ENVIRONMENTAL STUDIES, SOUTH TEXAS OUTER CONTINENTAL SHELF,

1975-1977



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VOLUME II

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

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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.

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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:

- 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;
- 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



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



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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.

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;
- More security, controls, and protection of the common data base against access by unauthorized users;
- 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.



Probable disadvantages of the Integrated Information System are:

- 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.
- 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



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.



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.



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TABLE 1

DESCRIPTION OF MASTER DATA FILE INVENTORY FORMAT WITH ALL CODE DESCRIPTIONS

Columns	Field Type	Description
1	I 1	Always 0 (zero)
2-3	12	Study area (see study area key)
4-6	13	Always 210 for master files
7	I1	Card type, always 1 for inventory
8	T1	Study subarea
9-10	2x	Blank
11-14	A4	Sample code
15-16	T2	Month
17-18	T2	Dav
19-20	T2	Year
21-24	T4	Time of day (local central daylight time or central
0F	1 17	standard time)
25		
26	11	Sample collection area
		1 = Transect 1
		2 = fransect 2
		5 = Transect 5
		4 = 1ransect 4
		7 = Kig Monitoring Area
		o = Southern Bank
27	17	9 = HOSPITAL KOCK
27		
20		
20 22	A1 A2	Turne of comple (coo how to codes)
33-36	A.5	Somple diamonitien (see key to codes)
37_30	A4 A3	Sample disposition (see key to codes)
27-39 40-42	A3 .	Principal investigator (see key codes)
40-42	T1	Peplicate code
45	**	$\Lambda = not a replicate sample$
		0 = 10t a representate sample 1 = 1 et replicate sample
		2 = 2nd replicate sample
		2 - 2nd repricate sampre
44	т1	Filtered code
	~-	0 = not applicable
		1 = sample is a filtered sample
		2 = sample is not a filtered sample
45	11	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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TABLE 1 CONT.'D

Columns	Field Type	Description
46	I1	Dissolved particle code
47	11	Pooled Code 0 = not a pooled sample 1 = a pooled sample
48	I1	Live code
49	11	Archive code 0 = not an archive sample 1 = an archive sample
50	11	Quality control code 0 = not a quality control sample 1 = a quality control sample
51	11	Contracted code Blank or 0 = BLM contracted sample 1 = not a BLM contracted sample
52 - 60	12	Cruise number
54-56	13	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 codeallows 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 chlorophyl1-1975) 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) (ichthyoplankton) ICH-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) UT-Austin STD-ST (salinity-temperature-depth) TDC-ST (temperature-depth-conductivity) TRM-TUR(transissometry-turbidity) VT -MPL(microzooplankton-vertical tow) (water column) WAT-WAT-ATP(adenosine-tri-phosphate) WAT-BAC(water column bacteriology) WAT-Cl3(Delta Cl3) 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-0. W. Van Auken PJS-Paul J. Szaniszlo USGS-Corpus Christi HB -Henry Berryhill RICE-Rice University RU -Rice University REC-Richard E. Casey



BLM-0CS-55-2-1 INVENTORY CHANGE FORM Changed Change 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: 11 On inventory master printout 11 On computer center data form copy 11 On permanent file data file ____, PF____ Figure 9. Format of the inventory change request form.



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 HYDROGRAPHIC DATA FOR COMPUTER CENTER USE DATA REPORTING FORM PAGE_____OF____ Individual Responsible for Form_ Transect_____ Station____ Depth_ Date_____Time_____CST/CDT_ Temps (°C) Calibration <u>0013001</u> Bucket therm. temp . temps: left_____ right __ Revers therm. temps: left_____ right ___ Sample name Refer therm. Bottom calibr'n temps: left_____ right_ II avg. ___ Calibr'n salinities: sfc. ____ btm. ___ Depth Salin Temp. Salin. Depth Temp. (°C) (PPT) (°Ć) <u>(M)</u> <u>(M)</u> (PPT) 23----5 is -----15 23 ___ ___ Figure 11. Examples of data coding forms used during the 1976

STOCS study.

Genus Species Total Number Males Females F/ Comments eggs 33	INVERTBRATE EPIFAUNA a MACROINFAUNA DATA REPORTING FORM PAGEOF <u>OO62002</u> 1334567 Sample name Sample type = 0 12 I- EPIFAUNA 2-INFAUNA	nd Coli Sta Wat Day Tim	lection Period tion Transect er Depth M Month M Day / Night	Replicate ; /r	BLM - (6 / 76 FOR CO	OCS-OOE	5-2-1 TER USE .
	Genus	Species		Total Ma Number	les Femo	aleş F/ eggs	Comments
	32			.		77	
							<u></u>
			····· ····				
		·		<u></u>			
							<u></u>
	ی میں جنوب میں میں ایران ایران ایران میں ہیں ہیں ہیں ایران ایران ایران ایران ایران ایران ایران ایران ایران ایرا						•
							<u></u>

BLM-STOCS-008-2-3 HYDROCARBON RAW DATA DATA REPORTING FORM 1/77 0082003 For Computer Center Use INDIVIDUAL RESPONSIBLE FOR FORM CRUISE _____ TRANS. _____ STA. _____ DATE ____ Card 0 0 1 Sample Code ____ Wet Wt. ____ Dry Wt. ____ 25 ___ Total nonsaponifiable wt. (gms) _____ Total column wt _____ Card 0 0 2 (Dup)Wt. Hexane Fraction (gms) ______15 Wt. Benzene Fraction (gms) Wt. Methanol Fraction (gms) ______ Fraction (1-hexane, 2-benzene, 3-methanol)
39 Total dilution volume (µ1) Injection volume Date $5_0 - \frac{1}{5_2} - \frac{1}{5_4} - \frac{1}{5_6} - \frac{1}{5_6} - \frac{1}{5_6}$ Machine Attenuation 62 Card 0 0 3 (Dup) Praction 15 Known Int. Value Time Time Known Int. Value 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.

- The coding scheme must logically fit the needs of the users and the processing method used.
- Each sample code must be a unique representation for the sample it identifies.
- 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



necessary to arrive at suitable raw data values. For example, for highmolecular-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.



The response from the scientist concerning the accuracy of the rawdata 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

START ANY CHANGES REQUESTED BY SCIENTIST ARE NO THERE ANY CHANGES? YES EDIT TEMPORARY RAW DATA MASTER FILE HOW FEW MANY Α CHANGES? EDIT WHICH RAW DATA FILE RAW MASTER INVENTORY EDIT OTHER FILES MASTER NEED DATA INVENTORY EDITING BO TH · · · STOP 4:. · Procedures followed for verification and editing of Figure 14. master data files.

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START RAW DATA MASTER FILES AUTOMATED QUALITY CONTROL CHECK ORDER CHECK ORDER OF CARDS CHECK FOR MISSING CHECK SELECTED INVENTORY OF SAMPLES WITHIN SAMPLE INVENTORIES INFORMATION NON-AUTOMATED QUALITY CONTROL PRINT/OUTS PRINT OUTS VISUAL INSPECTION VISUAL VERIFICATION OF INVENTORIES OF INVENTORIES AND DATA BY SCIENTISTS BY DATA MANAGEMENT STAFF ONLINE CORRECTION OF DATA AND CORRECTED RAW DATA Separate files for each year INVENTORY ERRORS MASTER FILES of each study area STOP Automated and non-automated error detection processes used Figure 15. 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:

- 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.

	DATA MANAGEME	INT SERVICE REPORT
Date submitt Submitted by Date Needed: Type:	ed:	For Computer Center Use Proj. No Assigned to Date: Completed:
	Data report Programming Consulting Corrections	Notes:
Describe:		

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.

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- 3. Data treatment programs. Several study areas required multistage 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					Species
Study Element	Area	1975	1976	1977	Rig	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	х	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, zoo- plankton, and sediment)	s 08	X	X	X	X	
Chlorophyll <u>a</u>	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	

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Study Element S	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	х		X
Sediment Bacteriology (Biology)	40			x		
Sediment Bacteriology (Hydrocarbon)	40			x		
Sediment Bacteriology (Experimental	L)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		

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TABLE 3 CONT.'D

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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





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first level of second level analysis files. For statistical questions concerning a set of variables from different study areas, a series of third level analysis 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.



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.



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;
- 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

- characterize with confidence (95%) the temporal and spatial properties of those variables that best described the STOCS study;
- 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 period.

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 sampling¹; 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)

These stations were only sampled in 1976 and 1977.

TABLE 4

COLLECTION PERIODS

Seasonal Sampling
SchemeMonthly Sampling
SchemeWinter
Spring
FallWinter
March
April
Spring
July
August
FallNovember
December



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 22
		III IV	1 1	25 27
2	42-65	I IV	2 2	42 47
		II III	2 2	49 65
3	91 - 134	IV III	3 3	91 106
		II I	3 3	131 134

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 III IV I	4 4 1	10 15 15 18
2	2 2- 27	II III IV	1 1 1	22 24 27
3	36-49	II IV III I IV II	4 5 5 2 2 2	36 37 40 42 47 49
4	65–82	IV III II I	6 2 5 5	65 65 78 82
5	91-106	IV II I III	3 6 6 3	91 98 100 106
6	125-134	III IV II I	6 7 3 3	125 130 131 134

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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-periodyear 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.

$$\overline{\mathbf{x}} = \frac{i \sum_{i=1}^{N} \mathbf{x}_{i}}{N}$$

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

STD DEV =
$$\begin{bmatrix} \frac{N}{\sum_{i=1}^{\Sigma} (X_i - \overline{X})^2} \\ \frac{N}{N-1} \end{bmatrix}^{\frac{1}{2}}$$

^{*}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.

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.

$$KURT = \frac{i\frac{\Sigma}{21}}{N(STD DEV)^4} - 3$$

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% NORMAL CI = $\overline{X} \pm 1.96$ (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.

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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)



• •••



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).

- Is the overall <u>F</u> 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 twoway 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.

$$\mathbf{r}_{\mathbf{X}\mathbf{y}} = \frac{\sum_{i=1}^{N} \left[(\mathbf{X}_{i} - \overline{\mathbf{X}}) (\mathbf{Y}_{i} - \overline{\mathbf{Y}}) \right]}{N \ \mathbf{S}_{\mathbf{X}} \ \mathbf{S}_{\mathbf{y}}}$$
[1]

In the above expression, r_{XY} is the bivariate correlation coefficient, N is the number of data cases, X_i is the *i*th score on the X variable, \overline{X} is the mean of the X variable, Y_i is the *i*th 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 ${\rm S}_{\rm y}.$

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



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.

$$Y = a_1 + a_2 X + a_3 X^2$$

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.* X₁, X₁², X₁³, 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:

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df = N - (# predictor variable term + 1).
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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 <u>Statistical Package for the Social Sciences</u> (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.

 $Y = a_1 + a_2 X_1 + a_2 X_1^2 + a_4 X_2 + a_5 X_2^2$

In the above model Y, X₁ and X₂ are three different STOCS variables with Y serving as the criterion and the predictor variables being X₁ and X₂. Note that the example model includes squared terms (*e.g.* X_1^2) and therefore

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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 <u>Statistical Package for</u> 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 spe-

cies abundance variables from physical environmental variables. Non-linear functions of the following types were employed.

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

 $Y = f (e^{sinX})$

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.

In this function, Y represents the criterion and X represents the predictor with β , α , and X₀ being parameters estimated from the data. In this model, β is the amplitude (maximum predicted value), X₀ 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



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.

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

In [3], Y is the criterion and X is the predictor with β , X₀ and \propto being parameters estimated from the data. In this model, β is the function maximum, X₀ locates the point of inflection, and \propto 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.

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

In [4], Y is the criterion and X is the predictor with β , α , and X₀ being parameters estimated from the data. In this model, β is the function maximum, X₀ 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.

$$Y = \frac{\beta e^{\alpha \sin[(x-x_0)2\Pi/c]}}{e^{\alpha}}$$
[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; X₀, the phase shift on the X-dimension; and \propto , 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.

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

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, X₀ is the location of the maximum on the X-dimension, \propto is the rate parameter with regard to the X-dimension, Z₀ is the

phase shift on the Z-dimension, and 8 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.

$$Y = \beta \left[e^{(x-x_0)^2/\alpha} \right]^{-1} \left[e^{(z-z_0)^2/8} \right]^{-1}$$

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 scatter-

plots were initially inspected to determine the most promising predictor variable. This variable was then used to construct a one-predictor nonlinear 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; df₁ 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 df₂ 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

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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),

A-2

MAGNETIC DATA TAPE EDIS FILE DIRECTORY

AUCDEFGHIJKLMMUPUNSTUVMXYZU123456789+==/()\$= ,.8();##VATJ4>524; The Above line is the character set used on this tape

BUREAU OF LAND MANAGEMENT SUUTH TEXAS UUTER CONTINENTAL SHELF STUDY 1975-1977

TAPE 1

TAPE FORMAT ----

EACH LINE#128 CHARACTERS

EACH BLUCK (PHYSICAL RECORD)= 48 LINES (5128 CHARACTERS)

UNUSED PORTION OF FINAL BLOCK FOR A FILE MAS been blank filled.

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DIRECTORY OF FILES

STUDY AREA	FILE	FILE DESCHIPTION	NUMBER OF Data lines Per file	NUMBER OF TRAILING BLANK LINES	TOTAL LINES
	1	FILE DIRECTORY AND TAPE FORP	181 TA	19	128
SALINITY, TEMPERATURE AND DEPTH	2	COMMENT FILE	331	29	368
	3	1975 DATA	1218	22	1240
	4	1976 DATA	2677	3	5998
	5	1977 DATA	3264	14	3280
NUTHIENIS AND DISSOLVED OXYGEN		COMMENT FILE	344	16	368
	7	1975 DATA	143	37	200
	à	1976 DATA	684	34	648
	9	1977 DATA	663	17	***
LINE MOLECULAR WEIGHT HYDROCARBONS	1.19	COMMENT FILE	362	38	498
(WATEN COLUMN AND SEDIMENT)	11	1975 DATA, MATER COLUMN	163	37	508
	12	1976 DATA, MATER CULUMN	68H		684
	13	1977 DATA, WATER COLUMN	512	8	528
	14	1977 DATA, SEDIMENT	218	22	248
HTURUCARBONS IN EPIFAUNA	15	COMMENT FILE	428	12	449
	16	1975 DATA	2634	•	2646
	17	1976 DATA	2821	19	2848
	18	1977 DATA	2341	19	2368
	19	CODED SPECIES LIST	48	35	8 8
HENTHIC INVERTENDATE MACROFAUNA	24	COMMENT FILE	371	29	498
(EPIFAUNA AND INFAUNA)	21	1975 EPIFAUNA DATA	684	36	720

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	22	1976 EPIFAUNA DATA	1969	31	2888	
	23	1977 EPIFAUNA DATA	1822	18	1846	
	24	1975 INFAUNA DATA	1783	17	1728	
	25	1976 INFAUNA DATA	29465	35	28228	
	26	1977 INFAUNA DATA	15985	15	16000	
	27	CODED SPECIES LIST	1384	14	1358	
EPIFAUNA FISH	28	COMMENT FILE	334	24	348	
	29	1975 DATA	1489		1488	
	30	1976 DATA	3337	23	3368	
	31	1977 DATA	3357	3	3348	
	32	CODED SPECIES LIST	172	28	- 288	
HIGH HOLECULAR WEIGHT HYDROCARBONS	33	COMMENT FILE	535	25	548	
(SEDIMENT, ZOUPLANKTON,	34	1975 DATA	3858	22	3880	
PARTICULATE, DISSOLVED, NEUSTON)	35	1976 DATA	11760		11760	
	36	1977 DATA	6952	8	6968	
CHLONOPHYLL A	37	COMMENT FILE	337	23	348	
	38	1975 DATA	216	24	248	
	39	1976 DATA	884	32	848	
	48	1977 DATA	803	32	849	
ATP(ADENOSINE TRI-PHOSPHATE)	41	COMMENT FILE	316	4	320	
	42	1975 DATA	212	28	248	
· · ·	43	1976 DATA	412	20	448	
PHYTOPLANKTON	44	COMMENT FILE	352		348	
	45	1975 DATA	2755	5	2768	
	46	1976 DATA	4621	19	4640	
	47	1977 DATA	2964	36	3888	
	48	CODED SPECIES LIST	437	3	448	
FLUORESCENCE	49	COMMENT FILE	313	7	328	
	50	1977 DATA	481	34	649	
MELOFAUNA	51	COMMENT FILE	353	7	340	
	52	1476 DATA	584	15	688	
			083	1.	1000	

STUDY AREA	FILE NUMBER	FILE DESCRIPTION	NUMBER OF DATA LINES PER FILE	NUMBER UF TRAILING BLANK LINES	TOTAL LINES
	i	FILE DIRECTORY AND TAPE FORM	AT 89	31	120
MICROZUUPLAWKTON - PROTOZOA	2	COMMENT FILE	357	3	368
	3	1975 DATA	203	37	249
	4	1976 DATA	338	22	368
	5	1977 DATA	2137	23	2168
	6	CODED SPECIES LIST	123	37	108
ZOOPLANKTUN	7	COMMENT FILE	355	5	364
	6	1975 DATA	8393	17	8329
	9	1976 DATA	6914		6924
	18	1977 DATA	6767	33	6598
	11	CUDED SPECIES LIST	285	35	320
MICHOZOUPLANKTUN (DISCRETE	12	COMMENT FILE	354	6	360
DEPTHS, VERTICAL TON, BENTHIC)	13	1975 DATA	2378	36	2484
	14	1976 DATA	3918	2	3929
	15	1977 DATA	2255	25	2288
	16	CODED SPECIES LIST	479	19	460
TOTAL ORGANIC CARBON AND DELTA	17	COMMENT FILE	331	29	368
CARBUN 13 IN SEDIMENT	18	1977 DATA	174	26	200
PHOTOMETRY	19	COMMENT FILE	326	32	368
	20	1976 DATA	186	12	120
	21	1977 DATA	267	13	280

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DIRECTORY OF FILES

EACH BLOCK (PHYSICAL RECORD)=48 LINES (5128 BYTES)

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

EACH LINE=128 CHARACTERS

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BUREAU OF LAND MANAGEMENT Suuth texas outer continental shelf study 1975-1977

TAPE 2

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HISTOPATHOLOGY	22	COMMENT FILE	372	28	499
	23	1976 INVERTEBRATE EPIFAUNA	2314	•	2320
	24	1977 INVERTEBRATE EPIFAUNA	5812	28	5846
	25	1976 DEMERSAL FISHES	2150	4	2160
	24	1977 DEMERSAL FISHES	2336	24	2360
	27	1976 GONADAL TISSUE	578	22	684
	28	1977 GONADAL TISSUE	1781	19	1720
	29	EXPLANATION OF CODES	266	14	264
SEDIMENT TEXTURAL ANALYSIS	38	COMMENT FILE	338	22	368
(INFAUNA, MEIDFAUNA, BACIERIOLOGY	31	1976 INFAUNA AND MEIOFAUNA	1554	6	1560
AND MYCULDEY)	32	1977 INFAUNA AND MEIDFAUNA	1044	36	1888
	33	1977 BACTERIULOGY/MYCOLOGY	196	12	120
NEUSTON	34	COMMENT FILE	340	28	368
	35	1976 DATA	3985	15	4889
	36	1977 DATA	3484	36	3520
	37	CODED SPECIES LIST	173	27	248
CARBON 14 IN PHYTOPLANKTON	38	COMMENT FILE	333	27	348
	39	1977 DATA	324	36	360
THACE METALS	48	COMMENT FILE	379	21	486
(SEDIMENT AND WATER COLUMN) .	41	1976 SEDIMENT DATA	350	1.	360
	42	1977 SEDIMENT DATA	390	1.0	498
	43	1975 WATER COLUMN DATA	355	5	360
	44	1976 WATER COLUMN DATA	478	2	488
	45	1977 WATER COLUMN DATA	496	24	520

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TAPE 3

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EACH LINE=128 CHANACTERS

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

UNUSED PURTION 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 FORM	AT 83	37	129
TEMPEHATURE, SALINITY, AND DEPTH	2	COMMENT FILE	379	21	488
(FUR RIG MUNITORING STUDY)	3	DATA FILE	162	38	299
LON MULECULAR WEIGHT HYDRUCARBONS	5 4	COMMENT FILE	367	13	466
(FUR HIG MUNITURING STUDY)	5	DATA FILE	21#	30	248
HYDHOCAHBUNS IN EPIFAUNA	۵.	COMMENT FILE	445	35	486
(FUR HIG MUNITURING STUDY)	7	DATA FILE	114		120
	ė	CODED SPECIES LIST	48	32	89
MACROINVERTEBRAIE EPIFAUNA AND	9	COMMENT FILE	411	29	444
INFAUNA	1.4	DATA FILE	4623	17	
(FUR RIG MUNITORING STUDY)	11	CODED SPECIES LIST	1312	8	1320
VEMERSAL FISHES	12	COMMENT FILE	384	16	484
(FOR RIG MONITORING STUDY)	13	DATA FILE	55	25	88
· -	14	CODED SPECIES LIST	172	28	288
MELUFAUNA	15	COMMENT FILE	442	38	449
(FUN HIG MUNITORING STUDY)	10	DATA FILE	36	4	49
INACE METALS	17	COMMENT FILE	847	33	484
(FUR HIG MUNITORING STUDY)	18	SEDIMENT DATA FILE	28	12	44
	19	SUSPENDED SEDIMENT DATA FILE	40		49
	54	EPIFAUNA DATA FILE	12	28	40

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SEDIMENT TEXTURAL ANALYSIS	21	COMMENT FILE	384	14	464
(FOR RIG MUNITORING STUDY)	22	DATA FILE	549	20	566
HIGH MOLECULAR REIGHT HYDROCARBUNS	23	COMMENT FILE	438	2	448
(FOR RIG MUNITORING STUDY)	24	SEDIMENT DATA FILE	520	34	569
SEVIMENT BACTERIULOGY	25	COMMENT FILE	477	3	460
	26	BIULOGY DATA FILE	299	21	328
	27	HYDROCARBON DATA FILE	962	18	954
	28	EXPERIMENTAL DATA FILE	125	35	168
WATER CULUMN BACTERIOLUGY	29	CUMMENT FILE	384	16	480
	34	BJULOGY DATA FILE	392	8	444
SEDIMENT MICULOGY	31	COMMENT FILE	444	36	486
	32	BIULOGY DATA FILE	420	20	449
	33	HYDROCANBON DATA FILE	1913	7	1920
WATER CULUMN MYCOLOGY	34	COMMENT FILE	450	30	484
	35	BIOLOGY DATA FILE	269	11	288
	30	HYDROCARBON DATA FILE	1946	14	1968

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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: #ATER SAMPLES TAKEN WITH NANSEN BOTTLES WITH PAIRS OF REVERSING THERMOMETERS

DATA FORMAT

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

CULUMNS FIELD TYPE DESCRIPTION 1 11 ALWAYS Ø (ZERO) STUDY AREA (SEE STUDY AREA KEY) 2-3 12 ALWAYS 210 FOR MASTER FILES 4-6 13 CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS) STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 7 11 8 11 9-18 SX BLANK

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A-9

11-14	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17=18	12	DAY
19-20	12	YFAR
21-24	T 4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
61-64		OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	11	SAMPLE COLLECTION AREA
		1 = TRANSECT 1
		2 TRANSECT 2
		3# TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		BE SOUTHERN BANK
		9= HOSPITAL ROCK
27	1 X	BLANK
28	T 1	STATION (SEE BLM STOCS MONITORING STUDY STATION
20	••	LOCATIONS)
20	A 1	DEDAY: NENIGHT
34-32	43	TYPE OF SAMPLE(SEE KEY TO CODES)
21-14	A.4	SAMPLE DISPOSITION (SEE KEY TO CODES)
17-10		SAMPLE DIST OFFEREN (TO COPES)
31-37	A 7	BETALTRIE TAVESTICATOR (SEE KEY (ODES)
40-42		
43		A NAT A REDITCATE CAMPIE
		20 2ND DEPITCATE SAMPIE
		FTC.
		NOTE: REPLICATE CODE HAS NOT REEN
		CONSISTENTLY USED: REPLICATE CODE MAY BE & FOR
		A DEDITATE SAMPLE WITH THE DEDITATE NUMBER
		APPEARING ON THE DATA LINES
6 B	т 1	FILTEPED CODE
	**	AR NOT APPI TOARI F
		1 SAMPLE IS A FILTERED SAMPLE
		2 SAMPLE IS A NON-FILTERED SAMPLE
<i>4</i> 5	T 1	RELATIVE DEPTH CODE
- 3	••	Az NGT CODED
		$2 \pm 1/2$ PHOTIC ZONF
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOITOM
		SE ROTTOM
		A= NOT APPLICABLE
		AR 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
		REEN 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	TI	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
~•		BEEN USED: APPEARS TO ALWAYS BE 0 (ZERO)
47	I 1	POOLED CODE
-		0= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I 1	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED;
		APPEARS TO ALWAYS BE Ø (ZERO)
49	11	ARCHIVE CODE
		B= NOT AN ARCHIVE SAMPLE
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1= AN ARCHIVE SAMPLE QUALITY CONTROL CODE 50 11 **Ø= NOT A QUALITY CONTROL SAMPLE** 1= A QUALITY CONTROL SAMPLE 11 51 CONTRACTED CODE BLANK OR ØF BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE 52-53 CRUISE NUMBER - 12 SAMPLE DEPTH IN METERS; 54-50 13 NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 58 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM 57-64 44 PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 61 1 X BLANK PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62-69 84 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) CHG-TEX(SEDIMENT TEXTURE) CSG-C.S. GIAM TSP-E. TAISOO PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-8.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 HISTOPATHOLDGY) JMN-JERRY M. NEFF EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY EPI-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH EP1-MST(EPIFAUNA MASTER) ICH- (ICHTHYOPLANKTON) INF-MST(INFAUNA MASTER) UT-PORT ARANSAS MARINE LAB. INF-SED(INFAUNA SEDIMENT) INF-TAX(INFAUNA TAXONOMY) PLP-PATRICK L. PARKER 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) ENG-E. W. BEHRENS

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SED-HC (SEDIMENT HYDROCARBONS)
 SED-MPL(SEDIMENT MICROZOOPLANKTON)
 SED-TH (SEDIMENT TRACE METALS)
 SUG-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
 #AT-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(MICROZDOPLANKTON)
                                          RICE-RICE UNIVERSITY
 WAT-MYC(WATER COLUMN MYCDLOGY)
 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 (ZODPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZUOPLANKTON TAXONOMY)
 ZPL-TM (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
---- ----
11 SALINITY AND TEMPERATURE, CURRENTS
W3 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
89 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
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A-13

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42 BENTHIC MYCOLOGY 43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	TA. LORAN		LO	LATI	TUDE	LONG	ITUDE	DEPTH		
		3H3	3H2	LG	LR				ME	TERS	FEET
1	1	2575	4003	1180.07	171.46	28 12	N±	96 2	7 W#	18	59
	2	2440	3950	961.49	275.71	27 55	i N#	96 2	0 W±	42	138
	3	2300	3863	799.45	466.07	27 34	N#	96 0	- 7 ₩★	134	439
	4	2583	4615	1206.53	157.92	28 14	l N≠	96 2	9 W±	10	33
	5	2368	3910	861.09	369.08	27 44	N#	96 1	4 WA	82	269
	6	2330	3892	819.72	412.96	27 39	N×	96 1	2 ₩*	100	328
2	1	2078	3962	373.62	192.04	27 42) N#	96 5	9 W#	22	72
	2	2050	3918	454.46	382.00	27 30	I N≠	96 4	5 W#	49	161
	3	2040	3850	564.67	585,52	27 18	N#	96 2	3 #*	131	430
	4	2058	3936	431.26	310.30	27 34	L N#	96 5	Ø W*	36	112
	5	2032	3992	498.85	487.62	27 24	N#	96 3	6 W#	78	256
	Þ	2068	3878	560.54	506.34	27 24	N#	96 2	9 W#	98	322
	7	2045	3835			27 15	N#	96 1	8.5 W*	182	698
3	1	1585	3880	139.13	909,98	26 58	N×	97 1	1 #*	25	82
	2	1683	3841	286.38	855.91	26 58	N#	96 4	8 ₩★	65	213
	3	1775	3812	391.06	829.02	26 58	N#	96 3	3 W*	186	348
	4	1552	3885	95.64	928.13	26 58	N×	97 2	0 W±	15	49
	5	1623	3867	192.19	888.06	26 58	N#	97 Ø	2 #*	40	131
	6	1798	3808	411.48	824,57	26 58	N×	96 3	8 W\$	125	410
4	1	1130	3747	187.50	1423.50	26 10	N×	97 0	1 ₩*	27	88
	2	1300	3700	271.99	1310.61	26 10	N#	96 3	9 W#	47	154
	3	1425	3003	333.77	1241.34	26 10	N#	96 2	4 Hat	91	298
	4	1073	3763	163.42	1456,90	26 10	N#	97 0	5 #×	15	49
	5	1170	3738	213.13	1387.45	26 10	N#	96 5	G W±	37	121
	6	1355	3685	304.76	1272.48	26 10	N#	96 3	1 We	65	213
	7	1448	3659	350.37	1224,51	26 10	N#	96 2	** 5	130	426
(HR)	1	2159	3900	635.06 .	422.83	27 32	#5N±+	96 2	B 19W##	75	246
(9)	2	2169	3982	644.54	416.95	27 32	46N##	96 2	7 25₩**	72	237
	3	2163	3900	641.60	425.10	27 32	05N++	96 2	7 35W**	81	266
	4	2165	3905	638.40	411.18	27 33	82N##	96 29	9 03W**	76	250
(SB)	1	2086	3889	563.00	468.28	27 26	49N±±	96 3	18###	81	266
(8)	2	2081	3889	560.95	475.80	27 26	14N**	96 3	82##*	82	269
	3	2074	3890	552.92	475.15	27 26	86N**	96 3	47₩**	82	269
	4	2078	3890	551.12	472.73	27 26	14N**	96 3	2 07W##	82	269

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

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		START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION	
CARD	TYPE	2	1	16	881218
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK

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11	▲4	SAMPLE CODE*
15	F5	DEPTH (METERS)
29	F5	TEMPERATURE (C)
25	F5	SALINITY (PPT)
30	1 X	BLANK
31	▲4	SAMPLE CODE++

CUMMENTS

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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.

