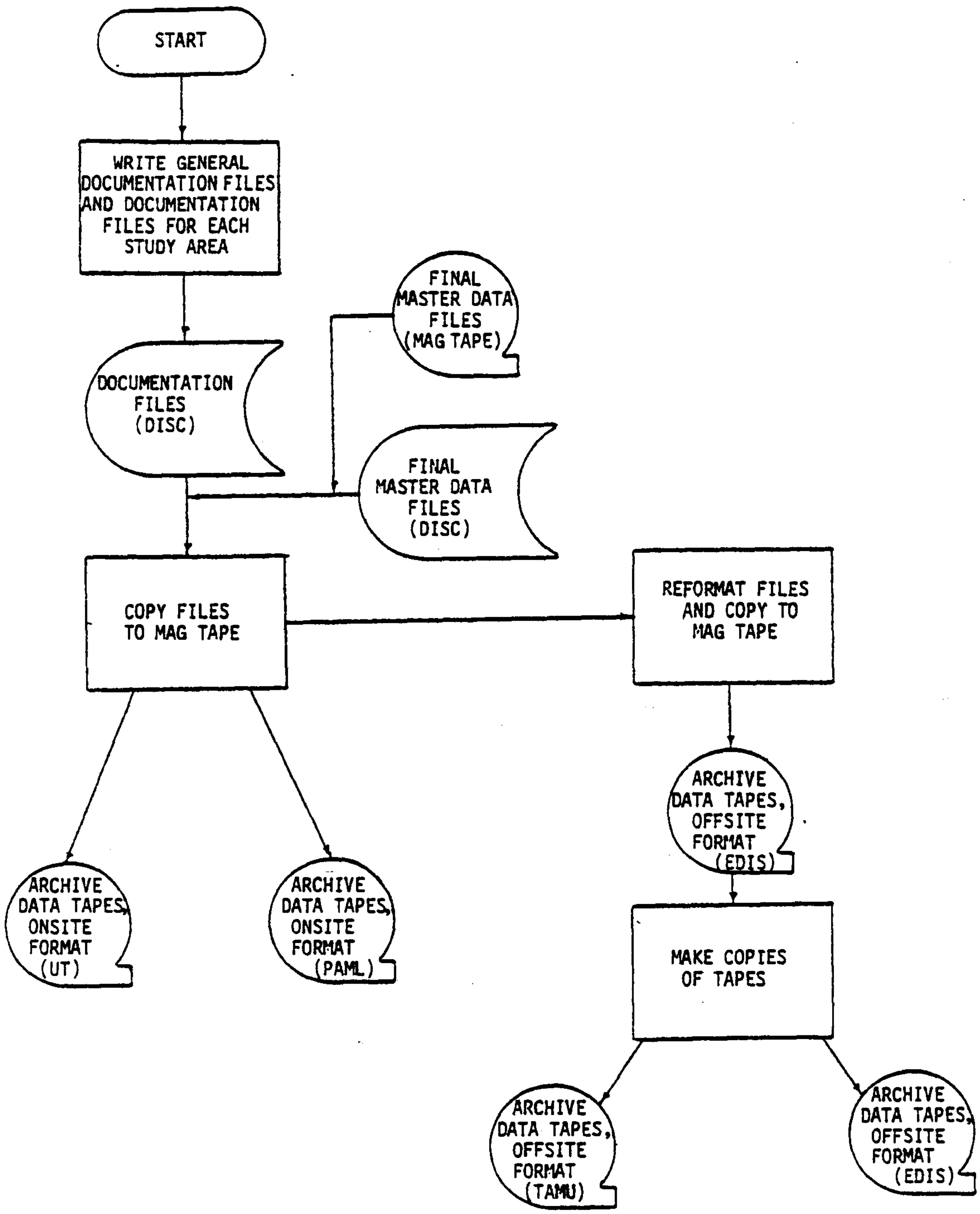


Figure 21. Construction of archive data tapes.

CHAPTER FOUR

STATISTICAL ANALYSIS STRATEGIES

General Aspects

After the development of a data base, which as stated in chapter one of this volume required about 70% of the data management effort, the primary role of the data management staff was the analysis of the data for the scientists in the program. The primary functions of data synthesis were as follows:

1) to perform accurate and reliable data processing;
2) to reduce the data bases of the various study elements as much as intuitively feasible without diminishing their value and the interpretation of them;
3) to distribute all appropriate data to the scientists that is required for their data interpretation; and,
4) to assist the scientist in the performance of interdisciplinary data analysis (integration).

Associated with these functions were the activities required to locate data products, perform file management and report the status of data analysis for the various disciplines. As indicated in the previous chapter on the development of analysis data files, data file management was extremely important during the synthesis of multidisciplinary data because these efforts required the extraction and matching of data from more than one master data file.

The final year of the STOCS study was devoted solely to data synthesis and integration. The specific goals of this synthesis and integration were two-fold:

1) characterize with confidence (95%) the temporal and spatial properties of those variables that best described the STOCS study;
2) develop mathematical descriptions for a few interdisciplinary relationships that would contribute information to the overall integration objective of describing the system under study.

In essence, the data management staff fulfilled the support task of performing those analyses for the scientists that combined parts of a single study element or diverse parts of several study elements into a conceptual model focusing on a larger picture of the ecosystem.

Two basic types of statistical analyses were performed. First, individual STOCS variables were analyzed to obtain their distributional characteristics (*e.g.* mean, standard deviation, skewness, kurtosis, and confidence interval) and to assess their variability over time (year and collection period) and space (transect and station). Second, pairs or sets of STOCS variables were analyzed for interrelationships. Whenever possible, the data synthesis results reported to the scientists were either descriptive parameters and graphical relationships amenable to interpretation and/or statistical tests to evaluate the significance of these results. Before discussion of the types of analyses it will be necessary to consider the general sampling scheme employed in the STOCS study. The sampling scheme dictated the strategies used in specific statistical analyses.

Sampling Scheme

The variables analyzed in the STOCS study represent several different sampling schemes. For most variables, data were collected for all three years of study (1975-1977). There are exceptions, however, with data being collected in only one or two years for some variables. In some cases, the Principal Investigator (P.I.) for a study area had questions about the validity or reliability of a variable for a particular year. In such cases, those data for the year in question have not been considered in statistical analyses.

Two different sampling schemes were employed for collection periods. Some variables were sampled three times a year (winter, spring, fall); this scheme was referred to as seasonal sampling. Other variables were sampled nine times a year (Winter, March, April, Spring, July, August, Fall, November and December); this scheme was referred to as monthly sampling. Spring collections occurred in May and June; Fall collections usually occurred in September and October; and Winter collections in January and February. Table 4 summarizes the sampling schemes with regard to collection periods.

Spatially (geographically), three different sampling schemes were employed for the total study area (Figure 22): a) a 12 station scheme involving Transects I through IV, primarily for water column (pelagic) sampling; b) a 25 station scheme involving Transects I through IV, primarily for benthic sampling[1]; c) a two station scheme involving one station on the Southern Bank (SB) and one station on Hospital Rock (HR)[1]. For the 12 station scheme, stations were classified into one of three groups on the basis of depth (Table 5). Variables collected according to the 12 station scheme were analyzed for two spatial effects--station group (1-3)

[1]These stations were only sampled in 1976 and 1977.

TABLE 4

COLLECTION PERIODS

Seasonal Sampling Scheme	Monthly Sampling Scheme
Winter	Winter
Spring	March
Fall	April
	Spring
	July
	August
	Fall
	November
	December

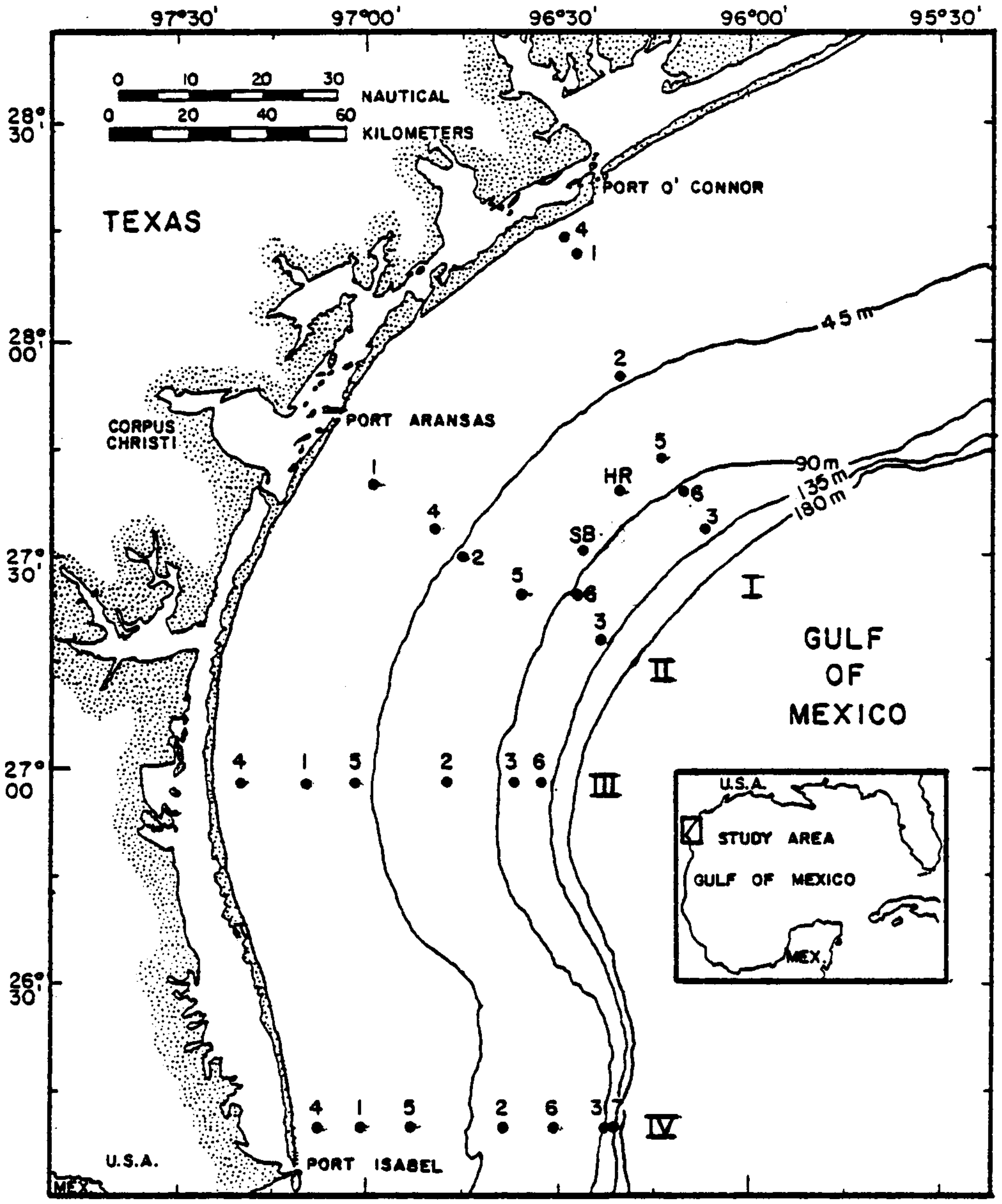


Figure 22. Sampling sites for the STOCS study. The 12 station (pelagic) scheme involved Stations 1, 2 and 3 on Transects I to IV. The 25 station (benthic) scheme involved all stations on Transects I to IV. The single station marked HR refers to Hospital Rock while that marked SB refers to Southern Bank.

TABLE 5

STATIONS GROUPED BY DEPTH FOR THE 12 STATION SAMPLING SCHEME

Station Group	Depth Range (m)	Transect	Station	Depth (m)
1	18–27	I	1	18
		II	1	22
		III	1	25
		IV	1	27
2	42–65	I	2	42
		IV	2	47
		II	2	49
		III	2	65
3	91–134	IV	3	91
		III	3	106
		II	3	131
		I	3	134

and transect (I-IV). For the 25 station scheme, stations were classified into one of six groups on the basis of depth (Table 6). Variables collected according to the 25 station scheme were analyzed for two spatial effects--station group (1-6) and transect (I-IV). Variables collected according to the two station scheme were analyzed for a single spatial effect, SB *vs*. HR.

Biological Patterns - Data Reduction

One of the major problems facing a scientist that wishes to interpret trends and patterns associated with biological data, especially data involving species abundances, is the massive size of the data base. For ease in evaluation of these type of data, certain numerical classification techniques were employed to resolve the large complex data matrices associated with species abundances into simpler more basic ones, reflecting general trends in the data.

Cluster analysis and ordination analysis were used to identify dimensions underlying sets of STOCS variables in an effort to achieve data reduction. Cluster analyses were calculated using a computer program adopted from Anderberg (1972). The dissimilarity measure employed was the Canberra-Metric measure suggested by Lance and Williams (1967a) and the clustering strategy was "flexible clustering" also suggested by Lance and Williams (1967b). Cluster analysis results were reported in the form of dendrograms. Analyses were performed on data representing the abundances for a number of species at the different sampling sites. Two types of results were obtained: 1) groups of species which tended to co-occur were identified; and 2) groups of sites with similar species composition were identified.

TABLE 6

STATIONS GROUPED BY DEPTH FOR THE 25 STATION SAMPLING SCHEME

Station Group	Depth Range (m)	Transect	Station	Depth (m)
1	10–18	I	4	10
		III	4	15
		IV	4	15
		I	1	18
2	22–27	II	1	22
		III	1	24
		IV	1	27
3	36–49	II	4	36
		IV	5	37
		III	5	40
		I	2	42
		IV	2	47
		II	2	49
4	65–82	IV	6	65
		III	2	65
		II	5	78
		I	5	82
5	91–106	IV	3	91
		II	6	98
		I	6	100
		III	3	106
6	125–134	III	6	125
		IV	7	130
		II	3	131
		I	3	134

To assist with the interpretation of the classification developed with cluster analysis and to examine gradational relationships among the samples based upon their resemblance to one another, simple ordination was employed. Ordination analyses were calculated using the principal components ordination technique (Orloci, 1966) and results were reported in the form of two-dimensional line printer plots simultaneously depicting two-ordination axes. Both R-type and Q-type ordinations were performed on data representing the abundances for a number of species at the different sampling sites. R-type analyses identified co-occurring groups of species, while Q-type analyses identified groups of sites with similar species compositions.

Simple analysis of variance was employed to test the validity of site groupings identified by cluster analysis or ordination analysis. Differences between site groups were evaluated with regard to a series of physical environmental variables (*e.g.* temperature, salinity, sediment texture). Significant differences between site groups were taken as confirmation of the validity of the groupings.

Analysis of Individual Variables

Distributional Characteristics

Descriptive statistics were calculated for individual variables to allow assessment of the distributional charactersitics for those variables. For each variable, descriptive statistics were calculated on the basis of the entire set of values for that variable; *i.e.* on the basis of the overall distribution for that variable. For variables demonstrating a significant spatial or temporal effect, additional descriptive statistics were calculated with a separate set of descriptive statistics being calculated for each level of that effect. For example, if a variable demonstrated significant variability over years, then separate sets of descriptive statistics were calculated for 1975 values, 1976 values, and 1977 values.

For many variables, replicate* samples were not consistently taken and were therefore scattered over the different sampling sites and times. To allow a uniform approach to all variables, data from replicate samples were averaged to arrive at a single mean data case for each site-period-year combination. All descriptive statistics were calculated on the basis of these mean values over replicates. The descriptive statistics reported for individual variables were the number of data cases, mean, standard deviations, skewness, kurtosis, and empirical confidence interval. Each of these descriptive statistics will now be discussed in turn.

The number of data cases reported was simply the number of valid values for a variable. The mean ($\overline{X}$) calculated was the normal arithmetic average, given by the following expression.

$$\overline{X} = \frac{\sum_{i=1}^{N} X_i}{N}$$

In the above expression, N refers to the number of data cases and X_i refers to the value for the ith data case. The standard deviation (STD DEV) calculated was the unbiased estimate of a population value given by the following expression.

$$\text{STD DEV} = \left[\frac{\sum_{i=1}^{N} (X_i-\overline{X})^2}{N-1}\right]^{\frac{1}{2}}$$

*Replicate samples here refer to different samples taken at the sample site, collection period, and year.

A basic characteristic of a distribution is skewness (SKEW). Skewness is a measure of the extent to which a distribution is symmetric about its mean. The measure of skewness used in the STOCS study was calculated according to the following expression.

$$\text{SKEW} = \frac{\sum_{i=1}^{N} (X_i - \overline{X})^3}{N(\text{STD DEV})^3}$$

If the skewness value is 0, then the distribution is symmetric. If the value is positive, then the tail to the right of the mean is drawn out relative to the tail to the left. The converse is true for negative skewness values; the tail to the left is drawn out relative to the tail to the right. An important use of a measure of skewness is to determine whether a distribution is normal in shape or not. A normally distributed population will have a skewness value equal to 0, and samples drawn from that population will have skewness values close to 0.

Another characteristic of a distribution is kurtosis (KURT). Kurtosis is a measure of the relative peakedness or flatness of a distribution. The measure of kurtosis used in the STOCS study was based on the following expression.

$$\text{KURT} = \frac{\sum_{i=1}^{N} (X_i - \overline{X})^4}{N(\text{STD DEV})^4} - 3$$

A normal distribution will have a kurtosis of 0. If the kurtosis is positive then the distribution is more peaked (narrow) than would be true for a normal distribution, while a negative value means that it is flatter.

An extremely important characteristic of a distribution is the confidence interval. The confidence interval usually reported is a theoretical confidence interval based on the assumption of an underlying normal distribution. The 95% normal distribution confidence interval (95% NORMAL CI) is given by the following expression.

$$95\%\ \text{NORMAL CI} = \overline{X} \pm 1.96\ (\text{STD DEV})$$

If the assumption of normality is valid, then 95% of the sample values will fall within the confidence interval. Since the distributions were far from normal for many of the variables in the STOCS, such a normal distribution confidence interval was not generally applicable and an alternative confidence interval was calculated for the STOCS study variables. This alternative confidence interval was a 95% Empirical Confidence Interval. Such an empirical confidence interval is not based on any assumption concerning the form of the underlying distribution. The empirical confidence intervals were determined as follows. The distribution of values for a variable was inspected and the largest value not exceeding more than 2.5% of the distribution was selected as the lower limit of the 95% Empirical Confidence Interval. The smallest value exceeded by 2.5% or less of the distribution was selected as the upper limit of the 95% confidence interval. When there were fewer than 40 values in the distribution, the 95% empirical confidence interval was identical to the range of values. When there were 40 or more values, the range and empirical confidence interval need not have coincided.

Analysis for Spatial and Temporal Variation

Selected variables from the STOCS study were analyzed with regard to temporal and spatial variation. The analysis procedures employed were more complicated than one might anticipate. The complexity arose for two types of reasons. First, from a statistical point of view, several aspects of the design of the STOCS study were quite haphazard. The purpose of the study evolved from year to year with corresponding design changes occurring from year to year. Replicate samples (a series of samples taken for each collection period and site combination) were taken inconsistently, thereby precluding use of the most straightforward statistical designs. Missing data further aggravated our problems. Second, time constraints ruled out the use of different analysis approaches for different variables. It was necessary to arrive at an automated system which could uniformly be applied to all variables. Such a uniform approach further sacrificed analytic simplicity.

The temporal effects analyzed were collection period and year while the spatial effects analyzed were station and transect. For many variables, replicate samples (different samples taken at the same site, collection period and year) were not taken consistently and were therefore scattered over the different sampling sites and times. To allow a uniform approach to all variables, data from replicate samples were averaged to arrive at a single mean data case for each site-period-year combination. These mean values were then analyzed for temporal and spatial variation.

For study areas involving body burdens, desired samples were often not obtained due to failure to catch the species in question. For other study areas (*e.g.* high-molecular-weight hydrocarbons in sediment), the contracted samples involved one set of sites during one collection period but a different set of sites during other collection periods. Thus, for several variables the data set was scattered over the range of possible data cases. Even when samples were obtained, it was often the case that particular variables were uncalculable or unmeasurable. For example, variables involving hydrocarbon ratios (*e.g.* pristane/phytane) were uncalculable if the concentration in the denominator was 0. Trace metal concentrations were sometimes unmeasurable due to detection limit problems.

When data cases were scattered over the possible collection sites and times or when there were missing data for some data cases, analyses for temporal and spatial variation involved unbalanced data--*i.e.* unequal cell frequencies. Standard analysis of variance (ANOVA) calculation techniques (involving simple comparisons of means) are not useful with unbalanced data. When data are unbalanced, all effects (both main effects and interactions) are confounded and multiple linear regression analysis is the recommended analysis technique (Kerlinger and Pedhazur, 1973; Rao, 1965; Searle, 1971). For the STOCS study, multiple linear regression analysis was used to assess the effect of a factor with all other factors in the design covaried (statistically controlled). For example, for a two-way analysis involving transect and season, the transect effect was assessed with the season effect and the transect by season interaction covaried; the season effect was assessed with the transect effect and the transect by season interaction covaried; and the transect by season interaction was assessed with the transect effect and the season effect covaried. All ANOVA analyses were calculated by using the "Regression Option" of subprogram ANOVA from the Statistical Package for the Social Sciences (Nie *et al.*, 1975).

Regression analysis with covaried effects was applied to STOCS study variables whether the data for those variables were balanced or unbalanced. Such a uniform approach to all data was quite satisfactory. For variables with unbalanced data, regression analysis with covaried effects was necessary for meaningful interpretation of results. For variables with balanced data, regression analysis with covaried effects produced exactly the same results and conclusions as standard ANOVA procedures would have (Searle, 1971).

For most variables, there was an insufficient number of data cases to attempt a full four factor design simultaneously incorporating all four effects of interest (transect, station group, collection period, and year). To allow a uniform approach to all variables, a series of two factor analyses were performed for each variable. Table 7 presents the two factor analyses performed for those variables sampled according to the 12 station scheme, for those sampled according to the 25 station scheme, and for those sampled according to the 2 station scheme. For the 12 station scheme, all possible two factor analyses were performed.

For the 25 station scheme, 5 of the 6 possible two factor analyses were performed. The transect by station analysis was not attempted for the 25 station sampling scheme. A glance at Table 6 will demonstrate the difficulty in performing a transect by station analysis for the 25 station sampling scheme. The transects are haphazardly represented in the first three station depth groups. Note that there is no easy redefinition of these three station groups which would yield groups containing an equal number of representatives from each transect. Given this situation, the results of a transect by station analysis would have been quite difficult to interpret.

For the two station sampling period, only three two-factor analyses were performed. For the two station scheme, there was only one spatial effect (transect). This one spatial effect with the two temporal effects (period and year) produced three possible two-factor analyses.

Figure 23 presents a flow chart depicting the analysis of individual variables. This figure illustrates the strategies employed in identifying

TABLE 7

TWO FACTOR ANALYSES STRATEGY PERFORMED FOR VARIABLES SAMPLED ACCORDING TO DIFFERENT SAMPLING SCHEMES

Sampling Scheme	Analyses Performed
12 station scheme	Transect (I-IV) by Station Group (1-3)
	Transect (I-IV) by Period (1-9)
	Transect (I-IV) by Year (1975-1977)
	Station Group (1-3) by Period (1-9)
	Station Group (1-3) by Year (1975-1977)
	Period (1-9) by Year (1975-1977)
25 station scheme	Transect (I-IV) by Period (1-9)
	Transect (I-IV) by Year (1976-1977)
	Station Group (1-6) by Period (1-9)
	Station Group (1-6) by Year (1976-1977)
	Period (1-9) by Year (1976-1977)
2 station scheme	Transect (HR - SB) by Period (1-9)
	Transect (HR - SB) by Year (1976-1977)
	Period (1-9) by Year (1976-1977)

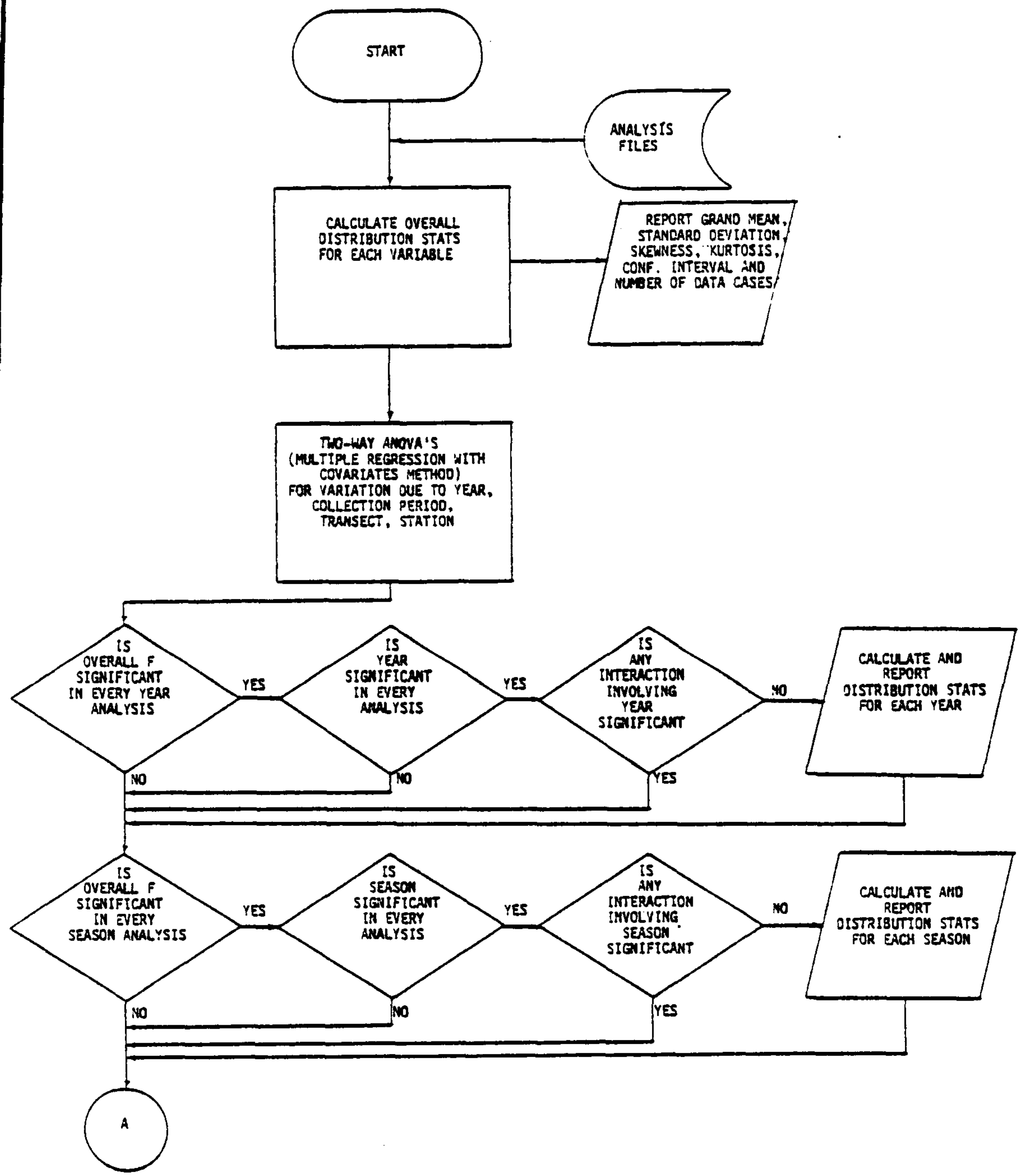


Figure 23. Overview of analysis strategy for individual variables.

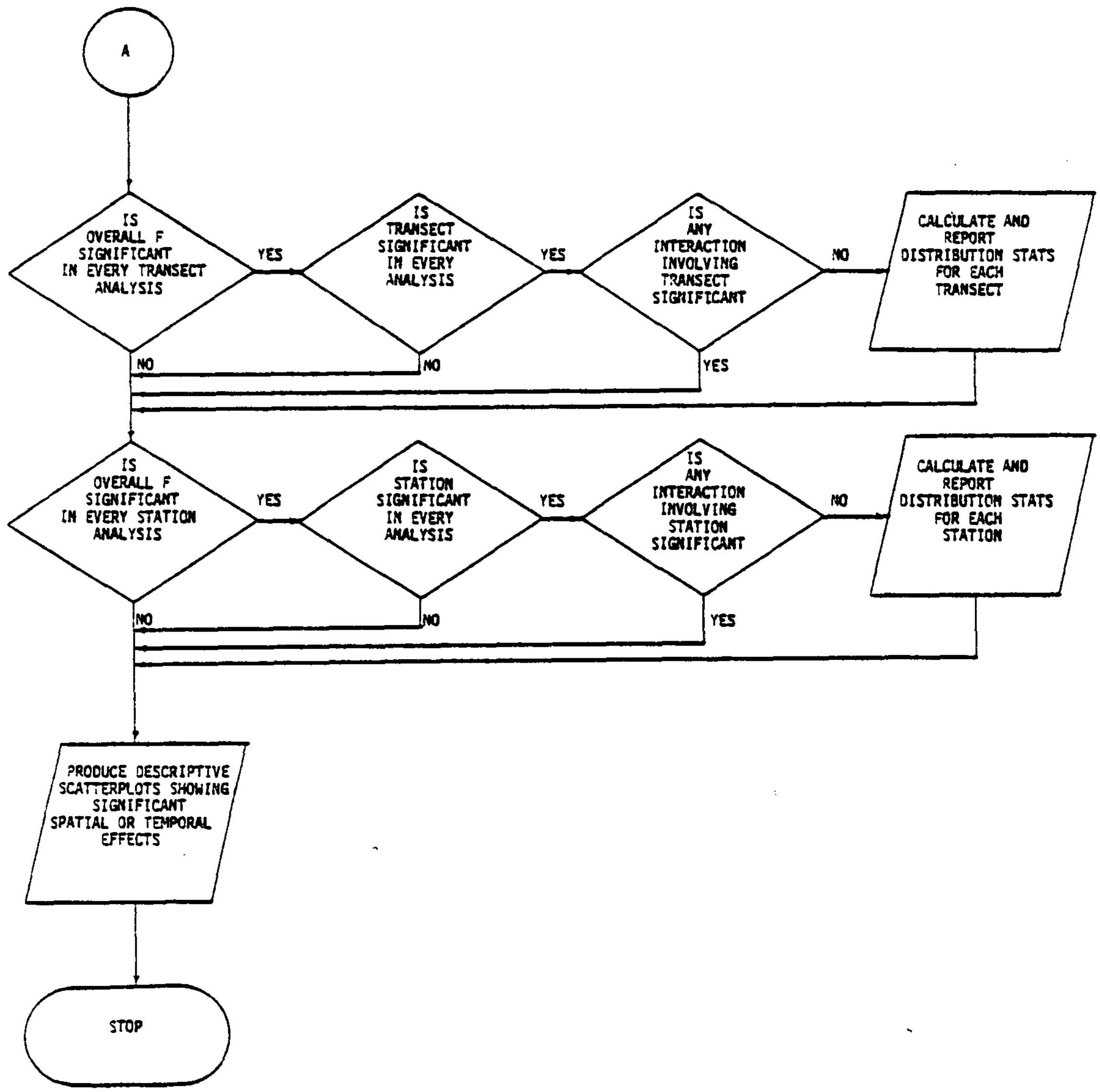


Figure 23 Cont.'d

spatial and temporal effects as well as the calculation of distribution statistics. Note that a significance level of 0.05 was employed in all analyses for spatial and temporal effects. A relatively complex procedure for identifying temporal and spatial effects (Figure 23) was employed in order to lessen the probability of accepting a chance-produced significant result as a valid result. Further description of and rationale for this procedure will now be presented.

The overall $\underline{F}$ ratio for each two-factor analysis was examined. These overall $\underline{F}$'s are analogous to the overall between-group $\underline{F}$'s in standard ANOVA--they provide a single test of all effects (main effects and interaction) pooled together. If the overall $\underline{F}$ for a specific two-factor analysis was not significant (at the 0.05 level), then the entire set of results for that analysis was discarded as chance produced. If the overall $\underline{F}$ was significant, then significant main effects from that analysis were accepted as valid significant results. In other words, a significant main effect was accepted as valid only if the corresponding overall $\underline{F}$ was also significant.

The entire set of two-factor analyses for a given variable was then inspected. Only if a given effect (*e.g.* year) was significant in every two-factor analyses involving that effect, was that effect accepted as a clear source of significant variation. For example, consider a variable collected under the 12 station sampling scheme. Six two-factor analyses would be involved in this case and the year effect would be analyzed in three of the six analyses. If year were found to be significant in each of the three analyses, then year would be accepted as clearly significant. That is, year is significant when period is covaried, when station is covaried and when transect is covaried. If year were found to be significant in only one or two of the three analyses, then the picture is unclear.

The significant year effects in one or two of the analyses do indicate significant variation, but clear identification of the source of this significant variation is not possible due to confounded effects.

If a main effect was accepted as being clearly significant for a particular variable, then all interactions involving the main effect were inspected for significance. A significant interaction involving a main effect indicates that the main effect may not be general. For example, consider a case where the main effect of station is significant and the station by transect interaction is also significant. The significant station main effect indicates that stations differ on the average. The significant station by transect interaction indicates that the difference among stations varies for the different transects. It is quite possible that stations are different on Transects I and II but not on Transects III and IV. That is, the station effect may not be general with regard to transect. Because of such possibilities, significant main effects were reported only when there were not significant interactions involving those main effects.

A few comments are necessary concerning these procedures for selection of spatial and temporal effects. For some variables, a limited number of data cases resulted in two-factor designs with empty cells. In these cases it was impossible to evaluate the two-way interaction. Also, for some trace metal body burden variables, data were not available for an entire spatial category (*e.g.* Transect II or Station Group 3) or an entire temporal category (*e.g.* spring). In such cases, these categories were omitted from analysis.

In summary, a spatial or temporal result was accepted as genuine only <u>if</u> the answer to all of the following questions was yes (Figure 23).

1) Is the overall F significant for every two-factor analysis involving the main effect in question?

2) Is the main effect significant in each of the relevant two-factor analyses?

3) Are the interactions involving the main effect all nonsignificant?

This procedure for selecting the temporal and spatial results served to limit the reported effects to those which were clear, general, and had the least probability of being chance produced.

Line printer scatterplots were produced to allow graphic representation of the spatial and temporal effects that were detected from the above procedures for certain variables. The variable was plotted on the Y-axis with a temporal (year or period) or spatial (transect or station group) dimension plotted on the X-axis. Each point on the plot was represented by a single character (letter or number), and different characters could be assigned to different points. This scatterplotting system actually allowed two spatial-temporal effects to be simultaneously represented on a single plot. One effect (*i.e.* period) could be represented on the X-axis, while a second effect (*i.e.* year) could be represented by the character plotted: an "A" representing 1975, a "B" representing 1976, and a "C" representing 1977. Since two effects could be simultaneously presented this scatterplotting system also provided graphic representation of two-way interactions.

Interrelationships Among Variables

During the synthesis and integration of any large multidisciplinary data base the relationships that exist between variables from different study elements must be investigated either with bivariate procedures or multivariate procedures. The use of various statistical techniques to aid in these tasks provides the means to evaluate parts of a data base which fit into a larger picture of the system. Figure 24 presents a flow chart depicting the different analysis techniques utilized in the STOCS study to investigate patterns and relationships among the different study variables.

Bivariate Correlation Analysis

All pairs of variables within a study area were intercorrelated using the traditional Pearson product-moment technique. The formula for the product-moment correlation coefficient is as follows.

$$r_{xy} = \frac{\sum_{i=1}^{N} \left[(X_i-\overline{X})(Y_i-\overline{Y})\right]}{N\ S_x\ S_y} \qquad [1]$$

In the above expression, r_{xy} is the bivariate correlation coefficient, N is the number of data cases, X_i is the ith score on the X variable, $\overline{X}$ is the mean of the X variable, Y_i is the ith score on the Y variable, $\overline{Y}$ is the mean of the Y variable, S_x is the standard deviation of the X variable, and S_y is the standard deviation of the Y variable. The value of S_x in expression [1] is given as follows.

$$S_x = \frac{\sum_{i=1}^{N} (X_i-\overline{X})}{N}$$

A corresponding expression can be written for S_y.

Bivariate correlations were calculated for all pairs of variables within the study area. Correlations were also calculated between variables from different study areas but such calculations were limited to the more

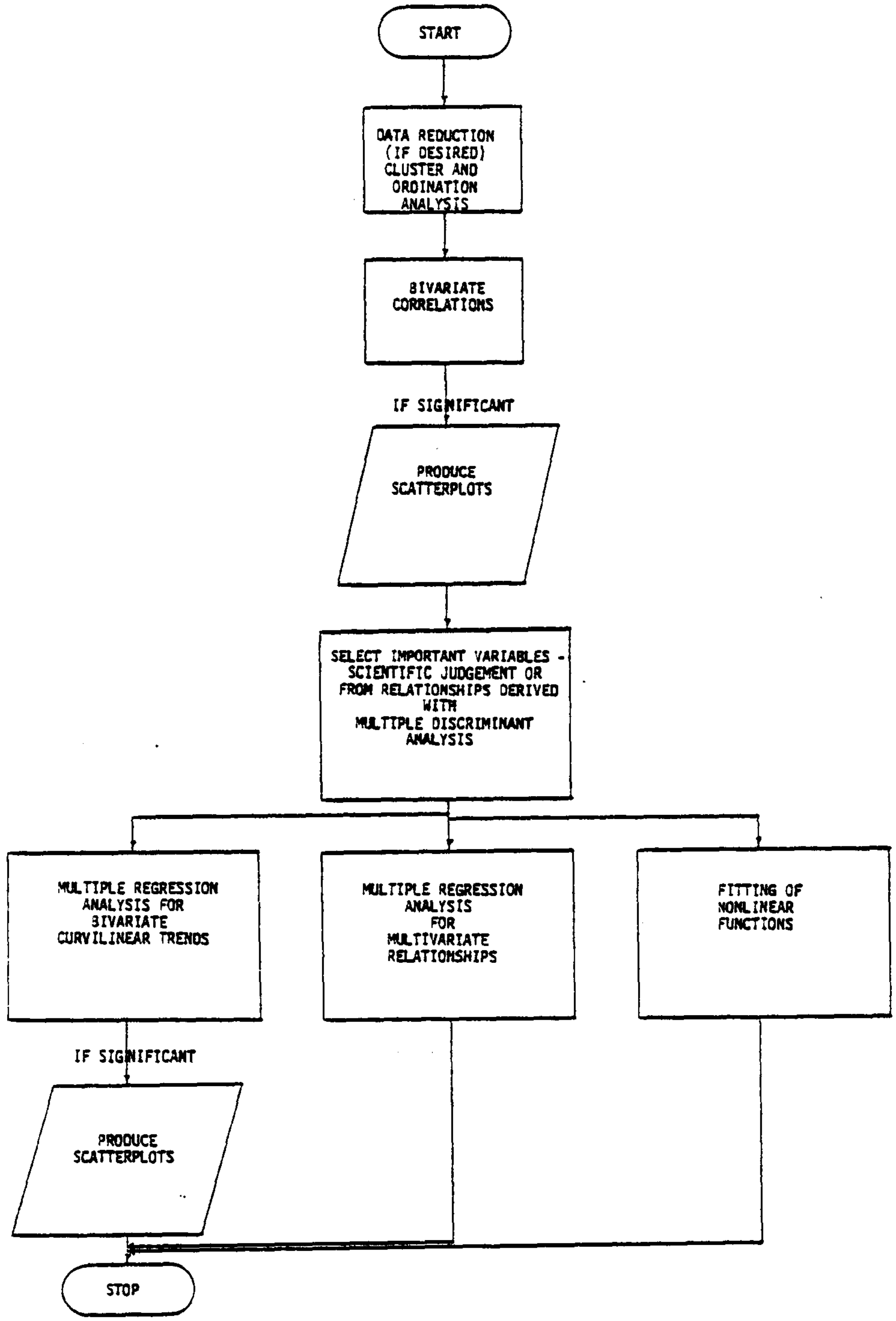


Figure 24. Overview of analysis of interrelations among STOCS variables.

important STOCS variables. For example, all variables included in the pelagic integration file were intercorrelated and all variables included in the benthic integration file were intercorrelated. Line printer scatterplots were generated to allow visual inspection of bivariate linear relationships. One of the two variables was plotted on the Y-axis while the other was plotted on the X-axis. Each point on the plot was represented by a single character (letter or number), and the character plotted for a given point was based upon a spatial (transect or station group) or temporal (year or collection period) dimension. For example, if the plot character was based upon year, then an "A" was plotted for 1975 data points, a "B" was plotted for 1976 data points, and a "C" was plotted for 1977 data points.

The same bivariate relationship was often plotted more than once with the plot characters being based on a different spatial-temporal dimension each time. Frequently, a relationship was plotted four times with plot characters being determined first by year, then by collection period, then by transect, and finally by station group. Such scatterplots proved very valuable. They allowed one to assess the generality of a relationship with regard to a spatial-temporal dimension. Also, such plots allowed one to determine the spatial-temporal conditions producing outliers (points showing a marked deviation from a general relationship). The study of outliers can provide unexpected scientific insight.

All scatterplots were produced with a program written by the data management staff. The descriptive statistics for the X and Y variables, the correlation coefficient, and the parameters for the regression line were printed at the top of each plot. An option was available which allowed the regression line to be included on the scatterplot.

Multiple Regression Analysis for Bivariate Curvilinear Trends

Multiple regression analysis can be applied to nonlinear trends. The technique is not limited to an analysis of straight lines. Thus, the following function can be used with standard multiple regression methods.

$$Y = a_1 + a_2X + a_3X^2$$

In this expression, Y represents the criterion variable, a_1 represents the regression constant or Y-intercept, a_2 represents the regression slope for X (the first predictor variable), and a_3 represents the regression slope for X^2 (the second predictor variable). More complex curvilinear trends can be examined by adding higher order terms (X^3, X^4, etc.) to the above expression.

In the STOCS study, curvilinear trends were examined by fitting the following sequence of models.

Model 1: $Y = a_1 + a_2X + a_3X^2 + a_4X^3 + a_5X^4$

Model 2: $Y = a_1 + a_2X + a_3X^2 + a_4X^3$

Model 3: $Y = a_1 + a_2X + a_3X^2$

Model 4: $Y = a_1 + a_2X$

Model 5: $Y = a_1$ (null model)

Statistical comparisons were made between successive pairs of models to determine if a model led to significantly better prediction than the next model in the sequence. The smallest model which did not yield significantly inferior prediction to any model preceding it in the sequence was selected as the best model. If the best model was not the null model, a two-dimensional scatterplot was automatically generated with the function representing the best model plotted on the scatterplot. The plot characters were coded according to spatial-temporal dimensions in order to allow examination of the generality of the bivariate relationship with regard to time and space and to allow examination of outliers. Often the same relationship was plotted several times with the plot characters being based on different spatial-temporal dimensions in the different plots.

Statistical comparisons between pairs of models were made with the standard method for comparing regression models (Kerlinger and Pedhazur, 1973; Rao, 1965; Searle, 1971). This standard method involves calculation of the following F-statistic.

$$F = \frac{(R_L^2 - R_S^2)/(df_L - df_S)}{(1 - R_L^2)/df_L}$$

In this expression, R_L^2 refers to the square of the multiple correlation coefficient for the larger of the two models being compared (*i.e.* the model with the greater number of predictor variables), R_S^2 refers to the square of the multiple correlation coefficient for the smaller of the two models, df_L refers to the degrees of freedom for the larger model, and df_S refers to the degrees of freedom for the smaller model. The degrees of freedom for any regression model equal the number of data cases minus the number of regression parameters. In the case of the regression models from the above sequence, the number of regression parameters always equals one more than the number of predictor variable terms (*e.g.* X_1, X_1^2, X_1^3, etc.). Therefore, the degrees of freedom for these models equal the number of data cases minus one more than the number of predictor variable terms. That is:

$$df = N - (\# \text{ predictor variable term} + 1).$$

Note that the R^2 for the null model is always 0 and the degrees of freedom for this model always equal to N-1. Once the F-value is calculated, the probability of obtaining an F that large, with numerator degrees of freedom equal to df_L minus df_S and denominator degrees of freedom equal to df_L, is calculated. A probability less than 0.05 was taken to indicate that the larger model yielded significantly better prediction than the smaller model.

This system for identifying curvilinear trends was based upon computer programs from the PRIME System Statistical Library (Veldman, 1978). For several study areas, this system for identifying curvilinear relationships was applied to all pairs of variables within a study area. In addition, the system was applied to pairs of variables from different study areas when there was special interest in detecting relationships more complex than a simple linear relationship.

Note that a fourth order polynomial (Model 1) is often capable of roughly fitting a relationship describing a normal distribution. Also note that polynomial functions of the type given in Models 1, 2 and 3 may often produce significant prediction if there is an underlying logarithmic or exponential relationship. Thus, the system used to detect curvilinear trends in the STOCS is often capable of screening out a large variety of nonlinear trends.

Multiple Discriminant Analysis

Multiple discriminant analysis was primarily employed as a technique to aid in the selection of important physical variables for further study. Site groups, previously identified by cluster or ordination analysis as having similar biological communities, served as criteria. Physical variables (*e.g.* temperature, salinity, sediment texture, etc.) served as discriminating (predictor) variables. A stepwise inclusion procedure was employed with regard to the set of discriminating variables. All multiple discriminant analyses were calculated with the multiple discriminant analysis subprogram from the Statistical Package for the Social Sciences (Nie *et al.*, 1975). Physical variables which produced significant discrimination among site groups were identified as salient features of the ecosystem.

Discriminant analysis of physical variables represented a means of characterizing the station groups with respect to environmental variables. Specifically, the analysis allowed examination of differences between station groups relative to each discriminant function (*i.e.* each transformed axis achieved through discriminant analysis), and to interpret these differences with respect to the original physical variables which dominated that discriminant function. The identification of variables which dominated each discriminant function was based on values of the standardized weights corresponding to that discriminant function.

Discriminant analysis also provided a means of obtaining quantitative measures of the "strength" or validity of the station groups with respect to physical variables. The motivation for defining station groups (usually by depth) was that cluster analysis indicated differences in the species compositions and patterns of abundance between sampling stations in different depth zones. It was important to determine if these differences were also reflected in physical variables. The strength of the station groupings could be measured by the square of the canonical correlation for each discriminant function; each squared canonical correlation was interpreted as the proportion of variance in the corresponding discriminant function accounted for by the groups (Klecka, 1975). A second measure of the strength of station groupings was Wilk's Lambda criterion, which was used to test the significance of the overall difference among station group centroids (Tatsuika, 1971; Klecka, 1975). A third indirect measure of the strength of groups utilized the classification capabilities of discriminant analysis, with the proportion of stations assigned to the correct station groups by the classification procedure taken as the measure.

Pairwise comparisons of station group centroids, using F-values based on the Mahalonobis distance between groups were performed by SPSS. As with the overall test of difference among groups using Wilk's Lambda, these F-tests could be viewed as a test of the distinctiveness of the defined station groups with respect to discriminating variables.

Multiple Regression Analysis for Multivariate Relationships

Multiple regression analysis was also applied to the prediction of one STOCS variable from a set of other STOCS variables. An example regression model for this type of analysis follows.

$$Y = a_1 + a_2X_1 + a_2X_1^2 + a_4X_2 + a_5X_2^2$$

In the above model Y, X_1 and X_2 are three different STOCS variables with Y serving as the criterion and the predictor variables being X_1 and X_2. Note that the example model includes squared terms (*e.g.* X_1^2) and therefore is relevant to curvilinear as well as linear trends. This type of regression analysis was typically applied to a species abundance as criterion and to physical environmental variables (*e.g.* temperature, salinity, sediment texture, time of day, day of the year) as predictors. The general research problems addressed with such regression analyses were 1) identification of the "best" multivariate regression model for predicting a given species and 2) assessment of the extent of predictability for that species.

Selection of the best predictive model for a species proceeded as follows. A pool of likely predictor variables (physical environmental variables) was assembled. In some cases, this pool included not only the simple variables (*e.g.* X_1, X_2, etc.) but also squared (X_1^2, X_2^2), cubed (X_1^3, X_2^3), and fourth order terms (X_1^4, X_2^4). A predictive model was then constructed using the standard method of stepwise inclusion of terms from the predictor pool. Such stepwise regression analysis was conducted with the multiple regression analyses subprogram of the Statistical Package for the Social Sciences (Nie *et al.*, 1975).

Assessment of the predictability for a species was based on the regression model identified by the stepwise technique as being the best model for that species. The R^2 (square of the multiple correlation coefficient) from the best model was reported as one measure of species predictability. Note that the R^2 can be interpreted as the proportion of species' variability which was actually predictable. A second measure of species predictability was the standard error of the estimate (SEE) from the best model. The SEE is the standard deviation of the prediction errors (*i.e.* the residual errors) and this measure gives a feel for the accuracy of prediction achieved by the best model.

Fitting of Nonlinear Function

Nonlinear modeling techniques were applied to the prediction of species abundance variables from physical environmental variables. Non-linear functions of the following types were employed.

$$Y = f\ (e^{X})$$

$$Y = f\ (e^{\sin X})$$

In the above functions, Y represents the criterion (species abundance) and X represents a predictor (physical) variable. Such functions were used to identify relationships based upon normal distributions, cyclical (sinusoidal) distributions, and exponential distributions. Nonlinear predictive functions were studied for two reasons. First, the functions describe distributions of organisms which are biologically reasonable. For example, such functions allow determination of whether a particular species is normally distributed with regard to a physical variable like temperature or salinity. Secondly, it was hypothesized that nonlinear models would provide superior prediction to linear correlation models and to standard multiple regression models for curvilinear trends.

Four different functions were employed in nonlinear modeling. The first function was a form of the general Gaussian (normal distribution) function given as follows.

$$Y = \beta\ [e^{(X-X_0)^2/\alpha}]^{-1} \qquad [2]$$

In this function, Y represents the criterion and X represents the predictor with β, α, and X_0 being parameters estimated from the data. In this model, β is the amplitude (maximum predicted value), X_0 is the location of the function maximum on the X-dimension, and α is a rate parameter controlling the slope (peakedness) of the function. Figure 25a presents a plot of the

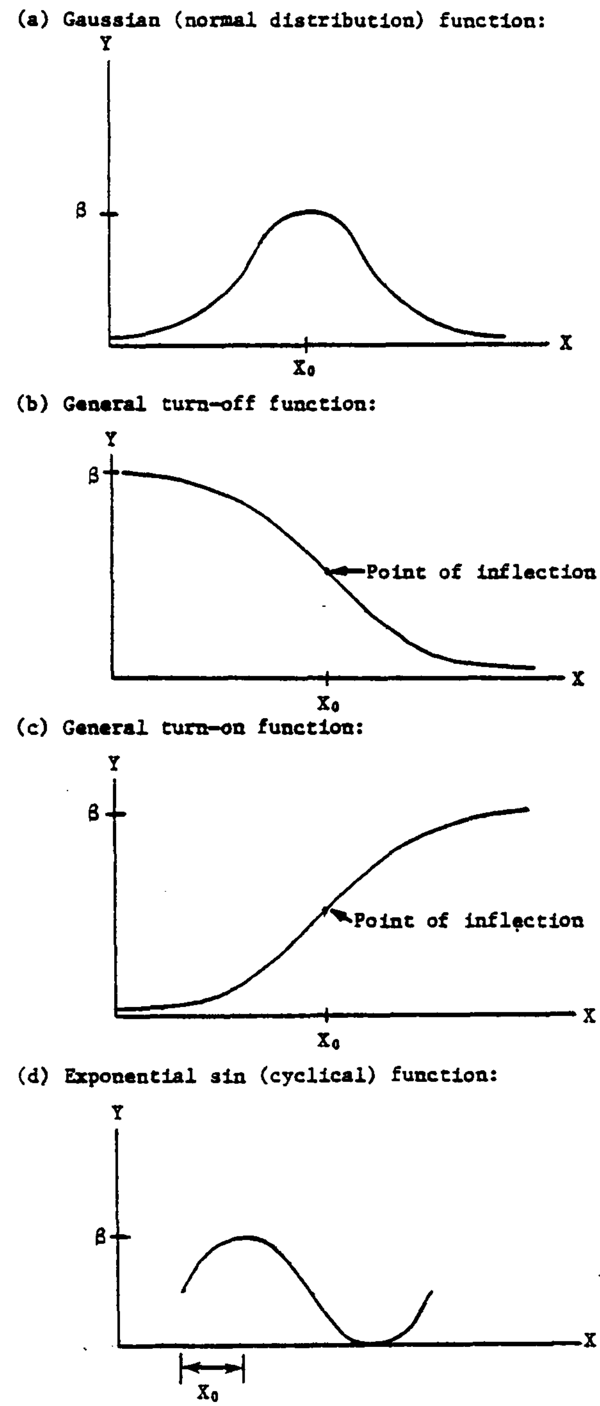


Figure 25. Nonlinear functions investigated in the STOCS study.

form of the function. The degrees of freedom for any predictive model equal the number of valid data cases minus the number of parameters estimated from the data. Therefore, the degrees of freedom for expression [2] are the number of data cases minus 3.

The second nonlinear function studied was an exponential function which will be referred to as the general turn-off function. Expression [3] gives the form of the general turn-off function.

$$Y = \beta \left[e^{(X-X_0)/\alpha} + 1\right]^{-1} \qquad [3]$$

In [3], Y is the criterion and X is the predictor with β, X_0 and α being parameters estimated from the data. In this model, β is the function maximum, X_0 locates the point of inflection, and α is a rate parameter controlling the slope of the function. Figure 25B presents a plot of the form of function [3]. The degrees of freedom for expression [3] are the number of valid data cases minus 3.

The third nonlinear function studied was an exponential function which will be referred to as the general turn-off function. Expression [4] gives the form of the general turn-on function.

$$Y = \beta \left[1 - \{e^{(X-X_0)/\alpha} + 1\}^{-1}\right] \qquad [4]$$

In [4], Y is the criterion and X is the predictor with β, α, and X_0 being parameters estimated from the data. In this model, β is the function maximum, X_0 locates the point of inflection, and α controls the slope. Figure 25c presents a plot of the form of this function. The degrees of freedom for expression [4] equal the number of valid data cases minus 3.

The final bivariate nonlinear function was an exponential sine (cyclical) function given as follows.

$$Y = \frac{\beta e^{\alpha \sin[(x-x_0)2\Pi/c]}}{e^{\alpha}} \qquad [5]$$

In this function, Y is the criterion, X is the predictor, and $2\Pi/c$ is a scaling factor used to transform the units of X into radians where c equals the cycle length in raw units of the predictor variable. The parameters in expression [5] are β, the function maximum; X_0, the phase shift on the X-dimension; and α, the rate parameter determining the slope of the function. The form of expression [5] is plotted in Figure 25d.

Which nonlinear function was applied depended on the nature of the predictor variable of interest. For example, a Gaussian function could be employed for temperature, a turn-off function for depth, a turn-on function for dissolved oxygen, and a cyclical function for a temporal variable such as time of day or day of the year. The four basic non-linear models (expressions [2] through [5]) all represent bivariate models; *i.e.* they all involve a criterion and a single predictor. Multivariate nonlinear models (involving two or more predictors) were generated by combining bivariate models in multiplicative fashion. For example, the models in expressions [2] and [5] were multiplicatively combined to yield the following two-predictor model.

$$Y = \beta \left[e^{(x-x_0)^2/\alpha}\right]^{-1} \left[\frac{e^{\gamma \sin(z-z_0)2\Pi/c}}{e^{\gamma}}\right] \qquad [6]$$

In this model, Y is the criterion, X is the first predictor variable, and Z is the second predictor variable. The model's parameters are as follows: β is the function maximum, X_0 is the location of the maximum on the X-dimension, α is the rate parameter with regard to the X-dimension, Z_0 is the phase shift on the Z-dimension, and γ is the rate parameter with regard to the Z-dimension.

Note that any pair of bivariate nonlinear models can be multiplicatively combined in this manner. Thus, a model of the form [2] with X as predictor can be combined with another model of the form [2] with Z as predictor to yield the following two-predictor model.

$$Y = \beta \left[e^{(x-x_0)^2/\alpha}\right]^{-1} \left[e^{(z-z_0)^2/\gamma}\right]^{-1}$$

This procedure can also be extended to construct models involving three or more predictors. For application to the STOCS data, nonlinear models were limited to three predictor variables. Such a limit was adopted because parameter estimation for larger models proved quite cumbersome and the expense in terms of computer time was very high.

Estimation of parameters for nonlinear models is quite difficult and the usual approach involves iterative computer techniques (Draper and Smith, 1966). An iterative search computer program was written to determine parameter values producing minima with regard to the error sum of squares. The program required the user to specify a starting value and a maximum step size for each parameter in the model. The maximum step size was initially employed and then the step size was gradually decreased according to a square root function. After a minimum was located and the corresponding parameter values reported, the procedure could be repeated with alternative starting values for the parameters, in an effort to locate an alternative minimum.

A systematic approach was applied to the development of nonlinear predictive models for a species (criterion) of interest. Bivariate scatterplots were initially inspected to determine the most promising predictor variable. This variable was then used to construct a one-predictor non-linear model and the parameters for that model were estimated. A residual error score was then calculated for each data case on the basis of the one-predictor model. These residual error scores were then plotted against each of the remaining predictor variables of interest. The most promising of the remaining predictor variables was selected and a nonlinear model was constructed for this second predictor variable. A two-predictor nonlinear model was then constructed by multiplicatively combining the model for the first predictor with the model for the second predictor. The parameters for the two-predictor model were estimated, and a third predictor was selected by study of the residuals from the two-predictor model. The final three-predictor model was then constructed in multiplicative fashion and the parameters for this model estimated.

For each species (criterion) of interest, all three nonlinear models (one-predictor, two-predictor, and three-predictor models) were reported. The information reported for each model included the estimated parameter values, the R^2 (percent of variance predicted), and the standard error of the estimate (standard deviation of the residual errors). The relative predictive efficiencies of successive models were compared with the following F-statistic.

$$F = \frac{(R_L^2 - R_S^2)/(df_L - df_S)}{(1 - R_L^2/df_L)}$$

R_L^2 refers to the R^2 for the model involving the larger number of predictors and df_L represents the corresponding degrees of freedom. R_S^2 refers to the R^2 for the model involving fewer predictors and df_S represents the corresponding degrees of freedom.

Of specific interest was the relative predictive efficiency of nonlinear models *vs.* standard multiple regression models. For each nonlinear model, a standard multiple regression model was constructed involving the same predictor or predictors. Squared (X^2), cubed (X^3), and 4th order (X^4) terms were included in the multiple regression models to allow those models to be sensitive to curvilinear trends. For example, the following multiple regression model was constructed for comparison to a nonlinear model involving two predictors (X_1 and X_2).

$$Y = a_1 + a_2X_1 + a_3X_1^2 + a_4X_1^3 + a_5X_1^4 + a_6X_2 + a_7X_2^2 + a_8X_2^3 + a_9X_2^4$$

A nonlinear model was compared to the corresponding standard multiple regression model using the following F-statistic.

$$F = \frac{(1-R_1^2)/df_1}{(1-R_2^2)/df_2}$$

R_1^2 refers to the R^2 from the nonlinear or multiple regression model, which ever was smaller; df_1 refers to the degrees of freedom for the model yielding R_1^2. R_2^2 refers to the larger of the two R^2's and df_2 refers to the corresponding degrees of freedom. This F-statistic provides a rough test of which model (nonlinear *vs.* multiple regression), if either, yielded the better prediction for the species in question.

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APPENDIX A

SOUTH TEXAS OUTER CONTINENTAL SHELF

DATA BASE FORMATS

PREFACE

This appendix contains species of the tape directories and documentation files for the south Texas outer continental shelf (STOCS) environmental study program. A total of three magnetic tapes were required to hold all of the data and basic documentation from the STOCS study. A set of tapes have been submitted to the National Oceanic and Atmospheric Administration/Environmental Data Information Services in Washington, D.C. Additional sets of these tapes are held by the Department of Marine Studies of the University of Texas at Austin and by the Department of Oceanography of Texas A&M University.

The first six pages of this appendix present the directories for the three magnetic tapes. The directories describe which study elements are on each tape as well as the lengths of the documentation file and data files for each study area. The remainder of this appendix then presents a copy of the documentation file for each of the study areas. Each documentation file contains a) the sampling and analytic methods used to obtain the data, b) the inventory and data format, and c) the keys to the different codes used in the data file. (For further description of the inventory format and sampling scheme, see Chapter Two of this volume.)

The intention of presenting this appendix is to provide detailed information to the reader concerning the contents of the STOCS data base. Thus, if he/she wishes to obtain data on a specific set of study areas, this presentation will make it easier to decide which files should be requested from the Environmental Data Information Service (EDIS).

MAGNETIC DATA TAPE
EDIS FILE DIRECTORY

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789+-*/()$= ,.≡[]:≠→∨∧↑↓<>≤≥¬;
THE ABOVE LINE IS THE CHARACTER SET USED ON THIS TAPE

BUREAU OF LAND MANAGEMENT
SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY
1975-1977

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TAPE 1

****
****

TAPE FORMAT
---- ------

EACH LINE=128 CHARACTERS

EACH BLOCK (PHYSICAL RECORD)= 40 LINES (5120 CHARACTERS)

UNUSED PORTION OF FINAL BLOCK FOR A FILE HAS
BEEN BLANK FILLED.