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NOTE: FUR 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

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

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

COLUMNS FIELD TYPE DESCRIPTION ALWAYS 8 (ZERO) 11 1 2-3 12 STUDY AREA (SEE STUDY AREA KEY) ALWAYS 210 FOR MASTER FILES 4-6 13 7 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 11 9=10 2 X BLANK 11-14 **A**4 SAMPLE CODE (FINAL CODE ASSIGNED) 15-16 12 MONTH 17-18 12 DAY 19-20 12 YEAR 21-24 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 14 OR CENTRAL STANDARD TIME)

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25	1 X	BLANK
26	I 1	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		42 TRANSECT 4 T- DIC MONITORIAG AREA
		AT BOUTHEON BANK
		05 JUUINEKN BANN 8- Mospital Bock
37	• •	AP URALING KOCK
28	11	STATION (SEE BUM STOCS MONITORING STUDY STATION
20	* *	LOCATIONS)
. 29	A 1	DEDAY: NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-30	A 4	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
		BE NOT A REPLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		28 2ND REPLICATE SAMPLE
		NUTE: REPLICATE LUDE MAD NUT BEEN
		A DEDITEATE SANDIE WITH THE DEDITEATE NUMBED
		A REFLICATE SAMPLE WITH THE REFLICATE NUMBER
A A	T 1	ETITEDEN CODE
	* *	AR NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		28 SAMPLE IS A NON-FILTERED SAMPLE
45	I 1	RELATIVE DEPTH CODE
		BE NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6E NOT APPLICABLE
		8= ACTUAL DEPTH IN METERS GIVEN IN COLS, 54-56
		98 VERTICAL TON; ALL DEPINS SAMPLED
		NULLI RELATIVE DEPIN LUDE NAS DEEN Theometatentive used. In Nost cases it has not
		INCURDISIENTLY USED; IN MUSI CASES IT HAS NUT Deel coded on the inventory time. Te delative
		DEEN CODED ON THE INVENTORY LINE, IT RELATIVE DEETH TE NIGSING FROM THE INVENTORY LINE, IT MAY
		BE GIVEN ON THE DATA LINES OF CAN BE DETERMINED
		FROM THE STUDY AREA
46	T t	DISSOLVED PARTICLE CODE CODES UNKNOWN: MAY NOT HAVE
	••	BEEN USED: APPEARS TO ALWAYS BE 6 (ZERO)
47	I1	POOLED CODE
		8= 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	11	WUALITY CUNTRUL CODE
		NE A QUALITY CONTROL SAMPLE
	т.	IT A BUALIIT LUNIKUL SAMPLE
21	11	CURITALILU CUUL Blank od gy bim Contdicted Gimeif
		DLANN UN DA DEM CONTRACTED JAMPLE

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54-56 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES A4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 1 X BLANK 61 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62-69 84 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 JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) 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) CV8-CHASE VAN BAALEN LMW-HC (LOH-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TM (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIDFAUNA) DEW-DONALD E. WOHLSCHLAG MMS-MST(MEIOFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED- (SEDIMENT) ENB-E. W. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TH (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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CRUISE NUMBER

52-53

12

1= NOT A BLM CONTRACTED SAMPLE

TRM-TUR(TRANSMISSOMETRY-TURBIDITY) SAR-SAMUEL A. RAMIREZ WVA-O. W. VAN AUKEN VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) 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 #AT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77) U.S.G.S.-CORPUS CHRISTI WAT+DU (DISSOLVED OXYGEN) HB-HENRY BERRYHILL WAT-FLU(FLUORESCENCE) WAT-HC (WATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZOOPLANKTON) WAT-MYC(WATER COLUMN MYCOLOGY) RICE-RICE UNIVERSITY RU-RICE UNIVERSITY WAT-NUT(NUTRIENTS) WAT-N14(CARBON14 NANNOPLANKTON) REC-RICHARD E. CASEY WAT-PHY(PHYTOPLANKTON) WAT-PRO(PROTOZDA) WAT-P14(CARBON14 PHYTOPLANKTON) WAT-SSM(WATER-SUSPENDED SEDIMENT) WAT-TOC(TOTAL ORGANIC CARBON) ZCT-TM (ZOUPLANKTON TRACE METALS) ZPL-HC (ZOOPLANKTON HYDROCARBONS) ZPL-TAX(ZOOPLANKTON TAXONOMY) ZPL-TM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY ---- ----01 SALINITY AND TEMPERATURE, CURRENTS **W3 DISSOLVED OXYGEN, NUTRIENTS** 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES 06 INVERTEBRATE EPIFAUNA AND INFAUNA 07 BENTHIC FISH 68 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE, DISSOLVED, ZOOPLANKTON 89 CHLOROPHYLL A 10 ADENUSINE 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 DRGANIC 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.	L	DRAN		LO	RAC	L	ATI	TUDE	LD	NGI	TUDE	DEP	тн
		3Н3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	Ņж	18	59
	2	2440	3950		961.49	275.71	27	55	N#	96	20	W *	42	. 138
	3	2386	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	**	10	33
	5	2360	3910		861.09	369.08	27	44	N#	96	14	N a	82	269
	6	2330	3892		819,72	412.96	27	39	N×	96	12	W×	190	328
2	1	2078	3962		373.62	192.04	27	40	N×	96	59	NA .	22	. 72
	2	2050	3918		454.46	382.00	27	30	N#	96	45	资金	49	161
	3	2040	3850		564.67	585.52	27	18	N#	96	23	**	131	430
	4	2058	3936		431.26	310.30	27	34	N#	96	50	N ±	36	112
	5	2032	3992		498.85	487.62	27	24	N#	96	36	Wt	78	256
	6	2968	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	59	58	N+	97	11	W×	25	82
	2	1683	3841		286.38	855.91	26	58	N#	96	48	M A	65	213
	3	1775	3812		391.00	829.02	26	58	N#	96	33	Wt	186	348
	4	1552	3885		95.64	928.13	26	58	N*	97	20	W±	15	49
	5	1623	3867		192.19	868.96	26	58	N×	97	02	N±	49	131
	6	1790	3898		411.48	824.57	26	58	N#	96	30	**	125	410
4	1	1130	3747		187,50	1423.50	26	10	N+	97	81	h ★	27	88
	2	1300	3700		271.99	1310.61	26	10	N#	96	39	W.s.	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	19	N#	97	88	W.A	15	49
	5	1170	3738		213.13	1387.45	26	10	N#	96	54	Wt	37	121
	6	1355	3685		304.76	1272.48	26	10	N#	96	31	Nt	65	213
	7	1448	3659		350.37	1224.51	26	10	N#	96	20	**	130	426
(HR)	1	2159	3900		635.00	422.83	27	32	05N±±	96	28	19#**	75	246
(9)	2	2169	3902		644.54	416.95	27	32	46N**	96	27	25###	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	03#**	76	250
(\$8)	1	2086	3889		563.00	468.28	27	26	49N**	96	31	18###	81	266
(8)	2	2081	3889		560.95	475.80	27	26	14N##	96	31	82***	82	269
	3	2074	3890		552.92	475.15	27	26	06N**	96	31	47***	82	269
	4	2078	3890		551.12	472.73	27	26	14N##	96	32	87#**	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					
				**	MEANS	DEGREES	MIN	UTE	S SECON	DS				

,			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	003210
			7	II	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	▲4	SAMPLE CODE FOR INVENTORY MATCHUP*
			15	12	TRANSECT/STATION
			17	13	DEPTH (METERS)
			20	I1	RELATIVE DEPTH CODE
			21	1 X	BLANK
			22	11	REPLICATE NUMBER
			23	II	NUMBER OF REPLICATES AT SAME DEPTH

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24	F5	TEMPERATURE (C)
29	F6	SALINITY (PPT)
35	F6	SILICATE (MICROMOLES/LITER) ****
41	F7	PHOSPHATE (MICROMOLES/LITER) ****
48	F7	NITRATE (MICRUMOLES/LITER) ****
56	▲4	SAMPLE CODE FOR NUTRIENT SAMPLES**
69	F6	DISSOLVED OXYGEN (MILLILITERS/LITER)
66	F5	DISSOLVED OXYGEN DUPLICATE MEASUREMENT
71	1 X	BLANK
72	A4	SAMPLE CODE FOR DISSOLVED OXYGEN***

CUMMENTS

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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 DXYGEN SAMPLE CODE IDENTIFIES THE STATION AND SUCCEEDING DATA POINTS. ** SAMPLE CODE FOR NUTRIENT DATA COLLECTED AT RELATIVE DEPTH INDICATED IN
- CDL.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)

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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

 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

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)

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DATA FORMAT FOR WATER COLUMN HYDROCARBONS (FILES 11, 12, AND 13)

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

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	11	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY

19-20 YEAR 15 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 14 OR CENTRAL STANDARD TIME) 25 1 X BLANK SAMPLE COLLECTION AREA 26 I1 1= TRANSECT 1 2= TRANSECT 2 **3= TRANSECT 3** 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK BLANK 27 1 X STATION (SEE BLM STOCS MONITORING STUDY STATION 28 11 LOCATIONS) 29 A1 D=DAY; N=NIGHT TYPE OF SAMPLE(SEE KEY TO CODES) 30-32 **A**3 SAMPLE DISPOSITION (SEE KEY TO CODES) 33-36 **A4** SAMPLE USE (SEE KEY TO CODES) Principle investigator (see key codes) 37-39 A3 40-42 Α3 43 11 REPLICATE CODE 8= 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 & FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES 11 FILTERED CODE 44 BE NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE 11 RELATIVE DEPTH CODE 45 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3# PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 65 NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 92 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 11 DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 8 (ZERO) POOLED CODE 47 11 **Ø= NOT A POOLED SAMPLE** 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; 11 48 APPEARS TO ALWAYS BE @ (ZERO) 49 11 ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE QUALITY CONTROL CODE 50 11 **BE NOT A QUALITY CONTROL SAMPLE**

		11	A QUALITY CONTROL SAMPLE
51	I1	CONTRACTE	D CODE
-		81	ANK DR 0= BLM CONTRACTED SAMPLE
		1 2	NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NU	IMBER
54=56	13	SAMPLE DE	PTH IN METERS:
34-30		NOTE . C	IN THE THE HETCHER
			177 MEANS VEDITION TOW EDOM SUBSACE TO DE METERS
			171 MEANS VERILAL IUM FRUM SURFALE IU 25 MEIERS
			192 MEANS VERTICAL TOW FROM 25 TO 50 METERS
		ę	193 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	▲4	PARENT SA	IMPLE CODE FOR SUBSAMPLES
		NC	ITE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		TE	IS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK	
62=69	48	PREVIOUS	SAMPLE CODE - ALLOWS REFERENCE TO 1975.
	~•	10	TA. 1077 STNAL DEDNOTS IN BLM
		1 7 N 7	107 1777 FINAL ALFORIG THE STANDARD & SHADASSED
			TE: MUSI CUDES WILL BE THE STANDARD 4 CHARACTER
		VA	RIELY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
		TH	IS FIELD ARE FOR POOLED SAMPLES,
		ε.	, G , =
) AAAA-C INDICATES A POOLED SAMPLE MADE UP
			OF SAMPLES AAAA,AAAB,AAAC
		8) AAZY-BAA INDICATES A POOLED SAMPLE MADE
		-	IP OF SAMPLES AATY. AATT. ABAA
E TO COD	56		
NET TO LUD	Eð		
SAMPLE TY	PESAMPL	E USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(S	EDIMENT B	ACTERIOLOGY)	
CHG-HC (S	EDIMENT H	YDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(C	HEMISTRY	GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (S	EDIMENT T	RACE METALS)	CSG=C.S. GTAM
CHC-TEY(S	EDIMENT T	EVTUPE)	TRREE TAIROO RADE
CHU-IEACO		LAIUNEJ Doruvii - 1076	IJF-E. INIJUU PARK
	DIAL CHEU	KUPHILL-14/3	
CHI-HC LE	PIPAUNA H	TORULARBUNS	BJP-B, J. PRESLEY
CHT-MST(E	PIFAUNA C	HEMISTRY TRA	WL) WMS-WILLIAM M. SACKETT
CHT-TM (E	PIFAUNA T	RACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(E	PIFAUNA D	EMERSAL FISH) RR-RICHARD REZAK
EPI-HC (E	PIFAUNA H	YDROCARBONS)	WEN-WILLIAM E. HAENSLY
EPT-HPI(E	PIFAUNA H	ISTOPATHOLOG	Y) JMN+JERRY M. NEFE
FPI-HOT (F	PTFAIINA H	TSTOPATHOLOG	
EPT-THV/E	DTEALINA T	NUCOTCODATES	IN INCIDENT LA TREMALT
TEIL-INACE	PIFAUNA 1	AVERIEDRAIES	JUN JUN DE SOUR ADE
EPI-MSILE	PIFAUNA M	ASIERJ	JRS-JOHN R. SCHWARZ
ICH- (I	CHTHYOPLA	NKTON)	JHW-JOHN H. WORMUTH
INF-MST(I	NFAUNA MA	STER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(I	NFAUNA SE	DIMENT)	PLP-PATRICK L. PARKER
INF-TAX(1	NFAUNA TA	XONOMY)	NPS-NED P. SMITH
LGT-P7 (P	HUTOMETRY)	CUBACHASE VAN RAALEN
I Mineseff ()	IN MARIE CI	1 AR-WETCHT -	TOPOLADBONS) ISH-I SEIMAN MALLANA
	ACBONEY TO	PHU-METAUI U	INNARADUNGJ JOHTJ, JELMUN HULLANU
	ACRUMENIU	N IRALE MEIA	LJJ
MM3+C15(T	UTAL URGA	NIC CARBON A	NU VELIA CIS IN SEDIMENI)
MMS-MEI (M	ELUFAUNA)		DEW-DONALD E. WOHLSCHLAG
MMS+MST(M	EIOFAUNA	MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC (S	EDIMENT M	YCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX(N	EUSTON TA	XONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
SED- IS	EDIMENTI		FWROF, W. REMOFING
SED-HC (S	EDIMENT -	AUSULADBUNGA	PAR-PE NE ACUVEAS
	EDIMENT N	TCDUZOCARDUNGJ	TON
SEU-MPL(S	CUINENT M	ILKUZUUPLANK	IUNJ
SED-TM (S	EUIMENT T	RACE METALS)	

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A-23

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SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
                                          UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
                                             SAR-SAMUEL A. RAMIREZ
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
                                             WVA-O. W. VAN AUKEN
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
        (WATER COLUMN)
WAT-
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
                                           UT-AUSTIN
WAT-CI3(DELTA C13)
                                              PJS-PAUL J. SZANISZLO
#AT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
MAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
                                          U.S.G.S.-CORPUS CHRISTI
WAT-DO (DISSOLVED OXYGEN)
WAT-FLU(FLUORESCENCE)
                                              HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
HAT-MPL(MICROZOOPLANKTON)
                                          RICE-RICE UNIVERSITY
WAT-MYC(WATER COLUMN MYCOLOGY)
wAT=NUT(NUTRIENTS)
                                           RU-RICE UNIVERSITY
                                             REC-RICHARD E. CASEY
WAT-N14(CARBON14 NANNOPLANKTON)
WAT-PHY (PHYTOPLANKTON)
WAT-PRO(PROTOZOA)
 NAT-P14(CARBON14 PHYTOPLANKTON)
WAT-SSM(#ATER-SUSPENDED SEDIMENT)
 HAT-TOC(TOTAL ORGANIC CARBON)
 ZCT-TH (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOUPLANKTON HYDROCARBONS)
 ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZDOPLANKTON TRACE METALS)
STUDY AREA KEY
01 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED OXYGEN, NUTRIENTS
 04 LON-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
07 BENTHIC FISH
BB 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.	LC	RAN	LO	RAC	LA	TITUDE	LDN	GIT	UDE	DEP	тн
		3H3	3H2	LG	LR					ME	TERS	FEET
1	1	2575	4003	1180,07	171.46	28	12 N*	96	27	**	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	N#	134	439
	4	2583	4015	1206.53	157.92	28	14 N#	96	29	背木	19	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	資金	100	328
2	1	2078	3962	373.62	192.04	27	40 N*	96	59	**	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	Ň×.	131	430
	4	2058	3936	431.26	310.30	27	34 N*	96	50	M×	36	112
	5	2035	3992	498.85	487.62	27	24 N#	96	36	W#	78	256
	6	5998	3878	560.54	506.34	27	24 N#	96	29	W#	98	322
	7	2045	3835			27	15 N*	96	18.	5 W*	182	50 0
3	1	1585	3880	139.13	909.98	26	58 N#	97	11	N#	25	82
	2	1683	3841	286,38	855.91	26	58 N*	96	48	N 🕈	65	213
	3	1775	3812	391.06	829.02	26	58 N*	96	33	¥*	106	348
	4	1552	3885	95.64	928.13	26	58 N*	97	20	W#	15	49
	5	1623	3867	192.19	888.96	56	58 N*	97	82	W#	40	131
	6	1790	3808	411,48	824.57	26	58 N#	96	30	¥#	125	410
4	1	1130	3747	187.50	1423.50	26	10 N#	97	81	# *	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	18 N#	96	24	W#	91	298
	4	1073	3763	163.42	1456,90	26	10 N*	97	88	W×	15	49
	5	1170	3738	213,13	1387.45	26	10 N#	96	54	**	37	121
	6	1355	3685	304.76	1272.48	26	10 N×	96	31	**	65	213
	7	1448	3659	350,37	1224,51	26	10 N#	96	20	**	130	426
(HR)	1	2159	3900	635.06	422.83	27	32 Ø5N**	96	28	19₩**	75	246
(9)	2	2169	3962	644.54	416.95	27	32 46N**	96	27	25#**	72	237
	3	2163	3900	641.60	425.10	27	32 Ø5N**	96	27	35#**	81	266
	4	2165	3905	638.40	411.18	27 :	33 Ø2N**	96	29	03#**	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	82#**	82	269
	3	2074	3890	552.92	475.15	27	26 86N**	96	31	47W##	82	269
	4	2078	3890	551.12	472.73	27	26 14N**	96	32	07###	82	269

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

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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	5	1	16	004210
			7	I 1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	A 4	SAMPLE CODE*
			15	12	TRANSECT/STATION
			17	13	DEPTH (METERS)
			20	I 1	RELATIVE DEPTH CODE
					· ···

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21	1 X	BLANK
22	I1	REPLICATE NUMBER
23	I 1	NUMBER OF REPLICATES AT THIS DEPTH
24	14	METHANE (NANNOLITERS/LITER) ***
28	F5	ETHENE (NANNOLITERS/LITER)***
33	F5	ETHANE (NANNOLITERS/LITER)***
38	F5	PROPENE (NANNOLITERS/LITER)***
43	F5	PROPANE (NANNOLITERS/LITER) ***
48	1×	BLANK
49	▲4	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	16	884218
			7	Ii	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A 4	SAMPLE CODE***
			15	14	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

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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) **** 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	0F	THE	SAMPLE	CODE	IS	A BLANK	
	FOR	1976	DATA	THE	FIRST	CHARACTER	0F	THE	SAMPLE	CODE	IS	ANA	
	FOR	1977	DATA	THE	FIRST	CHARACTER	OF	THE	SAMPLE	CODE	IS	A B	

A-26

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 CDATES KATHY GAGE DARLENE GAREY K. C. HAUCK YANG HRUNG GRACE NEFF SUE NEWMAN CHIP SANDIFORD DIRECTORY FOR STUDY AREA -----FILE 15: METHODS, DATA FORMAT AND COMMENTS FILE 16: FILE 17: 1975 DATA 1976 DATA FILE 18: 1977 DATA FILE 19: CODED SPECIES LIST 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---DESCRIPTION COLUMNS FIELD TYPE ALWAYS Ø (ZERO) I 1 1 2-3 15 STUDY AREA (SEE STUDY AREA KEY) 4-0 13 ALWAYS 210 FUR MASTER FILES 7 I 1 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)

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A-27

8	11	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2 X	BLANK
11-14	▲4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	15	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	Ii	SAMPLE COLLECTION AREA
		15 IRANSECT 1
		ZE IRANSELI Z
		JE IRANGELI J Ng trangeet /
		TH DIC MONITODING ADEA
		AT SOUTHERN RANK
		OR HOSPITAL DOCK
27	1 X	RLANK
28	T Î	STATION (SEE BUM STOCS MONITORING STUDY STATION
20		
27	A1 17	JADATI NANIGHI TVDE DE GAMQIE/SEE KEV TO CODES)
30-32	A 3	RAMPLE DE SAMPLELSEE NET TO CODEST Rample disposition (Ree Key to codes)
37-39	43	SAMPLE DISPOSITION (SEE RET TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	11	REPLICATE CODE
		BE 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 8 FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
	••	APPEARING ON THE DATA LINES
44	11	
		UF NUI APPLILADLE 1- RANDIE IR A ETITEDED RANDIE
		JA SAMPLE IS A FILIERED SAMPLE Sa Rampie to a non-etiteden rampie
45	TI	DELATIVE DEPTH CODE
- 2	••	AR NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHUTIC ZONE TO BOTTOM
		5= BOTTOM
		5= NOT APPLICABLE
		8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
		9= VERTICAL TOW; ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CUDE HAS BEEN
		INCUMBISIENILT USED; IN MUSI CASES II HAS NUI
		DEDTH IS MISSING EDON THE INVENTORY ITHE IT MAY
		RE CIVEN ON THE DATA I THER OF CAN BE DETERMINED
		FROM THE STUDY AREA
46	11	DISSOLVED PARTICLE CODE CODES UNKNOWN: MAY NOT HAVE
• •		BEEN USED: APPEARS TO ALWAYS BE 8 (ZERD)
47	II	POOLED CODE
		8= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
	_	NOTE: MAY NOT HAVE BEEN USED
48	I 1	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED;
		APPEARS TO ALWAYS BE Ø (ZERO)

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11 ARCHIVE CODE 49 BE NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE QUALITY CONTROL CODE 50 11 BE NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE CONTRACTED CODE 51 11 BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 12 54-56 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-00 **A**4 NOTE: FOR A SAMPLE WHICH IS NOT, A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 61 1 X BLANK PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER 62-69 **A8** 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 --- -- ----DISPOSITION AND PRINCIPLE INVESTIGATOR SAMPLE TYPE--SAMPLE USAGE BAG-BAC(SEDIMENT BACTERIOLOGY) CHG-HC (SEDIMENT HYDROCARBONS) TAMU-TEXAS A+M UNIVERSITY CHG-MST(CHEMISTRY GRAB) LHP-LINDA H. PEQUEGNAT CSG-C.S. GIAM CHG-TM (SEDIMENT TRACE METALS) TSP-E. TAISDO PARK CHG-TEX(SEDIMENT TEXTURE) CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TM (EPIFAUNA TRACE METALS) 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 HISTOPATHOLDGY) WH-WILLIAM E. HAENSLY EPI-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ EPI-MST(EPIFAUNA MASTER) (ICHTHYOPLANKTON) JHW-JOHN H. WORMUTH ICH+ INF-MST(INFAUNA MASTER) UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER INF-SED(INFAUNA SEDIMENT) NPS-NED P. SMITH INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) LMW-HC (LDM-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J, SELMON HOLLAND MNK-TM (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG MMS-MEI(MEIDFAUNA) DK-DAN L. KAMYKOWSKI MMS-MST(MEIOFAUNA MASTER GRAB) PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY)

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NEU-TAX (NEUSTON TAXONOMY)
                                           UT+GEOPHYSICAL LAB. GALVESTON
                                              EMB-E. W. BEHRENS
      (SEDIMENT)
SED-
SED-HC (SEDIMENT HYDROCARBONS)
SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-IM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
 TDC-ST (TEMPERATURE+DEPTH-CONDUCTIVITY
                                           UTSA-UNIV. OF TEXAS AT SAN ANTONIO
                                              SAR-SAMUEL A. RAMIREZ
WVA-D. W. VAN AUKEN
 TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
       (WATER COLUMN)
WAT-
 #AT-ATP(ADENDSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
                                           UT-AUSTIN
 WAT-C13(DELTA C13)
 WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                              PJS-PAUL J. SZANISZLO
 WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
                                           U.S.G.S.-CORPUS CHRISTI
 WAT-DO (DISSOLVED OXYGEN)
 WAT-FLU(FLUORESCENCE)
                                              HB-HENRY BERRYHILL
 WAT-HC (WATER MYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICROZOOPLANKTON)
                                           RICE-RICE UNIVERSITY
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                           RU-RICE UNIVERSITY
wAT-NUT(NUTRIENTS)
                                              REC-RICHARD E. CASEY
 #AT=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 (ZOUPLANKTON TRACE METALS)
STUDY AREA KEY
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 01 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED OXYGEN, NUTRIENTS
 84 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 80 INVERTEBRATE EPIFAUNA AND INFAUNA
 07 BENTHIC FISH
US HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE,
          DISSOLVED, ZOOPLANKTON
 89 CHLOROPHYLL A
 10 ADENOSINE TRI-PHOSPHATE
 11 PHYTOPLANKTON
 12 FLUORESCENCE
 13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
 16 CARBON 14
 19 SEDIMENT TEXTURE, BACTERIDLOGY, 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
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A-30
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40 BENTHIC MICROBIOLOGY 41 WATER COLUMN MICROBIOLOGY 42 BENTHIC MYCOLOGY 43 WATER COLUMN MYCOLOGY

BLM STUCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	ι	ORAN		LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	M+	18	59
	2	2440	3950		961.49	275.71	27	55	N#	96	20	W.R.	42	138
	3	2300	3863		799.45	466.07	27	34	N#	96	87	H S	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	WR	82	269
	6	2330	3892		819.72	412.96	27	39	N#	96	12	W#	100	328
2	1	2978	3962		373.62	192.04	27	48	N#	96	59	H×	22	72
	2	2050	3918		454.46	382.00	27	30	N#	96	45	W×	49	161
	3	2849	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	11 m	36	112
	5	2032	3992		498.85	487.62	27	24	N#	- 96	-36	送井	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	999.98	26	58	N×	97	11	调大	25	82
	2	1683	3841		286.38	855.91	26	58	N#	96	48	10 m	65	213
	3	1775	3812		391.06	829.02	56	58	N*	96	33	授会	106	348
	4	1552	3885		95.64	928.13	59	58	N#	97	20	對會	15	49
	5	1623	3867		192.19	888.96	26	58	N#	97	02	W #	40	131
	6	1790	3808		411.48	824.57	26	58	N#	96	30	¥*	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	N×.	47	154
	3	1425	3663		333.77	1241.34	26	10	N#	96	24	**	91	298
	4	1073	3763		163.42	1456.90	- 26	10	N#	97	88	10 m	15	49
	5	1170	3738		213.13	1387.45	26	10	N#	96	54	**	37	121
	6	1355	3685		304.76	1272.48	26	1 Ø	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	85N##	96	28	19***	75	246
(9)	2	2169	3902		644.54	416.95	27	32	46N**	96	27	25##*	72	237
	3	2163	3900		641.60	425.10	27	32	85N**	96	27	35#**	81	266
	4	2165	3905		638.40	411.18	27	33	02N**	96	29	83***	76	250
(SB)	1	2086	3889		563.00	468.28	27	26	49N±±	96	31	18***	81	266
(8)	2	2081	3889		560.95	475.80	27	59	14N**	96	31	82***	82	269
	3	2074	3890		552.92	475.15	27	26	86N**	96	31	47w++	82	269
	4	2078	3890		551.12	472.73	27	26	14N**	96	32	07w**	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					

** MEANS DEGREES MINUTES SECONDS

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CARD TYPE 2 FOR FILES 16 AND 17 (1975 AND 1976 DATA) START COLUMN FIELD TYPE FIELD CONTENT/DESCRIPTION 1 16 005210

	7	I1	CARD TYPE (ALWAYS 2)
	8	3 X	BLANK
	11	A 4	SAMPLE CODE*
	15	2 X	BLANK
	17	15	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	14	NUMBER OF INDIVIDUALS IN SAMPLE
	45	A4	ORGAN CODE
			W = WHOLE
			W-P = WHOLE LESS PEN
			W-H-O = WHOLE LESS HEAD AND ORGANS
			N-H = NHOLE LESS HEAD
			WOT = WHOLE LESS TAIL
			M = MUSCLE
			L = LIVER
			G = GILL
			GD = GONAD
	49	3410	SPECIES NAME
LARD ITPE 2 FUR	FILE 18 (1977	DATA)	
	1	10	002510
	/	11	CARD TYPE (ALWAYS 2)
	8	5X	BLANK
	11	A4	SAMPLE CODE*
	15	11	STATION
	10	11	IRANSECI
	17	12	TEAR .
	19	58	BLANK
	24	F5	N-ALKANES, PRISTANE, AND PHYTANE (PPM OF DRY WEIGHT)
	29	F7	N-ALKANES (PPH OF DRY WEIGHT)
	36	F6	DRY WEIGHT OF SAMPLE (GRAMS)
	42	14	NUMBER OF INDIVIDUALS IN SAMPLE
	46	▲4	DRGAN CODE
	•		W = WHOLE
			N-P # WHOLE LESS PEN
			N-H-O = WHOLE LESS HEAD AND ORGANS
			N-H = NHOLE LESS HEAD
			W-T = WHOLE LESS TAIL
			M = MUSCLE
			L = LIVER
			G = GILL
	• -		GD = GONAD
	50	3A10	SPECIES NAME
CARD TYPE 7		• /	67534 G
CARD ITPE 3	1	10	
	/	11	CARD TTPE (ALWATS 3)
		58	BLANK
	11	A4	SAMPLE CUDE#
	15	11	STATION (BLANK FOR 1975 AND 1976)
	10	11	TRANSECT (BLANK FOR 1975 AND 1976)
	17	12	YEAR
	19	11	PERIOD CODE (BLANK FOR 1975)
			1 = WINTER
			2 = MARCH
			3 = APRIL
			4 = SPRING
			5 # JULY
			6 = AUGUST
			7 = FALL

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FORMAT FUR CODED SPECIES LIST (FILE 19)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	12	SPECIES IDENTIFICATION CODE
2	3410	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
 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.

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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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9 = DECEMBER 20 11 FRACTION 1 = HEXANE 21 14 RETENTION INDEX 225 F11 RELATIVE PERCENT OF N-ALKANES** CARD TYPE 4 16 005210 1 7 11 CARD TYPE (ALWAYS 4) 8 3X BLANK A4 SAMPLE CODE* 11 11 STATION (BLANK FOR 1975 AND 1976) 15 TRANSECT (BLANK FOR 1975 AND 1976) 16 11 17 12 YEAR 19 F5 CARBON PREFERENCE INDEX C14 TO C20 RANGE CARBON PREFERENCE INDEX C20 TO C32 RANGE 24 F5 29 Fo PRISTANE (PPM) PHYTANE (PPM) 35 F6 F5 WET WEIGHT OF SAMPLE (GRAMS) (FOR 1975 DATA) 41 46 F3 DRY WEIGHT OF SAMPLE (GRAMS) (FOR 1975 DATA) 49 SPECIES IDENTIFICATION CODE*** 12

8 # NOVEMBER

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COLUMNS FIELD TYPE DESCRIPTION 11 ALWAYS & (ZERO) 1 2-3 12 STUDY AREA (SEE STUDY AREA KEY) 4-0 13 ALWAYS 210 FOR MASTER FILES 7 11 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 11 9-10 2X BLANK SAMPLE CDDE (FINAL CODE ASSIGNED) 11-14 **A**4 15 MONTH 15-16 17-18 12 DAY 19-20 YEAR 12 21-24 14 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME) 25 BLANK 1 X SAMPLE COLLECTION AREA 11 26 1= TRANSECT 1 . 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA BE SOUTHERN BANK 9= HOSPITAL ROCK 27 1 X BLANK 28 11 STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS) 29 DEDAY; NENIGHT A 1 TYPE OF SAMPLE(SEE KEY TO CODES) 30-32 A3 33-36 **A**4 SAMPLE DISPOSITION (SEE KEY TO CODES) A3 SAMPLE USE (SEE KEY TO CODES) 37-39 PRINCIPLE INVESTIGATOR (SEE KEY CODES) REPLICATE CODE 40-42 A3 43 11 **9= NOT A REPLICATE SAMPLE** 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ĒTC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE Ø FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES FILTERED CODE 11 44 B= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 22 SAMPLE IS A NON-FILTERED SAMPLE 45 RELATIVE DEPTH CODE 11 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE B= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED

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

DATA FORMAT

		NOTE: RE Inconsis Been Cod Depth Is Be given From The	ATIVE DEPTH CODE HAS BEEN IENTLY USED; IN MOST CASES IT HAS NOT ED ON THE INVENTORY LINE; IF RELATIVE MISSING FROM THE INVENTORY LINE, IT MAY ON THE DATA LINES OR CAN BE DETERMINED
46	I1	DISSOLVED PARTI	CODE CODES UNKNOWN; MAY NOT HAVE
47	11	POOLED CODE Ø= Not A 1= A Pool	POOLED SAMPLE LED SAMPLE LED SAMPLE
48	11	LIVE CODE CO	DES UNKNOWN; MAY NOT HAVE BEEN USED;
49	11	ARCHIVE CODE DE NOT AN	ARCHIVE SAMPLE
50	11	QUALITY CONTROL BE NOT A	CODE QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE BLANK OR	0 = BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER	BLM LUNIKALIED SAMPLE
54-56	13	SAMPLE DEPTH IN	METERS:
		NOTE: 999 MEAU 991 MEAU 992 MEAU 993 MEAU	IS NOT APPLICABLE IS VERTICAL TOW FROM SURFACE TO 25 METERS IS VERTICAL TOW FROM 25 TO 50 METERS IS VERTICAL TOW FROM 25 METERS TO BOTTOM
57-60	A 4	PARENT SAMPLE CO NOTE: FOR THIS FIEL	DE FOR SUBSAMPLES 2 A SAMPLE WHICH IS NOT A SUBSAMPLE 2 WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK	
62 - 69	A8	PREVIOUS SAMPLE 1976, 197 NOTE: MOS VARIETY THIS FIEL E.G.= A) AAAA- OF SJ B) AAZY	CODE ALLOWS REFERENCE TO 1975, '7 FINAL REPORTS TO BLM IT CODES WILL BE THE STANDARD 4 CHARACTER IN COLS. 62-65); THE ADDITIDNAL COLS. IN .D ARE FOR POOLED SAMPLES, C INDICATES A POOLED SAMPLE MADE UP MMPLES AAAA,AAAB,AAAC BAA INDICATES A POOLED SAMPLE MADE
KEY TO COD	ES 		Sanrill antifactiedan
SAMPLE TY	PF==SAMPI		DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(S	EDIMENT E	ACTERIOLOGY)	CTA ACTION WALLSTREEP THAT ALTON
CHG-HC (S	EDIMENT H	YDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST(C	HEMISTRY	GRAB)	LHP-LINDA H, PEQUEGNAT
CHG-IM (S	EDIMENI 1 Ediment 1	(MACE METALS)	CSG-C,S. GIAM TRA-5 TAIOOO BARK
CHL IT	CTAL CHIM	EAIUREJ 1808HYIL -19751	IST-L. IAISUU YAKK
CHT-HC LE	PIFAUNA H	YDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST (E	PIFAUNA C	HEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (E	PIFAUNA T	RACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(E	PIFAUNA D	EMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (E	PIFAUNA H	YDROCARBONS)	WEH-WILLIAM E. HAENSLY
EDT-HOT/E		1010041400 0043	

BJP-8.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-HPI(EPIFAUNA HISTOPATHOLOGY) . .-

EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY EPI-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF EPI-MST(EPIFAUNA MASTER) JRS-JOHN R. SCHWARZ 1CH-(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 LMM-HC (LDW-MOLECULAR-WEIGHT HYDROCARBONS) MNK-TM (MACRONEKTON TRACE METALS) JSH-J. SELMON HOLLAND MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIOFAUNA) DEW-DONALD E. WOHLSCHLAG MMS-MST(MEIDFAUNA 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 WVA-D. W. VAN AUKEN VI -MPL(MICROZOOPLANKTON-VERTICAL TOW) (WATER COLUMN) mAT-**WAT-ATP(ADENOSINE TRI-PHOSPHATE)** WAT-BAC(WATER COLUMN BACTERIOLOGY) #AT-CI3(DELTA CI3) UT-AUSTIN #AT-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 NAT-HC (WATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZDOPLANKTON) WAT-MYC(WATER COLUMN MYCOLOGY) RICE-RICE UNIVERSITY **NAT-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-TH (ZOOPLANKTON TRACE METALS) ZPL-HC (ZOOPLANKTON HYDROCARBONS) ZPL-TAX(ZOOPLANKTON TAXONOMY) ZPL+TM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY 01 SALINITY AND TEMPERATURE, CURRENTS **W3 DISSOLVED OXYGEN, NUTRIENTS** 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS #5 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

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10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIOFAUNA
14 NEUSTON
15 TRACE METALS
15 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

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TRAN.	STA.	L	RAN	. LC	RAC	LA	TITUDE	LO	NGI	TUDE	DEP	TH
		3Н3	3H2	LG	LR					ME	TERS	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	2360	3863	799.45	466.07	27	34 N*	96	07	**	134	439
	4	2583	4015	1206.53	157.92	28	14 N#	96	29	W#	10	33
	5	2360	3910	861.09	369.98	27	44 N#	96	14	**	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	48 N#	96	59	#*	22	72
	2	2050	3918	454.46	382.00	27	30 N#	96	45	道士	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	则士	36	112
	5	2032	3992	498.85	487.62	27	24 N#	96	36	避由	78	256
	6	2008	3878	560.54	506.34	27	24 N#	96	29	W#	98	322
	7	2045	3835			27	15 N*	96	18	. 5 #≭	182	688
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	59	58 N*	96	33	W 🛪	106	348
	4	1552	3885	95.64	928.13	26	58 N*	97	20	WA	15	49
	5	1623	3867	192.19	888.96	26	58 N*	97	82	资本	40	131
	6	1790	3808	411.48	824.57	26	58 N*	96	30	**	125	410
4	1	1130	3747	187,50	1423.50	26	18 N#	97	01	W=	27	88
	2	1368	3700	271.99	1310.61	26	10 N#	96	39	開会	47	154
	3	1425	3663	333.77	1241.34	26	18 N*	96	24	送 本	91	298
	4	1073	3763	163.42	1456.90	26	10 N×	97	68	將士	15	49
	5	1170	3738	213.13	1387.45	26	18 N#	96	54	W#	37	121
	6	1355	3685	304.70	1272.48	26	10 N*	96	31	教育	65	213
	7	1448	3659	350.37	1224.51	59	10 N*	96	20	新 本	130	426
(HR)	1	2159	3900	635.06	422.83	27	32 Ø5N**	96	85	19**	75	246
(9)	2	2169	3982	644.54	416.95	27	32 46N**	96	27	25₩×*	72	237
	3	2163	3960	641.60	425.10	27	32 05N**	96	27	35W**	81	266
	4	2165	3905	638.40	411.18	27	33 65N**	96	29	03#**	76	250

475.80 27 26 14N** 475.15 27 26 86N** 96 31 82*** 82 96 31 47*** 82 (8) 2 2081 3889 568.95 269 552.92 3 2074 3890 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 16 006210 CARD TYPE (ALWAYS 2) 7 11 8 11 SUB-STUDY AREA SAMPLE TYPE 1 = EPIFAUNA 2 = INFAUNA9 2 X BLANK 11 SAMPLE CODE* A4 15 18 SPECIES IDENTIFICATION CODE** NUMBER OF INDIVIDUALS/SAMPLE 23 15 NUMBER OF MALES/SAMPLE*** 28 13 NUMBER OF FEMALES/SAMPLE*** 31 13 NUMBER OF THOSE FEMALES WHICH ARE OVIGEROUS** 34 13 37 1 X BLANK 38 4A10 SPECIES NAME

468.28 27 26 49N** 96 31 18W** 81

266

FURMAT FOR CODED SPECIES LIST (FILE 27) -----

.