DIRECTORY OF FILES
--------- -- -----

STUDY AREA	FILE NUMBER	FILE DESCRIPTION	NUMBER OF DATA LINES PER FILE	NUMBER OF TRAILING BLANK LINES	TOTAL LINES
	1	FILE DIRECTORY AND TAPE FORMAT	101	19	120
SALINITY, TEMPERATURE AND DEPTH	2	COMMENT FILE	331	29	360
	3	1975 DATA	1218	22	1240
	4	1976 DATA	2677	3	2680
	5	1977 DATA	3266	14	3280
NUTRIENTS AND DISSOLVED OXYGEN	6	COMMENT FILE	344	16	360
	7	1975 DATA	163	37	200
	8	1976 DATA	606	34	640
	9	1977 DATA	663	17	680
LOW MOLECULAR WEIGHT HYDROCARBONS (WATER COLUMN AND SEDIMENT)	10	COMMENT FILE	362	38	400
	11	1975 DATA, WATER COLUMN	163	37	200
	12	1976 DATA, WATER COLUMN	680	0	680
	13	1977 DATA, WATER COLUMN	512	8	520
	14	1977 DATA, SEDIMENT	218	22	240
HYDROCARBONS IN EPIFAUNA	15	COMMENT FILE	428	12	440
	16	1975 DATA	2634	6	2640
	17	1976 DATA	2821	19	2840
	18	1977 DATA	2341	19	2360
	19	CODED SPECIES LIST	48	32	80
BENTHIC INVERTEBRATE MACROFAUNA (EPIFAUNA AND INFAUNA)	20	COMMENT FILE	371	29	400
	21	1975 EPIFAUNA DATA	684	36	720

	22	1976 EPIFAUNA DATA	1969	31	2000
	23	1977 EPIFAUNA DATA	1822	18	1840
	24	1975 INFAUNA DATA	1703	17	1720
	25	1976 INFAUNA DATA	20485	35	20520
	26	1977 INFAUNA DATA	15985	15	16000
	27	CODED SPECIES LIST	1304	16	1320
EPIFAUNA FISH	28	COMMENT FILE	336	24	360
	29	1975 DATA	1400	0	1400
	30	1976 DATA	3337	23	3360
	31	1977 DATA	3357	3	3360
	32	CODED SPECIES LIST	172	28	200
HIGH MOLECULAR WEIGHT HYDROCARBONS	33	COMMENT FILE	535	25	560
(SEDIMENT, ZOOPLANKTON,	34	1975 DATA	3858	22	3880
PARTICULATE, DISSOLVED, NEUSTON)	35	1976 DATA	11760	0	11760
	36	1977 DATA	6952	8	6960
CHLOROPHYLL A	37	COMMENT FILE	337	23	360
	38	1975 DATA	216	24	240
	39	1976 DATA	808	32	840
	40	1977 DATA	808	32	840
ATP(ADENOSINE TRI-PHOSPHATE)	41	COMMENT FILE	316	4	320
	42	1975 DATA	212	28	240
	43	1976 DATA	412	28	440
PHYTOPLANKTON	44	COMMENT FILE	352	8	360
	45	1975 DATA	2755	5	2760
	46	1976 DATA	4621	19	4640
	47	1977 DATA	2964	36	3000
	48	CODED SPECIES LIST	437	3	440
FLUORESCENCE	49	COMMENT FILE	313	7	320
	50	1977 DATA	601	39	640
MEIOFAUNA	51	COMMENT FILE	353	7	360
	52	1976 DATA	588	12	600
	53	1977 DATA	982	18	1000

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789+-*/()$= ,.#[]:≠∨∧↑↓<>≤≥¬;
THE ABOVE LINE IS THE CHARACTER SET USED ON THIS TAPE

BUREAU OF LAND MANAGEMENT
SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY
1975-1977

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TAPE 2

****
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TAPE FORMAT

EACH LINE=128 CHARACTERS

EACH BLOCK (PHYSICAL RECORD)=40 LINES (5120 BYTES)

UNUSED PORTION OF FINAL BLOCK FOR A FILE HAS BEEN BLANK FILLED

DIRECTORY OF FILES

STUDY AREA	FILE NUMBER	FILE DESCRIPTION	NUMBER OF DATA LINES PER FILE	NUMBER OF TRAILING BLANK LINES	TOTAL LINES
	1	FILE DIRECTORY AND TAPE FORMAT	89	31	120
MICROZOOPLANKTON - PROTOZOA	2	COMMENT FILE	357	3	360
	3	1975 DATA	203	37	240
	4	1976 DATA	338	22	360
	5	1977 DATA	2137	23	2160
	6	CODED SPECIES LIST	123	37	160
ZOOPLANKTON	7	COMMENT FILE	355	5	360
	8	1975 DATA	8303	17	8320
	9	1976 DATA	6914	6	6920
	10	1977 DATA	6767	33	6800
	11	CODED SPECIES LIST	285	35	320
MICROZOOPLANKTON (DISCRETE DEPTHS, VERTICAL TOW, BENTHIC)	12	COMMENT FILE	354	6	360
	13	1975 DATA	2370	30	2400
	14	1976 DATA	3918	2	3920
	15	1977 DATA	2255	25	2280
	16	CODED SPECIES LIST	470	10	480
TOTAL ORGANIC CARBON AND DELTA CARBON 13 IN SEDIMENT	17	COMMENT FILE	331	29	360
	18	1977 DATA	174	26	200
PHOTOMETRY	19	COMMENT FILE	328	32	360
	20	1976 DATA	108	12	120
	21	1977 DATA	267	13	280

HISTOPATHOLOGY	22	COMMENT FILE	372	28	400
	23	1976 INVERTEBRATE EPIFAUNA	2314	6	2320
	24	1977 INVERTEBRATE EPIFAUNA	5012	28	5040
	25	1976 DEMERSAL FISHES	2156	4	2160
	26	1977 DEMERSAL FISHES	2336	24	2360
	27	1976 GONADAL TISSUE	578	22	600
	28	1977 GONADAL TISSUE	1701	19	1720
	29	EXPLANATION OF CODES	266	14	280
SEDIMENT TEXTURAL ANALYSIS (INFAUNA, MEIOFAUNA, BACTERIOLOGY AND MYCOLOGY)	30	COMMENT FILE	338	22	360
	31	1976 INFAUNA AND MEIOFAUNA	1554	6	1560
	32	1977 INFAUNA AND MEIOFAUNA	1044	36	1080
	33	1977 BACTERIOLOGY/MYCOLOGY	108	12	120
NEUSTON	34	COMMENT FILE	340	20	360
	35	1976 DATA	3985	15	4000
	36	1977 DATA	3484	36	3520
	37	CODED SPECIES LIST	173	27	200
CARBON 14 IN PHYTOPLANKTON	38	COMMENT FILE	333	27	360
	39	1977 DATA	324	36	360
TRACE METALS (SEDIMENT AND WATER COLUMN)	40	COMMENT FILE	379	21	400
	41	1976 SEDIMENT DATA	350	10	360
	42	1977 SEDIMENT DATA	390	10	400
	43	1975 WATER COLUMN DATA	355	5	360
	44	1976 WATER COLUMN DATA	478	2	480
	45	1977 WATER COLUMN DATA	496	24	520

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789+-*/()$= ,.≡[]:≠→∨∧↑↓<>≤≥¬;
THE ABOVE LINE IS THE CHARACTER SET USED ON THIS TAPE

BUREAU OF LAND MANAGEMENT
SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY
1975-1977

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****

TAPE 3

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****

TAPE FORMAT

EACH LINE=128 CHARACTERS

EACH BLOCK (PHYSICAL RECORD)=40 LINES (5120 BYTES)

UNUSED PORTION OF FINAL BLOCK FOR A FILE HAS BEEN BLANK FILLED

DIRECTORY OF FILES

STUDY AREA	FILE NUMBER	FILE DESCRIPTION	NUMBER OF DATA LINES PER FILE	NUMBER OF TRAILING BLANK LINES	TOTAL LINES
	1	FILE DIRECTORY AND TAPE FORMAT	83	37	120
TEMPERATURE, SALINITY, AND DEPTH	2	COMMENT FILE	379	21	400
(FOR RIG MONITORING STUDY)	3	DATA FILE	162	38	200
LOW MOLECULAR WEIGHT HYDROCARBONS	4	COMMENT FILE	387	13	400
(FOR RIG MONITORING STUDY)	5	DATA FILE	210	30	240
HYDROCARBONS IN EPIFAUNA	6	COMMENT FILE	445	35	480
(FOR RIG MONITORING STUDY)	7	DATA FILE	114	6	120
	8	CODED SPECIES LIST	48	32	80
MACROINVERTEBRATE EPIFAUNA AND	9	COMMENT FILE	411	29	440
INFAUNA	10	DATA FILE	4623	17	4640
(FOR RIG MONITORING STUDY)	11	CODED SPECIES LIST	1312	8	1320
DEMERSAL FISHES	12	COMMENT FILE	384	16	400
(FOR RIG MONITORING STUDY)	13	DATA FILE	55	25	80
	14	CODED SPECIES LIST	172	28	200
MEIOFAUNA	15	COMMENT FILE	402	38	440
(FOR RIG MONITORING STUDY)	16	DATA FILE	36	4	40
TRACE METALS	17	COMMENT FILE	447	33	480
(FOR RIG MONITORING STUDY)	18	SEDIMENT DATA FILE	28	12	40
	19	SUSPENDED SEDIMENT DATA FILE	40	0	40
	20	EPIFAUNA DATA FILE	12	28	40

SEDIMENT TEXTURAL ANALYSIS	21	COMMENT FILE	386	14	400
(FOR RIG MONITORING STUDY)	22	DATA FILE	540	20	560
HIGH MOLECULAR WEIGHT HYDROCARBONS	23	COMMENT FILE	438	2	440
(FOR RIG MONITORING STUDY)	24	SEDIMENT DATA FILE	526	34	560
SEDIMENT BACTERIOLOGY	25	COMMENT FILE	477	3	480
	26	BIOLOGY DATA FILE	299	21	320
	27	HYDROCARBON DATA FILE	902	18	920
	28	EXPERIMENTAL DATA FILE	125	35	160
WATER COLUMN BACTERIOLOGY	29	COMMENT FILE	384	16	400
	30	BIOLOGY DATA FILE	392	8	400
SEDIMENT MYCOLOGY	31	COMMENT FILE	444	36	480
	32	BIOLOGY DATA FILE	420	20	440
	33	HYDROCARBON DATA FILE	1913	7	1920
WATER COLUMN MYCOLOGY	34	COMMENT FILE	450	30	480
	35	BIOLOGY DATA FILE	269	11	280
	36	HYDROCARBON DATA FILE	1946	14	1960

MAGNETIC DATA TAPE 1

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: SALINITY, TEMPERATURE, AND DEPTH (STD-ST)

PRINCIPLE INVESTIGATOR: NED P. SMITH (NPS)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: JAMES C. EVANS
WILLIAM MACNAUGHTON

DIRECTORY FOR STUDY AREA

FILE 2: METHODS, DATA FORMAT AND COMMENTS
FILE 3: 1975 DATA
FILE 4: 1976 DATA
FILE 5: 1977 DATA

METHODS

EQUIPMENT:
HYDROGRAPHIC DATA NORMALLY COLLECTED USING A PLESSEY MODEL 9060 SELF-CONTAINED SALINITY/TEMPERATURE/DEPTH PROFILE SYSTEM (STD)
IN BRACKISH OR SHALLOW WATER: MARTEK MODEL TDC METERING SYSTEM

SAMPLES:
WATER SAMPLES TAKEN WITH NANSEN BOTTLES WITH PAIRS OF REVERSING THERMOMETERS

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK

11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE

		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE

- BAG-BAC(SEDIMENT BACTERIOLOGY)
- CHG-HC (SEDIMENT HYDROCARBONS)
- CHG-MST(CHEMISTRY GRAB)
- CHG-TM (SEDIMENT TRACE METALS)
- CHG-TEX(SEDIMENT TEXTURE)
- CHL- (TOTAL CHLOROPHYLL-1975)
- CHT-HC (EPIFAUNA HYDROCARBONS)
- CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
- CHT-TM (EPIFAUNA TRACE METALS)
- EPI-FSH(EPIFAUNA DEMERSAL FISH)
- EPI-HC (EPIFAUNA HYDROCARBONS)
- EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
- EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
- EPI-INV(EPIFAUNA INVERTEBRATES)
- EPI-MST(EPIFAUNA MASTER)
- ICH- (ICHTHYOPLANKTON)
- INF-MST(INFAUNA MASTER)
- INF-SED(INFAUNA SEDIMENT)
- INF-TAX(INFAUNA TAXONOMY)
- LGT-PZ (PHOTOMETRY)
- LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
- MNK-TM (MACRONEKTON TRACE METALS)
- MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
- MMS-MEI(MEIOFAUNA)
- MMS-MST(MEIOFAUNA MASTER GRAB)
- MYG-MYC(SEDIMENT MYCOLOGY)
- NEU-TAX(NEUSTON TAXONOMY)
- SED- (SEDIMENT)

DISPOSITION AND PRINCIPLE INVESTIGATOR

- TAMU-TEXAS A+M UNIVERSITY
  - LHP-LINDA H. PEQUEGNAT
  - CSG-C.S. GIAM
  - TSP-E. TAISOO PARK
  - BJP-B.J. PRESLEY
  - WMS-WILLIAM M. SACKETT
  - WEP-WILLIS E. PEQUEGNAT
  - RR-RICHARD REZAK
  - WEH-WILLIAM E. HAENSLY
  - JMN-JERRY M. NEFF
  - WH-WILLIAM E. HAENSLY
  - JN-JERRY M. NEFF
  - JRS-JOHN R. SCHWARZ
  - JHW-JOHN H. WORMUTH
- UT-PORT ARANSAS MARINE LAB.
  - PLP-PATRICK L. PARKER
  - NPS-NED P. SMITH
  - CVB-CHASE VAN BAALEN
  - JSH-J. SELMON HOLLAND
  - DEW-DONALD E. WOHLSCHLAG
  - DK-DAN L. KAMYKOWSKI
  - PJ-PATRICIA L. JOHANSEN
- UT-GEOPHYSICAL LAB. GALVESTON
  - EWB-E. W. BEHRENS

SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-D. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY

42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	001210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK

11	A4	SAMPLE CODE*
15	F5	DEPTH (METERS)
20	F5	TEMPERATURE (C)
25	F5	SALINITY (PPT)
30	1X	BLANK
31	A4	SAMPLE CODE**

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

** SAMPLE CODE REPORTED IN REPORT APPENDICES IF NOT SAME AS SAMPLE CODE REPORTED IN COL. 11, OTHERWISE BLANK.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: NUTRIENTS AND DISSOLVED OXYGEN (WAT-NUT)

PRINCIPLE INVESTIGATORS: WILLIAM M. SACKETT (WMS)
JAMES M. BROOKS
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: BERNIE B. BERNARD
C. R. SCHWAB

DIRECTORY FOR STUDY AREA
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FILE 6: METHODS, DATA FORMAT AND COMMENTS
FILE 7: 1975 DATA
FILE 8: 1976 DATA
FILE 9: 1977 DATA

METHODS

EQUIPMENT: SERIES OF NISKIN OR NANSEN BOTTLES
DISSOLVED OXYGEN: WINKLER METHOD (STRICKLAND AND PARSONS, 1972)
NUTRIENTS: AUTOANALYZER (STRICKLAND AND PARSONS, 1972)
SALINITY: PLESSEY 6210 INDUCTIVE SALINOMETER

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---*

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)

25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE

```
                         1= NOT A BLM CONTRACTED SAMPLE
 52-53       I2        CRUISE NUMBER
 54-56       I3        SAMPLE DEPTH IN METERS;
                         NOTE: 999 MEANS NOT APPLICABLE
                               991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                               992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                               993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
 57-60       A4        PARENT SAMPLE CODE FOR SUBSAMPLES
                              NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                              THIS FIELD WILL CONTAIN XXXX OR BE BLANK
   61        1X        BLANK
 62-69       A8        PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                              1976, 1977 FINAL REPORTS TO BLM
                              NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                              VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                              THIS FIELD ARE FOR POOLED SAMPLES,
                              E.G.=
                               A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                                  OF SAMPLES AAAA,AAAB,AAAC
                               B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                                  UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE                  DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)             TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)                       LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)                CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)                     TSP-E. TAISOO PARK
CHL-    (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)                BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)             WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)                WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)               RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)                WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)              JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)              WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)               JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)                      JRS-JOHN R. SCHWARZ
ICH-    (ICHTHYOPLANKTON)                     JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)                    UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)                     PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)                     NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                           CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)    JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                            DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)                DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                    PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)                  UT-GEOPHYSICAL LAB. GALVESTON
SED-    (SEDIMENT)                            EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY     UTSA-UNIV. OF TEXAS AT SAN ANTONIO
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TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

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WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
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	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	003210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE FOR INVENTORY MATCHUP*
	15	I2	TRANSECT/STATION
	17	I3	DEPTH (METERS)
	20	I1	RELATIVE DEPTH CODE
	21	1X	BLANK
	22	I1	REPLICATE NUMBER
	23	I1	NUMBER OF REPLICATES AT SAME DEPTH

24	F5	TEMPERATURE (C)
29	F6	SALINITY (PPT)
35	F6	SILICATE (MICROMOLES/LITER)****
41	F7	PHOSPHATE (MICROMOLES/LITER)****
48	F7	NITRATE (MICROMOLES/LITER)****
56	A4	SAMPLE CODE FOR NUTRIENT SAMPLES**
60	F6	DISSOLVED OXYGEN (MILLILITERS/LITER)
66	F5	DISSOLVED OXYGEN DUPLICATE MEASUREMENT
71	1X	BLANK
72	A4	SAMPLE CODE FOR DISSOLVED OXYGEN***

COMMENTS
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* IF NUTRIENTS WERE COLLECTED, THE SURFACE NUTRIENTS SAMPLE CODE IDENTIFIES THE STATION AND SUCCEEDING DATA POINTS
IF NUTRIENTS WERE NOT COLLECTED, THE SURFACE DISSOLVED OXYGEN SAMPLE CODE IDENTIFIES THE STATION AND SUCCEEDING DATA POINTS.

** SAMPLE CODE FOR NUTRIENT DATA COLLECTED AT RELATIVE DEPTH INDICATED IN COL.20

*** SAMPLE CODE FOR DISSOLVED OXYGEN DATA COLLECTED AT RELATIVE DEPTH INDICATED IN COL.20

**** A NEGATIVE CONCENTRATION SHOULD BE INTERPRETED TO MEAN THAT THE ACTUAL CONCENTRATION IS LESS THAN THE ABSOLUTE VALUE OF THE CODED VALUE, ABSOLUTE VALUE BEING THE DETECTION LIMIT OF THE INSTRUMENT USED.
EXAMPLE: -0.5 MEANS LESS THAN 0.5 (THE DETECTION LIMIT)

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: LOW MOLECULAR WEIGHT HYDROCARBONS
IN THE WATER COLUMN (WAT-LH)
IN THE SEDIMENTS (CHG-HC)

PRINCIPLE INVESTIGATORS: WILLIAM M. SACKETT (WMS)
JAMES M. BROOKS
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: BERNIE B. BERNARD
C. R. SCHWAB

DIRECTORY FOR STUDY AREA
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FILE 10: METHODS, DATA FORMAT AND COMMENTS
FILE 11: 1975 WATER COLUMN DATA
FILE 12: 1976 WATER COLUMN DATA
FILE 13: 1977 WATER COLUMN DATA
FILE 14: 1977 SEDIMENT DATA

METHODS

EQUIPMENT: NISKIN OR NANSEN BOTTLES
SAMPLES: MODIFICATION OF THE SWINNERTON AND LINNENBORN (1967) METHOD
GAS CHROMATOGRAPHIC STREAM FOR ANALYSIS, SEPARATED IN A 1.8-M 3.0-MM OUTSIDE DIAMETER ((
POROPAK Q COLUMN, ANALYZED WITH A FLAME IONIZATION DETECTOR (FID)

DATA FORMAT FOR WATER COLUMN HYDROCARBONS (FILES 11, 12, AND 13)
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CARD TYPE 1---STANDARD INVENTORY CARD---*

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY

19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE

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                        1= A QUALITY CONTROL SAMPLE
   51        I1      CONTRACTED CODE
                        BLANK OR 0= BLM CONTRACTED SAMPLE
                        1= NOT A BLM CONTRACTED SAMPLE
 52-53       I2      CRUISE NUMBER
 54-56       I3      SAMPLE DEPTH IN METERS;
                       NOTE: 999 MEANS NOT APPLICABLE
                         991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                         992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                         993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
 57-60       A4      PARENT SAMPLE CODE FOR SUBSAMPLES
                        NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                        THIS FIELD WILL CONTAIN XXXX OR BE BLANK
   61        1X      BLANK
 62-69       A8      PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                        1976, 1977 FINAL REPORTS TO BLM
                        NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                        VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                        THIS FIELD ARE FOR POOLED SAMPLES,
                        E.G.=
                         A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                            OF SAMPLES AAAA,AAAB,AAAC
                         B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                            UP OF SAMPLES AAZY,AAZZ,ABAA


KEY TO CODES
--- -- -----


 SAMPLE TYPE--SAMPLE USAGE                   DISPOSITION AND PRINCIPLE INVESTIGATOR
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 CHG-MST(CHEMISTRY GRAB)                        LHP-LINDA H. PEQUEGNAT
 CHG-TM (SEDIMENT TRACE METALS)                 CSG-C.S. GIAM
 CHG-TEX(SEDIMENT TEXTURE)                      TSP-E. TAISOO PARK
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	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	004210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I2	TRANSECT/STATION
	17	I3	DEPTH (METERS)
	20	I1	RELATIVE DEPTH CODE

21	1X	BLANK
22	I1	REPLICATE NUMBER
23	I1	NUMBER OF REPLICATES AT THIS DEPTH
24	I4	METHANE (NANNOLITERS/LITER)***
28	F5	ETHENE (NANNOLITERS/LITER)***
33	F5	ETHANE (NANNOLITERS/LITER)***
38	F5	PROPENE (NANNOLITERS/LITER)***
43	F5	PROPANE (NANNOLITERS/LITER)***
48	1X	BLANK
49	A4	SAMPLE CODE**

DATA FORMAT FOR SEDIMENT HYDROCARBONS (FILE 14)

CARD TYPE 1---STANDARD INVENTORY CARD---

FORMAT SAME AS CARD TYPE 1 FOR FILES 11, 12, AND 13

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	004210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE****
	15	I4	BOTTOM DEPTH OF 5 CM SECTION OF CORE (CM)
	19	F6	METHANE (NANNOLITERS/LITER)***
	25	F5	ETHENE (NANNOLITERS/LITER)***
	30	F5	ETHANE (NANNOLITERS/LITER)***
	35	F5	PROPENE (NANNOLITERS/LITER)***
	40	F5	PROPANE (NANNOLITERS/LITER)***
	45	F6	WATER (PERCENT)

COMMENTS

* SAMPLE CODE OF THE SURFACE SAMPLE IS USED ON THE INVENTORY
** ORIGINAL SAMPLE CODE IN REPORT FOR RELATIVE DEPTH INDICATED IN COL. 20
*** A NEGATIVE CONCENTRATION SHOULD BE INTERPRETED TO MEAN THAT THE ACTUAL CONCENTRATION IS LESS THAN THE ABSOLUTE VALUE OF THE CODED VALUE, THE ABSOLUTE VALUE BEING THE DETECTION LIMIT OF THE INSTRUMENT USED.
EXAMPLE: -0.5 MEANS LESS THAN 0.5 (THE DETECTION LIMIT)
**** SAMPLE CODES NOT ORIGINALLY GIVEN TO THESE SAMPLES. SAMPLE CODES IN FILE ARE ARTIFICIAL CODES FOR INVENTORY MATCHUP PURPOSES ONLY

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: HYDROCARBONS IN EPIFAUNA (EPI-HC AND CHT-HC)

PRINCIPLE INVESTIGATORS: C. S. GIAM (CSG)
H. S. CHAN
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: ELLIOT ATLAS
SUE COATES
KATHY GAGE
DARLENE GAREY
K. C. HAUCK
YANG HRUNG
GRACE NEFF
SUE NEWMAN
CHIP SANDIFORD

DIRECTORY FOR STUDY AREA
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FILE 15: METHODS, DATA FORMAT AND COMMENTS
FILE 16: 1975 DATA
FILE 17: 1976 DATA
FILE 18: 1977 DATA
FILE 19: CODED SPECIES LIST

METHODS

INSTRUMENTATION: HEWLETT-PACKARD 5830A GAS CHROMATOGRAPH AND A VARIAN 3700 GAS CHROMATOGHAPH

MATERIALS: MALLINCKRODT NANOGRADE R SOLVENT, SILICA GEL (WOELM, 70-230, MESH), AND
ALUMINUM OXIDE WOELM NEUTRAL (ACTIVITY GRADE 1)

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)

8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)

49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN

NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)	WVA-D. W. VAN AUKEN
WAT- (WATER COLUMN)	
WAT-ATP(ADENOSINE TRI-PHOSPHATE)	
WAT-BAC(WATER COLUMN BACTERIOLOGY)	
WAT-C13(DELTA C13)	UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)	PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)	
WAT-DO (DISSOLVED OXYGEN)	U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)	HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)	
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	
WAT-MPL(MICROZOOPLANKTON)	
WAT-MYC(WATER COLUMN MYCOLOGY)	RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)	RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)	REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)	
WAT-PRO(PROTOZOA)	
WAT-P14(CARBON14 PHYTOPLANKTON)	
WAT-SSM(WATER-SUSPENDED SEDIMENT)	
WAT-TOC(TOTAL ORGANIC CARBON)	
ZCT-TM (ZOOPLANKTON TRACE METALS)	
ZPL-HC (ZOOPLANKTON HYDROCARBONS)	
ZPL-TAX(ZOOPLANKTON TAXONOMY)	
ZPL-TM (ZOOPLANKTON TRACE METALS)	

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY

40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

CARD TYPE 2 FOR FILES 16 AND 17 (1975 AND 1976 DATA)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I6	005210

7	I1	CARD TYPE (ALWAYS 2)
8	3X	BLANK
11	A4	SAMPLE CODE*
15	2X	BLANK
17	I2	YEAR
19	F5	AROMATIC FRACTION/DRY WEIGHT (PERCENT)
24	F5	N-ALKANES, PRISTANE, AND PHYTANE (PPM OF DRY WEIGHT)
29	F6	N-ALKANES (PPM OF DRY WEIGHT)
35	F6	DRY WEIGHT OF SAMPLE (GRAMS)
41	I4	NUMBER OF INDIVIDUALS IN SAMPLE
45	A4	ORGAN CODE W = WHOLE W-P = WHOLE LESS PEN W-H-O = WHOLE LESS HEAD AND ORGANS W-H = WHOLE LESS HEAD W-T = WHOLE LESS TAIL M = MUSCLE L = LIVER G = GILL GD = GONAD
49	3A10	SPECIES NAME

CARD TYPE 2 FOR FILE 18 (1977 DATA)

1	I6	005210
7	I1	CARD TYPE (ALWAYS 2)
8	3X	BLANK
11	A4	SAMPLE CODE*
15	I1	STATION
16	I1	TRANSECT
17	I2	YEAR
19	5X	BLANK
24	F5	N-ALKANES, PRISTANE, AND PHYTANE (PPM OF DRY WEIGHT)
29	F7	N-ALKANES (PPM OF DRY WEIGHT)
36	F6	DRY WEIGHT OF SAMPLE (GRAMS)
42	I4	NUMBER OF INDIVIDUALS IN SAMPLE
46	A4	ORGAN CODE W = WHOLE W-P = WHOLE LESS PEN W-H-O = WHOLE LESS HEAD AND ORGANS W-H = WHOLE LESS HEAD W-T = WHOLE LESS TAIL M = MUSCLE L = LIVER G = GILL GD = GONAD
50	3A10	SPECIES NAME

CARD TYPE 3

1	I6	005210
7	I1	CARD TYPE (ALWAYS 3)
8	3X	BLANK
11	A4	SAMPLE CODE*
15	I1	STATION (BLANK FOR 1975 AND 1976)
16	I1	TRANSECT (BLANK FOR 1975 AND 1976)
17	I2	YEAR
19	I1	PERIOD CODE (BLANK FOR 1975) 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL

			8 = NOVEMBER
			9 = DECEMBER
	20	I1	FRACTION
			1 = HEXANE
	21	I4	RETENTION INDEX
	225	F11	RELATIVE PERCENT OF N-ALKANES**
CARD TYPE 4	1	I6	005210
	7	I1	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION (BLANK FOR 1975 AND 1976)
	16	I1	TRANSECT (BLANK FOR 1975 AND 1976)
	17	I2	YEAR
	19	F5	CARBON PREFERENCE INDEX C14 TO C20 RANGE
	24	F5	CARBON PREFERENCE INDEX C20 TO C32 RANGE
	29	F6	PRISTANE (PPM)
	35	F6	PHYTANE (PPM)
	41	F5	WET WEIGHT OF SAMPLE (GRAMS) (FOR 1975 DATA)
	46	F3	DRY WEIGHT OF SAMPLE (GRAMS) (FOR 1975 DATA)
	49	I2	SPECIES IDENTIFICATION CODE***

FORMAT FOR CODED SPECIES LIST (FILE 19)
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START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I2	SPECIES IDENTIFICATION CODE
2	3A10	GENUS AND SPECIES NAME

COMMENTS
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* ARTIFICIAL CODES CREATED FOR 1975 AND 1976 SAMPLES. PREVIOUS SAMPLE CODES USED IN PUBLICATIONS NOTED IN COLUMNS 62-69 OF CARD TYPE 1. SAMPLE CODE ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE.

** PRISTANE AND PHYTANE CONCENTRATIONS ARE DESIGNATED AT RETENTION INDICES 1670 AND 1780, RESPECTIVELY. THEIR RELATIVE PERCENT VALUES ARE OF THE N-ALKANES. WHEN THEY ARE SUMMED WITH THE N-ALKANES, THE SUM WILL ALWAYS BE GREATER THAN OR EQUAL TO 100 PERCENT.
WHEN THE TOTAL N-ALKANES EQUAL 0.0, THE VALUES FOR PRISTANE AND PHYTANE ARE GIVEN IN (PPM X 10) FOR USE IN CALCULATING PRISTANE/PHYTANE RATIOS.
BECAUSE OF THE DIFFERENCES WITH PRISTANE AND PHYTANE, THEIR FORMAT IS ALSO DIFFERENT TO MAKE THEM STAND OUT. ALL THE DATA ON CARD TYPE 3 IS IN AN F12 FORMAT BEGINNING IN COLUMN 25 BUT NOT ALL ALIGNED.

*** CODED SPECIES LIST IS IN FILE 19.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED

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                                NOTE: RELATIVE DEPTH CODE HAS BEEN
                                INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                                BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                                DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                                BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                                FROM THE STUDY AREA
  46         I1         DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                                BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
  47         I1         POOLED CODE
                                0= NOT A POOLED SAMPLE
                                1= A POOLED SAMPLE
                                NOTE: MAY NOT HAVE BEEN USED
  48         I1         LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                                APPEARS TO ALWAYS BE 0 (ZERO)
  49         I1         ARCHIVE CODE
                                0= NOT AN ARCHIVE SAMPLE
                                1= AN ARCHIVE SAMPLE
  50         I1         QUALITY CONTROL CODE
                                0= NOT A QUALITY CONTROL SAMPLE
                                1= A QUALITY CONTROL SAMPLE
  51         I1         CONTRACTED CODE
                                BLANK OR 0= BLM CONTRACTED SAMPLE
                                1= NOT A BLM CONTRACTED SAMPLE
 52-53       I2         CRUISE NUMBER
 54-56       I3         SAMPLE DEPTH IN METERS;
                          NOTE: 999 MEANS NOT APPLICABLE
                                 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                                 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                                 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
 57-60       A4         PARENT SAMPLE CODE FOR SUBSAMPLES
                                NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                                THIS FIELD WILL CONTAIN XXXX OR BE BLANK
  61         1X         BLANK
 62-69       A8         PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                                1976, 1977 FINAL REPORTS TO BLM
                                NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                                VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                                THIS FIELD ARE FOR POOLED SAMPLES,
                                E.G.=
                                 A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                                    OF SAMPLES AAAA,AAAB,AAAC
                                 B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                                    UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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 SAMPLE TYPE--SAMPLE USAGE                  DISPOSITION AND PRINCIPLE INVESTIGATOR
 BAG-BAC(SEDIMENT BACTERIOLOGY)
 CHG-HC (SEDIMENT HYDROCARBONS)             TAMU-TEXAS A+M UNIVERSITY
 CHG-MST(CHEMISTRY GRAB)                       LHP-LINDA H. PEQUEGNAT
 CHG-TM (SEDIMENT TRACE METALS)                CSG-C.S. GIAM
 CHG-TEX(SEDIMENT TEXTURE)                     TSP-E. TAISOO PARK
 CHL-   (TOTAL CHLOROPHYLL-1975)
 CHT-HC (EPIFAUNA HYDROCARBONS)                BJP-B.J. PRESLEY
 CHT-MST(EPIFAUNA CHEMISTRY TRAWL)             WMS-WILLIAM M. SACKETT
 CHT-TM (EPIFAUNA TRACE METALS)                WEP-WILLIS E. PEQUEGNAT
 EPI-FSH(EPIFAUNA DEMERSAL FISH)               RR-RICHARD REZAK
 EPI-HC (EPIFAUNA HYDROCARBONS)                WEH-WILLIAM E. HAENSLY
 EPI-HPI(EPIFAUNA HISTOPATHOLOGY)              JMN-JERRY M. NEFF
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EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND
DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS
UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN
UT-AUSTIN
PJS-PAUL J. SZANISZLO
U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL
RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A

10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250

(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	006210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = EPIFAUNA 2 = INFAUNA
	9	2X	BLANK
	11	A4	SAMPLE CODE*
	15	I8	SPECIES IDENTIFICATION CODE**
	23	I5	NUMBER OF INDIVIDUALS/SAMPLE
	28	I3	NUMBER OF MALES/SAMPLE***
	31	I3	NUMBER OF FEMALES/SAMPLE***
	34	I3	NUMBER OF THOSE FEMALES WHICH ARE OVIGEROUS**
	37	1X	BLANK
	38	4A10	SPECIES NAME

FORMAT FOR CODED SPECIES LIST (FILE 27)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I2	PHYLUM CODE
3	I2	CLASS, ORDER, SUBORDER, OR DESCRIPTIVE TAXONOMIC CODE (USUALLY CLASS)
5	I2	FAMILY CODE
7	I2	SPECIES OR LOWEST DESCRIPTIVE TAXON CODE
9	2X	BLANK
11	4A10	SPECIES NAME OR LOWEST DESCRIPTIVE TAXON, IN PHYLOGENETIC ORDER

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 27.
*** BLANKS MAY MEAN EITHER NONE OF THE CATEGORIES WERE PRESENT OR SEX WAS NOT DETERMINED OR INDETERMINABLE.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

NOTE: AN INVENTORY LINE (CARD TYPE 1) NOT FOLLOWED BY ANY DATA LINES (CARD TYPE 2) INDICATES A SAMPLE WHICH CONTAINED NO INVERTEBRATE EPIFAUNA -- I.E., NOTHING WAS CAUGHT IN THE TRAWL.

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: EPIFAUNA FISH (EPI-FSH)

PRINCIPLE INVESTIGATOR: DONALD E. WOHLSCHLAG (DEW)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: RONALD M. YOSHIYAMA
JAMES F. COLE
ELIZABETH F. VETTER
MARK DOBBS
EDGAR FINDLEY

DIRECTORY FOR STUDY AREA

METHODS

EQUIPMENT: 35-FOOT (10.7-M) OTTER TRAWL, ON BOTTOM FOR 15 MINUTES.
TRAWL WITH 44.5 MM NO. 36 STRETCHED MESH
(BAG LINER EMPLOYED DURING 1975 AND PART OF 1976)

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR

21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE: IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE

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  51        I1       CONTRACTED CODE
                            BLANK OR 0= BLM CONTRACTED SAMPLE
                            1= NOT A BLM CONTRACTED SAMPLE
 52-53      I2       CRUISE NUMBER
 54-56      I3       SAMPLE DEPTH IN METERS;
                       NOTE: 999 MEANS NOT APPLICABLE
                             991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                             992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                             993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
 57-60      A4       PARENT SAMPLE CODE FOR SUBSAMPLES
                            NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                            THIS FIELD WILL CONTAIN XXXX OR BE BLANK
  61        1X       BLANK
 62-69      A8       PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                            1976, 1977 FINAL REPORTS TO BLM
                            NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                            VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                            THIS FIELD ARE FOR POOLED SAMPLES,
                            E.G.=
                             A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                                OF SAMPLES AAAA,AAAB,AAAC
                             B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                                UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE                      DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)                 TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)                           LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)                    CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)                         TSP-E. TAISOO PARK
CHL-    (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)                    BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)                 WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)                    WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)                   RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)                    WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)                  JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)                  WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)                   JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)                          JRS-JOHN R. SCHWARZ
ICH-    (ICHTHYOPLANKTON)                         JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)                        UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)                         PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)                         NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                               CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)        JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                                DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)                    DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                        PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)                      UT-GEOPHYSICAL LAB. GALVESTON
SED-    (SEDIMENT)                                EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
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STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY   UTSA-UNIV. OF TEXAS AT SAN ANTONIO
THM-TUR(TRANSMISSOMETRY-TURBIDITY)          SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)      WVA-O. W. VAN AUKEN
WAT-    (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)                       UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)    PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)                U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)                       HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)           RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)                       RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)             REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)
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STUDY AREA KEY

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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
        DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY
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BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	007210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I3	SPECIES CODE**
	18	I6	ABUNDANCE (NUMBER OF INDIVIDUALS/TRAWL SAMPLE
	24	F8	WEIGHT (GRAMS)
	32	A10,A7	FAMILY NAME

49	3A10	GENUS-SPECIES NAME

FORMAT FOR CODED SPECIES LIST (FILE 32)
------ --- ----- ------- ---- ---------

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I4	CODE (CONSECUTIVE ORDER)
5	14X	BLANK
19	A10,A7	FAMILY NAME
36	3A10	GENUS AND SPECIES NAME

COMMENTS
----

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 32.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: HIGH MOLECULAR WEIGHT HYDROCARBONS (HC)
IN SEDIMENTS (SED)
IN ZOOPLANKTON (ZPL)
PARTICULATE IN WATER (WAT)
DISSOLVED IN WATER (WAT)
IN NEUSTON (NEU)**

PRINCIPLE INVESTIGATORS: PATRICK L. PARKER (PLP)
RICHARD S. SCALAN
J. KENNETH WINTERS
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: RICHARD ANDERSON
TERRANCE BURTON
DONNA LAMMEY BURTON
SHARON CAMERON
LOUIS DELAROSA
RUTH LUTES
STEPHEN A. MACKO
MARK NORTHAM
DELLA SCALAN

DIRECTORY FOR STUDY AREA
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FILE 33: METHODS, DATA FORMAT AND COMMENTS
FILE 34: 1975 DATA
FILE 35: 1976 DATA
FILE 36: 1977 DATA

METHODS

PLANKTON: 1-M NET (250 MICRON NITEX MESH) TOWED OBLIQUELY FROM NEAR BOTTOM TO NEAR
SURFACE FOR 15 MINS.--FROZEN.
WATER: 38 L COLLECTED IN GLASS CARBOY, FILTERED THROUGH 1.2 MICRON MESH.
FILTERED--FROZEN
FILTRATE--POISONED WITH 50 ML OF CHLOROFORM
SEDIMENT: 10-15 KG CORES FROM TOP 5 CM OF SMITH-MCINTYRE GRAB--FROZEN

SAMPLES ANALYZED IN GAS CHROMATOGRAPHY (GLC) AND GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC/MS
GLC--PERKIN-ELMER (PE) MODELS 900, 910, 3920B, AND A VARIAN MODEL 3700,
ELECTRONIC INTEGRATION OF PEAKS DONE ON HEWLETT-PACKARD 3352 LAB DATA SYSTEM
GC/MS--DUPONT INSTRUMENTS MODEL 21-491 GC/MS WITH A DUPONT INSTRUMENTS
MODEL 21-0948 MS DATA SYSTEM.
CHROMATOGRAPH ASSOCIATED WITH THIS INSTRUMENT WAS A VARIAN AEROGRAPH MODEL 2700 MODIFIED
BY DUPONT.
DETAILED METHODS OF HYDROCARBON PROCEDURES FOUND IN 1975, 1976, AND 1977 FINAL REPORTS TO BL

DATA FORMAT FOR FILE 34 (1975 DATA)
---- ------ --- ------ - -----------

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED

		NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK

BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF

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EPI-HPT(EPIFAUNA HISTOPATHOLOGY)          WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)           JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)                  JRS-JOHN R. SCHWARZ
ICH-   (ICHTHYOPLANKTON)                  JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)                 UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)                 PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)                 NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                       CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)  JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                        DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)            DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)               UT-GEOPHYSICAL LAB. GALVESTON
SED-   (SEDIMENT)                         EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY  UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)        SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)    WVA-O. W. VAN AUKEN
WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)                      UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)  PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)               U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)                     HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)          RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)                      RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)           REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)


STUDY AREA KEY
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 01 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED OXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 06 INVERTEBRATE EPIFAUNA AND INFAUNA
 07 BENTHIC FISH
 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
          DISSOLVED, ZOOPLANKTON
 09 CHLOROPHYLL A
```

10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250

(S8)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

CARD TYPE 2 FOR SUB-STUDY AREAS 1, 2, AND 5 (SEDIMENT, ZOOPLANKTON, NEUSTON)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I6	008210
7	I1	CARD TYPE (ALWAYS 2)
8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = SEDIMENT 2 = ZOOPLANKTON 5 = NEUSTON
9	2X	BLANK
11	A4	SAMPLE CODE*
15	2X	BLANK
17	I2	YEAR
19	6X	BLANK
25	F12	DRY WEIGHT OF SAMPLE (G) (0.0 INDICATES UNMEASURED VALUE)

CARD TYPE 2 FOR SUB-STUDY AREAS 3 AND 4 (PARTICULATE AND DISSOLVED HYDROCARBONS)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I6	008210
7	I1	CARD TYPE (ALWAYS 2)
8	I1	SUB-STUDY AREA SAMPLE TYPE 3 = PARTICULATE HYDROCARBONS IN WATER 4 = DISSOLVED HYDROCARBONS IN WATER
9	2X	BLANK
11	A4	SAMPLE CODE*
15	4X	BLANK
19	F5	TOTAL N-PARAFFINS (C15-C38), PRISTANE, AND PHYTANE (MICROGRAMS/LITER)
24	F5	CARBON PREFERENCE INDEX C15-C20 RANGE
29	F5	CARBON PREFERENCE INDEX C25-C38 RANGE

CARD TYPE 3

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I6	008210
7	I1	CARD TYPE (ALWAYS 3)
8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = HYDROCARBONS IN SEDIMENTS 2 = HYDROCARBONS IN ZOOPLANKTON 3 = PARTICULATE HYDROCARBONS IN WATER 4 = DISSOLVED HYDROCARBONS IN WATER 5 = HYDROCARBONS IN NEUSTON
9	2X	BLANK
11	A4	SAMPLE CODE*
15	5X	BLANK
20	A1	FRACTION OF SAMPLE 1 = HEXANE 2 = BENZENE (1975 DATA ARE ALL HEXANE FRACTIONS)
21	I4	RETENTION INDEX OF PEAK
25	F12	CONCENTRATION IN MICROGRAMS/GRAM FOR ZOOPLANKTON AND NEUSTON (SUB-STUDY AREAS 2 AND 5) PERCENT CONCENTRATION OF N-PARAFFINS (C15-C38), PRISTANE, AND PHYTANE FOR PARTICULATE AND DISSOLVED WATER SAMPLES

```
                              3 = PARTICULATE HYDROCARBONS IN WATER
                              4 = DISSOLVED HYDROCARBONS IN WATER
                              5 = HYDROCARBONS IN NEUSTON
               9         I2         BLANK
              11         A4         SAMPLE CODE*
              15         2X         BLANK
              17         F12        C18:1 (MICROGRAMS/GRAM)
              29         F12        MASS SPEC RATIO M/E = 370 + 372
                                      (MICROGRAMS/GRAM)
              41         F12        C21 WITH 6 DOUBLE BONDS
                                      (MICROGRAMS/GRAM)
              53         F12        SQUALENE (MICROGRAMS/GRAM)

DATA FORMAT FOR HYDROCARBONS IN FILES 35 AND 36 (1976-1977 DATA)
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CARD TYPE 1---STANDARD INVENTORY CARD---

            SAME AS CARD TYPE 1 FOR FILE 34.

            START COLUMN  FIELD TYPE  FIELD CONTENT/DESCRIPTION
CARD TYPE 2      1           I6         008210
                 7           I1         CARD TYPE (ALWAYS 2)
                 8           I1         SUB-STUDY AREA SAMPLE TYPE
                                          1 = HYDROCARBONS IN SEDIMENT
                                          2 = HYDROCARBONS IN ZOOPLANKTON
                                          3 = PARTICULATE HYDROCARBONS IN WATER
                                          4 = DISSOLVED HYDROCARBONS IN WATER
                 9           2X         BLANK
                11           A4         SAMPLE CODE*
                15           2X         BLANK
                17           I2         YEAR
                19           A1         PERIOD CODE
                                          1 = WINTER
                                          2 = MARCH
                                          3 = APRIL
                                          4 = SPRING
                                          5 = JULY
                                          6 = AUGUST
                                          7 = FALL
                                          8 = NOVEMBER
                                          9 = DECEMBER
                20           F10        DRY WEIGHT (G)
                30           F10        WET WEIGHT (G)
                40           F8         TOTAL NON-SAPONIFIABLE WEIGHT (G)
                48           F8         HEXANE WEIGHT (G)
                56           F8         BENZENE WEIGHT (G)
                64           F8         METHANOL WEIGHT (G)
                72           F8         TOTAL LIPID WEIGHT (G)

CARD TYPE 3      1           I6         008210
                 7           I1         CARD TYPE (ALWAYS 3)
                 8           I1         SUB-STUDY AREA SAMPLE TYPE
                                          1 = HYDROCARBONS IN SEDIMENTS
                                          2 = HYDROCARBONS IN ZOOPLANKTON
                                          3 = PARTICULATE HYDROCARBONS IN WATER
                                          4 = DISSOLVED HYDROCARBONS IN WATER
                 9           2X         BLANK
                11           A4         SAMPLE CODE*
                15           2X         BLANK
```

			(SUB-STUDY AREAS 3 AND 4)
			PERCENT CONCENTRATION TIMES 10 FOR N-PARAFFINS (C14-C44)
			PRISTANE, AND PHYTANE FOR SEDIMENT
			(SUB-STUDY AREA 1)
CARD TYPE 4	1	I6	008210
	7	I1	CARD TYPE (ALWAYS 4)
	8	I1	SUB-STUDY AREA SAMPLE TYPE
			1 = HYDROCARBONS IN SEDIMENT
			2 = HYDROCARBONS IN ZOOPLANKTON
			3 = PARTICULATE HYDROCARBONS IN WATER
			4 = DISSOLVED HYDROCARBONS IN WATER
			5 = HYDROCARBONS IN NEUSTON
	9	I2	BLANK
	11	A4	SAMPLE CODE*
	15	A2	YEAR
	17	F12	OTHER PEAKS (MICROGRAMS/LITER)
	29	F12	PRISTANE/PHYTANE RATIO
	41	F12	PRISTANE/N-C17 RATIO
	53	F12	N-C17/N-C18 RATIO
	65	F12	SATURATES/NON-SATURATES RATIO
CARD TYPE 5	1	I6	008210
	7	I1	CARD TYPE (ALWAYS 5)
	8	I1	SUB-STUDY AREA SAMPLE TYPE
			1 = HYDROCARBONS IN SEDIMENTS
			2 = HYDROCARBONS IN ZOOPLANKTON
			3 = PARTICULATE HYDROCARBONS IN WATER
			4 = DISSOLVED HYDROCARBONS IN WATER
			5 = HYDROCARBONS IN NEUSTON
	9	I2	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	F12	SATURATES (PERCENT DRY WEIGHT)
	29	F12	NON-SATURATES (PERCENT DRY WEIGHT)
	41	F12	TOTAL NON-SAPONIFIABLE HYDROCARBONS
			(PERCENT DRY WEIGHT)
	53	F12	PHYTADIENE (MICROGRAMS/GRAM)
	65	F12	C15:1 (MICROGRAMS/GRAM)
CARD TYPE 6	1	I6	008210
	7	I1	CARD TYPE (ALWAYS 6)
	8	I1	SUB-STUDY AREA SAMPLE TYPE
			1 = HYDROCARBONS IN SEDIMENTS
			2 = HYDROCARBONS IN ZOOPLANKTON
			3 = PARTICULATE HYDROCARBONS IN WATER
			4 = DISSOLVED HYDROCARBONS IN WATER
			5 = HYDROCARBONS IN NEUSTON
	9	I2	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	F12	C19:1 (MICROGRAMS/GRAM)
	29	F12	CHOLESTANE DERIVATIVE (MICROGRAMS/GRAM)
	41	F12	MASS SPEC RATIO M/E = 370 (MICROGRAMS/GRAM)
	53	F12	C16:1 (MICROGRAMS/GRAM)
	65	F12	C17:1 (MICROGRAMS/GRAM)
CARD TYPE 7	1	I6	008210
	7	I1	CARD TYPE (ALWAYS 7)
	8	I1	SUB-STUDY AREA SAMPLE TYPE
			1 = HYDROCARBONS IN SEDIMENTS
			2 = HYDROCARBONS IN ZOOPLANKTON

17	I2	YEAR
19	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER
20	I1	FRACTION CODE 1 = HEXANE 2 = BENZENE 3 = METHANOL
21	I4	RETENTION INDEX
25	F13	CONCENTRATION IN MICROGRAMS/GRAM FOR SEDIMENT AND ZOOPLANKTON (SUB-STUDY AREAS 1 AND 2) CONCENTRATION IN MICROGRAMS/LITER FOR PARTICULATE AND DISSOLVED WATER SAMPLES (SUB-STUDY AREAS 3 AND 4)

COMMENTS
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* ARTIFICIAL CODES USED FOR PARTICULATE WATER SAMPLES IN 1975.
PREVIOUS SAMPLE CODES USED IN PUBLICATIONS GIVEN IN
COLUMNS 62-69 OF CARD TYPE 1.
SAMPLE CODES ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE.

** NEUSTON DATA IN 1975 DATA FILES ONLY.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: CHLOROPHYLL A
IN TOTAL PLANKTON (CHL)
IN NANNOPLANKTON (WAT-CLN)
IN NETPLANKTON (WAT-CLP)

PRINCIPLE INVESTIGATOR: CHASE VAN BAALEN (CVB)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATOR: JOHN BATTERTON

DIRECTORY FOR STUDY AREA

FILE 37: METHODS, DATA FORMAT AND COMMENTS
FILE 38: 1975 DATA
FILE 39: 1976 DATA
FILE 40: 1977 DATA

METHODS

WATER FILTERED THROUGH A 20 MICRON NYTEX MESH FILTER, THEN THROUGH A 0.4 MICRON MESH NUCLEOPORE FILTER FOR THE NET AND NANNO FRACTIONS
ABSORBANCE 570 TO 710 NANNOMETERS, ON A CARY 118C SPECTROPHOTOMETER

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)

25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE

		1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO

TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	009210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	1X	BLANK
	16	I1	TRANSECT
	17	I1	STATION
	18	I1	RELATIVE DEPTH CODE 1 = SURFACE 2 = HALF PHOTIC ZONE

		3 = PHOTIC ZONE
		5 = BOTTOM
19	A1	SAMPLE TYPE
		T = TOTAL CHLOROPHYLL (1975 DATA)
		A = NANNOPLANKTON CHLOROPHYLL(1976-1977)
		E = NETPLANKTON CHLOROPHYLL (1976-1977)
20	F6	SCOR-UNESCO VALUE (MICROGRAMS/LITER)**
		THIS METHOD NOT DONE FOR 1975 DATA
26	F6	PARSONS-STRICKLAND VALUE (MICROGRAMS/LITER)**
32	F6	LORENZEN VALUE (MICROGRAMS/LITER)**
38	F6	CHLOROPHYLL A/PHAEOPHYTEN RATIO
42	F6	DEPTH (METERS)
		INCLUDED WITH 1975 DATA BUT NOT 1976/77

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** VALUES OF 0.000 REPRESENT SAMPLES WITH NO DETECTABLE VALUES

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: ATP - ADENOSINE TRI-PHOSPHATE (WAT-ATP)

PRINCIPLE INVESTIGATORS: CHASE VAN BAALEN (CVB)
WARREN PULICH
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

DIRECTORY FOR STUDY AREA

METHODS

EQUIPMENT: 30-LITER NISKIN BOTTLES
WATER FILTERED THROUGH 0.4 MICRON NUCLEOPORE FILTERS

JANUARY-JUNE DATA ANALYZED WITH A PHOTOMULTIPLIER RCA 4473, ANODE SIGNAL DETECTED ON KEITHLEY 414S PICOAMMETER
JULY-DECEMBER DATA ANALYZED BY CRYSTALLINE ATP (SIGMA CHEMICAL CO.) STANDARDS ON AMINCO PHOTOMULTIPLIER

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK

26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE

52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS;
		NOTE: 999 MEANS NOT APPLICABLE
		991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
		992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM
		NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES,
		E.G.=
		A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC
		B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ

VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	010210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	F5	ATP VALUE (MICROGRAMS/LITER)

COMMENTS

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: PHYTOPLANKTON (WAT-PHY)

PRINCIPLE INVESTIGATOR: DAN L. KAMYKOWSKI (DK)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: JERRY BIRD
STEVE ANDERSON
PAT JOHANSEN
JOE MORGAN
BILL ALLSHOUSE

DIRECTORY FOR STUDY AREA

FILE 44: METHODS, DATA FORMAT AND COMMENTS
FILE 45: 1975 DATA
FILE 46: 1976 DATA
FILE 47: 1977 DATA
FILE 48: CODED SPECIES LIST

METHODS

EQUIPMENT: 30-L NISKIN BOTTLE.

1 LITER IN 2 PERCENT FORMALIN SOLUTION, 250 ML IN LUGO SOLUTION.
STANDARD PHYTOPLANKTON PROCEDURES

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY

19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE

		1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE
		BLANK OR 0= BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS;
		NOTE: 999 MEANS NOT APPLICABLE
		991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
		992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
		1976, 1977 FINAL REPORTS TO BLM
		NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
		VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
		THIS FIELD ARE FOR POOLED SAMPLES,
		E.G.=
		A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
		OF SAMPLES AAAA,AAAB,AAAC
		B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
		UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE

BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK
BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND
DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	011210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I4	SPECIES CODE**
	19	I9	ABUNDANCE (CELLS/LITER)***

FORMAT FOR CODED SPECIES LIST (FILE 48)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I4	CONSECUTIVE ORDER
5	1X	BLANK
6	I12	V.I.M.S. CODE
18	I1	GROUP CODE 1 = DIATOM 2 = DINOFLAGELLATES 3 = COCCOLITHOPHORIDS 4 = SILICOFLAGELLATES 5 = OTHERS 6 = BLUE-GREENS 7 = GREENS
19	2A10	GROUP NAME
39	4A10	GENUS AND SPECIES NAME, OR LOWEST DESCRIPTIVE TAXON

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 48 OF THIS STUDY AREA
*** BLANK MEANS THAT SPECIES WAS PRESENT IN THE SAMPLE BUT NOT IN THE SQUARE THAT WAS COUNTED. (PERTINENT TO 1975 DATA ONLY)

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: FLUORESCENCE (WAT-FLU)

PRINCIPLE INVESTIGATOR: DAN L. KAMYKOWSKI (DK)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

DIRECTORY FOR STUDY AREA

FILE 49: METHODS, DATA FORMAT AND COMMENTS
FILE 50: 1977 DATA

METHODS

EQUIPMENT: TURNER DESIGNS FLUOROMETER

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK

27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE

THIS FIELD WILL CONTAIN XXXX OR BE BLANK

61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK
BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH

UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND
DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN

UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI

WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS
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TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439

	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	012210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I3	DISTANCE FROM SHORE (NAUTICAL MILES)
	18	I3	DEPTH (METERS)
	21	F4	CHLOROPHYLL A (MICROGRAMS/LITER)
	25	F4	TEMPERATURE (C)
	29	F4	SALINITY (PPT)

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

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NOTE:  FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
       FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
       FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B
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BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: MEIOFAUNA (MMS-MEI)

PRINCIPLE INVESTIGATOR: WILLIS E. PEQUEGNAT (WEP)
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: WALTER B. SIKORA
FAIN HUBBARD
NANCY KIMBLE
JOYCE LUM
BEN PRESLEY
JOHN RUBRIGHT
ISABEL HINE
CINDY VENN

DIRECTORY FOR STUDY AREA
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FILE 51: METHODS, DATA FORMAT AND COMMENTS
FILE 52: 1976 DATA
FILE 53: 1977 DATA

METHODS

SAMPLE: 2.43 CM DIAMETER CORE TO A DEPTH OF 5 CM IN A SMITH-MCINTYRE GRAB SAMPLE. SEIVED THROUGH 500 AND 62 MICRON MESH. MATERIAL ON 62 MICRON MESH SIEVE RETAINED, STAINED, COUNTED.

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME

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                              OR CENTRAL STANDARD TIME)
  25       1X       BLANK
  26       I1       SAMPLE COLLECTION AREA
                           1= TRANSECT 1
                           2= TRANSECT 2
                           3= TRANSECT 3
                           4= TRANSECT 4
                           7= RIG MONITORING AREA
                           8= SOUTHERN BANK
                           9= HOSPITAL ROCK
  27       1X       BLANK
  28       I1       STATION (SEE BLM STOCS MONITORING STUDY STATION
                              LOCATIONS)
  29       A1       D=DAY; N=NIGHT
 30-32     A3       TYPE OF SAMPLE(SEE KEY TO CODES)
 33-36     A4       SAMPLE DISPOSITION (SEE KEY TO CODES)
 37-39     A3       SAMPLE USE (SEE KEY TO CODES)
 40-42     A3       PRINCIPLE INVESTIGATOR (SEE KEY CODES)
  43       I1       REPLICATE CODE
                           0= NOT A REPLICATE SAMPLE
                           1= 1ST REPLICATE SAMPLE
                           2= 2ND REPLICATE SAMPLE
                           ETC.
                           NOTE; REPLICATE CODE HAS NOT BEEN
                           CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR
                           A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
                           APPEARING ON THE DATA LINES
  44       I1       FILTERED CODE
                           0= NOT APPLICABLE
                           1= SAMPLE IS A FILTERED SAMPLE
                           2= SAMPLE IS A NON-FILTERED SAMPLE
  45       I1       RELATIVE DEPTH CODE
                           0= NOT CODED
                           1= SURFACE
                           2= 1/2 PHOTIC ZONE
                           3= PHOTIC ZONE
                           4= PHOTIC ZONE TO BOTTOM
                           5= BOTTOM
                           6= NOT APPLICABLE
                           8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
                           9= VERTICAL TOW; ALL DEPTHS SAMPLED
                           NOTE: RELATIVE DEPTH CODE HAS BEEN
                           INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                           BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                           DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                           BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                           FROM THE STUDY AREA
  46       I1       DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                           BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
  47       I1       POOLED CODE
                           0= NOT A POOLED SAMPLE
                           1= A POOLED SAMPLE
                           NOTE: MAY NOT HAVE BEEN USED
  48       I1       LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                           APPEARS TO ALWAYS BE 0 (ZERO)
  49       I1       ARCHIVE CODE
                           0= NOT AN ARCHIVE SAMPLE
                           1= AN ARCHIVE SAMPLE
  50       I1       QUALITY CONTROL CODE
                           0= NOT A QUALITY CONTROL SAMPLE
                           1= A QUALITY CONTROL SAMPLE
  51       I1       CONTRACTED CODE
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		BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	

TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-D. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