3889

563.00

2086

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	12	PHYLUM CODE
3	12	CLASS, ORDER, SUBORDER, OR DESCRIPTIVE
		TAXONOMIC CODE (USUALLY CLASS)
5	12	FAMILY CODE
7	12	SPECIES OR LOWEST DESCRIPTIVE TAXON CODE
9	SX	BLANK
11	4A10	SPECIES NAME OR LOWEST DESCRIPTIVE TAXON,
		IN PHYLOGENETIC ORDER

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COMMENTS

(SB)

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* 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 FUR 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.

A-40

BLM SOUTH TEXAS DUTER 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. YDSHIYAMA JAMES F. COLE ELIZABETH F. VETTER MARK DOBBS EDGAR FINDLEY

DIRECTORY FOR STUDY AREA

FILE 28: METHODS, DATA FORMAT AND COMMENTS FILE 29: 1975 DATA FILE 30: 1976 DATA FILE 31: 1977 DATA FILE 32: CODED SPECIES LIST

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---

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CULUMNS	FIELD TYPE	DESCRIPTION
1	II	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	11	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	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	15	YEAR

21-24	I 4	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	11	SAMPLE COLLECTION AREA 1 = TRANSECT 1 2 = TRANSECT 2 3 = TRANSECT 3 4 = TRANSECT 4 7 = RIG MONITORING AREA 8 = SUUTHERN BANK
		9= HOSPITAL ROCK
27	1 X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION Locations)
29	A1	DEDAY; NENIGHT
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
		Ø= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		28 SAMPLE IS A NON-FILTERED SAMPLE
45	I 1	RELATIVE DEPTH CODE
		ØE 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
		95 VERTICAL TOW: ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CODE HAS BEEN
		INCONSISTENTLY USED: IN MOST CASES IT HAS NOT
		REEN 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	11	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE AFEN USED: APPEARS TO ALWAYS BE Ø (ZERD)
47	Ii	POOLED CODE
		DE NOT A PODLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	11	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED;
		APPEARS TO ALWAYS BE Ø (ZERO)
49	I1	ARCHIVE CODE
		B= NOT AN ARCHIVE SAMPLE
		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE
		Ø= NOT A QUALITY CONTROL SAMPLE
		1= A QUALITY CONTROL SAMPLE .

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51 11 CONTRACTED CUDE BLANK OR BE BLM CONTRACTED SAMPLE 15 NOT A BLM CONTRACTED SAMPLE 52-53 15 CRUISE NUMBER 54-56 SAMPLE DEPTH IN METERS: 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-60 ▲4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 1 X BLANK 61 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM 62-69 **A**8 NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN THIS FIELD ARE FOR PODLED 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 CSG-C.S. GIAM CHG-TM (SEDIMENT TRACE METALS) CHG-TEX(SEDIMENT TEXTURE) TSP-E. TAISOD PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TM (EPIFAUNA TRACE METALS) EPI-FSH(EPIFAUNA DEMERSAL FISH) RR-RICHARD REZAK EPI-HC (EPIFAUNA HYDROCARBONS) WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY EP1-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ EPI-MST(EPIFAUNA MASTER) 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 CVB-CHASE VAN BAALEN LGT-PZ (PHOTOMETRY) 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(MEIDFAUNA) 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(MICROZOUPLANKTON-VERTICAL TOW)
                                              WVA-O. W. VAN AUKEN
       (WATER COLUMN)
nAT-
 #AT-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(PRUTOZDA)
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
-----
B1 SALINITY AND TEMPERATURE, CURRENTS
03 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
W5 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
36 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 TUTAL 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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HLM STOCS MONITORING STUDY STATION LOCATIONS

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TRAN.	STA.	I	DRAN	LC	DRAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн
		343	3H2	LG	LR						ME	TERS	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	Wat	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	₩ ★	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	2978	3962	373.62	192.04	27	48	N±	96	59	W±	22	72
	2	2050	3918	454.46	382.00	27	30	N×	96	45	i i i i i i i i i i i i i i i i i i i	49	161
	3	2040	3850	564.67	585.52	27	1.8	N#	96	22		131	430
	4	2058	3936	431.26	310.30	27	34	N#	96	50	***	36	112
	5	2032	3992	498.85	487.62	27	24	N#	96	36	Nt	78	256
	6	2968	3878	560.54	506.34	27	24	N×	96	29		9A	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	₩×	25	82
	-2	1683	3841	286.38	855.91	26	58	N#	96	48	W±	65	213
	3	1775	3812	391.00	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	1-8	N#	96	-39	Wt	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	NĦ	97	68	開き	15	49
	5	1170	3738	213.13	1387.45	26	10	N±	96	54	進大	37	121
	6	1355	3685	304.76	1272.48	59	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	19₩ * *	75	246
(9)	2	2169	3902	644.54	416.95	- 27	32	46N**	96	27	25#**	72	237
	3	2163	3900	641.68	425.10	27	32	05N**	96	27	35#**	81	592
	4	2165	3905	638.40	411.18	27	33	02N**	96	29	03₩**	76	250
(S8)	1	2086	3889	563.00	468.28	27	26	49N**	96	31	18###	81	266
(8)	2	2081	3889	560.95	475.80	27	26	14N**	96	31	82W**	82	269
	3	2074	3890	552.92	475.15	27	26	00N**	96	31	47w**	82	269
	4	2078	3899	551.12	472.73	27	26	14N**	96	32	07w**	82	269
			NOTES	-									

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

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	007210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	A 4	SAMPLE CODE*
			15	13	SPECIES CODE**
			18	16	ABUNDANCE (NUMBER OF INDIVIDUALS/TRAWL SAMPLE
			24	F8	WEIGHT (GRAMS)
			32	A10,A7	FAMILY NAME

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3A10 GENUS-SPECIES NAME

FORMAT FOR CODED SPECIES LIST (FILE 32)

49

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	14	CODE (CONSECUTIVE ORDER)
5	14X	BLANK
19	A10,A7	FAMILY NAME
36	3410	GENUS AND SPECIES NAME
19 36	A10,A7 3A10	FAMILY NAME GENUS AND SPECIES NAME

CUMMENTS

* 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

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A-46

BLM SOUTH TEXAS DUTER CONTINENTAL SHELF STUDY (1975-1977) HIGH MOLECULAR WEIGHT HYDROCARBONS (HC) DATA TYPE: 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 eesseesee ass sèsas waan FILE 33: METHODS, DATA FORMAT AND COMMENTS FILE 34: 1975 DATA FILE 35: 1976 DATA FILE 36: 1977 DATA · • METHODS ----PLANKTON: 1-M NET (256 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 #ITH 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, 39208, AND A VARIAN MODEL 3700, Electronic integration of Peaks done on mewlett-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 BLI DATA FORMAT FOR FILE 34 (1975 DATA) ------

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

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4=6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
Å	TI	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-14	27	RIANK
11-14		SAMPLE CODE (ETNAL CODE ASSIGNED)
11-14	 5 7	MANTE EDDE (FINE COSE HOSTONED)
13-10	15	
1/=10	12	
19-20	14	YEAR
21-24	14	OR CENTRAL STANDARD TIME)
25	1X	BLANK
26	I1	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		75 RIG MONITORING AREA
		AT SULTHERN BANK
27	1 Y	ALANK
20	11	STATION (SEE DIM STOCE MONITOPING STUDY STATION
20	••	LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	<u>A</u> 4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	Ti	REPLICATE CODE
~•	••	AS NOT A REPLICATE SAMPLE
		1= 1ST DEDLTCATE SAMPLE
		De DAN GEDITETTE SAMDIF
		LIGA Notes beritaite code has not been
		NUTES REFLICATE CODE HAS NOT DEEN
		LUNSISIENILT USED; REFEICATE LUDE MAT DE D'FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	I1	FILTERED CODE
		BE NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE
		BE NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZUNE
		4# PHOTIC ZONE TO BOTTOM
		5ª BOTTOM
		RE ACTUAL DEPTH IN METERS CTUEN IN COLS. 54-54
		GA VEDITAL TANA ALL DEDING GITTA IN COLSS J4-30
		74 VERIILAL IUN; ALL DEFING GAMPLED

A-47

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		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 OF CAN BE DETERMINED
		EQUITER OF THE PART FIRED OF CAR DE DETERMINED
	• .	FRUM THE STUDY AREA
40	11	DISSULVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
		BEEN USED; APPEARS TO ALWAYS BE Ø (ZERO)
47	I1	POGLED CODE
		85 NOT & POOLED SAMPLE
		NOTES MAY NOT MALE AFEN MORE
	• •	NUTE: MAT NUT HAVE BEEN USED
40	11	LIVE CUDE CUDES UNKNOWN; MAY NOT HAVE BEEN USED;
		APPEARS TO ALWAYS BE Ø (ZERO)
49	I1	ARCHIVE CODE
		8# NGT AN ARCHIVE SAMPLE
		1 . AN ARCHTVE SAMPLE
5 13	11	
50	**	
		DE NUI A WUALITT CUNTRUL SAMPLE
• •		1= A QUALITY CONTROL SAMPLE
51	11	CONTRACTED CODE
		BLANK OR Ø= BLM CONTRACTED SAMPLE
		1= NUT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54=56	13	SAMPLE DEPTH IN METERS.
	••	NOTE - OOD MEANS NOT APPLITABLE
		AND MEANS VERTICAL TOW EDOM ANDEASE TO BE METERS
		THE MEANS VERILLE IN FROM SURFACE IN 25 METERS
		442 MEANS VERTICAL TON 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	1 X ·	RI ANK
62-69	48	PREVIOUS SAMPLE FORE - ALLOWS REEPENCE TO 1975
VE-07	~~	TREFICE OFFICE OFFICE TO 1773,
		1970, 1977 FINAL REPURIS 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 RANDIES AAAA AAAB AAAF
		A ATTACATES A DOGLED SAME SHARE
	,	b) AAZI-DAA INDICALES A FULLED SAMPLE MADE
		UP UP SAMPLES AAZY,AAZZ,ABAA
KEY TO C	CODES	

SAMPLE TYPE--SAMPLE USAGE BAG-BAC(SEDIMENT BACTERIOLOGY) CHG-HC (SEDIMENT HYDROCARBONS) CHG-TM (SEDIMENT TRACE METALS) CHG-TM (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

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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

NOTE: RELATIVE DEPTH CODE HAS BEEN

WH-WILLIAM E. HAENSLY EPI-HPT(EPIFAUNA HISTOPATHOLOGY) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH EPI+INV(EPIFAUNA INVERTEBRATES) EPI-MST(EPIFAUNA MASTER) ICH-(ICHTHYOPLANKTON) UT-PORT ARANSAS MARINE LAB. INF-MST(INFAUNA MASTER) PLP-PATRICK L. PARKER INF-SED(INFAUNA SEDIMENT) NPS-NED P. SMITH INF-TAX(INFAUNA TAXDNOMY) CVB-CHASE VAN BAALEN LGT-PZ (PHOTOMETRY) LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG MMS-MEI(MEIOFAUNA) DK-DAN L. KAMYKOWSKI MMS-MST(MEIDFAUNA MASTER GRAB) PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON EWB-E. W. BEHRENS SED-(SEDIMENT) SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TH (SEDIMENT TRACE METALS) SDG-DEP(SEDIMENT DEPOSITION) STD-ST (SALINITY-TEMPERATURE-DEPTH) UTSA-UNIV. OF TEXAS AT SAN ANTONIO TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY TRM-TUR(TRANSMISSOMETRY-TURBIDITY) SAR-SAMUEL A. RAMIREZ WVA-D. N. VAN AUKEN VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) (WATER COLUMN) WAT-WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) WAT-CI3(DELTA C13) UT-AUSTIN PJS-PAUL J. SZANISZLO WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77) U.S.G.S.-CORPUS CHRISTI WAT-DO (DISSOLVED OXYGEN) HB-HENRY BERRYHILL WAT-FLU(FLUORESCENCE) WAT-HC (WATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZOOPLANKTON) RICE-RICE UNIVERSITY WAT-MYC(WATER COLUMN MYCOLOGY) WAT-NUT(NUTRIENTS) RU-RICE UNIVERSITY REC-RICHARD E. CASEY WAT-N14(CARBON14 NANNOPLANKTON) WAT-PHY(PHYTOPLANKTON) **mAT-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-TH (ZODPLANKTON TRACE METALS) STUDY AREA KEY ---- ---- ---**BI SALINITY AND TEMPERATURE, CURRENTS** W3 DISSOLVED OXYGEN, NUTRIENTS 84 LOW-MOLECULAR-WEIGHT HYDROCARBONS #5 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES 00 INVERTEBRATE EPIFAUNA AND INFAUNA 07 BENTHIC FISH 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE, DISSOLVED, ZOOPLANKTON 09 CHLOROPHYLL A

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10 ADENOSINE TRI-PHOSPHATE 11 PHYTOPLANKTON 12 FLUORESCENCE 13 MEIOFAUNA 14 NEUSTON 15 TRACE METALS 16 CARBON 14 19 SEDIMENT TEXTURE, BACTERIOLDGY, MYCOLOGY IN SEDIMENT 23 MICROZOOPLANKTON (PROTOZOA) 24 ZDOPLANKTON 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.	LO	RAN	LO	RAC	L	ATI.	TUDE	LO	NGI	TUDE	DEP	TH
		3H3	3H2	LG	LR						ME	TERS	FEET
1	1	2575	4003	1180.07	171.46	28	12	Nŧ	96	27	W×	18	59
	2	2440	3950	961.49	275.71	27	55	N#	96	20	资本	42	138
	3	2300	3863	799.45	466.07	27	34	N#	96	07	授業	134	439
	4	2583	4015	1286.53	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	**	199	328
2	1	2078	3962	373.62	192.84	27	40	N×	96	59	*	22	72
	2	2050	3918	454.46	382.00	27	30	N#	96	45	推击 二	49	161
	3	2040	3850	564.67	585.52	27	18	N#	96	23	將主	131	430
	4	2058	3936	431.26	310.30	27	34	N#	96	50	授士	36	112
	5 -	2032	3992	498.85	487.62	27	24	N#	96	36	(1) 本	78	256
	6	2968	3878	560.54	506.34	27	24	N#	96	29	尚余	98	322
	7	2045	3835			27	15	N#	96	18	•2 M*	182	699
3	1	1585	3880	139.13	989.98	26	58	N×	97	11	W#	25	82
	2	1683	3841	286.38	855.91	26	58	N#	96	48	省市	65	213
	3	1775	3812	391,06	829.02	26	58	N×	96	33	W×	106	348
	4	1552	3885	95.64	928.13	59	58	N×	97	20	新 井	15	49
	5	1623	3867	192.19	888.06	59	58	N#	97	65	WR	40	131
	6	1790	3808	411.48	824.57	26	58	N#	96	30	拼言	125	410
4	1	1130	3747	187.50	1423.50	26	10	N#	97	01	¥+	27	88
	2	1300	3700	271.99	1310.61	59	10	N#	96	39	N A	47	154
	3	1425	3603	333.77	1241.34	56	10	N×	96	24	# *	91	298
	4	1073	3763	163.42	1456.90	26	10	N#	97	68	资产	15	49
	5	1170	3738	213.13	1387.45	26	10	N#	96	54	h #	37	121
	6	1355	3685	304.76	1272.48	26	10	N#	96	31	資金	65	213
	1	1448	3659	350.37	1224.51	26	10	N×	96	20	**	130	426
(HR)	i	2159	3900	635.06	422.83	27	32	85N**	96	28	19W**	75	246
(9)	2	2169	3902	644.54	416.95	27	32	46N**	96	27	25#**	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	82N**	96	29	03***	76	250

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(SB) (8))	1 2 3	2086 2081 2074 2078	3889 3689 3890 3890	56 56 55	3.00 0.95 12.92	468.2 475.8 475.1 472.7	B 27 D 27 5 27 3 27	26 26 26 26	49N±± 14N±± 86N±± 14N±±	96 96 96 96	31 31 31 32	180** 02*** 47*** 07**	81 82 82 82	266 269 269 269	
				NUTE:	* **	MEANS MEANS	DEGREE DEGREE	S AND S MIN	MII UTE	NUTES 5 Secoi	NDS					
CARD	TYPE	2	FOR SU START 1	B-STUDY Column	AREAS FIELD I	1, 2,) TYPE	AND 5 FIELD 00821	(SED Cont B	IMEI ENT	NT, ZDI /DESCR	OPLA IPTI	NK TI DN	ON, NEL	USTON)	
			7 8		1	1	CARD SUB-S 1 = 2 = 5 =	TYPE TUDY SEDI ZOOP NEUS	(ALI ARE/ MEN' LANI TON	NAYS 2. A Sampi T Kton) LE T'	YPE				
			9		2	2X	BLANK									
			11		-	4	SAMPL	E COD	E*							
			15		2	2X	BLANK									
			17		1	12	YEAR									
			19		ć	X	BLANK									
			25		F	12	DRY W (Ø.	EIGHT Ø IND	OF ICA	TES UN	E (G MEAS	URE	D VALUI	E)		
CARD	TYPE	2	FOR SU	B-STUDY	AREAS	S 3 AND	4 (PA	RTICU	LAT	E AND	DISS	OLV	ED HYDI	ROCAR	BONS)	
•		-	1		1	16	00821	0								
			7		1	[1	CARD	TYPE	(AL	WAYS 2)					
			8		1	[1	SUB-S	TUDY	ARE	A SAMP	LE T	YPE				
			_				3. ±	PART DISS	ICU	LATE H Ed hyd	YDRO Roca	CAR R50	BONS II NS IN (N WAT Nater	ER	
			9		4	2X	BLANK		- .							
			11			14	SAMPL		E #							
			15		4	1X	BLANK	N-DA	DAC	ETNO /	C15-	~ 7 B	1 001			DUVTANE
			19		1	· >	IUIAL (MI	CROGR	AMS	LITER	L13-) NDFX	-30 	5-C20 1	PANGE	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	PRIMA
			24			5		N PRF	FFR	ENCE I	NDEX	Č2	5=C38	RANGE		
			27		r	5	CANDO									
CARD	TYPE	3	1		1	[6	00821	0								
			7]	[1	CARD	TYPE	(AL	WAYS 3)					
			8]	[]	SUB-S 1 = 2 = 3 = 4 =	TUDY HYDR HYDR PART DISS	ARE OCA ICU	A SAMP RBONS RBONS LATE H ED HYD	LE I IN S IN Z YDRO ROCA	EDI DOP CAR RBO	MENTS LANKTO BONS II NS IN	N N WAT WATER	ER	
			-				5 8	HTUR	ULA	RBUNS	TU N	EUJ	IUN			
			9	1	ē	2.4	BLANK	5 600	C.							
			11			14 F	SAMPL									
			15			5X	- DLANN EDACT	104 0	Fe							
			29	•		••	1 = 2 = (19	HEXA BENZ	NE ENE TA	ARE AL	L HE	XAN	E FRAC	TIONS)	
			21		1	14	RETEN	TION	IND	LX OF	PEAK					
			25	i	f	712	CONCE For (Su	NTRAT ZOOP B-STU	ION LAN IDY	IN MI KTON A Areas	CROG ND N 2 An	RAM EUS D 5	S/GRAM TON)			
							PERCE PRIST WATER	NT CO ANE, SAMP	AND LES	NTHATI PHYTA	UN O NE FI	F N DR I	-PARAFI Particu	PINS JLATE	AND D	ISSOLVED
				-							•	··· .		-		

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	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 (NICROGRAMS/GRAM)
DATA FORMAT	FOR HYDROCARBO	ONS IN FILES	35 AND 36 (1976-1977 DATA)
**** ******			
CARD TYPE 1	STANDARD IN	VENTORY CARD	
	SAME AS CARD	TYPE 1 FOR F	ILE 34.
	START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	16	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	. 12	YEAR
	19	A 1	PERTOD CODE
·	• '	~•	1 S WINTER
			2 = MARCH
•			Z = APRTI
			7 - FALL 9 - NOVEMOED
			0 - NOVEMBER 0 - NECEMBER
	24	510	7 - DECEMBER Nev Weicht (c)
	10	F10	
	310 It (2	F 10	MEL METOUL (0)
	40	F 0	IVIAL NUN-SAFUNIFIADLE WEIGHT (G)
	40	70 70	HEXANE HEIGHI (G)
	20	70	BENZENE WEIGHI (G)
	04	P 0	METHANUL WEIGHT (G)
	12	70	IUTAL LIPID NEIGHT (G)
CARD TYDE 7		T /	a/431.4
CARD ITPE 3	1	10	000210
	1	11	CAND TTPE (ALWATS 5)
	ð	11	SUB-STUDT AREA SAMPLE TYPE
			1 = HYDROCARBUNS IN SEDIMENTS
			2 = HTUROCARBUNS IN ZOUPLANKTON
			5 = PARTICULATE HYDROCARBONS IN WATER
	-		4 = DISSOLVED MYDROCARBONS IN WATER
	9	ZX	BLANK
	11	A 4	SAMPLE CODE*
	15	2X	BLANK

		3 = PARTICULATE HYDROCARBONS IN WATER
		4 = DISSOLVED HYDROCARBONS IN WATER
		5 = HYDROCARBONS IN NEUSTON
9	12	BLANK
11	▲4	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)

				(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 TYP	E 4	1	16	008210
		7	I1	CARD TYPE (ALMAYS 4)
		8	11	SUB-SIUUT AKEA SAMPLE ITPE 1 = Hydpocabarns in sediment
				2 = HYDROCARBONS IN ZOOPLANKTON
				3 = PARTICULATE HYDROCARBONS IN WATER
				4 = DISSOLVED HYDROCARBONS IN WATER
		•		5 = HYDROCARBONS IN NEUSTON
		11	12	SAMPLE CODE+
		15	Å2	YEAR
		17	F12	OTHER PEAKS (MICROGRAMS/LITER)
		29	F12	PRISTANE/PHYTANE RATIO
		41	F12	PRISTANE/N-C17 RATIO
		53 65	F12 F12	N-L1//N-L10 KAILU Satupates/Non-Ratupates patto
		05	1.2	ORIGNALED NON-DAIONALED NAIIO
CARD TYPE	E 5	1	16	068210
		7	11	CARD TYPE (ALWAYS 5)
		8	11	SUB-STUDY AREA SAMPLE TYPE
				2 = HYDROCARBONS IN SEDIMENTS 2 = HYDROCARBONS IN 700PLANKTON
			•	3 = PARTICULATE HYDROCARBONS IN WATER
				4 = DISSOLVED HYDROCARBONS IN WATER
		-		5 = HYDROCARBONS IN NEUSTON
-		11		BLANK SAMPI F. CODF+
		15	2x	BLANK
		17	F12	SATURATES (PERCENT DRY WEIGHT)
		29	F12	NON-SATURATES (PERCENT DRY WEIGHT)
		41	F12	TOTAL NON-SAPONIFIABLE HYDROCARBONS
		52	F12	(PERLEN: DRT HEIGHI) Phytantene (Htchncpans/CPAN)
		65	F12	C15:1 (MICROGRAMS/GRAM)
CARD TYPE	E 6	1	16	008210
		/		CARD TYPE (ALMATS 6) RID-RTHON ADEA RAMDIE TYPE
		0	**	1 = HYDROCARBONS IN SEDIMENTS
				2 # HYDROCARBONS IN ZOOPLANKTON
				3 = PARTICULATE HYDROCARBONS IN WATER
				4 = DISSOLVED HYDROCARBONS IN WATER
		٩	12	5 I HTURUCARBUNS IN NEUSTUN BLAMF
		11	16	SAMPLE CODE*
		15	2X	BLANK
		17	F12	C19:1 (MICROGRAMS/GRAM)
		29	F12	CHOLESTANE DERIVATIVE (MICROGRAMS/GRAM)
		41	F12 E12	MAJJ JYEL KALLU M/E Z J/U (MIERUGKAMS/GKAM) (16+1 (MICPOCPAMS/CPAM)
		65	F12	C17:1 (MICROGRAMS/GRAM)
			· • • •	
CARD TYPE	E 7	1	16	008210
		7	I1	CARD ITMÉ (ALWAYS 7) Rud-Rtudy Adea Randle Tyde
		D	11	1 = HYDROCARBONS IN SEDIMENTS
				2 = HYDROCARBONS IN ZOOPLANKTON

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17	12	YEAR
19	I1	PERIOD CODE
		1 = WINTER
		2 = MARCH
		3 = APRIL
		4 = SPRING
		D = AUGUST .
		7 = FALL
		8 = NOVEMBER
		9 = DECEMBER
20	I1	FRACTION CODE
		1 = HEXANE
		2 = BENZENE
		3 = METHANDI
21	14	RETENTION INDEX
35	E 1 2	CONCENTRATION IN MICROCRAMS/CRAM
27	F 13	CUNCENTRATION IN MICROGRAMS/GRAM
		FUR SEDIMENT AND ZOUPLANKTON
		(SUB-STUDY AREAS 1 AND 2)
		CONCENTRATION IN MICROGRAMS/LITER
		FOR PARTICULATE AND DISSOLVED WATER SAMPLES
		(SUB-STUDY AREAS 3 AND 4)

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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.

NUTE: 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) PURT ARANSAS MARINE LABORATORY PORT ARANSAS, TEXAS

ASSOCIATE INVESTIGATOR: JOHN BATTERTON

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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

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DATA FORMAT

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

FIELD TYPE	DESCRIPTION
I1	ALWAYS Ø (ZERO)
12	STUDY AREA (SEE STUDY AREA KEY)
13	ALWAYS 210 FOR MASTER FILES
I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
2X	BLANK
▲4	SAMPLE CODE (FINAL CODE ASSIGNED)
15	MONTH
12	DAY
12	YEAR
14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME Or Central Standard Time)
	FIELD TYPE I1 I2 I3 I1 I1 2x A4 I2 I2 I2 I2 I4

25	1 X	BLANK
26	11	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2 TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		AT SOUTHERN BANK
		95 HOSPITAL ROCK
27	1 X	BLANK
28	I 1	STATION (SEE BLM STOCS MONITORING STUDY STATION
		LOCATIONS)
29	A 1	DEDAY, NENIGHT
30-32	43	TYPE OF SAMPLE(SEE KEY TO CODES)
11-14	A ()	RAMBLE STREASTION (SEE KEY TO CODES)
17-19		SAMPLE USE (SEE KEY TO CODES)
37-37 AA-43	A 3	BRINCIDIE INVESTIGATOR (SEE VEN CORES)
40-42	11	PRINCIFLE INVEGRIGATOR (GEE RET CODEG)
43	11	REFLICATE CODE De NOT A DEDITEATE RAMDIE
		DA HUI A REFLICATE JAMPLE
		14 IJI KEFLILAIE JAMPLE
		ZE ZNU REFLICATE SAMPLE
		NULES REPLICATE CUDE MAD NUL BEEN
		CUNSISTENTLY USED; REPLICATE CODE MAY BE 0 FUR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
	• .	APPEARING ON THE DATA LINES
44	11	FILIERED LUDE
		BE NUL APPLICABLE
		1= SAMPLE IS A FILIERED SAMPLE
	. .	25 SAMPLE IS A NUN-FILIERED SAMPLE
45	11	RELATIVE DEPTH CODE
		ST NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		B= 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	I 1	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
	-	BEEN USED: APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE
		BE NUT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	11	LIVE CODE CODES UNKNOWN: MAY NOT HAVE BEEN USED:
••	••	APPEARS TO ALWAYS BE Ø (ZERO)
49	T 1	ARCHIVE CODE
71		05 NOT AN ARCHIVE SAMPLE
		1# AN ARCHIVE SAMPLE
50	11	AUALITY CONTROL CODE
	• •	RE NOT A DIALTTY CONTROL SAMPLE
		12 A QUALITY CONTROL RAMPLE
51	71	CONTRACTED CODE
21	**	BLANK OD GE HIM CONTRACTED RAMPIE
		DEMAN ON DE DEM CONTINUELED GRAVEE

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1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 12 SAMPLE DEPTH IN METERS; 54-50 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-60 A4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK BLANK 1 X 61 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62-69 88 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 CSG-C.S. GIAM CHG-TM (SEDIMENT TRACE METALS) CHG-TEX(SEDIMENT TEXTURE) TSP-E. TAISOO PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-8.J. PRESLEY CHT-MST(EPIFAUNA CHEMISTRY TRAWL) WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT CHT-TM (EPIFAUNA TRACE METALS) EPI-FSH(EPIFAUNA DEMERSAL FISH) RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY EPI-HC (EPIFAUNA HYDROCARBONS) JMN-JERRY M. NEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY EPI-HPT(EPIFAUNA HISTOPATHOLOGY) JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) EPI-MST(EPIFAUNA MASTER) JRS-JOHN R. SCHWARZ 1CH- (ICHTHYOPLANKTON) JHW-JOHN H. WORMUTH INF-MST(INFAUNA MASTER) UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER INF-SED(INFAUNA SEDIMENT) NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIDFAUNA) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI MMS-MST(MEIDFAUNA MASTER GRAB) MYG-MYC(SEDIMENT MYCOLOGY) PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) ENB-E. W. BEHRENS SED-(SEDIMENT) SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TM (SEDIMENT TRACE METALS) SUG-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) SAR-SAMUEL A. RAMIREZ VT =MPL(MICROZOOPLANKTON=VERTICAL TOW) WVA-O. W. VAN AUKEN (WATER COLUMN) WAT-WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) HAT-CI3(DELTA CI3) UT-AUSTIN #AT-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) nAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZOOPLANKTON) WAT-MYC(WATER COLUMN MYCOLOGY) RICE-RICE UNIVERSITY RU-RICE UNIVERSITY WAT-NUT(NUTRIENTS) WAT-N14(CARBON14 NANNOPLANKTON) REC-RICHARD E. CASEY WAT-PHY(PHYTOPLANKTON) #AT-PRO(PROTUZDA) #AT-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** W3 DISSULVED 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 FLUURESCENCE 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.	L	ORAN		LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн	
		3H3	3H2		LG	LR						ME	TERS	FEET	
1	1	2575	4003		1160.07	171.46	28	12	N#	96	27	# *	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	87	男女	134	439	
	4	2583	4015		1206.53	157.92	28	14	N#	96	29	Wet	10	33	
	5	2360	3910		861.09	369.08	27	44	N*	96	14	Wat	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 tr	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	¥ #	131	430	
	4	2058	3936		431.26	310.30	27	34	N#	96	50	資金	36	112	
	5	2032	3992		498.85	487.62	27	24	N±	96	.36	# #	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	•2 M≭	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	資金	15	49	
	5	1623	3867		192,19	888.06	26	58	N#	97	92	Wat	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	資金	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	98	対大	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	19	N×	-96	31	將舍	65	213	
	7	1448	3659		350.37	1224.51	26	10	N*	96	20	W×	130	426	
(HR)	1	2159	3988		635.06	422.83	27	32	05N**	96	28	19 W **	75	246	
(9)	2	2169	3982		644.54	416.95	27	32	46N##	96	27	25#**	72	237	
	3	2163	3900		641.60	425.10	27	32	05N##	96	27	35₩**	81	266	
	4	2165	3985		638.40	411.18	27	33	02N**	96	29	03***	76	250	
(SB)	1	2086	3889		563.00	468.28	27	26	49N**	96	31	18w**	81	266	
(8)	Z	2981	3889		560.95	475.80	27	26	14N**	96	31	82W**	82	269	
	3	2074	3890		552.92	475.15	27	26	86N**	96	31	47W**	82	269	
	4	2078	3890		551.12	472.73	27	26	148**	96	32	07₩**	82	269	
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES						
				**	MEANS	DEGREES	MINU	JTES	S SECON	DS					

		START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2 1	16	009210
		7	I1	CARD TYPE (ALWAYS 2)
		8	3 X	BLANK
		11	▲4	SAMPLE CODE*
		15	1 X	BLANK
		16	I1	TRANSECT
		17	I1	STATION
		18	I1	RELATIVE DEPTH CODE
				1 = SURFACE
				2 = HALF PHOTIC ZONE

A-59

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		3 = PHOTIC ZONE
19	A1	SAMPLE TYPE
		T = TOTAL CHLOROPHYLL (1975 DATA)
		A = NANNOPLANKTON CHLOROPHYLL(1976-1977)
		E = NETPLANKTON CHLOROPHYLL (1976-1977)
20	Fó	SCOR-UNESCO VALUE (MICROGRAMS/LITER)**
		THIS METHOD NOT DONE FOR 1975 DATA
26	F6	PARSONS-STRICKLAND VALUE (MICROGRAMS/LITER)**
3.5	56	LOPENZEN VALUE (MICROGRAMSZI TIER)**
36		
38	F 6	CHLDROPHYLL A/PHAEOPHYTEN RATIU
42	Fo	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

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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

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DIRECTORY FOR STUDY AREA

FILE 41: METHODS, DATA FORMAT AND COMMENTS FILE 42: 1975 DATA FILE 43: 1976 DATA

METHODS

EUUIPMENT: 30-LITER NISKIN BOTTLES Water Filtered Through 0.4 Micron Nucleopore Filters

JANUARY-JUNE DATA ANALYZED WITH A PHOTOMULTIPLIER RCA 4473, ANUDE SIGNAL DETECTED ON KEITHLEY 4145 PICOAMMETER JULY-DECEMBER DATA ANALYZED BY CRYSTALLINE ATP (SIGMA CHEMICAL CO.) STANDARDS UN AMINCO PHOTOMULTIPLIER

DATA FORMAT

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

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4=6	13	ALWAYS 210 FOR MASTER FILES
7	ĪÌ	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
8	11	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-18	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17=18	12	DAY
19-20	I2	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
25	1 X	BLANK