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TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	013210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING

```
                              5 = JULY
                              6 = AUGUST
                              7 = FALL
                              8 = NOVEMBER
                              9 = DECEMBER
16          I3          JULIAN DAY
19          I1          YEAR
                              1 = 1976
                              2 = 1977
20          I1          TRANSECT
21          I1          STATION
22          I1          REPLICATE
23          I5          NEMATODA --------
28          I4          HARPACTICOIDA    :
32          I3          KINORHYNCHA      :
35          I3          OSTRACODA        :---TRUE MEIOFAUNA
38          I3          HALICARIDAE      :   (NUMBER OF INDIVIDUALS/CORE SAMPLE)
41          I3          NAUPLII          :
44          I3          TURBELLARIA      :
47          I3          TRUE OTHERS -----
50          12X         BLANK
62          I4          FORAMINIFERA ---:---PROTISTA
66          I3          OTHER PROTOZOA -:   (NUMBER OF INDIVIDUALS/CORE SAMPLE)
69          I3          POLYCHAETA -----------
72          I3          BIVALVA                :
75          I3          GASTROPODA             :---TEMPORARY MEIOFAUNA
78          I3          PERACARIDA             :   (NUMBER OF INDIVIDUALS/CORE S
81          I3          DECAPODA               :
84          I3          TEMPORARY OTHERS -----
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COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

MAGNETIC DATA TAPE 2

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: MICROZOOPLANKTON--PROTOZOA (WAT-PRO)***

PRINCIPLE INVESTIGATOR: PATRICIA L. JOHANSEN (PJ)***
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)***
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

DIRECTORY FOR STUDY AREA

FILE 2: METHODS, DATA FORMAT AND COMMENTS
FILE 3: 1975 DATA
FILE 4: 1976 DATA
FILE 5: 1977 DATA
FILE 6: CODED SPECIES LIST

METHODS

SAMPLES: 1-LITER SAMPLES TAKEN FROM A 50-L NISKIN BOTTLE, PRESERVED IN 1 PERCENT BASIC LUGOLS FIXATIVE, SETTLED IN A UTERMOHL SETTLING CHAMBER. STANDARD PHYTOPLANKTON PROCEDURES FOLLOWED.

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2

		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		8= SOUTHERN BANK
		9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE
		0= NOT A REPLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		2= 2ND REPLICATE SAMPLE
		ETC.
		NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE
		0= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE
		0= NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
		9= VERTICAL TOW; ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE
		0= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE
		0= NOT AN ARCHIVE SAMPLE
		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE
		0= NOT A QUALITY CONTROL SAMPLE
		1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE
		BLANK OR 0= BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS;
		NOTE: 999 MEANS NOT APPLICABLE

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                          991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                          992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                          993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60      A4      PARENT SAMPLE CODE FOR SUBSAMPLES
                          NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                          THIS FIELD WILL CONTAIN XXXX OR BE BLANK
 61        1X      BLANK
62-69      A8      PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                          1976, 1977 FINAL REPORTS TO BLM
                          NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                          VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                          THIS FIELD ARE FOR POOLED SAMPLES,
                          E.G.=
                           A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                              OF SAMPLES AAAA,AAAB,AAAC
                           B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                              UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE                    DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)               TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)                         LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)                  CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)                       TSP-E. TAISOO PARK
CHL-   (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)                  BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)               WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)                  WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)                 RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)                  WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)                JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)                WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)                 JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)                        JRS-JOHN R. SCHWARZ
ICH-   (ICHTHYOPLANKTON)                        JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)                      UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)                       PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)                       NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                             CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)      JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                              DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)                  DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                      PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)                    UT-GEOPHYSICAL LAB. GALVESTON
SED-   (SEDIMENT)                               EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY       UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)              SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)          WVA-O. W. VAN AUKEN
WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
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WAT-BAC(WATER COLUMN BACTERIOLOGY)	
WAT-C13(DELTA C13)	UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)	PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)	
WAT-DO (DISSOLVED OXYGEN)	U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)	HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)	
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	
WAT-MPL(MICROZOOPLANKTON)	
WAT-MYC(WATER COLUMN MYCOLOGY)	RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)	RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)	REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)	
WAT-PRO(PROTOZOA)	
WAT-P14(CARBON14 PHYTOPLANKTON)	
WAT-SSM(WATER-SUSPENDED SEDIMENT)	
WAT-TOC(TOTAL ORGANIC CARBON)	
ZCT-TM (ZOOPLANKTON TRACE METALS)	
ZPL-HC (ZOOPLANKTON HYDROCARBONS)	
ZPL-TAX(ZOOPLANKTON TAXONOMY)	
ZPL-TM (ZOOPLANKTON TRACE METALS)	

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN. STA.	LORAN	LORAC	LATITUDE	LONGITUDE	DEPTH

		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2076	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	023210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	1X	BLANK
	18	I2	MONTH
	20	I2	DAY
	22	I2	YEAR
	24	I4	TIME OF DAY
	28	I2	DEPTH AT WHICH SAMPLE WAS TAKEN (METERS)
	30	I4	SPECIES IDENTIFICATION CODE**
			I1 = GROUP CODE

		1 = TINTINNIDS
		2 = OLIGOTRICHS
		3 = FORAMINIFERA
		4 = RADIOLARIA/ACANTHARIA
		5 = OTHER PROTOZOA
		I2-I4 = SPECIES CODE
34	F10	ABUNDANCE (NUMBER OF ORGANISMS/LITER)

FORMAT FOR CODED SPECIES LIST (FILE 6)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I7	0231003
8	3X	BLANK
11	I1	GROUP CODE
		1 = TINTINNIDS
		2 = OLIGOTRICHS
		3 = FORAMINIFERA
		4 = RADIOLARIA/ACANTHARIA
		5 = OTHER PROTOZOA
12	I3	SPECIES CODE (CONSECUTIVE NUMBER FOR ALPHABETICAL ORDE
15	1X	BLANK
16	I8	VOLUME OF AVERAGE INDIVIDUAL (IN CUBIC MICRONS)
24	1X	BLANK
25	I12	V.I.M.S. CODE
37	1X	BLANK
38	3A10	SPECIES NAME

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 6.
*** SAMPLES WERE TAKEN IN CONJUNCTION WITH SHELLED MICROZOOPLANKTON IN 1975 AND 1976. INVENTORY LINES MAY INDICATE TYPE AND USAGE (WAT-MPL) AS WELL AS CODES FOR RICE UNIVERSITY (RICE AND RU) AND RICHARD E. CASEY (REC).

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: ZOOPLANKTON (ZPL-TAX)

PRINCIPLE INVESTIGATOR: E. TAISOO PARK (TSP)
TEXAS A AND M UNIVERSITY (TAMU)
MOODY COLLEGE OF MARINE SCIENCES AND MARITIME RESOURCES
GALVESTON, TEXAS

ASSOCIATE INVESTIGATORS: PHIL TURK
PEGGY JONES
MARY VALENTINE
MARTIN KANEPS
CARMEN FLOECK
SOSHI HAMOAKA
JANET HANEY

DIRECTORY FOR STUDY AREA

FILE 7: METHODS, DATA FORMAT AND COMMENTS
FILE 8: 1975 DATA
FILE 9: 1976 DATA
FILE 10: 1977 DATA
FILE 11: CODED SPECIES LIST

METHODS

EQUIPMENT: STANDARD 1-M NITEX NETS WITH 233 MICRON MESH SIZE, WITH DIGITAL FLOWMETER (MODEL 2030, GENERAL OCEANICS), AND TIME RECORDER (MODEL 1170-250 BENTHOS)
SAMPLES: FOR BIOMASS--ASHING IN MUFFLE FURNACE (BLUE M, MODEL M25A-1A)
FOR TAXONOMY--STANDARD PLANKTON PROCEDURES; BOGOROV PLANKTON SORTING TRAY

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK

11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		8= SOUTHERN BANK
		9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE
		0= NOT A REPLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		2= 2ND REPLICATE SAMPLE
		ETC.
		NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE
		0= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE
		0= NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
		9= VERTICAL TOW; ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE
		0= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE
		0= NOT AN ARCHIVE SAMPLE

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                            1= AN ARCHIVE SAMPLE
   50         I1        QUALITY CONTROL CODE
                            0= NOT A QUALITY CONTROL SAMPLE
                            1= A QUALITY CONTROL SAMPLE
   51         I1        CONTRACTED CODE
                            BLANK OR 0= BLM CONTRACTED SAMPLE
                            1= NOT A BLM CONTRACTED SAMPLE
  52-53       I2        CRUISE NUMBER
  54-56       I3        SAMPLE DEPTH IN METERS;
                          NOTE: 999 MEANS NOT APPLICABLE
                                991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                                992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                                993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
  57-60       A4        PARENT SAMPLE CODE FOR SUBSAMPLES
                            NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                            THIS FIELD WILL CONTAIN XXXX OR BE BLANK
   61         1X        BLANK
  62-69       A8        PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                            1976, 1977 FINAL REPORTS TO BLM
                            NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                            VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                            THIS FIELD ARE FOR POOLED SAMPLES,
                            E.G.=
                             A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                                OF SAMPLES AAAA,AAAB,AAAC
                             B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                                UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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 SAMPLE TYPE--SAMPLE USAGE                    DISPOSITION AND PRINCIPLE INVESTIGATOR
 BAG-BAC(SEDIMENT BACTERIOLOGY)
 CHG-HC (SEDIMENT HYDROCARBONS)               TAMU-TEXAS A+M UNIVERSITY
 CHG-MST(CHEMISTRY GRAB)                         LHP-LINDA H. PEQUEGNAT
 CHG-TM (SEDIMENT TRACE METALS)                  CSG-C.S. GIAM
 CHG-TEX(SEDIMENT TEXTURE)                       TSP-E. TAISOO PARK
 CHL-    (TOTAL CHLOROPHYLL-1975)
 CHT-HC (EPIFAUNA HYDROCARBONS)                  BJP-B.J. PRESLEY
 CHT-MST(EPIFAUNA CHEMISTRY TRAWL)               WMS-WILLIAM M. SACKETT
 CHT-TM (EPIFAUNA TRACE METALS)                  WEP-WILLIS E. PEQUEGNAT
 EPI-FSH(EPIFAUNA DEMERSAL FISH)                 RR-RICHARD REZAK
 EPI-HC (EPIFAUNA HYDROCARBONS)                  WEH-WILLIAM E. HAENSLY
 EPI-HPI(EPIFAUNA HISTOPATHOLOGY)                JMN-JERRY M. NEFF
 EPI-HPT(EPIFAUNA HISTOPATHOLOGY)                WH-WILLIAM E. HAENSLY
 EPI-INV(EPIFAUNA INVERTEBRATES)                 JN-JERRY M. NEFF
 EPI-MST(EPIFAUNA MASTER)                        JRS-JOHN R. SCHWARZ
 ICH-    (ICHTHYOPLANKTON)                       JHW-JOHN H. WORMUTH
 INF-MST(INFAUNA MASTER)                      UT-PORT ARANSAS MARINE LAB.
 INF-SED(INFAUNA SEDIMENT)                       PLP-PATRICK L. PARKER
 INF-TAX(INFAUNA TAXONOMY)                       NPS-NED P. SMITH
 LGT-PZ (PHOTOMETRY)                             CVB-CHASE VAN BAALEN
 LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)      JSH-J. SELMON HOLLAND
 MNK-TM (MACRONEKTON TRACE METALS)
 MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
 MMS-MEI(MEIOFAUNA)                              DEW-DONALD E. WOHLSCHLAG
 MMS-MST(MEIOFAUNA MASTER GRAB)                  DK-DAN L. KAMYKOWSKI
 MYG-MYC(SEDIMENT MYCOLOGY)                      PJ-PATRICIA L. JOHANSEN
 NEU-TAX(NEUSTON TAXONOMY)                    UT-GEOPHYSICAL LAB. GALVESTON
 SED-    (SEDIMENT)                              EWB-E. W. BEHRENS
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SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY

42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	024210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
	15	1X	BLANK
	16	I2	YEAR
	18	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER
	19	I1	TRANSECT
	20	I1	STATION
	21	F5	BIOMASS-DRY WEIGHT (GRAMS/CUBIC METER)
CARD TYPE 3	1	I6	024210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I4	SPECIES IDENTIFICATION CODE**
	19	F7	DENSITY (INDIVIDUALS/CUBIC METER)

FORMAT FOR CODED SPECIES LIST (FILE 11)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I4	CODE (CONSECUTIVE ORDER)
5	1X	BLANK
6	4A10	SPECIES NAME OR LOWEST DESCRIPTIVE TAXON

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 11.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: MICROZOOPLANKTON
FOR DISCRETE DEPTHS (WAT-MPL)
FOR TOTAL WATER COLUMN (VT-MPL)
FOR SEDIMENTS (SED-MPL)

PRINCIPLE INVESTIGATOR: RICHARD E. CASEY (REC)
RICE UNIVERSITY (RICE OR RU)
HOUSTON, TEXAS

ASSOCIATE INVESTIGATORS: ROY ADAMS
JANE ANEPOHL
MARY BAUER
JOEL L. GEVIRTZ
TONY GORODY
LINDA GUST
CAMILLE HUENI
ANN LEAVESLY
KENNETH J. MCMILLEN
DAVE PRATT
RICHARD REYNOLDS
ROY SCHWARZER
DAMON WILLIAMS

DIRECTORY FOR STUDY AREA

METHODS

EQUIPMENT:
NISKIN SAMPLES AT DISCRETE DEPTHS--30-LITER NISKIN BOTTLE, FILTERED THROUGH 38 MICRON MESH SCREEN. SAMPLES COLLECTED AT 10 METERS, ONE-HALF PHOTIC ZONE (STATIONS 1 AND 2); AND 10 METERS, ONE-HALF PHOTIC ZONE, PHOTIC ZONE, ONE-HALF DISTANCE BETWEEN PHOTIC ZONE AND BOTTOM OR JUST OFF BOTTOM (AT STATION 3).
NANSEN VERTICAL TOWS--NANSEN NET WITH 30 CENTIMETER OPENING, MESH OF 76 MICRONS, PULLED FROM BOTTOM TO SURFACE AT 20 METERS PER MINUTE. PULLED AT 25 METER INTERVALS IN 1977
BOTTOM SEDIMENT SAMPLES--6-1/2 CENTIMETER CORING TUBE AT LEASE 5 CM INTO SMITH-MCINTYRE GRAB SURFACE, WASHED THROUGH A 63 MICRON SCREEN.

SAMPLES:
PRESERVATION, STAINING, AND COUNTING PROCEDURES FOR EACH SAMPLE TYPE GIVEN IN 1975, 1976, AND 1977 FINAL REPORTS TO BLM.

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY

		BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK

BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH

INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND
DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS
UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN
UT-AUSTIN
PJS-PAUL J. SZANISZLO
U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL
RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA

14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269

4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	025210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = NISKIN AT DISCRETE DEPTHS 2 = NANSEN VERTICAL TOWS 3 = SEDIMENT SAMPLES
	9	2X	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	I3	SPECIES IDENTIFICATION CODE**
	20	F10	DENSITY***

FORMAT FOR CODED SPECIES LIST (FILE 16)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I3	SPECIES CODE (IN CONSECUTIVE ORDER)
4	2X	BLANK
6	4A10	SPECIES NAME OR LOWEST DESCRIPTIVE TAXON

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 16
*** UNITS FOR DENSITY MEASUREMENTS:
FOR SUB-STUDY AREA 1 (IN COL. 8) = NUMBER X 1000 PER CUBIC METER
FOR SUB-STUDY AREA 2 (IN COL. 8) = NUMBER PER CUBIC METER
FOR SUB-STUDY AREA 3 (IN COL. 8) = NUMBER PER 10 SQUARE CENTIMETERS

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: TOTAL ORGANIC CARBON AND DELTA CARBON 13 IN SEDIMENT (MMS-C13)

PRINCIPLE INVESTIGATORS: PATRICK L. PARKER (PLP)
RICHARD S. SCALAN
J. KENNETH WINTERS
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: RUTH LUTES
STEPHEN A. MACKO
DELLA SCALAN

DIRECTORY FOR STUDY AREA
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FILE 17: METHODS, DATA FORMAT AND COMMENTS
FILE 18: 1977 DATA

METHODS

SAMPLES: 10-15 KG CORES FROM TOP 5 CM OF SMITH-MCINTYRE GRAB SAMPLER FROZEN

EQUIPMENT: FOR TOTAL ORGANIC CARBON---LECO RF FURNACE, EVOLVED CARBON DIOXIDE COLLECTED BY FREEZING WITH NITROGEN, MEASURED MANOMETRICALLY
FOR CARBON 13---15.24 CM, 60 DEGREE SECTOR FIELD MASS SPECTROMETER (MODEL 6-60-RMS-26) NUCLIDE CORP.

DATA FORMAT
---- ------

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH

```
17-18      I2      DAY
19-20      I2      YEAR
21-24      I4      TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
                               OR CENTRAL STANDARD TIME)
  25       1X      BLANK
  26       I1      SAMPLE COLLECTION AREA
                          1= TRANSECT 1
                          2= TRANSECT 2
                          3= TRANSECT 3
                          4= TRANSECT 4
                          7= RIG MONITORING AREA
                          8= SOUTHERN BANK
                          9= HOSPITAL ROCK
  27       1X      BLANK
  28       I1      STATION (SEE BLM STOCS MONITORING STUDY STATION
                               LOCATIONS)
  29       A1      D=DAY; N=NIGHT
30-32      A3      TYPE OF SAMPLE(SEE KEY TO CODES)
33-36      A4      SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39      A3      SAMPLE USE (SEE KEY TO CODES)
40-42      A3      PRINCIPLE INVESTIGATOR (SEE KEY CODES)
  43       I1      REPLICATE CODE
                          0= NOT A REPLICATE SAMPLE
                          1= 1ST REPLICATE SAMPLE
                          2= 2ND REPLICATE SAMPLE
                          ETC.
                          NOTE; REPLICATE CODE HAS NOT BEEN
                          CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR
                          A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
                          APPEARING ON THE DATA LINES
  44       I1      FILTERED CODE
                          0= NOT APPLICABLE
                          1= SAMPLE IS A FILTERED SAMPLE
                          2= SAMPLE IS A NON-FILTERED SAMPLE
  45       I1      RELATIVE DEPTH CODE
                          0= NOT CODED
                          1= SURFACE
                          2= 1/2 PHOTIC ZONE
                          3= PHOTIC ZONE
                          4= PHOTIC ZONE TO BOTTOM
                          5= BOTTOM
                          6= NOT APPLICABLE
                          8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
                          9= VERTICAL TOW; ALL DEPTHS SAMPLED
                          NOTE: RELATIVE DEPTH CODE HAS BEEN
                          INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                          BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                          DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                          BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                          FROM THE STUDY AREA
  46       I1      DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                          BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
  47       I1      POOLED CODE
                          0= NOT A POOLED SAMPLE
                          1= A POOLED SAMPLE
                          NOTE: MAY NOT HAVE BEEN USED
  48       I1      LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                          APPEARS TO ALWAYS BE 0 (ZERO)
  49       I1      ARCHIVE CODE
                          0= NOT AN ARCHIVE SAMPLE
                          1= AN ARCHIVE SAMPLE
  50       I1      QUALITY CONTROL CODE
```

```
                         0= NOT A QUALITY CONTROL SAMPLE
                         1= A QUALITY CONTROL SAMPLE
  51        I1      CONTRACTED CODE
                         BLANK OR 0= BLM CONTRACTED SAMPLE
                         1= NOT A BLM CONTRACTED SAMPLE
 52-53      I2      CRUISE NUMBER
 54-56      I3      SAMPLE DEPTH IN METERS;
                      NOTE: 999 MEANS NOT APPLICABLE
                          991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                          992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                          993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
 57-60      A4      PARENT SAMPLE CODE FOR SUBSAMPLES
                         NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                         THIS FIELD WILL CONTAIN XXXX OR BE BLANK
  61        1X      BLANK
 62-69      A8      PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                         1976, 1977 FINAL REPORTS TO BLM
                         NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                         VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                         THIS FIELD ARE FOR POOLED SAMPLES,
                         E.G.=
                          A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                             OF SAMPLES AAAA,AAAB,AAAC
                          B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                             UP OF SAMPLES AAZY,AAZZ,ABAA
```

KEY TO CODES

```
 SAMPLE TYPE--SAMPLE USAGE                    DISPOSITION AND PRINCIPLE INVESTIGATOR
 BAG-BAC(SEDIMENT BACTERIOLOGY)
 CHG-HC (SEDIMENT HYDROCARBONS)               TAMU-TEXAS A+M UNIVERSITY
 CHG-MST(CHEMISTRY GRAB)                         LHP-LINDA H. PEQUEGNAT
 CHG-TM (SEDIMENT TRACE METALS)                  CSG-C.S. GIAM
 CHG-TEX(SEDIMENT TEXTURE)                       TSP-E. TAISOO PARK
 CHL-   (TOTAL CHLOROPHYLL-1975)
 CHT-HC (EPIFAUNA HYDROCARBONS)                  BJP-B.J. PRESLEY
 CHT-MST(EPIFAUNA CHEMISTRY TRAWL)               WMS-WILLIAM M. SACKETT
 CHT-TM (EPIFAUNA TRACE METALS)                  WEP-WILLIS E. PEQUEGNAT
 EPI-FSH(EPIFAUNA DEMERSAL FISH)                 RR-RICHARD REZAK
 EPI-HC (EPIFAUNA HYDROCARBONS)                  WEH-WILLIAM E. HAENSLY
 EPI-HPI(EPIFAUNA HISTOPATHOLOGY)                JMN-JERRY M. NEFF
 EPI-HPT(EPIFAUNA HISTOPATHOLOGY)                WH-WILLIAM E. HAENSLY
 EPI-INV(EPIFAUNA INVERTEBRATES)                 JN-JERRY M. NEFF
 EPI-MST(EPIFAUNA MASTER)                        JRS-JOHN R. SCHWARZ
 ICH-   (ICHTHYOPLANKTON)                        JHW-JOHN H. WORMUTH
 INF-MST(INFAUNA MASTER)                      UT-PORT ARANSAS MARINE LAB.
 INF-SED(INFAUNA SEDIMENT)                       PLP-PATRICK L. PARKER
 INF-TAX(INFAUNA TAXONOMY)                       NPS-NED P. SMITH
 LGT-PZ (PHOTOMETRY)                             CVB-CHASE VAN BAALEN
 LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)      JSH-J. SELMON HOLLAND
 MNK-TM (MACRONEKTON TRACE METALS)
 MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
 MMS-MEI(MEIOFAUNA)                              DEW-DONALD E. WOHLSCHLAG
 MMS-MST(MEIOFAUNA MASTER GRAB)                  DK-DAN L. KAMYKOWSKI
 MYG-MYC(SEDIMENT MYCOLOGY)                      PJ-PATRICIA L. JOHANSEN
 NEU-TAX(NEUSTON TAXONOMY)                    UT-GEOPHYSICAL LAB. GALVESTON
 SED-   (SEDIMENT)                               EWB-E. W. BEHRENS
 SED-HC (SEDIMENT HYDROCARBONS)
 SED-MPL(SEDIMENT MICROZOOPLANKTON)
```

SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZUA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
  SAR-SAMUEL A. RAMIREZ
  WVA-O. W. VAN AUKEN

UT-AUSTIN
  PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
  HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
  REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	026210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	1X	BLANK

17	I1	TRANSECT
18	1X	BLANK
19	F6	DELTA CARBON 13 (PERMIL DEVIATIONS FROM THE PDB STANDARD) (STANDARD DEVIATION FOR REPEATED ANALYSES = 0.3)
25	F5	TOTAL ORGANIC CARBON (PERCENT ORGANIC CARBON OF DRY WEIGHT OF SEDIMENT ON A CARBONATE FREE BASIS)
30	I2	REPLICATE NUMBER

COMMENTS
----

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: PHOTOMETRY (LGT-PZ)

PRINCIPLE INVESTIGATOR: DAN L. KAMYKOWSKI (DK)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

DIRECTORY FOR STUDY AREA
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FILE 19: METHODS, DATA FORMAT AND COMMENTS
FILE 20: 1976 DATA***
FILE 21: 1977 DATA

METHODS

EQUIPMENT: LAMBDA SUBMARINE PHOTOMETER

DATA FORMAT
---- ------

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK

		9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES

NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
THIS FIELD WILL CONTAIN XXXX OR BE BLANK

61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM

NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
THIS FIELD ARE FOR POOLED SAMPLES,
E.G.=
A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
OF SAMPLES AAAA,AAAB,AAAC
B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)	WVA-O. W. VAN AUKEN
WAT- (WATER COLUMN)	
WAT-ATP(ADENOSINE TRI-PHOSPHATE)	
WAT-BAC(WATER COLUMN BACTERIOLOGY)	
WAT-C13(DELTA C13)	UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)	PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)	

WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS
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TRAN.	STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
		3H3	3H2	LG	LR			METERS	FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138

	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2*	1	I6	027210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE**
	15	I2	DEPTH (METERS)
	17	F4	LIGHT PENETRATION AT PRECEDING DEPTH (PERCENT)
	21	I2	DEPTH (METERS)
	23	F4	LIGHT PENETRATION AT PRECEDING DEPTH (PERCENT)
	.	.	.
	.	.	.
	.	.	.
	69	I2	DEPTH (METERS)
	71	F4	LIGHT PENETRATION AT PRECEDING DEPTH (PERCENT)
CARD TYPE 3	1	I6	027210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE**

15 F4 SECCHI DEPTH (METERS)

COMMENTS

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* THERE MAY BE MULTIPLE CARD 2S, DEPENDING ON HOW MANY MEASUREMENTS WERE TAKEN AT A STATION

** ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

*** 1976 DATA CONTAINS CARD TYPES 3 ONLY (SECCHI DISC DEPTH) PHOTOMETRY DATA COLLECTED IN 1977 ONLY

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: HISTOPATHOLOGY (HPT OR HPI)
OF INVERTEBRATE EPIFAUNA
OF DEMERSAL FISHES
OF GONADAL TISSUE OF MACROEPIFAUNA AND DEMERSAL FISHES

PRINCIPLE INVESTIGATORS: JERRY M. NEFF (JMN OR JN)
--INVERTEBRATE EPIFAUNA
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS
WILLIAM E. HAENSLEY (WEH OR WH)
--DEMERSAL FISHES
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS
SAMUEL A. RAMIREZ (SAR)
--GONADAL TISSUE OF MACROEPIFAUNA AND DEMERSAL FISHES
UNIVERSITY OF TEXAS AT SAN ANTONIO (UTSA)
SAN ANTONIO, TEXAS

ASSOCIATE INVESTIGATORS: --FOR INVERTEBRATE EPIFAUNA
VALERIE V. ERNST
--FOR DEMERSAL FISHES
JOANN C. EURELL
--FOR GONADAL TISSUE
JEANNETTE W. ZEAGLER
LIONEL LANDRY JR.
STEPHEN D. WALKER
CHERYL E. HAYWARD

DIRECTORY FOR STUDY AREA
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METHODS

SAMPLES: ORGAN SAMPLES FIXED WITH BUFFERED NEUTRAL FORMALIN AND HELLY SOLUTION, DEHYDRATED, CLEARED, EMBEDDED, SECTIONED, STAINED, AND EXAMINED.

DETAILED METHODS GIVEN IN 1976 AND 1977 FINAL REPORTS TO BLM.

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56

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                      9= VERTICAL TOW; ALL DEPTHS SAMPLED
                      NOTE: RELATIVE DEPTH CODE HAS BEEN
                      INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                      BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                      DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                      BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                      FROM THE STUDY AREA
  46       I1     DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                      BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
  47       I1     POOLED CODE
                      0= NOT A POOLED SAMPLE
                      1= A POOLED SAMPLE
                      NOTE: MAY NOT HAVE BEEN USED
  48       I1     LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                      APPEARS TO ALWAYS BE 0 (ZERO)
  49       I1     ARCHIVE CODE
                      0= NOT AN ARCHIVE SAMPLE
                      1= AN ARCHIVE SAMPLE
  50       I1     QUALITY CONTROL CODE
                      0= NOT A QUALITY CONTROL SAMPLE
                      1= A QUALITY CONTROL SAMPLE
  51       I1     CONTRACTED CODE
                      BLANK OR 0= BLM CONTRACTED SAMPLE
                      1= NOT A BLM CONTRACTED SAMPLE
 52-53     I2     CRUISE NUMBER
 54-56     I3     SAMPLE DEPTH IN METERS;
                    NOTE: 999 MEANS NOT APPLICABLE
                          991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                          992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                          993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
 57-60     A4     PARENT SAMPLE CODE FOR SUBSAMPLES
                      NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                      THIS FIELD WILL CONTAIN XXXX OR BE BLANK
  61       1X     BLANK
 62-69     A8     PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                      1976, 1977 FINAL REPORTS TO BLM
                      NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                      VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                      THIS FIELD ARE FOR POOLED SAMPLES,
                      E.G.=
                       A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                          OF SAMPLES AAAA,AAAB,AAAC
                       B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                          UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY

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EPI-HPI(EPIFAUNA HISTOPATHOLOGY)               JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)               WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)                JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)                       JRS-JOHN R. SCHWARZ
ICH-   (ICHTHYOPLANKTON)                       JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)                     UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)                      PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)                      NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                            CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)     JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                             DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)                 DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                     PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)                   UT-GEOPHYSICAL LAB. GALVESTON
SED-   (SEDIMENT)                              EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY      UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)             SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)         WVA-O. W. VAN AUKEN
WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)                          UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)       PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)                   U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)                          HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)              RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)                          RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)                REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)
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STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
        DISSOLVED, ZOOPLANKTON
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09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	450.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	364.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	142.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	362.38	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	385.32	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	467.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	586.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266

	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(B)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	030210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	3X	BLANK
	18	A6	PRINCIPLE INVESTIGATORS SPECIAL SAMPLE CODE
	24	A1	PRINCIPLE INVESTIGATORS INITIAL H = HAENSLEY N = NEFF R = RAMIREZ
	25	A1	SEX M = MALE F = FEMALE H = HERMAPHRODITIC
	29	I3	ORGAN CODE**
	32	I3	LOCATION CODE**
	35	I3	CONDITION OR PATHOLOGY CODE**
	38	4A10	DESCRIPTION OF SEXUAL DEVELOPMENT OR PATHOLOGICAL CONDITION (FOR FILES 27 AND 28 ONLY--GONADAL TISSUE DATA)

FORMAT FOR CODES ON DATA SHEETS (FILE 29)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I3	CODE
4	2X	BLANK
6	6A10	SPECIES, ORGANS, LOCATIONS, PATHOLOGY, OR CONDITION DESCRIPTION

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** EXPLANATION OF CODES ON DATA CARDS IS GIVEN IN FILE 29.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: SEDIMENT TEXTURAL ANALYSIS (SED)
IN INFAUNA (INF-SED)
IN MEIOFAUNA (MMS-SED)
IN BACTERIOLOGY (BAG-SED)
IN MYCOLOGY (MYG-SED)

PRINCIPLE INVESTIGATOR: E. W. BEHRENS (EWB)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
GEOPHYSICAL LAB
GALVESTON, TEXAS

ASSOCIATE INVESTIGATORS: B. E. ALEMAN
K. M. BERG
S. F. CHOU
D. R. MULLER
R. A. POOLE
H. S. FINKELSTEIN
P. PICARAZZI
M. R. REMELIIK

DIRECTORY FOR STUDY AREA

METHODS

TEXTURAL ANALYSIS DATA BY RAPID SEDIMENT ANALYZER METHOD (SCHLEE, 1966) FOR THE SAND-SIZED FRACTION AND BY THE PIPETTE METHOD FOR THE MUD FRACTION (FOLK, 1974).

RELATIVE ABUNDANCES OF GRAIN SIZE PARAMETERS BY THE COULTER COUNTER TECHNIQUE.

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)

2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE

		NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES .
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SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)

DISPOSITION AND PRINCIPLE INVESTIGATOR
TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK
BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND

MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON

26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	019210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	F6	MEAN GRAIN SIZE (IN PHI UNITS)
	21	F6	SORTING COEFFICIENT (GRAIN SIZE DEVIATION)
	27	F6	GRAIN SIZE SKEWNESS
	33	F6	GRAIN SIZE KURTOSIS
	39	F7	PERCENT SAND
	46	F7	PERCENT SILT
	53	F7	PERCENT CLAY
	60	F7	PHI SIZES GREATER THAN 10.6
	67	F7	RATIO SAND TO MUD
	74	F7	RATIO SILT TO CLAY

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: NEUSTON (NEU-TAX)

PRINCIPLE INVESTIGATORS: JOHN H. WORMUTH (JHW)
LINDA H. PEQUEGNAT (LHP)
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: JOHN D. MCEACHRAN
ALAN D. HART
JAMES CUMMINGS
MARY ANN DAHER
CHINYELU ODUMODU
STEPHEN BERKOWITZ

DIRECTORY FOR STUDY AREA

FILE 34: METHODS, DATA FORMAT AND COMMENTS
FILE 35: 1976 DATA
FILE 36: 1977 DATA
FILE 37: CODED SPECIES LIST

METHODS

EQUIPMENT: 505 MICRON NET TOWED TO A DEPTH OF 15 CM WITH A FLOWMETER TO RECORD DISTANCE
NET DIVIDED INTO 4 REPLICATE SECTIONS FOR 1977 DATA

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME

```
                        OR CENTRAL STANDARD TIME)
  25       1X       BLANK
  26       I1       SAMPLE COLLECTION AREA
                           1= TRANSECT 1
                           2= TRANSECT 2
                           3= TRANSECT 3
                           4= TRANSECT 4
                           7= RIG MONITORING AREA
                           8= SOUTHERN BANK
                           9= HOSPITAL ROCK
  27       1X       BLANK
  28       I1       STATION (SEE BLM STOCS MONITORING STUDY STATION
                        LOCATIONS)
  29       A1       D=DAY; N=NIGHT
30-32      A3       TYPE OF SAMPLE(SEE KEY TO CODES)
33-36      A4       SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39      A3       SAMPLE USE (SEE KEY TO CODES)
40-42      A3       PRINCIPLE INVESTIGATOR (SEE KEY CODES)
  43       I1       REPLICATE CODE
                           0= NOT A REPLICATE SAMPLE
                           1= 1ST REPLICATE SAMPLE
                           2= 2ND REPLICATE SAMPLE
                           ETC.
                           NOTE; REPLICATE CODE HAS NOT BEEN
                           CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR
                           A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
                           APPEARING ON THE DATA LINES
  44       I1       FILTERED CODE
                           0= NOT APPLICABLE
                           1= SAMPLE IS A FILTERED SAMPLE
                           2= SAMPLE IS A NON-FILTERED SAMPLE
  45       I1       RELATIVE DEPTH CODE
                           0= NOT CODED
                           1= SURFACE
                           2= 1/2 PHOTIC ZONE
                           3= PHOTIC ZONE
                           4= PHOTIC ZONE TO BOTTOM
                           5= BOTTOM
                           6= NOT APPLICABLE
                           8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
                           9= VERTICAL TOW; ALL DEPTHS SAMPLED
                           NOTE: RELATIVE DEPTH CODE HAS BEEN
                           INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                           BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                           DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                           BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                           FROM THE STUDY AREA
  46       I1       DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                           BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
  47       I1       POOLED CODE
                           0= NOT A POOLED SAMPLE
                           1= A POOLED SAMPLE
                           NOTE: MAY NOT HAVE BEEN USED
  48       I1       LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                           APPEARS TO ALWAYS BE 0 (ZERO)
  49       I1       ARCHIVE CODE
                           0= NOT AN ARCHIVE SAMPLE
                           1= AN ARCHIVE SAMPLE
  50       I1       QUALITY CONTROL CODE
                           0= NOT A QUALITY CONTROL SAMPLE
                           1= A QUALITY CONTROL SAMPLE
  51       I1       CONTRACTED CODE
```

		BLANK OR 0= BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS;
		NOTE: 999 MEANS NOT APPLICABLE
		991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
		992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM
		NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES,
		E.G.=
		A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC
		B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE

- BAG-BAC(SEDIMENT BACTERIOLOGY)
- CHG-HC (SEDIMENT HYDROCARBONS)
- CHG-MST(CHEMISTRY GRAB)
- CHG-TM (SEDIMENT TRACE METALS)
- CHG-TEX(SEDIMENT TEXTURE)
- CHL- (TOTAL CHLOROPHYLL-1975)
- CHT-HC (EPIFAUNA HYDROCARBONS)
- CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
- CHT-TM (EPIFAUNA TRACE METALS)
- EPI-FSH(EPIFAUNA DEMERSAL FISH)
- EPI-HC (EPIFAUNA HYDROCARBONS)
- EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
- EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
- EPI-INV(EPIFAUNA INVERTEBRATES)
- EPI-MST(EPIFAUNA MASTER)
- ICH- (ICHTHYOPLANKTON)
- INF-MST(INFAUNA MASTER)
- INF-SED(INFAUNA SEDIMENT)
- INF-TAX(INFAUNA TAXONOMY)
- LGT-PZ (PHOTOMETRY)
- LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
- MNK-TM (MACRONEKTON TRACE METALS)
- MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
- MMS-MEI(MEIOFAUNA)
- MMS-MST(MEIOFAUNA MASTER GRAB)
- MYG-MYC(SEDIMENT MYCOLOGY)
- NEU-TAX(NEUSTON TAXONOMY)
- SED- (SEDIMENT)
- SED-HC (SEDIMENT HYDROCARBONS)
- SED-MPL(SEDIMENT MICROZOOPLANKTON)
- SED-TM (SEDIMENT TRACE METALS)
- SOG-DEP(SEDIMENT DEPOSITION)
- STD-ST (SALINITY-TEMPERATURE-DEPTH)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
- LHP-LINDA H. PEQUEGNAT
- CSG-C.S. GIAM
- TSP-E. TAISOO PARK
- BJP-B.J. PRESLEY
- WMS-WILLIAM M. SACKETT
- WEP-WILLIS E. PEQUEGNAT
- RR-RICHARD REZAK
- WEH-WILLIAM E. HAENSLY
- JMN-JERRY M. NEFF
- WH-WILLIAM E. HAENSLY
- JN-JERRY M. NEFF
- JRS-JOHN R. SCHWARZ
- JHW-JOHN H. WORMUTH

UT-PORT ARANSAS MARINE LAB.
- PLP-PATRICK L. PARKER
- NPS-NED P. SMITH
- CVB-CHASE VAN BAALEN
- JSH-J. SELMON HOLLAND
- DEW-DONALD E. WOHLSCHLAG
- DK-DAN L. KAMYKOWSKI
- PJ-PATRICIA L. JOHANSEN

UT-GEOPHYSICAL LAB. GALVESTON
- EWB-E. W. BEHRENS

TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VI -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	014210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	F7	DRY WEIGHT (GRAMS/1,000 CUBIC METERS)
CARD TYPE 3	1	I6	014210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK

11	A4	SAMPLE CODE*
15	I4	SPECIES IDENTIFICATION CODE**
19	F10	ABUNDANCE (NUMBER OF INDIVIDUALS/1,000 CUBIC METERS)

FORMAT FOR CODED SPECIES LIST (FILE 37)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I3	CONSECUTIVE ORDER
4	1X	BLANK
5	I12	V.I.M.S. CODE
17	1X	BLANK
18	4A10	GENUS AND SPECIES NAME OR LOWEST DESCRIPTIVE TAXON OR GROUP

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 37.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977).

DATA TYPE: CARBON 14 IN PHYTOPLANKTON (WAT-P14 AND WAT-N14)

PRINCIPLE INVESTIGATOR: DAN L. KAMYKOWSKI (DK)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

DIRECTORY FOR STUDY AREA

FILE 38: METHODS, DATA FORMAT AND COMMENTS
FILE 39: 1977 DATA

METHODS

SAMPLES INOCULATED WITH 5 MICROCURRIES CARBON 14 LABELED SODIUM BICARBONATE. CLEAR AND DARK BOTTLES, INCUBATED 3 HRS ON SHIPBOARD, FILTERED THROUGH 20 MICRON NYTEX SCREEN, AND FILTERED THROUGH 0.45 MICRON MILLIPORE HA FILTER

EQUIPMENT: PACKARD LIQUID SCINTILLATION COUNTER

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3

		4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS

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                                  992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                                  993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60        A4           PARENT SAMPLE CODE FOR SUBSAMPLES
                                 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                                 THIS FIELD WILL CONTAIN XXXX OR BE BLANK
  61         1X           BLANK
62-69        A8           PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                                 1976, 1977 FINAL REPORTS TO BLM
                                 NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                                 VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                                 THIS FIELD ARE FOR POOLED SAMPLES,
                                 E.G.=
                                  A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                                     OF SAMPLES AAAA,AAAB,AAAC
                                  B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                                     UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE                        DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)                   TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)                             LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)                      CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)                           TSP-E. TAISOO PARK
CHL-   (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)                      BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)                   WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)                      WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)                     RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)                      WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)                    JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)                    WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)                     JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)                            JRS-JOHN R. SCHWARZ
ICH-   (ICHTHYOPLANKTON)                            JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)                          UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)                           PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)                           NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                                 CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)          JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                                  DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)                      DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                          PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)                        UT-GEOPHYSICAL LAB. GALVESTON
SED-   (SEDIMENT)                                   EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY           UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)                  SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)              WVA-O. W. VAN AUKEN
WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
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WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN. STA.	LORAN		LORAC		LATITUDE	LONGITUDE	DEPTH	
	3H3	3H2	LG	LR			METERS	FEET

1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2056	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR) (9)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB) (8)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2076	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	016210
	7	I1	CARD TYPE (ALWAYS 2) -- SAMPLES RUN WITH DARK SUBSTITUTION
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	I1	TRANSECT
	18	1X	BLANK
	19	I1	STATION
	20	1X	BLANK
	21	A1	PHYTOPLANKTON TYPE CODE A = NANNOPLANKTON E = NETPLANKTON
	22	F6	CARBON 14 ((MILLIGRAMS)/(CUBIC METER)(HOUR))
	28	F5	CHLOROPHYLL A (MICROGRAMS/LITER BY SCOR-UNESCO METHOD)**
	33	F6	CARBON 14/CHLOROPHYLL A RATIO***

CARD TYPE 3	1	I6	013210
	7	I1	CARD TYPE (ALWAYS 3) -- SAMPLES RUN WITHOUT DARK SUBSTITUTION
	:	:	:
	:	:	:
	:	:	:
	:	:	:
			REMAINDER OF CARD TYPE 3 IDENTICAL TO CARD TYPE 2

COMMENTS
----

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** VALUES OF 0.000 REPRESENT SAMPLES WITH NO DETECTABLE VALUES
*** BLANK VALUES REPRESENT VALUES INCALCUABLE BECAUSE OF 0.000 CHLOROPHYLL A MEASUREMENTS

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: TRACE METALS (TM)
IN SEDIMENT (CHG-TM)
IN ZOOPLANKTON (ZPL-TM AND ZCT-TM)
IN EPIFAUNA (CHT-TM)
IN MACRONEKTON (MNK-TM)

PRINCIPLE INVESTIGATOR: FOR SEDIMENT
HENRY BERRYHILL (HB)
U. S. GEOLOGICAL SURVEY (USGS)
CORPUS CHRISTI, TEXAS
FOR ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON
B. J. PRESLEY (BJP)
P. N. BOOTHE
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: DONNA BARANOWSKI
SCOTT SCHOFIELD

DIRECTORY FOR STUDY AREA

METHODS

EQUIPMENT FOR ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON WORK:
FOR CADMIUM, CROMIUM, NICKEL, LEAD---PERKIN-ELMER MODEL 306 ATOMIC ABSORPTION SPECTROPHOTOMETER EQUIPPED WITH AN HGA-2100 GRAPHITE FURNACE ATOMIZER
FOR COPPER, IRON, ZINC---JARREL-ASH MODEL 810 ATOMIC ABSORPTION SPECTROPHOTOMETER

DETAILED METHODS ON PROCEDURES AVAILABLE IN 1976 AND 1977 FINAL REPORTS TO BLM

DATA FORMAT FOR FILES 41 AND 42 -- SEDIMENT TRACE METAL DATA

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)

2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE

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                            NOTE: MAY NOT HAVE BEEN USED
   48          I1        LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                            APPEARS TO ALWAYS BE 0 (ZERO)
   49          I1        ARCHIVE CODE
                            0= NOT AN ARCHIVE SAMPLE
                            1= AN ARCHIVE SAMPLE
   50          I1        QUALITY CONTROL CODE
                            0= NOT A QUALITY CONTROL SAMPLE
                            1= A QUALITY CONTROL SAMPLE
   51          I1        CONTRACTED CODE
                            BLANK OR 0= BLM CONTRACTED SAMPLE
                            1= NOT A BLM CONTRACTED SAMPLE
  52-53        I2        CRUISE NUMBER
  54-56        I3        SAMPLE DEPTH IN METERS;
                          NOTE: 999 MEANS NOT APPLICABLE
                                991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
                                992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
                                993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
  57-60        A4        PARENT SAMPLE CODE FOR SUBSAMPLES
                            NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
                            THIS FIELD WILL CONTAIN XXXX OR BE BLANK
   61          1X        BLANK
  62-69        A8        PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975,
                            1976, 1977 FINAL REPORTS TO BLM
                            NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER
                            VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
                            THIS FIELD ARE FOR POOLED SAMPLES,
                            E.G.=
                             A) AAAA-C INDICATES A POOLED SAMPLE MADE UP
                                OF SAMPLES AAAA,AAAB,AAAC
                             B) AAZY-BAA INDICATES A POOLED SAMPLE MADE
                                UP OF SAMPLES AAZY,AAZZ,ABAA
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KEY TO CODES
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 SAMPLE TYPE--SAMPLE USAGE                    DISPOSITION AND PRINCIPLE INVESTIGATOR
 BAG-BAC(SEDIMENT BACTERIOLOGY)
 CHG-HC (SEDIMENT HYDROCARBONS)               TAMU-TEXAS A+M UNIVERSITY
 CHG-MST(CHEMISTRY GRAB)                         LHP-LINDA H. PEQUEGNAT
 CHG-TM (SEDIMENT TRACE METALS)                  CSG-C.S. GIAM
 CHG-TEX(SEDIMENT TEXTURE)                       TSP-E. TAISOO PARK
 CHL-   (TOTAL CHLOROPHYLL-1975)
 CHT-HC (EPIFAUNA HYDROCARBONS)                  BJP-B.J. PRESLEY
 CHT-MST(EPIFAUNA CHEMISTRY TRAWL)               WMS-WILLIAM M. SACKETT
 CHT-TM (EPIFAUNA TRACE METALS)                  WEP-WILLIS E. PEQUEGNAT
 EPI-FSH(EPIFAUNA DEMERSAL FISH)                 RR-RICHARD REZAK
 EPI-HC (EPIFAUNA HYDROCARBONS)                  WEH-WILLIAM E. HAENSLY
 EPI-HPI(EPIFAUNA HISTOPATHOLOGY)                JMN-JERRY M. NEFF
 EPI-HPT(EPIFAUNA HISTOPATHOLOGY)                WH-WILLIAM E. HAENSLY
 EPI-INV(EPIFAUNA INVERTEBRATES)                 JN-JERRY M. NEFF
 EPI-MST(EPIFAUNA MASTER)                        JRS-JOHN R. SCHWARZ
 ICH-   (ICHTHYOPLANKTON)                        JHW-JOHN H. WORMUTH
 INF-MST(INFAUNA MASTER)                      UT-PORT ARANSAS MARINE LAB.
 INF-SED(INFAUNA SEDIMENT)                       PLP-PATRICK L. PARKER
 INF-TAX(INFAUNA TAXONOMY)                       NPS-NED P. SMITH
 LGT-PZ (PHOTOMETRY)                             CVB-CHASE VAN BAALEN
 LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)      JSH-J. SELMON HOLLAND
 MNK-TM (MACRONEKTON TRACE METALS)
 MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
```

MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-D. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON

26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	015210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	16	F5	BARIUM (PPM)
	22	F4	CADMIUM (PPM)
	27	F4	CHROMIUM (PPM)
	32	F3	COPPER (PPM)
	36	F5	IRON (PPM)
	42	F4	MANGANESE (PPM)
	47	F4	NICKEL (PPM)
	52	F4	LEAD (PPM)
	57	F4	VANADIUM (PPM)
	62	F4	ZINC (PPM)

DATA FORMAT FOR FILES 43, 44, AND 45 -- ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON

CARD TYPE 1---STANDARD INVENTORY CARD---

FORMAT FOR CARD TYPE 1 SAME AS FOR FILES 41 AND 42

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	015210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	16	2A10	SPECIES NAME AND TISSUE F = FLESH G = GILLS L = LIVER H = HEPATOPANCREAS I = INDIVIDUAL SAMPLE P = POOLED SAMPLE OF SEVERAL INDIVIDUALS WITHIN A SAMPLE CODE T = POOLED SAMPLE OF SEVERAL INDIVIDUALS FROM SEVERAL SAMPLE CODES
	36	F5	DRY WEIGHT OF SAMPLE (GRAMS)
	41	F6	CADMIUM (PPM)**
	47	F6	CHROMIUM (PPM)**
	53	F7	COPPER (PPM)**
	60	F8	IRON (PPM)**
	68	F8	NICKEL (PPM)**
	76	F6	LEAD (PPM)**
	82	F7	VANADIUM (PPM)**
	89	F6	ZINC (PPM)**
	95	F7	ALUMINUM (PPM)**
	102	F8	CALCIUM (PPM)**
	110	F5	PERCENT MOISTURE WET WEIGHT=DRY WEIGHT((100-MOISTURE)/100)

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

** A NEGATIVE CONCENTRATION SHOULD BE INTERPRETED TO MEAN THAT THE ACTUAL CONCENTRATION

IS LESS THAN THE ABSOLUTE VALUE OF THE CODED VALUE, THE ABSOLUE VALUE
BEING THE DETECTION LIMIT OF THE INSTRUMENT USED.
EXAMPLE: -.Ø5 MEANS LESS THAN Ø.5 (THE DETECTION LIMIT)

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

MAGNETIC DATA TAPE 3

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: SALINITY, TEMPERATURE, AND DEPTH (STD-ST)

PRINCIPLE INVESTIGATOR: NED P. SMITH (NPS)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: JAMES C. EVANS
WILLIAM MACNAUGHTON

DIRECTORY FOR STUDY AREA

FILE 2: METHODS, DATA FORMAT AND COMMENTS
FILE 3: DATA FILE FOR RIG MONITORING STUDY

METHODS

EQUIPMENT:
HYDROGRAPHIC DATA NORMALLY COLLECTED USING A PLESSEY MODEL 9060 SELF-CONTAINED SALINITY/TEMPERATURE/DEPTH PROFILE SYSTEM (STD)
IN BRACKISH OR SHALLOW WATER: MARTEK MODEL TDC METERING SYSTEM

SAMPLES:
WATER SAMPLES TAKEN WITH NANSEN BOTTLES WITH PAIRS OF REVERSING THERMOMETERS

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH

17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE

		1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK
BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND
DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	001210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	F5	DEPTH (METERS)
	20	F5	TEMPERATURE (C)
	25	F5	SALINITY (PPT)
	30	1X	BLANK
	31	A4	SAMPLE CODE**

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** SAMPLE CODE REPORTED IN REPORT APPENDICES IF NOT SAME AS SAMPLE CODE REPORTED IN COL. 11, OTHERWISE BLANK.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: LOW MOLECULAR WEIGHT HYDROCARBONS IN THE WATER COLUMN (WAT-LH)

PRINCIPLE INVESTIGATORS: WILLIAM M. SACKETT (WMS)
JAMES M. BROOKS
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: BERNIE B. BERNARD
C. R. SCHWAB

DIRECTORY FOR STUDY AREA

FILE 4: METHODS, DATA FORMAT AND COMMENTS
FILE 5: DATA FILE FOR RIG MONITORING STUDY

METHODS

EQUIPMENT: NISKIN OR NANSEN BOTTLES
SAMPLES: MODIFICATION OF THE SWINNERTON AND LINNENBORN (1967) METHOD
GAS CHROMATOGRAPHIC STREAM FOR ANALYSIS, SEPARATED IN A 1.8-M 3.0-MM OUTSIDE DIAMETER (OD)
POROPAK Q COLUMN, ANALYZED WITH A FLAME IONIZATION DETECTOR (FID)

DATA FORMAT FOR WATER COLUMN HYDROCARBONS

CARD TYPE 1---STANDARD INVENTORY CARD---*

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK

26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER

54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAC-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)	WVA-O. W. VAN AUKEN

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WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)                        UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)    PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)                 U.S.G.S.-CORPUS CHRISTI
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WAT-MYC(WATER COLUMN MYCOLOGY)            RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)                        RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)             REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
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STUDY AREA KEY

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01 SALINITY AND TEMPERATURE, CURRENTS
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BLM STOCS MONITORING STUDY STATION LOCATIONS

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KEY TO RIG MONITORING STATIONS

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000

11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	004210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I3	TRANSECT/STATION
	18	I2	DEPTH (METERS)
	20	I1	RELATIVE DEPTH CODE
	21	1X	BLANK
	22	I1	REPLICATE NUMBER
	23	I1	NUMBER OF REPLICATES AT THIS DEPTH
	24	I4	METHANE (NANNOLITERS/LITER)***
	28	F5	ETHENE (NANNOLITERS/LITER)***
	33	F5	ETHANE (NANNOLITERS/LITER)***
	38	F5	PROPENE (NANNOLITERS/LITER)***
	43	F5	PROPANE (NANNOLITERS/LITER)***
	48	1X	BLANK
	49	A4	SAMPLE CODE**

COMMENTS
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* SAMPLE CODE OF THE SURFACE SAMPLE IS USED ON THE INVENTORY
** ORIGINAL SAMPLE CODE IN REPORT FOR RELATIVE DEPTH INDICATED IN COL. 20
*** A NEGATIVE CONCENTRATION SHOULD BE INTERPRETED TO MEAN THAT THE ACTUAL CONCENTRATION IS LESS THAN THE ABSOLUTE VALUE OF THE CODED VALUE, THE ABSOLUTE VALUE BEING THE DETECTION LIMIT OF THE INSTRUMENT USED.
EXAMPLE: -0.5 MEANS LESS THAN 0.5 (THE DETECTION LIMIT)

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: HYDROCARBONS IN EPIFAUNA (EPI-HC AND CHT-HC)

PRINCIPLE INVESTIGATORS: C. S. GIAM (CSG)
H. S. CHAN
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: ELLIOT ATLAS
SUE COATES
KATHY GAGE
DARLENE GAREY
K. C. HAUCK
YANG HRUNG
GRACE NEFF
SUE NEWMAN
CHIP SANDIFORD

DIRECTORY FOR STUDY AREA

METHODS

INSTRUMENTATION: HEWLETT-PACKARD 5830A GAS CHROMATOGRAPH AND A VARIAN 3700 GAS CHROMATOGRAPH

MATERIALS: MALLINCKRODT NANOGRADE R SOLVENT, SILICA GEL (WOELM, 70-230, MESH), AND ALUMINUM OXIDE WOELM NEUTRAL (ACTIVITY GRADE 1)

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK

11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1.	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE

50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE

- BAG-BAC(SEDIMENT BACTERIOLOGY)
- CHG-HC (SEDIMENT HYDROCARBONS)
- CHG-MST(CHEMISTRY GRAB)
- CHG-TM (SEDIMENT TRACE METALS)
- CHG-TEX(SEDIMENT TEXTURE)
- CHL- (TOTAL CHLOROPHYLL-1975)
- CHT-HC (EPIFAUNA HYDROCARBONS)
- CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
- CHT-TM (EPIFAUNA TRACE METALS)
- EPI-FSH(EPIFAUNA DEMERSAL FISH)
- EPI-HC (EPIFAUNA HYDROCARBONS)
- EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
- EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
- EPI-INV(EPIFAUNA INVERTEBRATES)
- EPI-MST(EPIFAUNA MASTER)
- ICH- (ICHTHYOPLANKTON)
- INF-MST(INFAUNA MASTER)
- INF-SED(INFAUNA SEDIMENT)
- INF-TAX(INFAUNA TAXONOMY)
- LGT-PZ (PHOTOMETRY)
- LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
- MNK-TM (MACRONEKTON TRACE METALS)
- MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
- MMS-MEI(MEIOFAUNA)
- MMS-MST(MEIOFAUNA MASTER GRAB)
- MYG-MYC(SEDIMENT MYCOLOGY)
- NEU-TAX(NEUSTON TAXONOMY)
- SED- (SEDIMENT)
- SED-HC (SEDIMENT HYDROCARBONS)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
- LHP-LINDA H. PEQUEGNAT
- CSG-C.S. GIAM
- TSP-E. TAISOO PARK
- BJP-B.J. PRESLEY
- WMS-WILLIAM M. SACKETT
- WEP-WILLIS E. PEQUEGNAT
- RR-RICHARD REZAK
- WEH-WILLIAM E. HAENSLY
- JMN-JERRY M. NEFF
- WH-WILLIAM E. HAENSLY
- JN-JERRY M. NEFF
- JRS-JOHN R. SCHWARZ
- JHW-JOHN H. WORMUTH

UT-PORT ARANSAS MARINE LAB.
- PLP-PATRICK L. PARKER
- NPS-NED P. SMITH
- CVB-CHASE VAN BAALEN
- JSH-J. SELMON HOLLAND
- DEW-DONALD E. WOHLSCHLAG
- DK-DAN L. KAMYKOWSKI
- PJ-PATRICIA L. JOHANSEN

UT-GEOPHYSICAL LAB. GALVESTON
- EWB-E. W. BEHRENS

SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY

43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS

EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	005210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	I2	YEAR
	19	5X	BLANK
	24	F5	N-ALKANES, PRISTANE, AND PHYTANE (PPM OF DRY WEIGHT)
	29	F7	N-ALKANES (PPM OF DRY WEIGHT)
	36	F6	DRY WEIGHT OF SAMPLE (GRAMS)
	42	I4	NUMBER OF INDIVIDUALS IN SAMPLE
	46	A4	ORGAN CODE W = WHOLE W-P = WHOLE LESS PEN W-H-O = WHOLE LESS HEAD AND ORGANS W-H = WHOLE LESS HEAD

			W-T = WHOLE LESS TAIL
			M = MUSCLE
			L = LIVER
			G = GILL
			GD = GONAD
	50	3A10	SPECIES NAME
CARD TYPE 3	1	I6	005210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	I2	YEAR
	19	I1	PERIOD CODE
			1 = WINTER
			2 = MARCH
			3 = APRIL
			4 = SPRING
			5 = JULY
			6 = AUGUST
			7 = FALL
			8 = NOVEMBER
			9 = DECEMBER
	20	I1	FRACTION
			1 = HEXANE
	21	I4	RETENTION INDEX
	25	F11	RELATIVE PERCENT OF N-ALKANES**
CARD TYPE 4	1	I6	005210
	7	I1	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	I2	YEAR
	19	F5	CARBON PREFERENCE INDEX C14 TO C20 RANGE
	24	F5	CARBON PREFERENCE INDEX C20 TO C32 RANGE
	29	F6	PRISTANE (PPM)
	35	F6	PHYTANE (PPM)

FORMAT FOR CODED SPECIES LIST (FILE 8)
------ --- ----- ------- ---- ----------

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I2	SPECIES IDENTIFICATION CODE
2	3A10	GENUS AND SPECIES NAME

COMMENTS
----

* ARTIFICIAL CODES CREATED FOR 1975 AND 1976 SAMPLES. PREVIOUS SAMPLE CODES USED IN PUBLICATIONS NOTED IN COLUMNS 62-69 OF CARD TYPE 1. SAMPLE CODE ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE.

** PRISTANE AND PHYTANE CONCENTRATIONS ARE DESIGNATED AT RETENTION INDICES 1670 AND 1780, RESPECTIVELY. THEIR RELATIVE PERCENT VALUES ARE OF THE

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  N-ALKANES.  WHEN THEY ARE SUMMED WITH THE N-ALKANES, THE SUM WILL ALWAYS
  BE GREATER THAN OR EQUAL TO 100 PERCENT.
WHEN THE TOTAL N-ALKANES EQUAL 0.0, THE VALUES FOR PRISTANE AND PHYTANE
  ARE GIVEN IN (PPM X 10) FOR USE IN CALCULATING PRISTANE/PHYTANE RATIOS.
BECAUSE OF THE DIFFERENCES WITH PRISTANE AND PHYTANE, THEIR FORMAT IS ALSO
  DIFFERENT TO MAKE THEM STAND OUT.  ALL THE DATA ON CARD TYPE 3 IS IN AN
  F12 FORMAT BEGINNING IN COLUMN 25 BUT NOT ALL ALIGNED.
*** CODED SPECIES LIST IS IN FILE 8.