26	I 1	SAMPLE COLLECTION AREA 1= TRANSECT 1
		2= TRANSECT 2
		UE THANSECT 4
		7= RIG MONITORING AREA
		BE SOUTHERN BANK
	• •	95 HOSPITAL ROCK
28		STATION (SEE BLM STOCS MONITORING STUDY STATION
20		LOCATIONS)
29	A 1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
35-58	A4 A 2	SAMPLE DISPOSITION (SEE RET TO CODES) SAMPLE HISE (SEE REY TO CODES)
J/-37 4M-42	43	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	ĨĨ	REPLICATE CODE
		Ø= NOT A REPLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		SE SND KERFILAIF SAMFLE
		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
		DE RUT AFFLICADLE 1º SAMPLE IS & FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	11	RELATIVE DEPTH CODE
		Ø= NOT CODED
•		15 SURFACE
		3= PHOTIC ZONE
		4# PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		85 ACTUAL DEPTH IN METERS GIVEN IN LULS, 34-30 On VERTICAL TOW, ALL DERTHS 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 OF LAN DE DETERMINED
// ~	7 1	DISSBUTED PARTICLE CODE -+ CODES UNKNOWN: MAY NOT HAVE
40	* *	BEEN USED; APPEARS TO ALWAYS BE U (ZERO)
47	I 1	POOLED CODE
		0= NOT A POOLED SAMPLE
		15 A POULLU SAMPLE Note: May not have been used
48	T 1	LIVE CODE CODES UNKNOWN: MAY NOT HAVE BEEN USED:
	••	APPEARS TO ALWAYS BE 0 (ZERO)
49	I 1	ARCHIVE CODE
		8= NOT AN ARCHIVE SAMPLE
E .A	T 1	IS AN AKCHIVE SAMPLE
20	11	9 NOT A QUALITY CONTRUL SAMPLE
		1= A QUALITY CONTROL SAMPLE
51	I 1	CONTRACTED CODE
		BLANK OR DE BLM CONTRACTED SAMPLE
		IS NUE A BLM CUNERACIED SAMMLE'

CRUISE NUMBER 52-53 12 54-56 SAMPLE DEPTH IN METERS; 13 - NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TON 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 BLANK 61 1 X 62=69 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, ▲8 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 FUR 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- (TUTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-8.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-HP1(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 NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) LMM-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 DK-DAN L. KAMYKOWSKI MMS-MST(MEIUFAUNA MASTER GRAB) MYG-MYC(SEDIMENT MYCOLOGY) PJ-PATRICIA L. JOHANSEN NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED- (SEDIMENT) ENB-E. N. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZODPLANKTON) SED-TM (SEDIMENT TRACE METALS) SDG-DEP(SEDIMENT DEPOSITION) STD-ST (SALINITY-TEMPERATURE-DEPTH) TUC-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- (NATER COLUMN)
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLUGY)
 wAT-C13(DELTA C13)
                                           UT-AUSTIN
                                              PJS-PAUL J. SZANISZLO
 WAT-CLN(CHLUROPHYLL-NANNOPLANKTON-76-77)
* WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON+76-77)
                                           U.S.G.S.-CORPUS CHRISTI
 WAT-DO (DISSOLVED OXYGEN)
 WAT-FLU(FLUORESCENCE)
                                               HB-HENRY BERRYHILL
 WAT-HC (#ATER HYDROCARBONS)
 WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 NAT-MPL(MICROZOOPLANKTON)
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                           RICE-RICE UNIVERSITY
                                           RU-RICE UNIVERSITY
 WAT-NUT(NUTRIENTS)
                                              REC-RICHARD E. CASEY
 MAT-N14(CARBON14 NANNOPLANKTON)
 NAT-PHY (PHYTOPLANKTON)
 WAT-PRO(PROTOZOA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TOC(TOTAL ORGANIC CARBON)
 ZLT-TM (ZOOPLANKTON TRACE METALS)
ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZOOPLANKTON TAXONOMY)
 ZPL-TM (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
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 81 SALINITY AND TEMPERATURE, CURRENTS
 W3 DISSOLVED OXYGEN, NUTRIENTS
 W4 LDW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 06 INVERTEBRATE EPIFAUNA AND INFAUNA
 07 BENTHIC FISH
 UB HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE,
          DISSOLVED, ZOOPLANKTON
 09 CHLOROPHYLL A
 10 ADENUSINE TRI-PHOSPHATE
 11 PHYTOPLANKTON
 12 FLUORESCENCE
 13 MEIOFAUNA
 14 NEUSTON
 15 TRACE METALS
 16 CARBON 14
 19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
 23 MICROZODPLANKTON (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

T	RAN.	STA.	• L	ORAN	LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн
			3H3	3H2	LG	LR						ME	TERS	FEET
	1	1	2575	4003	1180.07	171.46	28	12	N #	96	27	Ю×	18	59
		2	2440	3950	961.49	275.71	27	55	N *	96	20	**	42	138
		3	2300	3863	799.45	466.07	27	34	N#	96	07	**	134	439
		4	2583	4015	1206.53	157.92	28	14	N×	96	20	al a	10	22
		5	2300	3910	861-09	369.08	27	44	N#	96	14	ite en	82	240
		6	2330	3892	819.72	412.96	27	39	N*	96	12	N#	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	WA	49	161
		3	2040	3850	564.67	585.52	27	18	Nŧ	96	23	Wat	131	430
		4	2058	3936	431.26	310.30	27	34	N#	96	54	**	3.6	112
		5	2032	3992	498.85	487.62	27	24	NI	96	36	W de	78	254
		5	2468	3878	568.54	596.34	27	24	N±	96	20		0.0	222
		7	2045	3835	300034	2000024	27	15	N#	96	18	•2 M*	182	600
	3	1	1585	3886	139.13	909.98	26	58	N*	97	11	**	25	82
		2	1683	3841	286.38	855.91	26	58	N#	96	48	##	65	213
		3	1775	3812	391.06	829.02	26	58	N#	96	33	**	166	348
		4	1552	3885	95.64	928.13	26	58	N#	97	20	**	15	49
		5	1623	3867	192.19	888.06	26	58	N#	97	02	**	49	131
		6	1790	3888	411.48	824.57	26	58	N#	96	30	W±	125	419
	4	1	1130	3747	187.50	1423.50	26	10	N#	97	01	N.A.	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	**	15	49
		5	1170	3738	213.13	1387.45	26	10	NA	96	54	Wŧ	37	121
		6	1355	3685	304.76	1272.48	26	10	N +	96	31	**	65	213
		7	1448	3659	350.37	1224,51	26	19	N#	96	20	**	130	426
()	IR)	1	2159	3900	635.06	422.83	27	32	05N++	96	28	19w##	75	246
((9)	5	2169	3982	644.54	416.95	27	32	46N**	96	27	25#**	72	237
		3	2163	3908	641.60	425.10	27	32	05N**	96	27	35***	81	266
		4	2165	3905	638.40	411.18	27	33	82N**	96	29	03w**	76	250
(5	68)	1	5086	3889	563.00	468.28	27	26	49N±±	96	31	18W**	81	266
(8)	2	2081	3889	560.95	475,80	27	59	14N**	96	31	82W**	82	269
		3	2074	3890	552.92	475.15	27	26	06N**	96	31	47#**	82	269
		4	2078	3890	551.12	472.73	27	26	14N**	96	32	07#**	82	269
				NOTE:	* MEANS	DEGREES	AND	MIN	UTES					
					** MLANS	DEGREES	MINU	JTES	S SECON	DS				
			START	COLUMN	FIELD TYPE	FIELD	ONTE	NT	DESCRT	PTIC	DN			
CARD	TYP	E 2	1		Ib	010210								
		-	7		11	CARD T	PE (A1 .	AYS 21					
			Å		31	BLANK								
			11		14	SAMPL F	CODE	*						
			15		F5	ATP VAL	HE C	MIC	. 900 9 M	S Z L 1	TEE	2.2		
			* 3			MIC TA		- 1 L	UURAM	3763	I I E P			

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COMMENTS

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NUTE: 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 JDHANSEN JOE MORGAN BILL ALLSMOUSE

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: CUDED 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---

CULUMNS	FIELD TYPE	DESCRIPTION
1	Ii	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS I FOR INVENTORY(SEE DATA FORMATS)
8	I 1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2 X	BLANK
11-14	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY

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19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
	• •	DP CENTRAL STANDARD TIME)
25	1.4	BLANK CONTRACTOR CONTRACTOR
26	11	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3 TRANSFET 3
		7= RIG MONITORING AREA
		BE SOUTHERN BANK
		9% HOSPITAL ROCK
27	1 Y	BI ANK
21	÷.	STATION /SEE DIM STORE MONITORING STUDY STATION
20	11	STATION (SEE BLM SIDES MONITORING STOUT STATION
		LUCATIONS
29	A1	DEDAY; NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-34	A 4	SAMPLE DISPOSITION (SEE KEY TO CODES)
23-20		CAMPLE DIST COLLECT TO (DDES)
3/-34	A.3	SAMPLE USE (SEE REI 10 CODES)
40-42	A 3	PRINCIPLE INVESTIGATOR (SEE RET CODES)
43	I1	REPLICATE CODE
		Ø= NOT A REPLICATE SAMPLE
		1 - 1ST REPLICATE SAMPLE
		E END REFLICATE GAMPLE
		ETC.
		NOTE; REPLICATE CODE HAS NOT BEEN
		CONSISTENTLY USED: REPLICATE CODE MAY BE Ø FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		ADDEADING ON THE DATA LINES
	- .	AFFERING ON THE DATA LINES
44	11	FILTERED CUDE
		BE NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		25 SAMPLE IS A NON-FILTERED SAMPLE
65	T 1	PELATIVE DEPTH CODE
43	**	
·		1 SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		AR PHOTIC ZONE TO BOTTOM
		E- BOTTOM
		SE NUI AFFLICADLE
		BE ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
÷		9= VERTICAL TON; ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CODE HAS BEEN
		INCONSISTENTLY USED. IN MOST CASES IT HAS NOT
		ACCORDING TOTELLE THE TABENTARY I THE TE BELATIVE
		BEEN CUDED ON THE INVENTORY LINE; IF RECRIPTE
		DEPTH IS MISSING FROM THE INVENIORT LINE, IT MAT
		BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
		FROM THE STUDY AREA
n 6	T 1	DISSOLVED PARTICLE CODE - CODES UNKNOWN: MAY NOT HAVE
40	44	DIGULTUP INTICLE ODE TO ALMANE RE ((7500)
-	• •	BEEN USED; AFFERNO ID ACHAIG DE D (LEND)
47	11	POOLED CODE
		B= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
	T 1	THE CODE CODES HAKNOWN - MAY NOT HAVE BEEN USED.
40	* 1	East cove cover annually main and mate very obey $ABBEADS TO AN AVE SE a (7650)$
	_	APPERRS IN ALMATS DE 0 (4ERU)
49	I1	ARCHIVE CODE
		BE NOT AN ARCHIVE SAMPLE
		1# AN ARCHIVE SAMPLE
54	T 1	AUALTTY CONTROL CODE
50	II	QUALITY CONTROL CODE
50	I 1	QUALITY CONTROL CODE D= NOT A QUALITY CONTROL SAMPLE

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		1= A QUALITY CONTROL SAMPLE
51	11	CONTRACTED CODE
		BLANK OR Ø= BLM CONTRACTED SAMPLE
		1 = NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54-56	13	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	A 4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK
62-69	88	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 PUOLED 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) CHG-TEX(SEDIMENT TEXTURE) CSG-C.S. GIAM TSP-E. TAISOO PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TM (EPIFAUNA TRACE METALS) WMS-WILLIAM M. SACKETT 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 JRS-JOHN R. SCHWARZ EPI-MST(EPIFAUNA MASTER) 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 URGANIC 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 UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) SED- (SEDIMENT) EWB-E. W. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TM (SEDIMENT TRACE METALS)

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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
 #AT-
       (MATER COLUMN)
 WAT-ATP(ADENUSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLDGY)
 WAT-C13(DELTA C13)
                                             UT-AUSTIN
 #AT-CLN(CHLOROPHYLL=NANNOPLANKTON=76=77)
                                                PJS-PAUL J. SZANISZLO
 WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
 WAT-OU (DISSOLVED DXYGEN)
                                             U.S.G.S.-CORPUS CHRISTI
 wAT-FLU(FLUORESCENCE)
                                                HB-HENRY BERRYHILL
 WAT-HC (WATER HYDROCARBONS)
 WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 #AT-MPL(MICROZDOPLANKTON)
 WAT-MYC(WATER COLUMN NYCOLOGY)
                                             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(ZOUPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
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01 SALINITY AND TEMPERATURE, CURRENTS
B3 DISSOLVED OXYGEN, NUTRIENTS
64 LON-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
89 CHEOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTON
12 FLUORESCENCE
13 MEIDFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZDOPLANKTON
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.	L	ORAN		LO	RAC	L	ATI	TUDE	F0	NGI	TUDE	DEP	TH
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	Wa	18	59
	2	2440	3950		961.49	275.71	27	55	N#	96	28	**	42	138
	3	2300	3863		799.45	466.07	27	34	N#	96	87	W±	134	439
	4	2583	4015		1200.53	157.92	28	14	N#	96	29	**	10	33
	5	2360	3910		861.09	369.08	27	44	N#	96	14	Wat	82	269
	6	2330	3892		819,72	412.96	27	39	N#	96	12	N×	100	328
2	1	2078	3962		373.62	192.04	27	40	N#	96	59	₩×	22	72
	2	2050	3918		454.46	382.00	27	30	N#	96	45	Wt	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	•2 M*	182	600
3	1	1585	3880		139.13	909.98	26	58	N#	97	11	H.	25	82
	2	1683	3841		286.38	855.91	26	58	N#	96	48	W×	65	213
	3	1775	3812		391.06	829,82	26	-58	N#	96	- 33	判末	196	348
	4	1552	3885		95.64	928.13	26	58	N#	97	50	W×	15	49
	5	1623	3867		192.19	888.06	- 26	58	N×	97	95	**	40	131
	6	1790	3808		411.48	824,57	26	58	N=	96	30	H ×	125	419
4	1	1130	3747		187.50	1423.50	26	10	N#	97	01	W×	27	88
	Z	1300	3700		271.99	1310.61	- 26	10	N#	96	39	操業	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	98	WĦ	15	49
	5	1170	3738		213.13	1387.45	26	10	N#	96	54	19 a	37	121
	6	1355	3685		304.76	1272.48	- 26	19	N×	96	31	111 年	65	213
	/	1448	3659		350,37	1224.51	26	10	N#	96	28	19 ×	130	426
(HR)	1	2159	3900		635.06	422.83	27	32	05N**	96	28	198**	75	246
(9)	2	2169	3902		644.54	416.95	27	32	46N**	96	27	25#**	72	237
	3	2163	3900		641.60	425.10	27	32	05N**	96	27	35#**	81	266
	4	2165	3905		638.40	411.18	27	33	82N**	96	29	03W**	76	250
(SB)	1	2086	3889		563.00	468.28	27	26	49N**	96	31	18#**	81	266
(8)	5	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	MI	NUTES					

** MEANS DEGREES MINUTES SECONDS

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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	5	1	Ι6	011210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	▲4	SAMPLE CODE*
			15	14	SPECIES CODE**
			19	19	ABUNDANCE (CELLS/LITER) ***

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FURMAT	FOR	CODED SPECIES	LIST (FILE 4	8)
		START COLUMN 1 5 18	FIELD TYPE 14 1X 112 11	FIELD CONTENT/DESCRIPTION CONSECUTIVE ORDER BLANK V.I.M.S. CODE 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

CUMMENTS

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* 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)

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NOTE: FOR 1975 DATA THE FIRST CHARACTER OF THE SAMPLE CDDE 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: 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

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EQUIPMENT: TURNER DESIGNS FLUOROMETER

DATA FORMAT

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

CULUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	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)
9-14	2X	BLANK
11 - 14	▲4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-10	12	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
		OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	I1	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		B= SOUTHERN BANK
		9= HOSPITAL ROCK

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77		DI ANK
21	1.	
6 8	11	STATION (SEE BLM STUCS MUNITORING STUDY STATION
20		
24	AI	DEDAT; NENIGHT
30-32	A.5	TYPE OF SAMPLE(SEE KEY TO CODES)
53=50	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
57-39	A.3	SAMPLE USE (SEE KEY TO CODES)
40-42	A 3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
45	11	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 Ø FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	I 1	FILTERED CODE
		0= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE
		Ø= NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
,		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		88 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 @ (ZERO)
47	I1	POOLED CODE
		05 NOT A POOLED SAMPLE
		1 A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	Ii	LIVE CODE CODES UNKNOWN: MAY NOT HAVE BEEN USED:
		APPEARS TO ALWAYS BE Ø (ZERO)
49	I1	ARCHIVE CODE
		BE NOT AN ARCHIVE SAMPLE
		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE
		BE 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	12	CRUISE NUMBER
54-56	13	SAMPLE DEPTH IN METERS:
• •		NOTE: 999 MEANS NOT APPLICABLE
		991 MEANS VERTICAL TON FROM SURFACE TO 25 METEOR
		992 MEANS VERTICAL TOW FROM 25 TO 54 METERS
		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-08	A4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		a ser s est s an sae surfair en sat a AAAAbu, FF

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THIS FIELD WILL CONTAIN XXXX OR BE BLANK BLANK 1 X 61 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62=69 8 8 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 CSG-C.S. GIAM CHG-TM (SEDIMENT TRACE METALS) 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 WEP-WILLIS E. PEQUEGNAT CHT-IM (EPIFAUNA TRACE METALS) 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 JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) JRS-JOHN R. SCHWARZ EPI-MST(EPIFAUNA MASTER) ICH- (ICHTHYOPLANKTON) JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. INF-MST(INFAUNA MASTER) INF-SED(INFAUNA SEDIMENT) PLP-PATRICK L. PARKER NPS-NED P. SMITH INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) CVB-CHASE VAN BAALEN LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG MMS-MEI(MEIOFAUNA) MMS-MST(MEIDFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) ENB-E. W. BEHRENS SED= (SEDIMENT) SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TM (SEDIMENT TRACE METALS) SDG-DEP(SEDIMENT DEPOSITION) STD-ST (SALINITY-TEMPERATURE-DEPTH) UTSA-UNIV. OF TEXAS AT SAN ANTONIO TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY SAR-SAMUEL A. RAMIREZ TRM-TUR(TRANSMISSOMETRY-TURBIDITY) WVA-O. W. VAN AUKEN VI - MPL(MICROZOOPLANKTON-VERTICAL TOW) (WATER COLUMN) nAT-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 #AT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77) WAT-DO (DISSOLVED OXYGEN) U.S.G.S.-CORPUS CHRISTI

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A-75

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wAT-FLU(FLUORESCENCE)
                                              H8-HENRY BERRYHILL
 WAT+HC (WATER HYDROCARBONS)
 #AT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICROZOOPLANKTON)
 MAT-MYC(NATER COLUMN MYCOLOGY)
                                           RICE-RICE UNIVERSITY
 WAT-NUT(NUTRIENTS)
                                           RU-RICE UNIVERSITY
 WAT-N14(CARBON14 NANNOPLANKTON)
                                               REC-RICHARD E. CASEY
 WAT-PHY(PHYTOPLANKTON)
 WAT=PRO(PROTOZDA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 #AT-SSM(#ATER-SUSPENDED SEDIMENT)
 WAT-TUC(TOTAL ORGANIC CARBON)
 ZCT-TM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDRUCARBONS)
 ZPL-TAX(ZOUPLANKTON TAXONOMY)
 ZPL-TM (ZDOPLANKTON TRACE METALS)
STUDY AREA KEY
---- ---- ---
W1 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 CHLORDPHYLL 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 ZUOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTUPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
42 BENTHIC MYCOLDGY
43 WATER COLUMN MYCOLOGY
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BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	A. LORAN		LORAC		LATITUDE	LONGITUDE	DEP	DEPTH	
		3H3	3H2	LG	LR		I	METERS	FEET	
1	1	2575	4003	1180.07	171.46	28 12 N*	96'27 ₩±	18	59	
	2	2440	3950	961.49	275.71	27 55 N*	96 20 M*	42	138	
	3	2300	3863	799,45	466.07	27 34 N*	96 87 W*	134	439	

A-76

	4	2583	4015	1206.53	157.92	28	14	N×	96	29	¥*	10	33
	5	2360	-3910	861.09	369.08	27	44	N#	96	14	**	82	269
	. 6	2330	3892	819.72	412.96	27	39	N =	96	12	jil ★	100	328
2	1	2078	3962	373.62	192.04	27	40	N#	96	59	₩×	22	72
	2	2050	3918	454.46	382.00	27	30	N±	96	45	N+	49	161
	3	2040	3850	564.67	585.52	27	18	N×	96	23	N×.	131	430
	4	2058	3936	431,26	310.30	27	34	N±	96	50	**	36	112
	5	2032	3992	498.85	487.62	27	24	N#	96	36	WA	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	688
3	1	1585	3880	139.13	909.98	26	58	N*	97	11	₩ ★	25	82
	2	1683	3841	286.38	855.91	56	58	N×	96	48	W×	65	213
	3	1775	3812	391.06	829.02	26	58	N×	96	33	資素	196	348
	4	1552	3885	95.64	928.13	26	58	N#	97	20	新大	15	49
	5	1623	3867	192.19	888.06	56	58	N×	97	Ø2	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 R	15	49
	5	1170	3738	213.13	1387.45	52	10	N#	96	54	**	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	N.X.	130	426
(HR)	1	2159	3900	635.06	422.83	27	32	85N**	96	28	19#**	75	246
(9)	2	2169	3902	644.54	416,95	27	32	46N**	96	27	25#**	72	237
	3	2103	3900	641.60	425.10	27	32	05N**	96	27	35#**	81	266
	4	2165	3905	638.40	411.18	27	33	02N**	96	29	03w**	76	250
(\$8)	1	2086	3889	563.00	468.28	27	26	49N##	96	31	18w**	81	266
(8)	2	2081	3889	568.95	475.80	27	26	14N**	96	31	###S0	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	07***	82	- 269

COMMENTS

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- * ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: MEANS DEGREES AND MINUTES *

MEANS DEGREES MINUTES SECONDS **

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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	012210
			7	Ii	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	A 4	SAMPLE CODE*
			15	13	DISTANCE FROM SHORE (NAUTICAL MILES)
			18	13	DEPTH (METERS)
			21	F4	CHLOROPHYLL A (MICROGRAMS/LITER)
			25	F4	TEMPERATURE (C)
			29	F4	SALINITY (PPT)

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) WILLIS E. PEQUEGNAT (WEP) TEXAS A+M UNIVERSITY (TAMU) PRINCIPLE INVESTIGATOR: 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 -----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 SHITH-MCINTYRE GRAB SAMPLE. SEIVED THROUGH 500 AND 62 MICRON MESH. MATERIAL ON 62 MICRON MESH SIEVE RETAINED, STAINED, CDUNTED. DATA FORMAT ---- -----CARD TYPE 1---STANDARD INVENTORY CARD---COLUMNS FIELD TYPE DESCRIPTION 1 11 ALWAYS Ø (ZERO) STUDY AREA (SEE STUDY AREA KEY) 2-3 12 13 4-6 ALWAYS 210 FOR MASTER FILES 7 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 11 8 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 9-18 **2** X BLANK 11-14 SAMPLE CODE (FINAL CODE ASSIGNED) **A**4 12 15-16 MONTH 17-18 12 DAY

I4 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME

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YEAR

19-20

21-24

15

		OR CENTRAL STANDARD TIME)
25	ix	BLANK
26	I 1	SAMPLE COLLECTION AREA
·		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MUNITORING AREA
		8= SOUTHERN BANK
		9= HOSPITAL ROCK
27	1 X	BLANK
28	11	STATION (SEE BLM STOCS MONITORING STUDY STATION
		LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A 3	TYPE OF SAMPLE(SEE KEY TO CODES)
55-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A 3	SAMPLE USE (SEE KEY TO CODES)
40-42	A.5	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
45	11	REPLICATE CODE
		BE NUT A REPLICATE SAMPLE
		IN IST REPLICATE SAMPLE
		ZE ZNU REPLICATE SAMPLE
		LIL. NOTE, DEDITENTE CODE UNS NOT DEEN
		NUIEJ REFLICAIE CUVE MAD NUI BEEN Consistenti v 1860. pedi 10ate code may de (1.600
		A DEDITCATE GAMPLE WITH THE DEDITCATE ANAMOED
		ADDEADING ON THE NATA I INER Addeading Jampes Hill Hig Replicate Number
44	T 1	FILTEPEN CONF
	••	AE NOT APPI TOARLE
		12 SAMPLE IS A FILTERED SAMPLE
		22 SAMPLE TS & NON-ETLITERED SAMPLE
45	II	RELATIVE DEPTH CODE
		9= 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
M .		FROM THE STUDY AREA
46	11	DISSULVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
	• •	BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
4 /	11	
		DE NUI A FUULEU SAMPLE
		JE A FUULLU JAMFLE Noten man not have deen heed
		THE CODE - CODER HARMONNA MAY NOT HAVE BEEN HEED.
40	**	LIVE CODE CODES UNKNOWN; MAI NUI HAVE DEEN USED;
<i>"</i> 19	71	AFFEARD IN ALMAID DE Ø (LERN) Ademine enne
• 7	••	ANDITE CODE An NAT AN ADDITIVE RANDIE
		TE AN ADCHIVE SAMPLE
50	11	QUALITY CONTROL CODE
	- •	03 NOT A QUALITY CONTROL SAMPLE
		1# A QUALITY CONTROL SAMPLE
51	I 1	CONTRACTED CODE

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BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 12 54-56 13 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 ▲4 PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK BLANK 61 1 X PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM 62-69 84 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 WEP-WILLIS E. PEQUEGNAT CHT-TM (EPIFAUNA TRACE METALS) 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 HISTOPATHOLDGY) 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) INF-TAX(INFAUNA TAXONOMY) PLP-PATRICK L. PARKER NPS-NED P. SMITH LGT-PZ (PHOTOMETRY) CV8-CHASE VAN BAALEN LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIOFAUNA) DEM-DONALD E. WOHLSCHLAG MMS-MST(MEIOFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI MYG-MYC(SEDIMENT MYCOLOGY) PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) SED- (SEDIMENT) SED-HC (SEDIMENT HYDROCARBONS) EW8-E. W. BEHRENS SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TM (SEDIMENT TRACE METALS)

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SDG-DEP(SEDIMENT DEPOSITION)

STD-ST (SALINITY-TEMPERATURE-DEPTH)

TDC-ST (TEMPERATURE+DEPTH+CONDUCTIVITY UTSA-UNIV. OF TEXAS AT SAN ANTONIO SAR-SAMUEL A. RAMIREZ TRM-TUR(TRANSMISSOMETRY-TURBIDITY) VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) NVA-D. N. 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) #AT-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-IM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY ---- ---- ---11 SALINITY AND TEMPERATURE, CURRENTS W3 DISSOLVED OXYGEN, NUTRIENTS 84 LON-MOLECULAR-WEIGHT HYDROCARBONS US HIGH-MOLECULAR-WEIGHT HYDRUCARBONS, BENTHIC VERTEBRATES 06 INVERTEBRATE EPIFAUNA AND INFAUNA **B7 BENTHIC FISH** 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE, DISSOLVED, ZOOPLANKTON **U9 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 (PROTOZDA) 24 ZOOPLANKTON 25 SHELLED MICROZOOPLANKTON 26-TOTAL ORGANIC CARBON AND DELTA CARBON 13 27 LIGHT ABSORPTION (PHOTOMETRY) 30 HISTUPATHOLOGY 40 BENTHIC MICROBIOLOGY 41 WATER COLUMN MICROBIOLOGY 42 BENTHIC MYCOLOGY 43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

Tran,	STA.	t	DRAN		LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн
		3н3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	₩±	18	59
	2	2440	3950		901.49	275.71	27	55	N±	96	20	W±	42	138
	3	2300	3863		799.45	466.07	27	34	N#	96	107		134	439
	4	2583	4015		1206.53	157.92	28	14	N#	96	29	**	10	33
	5	2364	3910		861.09	369.08	27	-44	N#	96	14	**	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	₩×	22	72
	2	2050	3918		454.46	382.00	27	30	N*	96	45	N R	49	161
	3	2040	3850		564.67	585,52	27	18	N#	96	23	**	131	430
	4	2058	3936		431.26	310.30	27	34	N#	96	50	押末	36	112
	5	2032	3992		498.85	487.62	27	24	N*	96	36	**	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	H×.	25	82
	2	1683	3841		286.38	855.91	- 26	58	N×	96	48	W R	65	213
	3	1775	3812		391.06	829.02	26	58	N*	96	33	# #	106	348
	4	1552	3885		95.64	928.13	26	58	N#	97	20	W R	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	資本	125	410
4	1	1130	3747		187.50	1423.50	26	10	N#	97	01	*	27	88
	2	1300	3700		271.99	1310.61	26	10	N#	96	39	**	47	154
	3	1425	3663		333.77	1241.34	- 26	10	N#	96	24	# *	91	298
	4	1073	3763		103.42	1456.90	26	10	N*	97	08	N *	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	19 * *	75	246
(9)	2	2169	3985		644.54	416.95	27	32	46N**	96	27	25#**	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
(58)	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	<u>1</u> 4N**	96	31	02w**	82	269
	3	2074	3890		552.92	475.15	27	26	86N**	96	31	47#**	82	269
	4	2078	3890		551,12	472.73	27	59	14N**	96	32	07w**	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					
				**	MEANS	DEGREES	MINU	JŤES	S SECON	DS				

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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	013210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A4	SAMPLE CODE*
			15	Ii	PERIOD CODE
					1 = WINTER
					2 = MARCH
					3 = APRIL
					4 = SPRING

5 = JULY6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER 16 13 JULIAN DAY 19 11 YEAR 1 = 19762 = 197720 11 TRANSECT 21 11 STATION 22 11 REPLICATE 23 15 NEMATODA -----28 14 HARPACTICOIDA : 32 13 KINORHYNCHA : 35 13 OSTRACODA 38 13 HALICARIDAE : (NUMBER OF INDIVIDUALS/CORE SAMPLE) 41 13 NAUPLII : 44 13 TURBELLARIA 1 47 TRUE OTHERS -----13 5ø 12X BLANK FORAMINIFERA ---:--PROTISTA OTHER PROTOZOA -: (NUMBER OF INDIVIDUALS/CORE SAMPLE) 62 14 13 66 POLYCHAETA -----69 13 72 13 BIVALVA 1 75 13 GASTRUPODA --- TEMPORARY MEIDFAUNA 78 13 PERACARIDA : (NUMBER OF INDIVIDUALS/CORE S# 81 13 DECAPODA 1 84 TEMPORARY OTHERS -----13

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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

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MAGNETIC DATA TAPE 2

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

DATA TYPE: 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	I 1	ALWAYS @ (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-0	13	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	8LANK
11-14	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
		OR CENTRAL STANDARD TIME)
25	1×	BLANK
26	11	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2

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		3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= Southern Bank 9= Hospital Rock
27 28	1X I1	BLANK STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A 1	DEDAY; NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	▲4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE REY LODES)
43	11	REPLICATE CUDE
		1 1ST REPLICATE SAMPLE
		25 2ND REPLICATE SAMPLE
		ETC.
		NOTE; REPLICATE CODE HAS NOT BEEN
		CONSISTENTLY USED; REPLICATE CODE MAY BE Ø FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
	• •	APPEARING ON THE DATA LINES
44	11	PILIERED LUDE 2- NOT APPLICABLE
		1 SAMPLE IS A FILTERED SAMPLE
		2" SAMPLE IS A NON-FILTERED SAMPLE
45	I1	RELATIVE DEPTH CODE
		B= NOT CODED
		1= SURFACE
		28 1/2 PHOTIC ZUNE
		JE PHOTIC ZONE TO ROTTOM
		SE BOTTOM
		6= NOT APPLICABLE
		8= ACTUAL DEPTH IN METERS GIVEN IN CDLS. 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 15 MISSING FROM THE INVENTIONT LINES IT MAT
		FROM THE STUDY AREA
46	I 1	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
		BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	I1	POOLED CODE
		BE NOT A POOLED SAMPLE
		18 A POOLED SAMPLE
	T 1	NULLI MAY NUL HAVE BEEN USED
40	11	APPEARS TO ALMAYS BE 0 (ZERO)
49	T 1	ARCHIVE CODE
		BE NOT AN ARCHIVE SAMPLE
		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE
		BE NOT A QUALITY CONTROL SAMPLE
E 1	T 1	LA A ANALIT CONTRUE SAMPLE
31	**	BLANK OR BE BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52-53	15	CRUISE NUMBER
54-56	13	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 ▲4 PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 61 1 X BLANK PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62-69 48 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 8) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY, AAZZ, ABAA KEY TO CODES --- -----SAMPLE TYPE--SAMPLE USAGE DISPOSITION AND PRINCIPLE INVESTIGATOR 6AG-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. TAISDO PARK CHL= (TOTAL CHLOROPHYLL-1975) BJP-8.J. PRESLEY CHT-HC (EPIFAUNA HYDROCARBONS) CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TM (EPIFAUNA TRACE METALS) WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT EPI-FSH(EPIFAUNA DEMERSAL FISH) RR-RICHARD REZAK EPI-HC (EPIFAUNA HYDROCARBONS) WEH-WILLIAM E. HAENSLY JMN-JERRY M. HEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY EPI-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH EPI-MST(EPIFAUNA MASTER) ICH- (ICHTHYOPLANKTON) 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 CVB-CHASE VAN BAALEN LGT-PZ (PHOTOMETRY) LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIDFAUNA) DEW-DONALD E. WOHLSCHLAG MMS-MST(MEIOFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED-(SEDIMENT) E#B-E. A. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZODPLANKTON) SED-TH (SEDIMENT TRACE METALS) SUG-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)
                                         UT-AUSTIN
WAT-CI3(DELTA C13)
 HAT-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 (#ATER HYDROCARBONS)
 WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
WAT-MYC(MATER COLUMN MYCOLOGY)
                                         RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)
                                         RU-RICE UNIVERSITY
WAT-N14(CARBON14 NANNOPLANKTON)
                                            REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
 MAT-PRO(PROTOZOA)
 NAT-P14(CARBON14 PHYTOPLANKTON)
 WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TOC(TOTAL GRGANIC CARBON)
 ZCT-TM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZODPLANKTON HYDROCARBONS)
 ZPL-TAX(ZUOPLANKTON TAXONOMY)
 ZPL-TM (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
----
B1 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
89 CHLOROPHYLL A
 10 ADENOSINE TRI-PHOSPHATE
 11 PHYTOPLANKTON
 12 FLUORESCENCE
 13 MEIDFAUNA
 14 NEUSTON
 15 TRACE METALS
 16 CARBON 14
 19 SEDIMENT TEXTURE, BACTERIOLDGY, 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	342		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N÷	96	27	lat de	1.8	50
•	ž	2440	3950		961.49	275.71	27	55	N×	96	20	**	42	128
	3	2300	3803		799.45	466-97	27	34	Nt	96	97	19 11 19 11	120	410
	ā	2583	4015		1296.53	157.92	24	14	N. W	94	20		10	77
	5	2360	3910		861.09	369.48	27	44	N#	94	1 /1		82	260
	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		22	72
	Ž	2050	3918		454.46	382.00	27	30	N#	96	45	W.	40	161
	3	2040	3850		564.67	585.52	27	18	N±	96	22	14	121	424
	4	2458	3936		431.26	310.30	27	14	N±	96	50		77	112
	5	2032	3992		498.85	487.62	27	20	N#	96	26	***	78	254
	6	2968	3878		560.54	506.34	27	24	N#	96	29	W.C.	9A	122
	7	2045	3835				27	15	N#	96	18	•5 W*	182	600
3	1	1585	3880		139.13	909.98	26	58	Nŧ	97	11		25	82
	Ž	1683	3841		286.38	855.91	26	58	N#	96	ÂÂ	**	65	212
	3	1775	3812		391.06	829-82	26	58	NR	96	11	W	186	348
	4	1552	3885		95.64	928.13	26	58	N#	97	20	ill e	15	40
	5	1623	3867		192.19	888.06	26	58	N#	97	82	***	40	131
	6	1790	3898		411.48	824.57	26	58	N#	96	30	W#	125	419
4	1	1130	3747		187.50	1423.50	26	10	N *	97	01	**	27	88
	2	1300	3700		271.99	1310.61	26	10	N*	96	39	**	47	154
	3	1425	3663		333.77	1241.34	26	10	N±	96	24	**	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		37	121
	6	1355	3685		384.76	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	85N**	96	28	19***	75	246
(9)	2	2169	3982		644.54	416.95	27	32	46N**	96	27	25#**	72	237
	3	2163	3900		641.60	425.10	27	32	85N**	96	27	35###	81	266
	4	2165	3905		638.46	411.18	27	33	02N**	96	29	03w**	76	250
(\$8)	1	2986	3889		563.00	468.28	27	26	49N**	96	31	18#**	81	266
(8)	2	2881	3889		560.95	475.80	27	26	14N**	96	31	82W**	82	269
	3	2074	3890		552.92	475.15	27	26	86N**	96	31	47w**	82	269
	4	2076	3890		551.12	472.73	27	59	14N##	96	32	07₩**	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					
				**	MEANS	DEGREES	MINU	JTES	SECON	DS				
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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	023210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A4	SAMPLE CODE*
			15	11	STATION
			16	I1	TRANSECT
			17	1X	BLANK
			18	12	MONTH
			20	12	DAY
			22	12	YEAR
			24	I 4	TIME OF DAY
			28	12	DEPTH AT WHICH SAMPLE WAS TAKEN (METERS)
			30	I 4	SPECIES IDENTIFICATION CODE**
					I1 = GROUP CODE

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FORMAT FOR CODED SPECIES LIST (FILE 6) ----- --- ----- ----- ---- -------START COLUMN FIELD TYPE FIELD CONTENT/DESCRIPTION 17 0231003 1 3X BLANK 8 GROUP CODE 11 11 1 = TINTINNIDS 2 = OLIGOTRICHS 3 = FORAMINIFERA 4 = RADIOLARIA/ACANTHARIA 5 = OTHER PROTOZOA 13 SPECIES CODE (CONSECUTIVE NUMBER FOR ALPHABETICAL ORDE 12 15 1 X BLANK VOLUME OF AVERAGE INDIVIDUAL 18 16 (IN CUBIC MICRONS) 1 X BLANK 24 112 V.I.M.S. CODE 25 37 1 X BLANK 3A10 SPECIES NAME 38

1 = TINTINNIDS 2 = OLIGOTRICHS 3 = FORAMINIFERA

5 = OTHER PROTOZOA

4 = RADIOLARIA/ACANTHARIA

12-14 = SPECIES CODE Abundance (Number of Organisms/Liter)

COMMENTS

34

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE ** CODED SPECIES LIST IS IN FILE 6.

F10

** 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 CUDES 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. TAISUO 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 FLUECK SOSHI MAMDAKA JANET MANEY

DIRECTURY 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

EUUIPMENT: 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	I 1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	I 1	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK

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11-14	▲ 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	Ī1	SAMPLE COLLECTION AREA
	••	1= TRANSECT 1
		2= TRANSECT 2
		7- DIG MONITOPING APPA
		A RIG HUNIIGANKA ANCA
		DE SUUTERN DANN
		PLANK YE HUDFILL KUCK
21	1.4	DLANN ARE DIM ATORS MONITORING STUDY STATION
28	11	LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A 3	TYPE OF SAMPLE(SEE RET TO CUDES)
33-36	A4	SAMPLE DISPOSITION (SEE REY TO CODES)
37-39	A 3	SAMPLE USE (SEE KEY TO CODES)
46-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	11	REPLICATE CODE
		BE 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 D FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	I 1	FILTERED CODE
		Ø= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	I 1	RELATIVE DEPTH CODE
		Ø≖ NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		B= 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 FRUM 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
		Ø= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I 1	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED;
		APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE
		Ø= NOT AN ARCHIVE SAMPLE

		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE
		0= NOT A QUALITY CONTROL SAMPLE
		1= A GUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE
	-	BLANK OR Ø= BLM CONTRACTED SAMPLE
		1 NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54-50	13	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	A 4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIFLD WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK
62+69	A.B.	PREVIOUS SAMPLE CODE ALLONS 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 FIFLD ARE FOR POOLED SAMPLES.
		A) AAAA-C INDICATES A PODERD 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) CHG-TEX(SEDIMENT TEXTURE) CSG-C.S. GIAM TSP-E. TAISOO PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TM (EPIFAUNA TRACE METALS) WMS-WILLIAM M. SACKETT 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 JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH EPI-INV(EPIFAUNA INVERTEBRATES) EPI-MST(EPIFAUNA MASTER) (ICHTHYOPLANKTON) 1CH-UT-PORT ARANSAS MARINE LAB. INF-MST(INFAUNA MASTER) INF-SED(INFAUNA SEDIMENT) INF-TAX(INFAUNA TAXONOMY) PLP-PATRICK L. PARKER NPS-NED P. SMITH LGT-PZ (PHOTOMETRY) CVB-CHASE VAN BAALEN LMW-HC (LOW-MQLECULAR-WEIGHT HYDROCARBONS) JSM-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 PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) 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
                                           UTSA-UNIV. OF TEXAS AT SAN ANTONIO
                                              SAR-SAMUEL A. RAMIREZ
 TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
 VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
                                              WVA-O. W. VAN AUKEN
       (WATER COLUMN)
 WAT-
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
 WAT-CI3(DELTA CI3)
                                           UT-AUSTIN
 #AT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                              PJS-PAUL J. SZANISZLO
 WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76+77)
 MAT-DU (DISSOLVED OXYGEN)
                                           U.S.G.S.-CORPUS CHRISTI
 WAT-FLU(FLUORESCENCE)
                                              HB-HENRY BERRYHILL
 WAT-HC (WATER HYDROCARBONS)
 #AT-LH (LOW+MOLECULAR-HEIGHT HYDROCARBONS)
 WAT-MPL(MICROZOOPLANKTON)
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                           RICE-RICE UNIVERSITY
 WAT-NUT(NUTRIENTS)
                                           RU-RICE UNIVERSITY
 #AT-N14(CARBON14 NANNOPLANKTON)
                                              REC-RICHARD E. CASEY
 WAT-PHY(PHYTOPLANKTON)
 #AT-PRO(PROTOZOA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TUC(TOTAL ORGANIC CARBON)
 ZCT-TM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOUPLANKTON 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
W5 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 TUTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHUTOMETRY)
30 HISTOPATHOLOGY
40 BENTHIC MICROBIOLOGY
41 WATER COLUMN MICROBIOLOGY
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42 BENTHIC MYCOLOGY 43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LO	RAN	LO	RAC	LA	TI.	TUDE	LO	NGI	TUDE	DEP	тн
		3Н3	3H2	LG	LR						ME	TERS	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	授士	42	138
	3	2300	3863	799.45	466.97	27	34	NĦ	96	07	# *	134	439
	4	2583	4015	1206.53	157.92	28	14	N#	96	29	N #	10	33
	5	2360	3910	861.09	369.08	27	44	N#	96	14	崔士	82	269
	6	2330	3892	819.72	412.96	27	39	NĦ	96	12	W#	100	328
2	1	2878	3962	373.62	192.04	27	40	N#	96	59	N+	22	72
	2	2050	3918	454.46	382.00	27	30	N#	96	45	用来	49	161
	3	2040	3850	564.67	585.52	27	18	N#	96	23	**	131	430
	4	2058	3936	431.26	310.30	27	34	N×	96	50	**	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	# *	98	322
	7	2045	. 3835			27	15	N#	96	18	.5 ₩*	182	600
3	1	1585	3886	139.13	909.98	26	58	N#	97	11	W×	25	82
	2	1683	3841	286,38	855.91	26	58	N#	96	48	Wt	65	213
	3	1775	3812	391.06	829.02	26	58	N#	96	33	Wet	106	348
	4	1552	3885	95.64	928.13	26	58	N#	97	20	H #	15	49
	5	1623	3867	192.19	888.06	26	58	N#	97	62	資金	40	131
	6	1790	3808	411.48	824.57	59	58	N×	96	30	M #	125	410
4	1	1130	3747	187.50	1423.50	26	10	N#	97	01	W A	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	**	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	**	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	₩*	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	35***	81	266
	4	2165	3905	638.40	411.18	27	33	82N**	96	29	03W##	76	250
(SB)	1	2086	3889	563.00	468.28	27	26	49N**	96	31	18***	81	266
(8)	2	2081	3889	560.95	475.80	27	26	14N**	96	31	82W##	82	269
	3	2074	3890	552.92	475.15	27	59	86N**	96	31	47₩±±	82	269
	4	2078	3890	551.12	472.73	27	26	14N**	96	32	07#**	82	269

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

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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	024210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	▲4	SAMPLE CODE*

15 1 X BLANK 12 YEAR 16 PERIOD CODE 18 11 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER 9 = DECEMBER 19 I1 TRANSECT 20 STATION I 1 21 F5 BIOMASS-DRY WEIGHT (GRAMS/CUBIC METER) 024210 CARD TYPE 3 1 16 CARD TYPE (ALWAYS 3) 7 11 8 3X BLANK SAMPLE CODE* 11 A4 15 14 SPECIES IDENTIFICATION CODE** 19 F7 DENSITY (INDIVIDUALS/CUBIC METER) FURMAT FOR CODED SPECIES LIST (FILE 11) -------

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	14	CODE (CONSECUTIVE ORDER)
5	1×	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 CHAHACTER 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

FILE 12: METHODS, DATA FORMAT AND COMMENTS FILE 13: 1975 DATA FILE 14: 1976 DATA FILE 15: 1977 DATA FILE 16: CODED SPECIES LIST

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.

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SAMPLES:

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

CARD TYP	E 1STANDAF	RD INVENTORY CARD
COLUMNS	FIELD TYPE	DESCRIPTION
1	11	ALWAYS & (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4=6	13	ALWAYS 210 FOR MASTER FILES
7	I 1	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
Å	11	STUDY SUBARFA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	21	RIANK
11-14	A 4	SAMPLE CODE (ETNAL CODE ASSTENED)
15=10	12	MONTH
17-18	12	
19=20	12	YFAR
21-24	14	TIME DE DAY (IDCAL CENTRAL DAVITGHT TIME
** **	• •	OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	11	SAMPLE COLLECTION AREA
20	**	IN TUANEET I
		De TRANSECT D
		I TRANSECT I
		J- TRANSECT //
		TT DIE MONITODING APEA
		N= SUITHEDN BANK
		O- HOSPITAL DOCK
27	1 v	
28	10	STATION (SEE BUM STORS MONITORING STUDY STATION
20	**	INCATIONS)
20	A 1	DeDAY. NewICHT
16-17	47	TYPE OF RAMBIE/REE KEY TO CODER)
22-32		CAMPLE DE DAMELEIJEE NET TU LUUEDJ Cample directoria (CEE ven to conce)
33-30		SAMPLE DISPUSITION (SEE NET TO CODES)
44-43	A 2	DRINCIDIE INVERTICATOR (REE VEN CONCE)
40-42	MJ 11	PERINCIPLE INVESTIGATOR (SEE NET CODES)
43	**	REFEICATE COVE
		1- 1ST DEDITEATE GAMPLE
		De DAN DEBLICATE SAMPLE
		CA CUN REFEICALE DAMPLE
		NOTE: DEDITCATE CONE HAR NOT REEN
		CONSISTENTLY HEED, BEDLICATE CODE MAN DE 0 FOD
		A DEDUTCATE RANDIE WITH THE DEDUTCATE NUMBED
		ADDEADING ON THE DATA LINES
44	11	ETITEPEN CODE
	* •	
		IN CAMPLE TO A STUTEDED CAMPLE
		DE SAMPLE IS A NON-ETITEDED SAMPLE
45	71	DELATIVE DEDIN CODE
- 2	••	SELATIVE VERTICODE
		DE 1/2 PHOTIC 70NF
		THE PHOTIC ZONE
		AR PHOTIC ZONE TO ROTTOM
		SE BOTTOM
		AT ACTUAL DEPTH IN METERS GIVEN IN COLS SALES
		92 VERTICAL TONS ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CODE HAS BEEN
		INCONSISTENTLY USED: IN MOST CASES IT HAS NOT
		BEEN CODED ON THE INVENTORY LINE OF RELATIVE
		DEPTH IS MISSING FROM THE INVENTORY I THE. IT MAY
		man nu ma commenta como transmisma de marte de la m

A-98

DATA FORMAT

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		BE GIVEN ON THE DATA LINES OR CAN BE DETERMINED
46	TI	DISSUIVED PARTICLE CODE - CODES UNKNOWN. MAY NOT HAVE
-0	••	BEEN USED: APPEARS TO ALWAYS BE 0 (7ERD)
47	I 1	PUOLED CODE
~•	••	AT NOT A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	T 1	11VE CODE CODES UNKNOWN MAY NOT HAVE BEEN USED.
	••	APPEARS TO ALWAYS BE 0 (ZERO)
49	I1	ARCHIVE CODE
		B= NOT AN ARCHIVE SAMPLE
		1= AN ARCHIVE SAMPLE
50	I1	QUALITY CONTROL CODE
		BE NOT A QUALITY CONTROL SAMPLE
		1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE
		BLANK OR ØF BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52 - 53	12	CRUISE NUMBER
54-56	13	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
EP		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
2/=00	A4	PARENI SAMPLE CUDE FUR SUBSAMPLES
		NULE: FUR A SAMPLE WHICH IS NUL A SUBSAMPLE
L 1		HIS FIELD WILL CONTAIN XXXX UR DE DLANK
61	14	DEANN Deann
02-07	AO	1076, 1077 ETNAL DEDADTS TO DIM
		NOTE: MOST CODES WILL BE THE STANDADD & CHAPACTED
		VARIETY (IN COLS 42-45), THE ANDITIONAL COLS IN
		THIS FIFLD ARE FOR POOLED SAMPLES.
		F.G.S
		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 CSG-C.S. GIAM CHG-TM (SEDIMENT TRACE METALS) CHG-TEX(SEDIMENT TEXTURE) TSP-E. TAISOO PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-8.J. PRESLEY CHT-MST(EPIFAUNA CHEMISTRY TRAWL) WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK CHT-TM (EPIFAUNA TRACE METALS) EPI-FSH(EPIFAUNA DEMERSAL FISH) WEH-WILLIAM E. HAENSLY EPI-HC (EPIFAUNA HYDROCARBONS) JMN-JERRY M. NEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) EPI-HPT(EPIFAUNA HISTUPATHOLOGY) 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. WURMUTH

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INF-MST(INFAUNA MASTER) UT-PORT ARANSAS MARINE LAB. INF-SED(INFAUNA SEDIMENT) PLP-PATRICK L. PARKER NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHUTOMETRY) LMM-HC (LOW-MOLECULAR-MEIGHT 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 PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) SED- (SEDIMENT) EWB+E. N. 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 (WATER COLUMN) WAT-WAT-ATP (ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) WAT-C13(DELTA C13) UT-AUSTIN #AT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO #AT-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 (LUW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZOOPLANKTON) ***AT-MYC(*ATER 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 (ZDOPLANKTON 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 #5 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES **06 INVERTEBRATE EPIFAUNA AND INFAUNA** 07 BENTHIC FISH US HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE, DISSOLVED, ZOOPLANKTON 09 CHLOROPHYLL A 10 ADENOSINE TRI-PHOSPHATE 11 PHYTOPLANKTON 12 FLUORESCENCE 13 MEIOFAUNA

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

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LO	RAN	LO	RAC	LA	TITUDE	LON	GITUDE	DEP	тн
		3H3	3H2	LG	LR				ME	TERS	FEET
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	4	2583	4015	1206.53	157.92	28	14 N#	96	29 W*	10	33
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	6	2330	3892	819,72	412,96	27	39 N×	96	12 **	100	328
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	6	2898	3878	560.54	506.34	27	24 N×	96 2	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	56 3	58 N#	96 /	48 #*	65	213
	3	1775	3812	391.06	829.02	26 !	58 N*	96	33 w*	186	348
	4	1552	3885	95.64	928.13	26 !	58 N*	97 2	20 **	15	49
	5	1623	3867	192.19	888,06	26 !	58 N*	97 (82 w*	40	131
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4	1	1130	3747	187.50	1423.50	26	10 N#	97 (31 w*	27	88
	2	1300	3700	271.99	1310.61	26 1	10 N*	96 3	39 W×	47	154
	3	1425	3663	333.77	1241.34	26 1	10 N#	96 2	24 ₩*	91	298
	4	1073	3763	163.42	1456.90	26 1	10 N#	97 8	38 w*	15	49
	5	1170	3738	213.13	1387.45	26 1	10 N#	96 5	54 W×	37	121
	6	1355	3685	304.76	1272.48	26 1	10 N#	96 3	51 W#	65	213
	7	1448	3659	350.37	1224.51	26 1	LØ N*	96 2	20 W×	130	426
(HR)	1	2159	3900	635.06	422.83	27 3	52 Ø5N**	96 2	28 19w**	75	246
(9)	2	2169	3902	644.54	416.95	27 3	32 46N**	96 2	27 25***	72	237
	3	2163	3960	641.60	425.10	27 3	32 Ø5N**	96 2	27 35***	81	266
	4.	2165	3905	638.40	411.18	27 3	53 Ø2N**	96 2	29 03W**	76	250
(58)	1	2086	3889	563.00	468,28	27 2	26 49N**	96 3	51 18w**	81	266
(8)	2	2081	3889	560.95	475.80	27 2	26 14N**	96 3	51 02w**	82	269
	3	2074	3890	552.92	475.15	27 2	26 Ø6N**	96 3	51 47w**	82	269

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2078 3890 4 551.12 472.73 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 16 025210 7 11 CARD TYPE (ALWAYS 2) 8 11 SUB-STUDY AREA SAMPLE TYPE 1 = NISKIN AT DISCRETE DEPTHS 2 = NANSEN VERTICAL TOWS 3 = SEDIMENT SAMPLES 9 2X BLANK 11 **A**4 SAMPLE CODE* 15 2X BLANK 13 SPECIES IDENTIFICATION CODE** 17 20 F10 DENSITY*** FORMAT FOR CODED SPECIES LIST (FILE 16) -----START COLUMN FIELD TYPE FIELD CONTENT/DESCRIPTION 1 13 SPECIES CODE (IN CONSECUTIVE ORDER) 4 2 X BLANK 4A10 SPECIES NAME OR LOWEST DESCRIPTIVE TAXON 6 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

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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

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STEPHEN A. MACKO DELLA SCALAN

DIRECTORY FOR STUDY AREA

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: FUR 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	11	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	Ii	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH

17-18	12	DAY
19-20	12	YEAR TIME OF DAY (LOCAL CENTRAL DAVITENT TIME
21-24	14	OD CENTRAL DETELORS TIME
25	1 X	RLANK
26	ÎÎ	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		A KIG MUNITUKING AKLA
		DE SUUINERN DANN De Húrdttai Dúck
27	1 ¥	ALANK
28	10 11	STATION (SEE BUM STOCS MONITORING STUDY STATION
20	••	LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	▲4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	II	REPLICATE CODE
		US NUL A KEPLICALE SAMPLE
		DE DOD DEDI TCATE SAMPLE
		NOTE; REPLICATE CODE HAS NOT BEEN
		CONSISTENTLY USED; REPLICATE CODE MAY BE & FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	I 1	FILTERED CODE
		BE NUT APPLICAULE
		13 SAMPLE IS A FILIERED SAMPLE
a E		CE JAMPLE IS A NUN-FILIERED SAMPLE
43	* *	HE NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		65 NOT APPLICABLE
		SE ALIUAL DEPIH IN MELEKS GIVEN IN COLS. 34-30 Of VERTICAL TOWA ALL DEPIHS SAMPLED
		AR ACKILLAL IONY ALL DEPTHS SAMPLED
		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	POULED CODE
		UE NUI A PUULLU JAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I 1	LIVE CODE CODES UNKNOWN: MAY NOT HAVE BEEN USED:
	- •	APPEARS TO ALWAYS BE 0 (ZERO)
49	11	ARCHIVE CODE
		B= NOT AN ARCHIVE SAMPLE
	_	1= AN ARCHIVE SAMPLE
50	I 1	QUALITY CONTROL CODE
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		B= NOT A QUALITY CONTROL SAMPLE
		1= A QUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE
		BLANK OR Ø= BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54-56	13	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
57-64	A 4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIELD WILL CONTAIN XXXX OP BE BLANK
61	1 X	RIANK AND TILLE WILL CONTAIN ANAL ON DE DENNE
22229	48	PREVIOUS SAMPLE FORF ALLANS PREEDENCE TO 1975-
02-07	-0	1074. 1077 FINAL PEDDIS TO ALM
		NOTE: MOST CODE WILL BE THE STANDARD # CHARACTER
		NOTE - MUST COURS ATLE DE THE STANDARD & CHARACTER
		THIS ETCL A ADE ON DOALED SAMPLES
		THIS FIELD ARE FOR FOULED SAMPLES,
		Lebe =
		A) AAAA-L INDILATES A POULED SAMPLE MADE UP
		UF SAMPLES AAAA, AAAB, AAAC
		B) AAZY-BAA INDICATES A PODLED 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-IM (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 WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TH (EPIFAUNA TRACE METALS) 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. PLP-PATRICK L. PARKER INF-SED(INFAUNA SEDIMENT) NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) 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. JUHANSEN . NEU-TAX (NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED= (SEDIMENT) EWB-E. N. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON)

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SED-IM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
STD-ST (SALINITY-TEMPERATURE-DEPTH)
 TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
                                           UTSA-UNIV. OF TEXAS AT SAN ANTONIO
                                              SAR-SAMUEL A. RAMIREZ
 TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
                                              WVA-O. W. VAN AUKEN
VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
WAT-
       (WATER CULUMN)
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN 'BACTERIOLOGY)
WAT-C13(DELTA C13)
                                           UT-AUSTIN
                                              PJS-PAUL J. SZANISZLO
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
*AT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
WAT-DO (DISSOLVED DXYGEN)
                                           U.S.G.S.-CORPUS CHRISTI
WAT-FLU(FLUORESCENCE)
                                              HB-HENRY BERRYHILL
WAT-HC (WATER HYDROCARBONS)
WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICHOZOUPLANKTON)
WAT-MYC(WATER COLUMN MYCOLDGY)
                                           RICE-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)
                                           RU-RICE UNIVERSITY
wAT-N14(CARBON14 NANNOPLANKTON)
                                              REC-RICHARD E. CASEY
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)
STUDY AREA KEY
-----
B1 SALINITY AND TEMPERATURE, CURRENTS
U3 DISSOLVED OXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
US 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 (PROTOZDA)
 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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6LM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LO	RAN	LO	RAC	LAT	ITUDE	LON	GI	TUDE	DEP	тн
		3H3	3H2	LG	LR					ME	TERS	FEET
1	1	2575	4003	1186.07	171.46	28 1	2 N#	96	27	₩*	18	59
	2	2440	3950	961.49	275.71	27 5	5 N*	96	20	资金	42	138
	3	2300	3863	799,45	466.07	27 3	4 N#	96	07	WA	134	439
	4	2583	4015	1206.53	157.92	28 1	4 N#	96	29	**	10	33
	5	2360	3910	861.09	369.08	27 4	4 N*	96	14	W 🛪	82	269
	6	2330	3892	819.72	412.96	27 3	9 N#	96	12	的大	100	328
2	1	2078	3962	373.62	192.04	27 4	8 N#	96	59	₩ #	22	72
	2	2050	3918	454.46	382.00	27 3	9 N#	96	45	H *	49	161
	3	2040	3850	564.67	585.52	27 1	8 N*	96	23	##	131	430
	4.	2058	3936	431,26	310.30	27 3	4 N*	96	50	W±	36	112
	5	2032	3992	498.85	487.62	27 2	4 N*	96	36	NA .	78	256
	6	2068	3878	560.54	506.34	27 2	4 N*	96	29	W÷	98	322
	7	2045	3835			27 1	5 N*	96	18.	,5 ₩ *	182	600
3	1	1585	3880	139.13	989.98	26 5	8 N*	97	11	W#	25	82
	2	1683	3841	286,38	855.91	26 5	8 N#	96	48	₩ ★	65	213
	3	1775	3812	391.06	829.02	26 5	8 N#	96	33	Wat	106	348
	4	1552	3885	95.64	928.13	26 5	8 N#	97	20	Wet	15	49
	5	1623	3867	192.19	888.06	26 5	8 N*	97	82	田木	40	131
	6	1790	3808	411.48	824.57	26 5	8 N#	96	30	資本	125	410
4	1	1130	3747	187.50	1423.50	26 1	0 N#	97	01	W×	27	88
	2	1300	3700	271.99	1318.61	26 1	9 N+	96	39	W×	47	154
	3	1425	3663	333.77	1241.34	26 1	0 N*	96	24	道士 -	91	298
	4	1073	3763	163.42	1456.90	26 1	0 N*	97	68	**	15	49
	5	1170	3738	213.13	1387.45	26 1	0 N#	96	54	HH T	37	121
	6	1355	3685	304.76	1272.48	26 1	9 N*	96	31	M R I	65	213
	7	1448	3659	350.37	1224,51	26 1	0 N*	96	20	W×	130	426
(HR)	1	2159	3900	635.06	422.83	27 3	2 05N**	96	28	19w**	75	246
(9)	2	2169	3902	644.54	416.95	27 3	2 46N**	96	27	25#**	72	237
	3	2163	3900	641.60	425.10	27 3	2 05N**	96	27	35***	81	266
	4	2165	3905	638.40	411.18	27 3	3 Ø2N**	96	29	03***	76	250
(58)	1	2086	3889	563.00	468.28	27 2	6 49N**	96	31	18#**	81	266
(8)	5	2081	3889	560.95	475.80	27 2	6 14N##	96	31	02#**	82	269
	3	2074	3890	552.92	475,15	27 2	6 06N±*	96	31	47W**	82	269
	4	2078	3890	551.12	472.73	27 2	6 14N**	96 🔅	32	87₩**	82	269

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

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	026210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	▲4	SAMPLE CODE*
			15	11	STATION
			16	1 X	BLANK

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17	I 1	TRANSECT
18	1 X	BLANK
19	F6	DELTA CARBON 13 (PERMIL DEVIATIONS FROM THE PDB STANDARD)
25	F5	(STANDARD DEVIATION FOR REPEATED ANALYSES = 0.3) TOTAL ORGANIC CARBON (PERCENT ORGANIC CARBON OF DRY WEIGHT OF SEDIMENT
30	12	ON A CARBONATE FREE BASIS) Replicate number

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COMMENTS

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

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NUTE: 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

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 Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4=6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	11	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	▲4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
		OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	I1	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		45 TRANSECT 4
		7= RIG MONITORING AREA
		8= SOUTHERN BANK

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		9= HOSPITAL ROCK
27	1 X	BLANK
28	I1	STATION (SEE BLM STOCS MONITORING STUDY STATION
		LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A 5	AMPLE DISPOSITION (SEE KEY TO CODES)
27-20	11	SAMPLE DISFORTION (SEE NET TO CODED)
10-17 10-17	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	ĨĨ	REPLICATE CODE
		BE NOT A REPLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		2= 2ND REPLICATE SAMPLE
		ETC.
		NUILS REFLICATE CODE HAS NUI DEEN Concletentin Herd, deal Icate code han be a for
		A DEDITCATE RAMPLE WITH THE DEDITATE NUMBER
		APPEARING ON THE DATA LINES
44	11	FILTERED CODE
	••	D= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	11	RELATIVE DEPTH CODE
		B= NOT CODED
		12 SUKFACE
		ZA IZE FRUITE ZUNC Za Duntie Zone
		As 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 MUST CASES IT HAS NOT
		BEEN LUDED UN INE INVENIONT LINE; IF RELATIVE Death to minesing from the inventory line, it may
		AF GIVEN ON THE DATA LINES OR CAN BE DETERMINED
		FROM THE STUDY AREA
46	11	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
	••	BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	11	POOLED CODE
		0= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NUILI MAT NUI HAVE DEEN USEU Live code coder unknown, may not have been used.
40	11	ADDEADS TO ALWAYS RE & (7ERO)
40	71	ARCHIVE CODE
47	**	BE NOT AN ARCHIVE SAMPLE
		1 = AN ARCHIVE SAMPLE
50	11	QUALITY CONTROL CODE
		BE NOT A QUALITY CONTROL SAMPLE
_ .		1 A QUALITY CONTROL SAMPLE
51	11	CONTRACTED CUDE
		1 NOT A RIM CONTRACTED SAMPLE
52-52	12	CRUISE NUMBER
54-56	13	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	A 4	PARENI SAMPLE CUUE FUR JUDSAMPLES

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NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 1 X BLANK 61 62-69 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 84 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. TAISOD PARK CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-8.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 JMN-JERRY M. NEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) HH-WILLIAM E. HAENSLY EPI-HPT(EPIFAUNA HISTOPATHOLOGY) EPI-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ EPI-MST(EPIFAUNA MASTER) (ICHTHYOPLANKTON) 1CH-JHW-JOHN H. WORMUTH INF-MST(INFAUNA MASTER) UT-PORT ARANSAS MARINE LAB. INF-SED(INFAUNA SEDIMENT) PLP-PATRICK L. PARKER NPS-NED P. SMITH INF-TAX(INFAUNA TAXDNOMY) CVB-CHASE VAN BAALEN LGT-PZ (PHUTOMETRY) LMM-HC (LOM-MOLECULAR-MEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TM (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIDFAUNA) 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 (SEDIMENT) SED-EWB-E. N. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TH (SEDIMENT TRACE METALS) SDG-DEP(SEDIMENT DEPOSITION) SID-ST (SALINITY-TEMPERATURE-DEPTH) IDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY UTSA-UNIV. OF TEXAS AT SAN ANTONIO TRM-TUR(TRANSMISSOMETRY-TURBIDITY) SAR-SAMUEL A. RAMIREZ VT -MPL(MICRUZDOPLANKTON-VERTICAL TOW) WVA-O. W. VAN AUKEN WAT- (WATER COLUMN) #AT-ATP(ADENUSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) WAT-CI3(DELTA CI3) UT-AUSTIN WAT-CLN(CHLUROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO #AT-CLP(CHLOROPHYLL-PHYTOPLANKTON=76-77)

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WAT-DO (DISSULVED OXYGEN) U.S.G.S.-CORPUS CHRISTI WAT-FLU(FLUORESCENCE) HB-HENRY BERRYHILL MAT-HC (MATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) HAT-MPL(MICROZOOPLANKTON) WAT-MYC(WATER COLUMN MYCOLOGY) RICE-RICE UNIVERSITY MAT-NUT(NUTRIENTS) RU-RICE UNIVERSITY WAT-N14(CARBON14 NANNOPLANKTON) REC-RICHARD E. CASEY WAT-PHY(PHYTOPLANKTON) #AT-PRU(PRUTOZOA) WAT-P14(CARBON14 PHYTOPLANKTON) HAT-SSM(HATER-SUSPENDED SEDIMENT) MAT-TOC(TOTAL ORGANIC CARBON) ZCT-TM (ZOUPLANKTON TRACE METALS) ZPL-HC (ZOOPLANKTON HYDROCARBONS) ZPL-TAX (ZOOPLANKTON TAXONOMY) **ZPL-IM (ZOUPLANKTON TRACE METALS)** STUDY AREA KEY ***** **** *** **UI SALINITY AND TEMPERATURE, CURRENTS** 03 DISSOLVED OXYGEN, NUTRIENTS 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS **N5 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES** 06 INVERTEBRATE EPIFAUNA AND INFAUNA 07 BENTHIC FISH 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE, DISSOLVED, ZUOPLANKTON U9 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 ZUOPLANKTON 25 SHELLED MICROZOOPLANKTON 25 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

ALM STOCS MONITORING STUDY STATION LOCATIONS

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

	3	2300	3863	799.45	466.07	27	34	N#	96	87	W×	134	439
	4	2583	4015	1206.53	157.92	28	14	N#	96	29	W#	10	33
	5	2300	3910	861.09	369.08	27	44	N#	96	14	W th	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	祥大	22	72
	2	2050	3918	454,46	382.00	27	30	N#	96	45	對素	49	161
	3	2040	3850	564.67	585.52	27	18	N×	96	23	₩. x	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	授金	78	256
	6	2068	3878	560.54	506.34	27	24	N#	- 96	29	おキ	98	322
	7	2945	3835	-		27	15	N×	96	18	•5 W*	182	698
3	1	1585	3880	139.13	909.98	26	58	N#	97	• •	11 •	25	83
-	2	1683	3841	286.38	855.91	26	58	N±	96	ÅÅ.	W.+	45	212
	3	1775	3812	391-06	829.02	26	58	N±	96	72	14	105	248
	4	1552	3885	95.64	928.13	26	58	N#	97	20	ui e	15	40
	5	1623	3867	192.19	888.96	26	5A	Nit	97	02	int en	10	1 2 1
	6	1790	3848	411.48	824.57	26	58	N ±	96	20	in the	125	410
	-	••••			024027	20	50		70	50		153	-10
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	**	91	298
	4	1073	3763	163.42	1456.90	26	10	N×	97	88	**	15	49
	5	1170	3738	213.13	1387.45	26	10	N*	96	54	**	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	635.00	422.83	27	32	05N**	96	28	19=++	75	246
(9)	ž	2169	3902	644.54	416.95	27	32	46N++	96	27	25#**	72	237
•••	3	2163	3900	641.60	425.10	27	32	85N++	96	27	154++	81	265
	4	2165	3905	638.49	411.18	27	33	42N++	96	29	GTW##	76	250
										2,	0,000	10	630
(SB)	1	2986	3889	563.00	468.28	27	26	49N±±	96	31	18#**	81	266
(8)	2	2081	3889	560.95	475.80	27	26	14N**	96	31	82w**	82	269
	3	2074	3890	552.92	475.15	27	26	86N**	96	31	47w**	82	269
	4	2078	3890	551.12	472.73	27	26	14N**	96	32	07***	82	269

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

		START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2* 1	16	027210
		7	I1	CARD TYPE (ALWAYS 2)
		8	3 X	BLANK
		11	A 4	SAMPLE CODE**
		15	12	DEPTH (METERS)
		17	F4	LIGHT PENETRATION AT PRECEDING DEPTH (PERCENT)
		21	12	DEPTH (METERS)
		23	F4	LIGHT PENETRATION AT PRECEDING DEPTH (PERCENT)
		•	•	•
		•	•	•
		•	•	•
		69	12	DEPTH (METERS)
		71	F 4	LIGHT PENETRATION AT PRECEDING DEPTH (PERCENT)
	TYPE	3 1	16	827210
•			11	
		,	**	CARD ((FE (ALMAIQ 3)
		6	38	DLANN
		11	A4	SAMPLE CODE**

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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 BL

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: 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 -----FILE 22: METHODS, DATA FORMAT AND COMMENTS 1976 INVERTEBRATE EPIFAUNA HISTOPATHOLOGY FILE 23: 1977 INVERTEBRATE EPIFAUNA HISTOPATHOLDGY FILE 24: FILE 25: 1976 DEMERSAL FISHES HISTOPATHOLOGY FILE 26: 1977 DEMERSAL FISHES HISTOPATHOLOGY FILE 27: 1976 GONADAL TISSUE HISTOPATHOLOGY 1977 GONADAL TISSUE HISTOPATHOLOGY FILE 28: FILE 29: EXPLANATION OF CODES FOR DATA

METHODS

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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.