NOTE:  FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
       FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
       FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B
```

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: BENTHIC INVERTEBRATE MACROFAUNA
EPIFAUNA (EPI-INV)
INFAUNA (INF-TAX)

PRINCIPLE INVESTIGATOR: J. S. HOLLAND (JSH)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: MICHAEL CARLISLE
KELLIS CHANDLER
STEVE CORNELIUS
ALLEN DIXON
WARREN FLINT
JOAN HOLT
SCOTT HOLT
RICK KALKE
NORMAN HANNEBAUM
ELIZABETH PAYNE
MARK POFF
NANCY RABALAIS
STEVE RABALAIS
EVAN ROYAL-PARKER
JOYCE PULICH
LYNN TINNIN
GRANVIL TREECE
NANCY WOHLSCHLAG

DIRECTORY FOR STUDY AREA

FILE 9: METHODS, DATA FORMAT AND COMMENTS
FILE 10: DATA FILE FOR RIG MONITORING STUDY
FILE 11: CODED SPECIES LIST

METHODS

INFAUNAL SAMPLES: .0125 CUBIC METER SMITH-MCINTYRE BOTTOM GRAB SAMPLER, WASHED THROUGH 0.5 MM MESH.

EPIFAUNAL SAMPLES: 35-FOOT (10.7-M) OTTER TRAWL WITH 44.5 MM NO. 36 STRETCHED MESH ON BOTTOM FOR 15 MINUTES (BAG LINER EMPLOYED DURING 1975 AND PART OF 1976)

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA

46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK

BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER

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INF-TAX(INFAUNA TAXONOMY)                          NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)                                CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)         JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)                                 DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)                     DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)                         PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)                        UT-GEOPHYSICAL LAB. GALVESTON
SED-   (SEDIMENT)                                  EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY           UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)                 SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)             WVA-O. W. VAN AUKEN
WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)                               UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)           PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)                        U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)                              HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)                   RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)                               RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)                    REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)


STUDY AREA KEY
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 01 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED OXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 06 INVERTEBRATE EPIFAUNA AND INFAUNA
 07 BENTHIC FISH
 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
          DISSOLVED, ZOOPLANKTON
 09 CHLOROPHYLL A
 10 ADENOSINE TRI-PHOSPHATE
 11 PHYTOPLANKTON
 12 FLUORESCENCE
 13 MEIOFAUNA
 14 NEUSTON
 15 TRACE METALS
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16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.46	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

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RIG     1-67                626.81   246.85  27 44 21.12  96 42 58.86  83   109
MONITOR
  (7)
                    NOTE:   *   MEANS DEGREES AND MINUTES
                           **   MEANS DEGREES MINUTES SECONDS
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KEY TO RIG MONITORING STATIONS
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SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	006210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = EPIFAUNA 2 = INFAUNA

9	2X	BLANK
11	A4	SAMPLE CODE*
15	I8	SPECIES IDENTIFICATION CODE**
23	I5	NUMBER OF INDIVIDUALS/SAMPLE
28	I3	NUMBER OF MALES/SAMPLE***
31	I3	NUMBER OF FEMALES/SAMPLE***
34	I3	NUMBER OF THOSE FEMALES WHICH ARE OVIGEROUS***
37	1X	BLANK
38	4A10	SPECIES NAME

FORMAT FOR CODED SPECIES LIST (FILE 11)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I2	PHYLUM CODE
3	I2	CLASS, ORDER, SUBORDER, OR DESCRIPTIVE TAXONOMIC CODE (USUALLY CLASS)
5	I2	FAMILY CODE
7	I2	SPECIES OR LOWEST DESCRIPTIVE TAXON CODE
9	2X	BLANK
11	4A10	SPECIES NAME OR LOWEST DESCRIPTIVE TAXON, IN PHYLOGENETIC ORDER

COMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

** CODED SPECIES LIST IS IN FILE 11.

*** BLANKS MAY MEAN EITHER NONE OF THE CATEGORIES WERE PRESENT OR SEX WAS NOT DETERMINED OR INDETERMINABLE.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: EPIFAUNA FISH (EPI-FSH)

PRINCIPLE INVESTIGATOR: DONALD E. WOHLSCHLAG (DEW)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: RONALD M. YOSHIYAMA
JAMES F. COLE
ELIZABETH F. VETTER
MARK DOBBS
EDGAR FINDLEY

DIRECTORY FOR STUDY AREA

METHODS

EQUIPMENT: 35-FOOT (10.7-M) OTTER TRAWL, ON BOTTOM FOR 15 MINUTES.
TRAWL WITH 44.5 MM NO. 36 STRETCHED MESH
(BAG LINER EMPLOYED DURING 1975 AND PART OF 1976)

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)

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 25      1X     BLANK
 26      I1     SAMPLE COLLECTION AREA
                       1= TRANSECT 1
                       2= TRANSECT 2
                       3= TRANSECT 3
                       4= TRANSECT 4
                       7= RIG MONITORING AREA
                       8= SOUTHERN BANK
                       9= HOSPITAL ROCK
 27      I2     STATION (SEE BLM STOCS MONITORING STUDY STATION
                           LOCATIONS)
 29      A1     D=DAY; N=NIGHT
30-32    A3     TYPE OF SAMPLE(SEE KEY TO CODES)
33-36    A4     SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39    A3     SAMPLE USE (SEE KEY TO CODES)
40-42    A3     PRINCIPLE INVESTIGATOR (SEE KEY CODES)
 43      I1     REPLICATE CODE
                       0= NOT A REPLICATE SAMPLE
                       1= 1ST REPLICATE SAMPLE
                       2= 2ND REPLICATE SAMPLE
                       ETC.
                       NOTE; REPLICATE CODE HAS NOT BEEN
                       CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR
                       A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
                       APPEARING ON THE DATA LINES
 44      I1     FILTERED CODE
                       0= NOT APPLICABLE
                       1= SAMPLE IS A FILTERED SAMPLE
                       2= SAMPLE IS A NON-FILTERED SAMPLE
 45      I1     RELATIVE DEPTH CODE
                       0= NOT CODED
                       1= SURFACE
                       2= 1/2 PHOTIC ZONE
                       3= PHOTIC ZONE
                       4= PHOTIC ZONE TO BOTTOM
                       5= BOTTOM
                       6= NOT APPLICABLE
                       8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
                       9= VERTICAL TOW; ALL DEPTHS SAMPLED
                       NOTE: RELATIVE DEPTH CODE HAS BEEN
                       INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                       BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                       DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                       BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                       FROM THE STUDY AREA
 46      I1     DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                       BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
 47      I1     POOLED CODE
                       0= NOT A POOLED SAMPLE
                       1= A POOLED SAMPLE
                       NOTE: MAY NOT HAVE BEEN USED
 48      I1     LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                       APPEARS TO ALWAYS BE 0 (ZERO)
 49      I1     ARCHIVE CODE
                       0= NOT AN ARCHIVE SAMPLE
                       1= AN ARCHIVE SAMPLE
 50      I1     QUALITY CONTROL CODE
                       0= NOT A QUALITY CONTROL SAMPLE
                       1= A QUALITY CONTROL SAMPLE
 51      I1     CONTRACTED CODE
                       BLANK OR 0= BLM CONTRACTED SAMPLE
                       1= NOT A BLM CONTRACTED SAMPLE
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52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS;
		NOTE: 999 MEANS NOT APPLICABLE
		991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS
		992 MEANS VERTICAL TOW FROM 25 TO 50 METERS
		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM
		NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES,
		E.G.=
		A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC
		B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ

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VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)       WVA-O. W. VAN AUKEN
WAT-   (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)                         UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)      PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)                  U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)                         HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)             RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)                         RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)               REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)
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STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS
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TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000

10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	007210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I3	SPECIES CODE**
	18	I6	ABUNDANCE (NUMBER OF INDIVIDUALS/TRAWL SAMPLE)
	24	F8	WEIGHT (GRAMS)
	32	A10,A7	FAMILY NAME
	49	3A10	GENUS-SPECIES NAME

FORMAT FOR CODED SPECIES LIST (FILE 14)
------ --- ----- ------- ---- ----------

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	I4	CODE (CONSECUTIVE ORDER)
5	14X	BLANK
19	A10,A7	FAMILY NAME
36	3A10	GENUS AND SPECIES NAME

COMMENTS
----

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE
** CODED SPECIES LIST IS IN FILE 14.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: MEIOFAUNA (MMS-MEI)

PRINCIPLE INVESTIGATOR: WILLIS E. PEQUEGNAT (WEP)
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: WALTER B. SIKORA
FAIN HUBBARD
NANCY KIMBLE
JOYCE LUM
BEN PRESLEY
JOHN RUBRIGHT
ISABEL HINE
CINDY VENN

DIRECTORY FOR STUDY AREA
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FILE 15: METHODS, DATA FORMAT AND COMMENTS
FILE 16: DATA FILE FOR RIG MONITORING STUDY

METHODS

SAMPLE: 2.43 CM DIAMETER CORE TO A DEPTH OF 5 CM IN A SMITH-MCINTYRE GRAB SAMPLE. SEIVED THROUGH 500 AND 62 MICRON MESH. MATERIAL ON 62 MICRON MESH SIEVE RETAINED, STAINED, COUNTED.

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)

25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE

52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(NEUSTON TAXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)	EWB-E. W. BEHRENS
SED-HC (SEDIMENT HYDROCARBONS)	
SED-MPL(SEDIMENT MICROZOOPLANKTON)	
SED-TM (SEDIMENT TRACE METALS)	
SDG-DEP(SEDIMENT DEPOSITION)	
STD-ST (SALINITY-TEMPERATURE-DEPTH)	
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ

VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) WVA-O. W. VAN AUKEN
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13) UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN) U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE) HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY) RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS) RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON) REC-RICHARD E. CASEY
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WAT-PRO(PROTOZOA)
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WAT-TOC(TOTAL ORGANIC CARBON)
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ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
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04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
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07 BENTHIC FISH
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41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS
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TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
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	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
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4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
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	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
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	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS
--- -- --- ---------- --------

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000

10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	013210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER
	16	I3	JULIAN DAY
	19	I1	YEAR 1 = 1976 2 = 1977
	20	I1	TRANSECT
	21	I2	STATION
	23	I5	NEMATODA --------
	28	I4	HARPACTICOIDA :

```
32     I3     KINORHYNCHA       :
35     I3     OSTRACODA         :---TRUE MEIOFAUNA
38     I3     HALICARIDAE       :   (NUMBER OF INDIVIDUALS/10 CUBIC METERS)
41     I3     NAUPLII           :   (2 REPLICATES AVERAGED)
44     I3     TURBELLARIA       :
47     I3     TRUE OTHERS -----
50     12X    BLANK
62     I4     FORAMINIFERA ---:---PROTISTA
66     I3     OTHER PROTOZOA -:   (NUMBER OF INDIVIDUALS/10 CUBIC METERS)
                                  (2 REPLICATES AVERAGED)
69     I3     POLYCHAETA -----------
72     I3     BIVALVA                :
75     I3     GASTROPODA             :---TEMPORARY MEIOFAUNA
78     I3     PERACARIDA             :   (NUMBER OF INDIVIDUALS/10 CUBIC METERS)
81     I3     DECAPODA               :   (2 REPLICATES AVERAGED)
84     I3     TEMPORARY OTHERS -----
```

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: TRACE METALS (TM)
IN SEDIMENT (CHG-TM OR SED-TM)
IN SUSPENDED SEDIMENT (WAT-SSM)
IN EPIFAUNA (CHT-TM)

PRINCIPLE INVESTIGATOR: FOR SEDIMENT
HENRY BERRYHILL (HB)
U. S. GEOLOGICAL SURVEY (USGS)
CORPUS CHRISTI, TEXAS
FOR EPIFAUNA
B. J. PRESLEY (BJP)
P. N. BOOTHE
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

ASSOCIATE INVESTIGATORS: DONNA BARANOWSKI
SCOTT SCHOFIELD

DIRECTORY FOR STUDY AREA
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FILE 17: METHODS, DATA FORMAT AND COMMENTS
FILE 18: SEDIMENT TRACE METAL DATA FOR RIG MONITORING STUDY
FILE 19: SUSPENDED SEDIMENT TRACE METAL DATA FOR RIG MONITORING STUDY
FILE 20: EPIFAUNA TRACE METAL DATA FOR RIG MONITORING STUDY

METHODS

EQUIPMENT FOR ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON WORK:
FOR CADMIUM, CROMIUM, NICKEL, LEAD---PERKIN-ELMER MODEL 306 ATOMIC ABSORPTION SPECTROPHOTOMETER EQUIPPED WITH AN HGA-2100 GRAPHITE FURNACE ATOMIZER
FOR COPPER, IRON, ZINC---JARRELL-ASH MODEL 810 ATOMIC ABSORPTION SPECTROPHOTOMETER

DETAILED METHODS ON PROCEDURES AVAILABLE IN 1976 AND 1977 FINAL REPORTS TO BLM

DATA FORMAT FOR FILE 18 -- SEDIMENT TRACE METAL DATA
---- ------ --- ---- --   -------- ----- ----- ----

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES

7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)

49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	
MMS-MEI(MEIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST(MEIOFAUNA MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC(SEDIMENT MYCOLOGY)	PJ-PATRICIA L. JOHANSEN

NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY

40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

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SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	015210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	16	F5	BARIUM (PPM)
	22	F4	CADMIUM (PPM)
	27	F4	CHROMIUM (PPM)
	32	F3	COPPER (PPM)
	36	F5	IRON (PPM)
	42	F4	MANGANESE (PPM)
	47	F4	NICKEL (PPM)
	52	F4	LEAD (PPM)
	57	F4	VANADIUM (PPM)

61	F5	ZINC (PPM)

DATA FORMAT FOR FILE 19 -- SUSPENDED SEDIMENT

CARD TYPE 1---STANDARD INVENTORY CARD---

FORMAT FOR CARD TYPE 1 SAME AS FOR FILE 18

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	015210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	1X	BLANK
	16	F5	CADMIUM (PPM)
	22	F4	CHROMIUM (PPM)
	27	F5	COPPER (PPM)
	33	F5	IRON (PPM)
	39	F4	MANGANESE (PPM)
	44	F3	NICKEL (PPM)**
	48	F5	LEAD (PPM)
	54	F3	VANADIUM (PPM)**

DATA FORMAT FOR FILE 20 -- EPIFAUNA

CARD TYPE 1---STANDARD INVENTORY CARD---

FORMAT FOR CARD TYPE 1 SAME AS FOR FILE 18

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	015210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	16	2A10	SPECIES NAME AND TISSUE F = FLESH G = GILLS L = LIVER H = HEPATOPANCREAS I = INDIVIDUAL SAMPLE P = POOLED SAMPLE OF SEVERAL INDIVIDUALS WITHIN A SAMPLE CODE T = POOLED SAMPLE OF SEVERAL INDIVIDUALS FROM SEVERAL SAMPLE CODES
	36	5X	BLANK
	41	F6	CADMIUM (PPM)**
	47	F6	CHROMIUM (PPM)**
	53	F7	COPPER (PPM)**
	60	F8	IRON (PPM)**
	68	F8	NICKEL (PPM)**
	76	F6	LEAD (PPM)**
	82	F7	VANADIUM (PPM)**
	89	F6	ZINC (PPM)**
	95	F7	ALUMINUM (PPM)**
	102	F8	CALCIUM (PPM)**

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

** A NEGATIVE CONCENTRATION SHOULD BE INTERPRETED TO MEAN THAT THE ACTUAL CONCENTRATION IS LESS THAN THE ABSOLUTE VALUE OF THE CODED VALUE, THE ABSOLUE VALUE BEING THE DETECTION LIMIT OF THE INSTRUMENT USED.
EXAMPLE: -.05 MEANS LESS THAN 0.5 (THE DETECTION LIMIT)

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: SEDIMENT TEXTURAL ANALYSIS (SED)
IN INFAUNA (INF-SED)
IN MEIOFAUNA (MMS-SED)
IN BACTERIOLOGY (BAG-SED)
IN MYCOLOGY (MYG-SED)

PRINCIPLE INVESTIGATOR: E. W. BEHRENS (EWB)
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
GEOPHYSICAL LAB
GALVESTON, TEXAS

ASSOCIATE INVESTIGATORS: B. E. ALEMAN
K. M. BERG
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D. R. MULLER
R. A. POOLE
H. S. FINKELSTEIN
P. PICARAZZI
M. R. REMELIIK

DIRECTORY FOR STUDY AREA

FILE 21: METHODS, DATA FORMAT AND COMMENTS
FILE 22: DATA FILE FOR RIG MONITORING STUDY

METHODS

TEXTURAL ANALYSIS DATA BY RAPID SEDIMENT ANALYZER METHOD (SCHLEE, 1966) FOR THE SAND-SIZED FRACTION AND BY THE PIPETTE METHOD FOR THE MUD FRACTION (FOLK, 1974).

RELATIVE ABUNDANCES OF GRAIN SIZE PARAMETERS BY THE COULTER COUNTER TECHNIQUE.

DATA FORMAT

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES

7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	I2	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)

49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK
BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND
DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN

NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTUN TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UT-GEOPHYSICAL LAB. GALVESTON
  EWB-E. W. BEHRENS
UTSA-UNIV. OF TEXAS AT SAN ANTONIO
  SAR-SAMUEL A. RAMIREZ
  WVA-D. W. VAN AUKEN
UT-AUSTIN
  PJS-PAUL J. SZANISZLO
U.S.G.S.-CORPUS CHRISTI
  HB-HENRY BERRYHILL
RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
  REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY

40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2070	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 10.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

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SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	019210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	F6	MEAN GRAIN SIZE (IN PHI UNITS)
	21	F6	SORTING COEFFICIENT (GRAIN SIZE DEVIATION)
	27	F6	GRAIN SIZE SKEWNESS
	33	F6	GRAIN SIZE KURTOSIS
	39	F7	PERCENT SAND
	46	F7	PERCENT SILT
	53	F7	PERCENT CLAY
	60	F7	PHI SIZES GREATER THAN 10.6
	67	F7	RATIO SAND TO MUD

74	F7	RATIO SILT TO CLAY

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: HIGH MOLECULAR WEIGHT HYDROCARBONS (HC) IN SEDIMENTS (SED)

PRINCIPLE INVESTIGATORS: PATRICK L. PARKER (PLP)
RICHARD S. SCALAN
J. KENNETH WINTERS
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT)
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATORS: RICHARD ANDERSON
TERRANCE BURTON
DONNA LAMMEY BURTON
SHARON CAMERON
LOUIS DELAROSA
RUTH LUTES
STEPHEN A. MACKO
MARK NORTHAM
DELLA SCALAN

DIRECTORY FOR STUDY AREA
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FILE 23: METHODS, DATA FORMAT AND COMMENTS
FILE 24: DATA FILE FOR RIG MONITORING STUDY

METHODS

SEDIMENT: 10-15 KG CORES FROM TOP 5 CM OF SMITH-MCINTYRE GRAB--FROZEN

SAMPLES ANALYZED IN GAS CHROMATOGRAPHY (GLC) AND GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC/MS)
GLC--PERKIN-ELMER (PE) MODELS 900, 910, 3920B, AND A VARIAN MODEL 3700, ELECTRONIC INTEGRATION OF PEAKS DONE ON HEWLETT-PACKARD 3352 LAB DATA SYSTEM
GC/MS--DUPONT INSTRUMENTS MODEL 21-491 GC/MS WITH A DUPONT INSTRUMENTS MODEL 21-094B MS DATA SYSTEM.
CHROMATOGRAPH ASSOCIATED WITH THIS INSTRUMENT WAS A VARIAN AEROGRAPH MODEL 2700 MODIFIED BY DUPONT.
DETAILED METHODS OF HYDROCARBON PROCEDURES FOUND IN 1975, 1976, AND 1977 FINAL REPORTS TO BLM

DATA FORMAT
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CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS FIELD TYPE DESCRIPTION

```
  1        I1      ALWAYS 0 (ZERO)
 2-3       I2      STUDY AREA (SEE STUDY AREA KEY)
 4-6       I3      ALWAYS 210 FOR MASTER FILES
  7        I1      CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
  8        I1      STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
 9-10      2X      BLANK
11-14      A4      SAMPLE CODE (FINAL CODE ASSIGNED)
15-16      I2      MONTH
17-18      I2      DAY
19-20      I2      YEAR
21-24      I4      TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
                               OR CENTRAL STANDARD TIME)
 25        1X      BLANK
 26        I1      SAMPLE COLLECTION AREA
                          1= TRANSECT 1
                          2= TRANSECT 2
                          3= TRANSECT 3
                          4= TRANSECT 4
                          7= RIG MONITORING AREA
                          8= SOUTHERN BANK
                          9= HOSPITAL ROCK
 27        I2      STATION (SEE BLM STOCS MONITORING STUDY STATION
                               LOCATIONS)
 29        A1      D=DAY; N=NIGHT
30-32      A3      TYPE OF SAMPLE(SEE KEY TO CODES)
33-36      A4      SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39      A3      SAMPLE USE (SEE KEY TO CODES)
40-42      A3      PRINCIPLE INVESTIGATOR (SEE KEY CODES)
 43        I1      REPLICATE CODE
                          0= NOT A REPLICATE SAMPLE
                          1= 1ST REPLICATE SAMPLE
                          2= 2ND REPLICATE SAMPLE
                          ETC.
                          NOTE; REPLICATE CODE HAS NOT BEEN
                          CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR
                          A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
                          APPEARING ON THE DATA LINES
 44        I1      FILTERED CODE
                          0= NOT APPLICABLE
                          1= SAMPLE IS A FILTERED SAMPLE
                          2= SAMPLE IS A NON-FILTERED SAMPLE
 45        I1      RELATIVE DEPTH CODE
                          0= NOT CODED
                          1= SURFACE
                          2= 1/2 PHOTIC ZONE
                          3= PHOTIC ZONE
                          4= PHOTIC ZONE TO BOTTOM
                          5= BOTTOM
                          6= NOT APPLICABLE
                          8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
                          9= VERTICAL TOW; ALL DEPTHS SAMPLED
                          NOTE: RELATIVE DEPTH CODE HAS BEEN
                          INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                          BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                          DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                          BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                          FROM THE STUDY AREA
 46        I1      DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                          BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
 47        I1      POOLED CODE
                          0= NOT A POOLED SAMPLE
                          1= A POOLED SAMPLE
```

		NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(SEDIMENT BACTERIOLOGY)	
CHG-HC (SEDIMENT HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(CHEMISTRY GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (SEDIMENT TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(SEDIMENT TEXTURE)	TSP-E. TAISOO PARK
CHL- (TOTAL CHLOROPHYLL-1975)	
CHT-HC (EPIFAUNA HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (EPIFAUNA TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(EPIFAUNA DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EPIFAUNA HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EPIFAUNA INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(EPIFAUNA MASTER)	JRS-JOHN R. SCHWARZ
ICH- (ICHTHYOPLANKTON)	JHW-JOHN H. WORMUTH
INF-MST(INFAUNA MASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(INFAUNA SEDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(INFAUNA TAXONOMY)	NPS-NED P. SMITH
LGT-PZ (PHOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	JSH-J. SELMON HOLLAND
MNK-TM (MACRONEKTON TRACE METALS)	
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)	

MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
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VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
----- ---- ---

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON

26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
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41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	318.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3908	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269
RIG MONITOR (7)	1-67			626.81	246.85	27 44 21.12	96 42 58.86	83	109

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS
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SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	SW-2000
14	S-100	46	W-2000
15	SW-100	47	NW-2000
16	W-100		
17	NW-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT PLUME	53	SSE-2000
		54	SSW-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1000
25	SW-500	62	ESE-1000
26	W-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1000		
33	SE-1000		
34	S-1000		
35	SW-1000		
36	W-1000		
37	NW-1000		

RIG MONITORING SAMPLES TAKEN:

BEFORE DRILLING --- SEPTEMBER 25-27, 1976
DURING DRILLING --- JANUARY 1 AND 14, 1977
AFTER DRILLING ---- FEBRUARY 28 - MARCH 3, 1977

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	008210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = HYDROCARBONS IN SEDIMENT 2 = HYDROCARBONS IN ZOOPLANKTON 3 = PARTICULATE HYDROCARBONS IN WATER 4 = DISSOLVED HYDROCARBONS IN WATER
	9	2X	BLANK
	11	A4	SAMPLE CODE*

	15	2X	BLANK
	17	I2	YEAR
	19	A1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER
	20	F10	DRY WEIGHT (G)
	30	F10	WET WEIGHT (G)
	40	F8	TOTAL NON-SAPONIFIABLE WEIGHT (G)
	48	F8	HEXANE WEIGHT (G)
	56	F8	BENZENE WEIGHT (G)
CARD TYPE 3	1	I6	008210
	7	I1	CARD TYPE (ALWAYS 3)
	8	I1	SUB-STUDY AREA SAMPLE TYPE 1 = HYDROCARBONS IN SEDIMENTS 2 = HYDROCARBONS IN ZOOPLANKTON 3 = PARTICULATE HYDROCARBONS IN WATER 4 = DISSOLVED HYDROCARBONS IN WATER
	9	2X	BLANK
	11	A4	SAMPLE CODE*
	15	2X	BLANK
	17	I2	YEAR
	19	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER
	20	I1	FRACTION CODE 1 = HEXANE 2 = BENZENE 3 = METHANOL
	21	I4	RETENTION INDEX
	25	F13	CONCENTRATION IN MICROGRAMS/GRAM FOR SEDIMENT AND ZOOPLANKTON (SUB-STUDY AREAS 1 AND 2) CONCENTRATION IN MICROGRAMS/LITER FOR PARTICULATE AND DISSOLVED WATER SAMPLES (SUB-STUDY AREAS 3 AND 4)

COMMENTS
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* ARTIFICIAL CODES USED FOR PARTICULATE WATER SAMPLES IN 1975.
PREVIOUS SAMPLE CODES USED IN PUBLICATIONS GIVEN IN
COLUMNS 62-69 OF CARD TYPE 1.

SAMPLE CODES ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE.

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: BENTHIC MICROBIOLOGY (BAG-BAC)

ASSOCIATE INVESTIGATORS: STEVE K. ALEXANDER
VICTORIA L. CARPENTER
STEVE J. SCHROPP
JOHN C. CLAY III

PRINCIPLE INVESTIGATOR: JOHN R. SCHWARZ (JRS)
TEXAS A+M UNIVERSITY (TAMU)
COLLEGE STATION, TEXAS

DIRECTORY FOR STUDY AREA

FILE 25: METHODS, DATA FORMAT AND COMMENTS
FILE 26: SEDIMENT BACTERIOLOGY/BIOLOGY--1977 DATA
FILE 27: SEDIMENT BACTERIOLOGY/HYDROCARBONS--1977 DATA
FILE 28: SEDIMENT BACTERIOLOGY/PURE CULTURES--1977 DATA

METHODS

SAMPLES: SEDIMENT COLLECTED FROM TOP 1 CM OF SMITH-MCINTYRE GRAB.
CRUDE OIL USED WAS SOUTH LOUISIANA CRUDE OIL (SLCO)

MOST PROBABLE NUMBER (MPN) TECHNIQUE OF GUNKGL (1973) USED TO ENUMERATE HYDROCARBON DEGRADING BACTERIA

DETAILED METHODS OF OIL BIODEGRADATION AND EFFECTS STUDIES GIVEN IN 1977 FINAL REPORT TO BLM.

DATA FORMAT FOR FILE 26-1977 BIOLOGY DATA

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY

19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE

		1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS: NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE

BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
- LHP-LINDA H. PEQUEGNAT
- CSG-C.S. GIAM
- TSP-E. TAISOO PARK
- BJP-B.J. PRESLEY
- WMS-WILLIAM M. SACKETT
- WEP-WILLIS E. PEQUEGNAT
- RR-RICHARD REZAK
- WEH-WILLIAM E. HAENSLY
- JMN-JERRY M. NEFF
- WH-WILLIAM E. HAENSLY
- JN-JERRY M. NEFF
- JRS-JOHN R. SCHWARZ
- JHW-JOHN H. WORMUTH

UT-PORT ARANSAS MARINE LAB.
- PLP-PATRICK L. PARKER
- NPS-NED P. SMITH
- CVB-CHASE VAN BAALEN
- JSH-J. SELMON HOLLAND
- DEW-DONALD E. WOHLSCHLAG
- DK-DAN L. KAMYKOWSKI
- PJ-PATRICIA L. JOHANSEN

UT-GEOPHYSICAL LAB. GALVESTON
- EWB-E. W. BEHRENS

SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE,
DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
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	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
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	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
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4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
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	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
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	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	040210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA SAMPLE TYPE--BIOLOGY (ALWAYS 1)
	9	2X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE
			1 = WINTER

			2 = MARCH
			3 = APRIL
			4 = SPRING
			5 = JULY
			6 = AUGUST
			7 = FALL
			8 = NOVEMBER
			9 = DECEMBER
	18	I1	STUDY TYPE
			1 = BACTERIOLOGY
			2 = MYCOLOGY
	19	I1	SUBSTRATE TYPE
			1 = SEDIMENT
			2 = WATER COLUMN
	20	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	22	2X	BLANK
	24	E8	TOTAL COUNT (MEAN)
	32	E8	TOTAL COUNT (1 STANDARD DEVIATION)
	40	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	42	2X	BLANK
	44	E8	OIL DEGRADING COUNT (MEAN)
	52	E8	OIL DEGRADING COUNT (1 STANDARD DEVIATION)
CARD TYPE 3	1	I6	040210
	7	I1	CARD TYPE (ALWAYS 3)
	8	I1	SUB-STUDY AREA SAMPLE TYPE--BIOLOGY (ALWAYS 1)
	9	2X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	F5	PERCENT CRUDE OIL IN DEGRADATION FLASK
			(.5 PERCENT FOR WINTER//.05 PERCENT FOR SPRING AND FALL
			(PERCENT SLCO IN ENUMERATION FLASK WAS 0.5 FOR ALL SAMP
	25	3X	BLANK
	28	I3	TIME (DAYS)
	31	1X	BLANK
	32	E8	MEAN NUMBER WITH CRUDE OIL
	40	E8	1 STANDARD DEVIATION WITH CRUDE OIL
	48	F5	MEAN PERCENT DEGRADATION
	53	E8	MEAN NUMBER WITHOUT CRUDE OIL
	61	E8	1 STANDARD DEVIATION WITHOUT CRUDE OIL
CARD TYPE 4	1	I6	040210
	7	I1	CARD TYPE (ALWAYS 4)
	8	I1	SUB-STUDY AREA SAMPLE TYPE--BIOLOGY (ALWAYS 1)
	9	2X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	I3	GENUS AND SPECIES CODE
	23	E8	ABUNDANCE
	31	F5	PERCENT OF TOTAL FOR THAT BACTERIA TYPE
	36	7X	BLANK
	43	I1	BACTERIA TYPE
			1 = HETEROTROPHIC
			2 = HYDROCARBONOCLASTIC

```
                44              2A10    GENUS AND SPECIES NAME

DATA FORMAT FOR FILE 27-1977 HYDROCARBON DATA
---- ------ --- ---- -- ---- ----------- ----

CARD TYPE 1---STANDARD INVENTORY CARD---

              FORMAT FOR CARD TYPE 1 SAME AS FOR FILE 26

CARD TYPE 2       1             I6      040210
                  7             I1      CARD TYPE (ALWAYS 2)
                  8             I1      SUB-STUDY AREA SAMPLE TYPE--HYDROCARBONS (ALWAYS 2)
                  9             2X      BLANK
                 11             A4      SAMPLE CODE**
                 15             I2      PAGE NUMBER ON WHICH SAMPLE WAS FOUND
                 17             5A10    ENGLISH DESCRIPTION AND CODING OF FILE
                                          H = DEGRADATION
                                          I TO IV = TRANSECT
                                          1 TO 6 = STATION
                                          A TO B = REPLICATE
                                            EXAMPLE:  H-III1A IS DEGRADATION AT
                                            TRANSECT III, STATION 1, REPLICATE A.
                                          E = EXPERIMENTAL
                                          K = CONTROL
                                          M = MIXED
                                          1 TO 2 = REPLICATE
                                            EXAMPLE:  M2-K IS A MIXED CULTURE CONT
                                            EXPERIMENT, REPLICATE 2.
                 76             F4          MEAN PERCENT DEGRADATION

CARD TYPE 3       1             I6      040210
                  7             I1      CARD TYPE (ALWAYS 3)
                  8             I1      SUB-STUDY AREA SAMPLE TYPE--HYDROCARBONS (ALWAYS 2)
                  9             2X      BLANK
                 11             A4      SAMPLE CODE**
                 15             5X      BLANK
                 20             I1      FRACTION
                                          1 = HEXANE
                                          2 = BENZENE
                 21             I4      RETENTION INDEX
                 25             1X      BLANK
                 26             F5      PERCENTAGE DEGRADATION FOR INDIVIDUAL PEAK