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CARD TYPE 1---STANDARD INVENTORY CARD---CULUMNS FIELD TYPE DESCRIPTION 11 ALWAYS Ø (ZERO) 1 2-3 12 STUDY AREA (SEE STUDY AREA KEY) ALWAYS 210 FOR MASTER FILES 4-6 13 7 I1 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 I1 9-18 2 X BLANK 11-14 ▲4 SAMPLE CODE (FINAL CODE ASSIGNED) 12 MONTH 15-16 17=18 15 DAY 19-20 YEAR 12 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 14 OR CENTRAL STANDARD TIME) 25 1 X BLANK SAMPLE COLLECTION AREA 59 11 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK 27 1 X BLANK STATION (SEE BLM STOCS MONITORING STUDY STATION 28 11 LOCATIONS) DEDAY; NENIGHT 29 A1 TYPE OF SAMPLE(SEE KEY TU CODES) 30-32 A3 SAMPLE DISPOSITION (SEE KEY TO CODES) 33-36 A4 SAMPLE USE (SEE KEY TO CODES) 37-39 A3 PRINCIPLE INVESTIGATOR (SEE KEY CODES) Replicate code 40-42 A3 43 I1 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 & FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES 11 FILTERED CODE 44 **BE NOT APPLICABLE** 1= SAMPLE IS A FILTERED SAMPLE 2 SAMPLE IS A NON-FILTERED SAMPLE 45 11 RELATIVE DEPTH CODE 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM S= BOTTOM 6= NOT APPLICABLE 8= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56

DATA FORMAT

A-116

MEH-WILLIAM E. HAENSLY EPI-HC (EPIFAUNA HYDROCARBONS) RR-RICHARD REZAK EPI-FSH(EPIFAUNA DEMERSAL FISH) MED-MITFIS E' DEGNECNAL MWS-MITFIS E' DEGNECNAL CHI-IM (EPIFAUNA TRACE METALS) CHT-MST(EPIFAUNA CHEMISTRY TRAWL) 6JP-8.J. PRESLEY CHT-HC (EPIFAUNA HYDROCARBONS) CHL- (TOTAL CHLOROPHYLL-1975) -1H2 TSP-E. TAISOO PARK CHG-TEX(SEDIMENT TEXTURE) CHG-TM (SEDIMENT TRACE METALS) THP-LINDA 4. PEQUEGNAT CHG-MST(CHEMISTRY GRAB) TIRAU-TEXAS A+M UNIVERSITY CHG-HC (SEDIMENT HYDROCARBONS) RAG-BAC(SEDIMENT BACTERIOLOGY) DISPOSITION AND PRINCIPLE INVESTIGATOR SAMPLE TYPE--SAMPLE USAGE ---- ---KEX 10 CODES UP OF SAMPLES AAZY, AAZY, AAAA B) AAZY-BAA INDICATES A POOLED SAMPLE MADE OF SAMPLES AAAA, AAAB, AAAC A) AAAA-C INDICATES A POOLED SAMPLE MADE UP THIS FIELD ARE FOR POOLED SAMPLES, AARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN NOTE: MOST CODES WILL BE THE STANDARD 4 CHARACTER 1976, 1977 FINAL REPORTS TO BLM BREVIDUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 69-29 84 BLANK ΧĪ 19 THIS FIELD WILL CONTAIN XXXX OR BE BLANK NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE PARENT SAMPLE CODE FOR SUBSAMPLES 99-15 77 993 MEANS VERTICAL TOW FROM SS TO SU METERS 993 MEANS VERTICAL TOW FROM SS METERS TO BOTTOM 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS NOTE: 999 MEANS NOT APPLICABLE SAMPLE DEPTH IN METERS ٤I 95-75 CRUISE NUMBER 71 25-25 I= NOT & BLM CONTHACTED SAMPLE BLANK OR BE BLM CONTRACTED SAMPLE CONTRACTED CODE 15 II 1= A QUALITY CONTROL SAMPLE QUALITY CONTROL CODE 0= NOT A QUALITY CONTROL SAMPLE 1 T 05 I= VN VECHINE SAMPLE 0= NOI VN VECHINE SYMDLE ARCHIVE CODE II 67 APPEARS TO ALWAYS BE @ (ZERO) FIAE CODE -- CODES DAKADMAN' WAL ANT HAVE BEEN DRED; 11 87 NOTE: MAY NOT HAVE BEEN USED 1= A POOLED SAMPLE B= NOT & POOLED SAMPLE POOLED CODE II 17 BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO) DISSOFAED BYGLICTE CODE -- CODES NAKNOWA: WYA NOL HYAE ΤŤ 91 A39A YOUTS 3HT MORT BE CIVEN ON THE DATA LINES OR CAN BE DETERMINED DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BEEN CODED ON THE INVENTORY LINE; IF RELATIVE INCONSISTENTLY USED; IN MOST CASES IT HAS NOT NOTE: RELATIVE DEPTH CODE HAS BEEN

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LII-A

0= VERTICAL TOW; ALL DEPTHS SAMPLED

EPI-HPI(EPIFAUNA HISTOPATHOLOGY) JMN-JERRY M. NEFF EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) EPI-MST(EPIFAUNA MASTER) JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. (ICHTHYOPLANKTON) 1CH= INF-MST(INFAUNA MASTER) PLP-PATRICK L. PARKER INF-SED(INFAUNA SEDIMENT) NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) 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 DK-DAN L. KAMYKOWSKI MMS-MST(MEIOFAUNA MASTER GRAB) PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) (SEUIMENT) EWB-E. W. BEHRENS SED-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 SAR-SAMUEL A. RAMIREZ TRM-TUR(TRANSMISSOMETRY-TURBIDITY) WVA-O. W. VAN AUKEN VT -MPL(MICROZOUPLANKTON-VERTICAL TOW) WAT- (WATER COLUMN) WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) UT+AUSTIN WAT-C13(DELTA C13) WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77) U.S.G.S.-CORPUS CHRISTI MATHDO (DISSOLVED OXYGEN) WAT-FLU(FLUORESCENCE) HB-HENRY BERRYHILL WAT-HC (WATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZOOPLANKTON) RICE-RICE UNIVERSITY WAT-MYC(WATER COLUMN MYCOLOGY) RU-RICE UNIVERSITY WAT-NUT(NUTRIENTS) WAT-N14(CARBON14 NANNOPLANKTON) REC-RICHARD E. CASEY #AT-PHY(PHYTOPLANKTON) WAT-PRO(PROTOZOA) WAT-P14(CARBON14 PHYTOPLANKTON) WAT-SSM(WATER-SUSPENDED SEDIMENT) WAT-TUC(TOTAL ORGANIC CARBON) ZCT-TM (ZDOPLANKTON TRACE METALS) ZPL-HC (ZOOPLANKTON HYDROCARBONS) ZPL-TAX(ZOUPLANKTON TAXONOMY) ZPL-TM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY **B1 SALINITY AND TEMPERATURE, CURRENTS** W3 DISSOLVED OXYGEN, NUTRIENTS 04 LDW-MOLECULAR-WEIGHT HYDROCARBONS US HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES 86 INVERTEBRATE EPIFAUNA AND INFAUNA **Ø7 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, BACTERIDLOGY, ACCOLOGY IN SEDIMENT 23 MICROZOOPLANKTON (PROTOZOA) 24 ZOOPLANKTON 25 SHELLED MICROZODPLANKTON 26 TOTAL ORGANIC CARBON AND DELTA CHRBON 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		LC	LATITUDE		LONGITUDE			DEPTH			
		3н3	3H2	LG	-4						ME	TERS	FEET
1	1	2575	4803	1180.07	171.46	28	12	N#	96	27	**	18	59
	2	2440	3950	961.49	275.71	27	55	N#	96	20	Wt	42	138
	3	2300	3863	799.45	453.87	27	34	N×	96	07	Wt	134	439
	4	2583	4015	1206.53	157.92	28	14	N#	96	29	**	10	33
	5	2368	3910	861.09	364,38	27	44	N#	96	14	用大	52	2 9 9
	6	2330	3892	819,72	412,96	27	39	N#	96	12	Wat	198	325
2	1	2078	3962	373.62	1-2.04	27	40	N*	96	59	21 *	22	72
	2	2050	3918	454.46	382.28	27	30	N#	96	45	ie 🛪	49	161
	3	2040	3850	564,67	385.32	27	18	N#	96	23	港市	131	438
	4	2058	3936	431.20	310.30	27	34	N#	96	50	W #	36	112
	5	2032	3992	498.85	487,02	27	24	NĦ	96	36	1911年	78	256
	6	2908	3878	560.54	580.34	27	24	N×	96	-59	黄素	98	322
	7	2045	3835			27	15	N#	96	18	.5 ₩×	182	600
3	1	1585	3880	139,13	999,98	26	58	N*	97	11	W A	25	82
	2	1683	3541	286.38	855.91	26	58	N#	96	48	光井	٥5	213
	3	1775	3812	391.06	829,92	26	58	N#	96	33	财业	106	348
	4	1552	3885	95.64	928.13	26	58	N#	97	20	K *	15	49
	5	1623	3867	192.19	888.26	26	58	N#	97	02	W #	40	131
	6	1798	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	3788	271.99	1310.61	59	10	N#	96	39	**	47	154
	3	1425	3663	333.77	1241.34	26	10	N#	96	24	资本	91	298
	4	1073	3763	163.42	1456.90	56	10	N×	97	08	**	15	49
	5	1170	3738	213.13	1387.45	26	10	N*	96	54	WII	37	121
	6	1355	3685	304.76	1272,48	26	10	N#	96	31	**	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	19#**	75	246
(9)	2	2169	3902	644.54	416.95	27	32	46N**	96	27	25₩**	72	237
	3	2103	3900	641.60	425.10	27	32	05N**	96	27	35W**	81	266

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3985 411.18 27 33 Ø2N** 96 29 Ø3W** 76 2165 638.40 250 468.28 27 26 49N** (SB) 2086 3889 96 31 18******* 1 563.00 81 266 (8) 2081 3889 560.95 475.80 27 26 14N** 96 31 02W** 82 269 2 552,92 2074 3890 475.15 27 26 86N** 96 31 47w** 82 269 3 472.73 27 26 14N** 96 32 87W** 4 2078 3890 551.12 82 269 MEANS DEGREES AND MINUTES NOTE: * MEANS DEGREES MINUTES SECONDS ** START COLUMN FIELD TYPE FIELD CONTENT/DESCRIPTION CARD TYPE 2 1 16 030210 CARD TYPE (ALWAYS 2) 7 11 8 3X BLANK 11 A4 SAMPLE CODE* 15 3X BLANK PRINCIPLE INVESTIGATORS SPECIAL SAMPLE CODE 18 A6 A1 PRINCIPLE INVESTIGATORS INITIAL 24 H = HAENSLEY N = NEFF R = RAMIREZ 25 SEX A1 M = MALE F = FEMALE H = HERMAPHRODITIC 29 13 ORGAN CODE** 32 LOCATION CODE** 13 35 13 CONDITION OR PATHOLOGY CODE** DESCRIPTION OF SEXUAL DEVELOPMENT OR 38 4410 PATHOLOGICAL CONDITION (FOR FILES 27

FORMAT FOR CODES ON DATA SHEETS (FILE 29) ----- --- ----- ----- ------

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	13	CODE
4	2X	BLANK
6	6A10	SPECIES, ORGANS, LOCATIONS, PATHOLOGY,
		OR CONDITION DESCRIPTION

AND 28 ONLY--GUNADAL TISSUE DATA)

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CUMMENTS -----

4

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

NUTE: 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) E. W. BEHRENS (EWB) University of texas marine science institute (UT) PRINCIPLE INVESTIGATOR: 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

FILE 30: METHODS, DATA FORMAT AND COMMENTS FILE 31: 1976 SEDIMENT TEXTURAL ANALYSIS FOR INFAUNA AND MEIOFAUNA FILE 32: 1977 SEDIMENT TEXTURAL ANALYSIS FOR INFAUNA AND MEIOFAUNA FILE 33: 1977 SEDIMENT TEXTURAL ANALYSIS FOR BACTERIOLOGY AND MYCOLOGY

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.

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DATA FORMAT

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

CULUMNS FIELD TYPE DESCRIPTION 1 I1 ALWAYS Ø (ZERO)

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2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
8	II	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2x	BLANK
11-14	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15=16	12	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
		OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	Ii	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		BE SOUTHERN BANK
		98 HOSPITAL ROCK
27	1 X	BLANK
28	T1	STATION (SEE BUM STOCS MONITORING STUDY STATION
20	••	Incations)
29	A 1	DEDAY+ NENTCHT
10-12	22	TYPE OF RAMPLE (REE KEY TO CODES)
31-36	~ J & 4	SAMPLE DE SAMPLE(SEE RET TO CODES)
37-30	A 3	SAMPLE DIGITION (SEE RET TO CODES)
44-42	43	BOINCIDE INVERTIGATOR (REE KEV CONER)
40-42	11	PRINCIPLE INVESTIGATION COLE NET CODEST
	* * .	ANNT A DEDITEATE GAMPIE
		1+ 167 DED: 10475 QAMD: 5
		De DAN DEDITCATE GAMDIE
		ETT ALTERAL GAMPEL
		NOTE - BERITEATE FORE WAR NOT BEEN
		CONSTRUCTION DECENTRATION DECH
		A DEDITCATE RANDIE WITH THE DEDITCATE WUNDED
		ABBEADING ON THE DATA IINED A REFLICATE DAMPLE WITH THE REFLICATE NUMBER
44	T 1	FILTER CORE
	••	
		IN GAMDIE TE A ETITEDEN SAMBIE
		JE SAMDIE IS A NAN-EI TENER GAMDIE
#E	11	DELATIVE DEDIN CODE
43	* *	RELATIVE DEFIN GUVE
		Je BURSACS
		18 JUNFALE De 1/2 BUNTIC 70NE
		Z= I/E FRUILL LUNE
		38 FIUILE ZUNE Ne Photic Zone to Rottom
		Se RATION
		SH NOT APPLICABLE
		DE NUI AFFEICADEE De Nui Affeicadee De Nui Affeicadee
		Ge REDTEAL TOW, ALL DEDTHE CAMBLED
		NOTE: DELATIVE OFDIM CODE HAS BEEN
		THEORETENTIA HEEDA IN MORT CASES IT HAS NOT
		DEEN COLED ON THE INVENTORY LINES II HAS NOT
		DEDIM IS MISSING FOUM THE INVENTODA FINE IT MAN Defin coder on the Inventori Finel it kepailae
		RE GIVEN ON THE DATA I THER OD CAN BE DETERMINED
		FROM THE STHDY AREA
46	13	DISSOLVED PARTICLE CODE - CODES INKNOWN - MAY NOT HAVE
~ •		REEN USED: APPEARS TO ALWAYS RE & (7FRO)
47	T 1	POOLED CODE
		9% NOT A POOLED SAMPLE
		1 A POOLED SAMPLE
		the state of the second s

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		NOTE - MA	A NOT MAVE DEEN HEED
48	11	LIVE CODE CO	T NUT HAVE BEEN USED DES UNKNUWN; MAY NOT HAVE BEEN USED; TO ALWAYS RF Ø (ZERO)
49	I 1	ARCHIVE CODE	N ARCHIVE SAMPLE
		1= AN AR	CHIVE SAMPLE
50	I1 .	QUALITY CONTROL	CODE
		B= NOT A	QUALITY CONTROL SAMPLE
E 1		1= A QUA	LITY CONTROL SAMPLE
21	**	RIANK OP	R- RIM CONTRACTED SAMPLE
		1= NOT A	BLM CONTRACTED SAMPLE
52-53	15	CRUISE NUMBER	
54-50	13	SAMPLE DEPTH IN	METERS;
		NOTE: 999 MEA	NS NOT APPLICABLE
		991 MEA	NS VERTICAL TOW FROM SURFACE TO 25 METERS
		992 MEA	NS VERTICAL TOW FROM 25 TO 50 METERS
57-60	A4	PARENT SAMPLE C	ODE FOR SUBSAMPLES
		NOTE: FO	R A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIE	LD WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK	
62-69	88	PREVIOUS SAMPLE	CODE ALLOWS REFERENCE TO 1975,
		19/6, 19	// FINAL REPURIS IN BLM St codes will be the standard " character
		VARTET MU	(IN COLS, A2=A5)+ THE ADDITIONAL COLS IN
		THIS FIE	LD ARE FOR PODLED SAMPLES;
		E.G.=	
		AAAA (A	-C INDICATES A POOLED SAMPLE MADE UP
		OF S	AMPLES AAAA,AAAB,AAAC
		UP 0	-BAA INULLAIES A FUULEU SAMPLE MAUE 6. sampies aaty, aatt, abaa
			SAMPLES ANLIANLLINGAN
KEY TO CODE	S.		
	-		
SAMPLE TYP	ESAMPL	E USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC (SE	DIMENT B	ACTERIOLOGY)	
CHG-HC (SE	DIMENT H	YDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST (CH	EMISTRY	GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TH (SE	DIMENT T	RACE METALS)	CSG-C.S. GIAM
CHG=TEX(SE	DIMENT T	EXTURE)	TSP-E, TAISOD PARK
CHL- (IU CHI-HC (FR	TEANNA H	VDPATEL-1973)	HIDLE I ODECLEV
CHT+MST(EP	IFAUNA C	HEMISTRY TRAWL)	WMSewilliam M. Sarkett
CHT-TM (EP	IFAUNA T	RACE METALS)	WEP-WILLIS F. PEQUEGNAT
EPI-FSH(EP	IFAUNA D	EMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (EP	IFAUNA H	YDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(EP	IFAUNA H	ISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(EP	IFAUNA H	ISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(EP	IFAUNA I	NVERTEBRATES)	JN-JERRY M. NEFF
- ELT-421(Fb	IFAUNA Mi Mtuyndi i	NG (EKJ	JKS-JUHN K, SCHWARZ
INFeMST(IN	FAUNA MA	STER)	UT-DUNK N. HUKMUIN UT-PART ARANSAS MARTNE LAR
INF-SED(IN	FAUNA SEI	DIMENT)	PLP+PATRICK L. PARKER
INF-TAX(IN	FAUNA TA	KONOMY)	NPS-NED P. SMITH
LGT-PZ (PH	OTUMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LO	W-MOLECU	LAR-#EIGHT HYDROCA	RBONS) JSH-J. SELMON HOLLAND
MNK-TM (MA	CRONEKTO	N TRACE METALS)	
MMS-C13(TO	TAL ORGAI	NIC CARBUN AND DEL	TA C13 IN SEDIMENT)

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MMS-MEI(MEIOFAUNA)
                                              DEM-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. M. BEHRENS
 SED-HC (SEUIMENT HYDROCARBONS)
 SED-MPL(SEDIMENT MICROZOOPLANKTON)
 SED-TM (SEDIMENT TRACE METALS)
SDG-DEP(SEDIMENT DEPOSITION)
 STD-ST (SALINITY-TEMPERATURE-DEPTH)
 TUC-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
       (WATER COLUMN)
 hAT-
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
 WAT-CI3(DELTA CI3)
                                           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)
                                              H8-HENRY BERRYHILL
 WAT-HC (WATER MYDROCARBONS)
 WAT-LH (LON-MOLECULAR-WEIGHT HYDROCARBONS)
WAT-MPL(MICROZOOPLANKTON)
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                           RICE-RICE UNIVERSITY
 WAT-NUT (NUTRIENTS)
                                           RU-RICE UNIVERSITY
 #AT-N14(CARDOH14 NANNOPLANKTON)
                                              REC-RICHARD E. CASEY
WAT-PHY(PHYTOPLANKTON)
wAT-PRO(PROTOZOA)
 #AT-P14(CARBUN14 PHYTOPLANKTON)
WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TOC(TOTAL URGANIC CARBON)
 ZCT-TM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZODPLANKTON 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
38 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE,
          DISSOLVED, ZOOPLANKTON
49 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTUN
12 FLUORESCENCE
13 MEIUFAUNA
14 NEUSTON
15 TRACE METALS
16 CARBON 14
19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
24 ZOUPLANKTUN
25 SHELLED MICROZOOPLANKTON
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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.	L	ORAN		LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	*	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	67	# *	134	439
	4	2583	4015		1206.53	157.92	28	14	N*	96	29	**	10	33
	5	2360	3910		861.09	369.08	27	44	N*	96	14	资本	82	269
	6	2330	3892		819.72	412.96	27	39	N#	96	12	**	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	N #	49	161
	3	2040	3850		564.67	585.52	27	18	NĦ	96	23	W R	131	430
	4	2058	3936		431.20	310.30	27	34	N#	96	50	NR.	36	112
	5	2032	3992		498.85	487.62	27	24	N#	96	36	**	. 78	256
	6	2008	3878		560,54	506.34	27	24	N#	96	29	**	98	322
	7	2045	3835				27	15	N*	96	18	•2 M*	182	600
3	1	1585	3880		139.13	909.98	59	58	N#	97	11	W×	25	82
	2	1683	3841		286.38	855,91	26	58	N#	96	48	WA	65	213
	3	1775	3812		391.06	829.02	26	-58	N#	96	33	W×	196	348
	4	1552.	3885		95.64	928.13	26	58	N#	97	20	**	15	49
	5	1623	3867		192,19	888.06	- 26	58	Nt	97	02	¥*	40	131
	6	1790	3808		411,48	824.57	26	58	N#	96	30	**	125	410
4	1	1130	3747		187.50	1423.50	26	19	N#	97	01	# *	27	88
	2	1300	3700		271.99	1310.61	26	10	N#	96	39	W #	47	154
	3	1425	3063		333,77	1241.34	26	10	N#	96	24	8 *	91	298
	4	1073	3763		163.42	1456.90	26	10	N#	97	88	W #	15	49
	5	1170	3738		213.13	1387.45	26	10	N=	96	54	資金	37	121
	6	1355	3685		304.76	1272.48	26	10	N*	96	31	W A	65	213
	7	1448	3659		350.37	1224.51	26	10	N*	96	20	**	130	426
(HR)	1	2159	3900		635.06	422.83	27	32	05N**	96	28	19W**	75	246
(9)	2	2169	3982		644.54	416.95	27	32	46N**	96	27	25#**	72	237
	3	2163	3900		641.60	425.10	27	32	05N##	96	27	35₩××	81	266
	4	2165	3905		638.40	411.18	27	33	95N**	96	29	03#**	76	250
(SB)	1	2086	3889		563.00	468.28	27	56	49N**	96	31	18***	81	266
(8)	2	2881	3889		560.95	475.80	27	26	14N**	96	31	85M¥¥	82	269
	3	2074	3890		552.92	475.15	27	26	86N**	96	31	47***	82	269
	4	2078	3890		551.12	472.73	27	26	14N**	96	32	07***	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					

** MEANS DEGREES MINUTES SECONDS

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			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	S	1	16	019210
			7	I 1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	▲4	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
			69	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: FUR 1975 DATA THE FIRST CHANACTER OF THE SAMPLE CODE IS A BLANK FUR 1976 DATA THE FIRST CHARACTER OF THE SAMPLE CODE IS AN A FUR 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: 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 ALWAYS Ø (ZERO) 11 1 2-3 STUDY AREA (SEE STUDY AREA KEY) 15 4-0 13 ALWAYS 210 FOR MASTER FILES 7 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 11 8 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 9-10 BLANK 2X 11 = 14**A**4 SAMPLE CODE (FINAL CODE ASSIGNED) 15-16 12 MONTH 17-18 12 DAY 19-20 15 YEAR TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 14

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A-127

		OR CENTRAL STANDARD (IME)
25	1 X	BLANK
26	Ī 1	SAMPLE COLLECTION AREA
20	••	
		ZE IRANSELI Z
		3= TRANSECT 3
		AI TRANSECT 4
		7= RIG MONITORING AREA
		A= SOUTHERN BANK
		ST HOSPITAL BOCK
~ ~		BI ANY
21	1.4	DLARN
28	11	STATION (SEE BLM STOCS MUNITURING STUDY STATION
		LOCATIONS)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	<u>.</u>	SAMPLE DISPOSITION (SEE KEY TO CODES)
27-20		RAMPLE LISE (SEE KEY TO CODES)
37-37	A.3	ANALE DE LALE NET DE COLOR
40-42	A S	PRINCIPLE INVESTIGATOR (SEE RET CODES)
43	11	REPLICATE CODE
		Ø= NOT A REPLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		2± 2ND REPLICATE SAMPLE
		FIC
		LIGE DEDITENTE CODE MÁR NOT REFA
		NULE, REFLICATE CODE HAS NOT DEEN
		CONSISTENILY USED; REPLICATE CUDE MAT BE D FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	I1	FILTERED CODE
• •		BE NOT APPLICABLE
		1- CANDIE TO A FTI TEDED GANDIE
		LA SAMPLE IS A HILLELL SAMPLE
_		2 SAMPLE IS A NUN-FILIERED SAMPLE
45	11	RELATIVE DEPTH CODE
		BE NOT CODED
		1= SURFACE
		2# 1/2 PHOTIC ZONE
		3# PHOTIC ZONF
		AT PHOTIC ZONE TO BOTTOM
		SE BUTTUM
		65 NUT 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 CORED ON THE INVENTORY I THEN TE BELATIVE
		BEN CUPED ON THE INTERIORY LINE, IN REPAIRE
		DEPTH IS MISSING FROM THE INVENTORY CINE, IT MAT
		BE GIVEN ON THE DATA LINES OF CAN BE DETERMINED
		FROM THE STUDY AREA
46	I 1	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
-		BEEN USED: APPEARS TO ALWAYS BE 0 (ZERO)
47	71	POOLED CODE
	**	A DAT A DAN EN RAMPIE
		1= A FUDLED 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	I 1	ARCHIVE CODE
- •		OR NOT AN ARCHIVE SAMPLE
		1 AN ADCHTVE SAMPLE
E		14 AN ARGUITE VAN BE
20	11	WURLINT LUNIKUL LUDE
		DE NUT A QUALITY CUNTRUL SAMPLE
		1= A GUALITY CONTROL SAMPLE
51	I 1	CONTRACTED CODE

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		BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54-56	13	SAMPLE DEPTH IN METERS; NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TON FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TOW FROM 25 TO 56 METERS
		993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	▲4	PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK
62 - 69	A 8	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 PODLED SAMPLE MADE UP OF SAMPLES AAZY,AAZZ,ABAA
KEY TO CUD	ES	

SAMPLE TYPE--SAMPLE USAGE DISPOSITION AND PRINCIPLE INVESTIGATOR BAG-BAC(SEDIMENT BACTERIOLOGY) CMG-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 TSP-E. TAISOD PARK CHG-TEX(SEDIMENT TEXTURE) 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 LPI-HP1(EPIFAUNA HISTOPATHOLOGY) JMN-JERRY M. NEFF WH-WILLIAM E. HAENSLY EPI-HPT(EPIFAUNA HISTOPATHOLOGY) 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 CV8-CHASE VAN BAALEN LGT-PZ (PHOTOMETRY) 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) DEN-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) ENG-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)

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TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY UTSA-UNIV. OF TEXAS AT SAN ANTONIO SAR-SAMUEL A. RAMIREZ THM-TUR(TRANSMISSOMETRY-TURBIDITY) v1 -MPL(MICROZOOPLANKTON-VERTICAL TOW) WVA-D. W. VAN AUKEN WAT-(WATER COLUMN) WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIDLOGY) WAT-C13(DELTA C13) UT-AUSTIN WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO #AT-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 CULUMN MYCOLOGY) RICE-RICE UNIVERSITY RU-RICE UNIVERSITY REC-RICHARD E. CASEY WAT-NUT(NUTRIENTS) WAT-N14(CARBON14 NANNOPLANKTON) **WAT-PHY(PHYTUPLANKTON)** WAT-PRO(PROTOZDA) WAT-P14(CARBON14 PHYTOPLANKTON) WAT-SSM(WATER-SUSPENDED SEDIMENT) WAT-TOC(TOTAL ORGANIC CARBON) ZCT-TM (ZOUPLANKTON TRACE METALS) ZPL-HC (ZOUPLANKTON HYDROCARBONS) ZPL-TAX(ZOOPLANKTON TAXONOMY) ZPL-TM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY -----**U1 SALINITY AND TEMPERATURE, CURRENTS** W3 DISSOLVED OXYGEN, NUTRIENTS 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES **B6 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 10 CARBON 14 19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT 23 MICROZOOPLANKTON (PROTUZOA) 24 ZOOPLANKTON 25 SHELLED MICROZOOPLANKTON 26 TOTAL DRGANIC CARBON AND DELTA CARBON 13 27 Light Absorption (Photometry) 30 HISTOPATHOLOGY 40 BENTHIC MICROBIOLOGY 41 WATER COLUMN MICROBIOLOGY 42 BENTHIC MYCULOGY 43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	L	ORAN		LO	RAC	Ľ	ATI	TUDE	LO	NGI	TUDE	DEP	тн
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N*	96	27	N×	18	59
	2	2440	3950		961.49	275.71	27	55	N×	96	20	***	42	138
	3	2300	3863		799.45	466.07	27	34	N#	96	87	WR	134	439
	4	2583	4015		1206.53	157.92	28	14	N×	96	29	W.S.	10	33
	5	2360	3910		861.09	369.08	27	44	N#	96	14	**	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	**	22	72
	2	2050	3918		454.46	382.00	27	30	N#	96	45	N 🛪	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	WA	36	112
	5	2032	3992		498.85	487.62	27	24	N#	96	36	Ж×	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	3889		139.13	909.98	26	58	N#	97	11	W ×	25	82
	2	1683	3841		286.38	855.91	26	58	N#	96	48	WR	65	213
	3	1775	3812		391.06	829.02	26	58	N#	96	33	**	186	348
	4	1552	3885		95.64	928.13	26	58	N#	97	20	W±	15	49
	5	1023	3867		192,19	888.06	26	58	N×	97	12	W #	40	131
	6	1790	3808		411.48	824.57	59	58	N±	96	30	N×	125	419
4	1	1130	3747		187.50	1423.50	26	10	N#	97	01	W ×	27	88
	2	1300	3700		271.99	1318.61	26	10	N≠	96	39	**	47	154
	3	1425	3663		333.77	1241.34	26	10	N×	96	24	**	91	298
	4	1073	3763		163.42	1456.90	56	10	N#	97	88	×*	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	**	65	213
	7	1448	3659		350.37	1224,51	26	10	N±	96	20	**	130	426
(HR)	1	2159	3900		635,06	422.83	27	32	85N**	96	28	19₩##	75	246
(9)	2	2169	3985		644.54	416.95	27	32	46N**	96	27	25#**	72	237
	3	2163	3900		641.60	425.10	27	32	05N#*	96	27	35#**	81	266
	4	2165	3905		638.40	411.18	27	33	82N**	96	29	03₩**	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	82#**	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	MI	UTES					
				**	MEANS	DEGREES	MINU	JTES	S SECON	DS				
								•						

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION `
CARD	TYPE	2	1	16	014210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A 4	SAMPLE CODE:
			15	F7	DRY WEIGHT (GRAMS/1,000 CUBIC METERS)
CARD	TYPE	3	1	16	014210
			7	II	CARD TYPE (ALWAYS 3)
			8	3 X	BLANK

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FORMAT FOR CODED SPECIES LIST (FILE 37)

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START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	13	CONSECUTIVE ORDER
4	1 X	BLANK
5	I12	V.I.M.S. CODE
17	1 X	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.

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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 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---

CULUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	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	2 X	BLANK
11-14	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	15	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
		OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	11	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3

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		4= TRANSECT 4 7= RIG MONITORING AREA 8= Southern Bank 9= Hospital Bock
27	1 X	RIANK
28	11	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	A 4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
49-42	A 3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	11	REPLICATE CODE Ø= 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 Ø FOR A REPLICATE SAMPLE NITH THE REPLICATE NUMBER APPEAPING ON THE DATA LINES
44	11	FILTERED CODE
	••	ØF NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	11	RELATIVE DEPTH CODE B: 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	11	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE been used; appears to always be Ø (Zero)
47	11	POOLED CODE B= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED
48	11	LIVE CODE CODES UNKNUWN; MAY NOT HAVE BEEN USED; Appears to always be 0 (Zero)
49	Ii	ARCHIVE CODE Ø= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE
50	11	QUALITY CONTROL CODE U= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE
51	11	CONTRACTED CODE Blank or 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54-56	13	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 **A**4 PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK BLANK 1 X 61 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM 62-69 48 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-TH (EPIFAUNA TRACE METALS) WEP-WILLIS E. PEQUEGNAT EPI-FSH(EPIFAUNA DEMERSAL FISH) RR-RICHARD REZAK EPI-HC (EPIFAUNA HYDROCARBONS) WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY EPI-INV(EPIFAUNA INVERTEBRATES) JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH EPI-MST(EPIFAUNA MASTER) ICH- (ICHTHYUPLANKTON) UT-PORT ARANSAS MARINE LAB. INF-MST(INFAUNA MASTER) INF-SED(INFAUNA SEDIMENT) PLP-PATRICK L. PARKER NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) LMW-HC (LDW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIOFAUNA) DEW-DONALD E. WOHLSCHLAG MMS-MST(ME10FAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED-(SEDIMENT) EWB-E. W. BEHRENS SED-HC (SEDIMENT HYDROCARBONS) SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TH (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 VI -MPL(MICROZOOPLANKTON-VERTICAL TOW) WVA-D. W. VAN AUKEN WAT- (WATER COLUMN) WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY)

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WAT-C13(DELTA C13)
                                          UT-AUSTIN
 WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                             PJS-PAUL J. SZANISZLO
 #AT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
 WAT-DO (DISSOLVED OXYGEN)
                                          U.S.G.S.-CORPUS CHRISTI
 WAT-FLU(FLUORESCENCE)
                                             HB-HENRY BERRYHILL
 MAT-HC (MATER MYDROCARBONS)
 WAT-LH (LOW-MULECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL (MICROZUOPLANKTON)
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                          RICE-RICE UNIVERSITY
 WAT-NUT(NUTRIENTS)
                                          RU-RICE UNIVERSITY
 WAT-N14(CARBON14 NANNOPLANKTON)
                                             REC-RICHARD E. CASEY
 WAT-PHY(PHYTGPLANKTON)
 WAT-PRO(PROTOZUA)
 #AT-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 (ZODPLANKTON TRACE METALS)
STUDY AREA KEY
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 61 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED DXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 06 INVERTEBRATE EPIFAUNA AND INFAUNA
 87 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 ZODPLANKTON
 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
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1	1	2575	4003	1	180.07	171.46	28	12	N*	96	27	WR	18	59	
	2	2440	3950		961.49	275.71	27	55	N#	96	20	WA	42	138	
	3	2300	3863		799.45	406.07	27	34	N*	96	07	树木	134	439	
	4	2583	4015	1	206.53	157.92	28	14	N×	96	29	**	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	WA	100	328	
2	1	2078	3962		373.62	192.04	27	40	N#	96	59	W ×	22	72	
	5	2050	3918		454.46	382.00	27	30	N×	96	45	# *	49	161	
	3	2040	3850		564.67	585.52	27	18	N×	96	23	拼文	131	430	
	4	2058	3930		431.26	310.30	27	34	N#	96	50	N A	36	112	
	5	2032	3992		498.85	487.62	27	24	N#	96	36	**	78	256	
	6	2908	3878		560.54	506.34	27	24	N#	96	29	₩±	98	322	
	7	2045	3835				27	15	N#	96	18	•2 M≭	182	604	
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	**	65	213	
	3	1775	3812		391.06	829.02	26	58	NĦ	96	33	**	106	348	
	4	1552	3885		95.64	928.13	26	58	N#	97	20	**	15	49	
	5	1623	3867		192.19	888.06	26	58	N≠	97	65	M #	40	131	
	6	1790	3868		411.48	824,57	26	58	NĦ	96	30	W¥	125	410	
4	1	1130	3747		187.50	1423.50	26	10	N×	97	01	**	27	88	
	2	1300	3760		271.99	1310.61	59	19	N*	96	39	W ×	47	154	
	3	1425	3663		333.77	1241.34	26	10	N*	96	24	H×.	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	**	37	121	
	6	1355	3685		304.70	1272.48	26	10	NĦ	96	31	**	65	213	
	7	1448	3659		350.37	1224.51	26	10	N#	96	20	N.¥	130	426	
(HR)	1	2159	3980		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	25#**	72	237	
	3	2163	3960		641.60	425.10	27	32	05N**	96	27	35#**	81	266	
	4	2165	3985		638.40	411.18	27	33	Ø2N**	96	29	83W**	76	250	
(S5)	1	2986	3889		563.00	468.28	27	26	49N##	96	31	18w**	81	266	
(8)	2	2081	3889		560.95	475.80	27	59	14N**	96	31	95#¥¥	82	269	
	3	2074	3890		552.92	475.15	27	59	06N**	96	31	47 * *	82	269	
	4	2076	3890		551.12	472.73	27	26	14N**	96	32	07w**	82	269	
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES						
				黄青	MEANS	DEGREES	MIN	UTE	S SECON	DS					

16

11

3X

A4

2X

11

1 X

11

1 X

A1

F6

F5

F6

1

7

8

11

15

17 18

19

20

21

22 28

33

CARD TYPE 2

START COLUMN FIELD TYPE FIELD CONTENT/DESCRIPTION

016210

BLANK

BLANK

BLANK STATION

BLANK

TRANSECT

SAMPLE CODE*

PHYTOPLANKTON TYPE CODE

CARBON 14/CHLOROPHYLL & RATIO***

A = NANNOPLANKTON E = NETPLANKTON

CARD TYPE (ALWAYS 2) -- SAMPLES RUN WITH DARK SUBSTITUTION

CHLOROPHYLL & (MICROGRAMS/LITER BY SCOR-UNESCO METHOD)**

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CARBON 14 ((MILLIGRAMS)/(CUBIC METER)(HOUR))

CARD TYPE	3	1	16	013210
		7	I 1	CARD TYPE (ALWAYS 3) SAMPLES RUN WITHOUT DARK
				SUBSTITUTION
		:	:	
		:	:	:
		:	:	:
		:	:	:
				REMAINDER OF CARD TYPE 3 IDENTICAL TO CARD TYPE 2

COMMENTS ------

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* 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) TRACE METALS (TM) DATA TYPE: IN SEDIMENT (CHG-TM) IN ZOUPLANKTON (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 BARANDWSKI SCOTT SCHOFIELD

DIRECTORY FOR STUDY AREA

FILE 40: METHODS, DATA FORMAT AND COMMENTS FILE 41: 1976 SEDIMENT TRACE METAL DATA FILE 42: 1977 SEDIMENT TRACE METAL DATA FILE 43: 1975 ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON TRACE METAL DATA FILE 44: 1976 ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON TRACE METAL DATA FILE 45: 1977 ZOOPLANKTON, EPIFAUNA, AND MACRONEKTON TRACE METAL DATA

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

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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 Ø (ZERO)

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2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	T1	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
Â	11	STUDY SUBAPFA (DEFINED IN DATA FORMATS FOR STUDY ADEAD)
9-19	2 X	ALANK
11-14	<u> </u>	RANDIE CODE (ETNA) CODE AGETCHEN)
11-14		SAMPLE LUDE (FINAL CUDE ASSIGNED)
15-16	12	MUNIH
1/=18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME Or central standard time)
25	1 X	BLANK
26	I1	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		28 TRANSECT 2
		JE TRANSFET 3
		7- RIG MUNITORING AREA
		BE SOUTHERN BANK
		95 HUSPITAL ROCK
27	1 X	BLANK
28	I 1	STATION (SEE BLM STOCS MONITORING STUDY STATION Locations)
29	A1	D=DAY; N=NIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-30	A 4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
47	11	
-3	+ +	AL NOT A REALTERANDIE
		DE NUI A REFLICATE SAMPLE
		1= 131 REPLICATE SAMPLE
		Z# ZND REPLICATE SAMPLE
		ETC.
		NOTE; REPLICATE CODE HAS NOT BEEN
		- CONSISTENTLY USED: REPLICATE CODE MAY BE Ø FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		ADDEADING ON THE DATA I THER
<u> </u>	† 1	
	* *	
		BE NUL AFFLICADLE
		1= SAMPLE IS A FILTERED SAMPLE
_	_	2= SAMPLE IS A NON-FILTERED SAMPLE
45	11	RELATIVE DEPTH CODE
		B= NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		AR PHOTIC JONE TO BOTTOM
		DE NUI AFFLICADLE
		B# 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 OF CAN BE DETERMINED
		FROM THE STUDY APEA
46	t 1	DISSNIVED PARTICLE CODE - CODES HARMONN MAY NOT HAVE
	• •	ACEN HEER, ADDEADE TO ALMANE AE & (7550)
47	T 1	DELI VJEVJ AFTERKJ IV REMATJ DE B (ZEKU) Boolen tone
- /	* *	
		55 NUL A FUULEU JAMFLE 1- A GOOLED BANDLE
		IF A FUULED JAMFLE

A-140

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A=141	A-	14	1
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		NOTE: MAY NOT HAVE BE	EN USED
48	I1	LIVE CODE CODES UNKNOWN; APPEARS TO ALWAYS BE	MAY NOT HAVE BEEN USED; Ø (ZERD)
49	I 1	ARCHIVE CODE	
		BE NOT AN ARCHIVE SAM	APLE
		1= AN ARCHIVE SAMPLE	
50	I 1	QUALITY CONTROL CODE	
		0= NOT A QUALITY CONT	ROL SAMPLE
_	_	1= A QUALITY CONTROL	SAMPLE
51	I 1	CONTRACTED CODE	
		BLANK OR BE BLM CONTR	ACTED SAMPLE
52-57	12	TE NUI A DEM CUNIKACI CDIITEE NIMBED	EU SAMPLE
54456	13	SAMPLE DEPTH IN METERS:	
34-30	• •	NOTE: 999 MEANS NOT APPLIC	ABLE
		991 MEANS VERTICAL T	IDW FROM SURFACE TO 25 METERS
		992 MEANS VERTICAL T	OW FROM 25 TO 50 METERS
		993 MEANS VERTICAL T	IDW FROM SU METERS TO BOTTOM
57-60	▲4	PARENT SAMPLE CODE FOR SUBSA	IMPLES
		NOTE: FOR A SAMPLE WH	ICH IS NOT A SUBSAMPLE
		THIS FIELD WILL CONTA	IN XXXX OR BE BLANK
61	1X	BLANK	
02-04	AO	TREVIOUS SAMPLE CODE - ALLE	JNG REFERENCE IU 1975/ Dotr to rim
		NOTE: MOST CODES WILL	RE THE STANDARD & CHARACTER
		VARIETY (IN COLS, 62-	STATE STATERS & CHARACTER
		THIS FIELD ARE FOR PC	DOLED SAMPLES,
		E.G.=	
		A) AAAA-C INDICATES	A POOLED SAMPLE MADE UP
		OF SAMPLES AAAA,A	AAB, AAAC
		B) AAZY-BAA INDICATE	IS A POOLED SAMPLE MADE
		UP OF SAMPLES AAZ	Y,AAZZ,ABAA
KEY TO COD	ES		
SAMPLE TY	PESAMPL	E USAGE DISPOSIT	'ION AND PRINCIPLE INVESTIGATOR
CHG-HC (9	EDIMENT N	YORGEARADNS) TAMU-TEY	AS ANN UNTVERSTEN
CHG-MST(C	HEMISTRY	GRAR) I HPei	TNDA H. PEQUEGNAT
CHG-IM (S	EDIMENT 1	RACE METALS) CSG=C	S. GIAM
CHG-TEX(S	EDIMENT 1	EXTURE) TSP-E	TAISOO PARK
CHL- (T	OTAL CHLO	ROPHYLL-1975)	
CHT-HC (E	PIFAUNA H	YDROCARBONS) BJP-B	J.J. PRESLEY
CHT-MST (E	PIFAUNA (HEMISTRY TRAWL) WMS-W	ILLIAM M. SACKETT
CHT-TM (E	PIFAUNA 1	RACE METALS) #EP-#	ILLIS E. PEQUEGNAT
EPI=FSH(E	PIFAUNA D	EMERSAL FISH) RR-RI	CHARD REZAK
EPI-HC (E	PIFAUNA H	YDROCARBONS) WEH-W	ILLIAM E. HAENSLY
EPI-HPI(E	PIFAUNA H	ISTOPATHOLOGY) JMN-J	IERRY M. NEFF
LPI-HPT(E	PIFAUNA H	ISTOPATHOLOGY) WH-WI	LLIAM E. HAENSLY
EPI-INV(E	PIFAUNA]	NVERIEBRATES) JN-JE	RKY M, NEFF
1045 (F	CHINNA N	ABIERJ JRS+J NKTON) Imm_1	IUTA K. SLAWAKZ
INF-MET(I	NFAUNA MA	NRIUNJ JANGJ QTED) HT-DADT	
INF-SFD(1	NFALINA RE	DIMENT) DIDENT	ATRICK L. PARKER
INF=TAX(1	NFAUNA TA	XONOMY) NPS-N	IED P. SMITH
LGT-PZ (P	HOTOMETRY) CVB=C	HASE VAN BAALEN
LMW-HC (L	OW-MOLECL	LAR-WEIGHT HYDROCARBONS) JSH-J	I. SELMON HOLLAND
MNK-TM (M	ACRONEKTO	N TRACE METALS)	
MMS-C13(T	OTAL ORGA	NIC CARBON AND DELTA C13 IN SED	JIMENT)

MMS-MEI(MEIOFAUNA) DEN-DONALD E. WOHLSCHLAG MMS-MST(MEIOFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI MYG-MYC(SEDIMENT MYCOLDGY) PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) 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 SAR-SAMUEL A. RAMIREZ TRM-TUR(TRANSMISSOMETRY-TURBIDITY) VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) WVA-D. W. VAN AUKEN (WATER COLUMN) ₩AT⇔ WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIDLOGY) WAT-C13(DELTA C13) UT-AUSTIN #AT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO #AT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77) WAT-DO (DISSOLVED OXYGEN) U.S.G.S.-CORPUS CHRISTI #AT+FLU(FLUORESCENCE) HB-HENRY BERRYHILL WAT-HC (MATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(HICROZOOPLANKTON) WAT-MYC(HATER COLUMN MYCOLOGY) RICE-RICE UNIVERSITY WAT-NUT(NUTRIENTS) RU-RICE UNIVERSITY NAT-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-TH (ZODPLANKTON TRACE METALS)** ZPL-HC (ZOOPLANKTON HYDROCARBONS) ZPL-TAX(ZOOPLANKTON TAXONOMY) ZPL-TM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY ---- ----**11 SALINITY AND TEMPERATURE, CURRENTS** W3 DISSOLVED OXYGEN, NUTRIENTS 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS #5 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES 06 INVERTEBRATE EPIFAUNA AND INFAUNA W7 BENTHIC FISH 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE, DISSOLVED, ZOOPLANKTON 89 CHLOROPHYLL A 10 ADENOSINE TRI-PHOSPHATE 11 PHYTOPLANKTON 12 FLUORESCENCE 13 MEIDFAUNA 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 DRGANIC 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 MUNITORING STUDY STATION LOCATIONS

TRAN.	STA.	L	ORAN		LD	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	TH
		3н3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	# *	18	59
	5	2440	3956		961.49	275.71	27	55	N#	96	20	尚余	42	138
	3	2300	3863		799.45	466.97	27	34	N#	96	07	**	134	439
	4	2583	4015		1206.53	157.92	28	14	N#	96	29	W th	· 10	33
	5	2360	3910		861.09	369.08	27	44	N×	96	14	**	82	269
	6	2330	3892		819,72	412.96	27	39	N#	96	12	₩ *	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	H R	49	161
	3	2040	3850		564.67	585.52	27	18	N*	96	23	H =	131	430
	4	2058	3930		431.26	310.30	27	- 34	N#	96	50	利用	36	112
	5	2032	3992		498,85	487.62	27	24	N#	96	36	W R	78	256
	6	2968	3878		560.54	506.34	27	24	N±	96	29	提書	98	322
	7	2045	3835				27	15	N#	96	18	•5 W*	182	600
3	1	1585	3889		139.13	909.98	26	58	N#	97	11	**	25	82
	2	1683	3841		286.38	855.91	26	58	N#	96	48	**	65	213
	3	1775	3812		391.06	829.82	26	58	N#	96	33	W R	106	348
	4	1552	3885		95.64	928.13	26	58	N#	97	20	WR	15	49
	5	1623	3867		192.19	888.96	26	58	NR	97	82	**	40	131
	6	1790	3898		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	N *	27	88
	2	1300	3700		271.99	1310.61	26	10	N#	96	39	**	47	154
	3	1425	3663		333.77	1241.34	26	10	N±	96	24	**	91	298
	4	1073	3763		163.42	1456,90	26	10	N#	97	88	* *	15	49
	5	1170	3738		213.13	1387,45	26	10	N#	96	54	W R	37	121
	6	1355	3685		304.76	1272.48	- 26	10	N#	96	31	W#	65	213
	7	1448	3659		350.37	1224.51	59	10	N*	96	20	N#	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	25#**	72	237
	3	2163	3900		641.60	425.10	27	32	85N##	96	27	35w**	81	266
	4	2165	3905		638.40	411,18	27	33	02N**	96	29	03w**	76	250
(58)	1	2986	3889		563.00	468.28	27	59	49N±+	96	31	18w**	81	266
(8)	2	2981	3889		560.95	475.80	27	26	14N±±	96	31	82W**	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	59	14N**	96	32	07***	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					

** MEANS DEGREES MINUTES SECONDS

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A-143

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	Ι6	015210
			7	11	CARD TYPE (ALWAYS 2)
			8	. 3X	BLANK
			11	A 4	SAMPLE CODE*
			16	F5	BARIUM (PPM)
			22	F4	CADMIUM (PPM)
			27	F4	CHROMIUM (PPM)
			32	F 3	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---

FURMAT FOR CARD TYPE 1 SAME AS FUR FILES 41 AND 42

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	015210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A 4	SAMPLE CODE*
			16	2410	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		CHROMIUM (PPM) **
			53	F7	COPPER (PPM) **
			68	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 *******

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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)

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NUTE: 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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A-146

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 Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	· <u>Ii</u>	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
8	Īi	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	Ā4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH

,

17-18	15	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1 X	BLANK
26	Ī1	SAMPLE COLLECTION AREA
		1# TRANSECT 1
		2= TRANSECT 2
		3= TRANSECT 3
		4= TRANSECT 4
		7= RIG MONITORING AREA
		AT SOUTHERN BANK
27	12	STATION (SEE BLM STOCS MONITORING STUDY STATION
29	A 1	DEDAV. NONICHT
10-12	43	TVDE OF SAMPIE/SEE KEY TO PODES)
12-26	A4 -	RAMPIE OF SAMPLE (SEE ACT TO COULS)
33-30	A4 A2	SAMPLE DISFUSITION (SEE NET TO LUDES)
31-37	A J	SAMPLE USE (SEE RET TO CODES)
40-42	AS	PRINCIPLE INVESTIGATOR (SEE RET LODES)
45	11	REPLICATE CUDE
		DE NUI A REPLICATE SAMPLE
		1= ISI REPLICATE SAMPLE
		2= 2ND REPLICATE SAMPLE
		ETC.
		NUTE; REPLICATE CODE HAS NOT BEEN
		CONSISTENTLY USED; REPLICATE CODE MAY BE & FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	11	FILTERED CODE
		Ø= NOT APPLICABLE
		1= SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	11	RELATIVE DEPTH CODE
		Ø= 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
		BE NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I 1	LIVE CODE CODES UNKNOWN: MAY NOT HAVE BEEN USED:
	-	APPEARS TO ALWAYS BE 0 (ZERO)
49	11	ARCHIVE CODE
	-	Ø= NDT AN ARCHIVE SAMPLE
		1= AN ARCHIVE SAMPLE
50	I 1	QUALITY CONTROL CODE
		0= NOT A QUALITY CONTROL SAMPLE
		•

		1= A QUAL	ITY CONTROL SAMPLE
51	I 1	CONTRACTED CODE	
		BLANK OR	0= BLM CONTRACTED SAMPLE
		1= NOT A	BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER	
54-56	13	SAMPLE DEPTH IN	METERS;
		NUIEI 999 MEAN	S NUL APPLICABLE S VERITCAL TOM FROM SUBSACE TO DE METER
		971 - EAN 992 MEAN	S VERTICAL TOW FROM 25 TO SO METERS
		993 MEAN	S VERTICAL TOW FROM 50 METERS TO BOTTO
57-68	A4	PARENT SAMPLE CO	DE FOR SUBSAMPLES
		NOTE: FOR	A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIEL	D WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK	
62-69	A 5	PREVIOUS SAMPLE	CODE ALLOWS REFERENCE TO 1975,
		17/0/ 17/ Note: Moe	/ FINAL REFURIO IN BLA T CODES WILL BE THE STANDARD & CHARACTI
		VARIETY (IN COLS. 62+65): THE ADDITIONAL COLS.
		THIS FIEL	D ARE FOR POOLED SAMPLES.
		E.G.=	
		A) AAAA-	C INDICATES A POOLED SAMPLE MADE UP
		OF SA	MPLES AAAA,AAAB,AAAC
		B) AAZY-	BAA INDICATES A POOLED SAMPLE MADE
		UP OF	SAMPLES AAZY,AAZZ,ABAA
SAMPLE TY	PESAMPL	E USAGE	DISPOSITION AND PRINCIPLE INVESTIG
SAMPLE TY BAG-BAC(S CHG-HC (S	PESAMPL EDIMENT B EDIMENT H	E USAGE Acteriology) Ydrocarbons)	DISPOSITION AND PRINCIPLE INVESTIG
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MST(C	PESAMPL EDIMENT B EDIMENT H HEMISTRY	E USAGE Acteriology) Ydrocarbons) Grab)	DISPOSITION AND PRINCIPLE INVESTIG TAMU-TEXAS A+M UNIVERSITY LMP-LINDA H. PEQUEGNAT
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MST(C CHG-TM (S	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T	E USAGE Acteriology) Ydrocarbons) Grab) Race Metals)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-LINDA H. PEQUEGNAT CSG-C.S. GIAM
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MST(C CHG-TM (S CHG-TEX(S	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE)	DISPOSITION AND PRINCIPLE INVESTIG TAMU-TEXAS A+M UNIVERSITY LHP-LINDA H. PEQUEGNAT CSG-C.S. GIAM TSP-E. TAISOO PARK
SAMPLE TY BAG-BAC(S CHG-HC(S CHG-MST(C CHG-TM(S CHG-TEX(S CHL-(T	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T OTAL CHLO	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL=1975)	DISPOSITION AND PRINCIPLE INVESTIG TAMU-TEXAS A+M UNIVERSITY LHP-LINDA H. PEQUEGNAT CSG-C.S. GIAM TSP-E. TAISOO PARK
SAMPLE TY BAG-BAC(S CHG-HC(S CHG-MST(C CHG-TM(S CHG-TEX(S CHL-(T CHT-HC(E	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS)	DISPOSITION AND PRINCIPLE INVESTIG TAMU-TEXAS A+M UNIVERSITY LMP-LINDA H. PEQUEGNAT CSG-C.S. GIAM TSP-E. TAISOO PARK BJP-B.J. PRESLEY MAD TILLIAM MAD PACKET
SAMPLE TY BAG-BAC(S CHG-HC(S CHG-MST(C CHG-TM(S CHG-TEX(S CHL-(T CHT-HC(E CHT-MST(E CHT-TM(F	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA T	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) BACE METALS)	DISPOSITION AND PRINCIPLE INVESTIG TAMU-TEXAS A+M UNIVERSITY LMP-LINDA H. PEQUEGNAT CSG-C.S. GIAM TSP-E. TAISOO PARK BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WED-WILLIAS E PEOUEGNAT
SAMPLE TY BAG-BAC(S CHG-HC(S CHG-MST(C CHG-TM(S CHG-TEX(S CHL-(T CHT-HC(E CHT-MST(E CHT-TM(E EPI-FSH(F	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA T PIFAUNA T	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH)	DISPOSITION AND PRINCIPLE INVESTIG 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 RF74K
SAMPLE TY BAG-BAC(S CHG-HC(S CHG-MST(C CHG-TM(S CHG-TEX(S CHL-(T CHT-HC(E CHT-MST(E CHT-MST(E CHT-TM(E EPI-FSM(E EPI-HC(F))	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA T PIFAUNA D PIFAUNA H	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS)	DISPOSITION AND PRINCIPLE INVESTIG 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 WEM-WILLIAM E. HAENSLY
SAMPLE TY BAG-BAC(S CHG-HC(S CHG-MST(C CHG-TM(S CHG-TEX(S CHL-(T CHT-HC(E CHT-MST(E CHT-MST(E CHT-TM(E EPI-FSM(E EPI-HPI(E EPI-HPI(E	PESAMPL EDIMENT B EDIMENT H HEMISTRY EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA D PIFAUNA H PIFAUNA H	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY)	DISPOSITION AND PRINCIPLE INVESTIG TAMU-TEXAS A+M UNIVERSITY LMP-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 WEM-WILLIAM E. HAENSLY JMN-JERRY M. NEFF
SAMPLE TY BAG-BAC(S CHG-HC(S) CHG-MST(C CHG-TM(S) CHG-TEX(S) CHL- (T CHT-HC(E CHT-MST(E CHT-MST(E CHT-TM(E EPI-FSM(E EPI-HPI(E EPI-HPT(E	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA D PIFAUNA H PIFAUNA H	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MST(C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E CHT-TM (E EPI-FSM(E EPI-FSM(E EPI-HPI(E EPI-HPT(E EPI-INV(E	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA D PIFAUNA H PIFAUNA H PIFAUNA I	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) NYERTEBRATES)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MST(C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-TSM(E EPI-FSM(E EPI-FSM(E EPI-HPT(E EPI-HPT(E EPI-HNT(E EPI-INV(E EPI-MST(E	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA D PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) HOPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MST(C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-TM (E EPI-FSM(E EPI-FSM(E EPI-HPI(E EPI-HPT(E EPI-HPT(E EPI-INV(E EPI-MST(E ICH- (I THE-MST(E)))	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA M CHTHYOPL	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E EPI-HC (E EPI-HPI(E EPI-HPT(E EPI-INV(E EPI-MST(E ICH- (I INF-MST(I)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA MA NFAUNA MA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER)	DISPOSITION AND PRINCIPLE INVESTIGA 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.
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E EPI-HC (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-MST(E ICH- (I INF-MST(I) INF-SED(I)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA M CHTHYOPLA NFAUNA SE NFAUNA TA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)	DISPOSITION AND PRINCIPLE INVESTIGA 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
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-HC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-TM (E EPI-HC (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-MST(I INF-MST(I) INF-TAX(I) LGT-P7(P)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA M FIFAUNA M SFAUNA SE NFAUNA TR NFAUNA TR	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY))	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 MEH-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
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E CHT-TM (E EPI-HPI(E EPI-HPI(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-MST(I INF-SED(I INF-SED(I INF-TAX(I) LGT-PZ (P LMW-HC (L	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA M CHTHYOPLA NFAUNA M NFAUNA SE NFAUNA SE NFAUNA SE NFAUNA SE NFAUNA SE	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 MEH-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 BONS) JSH-J. SELMON HOLLAND
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E CHT-TM (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HNST(E ICH- (I INF-SED(I 1NF-SED(I 1NF-TAX(I) LGT-PZ (P LMW-HC (L MNK-TM (M	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA H PIFAUNA M NFAUNA SE NFAUNA SE	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 BONS) JSH-J. SELMON HOLLAND
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E CHT-TM (E EPI-HPI(E EPI-HPI(E EPI-HPT(E EPI-HPT(E EPI-HPT(I EPI-MST(I) INF-SED(I) INF-SED(I) INF-TAX(I) LGT-PZ (P LMW-HC (L MNK-TM (M MS-C13(T)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA T PIFAUNA T PIFAUNA M PIFAUNA M PIFAUNA M PIFAUNA M SFAUNA SE NFAUNA SE NFAUNA SE NFAUNA SE NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA NFAUNA T CHTHYOPLA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS) NIC CARBON AND DELT	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 BONS) JSH-J. SELMON HOLLAND A C13 IN SEDIMENT)
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E CHT-TM (E EPI-HPI(E EPI-HPI(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HNT(E EPI-MST(I) INF-SED(I) INF-SED(I) INF-TAX(I) LGT-PZ (P LMW-HC (L MNK-TM (M MMS-C13(T MMS-MEI(M)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA T PIFAUNA T PIFAUNA M PIFAUNA H PIFAUNA M PIFAUNA M NFAUNA SE NFAUNA M NFAUNA SE NFAUNA M CHTHYOPLA NFAUNA SE NFAUNA T OW-MOLECU ACRONEKTO OTAL ORGA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS) NIC CARBON AND DELT	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 BONS) JSH-J. SELMON HOLLAND A C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-MC (C CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-MST(E CHT-MST(E CHT-TM (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(I EPI-MST(I) INF-SED(I) INF-SED(I) INF-TAX(I) LGT-PZ (P LMW-HC (L MNK-TM (M MMS-MST(M))	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA T PIFAUNA T PIFAUNA T PIFAUNA H PIFAUNA MA NFAUNA TA NFAUNA SE NFAUNA MA NFAUNA SE NFAUNA MA ON-MOLECU ACRONEKTO OTAL ORGA EIOFAUNA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS) NIC CARBON AND DELT MASTER GRAB)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 JNN-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 BONS) JSH-J. SELMON HOLLAND A C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-OAN L. KAMYKOWSKI
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SAMPLE TY BAG-BAC(S CHG-HC (S CHG-TM (S CHG-TM (S CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-HC (E CHT-TM (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(I EPI-HNST(I INF-SED(I INF-SED(I INF-FAX(I) LGT-PZ (L MNK-TM (M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M) MMS-MST(M) MMS-MST(M)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA T PIFAUNA T PIFAUNA T PIFAUNA MA PIFAUNA MA PIFAUNA MA NFAUNA SE NFAUNA MA NFAUNA SE NFAUNA TA CHTHYOPLA NFAUNA TA CHTHYOPLA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS) NIC CARBON AND DELT MASTER GRAB) YCOLOGY) XONOMY)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 JNJERRY M. NEFF JNS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER NPS-NED P. SMITH CVB-CHASE VAN BAALEN BONS) JSH-J. SELMON HOLLAND A C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON ENDE W BEHDEMP
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-TM (S CHG-TM (S CHG-TM (S CHG-TEX(S CHL- (T CHT-HC (E CHT-HC (E CHT-TS) (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(I EPI-HNST(I INF-SED(I INF-SED(I INF-FAX(I) LGT-PZ (L MNK-TM (M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M) MMS-MST(M) MMS-MST(M) SED-HC (S SED-HC)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA T PIFAUNA T PIFAUNA T PIFAUNA MA PIFAUNA MA PIFAUNA MA NFAUNA SE NFAUNA SE NFAUNA TA UNTAUNA TA CHTHYOPLA NFAUNA TA CHTHYOPLA SCALL ORGA EDIMENT TA EDIMENT TA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS) NIC CARBON AND DELT MASTER GRAB) YCOLOGY) XONOMY) YDROCARBONS)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-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 JNJERRY 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 BONS) JSH-J. SELMON HOLLAND A C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON EWB-E. W. BEHRENS
SAMPLE TY BAG-BAC(S CHG-HC (S CHG-TM (S CHG-TM (S CHG-TM (S CHG-TEX(S CHC- (T CHT-HC (E CHT-HC (E CHT-FSH (E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(E EPI-HPT(I EPI-MST(I INF-SED(I INF-SED(I INF-FAX(I) LGT-PZ (L MNK-TM (M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(S) SED-HC (S SED-MPL(S)	PESAMPL EDIMENT B EDIMENT B EDIMENT T EDIMENT T OTAL CHLO PIFAUNA T PIFAUNA T PIFAUNA T PIFAUNA MA PIFAUNA MA PIFAUNA MA NFAUNA SE NFAUNA SE NFAUNA SE NFAUNA T PIFAUNA MA CHTHYOPLA NFAUNA T PIFAUNA MA CHTHYOPLA NFAUNA T PIFAUNA MA DIFAUNA T PIFAUNA MA DIFAUNA T PIFAUNA MA DIFAUNA T CHTAL ORGA EDIFAUNA EDIMENT MA EDIMENT MA	E USAGE ACTERIOLOGY) YDROCARBONS) GRAB) RACE METALS) EXTURE) ROPHYLL-1975) YDROCARBONS) HEMISTRY TRAWL) RACE METALS) EMERSAL FISH) YDROCARBONS) ISTOPATHOLOGY) NVERTEBRATES) ASTER) NKTON) STER) DIMENT) XONOMY)) LAR-WEIGHT HYDROCAR N TRACE METALS) NIC CARBON AND DELT MASTER GRAB) YCOLOGY) XONOMY) YDROCARBONS) ICROZODPLANKTON)	DISPOSITION AND PRINCIPLE INVESTIGA TAMU-TEXAS A+M UNIVERSITY LMP-LINDA H. PEQUEGNAT CSG-C.S. GIAM TSP-E. TAISOO PARK BJP-B.J. PRESLEY MMS-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 M. WORMUTH UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER NPS-NED P. SMITH CVB-CHASE VAN BAALEN BONS) JSH-J. SELMON HOLLAND A C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON EWB-E. W. BEHRENS

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SDG-DEP(SEDIMENT DEPOSITION)
 STD-ST (SALINITY-TEMPERATURE-DEPTH)
                                          UTSA-UNIV. OF TEXAS AT SAN ANTONIO
 TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
                                             SAR-SAMUEL A. RAMIREZ
 TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
                                             WVA-O. W. VAN AUKEN
 VT -MPL(MICROZUOPLANKTON-VERTICAL TOW)
 WAT- (WATER COLUMN)
 WAT-ATP(ADENUSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIDLOGY)
                                          UT-AUSTIN
 WAT-CI3(DELTA C13)
 WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                             PJS-PAUL J. SZANISZLO
 WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
                                          U.S.G.S.-CORPUS CHRISTI
 WAT-DO (DISSOLVED OXYGEN)
                                             HB-HENRY BERRYHILL
 WAT-FLU(FLUORESCENCE)
 WAT-HC (WATER HYDROCARBONS)
 WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICROZOOPLANKTON)
                                          RICE-RICE UNIVERSITY
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                          RU-RICE UNIVERSITY
 WAT-NUT(NUTRIENTS)
                                             REC-RICHARD E. CASEY
 WAT-N14(CARBON14 NANNOPLANKTON)
 MAT-PHY(PHYTOPLANKTON)
 WAT-PRO(PROTOZOA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TUC(TOTAL URGANIC CARBON)
 ZCT-TM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZOUPLANKTON TAXONOMY)
 ZPL-TH (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
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 B1 SALINITY AND TEMPERATURE, CURRENTS
 W3 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
 U9 CHLOROPHYLL A
 10 ADENUSINE TRI-PHOSPHATE
 11 PHYTOPLANKTON
 12 FLUORESCENCE
 13 MEIOFAUNA
 14 NEUSTON
 15 TRACE METALS
 16 CARBON 14
 19 SEDIMENT TEXTURE, BACTERIOLDGY, MYCOLOGY IN SEDIMENT
 23 MICROZOOPLANKTON (PROTOZDA)
 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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BEM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LORAN		LORAC		LATITUDE			LONGITUDE			DEPTH		
		3н3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N±	96	27	# *	18	59
	2	2440	3950		961.49	275.71	27	55	N#	96	20	W.tt	42	138
	3	2300	3863		799.45	466.07	27	34	N×	96	87	**	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	**	82	269
	6	2330	3892		819.72	412.96	27	39	N*	96	12	Wtt	100	328
5	1	2078	3962		373.62	192.04	27	48	N±	96	59	×.	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	# *	36	112
	5	2032	3992		498.85	487.62	27	24	N×	96	36	# *	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	**	65	213
	3	1775	3812		391.06	829.02	26	58	N#	96	33		106	348
	4	1552	3885		95.64	928.13	26	58	N#	97	28	**	15	49
	5	1623	3867		192.19	888.06	26	58	N≠	97	82	Wat	49	131
	6	1790	3808		411.48	824.57	26	58	N×	96	30	W#	125	410
4	1	1130	3747		187.50	1423.50	56	19	N#	97	01	**	27	88
	2	1300	3700		271.99	1310.61	26	10	N#	96	39	**	47.	154
	3	1425	3663		333.77	1241.34	26	10	N#	96	24	₩.#	91	298
	4	1073	3763		163.42	1456.90	26	10	N#	97	08	W.A.	15	49
	5	1170	3738		213.13	1387.45	26	10	N#	96	54	**	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	19#**	75	246
(9)	2	2169	3902		644.54	416.95	27	32	46N**	96	27	25₩**	72	237
	3	2163	3900		641.60	425.10	27	32	85N**	96	27	35#**	81	266
	4	2165	3905		638.40	411.18	27	33	62N**	96	29	03W**	76	250
(58)	1	2086	3889		563,00	468,28	27	26	49N**	96	31	18₩±*	81	266
(8)	2	2081	3889		560.95	475.80	27	26	14N**	96	31	82W**	82	269
	3	2074	3890		552.92	475.15	27	26	86N##	96	31	47₩**	82	269
	4	2078	3890		551.12	472.73	27	26	14N**	96	32	07#**	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	MIN	UTES					
				**	MEANS	DEGREES	MINU	ITES	SECON	DS				
					-									

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	5-2000
13	SE-100	45	SM-2000
14	S-100	46	W-2800
15	Sw-100	47	NW-2000
16	n=100		
17	Nw-100	50	NNE-2000
•		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT	53	SSE-2000
• ·	PLUME	54	SS#-2000
		55	w\$#-2000
20	N=506	56	WNW-2000
21	NE-500	57	NN#-2000
22	E=500	-	
23	SE-500	68	NNE-1000
24	5-500	61	ENE-1000
25	Sw=500	62	ESE-1000
26	N=500	63	SSE-1000
27	Nw-500	64	SSW-1000
		65	WSW-1000
34	N-1900	66	WNW-1000
31	NF-1000	67	NN#-1000
32	E-1008		
33	SF-1000		
34	5-1000		
35	Sw-1000		
36	N=1000		
37	N#=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 TYP	PE 2	1	16	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	1 X	BLANK
		31	▲4	SAMPLE CODE**

CUMMENTS

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE ** SAMPLE CODE REPORTED IN REPORT APPENDICES IF NUT SAME AS SAMPLE CODE REPORTED IN COL. 11, OTHERWISE BLANK.