DATA FORMAT FOR FILE 28-1977 PURE CULTURE DATA
---- ------ --- ---- -- ---- ---- ------- ----

CARD TYPE 1---STANDARD INVENTORY CARD---

              FORMAT SAME AS FOR CARD TYPE 1 OF FILE 26

CARD TYPE 2       1             I6      040210
                  7             I1      CARD TYPE (ALWAYS 2)
                  8             I1      SUB-STUDY AREA SAMPLE TYPE--HYDROCARBONS (ALWAYS 2)
                  9             2X      BLANK
                 11             A4      SAMPLE CODE**
                 15             I2      PAGE NUMBER ON WHICH SAMPLE WAS FOUND
                 17             6A10    ENGLISH DESCRIPTION AND CODING OF FILE
                                          E = EXPERIMENTAL
```

			K = CONTROL 1 TO 2 = REPLICATE II-1-0-1 = VIBRIO SP. III-1-0-1 = PSEUDOMONAS SP. 1 II-2-0-1 = PSEUDOMONAS SP. 2 II-1-H-3 = BACILLUS SP. EXAMPLE: II-1-H-3K1 IS A BACILLUS SP. PURE CULTURE CONTROL EXPERIMENT, REPLICATE 1.
	76	F4	MEAN PERCENT DEGRADATION
CARD TYPE 3	1	I6	040210
	7	I1	CARD TYPE (ALWAYS 3)
	8	I1	SUB-STUDY AREA SAMPLE TYPE--HYDROCARBONS (ALWAYS 2)
	9	2X	BLANK
	11	A4	SAMPLE CODE**
	15	5X	BLANK
	20	I1	FRACTION 1 = HEXANE 2 = BENZENE
	21	I4	RETENTION INDEX
	25	1X	BLANK
	26	F5	PERCENTAGE DEGRADATION FOR INDIVIDUAL PEAK

NOTE: BACTERIOLOGY HYDROCARBON DATA DOES NOT RELATE DIRECTLY TO MYCOLOGY HYDROCARBON DATA SINCE THE BACTERIOLOGY DATA IS EXPRESSED AS PERCENT DEGRADATION CORRECTED FOR WEATHERING WHILE MYCOLOGY DATA IS EXPRESSED AS RECOVERIES.

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

** SAMPLE CODES NOT ORIGINALLY GIVEN TO THESE SAMPLES. SAMPLE CODES IN FILE ARE ARTIFICIAL CODES FOR INVENTORY MATCHUP PURPOSES ONLY

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: WATER COLUMN MICROBIOLOGY (WAT-BAC)

PRINCIPLE INVESTIGATOR: O. WILLIAM VAN AUKEN (WVA)
HELEN V. OUJESKY
UNIVERSITY OF TEXAS AT SAN ANTONIO (UTSA)
SAN ANTONIO, TEXAS

ASSOCIATE INVESTIGATORS: JERRY ALLEN
WESLEY BROOKS
ALLAN KASTER
BARBARA REID
CAM WILSON

DIRECTORY FOR STUDY AREA
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FILE 29: METHODS, DATA FORMAT AND COMMENTS
FILE 30: WATER COLUMN BACTERIOLOGY/BIOLOGY--1977 DATA

METHODS

SAMPLES: WATER SAMPLES COLLECTED WITH STERILE NISKIN BAG SAMPLER OR PERISTALTIC PUMP AND TYGON TUBING.

TO DETERMINE AEROBIC HETEROTROPHIC BACTERIA, BOTH SPREAD PLATE TECHNIQUE AND FILTER TECHNIQUE WERE EMPLOYED.
HYDROCARBONOCLASTIC BACTERIA COLLECTED BY METHOD OF WALKER AND COLWELL (1976).

DETAILED METHODS OF OIL BIODEGRADATION AND EFFECTS STUDIES GIVEN IN 1977 FINAL REPORT TO BLM.

DATA FORMAT
---- ------

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)

15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE: REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE

50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
--- -- -----

SAMPLE TYPE--SAMPLE USAGE

- BAG-BAC(SEDIMENT BACTERIOLOGY)
- CHG-HC (SEDIMENT HYDROCARBONS)
- CHG-MST(CHEMISTRY GRAB)
- CHG-TM (SEDIMENT TRACE METALS)
- CHG-TEX(SEDIMENT TEXTURE)
- CHL- (TOTAL CHLOROPHYLL-1975)
- CHT-HC (EPIFAUNA HYDROCARBONS)
- CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
- CHT-TM (EPIFAUNA TRACE METALS)
- EPI-FSH(EPIFAUNA DEMERSAL FISH)
- EPI-HC (EPIFAUNA HYDROCARBONS)
- EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
- EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
- EPI-INV(EPIFAUNA INVERTEBRATES)
- EPI-MST(EPIFAUNA MASTER)
- ICH- (ICHTHYOPLANKTON)
- INF-MST(INFAUNA MASTER)
- INF-SED(INFAUNA SEDIMENT)
- INF-TAX(INFAUNA TAXONOMY)
- LGT-PZ (PHOTOMETRY)
- LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
- MNK-TM (MACRONEKTON TRACE METALS)
- MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
- MMS-MEI(MEIOFAUNA)
- MMS-MST(MEIOFAUNA MASTER GRAB)
- MYG-MYC(SEDIMENT MYCOLOGY)
- NEU-TAX(NEUSTON TAXONOMY)
- SED- (SEDIMENT)
- SED-HC (SEDIMENT HYDROCARBONS)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
- LHP-LINDA H. PEQUEGNAT
- CSG-C.S. GIAM
- TSP-E. TAISOO PARK
- BJP-B.J. PRESLEY
- WMS-WILLIAM M. SACKETT
- WEP-WILLIS E. PEQUEGNAT
- RR-RICHARD REZAK
- WEH-WILLIAM E. HAENSLY
- JMN-JERRY M. NEFF
- WH-WILLIAM E. HAENSLY
- JN-JERRY M. NEFF
- JRS-JOHN R. SCHWARZ
- JHW-JOHN H. WORMUTH

UT-PORT ARANSAS MARINE LAB.
- PLP-PATRICK L. PARKER
- NPS-NED P. SMITH
- CVB-CHASE VAN BAALEN
- JSH-J. SELMON HOLLAND
- DEW-DONALD E. WOHLSCHLAG
- DK-DAN L. KAMYKOWSKI
- PJ-PATRICIA L. JOHANSEN

UT-GEOPHYSICAL LAB. GALVESTON
- EWB-E. W. BEHRENS

SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-D. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY

01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY

43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2076	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	041210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT

	17	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER
	18	I1	STUDY TYPE 1 = BACTERIOLOGY 2 = MYCOLOGY
	19	I1	SUBSTRATE TYPE 1 = SEDIMENT 2 = WATER COLUMN
	20	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	22	2X	BLANK
	24	E8	TOTAL COUNT (MEAN)
	32	E8	TOTAL COUNT (1 STANDARD DEVIATION)
	40	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	42	2X	BLANK
	44	E8	OIL DEGRADING COUNT (MEAN)
	52	E8	OIL DEGRADING COUNT (1 STANDARD DEVIATION)
CARD TYPE 3	1	I6	041210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	F5	PERCENT CRUDE OIL IN DEGRADATION FLASK
	25	3X	BLANK
	28	I3	TIME (DAYS)
	31	1X	BLANK
	32	E8	MEAN NUMBER WITH CRUDE OIL
	40	E8	1 STANDARD DEVIATION WITH CRUDE OIL
	48	F5	MEAN PERCENT DEGRADATION
	53	E8	MEAN NUMBER WITHOUT CRUDE OIL
	61	E8	1 STANDARD DEVIATION WITHOUT CRUDE OIL
CARD TYPE 4	1	I6	041210
	7	I1	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	I3	GENUS AND SPECIES CODE
	23	E8	ABUNDANCE
	31	F5	PERCENT OF TOTAL FOR THAT BACTERIA TYPE
	36	7X	BLANK
	43	I1	BACTERIA TYPE 1 = HETEROTROPHIC 2 = HYDROCARBONOCLASTIC
	44	2A10	GENUS AND SPECIES NAME

COMMENTS
----

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: BENTHIC MYCOLOGY (MYG-MYC)

PRINCIPLE INVESTIGATOR: PAUL J. SZANISZLO (PJS)
UNIVERSITY OF TEXAS AT AUSTIN (UTA)
AUSTIN, TEXAS

ASSOCIATE INVESTIGATORS: ROXANN F. DAVENPORT
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ROWENA L. ROBERTS

DIRECTORY FOR STUDY AREA

FILE 31: METHODS, DATA FORMAT AND COMMENTS
FILE 32: SEDIMENT MYCOLOGY/BIOLOGY--1977 DATA
FILE 33: SEDIMENT MYCOLOGY/HYDROCARBONS--1977 DATA

METHODS

DETAILED METHODS FOR ON-BOARD SHIP AND LABORATORY PROCEDURES GIVEN IN 1977 FINAL REPORT TO BLM.

DATA FORMAT FOR FILE 32 - 1977 BIOLOGY DATA

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR

21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK
27	1X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE 0= NOT A REPLICATE SAMPLE 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES
44	I1	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCONSISTENTLY USED; IN MOST CASES IT HAS NOT BEEN CODED ON THE INVENTORY LINE; IF RELATIVE DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED FROM THE STUDY AREA
46	I1	DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	I1	LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE

51	I1	CONTRACTED CODE BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES
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SAMPLE TYPE--SAMPLE USAGE
BAG-BAC(SEDIMENT BACTERIOLOGY)
CHG-HC (SEDIMENT HYDROCARBONS)
CHG-MST(CHEMISTRY GRAB)
CHG-TM (SEDIMENT TRACE METALS)
CHG-TEX(SEDIMENT TEXTURE)
CHL- (TOTAL CHLOROPHYLL-1975)
CHT-HC (EPIFAUNA HYDROCARBONS)
CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
CHT-TM (EPIFAUNA TRACE METALS)
EPI-FSH(EPIFAUNA DEMERSAL FISH)
EPI-HC (EPIFAUNA HYDROCARBONS)
EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
EPI-INV(EPIFAUNA INVERTEBRATES)
EPI-MST(EPIFAUNA MASTER)
ICH- (ICHTHYOPLANKTON)
INF-MST(INFAUNA MASTER)
INF-SED(INFAUNA SEDIMENT)
INF-TAX(INFAUNA TAXONOMY)
LGT-PZ (PHOTOMETRY)
LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
MNK-TM (MACRONEKTON TRACE METALS)
MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
MMS-MEI(MEIOFAUNA)
MMS-MST(MEIOFAUNA MASTER GRAB)
MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX(NEUSTON TAXONOMY)
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)

DISPOSITION AND PRINCIPLE INVESTIGATOR

TAMU-TEXAS A+M UNIVERSITY
LHP-LINDA H. PEQUEGNAT
CSG-C.S. GIAM
TSP-E. TAISOO PARK

BJP-B.J. PRESLEY
WMS-WILLIAM M. SACKETT
WEP-WILLIS E. PEQUEGNAT
RR-RICHARD REZAK
WEH-WILLIAM E. HAENSLY
JMN-JERRY M. NEFF
WH-WILLIAM E. HAENSLY
JN-JERRY M. NEFF
JRS-JOHN R. SCHWARZ
JHW-JOHN H. WORMUTH
UT-PORT ARANSAS MARINE LAB.
PLP-PATRICK L. PARKER
NPS-NED P. SMITH
CVB-CHASE VAN BAALEN
JSH-J. SELMON HOLLAND

DEW-DONALD E. WOHLSCHLAG
DK-DAN L. KAMYKOWSKI
PJ-PATRICIA L. JOHANSEN
UT-GEOPHYSICAL LAB. GALVESTON
EWB-E. W. BEHRENS

STD-ST (SALINITY-TEMPERATURE-DEPTH)
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT- (WATER COLUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-C13(DELTA C13)
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLOGY)
WAT-NUT(NUTRIENTS)
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY(PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
WAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)

UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
WVA-O. W. VAN AUKEN

UT-AUSTIN
PJS-PAUL J. SZANISZLO

U.S.G.S.-CORPUS CHRISTI
HB-HENRY BERRYHILL

RICE-RICE UNIVERSITY
RU-RICE UNIVERSITY
REC-RICHARD E. CASEY

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2078	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	042210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL

			4 = SPRING
			5 = JULY
			6 = AUGUST
			7 = FALL
			8 = NOVEMBER
			9 = DECEMBER
	18	I1	STUDY TYPE
			1 = BACTERIOLOGY
			2 = MYCOLOGY
	19	I1	SUBSTRATE TYPE
			1 = SEDIMENT
			2 = WATER COLUMN
	20	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	22	2X	BLANK
	24	E8	TOTAL COUNT (MEAN)
	32	E8	TOTAL COUNT (1 STANDARD DEVIATION)
	40	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	42	2X	BLANK
	44	E8	OIL DEGRADING COUNT (MEAN)
	52	E8	OIL DEGRADING COUNT (1 STANDARD DEVIATION)
CARD TYPE 3	1	I6	042210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	F5	PERCENT CRUDE OIL IN DEGRADATION FLASK
	25	3X	BLANK
	28	I3	TIME (DAYS)
	31	1X	BLANK
	32	E8	MEAN NUMBER WITH CRUDE OIL
	40	E8	1 STANDARD DEVIATION WITH CRUDE OIL
	48	F5	MEAN PERCENT DEGRADATION
	53	E8	MEAN NUMBER WITHOUT CRUDE OIL
	61	E8	1 STANDARD DEVIATION WITHOUT CRUDE OIL
CARD TYPE 4	1	I6	042210
	7	I1	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	I3	GENUS AND SPECIES CODE
	23	E8	ABUNDANCE
	31	F5	PERCENT OF TOTAL FOR THAT BACTERIA
	36	A5	CULTURE MEDIUM CODE
			SG = SILICA GEL OIL MEDIUM
			SGO = SILICA GEL OIL MEDIUM
			MA = MYCOLOGICAL AGAR
			YNB = YEAST NITROGEN BASE
			HX = SGO + 0.5 PERCENT N-HEXADECANE
			RD-- = RATE OF DEGREDATION STUDY (DIGITS ARE NUMBER OF DAYS WITH 0.5 PERCENT CRUDE OIL)
			RD--A = RATE OF DEGREDATION STUDY WITH 0.1 PERCENT CRUDE OIL
			RD--C = RATE OF DEGREDATION STUDY CONTROL (NO OIL ADDED)

41	3X	BLANK
44	2A10	GENUS AND SPECIES NAME

DATA FORMAT FOR FILE 33 - 1977 HYDROCARBON DATA

CARD TYPE 1---STANDARD INVENTORY CARD---

FORMAT FOR CARD TYPE 1 SAME AS FOR FILE 32

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	042210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA (1-5) 1 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 20 DAYS INCUBATION TIME 2 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 40 DAYS INCUBATION TIME 3 = 0.1 PERCENT BY VOLUME OF OIL ADDED -- 0 DAYS INCUBATION TIME 4 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 0 DAYS INCUBATION TIME 5 = 0.1 PERCENT BY VOLUME OF OIL ADDED -- 45 DAYS INCUBATION TIME
	9	2X	BLANK
	11	A4	SAMPLE CODE
	15	1X	BLANK
	16	I1	TRANSECT
	17	I1	STATION
	18	1X	BLANK
	19	A13	SAMPLE TYPE
	32	1X	BLANK
	33	F3	PERCENT BY VOLUME OF OIL ADDED
	36	2X	BLANK
	38	I2	NUMBER OF DAYS SAMPLE WAS INCUBATED
	40	2X	BLANK
	42	A6	PERIOD SAMPLED
	48	1X	BLANK
	49	A6	PREVIOUS SAMPLE CODE USED
CARD TYPE 3	1	I6	042210
	7	I1	CARD TYPE (ALWAYS 3)
	8	I1	SUB-STUDY AREA (1-5) SAME AS FOR CARD TYPE 2 OF FILE 33
	9	2X	BLANK
	11	A4	SAMPLE CODE
	15	2X	BLANK
	17	I2	YEAR
	19	1X	BLANK
	20	I1	FRACTION 1 = HEXANE 2 = BENZENE
	21	I4	RETENTION INDEX
	25	F9	CONCENTRATION (MICROGRAMS/GRAM)

NOTE: ALTHOUGH CONCENTRATIONS ARE EXPRESSED IN DEFINITE TERMS, THE VALUES SHOULD ONLY BE USED RELATIVE TO OTHER VALUES WITHIN THAT SAMPLE SINCE ORIGINAL WEIGHT OF OIL USED IS INDEFINITE.

ALSO -- THIS MYCOLOGY HYDROCARBON DATA DOES NOT LEND ITSELF TO DIRECT COMPARISON TO BACTERIOLOGY HYDROCARBON DATA BECAUSE MYCOLOGY DATA IS EXPRESSED AS ACTUAL RECOVERIES, WHILE BACTERIOLOGY DATA IS GIVEN AS PERCENT DEGRADATION BY COMPARISON OF QUANTITATIVE YIELDS OF INDIVIDUAL PEAKS RELATIVE TO ORIGINAL CONCENTRATIONS AND CORRECTED FOR WEATHERING.

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A B

BLM SOUTH TEXAS OUTER CONTINENTAL SHELF STUDY (1975-1977)

DATA TYPE: WATER COLUMN MYCOLOGY (WAT-MYC)

PRINCIPLE INVESTIGATOR: PAUL J. SZANISZLO (PJS)
UNIVERSITY OF TEXAS AT AUSTIN (UTA)
AUSTIN, TEXAS

ASSOCIATE INVESTIGATORS: ROXANN F. DAVENPORT
PHILIP A. GEIS
RICHARD L. HERBERT
DIEDRE G. KENNEDY
RUJU J. LO
RICHARD P. MIHALIK
PAUL E. POWELL
ROWENA L. ROBERTS

DIRECTORY FOR STUDY AREA

METHODS

DETAILED METHODS FOR ON-BOARD SHIP AND LABORATORY PROCEDURES GIVEN IN 1977 FINAL REPORT TO BLM.

DATA FORMAT FOR FILE 35 - 1977 BIOLOGY DATA

CARD TYPE 1---STANDARD INVENTORY CARD---

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS 0 (ZERO)
2-3	I2	STUDY AREA (SEE STUDY AREA KEY)
4-6	I3	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	I2	MONTH
17-18	I2	DAY
19-20	I2	YEAR
21-24	I4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME

```
                                   OR CENTRAL STANDARD TIME)
   25         1X        BLANK
   26         I1        SAMPLE COLLECTION AREA
                               1= TRANSECT 1
                               2= TRANSECT 2
                               3= TRANSECT 3
                               4= TRANSECT 4
                               7= RIG MONITORING AREA
                               8= SOUTHERN BANK
                               9= HOSPITAL ROCK
   27         1X        BLANK
   28         I1        STATION (SEE BLM STOCS MONITORING STUDY STATION
                                    LOCATIONS)
   29         A1        D=DAY; N=NIGHT
 30-32        A3        TYPE OF SAMPLE(SEE KEY TO CODES)
 33-36        A4        SAMPLE DISPOSITION (SEE KEY TO CODES)
 37-39        A3        SAMPLE USE (SEE KEY TO CODES)
 40-42        A3        PRINCIPLE INVESTIGATOR (SEE KEY CODES)
   43         I1        REPLICATE CODE
                               0= NOT A REPLICATE SAMPLE
                               1= 1ST REPLICATE SAMPLE
                               2= 2ND REPLICATE SAMPLE
                               ETC.
                               NOTE; REPLICATE CODE HAS NOT BEEN
                               CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR
                               A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
                               APPEARING ON THE DATA LINES
   44         I1        FILTERED CODE
                               0= NOT APPLICABLE
                               1= SAMPLE IS A FILTERED SAMPLE
                               2= SAMPLE IS A NON-FILTERED SAMPLE
   45         I1        RELATIVE DEPTH CODE
                               0= NOT CODED
                               1= SURFACE
                               2= 1/2 PHOTIC ZONE
                               3= PHOTIC ZONE
                               4= PHOTIC ZONE TO BOTTOM
                               5= BOTTOM
                               6= NOT APPLICABLE
                               8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
                               9= VERTICAL TOW; ALL DEPTHS SAMPLED
                               NOTE: RELATIVE DEPTH CODE HAS BEEN
                               INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
                               BEEN CODED ON THE INVENTORY LINE; IF RELATIVE
                               DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY
                               BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
                               FROM THE STUDY AREA
   46         I1        DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE
                               BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
   47         I1        POOLED CODE
                               0= NOT A POOLED SAMPLE
                               1= A POOLED SAMPLE
                               NOTE: MAY NOT HAVE BEEN USED
   48         I1        LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED;
                               APPEARS TO ALWAYS BE 0 (ZERO)
   49         I1        ARCHIVE CODE
                               0= NOT AN ARCHIVE SAMPLE
                               1= AN ARCHIVE SAMPLE
   50         I1        QUALITY CONTROL CODE
                               0= NOT A QUALITY CONTROL SAMPLE
                               1= A QUALITY CONTROL SAMPLE
   51         I1        CONTRACTED CODE
```

		BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	I2	CRUISE NUMBER
54-56	I3	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1X	BLANK
62-69	A8	PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR POOLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA,AAAB,AAAC B) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA

KEY TO CODES

SAMPLE TYPE--SAMPLE USAGE

- BAG-BAC(SEDIMENT BACTERIOLOGY)
- CHG-HC (SEDIMENT HYDROCARBONS)
- CHG-MST(CHEMISTRY GRAB)
- CHG-TM (SEDIMENT TRACE METALS)
- CHG-TEX(SEDIMENT TEXTURE)
- CHL- (TOTAL CHLOROPHYLL-1975)
- CHT-HC (EPIFAUNA HYDROCARBONS)
- CHT-MST(EPIFAUNA CHEMISTRY TRAWL)
- CHT-TM (EPIFAUNA TRACE METALS)
- EPI-FSH(EPIFAUNA DEMERSAL FISH)
- EPI-HC (EPIFAUNA HYDROCARBONS)
- EPI-HPI(EPIFAUNA HISTOPATHOLOGY)
- EPI-HPT(EPIFAUNA HISTOPATHOLOGY)
- EPI-INV(EPIFAUNA INVERTEBRATES)
- EPI-MST(EPIFAUNA MASTER)
- ICH- (ICHTHYOPLANKTON)
- INF-MST(INFAUNA MASTER)
- INF-SED(INFAUNA SEDIMENT)
- INF-TAX(INFAUNA TAXONOMY)
- LGT-PZ (PHOTOMETRY)
- LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
- MNK-TM (MACRONEKTON TRACE METALS)
- MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT)
- MMS-MEI(MEIOFAUNA)
- MMS-MST(MEIOFAUNA MASTER GRAB)
- MYG-MYC(SEDIMENT MYCOLOGY)
- NEU-TAX(NEUSTON TAXONOMY)
- SED- (SEDIMENT)
- SED-HC (SEDIMENT HYDROCARBONS)
- SED-MPL(SEDIMENT MICROZOOPLANKTON)
- SED-TM (SEDIMENT TRACE METALS)
- SDG-DEP(SEDIMENT DEPOSITION)
- STD-ST (SALINITY-TEMPERATURE-DEPTH)

DISPOSITION AND PRINCIPLE INVESTIGATOR

- TAMU-TEXAS A+M UNIVERSITY
  - LHP-LINDA H. PEQUEGNAT
  - CSG-C.S. GIAM
  - TSP-E. TAISOO PARK
  - BJP-B.J. PRESLEY
  - WMS-WILLIAM M. SACKETT
  - WEP-WILLIS E. PEQUEGNAT
  - RR-RICHARD REZAK
  - WEH-WILLIAM E. HAENSLY
  - JMN-JERRY M. NEFF
  - WH-WILLIAM E. HAENSLY
  - JN-JERRY M. NEFF
  - JRS-JOHN R. SCHWARZ
  - JHW-JOHN H. WORMUTH
- UT-PORT ARANSAS MARINE LAB.
  - PLP-PATRICK L. PARKER
  - NPS-NED P. SMITH
  - CVB-CHASE VAN BAALEN
  - JSH-J. SELMON HOLLAND
  - DEW-DONALD E. WOHLSCHLAG
  - DK-DAN L. KAMYKOWSKI
  - PJ-PATRICIA L. JOHANSEN
- UT-GEOPHYSICAL LAB. GALVESTON
  - EWB-E. W. BEHRENS

TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)	SAR-SAMUEL A. RAMIREZ
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)	WVA-O. W. VAN AUKEN
WAT- (WATER COLUMN)	
WAT-ATP(ADENOSINE TRI-PHOSPHATE)	
WAT-BAC(WATER COLUMN BACTERIOLOGY)	
WAT-C13(DELTA C13)	UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)	PJS-PAUL J. SZANISZLO
WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)	
WAT-DO (DISSOLVED OXYGEN)	U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)	HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)	
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)	
WAT-MPL(MICROZOOPLANKTON)	
WAT-MYC(WATER COLUMN MYCOLOGY)	RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)	RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)	REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)	
WAT-PRO(PROTOZOA)	
WAT-P14(CARBON14 PHYTOPLANKTON)	
WAT-SSM(WATER-SUSPENDED SEDIMENT)	
WAT-TOC(TOTAL ORGANIC CARBON)	
ZCT-TM (ZOOPLANKTON TRACE METALS)	
ZPL-HC (ZOOPLANKTON HYDROCARBONS)	
ZPL-TAX(ZOOPLANKTON TAXONOMY)	
ZPL-TM (ZOOPLANKTON TRACE METALS)	

STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT,PARTICULATE, DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLOGY
43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

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TRAN.	STA.	LORAN 3H3	LORAN 3H2	LORAC LG	LORAC LR	LATITUDE	LONGITUDE	DEPTH METERS	DEPTH FEET
1	1	2575	4003	1180.07	171.46	28 12 N*	96 27 W*	18	59
	2	2440	3950	961.49	275.71	27 55 N*	96 20 W*	42	138
	3	2300	3863	799.45	466.07	27 34 N*	96 07 W*	134	439
	4	2583	4015	1206.53	157.92	28 14 N*	96 29 W*	10	33
	5	2360	3910	861.09	369.08	27 44 N*	96 14 W*	82	269
	6	2330	3892	819.72	412.96	27 39 N*	96 12 W*	100	328
2	1	2078	3962	373.62	192.04	27 40 N*	96 59 W*	22	72
	2	2050	3918	454.46	382.00	27 30 N*	96 45 W*	49	161
	3	2040	3850	564.67	585.52	27 18 N*	96 23 W*	131	430
	4	2058	3936	431.26	310.30	27 34 N*	96 50 W*	36	112
	5	2032	3992	498.85	487.62	27 24 N*	96 36 W*	78	256
	6	2068	3878	560.54	506.34	27 24 N*	96 29 W*	98	322
	7	2045	3835			27 15 N*	96 18.5 W*	182	600
3	1	1585	3880	139.13	909.98	26 58 N*	97 11 W*	25	82
	2	1683	3841	286.38	855.91	26 58 N*	96 48 W*	65	213
	3	1775	3812	391.06	829.02	26 58 N*	96 33 W*	106	348
	4	1552	3885	95.64	928.13	26 58 N*	97 20 W*	15	49
	5	1623	3867	192.19	888.06	26 58 N*	97 02 W*	40	131
	6	1790	3808	411.48	824.57	26 58 N*	96 30 W*	125	410
4	1	1130	3747	187.50	1423.50	26 10 N*	97 01 W*	27	88
	2	1300	3700	271.99	1310.61	26 10 N*	96 39 W*	47	154
	3	1425	3663	333.77	1241.34	26 10 N*	96 24 W*	91	298
	4	1073	3763	163.42	1456.90	26 10 N*	97 08 W*	15	49
	5	1170	3738	213.13	1387.45	26 10 N*	96 54 W*	37	121
	6	1355	3685	304.76	1272.48	26 10 N*	96 31 W*	65	213
	7	1448	3659	350.37	1224.51	26 10 N*	96 20 W*	130	426
(HR)	1	2159	3900	635.06	422.83	27 32 05N**	96 28 19W**	75	246
(9)	2	2169	3902	644.54	416.95	27 32 46N**	96 27 25W**	72	237
	3	2163	3900	641.60	425.10	27 32 05N**	96 27 35W**	81	266
	4	2165	3905	638.40	411.18	27 33 02N**	96 29 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26 49N**	96 31 18W**	81	266
(8)	2	2081	3889	560.95	475.80	27 26 14N**	96 31 02W**	82	269
	3	2074	3890	552.92	475.15	27 26 06N**	96 31 47W**	82	269
	4	2076	3890	551.12	472.73	27 26 14N**	96 32 07W**	82	269

NOTE: * MEANS DEGREES AND MINUTES
** MEANS DEGREES MINUTES SECONDS

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	043210
	7	I1	CARD TYPE (ALWAYS 2)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING

			5 = JULY
			6 = AUGUST
			7 = FALL
			8 = NOVEMBER
			9 = DECEMBER
	18	I1	STUDY TYPE
			1 = BACTERIOLOGY
			2 = MYCOLOGY
	19	I1	SUBSTRATE TYPE
			1 = SEDIMENT
			2 = WATER COLUMN
	20	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	22	2X	BLANK
	24	E8	TOTAL COUNT (MEAN)
	32	E8	TOTAL COUNT (1 STANDARD DEVIATION)
	40	I2	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	42	2X	BLANK
	44	E8	OIL DEGRADING COUNT (MEAN)
	52	E8	OIL DEGRADING COUNT (1 STANDARD DEVIATION)
CARD TYPE 3	1	I6	043210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	F5	PERCENT CRUDE OIL IN DEGRADATION FLASK
	25	3X	BLANK
	28	I3	TIME (DAYS)
	31	1X	BLANK
	32	E8	MEAN NUMBER WITH CRUDE OIL
	40	E8	1 STANDARD DEVIATION WITH CRUDE OIL
	48	F5	MEAN PERCENT DEGRADATION
	53	E8	MEAN NUMBER WITHOUT CRUDE OIL
	61	E6	1 STANDARD DEVIATION WITHOUT CRUDE OIL
CARD TYPE 4	1	I6	043210
	7	I1	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I1	STATION
	16	I1	TRANSECT
	17	I1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	I1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	I1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	I3	GENUS AND SPECIES CODE
	23	E8	ABUNDANCE
	31	F5	PERCENT OF TOTAL FOR THAT BACTERIA
	36	A5	CULTURE MEDIUM CODE
			SG = SILICA GEL OIL MEDIUM
			SGO = SILICA GEL OIL MEDIUM
			MA = MYCOLOGICAL AGAR
			YNB = YEAST NITROGEN BASE
			HX = SGO + 0.5 PERCENT N-HEXADECANE
			RD-- = RATE OF DEGREDATION STUDY (DIGITS ARE NUMBER OF DAYS WITH 0.5 PERCENT CRUDE OIL)
			RD--A = RATE OF DEGREDATION STUDY WITH 0.1 PERCENT CRUDE OIL
			RD--C = RATE OF DEGREDATION STUDY CONTROL (NO OIL ADDED)
	41	3X	BLANK

44	2A10	GENUS AND SPECIES NAME

DATA FORMAT FOR FILE 36 - 1977 HYDROCARBON DATA

CARD TYPE 1---STANDARD INVENTORY CARD---

FORMAT FOR CARD TYPE 1 SAME AS FOR FILE 35

	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	I6	043210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA (1-8) WATER COLUMN 1 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 20 DAYS INCUBATION TIME 2 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 40-50 DAYS INCUBATION TIME 3 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 0 DAYS INCUBATION TIME 4 = 0.1 PERCENT BY VOLUME OF OIL ADDED -- 40 DAYS INCUBATION TIME WEATHERING 5 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 40-45 DAYS INCUBATION TIME 6 = 0.1 PERCENT BY VOLUME OF OIL ADDED -- 45 DAYS INCUBATION TIME 7 = 0.1 PERCENT BY VOLUME OF OIL ADDED -- 0 DAYS INCUBATION TIME 8 = 0.5 PERCENT BY VOLUME OF OIL ADDED -- 0 DAYS INCUBATION TIME
	9	2X	BLANK
	11	A4	SAMPLE CODE
	15	1X	BLANK
	16	I1	TRANSECT
	17	I1	STATION
	18	1X	BLANK
	19	A13	SAMPLE TYPE
	32	1X	BLANK
	33	F3	PERCENT BY VOLUME OF OIL ADDED
	36	2X	BLANK
	38	I2	NUMBER OF DAYS SAMPLE WAS INCUBATED
	40	2X	BLANK
	42	A6	PERIOD SAMPLED
	48	1X	BLANK
	49	A6	PREVIOUS SAMPLE CODE USED
CARD TYPE 3	1	I6	042210
	7	I1	CARD TYPE (ALWAYS 3)
	8	I1	SUB-STUDY AREA (1-8) SAME AS FOR CARD TYPE 2 OF FILE 36
	9	2X	BLANK
	11	A4	SAMPLE CODE
	15	2X	BLANK
	17	I2	YEAR
	19	1X	BLANK
	20	I1	FRACTION 1 = HEXANE 2 = BENZENE
	21	I4	RETENTION INDEX
	25	F9	CONCENTRATION (MICROGRAMS/GRAM)

NOTE: ALTHOUGH CONCENTRATIONS ARE EXPRESSED IN DEFINITE TERMS, THE VALUES SHOULD ONLY BE USED RELATIVE TO OTHER VALUES WITHIN THAT SAMPLE SINCE ORIGINAL WEIGHT OF OIL USED IS INDEFINITE.

ALSO -- THIS MYCOLOGY HYDROCARBON DATA DOES NOT LEND ITSELF TO DIRECT COMPARISON TO BACTERIOLOGY HYDROCARBON DATA BECAUSE MYCOLOGY DATA IS EXPRESSED AS ACTUAL RECOVERIES, WHILE BACTERIOLOGY DATA IS GIVEN AS PERCENT DEGRADATION BY COMPARISON

COMMENTS
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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A BLANK
FOR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A
FOR 1977 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS A 5

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.