NUTE: 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: 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 & COLUMN, ANALYZED WITH A FLAME IONIZATION DETECTOR (FID) DATA FORMAT FOR WATER COLUMN HYDROCARBONS CARD TYPE 1---STANDARD INVENTORY CARD---* COLUMNS FIELD TYPE DESCRIPTION ALWAYS @ (ZERD) 1 11 STUDY AREA (SEE STUDY AREA KEY) 2-3 12 ALWAYS 210 FOR MASTER FILES 4-6 13 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 7 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 11 9-10 2 X BLANK 11-14 ▲4 SAMPLE CODE (FINAL CODE ASSIGNED) MONTH 15-16 12 17-18 15 DAY 19-20 12 YEAR 14 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 OR CENTRAL STANDARD TIME)

25

1 X

BLANK

26	11	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		2= TRANSECT 2
		3 TRANSFIT 3
		44 INANGELI 4 3- DIC MONITODING ADEA
		/I KIG MURITUKING AREA
		BE SUUTEERN BANK
		9= HUSPITAL ROCK
27	12	STATION (SEE BLM STOCS MUNITORING STUDY STATION
		LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	▲4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	A 3	SAMPLE USE (SEE KEY TO CODES)
40-42	Å3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
	7.1	
43	* *	A NOT A DEDITRATE SAMPLE
		II ISI REPLICATE SAMPLE
		21 2ND REPLICATE SAMPLE
		ETC.
		NOTE; REPLICATE CODE HAS NOT BEEN
		CONSISTENTLY USED; REPLICATE CODE MAY BE Ø FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
<i>41 41</i>	T 1	
-	11	
		IS RANDIE TE A FLITEDEN SAMPLE
		DE GAMPIE TO A MONETITERE CAMPIE
	• •	EL ATHE CORE CORE CORE CORE CORE CORE CORE COR
45	11	RELATIVE DEFIN CODE
		15 JURFALE TONS
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5# BOTTOM
		6= NOT APPLICABLE
		85 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
		DE CIVEN ON THE DATA A INES OF CAN BE DETERMINED
		DE GIVEN ON THE OTHE LINES ON CAN BE BETENNINGS
		FRUM THE STUDY AREA
46	11	DISSULVED PARITILE CODE - CODES UNKNOWNS HAT NUT HAVE
		BEEN USED; APPEARS IU ALMATS BE B (ZERU)
47	I1	POOLED CODE
		Ø= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	I 1	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED;
•••	••	APPEARS TO ALWAYS BE 0 (ZERO)
49	11	ARCHIVE CODE
47	••	AT NOT AN ARCHIVE SAMPLE
F 0		
שכ	11	WHELTI CURINUL COUL AL MOT A DUALITY CONTONI GIMOIS
		NE NUL A QUALITI CUNIKUL SAMPLE
_	. .	IT A WUALIIT LUNIKUL SAMPLE
51	I1	CUNTRACTED CODE
		BLANK OR BE BLM CONTRACTED SAMPLE
		1= NUT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER

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54-56 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-60 44 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 1 X BLANK 61 PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 1976, 1977 FINAL REPORTS TO BLM 62-69 84 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 CSG-C.S. GIAM CHG-TM (SEDIMENT TRACE METALS) CHG-TEX(SEDIMENT TEXTURE) TSP-E. TAISDO PARK (TOTAL CHLOROPHYLL-1975) CHL -CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY CHT-MST(EPIFAUNA CHEMISTRY TRAWL) CHT-TM (EPIFAUNA TRACE METALS) NMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT EPI-FSH(EPIFAUNA DEMERSAL FISH) RR-RICHARD REZAK EPI-HC (EPIFAUNA HYDROCARBONS) WEH-WILLIAM E. HAENSLY EP1-HPI(EPIFAUNA HISTOPATHOLOGY) JMN-JERRY M. NEFF EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) 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 CVB-CHASE VAN BAALEN LGT-PZ (PHOTOMETRY) LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TM (MACRONEKTON TRACE METALS) MMS-CI3(TOTAL ORGANIC CARBON AND DELTA CI3 IN SEDIMENT) MMS-MEI(MEIOFAUNA) DEW-DONALD E. WOHLSCHLAG MMS-MST(MEIOFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED- (SEDIMENT) SED-HC (SEDIMENT HYDROCARBONS) 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 UTSA-UNIV. OF TEXAS AT SAN ANTONIO TRM-TUR(TRANSMISSOMETRY-TURBIDITY) SAR-SAMUEL A. RAMIREZ vT -MPL(MICHOZOOPLANKTON-VERTICAL TOW) WVA-O. N. 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) U.S.G.S.-CORPUS CHRISTI WAT-DO (DISSOLVED OXYGEN) nAT-FLU(FLUORESCENCE) HB-HENRY BERRYHILL WAT-HC (WATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICROZOOPLANKTON) RICE-RICE UNIVERSITY WAT-MYC(WATER COLUMN MYCOLOGY) WAT-NUT (NUTRIENTS) RU-RICE UNIVERSITY REC-RICHARD E. CASEY wAT=N14(CARBON14 NANNOPLANKTON) HAT-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 (ZDOPLANKTON 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 36 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 ZUDPLANKTON 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.	· 1	LDRAN		LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	TH
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003	,	1180.07	171.46	28	12	N#	96	27		18	50
	Ź	2440	3950		961.49	275.71	27	55	N×	96	20	al e	42	138
	3	2300	3863		799.45	466.07	27	34	NIT	96	R7	**	134	#10
	4	2583	4015		1206.53	157.92	28	14	N#	96	29	N s	10	33
	5	2360	3910		861.09	369.08	27	44	N#	96	14	Wt	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	5829	3918		454,46	382.00	27	30	N*	96	45	W #	49	161
	3	2840	3850		564.67	585.52	27	18	N#	96	23	資本	131	430
	4	2058	3936		431.26	310.30	27	34	N=	96	50	W x	36	112
	5	2032	3992		498.85	487.62	27	24	N×	96	36	**	78	256
	6	2998	3878		560.54	506.34	27	24	N#	96	29	W±	98	322
	7	2045	3835			-	27	15	NĦ	96	18	.5 W*	182	600
3	1	1585	3880		139.13	989.98	26	58	N#	97	11	W×	25	82
	5	1683	3841		286.38	855.91	- 26	58	N×	96	48	教会	65	213
	3	1775	3812		391.06	829,02	26	58	N#	96	33	W 🛪	106	348
	4	1552	3885		95.64	928,13	56	58	N#	97	20	¥*	15	49
	5	1623	3867		192.19	888.06	26	58	N#	97	62	**	48	131
	6	1790	3808		411.48	824.57	59	58	N#	96	30	資本	125	410
4	1	1130	3747		187.50	1423.58	26	10	N*	97	01	H+	27	88
	2	1300	3700		271.99	1310.61	- 26	10	N#	96	-39	消余	47	154
	3	1425	3663		333.77	1241.34	59	10	N×	96	24	教士	91	298
	4	1073	3763		163.42	1456,90	26	10	N#	97	98	料 角	15	49
	5	1170	3738		213.13	1387,45	26	10	N*	96	54	W#	37	121
	6	1355	3685		384.76	1272.48	26	10	N#	96	31	**	65	213
	7	1448	3659		350.37	1224,51	59	19	N#	96	28	WA	130	426
(HR)	1	2159	3900		635.06	422.83	27	32	85N**	96	58	19#**	75	246
(9)	ć	2169	3902		644,54	416.95	27	32	46N##	96	27	25W##	72	237
	3	2163	3908		641.60	425.10	27	35	05N**	96	27	35#**	81	266
	4	2165	3905		638.40	411.18	27	33	82N**	96	29	03W**	76	250
(SB)	1	2086	3889		563.00	468.28	27	26	49N**	96	31	18#**	81	266
(8)	2	2001	3889		560,95	475.80	27	26	14N**	96	31	82***	82	269
	3	2874	3890		552.92	475,15	27	26	06N**	96	31	47¥**	82	269
	4	2078	3890		551.12	472.73	27	59	14N**	96	32	87#**	82	269
RIG Munitor (7)	1=67				626.81	246,85	27	44	21.12	96	42	58.86	83	109
			NOTE:	*	MEANS	DEGREES	AND	MIN	UTES					
				**	MEANS	DEGREES	MIN	JTES	SECON	DS				

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

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N-2000
NE-2000
E-2400

11	NE-100	43	SE-2000
12	E-100	44	S-2000
13	SE-100	45	S#-2000
14	S-100	46	W-2000
15	Sw-100	47	NW-2000
16	W-100		
17	Nw-188	50	NNE-2000
•••	• •	51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	180 M OPPOSITE SEDIMENT	53	SSE=2000
• *	PLUME	54	SSW-2000
		55	NSW-2004
20	N=588	56	WNN-2000
21	NE_548	57	NNW-2000
22	F-590		
27	SE_500	60	NNE-1888
24	52-500 8-638	61	ENE-1000
24	5-500	62	E85-1000
24	JH-300	47	29E-1000
20	N=500	63	552-1000 88w-1000
21	N#=200	55	
7.0	N	65	
20	N=1000	60	NN#-1000
51	NE-1000	• /	MMM-1000
32	E-1000		
33	SE-1000		
34	5-1000		
22	24-1000		
36	M-1080		
\$7	N#-1000		

RIG MONITORING SAMPLES TAKEN:

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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	16	884218
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	▲4	SAMPLE CODE*
			15	13	TRANSECT/STATION
			18	12	DEPTH (METERS)
			20	I1	RELATIVE DEPTH CODE
			21	1 X	BLANK
			22	11	REPLICATE NUMBER
			23	I1	NUMBER OF REPLICATES AT THIS DEPTH
			24	14	METHANE (NANNOLITERS/LITER)***
			28	F5	ETHENE (NANNOLITERS/LITER) ***
			33	F5	ETHANE (NANNOLITERS/LITER) ***
			38	F5	PROPENE (NANNOLITERS/LITER) ***
			43	F5	PROPANE (NANNOLITERS/LITER)***
			48	1 X	BLANK
			49	▲4	SAMPLE CODE**

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A-157

* SAMPLE CODE OF THE SURFACE SAMPLE IS USED ON THE INVENTORY

 ** 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)

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NUTE: 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 IEXAS A+M UNIVERSITY (TAMU) COLLEGE STATION, TEXAS ASSOCIATE INVESTIGATORS: ELLIDT ATLAS SUE CDATES KATHY GAGE DARLENE GAREY K. C. HAUCK YANG HRUNG GRACE NEFF SUE NEWMAN CHIP SANDIFORD

DIRECTORY FOR STUDY AREA

FILE 6: METHODS, DATA FORMAT AND COMMENTS FILE 7: DATA FILE FOR RIG MONITORING STUDY FILE 8: CODED SPECIES LIST

METHODS

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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 Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-0	13	ALWAYS 210 FOR MASTER FILES
7	11	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	I1	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK

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A-159

11-14 A4 SAMPLE CODE (FINAL CODE ASSIGNED) 15=16 15 MONTH 17-18 15 DAY 19-20 15 YEAR TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 14 OR CENTRAL STANDARD TIME) 25 1 X BLANK SAMPLE COLLECTION AREA I 1 26 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK 27 STATION (SEE BLM STOCS MONITORING STUDY STATION 12 LOCATIONS) 29 A1 DEDAY; NENIGHT TYPE OF SAMPLE(SEE KEY TO CODES) 30-32 A3 SAMPLE DISPOSITION (SEE KEY TO CODES) Sample use (see key to cudes) 33-36 **A**4 37-39 A3 40-42 A3 PRINCIPLE INVESTIGATOR (SEE KEY CODES) 43 11 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 & 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 11 RELATIVE DEPTH CODE 9= 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 DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE 46 I1 BEEN USED; APPEARS TO ALWAYS BE Ø (ZERO) POOLED CODE 47 11 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED 48 11 LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO) ARCHIVE CODE 49 I 1 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE

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QUALITY CONTROL CODE 11 50 **BE NOT A QUALITY CONTROL SAMPLE** 1= A GUALITY CONTROL SAMPLE 51 11 CONTRACTED CODE BLANK OR BE BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 15 SAMPLE DEPTH IN METERS; 54-56 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-00 **A** 4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK BLANK 61 1 X 62-69 88 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 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

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

CHL- (TOTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY CHT-MST(EPIFAUNA CHEMISTRY TRAWL) WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT CHT-TM (EPIFAUNA TRACE METALS) 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 JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) 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 (PHUTOMETRY) CVB-CHASE VAN BAALEN LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIOFAUNA) DEN-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI MMS-MST(MEIDFAUNA MASTER GRAB) PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) NEU-TAX(NEUSTON TAXONOMY) UT-GEOPHYSICAL LAB. GALVESTON SED- (SEDIMENT) EWB-E, W. BEHRENS SED-HC (SEDIMENT HYDROCARBONS)

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SED-MPL(SEDIMENT MICROZOOPLANKTUN)
 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
        (NATER COLUMN)
 WAT-
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
 WAT-CI3(DELTA CI3)
                                            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
 *AT-FLU(FLUURESCENCE)
                                               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)
 #AT-TOC(TOTAL ORGANIC CARBON)
 ZCT-TM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOUPLANKTON HYDROCARBONS)
ZPL-TAX(ZOUPLANKTON TAXONOMY)
 ZPL-TM (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
 ---- ----
 B1 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSULVED OXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 B6 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
 15 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
 46 BENTHIC MICROBIOLOGY
 41 WATER COLUMN MICROBIOLOGY
 42 BENTHIC MYCOLOGY
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43 WATER COLUMN MYCOLOGY

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HLM STOCS MONITORING STUDY STATION LOCATIONS --- ---- ------ ----- ------

TRAN.	STA.	i	DRAN		LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	TH
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	₩≠	18	59
	2	2440	3950		961.49	275.71	27	55	N#	96	210	W×	42	138
	3	2300	3863		799.45	466.07	27	34	N×	96	07	**	134	439
	4	2583	4015		1206.53	157.92	28	14	N#	96	29	H th	18	33
	5	2360	3910		861.09	369.08	27	-44	N×	96	14	**	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	2920	3918		454.46	382.00	27	30	N#	96	45	授士	49	161
	3	2040	3850		564.67	585.52	27	18	N#	- 96	23	**	131	430
	4	2058	3936		431.20	310.30	27	34	N 🛪	96	50	W×	36	112
	5	2032	3992		498.85	487.62	27	24	N×	96	36	N X	78	256
	6	2968	3878		560.54	506.34	27	24	N#	96	29	W×	98	322
	7	2045	3835				27	15	N#	96	18	.5 W×	182	699
3	1	1585	3880		139.13	909.98	26	58	N#	97	11	*	25	82
	2	1683	3841		286.38	855.91	26	58	N≠	96	48	##	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	**	15	49
	5	1623	3867		192.19	888,06	- 26	58	N#	97	82	資金	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	With .	27	88
	2	1300	3700		271.99	1310.61	26	10	N×	96	39	W #	47	154
	3	1425	3663		333.77	1241.34	59	10	N#	96	24	**	91	298
	4	1073	3763		163.42	1456,90	26	10	N≠	97	08	N A	15	49
	5	1170	3738		213.13	1387.45	59	10	N#	96	54	W #	37	121
	6	1355	3685		304.76	1272,48	26	10	N*	96	31	資金	65	213
	7	1448	3659		350.37	1224.51	26	10	N#	96	20	W ×	130	426
(HR)	1	2159	3988		635.06	422.83	27	32	05N**	96	28	19#**	75	246
(9)	2	2169	3902		644.54	416.95	27	32	46N**	96	27	25#**	72	237
	3	2163	3900		641.60	425,10	27	32	05N**	96	27	35***	81	266
	4	2165	3905		638.40	411.18	27	33	02N**	96	29	03***	76	250
(58)	1	2086	3889		563.00	468.28	27	26	49N**	96	31	18**	81	266
(8)	2	2081	3889		560,95	475.80	27	26	14N**	96	31	02***	82	269
	3	2074	3890		552.92	475.15	27	26	86N**	96	31	47***	82	269
	4	2078	3890		551.12	472.73	27	26	14N**	96	32	07#**	82	269
RIG 1 MONITOR (7)	-67				626.81	246.85	27	44	21,12	96	42	58,86	83	109
			NOTE:	*	MEANS	DEGREES	AND	MIN	UTES					
				**	MEANS	DEGREES	MIN	ITES	SECON	DS				

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS

KEY TO RIG MUNITORING STATIONS --- -- --- ------ -------

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STATION	LOCATION	STATIUN	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	5-2000
13	SE-100	45	Sw-2000
14	S-100	46	W-2000
15	Sx-100	47	N#-2000
16	n-100		
17	Nw-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT	53	SSE-2000
	PLUME	54	SSW-2000
		55	WS#-2008
20	N-500	56	WNW-2000
21	NE-500	57	NNW-2000
22	E-500		
23	SE-500	60	NNE=1888
24	S-500	61	ENE-1000
25	Sw-500	62	ESE=1000
26	w-500	63	SSE-1000
27	Nn-500	64	SSW-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNN-1888
32	E-1000		
33	SE-1000		
34	5-1908		
35	Sw-1000		
36	W-1000		
37	N#-1686		

EMANATING FRUM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERS FROM THE DRILL SITE:

RIG MONITORING SAMPLES TAKEN:

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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	Ió	005210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A4	SAMPLE CUDE*
			15	2 X	BLANK
			17	12	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	14	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
					1.

50	3410	W⇒T = WHOLE LÊSS TAIL M = MUSCLE L = LIVER G = GILL GD = GONAD SPECIES NAME
	• /	005214
LARD ITPE 3 I	10	003210 CARD IVEE (AL HAVE I)
/	11	CARD FIFE (ALMAIS 3) Blank
8	34	SAMOLE CODE+
15	21	BIANK
17	12	
19	11	PERIOD CODE
17	• •	1 = WINTER
		2 = MARCH
		3 = APR1L
		4 = SPRING
		5 = JULY
		6 = AUGUST
		7 = FALL
		8 = NOVEMBER
		9 = DECEMBER
20	I 1	FRACTION
		1 = HEXANE
21	14	RETENTION INDEX
25	F11	RELATIVE PERCENT OF N-ALKANES**
CARD TYPE 4 1	16	005210
7	I1	CARD TYPE (ALWAYS 4)
8	3X	BLANK
11	A 4	SAMPLE CODE*
15	2X	BLANK
17	12	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)
FURMAT FOR CODED SPECIES LIST	(FILE	8)

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	12	SPECIES IDENTIFICATION CODE
2	3A1Ø	GENUS AND SPECIES NAME

COMMENTS

- * ARTIFICIAL CODES CREATED FOR 1975 AND 1976 SAMPLES. PREVIOUS SAMPLE CODES USED IN PUBLICATIONS NOTED IN COLUMNS 62-69 UF CARD TYPE 1. SAMPLE CODE ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE.
 ** PRISTANE AND PHYTANE CONCENTRATIONS ARE DESIGNATED AT RETENTION INDICES 1474 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.

DE 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) J. S. HOLLAND (JSH) UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UT) PRINCIPLE INVESTIGATOR: 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)

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DATA FORMAT

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	FTELD TYPE	DESCRIPTION
1	11	ALMAYS & (7FRO)
2-3	12	STUDY ADEA (SEE STUDY ADEA KEY)
2-3	12	ALWAYS DIG SOD MASTER EILES
0	11	CADE TYPE, ALLANG & EED INVENTORY/REE DATA EDDWATES
, A	11	CARD TIPES ALWATS I FUR INVENTURINGED DATA FURMATS - COD CTURY ADDADE
0.10	11	STUDI SUBAREA (DEFINED IN DATA FORMATS FOR STUDI AREAS)
4-10	2.	
11-14	A4	SAMPLE LUDE (FINAL LUDE ASSIGNED)
15-10	12	MUNIA
1/-18	12	
19-20	12	TEAK
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME Or central standard time)
25	1 X	BLANK
26	Ĩı	SAMPLE COLLECTION AREA
		1= TRANSECT 1
		25 TRANSFET 2
		In TRANSFET I
		AT THANGERT A
		THE DIG MONITORING AREA
		AP CUITHEDA BANK
		De JUDITERN DANK De Jürdital Dürk
		TATION (SEE DIN STOCK MONITORING STUDY STATION
21	16	LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A 4	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
		Ø= 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 Ø FOR
		A REPLICATE SAMPLE WITH THE REPLICATE NUMBER
		APPEARING ON THE DATA LINES
44	I 1	FILTERED CODE
	••	DE NOT APPLICABLE
		18 SAMPLE IS A FILTERED SAMPLE
		25 SAMPLE IS A NON-FILTERED SAMPLE
45	T 1	RELATIVE DEPTH CODE
	••	Az NOT CODED
		1s SURFACE
		28 1/2 PHOTIC TONE
		la PHOTIC ZONE
		AS PHOTIC ZONE TO ROTIOM
		S= BOTTOM
		AR NOT APPLICABLE
		RE ACTUAL OFFITH IN METERS GIVEN IN COLS SALSA
		OF VERTICAL TOWN ALL DEPTHS SAMPLED
		NOTE: RELATIVE DEPTH CODE HAS REEN
		INCONSISTENTLY USED. IN MOST CASES IT WAS NOT
		REEN CODED ON THE INVENTORY LINE. IF RELATIVE
		DEPTH IS MISSING FROM THE INVENTORY SINE, IT MAY
		RE CIVEN ON THE DATA I INES OD CAN BE DETERMINED
		FROM THE STUDY AREA
		FROM THE STORY MACK

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46	I1	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
		DEEN USED; AFFEARS IU ALMAYS DE 0 (ZERU)
47	11	
		82 NUL A PODLED SAMPLE
		1= A POOLED SAMPLE
		NDTE: MAY NOT HAVE BEEN USED
48	11	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED;
_		APPEARS TO ALWAYS BE 0 (ZERO)
49	11	ARCHIVE CDDE
		## NOT AN ARCHIVE SAMPLE
		1= AN_ARCHIVE SAMPLE
50	11	QUALITY CONTROL CODE
		B= NOT A QUALITY CONTROL SAMPLE
		1= A GUALITY CONTROL SAMPLE
51	I1	CONTRACTED CODE
		BLANK OR Ø= BLM CONTRACTED SAMPLE
		1= NOT A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER
54-56	13	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
57-68	▲4	PARENT SAMPLE CODE FOR SUBSAMPLES
		NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIELD WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK
62-69	84	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 PODLED SAMPLES.
		E.G.=
		A) AAAA-C INDICATES A PODLED SAMPLE MADE UP
		OF SAMPLES AAAA, AAAB, AAAC

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

SAMPLE TYPE--SAMPLE USAGE

CHG-MST(CHEMISTRY GRAB)

BAG-BAC(SEDIMENT BACTERIOLOGY) CHG-HC (SEDIMENT HYDROCARBONS)

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-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)

EPI-HC (EPIFAUNA HYDROCARBONS)

B) AAZY-BAA INDICATES A POOLED SAMPLE MADE

TAMU-TEXAS A+M UNIVERSITY

BJP-8.J. PRESLEY

RR-RICHARD REZAK

LHP-LINDA H. PEQUEGNAT CSG-C.S. GIAM TSP-E, TAISOO PARK

WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT

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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DISPOSITION AND PRINCIPLE INVESTIGATOR

UP OF SAMPLES AAZY, AAZZ, ABAA

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INF-TAX(INFAUNA TAXONOMY)
                                              NPS-NED P. SMITH
 LGT-PZ (PHOTOMETRY)
                                              CVB-CHASE VAN BAALEN
 LMW-HC (LDW-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. NOHLSCHLAG
 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)
                                              ENB-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)
 TUC-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
 #AT- (#ATER COLUMN)
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
 WAT-CI3(DELTA CI3)
                                           UT+AUSTIN
 WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                              PJS-PAUL J. SZANISZLO
 *AT-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-IM (ZOOPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZOOPLANKTON TAXONOMY)
ZPL-TM (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
---- .... ...
01 SALINITY AND TEMPERATURE, CURRENTS
M3 DISSOLVED OXYGEN, NUTRIENTS
04 LON-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) 36 HISTOPATHOLOGY 40 BENTHIC MICROBIOLOGY 41 WATER COLUMN MICROBIOLOGY 43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	LO	RAN	LO	RAC	LA	TITUDE	LONG	SITUDE	DEP	TH
		3H3	3H2	LG	LR				ME	TERS	FEET
1	1	2575	4003	1180.07	171.46	28	12 N*	96 2	?7 ₩ ★	18	59
	2	2440	3950	961.49	275.71	27	55 N#	96 2	20 W×	42	138
	3	2300	3863	799.45	466.07	27	34 N*	96 8	37 ₩×	134	439
	4	2583	4015	1206.53	157.92	28	14 N#	96 2	9 W#	10	33
	5	2360	3910	861.09	369.08	27	44 N#	96 1	4 W*	82	269
	6	2330	3892	819.72	412.96	27	39 N*	96 1	2 #*	100	328
2	1	2078	3962	373.62	192.04	27	40 N#	96 5	9 W#	22	72
	2	2450	3918	454,46	382.00	27	30 N*	96 4	15 W*	49	161
	3	2949	3850	564.67	585.52	27	18 N#.	96 2	3 W*	131	430
	4	2058	3936	431.26	310.30	27	34 N*	96 5	60 W*	36	112
	5	2032	3992	498.85	487.62	27	24 N#	96 3	6 W#	78	256
	6	2068	3878	560.54	506.34	27	24 N#	96 2	9 W±	98	322
	7	2045	3835			27	15 N*	96 1	8.5 W#	182	600
3	1	1585	3880	139.13	909,98	26	58 N*	97 1	1 #*	25	82
	2	1683	3841	286.38	855.91	26	58 N*	96 4	8 W*	65	213
	3	1775	3812	391.06	829,02	26	58 N*	96 3	3 ₩#	106	348
	4	1552	3885	95.64	928.13	26	58 N*	97 2	0 W+	15	49
	5	1623	3867	192.19	888.06	26 !	58 N*	97 Ø	2 ##	40	131
	6	1790	3808	411.48	824.57	26	58 N*	96 3	Ø W#	125	410
4	1	1130	3747	187.50	1423.50	26	10 N*	97 8	1 #*	27	88
	2	1300	3700	271.99	1310.61	26	10 N*	96 3	9 W#	47	154
	3	1425	3663	333.77	1241.34	26	10 N*	96 2	4 #×	91	298
	4	1073	3763	163.42	1456.90	26	10 N*	97 0	8 W×	15	49
	5	1170	3738	213.13	1387.45	26	10 N*	96 5	4 #*	37	121
	6	1355	3685	304.76	1272.48	26	10 N#	96 3	1 #*	65	213
	7	1448	3659	350.37	1224.51	26	10 N#	96 2	0 W*	130	426
(HR)	1	2159	3900	635.00	422.83	27 3	32 85N**	96 2	8 19***	75	246
(9)	2	2169	3902	644.54	416.95	27	32 46N**	96 2	7 25#**	72	- 237
	3	2163	3900	641.60	425.10	27	32 Ø5N**	96 2	7 35W**	81	266
	4	2165	3905	638.40	411.18	27 3	33 Ø2N**	96 2	9 83W**	76	250
(\$8)	1	2086	3889	563.00	468.28	27 2	26 49N**	96 3	1 18₩**	81	266
(8)	2	2081	3889	560.95	475.80	27 2	26 14N**	96 3	1 02***	82	269
	3	2074	3890	552.92	475.15	27 2	26 Ø6N**	96 3	1 47₩**	82	269
	4	2078	3890	551.12	472.73	27 2	26 14N**	96 3	2 Ø7#**	82	269

A-171

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HIG 1-67 MONITOR (7) NOTE: * MEANS DEGREES AND MINUTES ** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

SAMPLING STATIONS ESTABLISHED AT THE INTERSECTION OF TRANSECTS EMANATING FRUM 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	5-2000
13	SE-100	45	SW-2000
14	S=180	46	M-2000
15	Sw-100	47	N#-2000
16	n-188		
17	Nw-100	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT	53	SSE-2000
•	PLUME	54	SS#-2000
		55	WSW-2000
28	N-50U	56	WNW-2000
21	NE-500	57	NN#=2688
22	E-500		
23	SE-500	60	NNE-1000
24	5-500	61	ENE-1000
25	SW-580	62	ESE-1000
26	W-500	63	SSE-1000
27	N#-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	SN-1000		
36	W-1000		
37	Nw-1868		
RIG MONITORI	NG 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	I 1	CARD TYPE (ALWAYS 2)
			8	I1	SUB-STUDY AREA SAMPLE TYPE
					1 = EPIFAUNA
					2 = INFAUNA

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9	2 X	BLANK
11	▲4	SAMPLE CODE*
15	18	SPECIES IDENTIFICATION CODE**
23	15	NUMBER OF INDIVIDUALS/SAMPLE
28	13	NUMBER OF MALES/SAMPLE***
31	13	NUMBER OF FEMALES/SAMPLE***
34	13	NUMBER OF THOSE FEMALES WHICH ARE OVIGEROUS***
37	1 X	BLANK
38	4410	SPECIES NAME

FURMAT FOR CODED SPECIES LIST (FILE 11) ----- --- ----- ----- +-+-

START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
1	12	PHYLUM CODE
3	12	CLASS, ORDER, SUBORDER, OR DESCRIPTIVE
		TAXONOMIC CODE (USUALLY CLASS)
5	12	FAMILY CODE
7	12	SPECIES OR LOWEST DESCRIPTIVE TAXON CODE
9	2X	BLANK
11	4410	SPECIES NAME OR LOWEST DESCRIPTIVE TAXON, IN PHYLOGENETIC ORDER

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COMMENTS

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- * 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 DR 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

A-173

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

DATA TYPE:	EPIFAUNA FISH (EPI-FSH)
PHINCIPLE 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

FILE 12: METHODS, DATA FORMAT AND COMMENTS FILE 13: DATA FILE FOR RIG MONITORING STUDY FILE 14: CODED SPECIES LIST

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

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

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COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS & (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 21B 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	A 4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME Or central standard time)

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1= NOT & BLM CONTRACTED SAMPLE BLANK OR DE BLM CONTRACTED SAMPLE CONTRACTED CODE 11 15 1= A QUALITY CONTROL SAMPLE 0= NOT A QUALITY CONTROL SAMPLE BUALITY CONTROL CODE II 05 1= AN ARCHIVE SAMPLE 9= NOT AN ARCHIVE SAMPLE ARCHIVE CODE τī 67 APPEARS TO ALWAYS BE & (ZERO) FINE CODE -- CODES NNKNOMN' WAY NOT HAVE BEEN N3ED; TI 87 NOTE: MAY NOT, HAVE BEEN USED 1= V LOOLED SAMPLE 0= NOT A POOLED SAMPLE POOLED CODE I T 20 BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO) DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE TI 97 A39A YOUTS 3HT MO93 BE CIVEN ON THE DATA LINES OR CAN BE DETERMINED DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY BEEN CODED ON THE INVENTORY LINE; IF RELATIVE INCONSISTENTLY USED; IN MOST CASES IT HAS NOT NOTE: RELATIVE DEPTH CODE HAS BEEN 0= AERTICAL TON; ALL DEPTHS SAMPLED B= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= NOT APPLICABLE W01108 #5 THE BHOLIC SONE 10 BOLLOW 2# BHOLIC SONE S= 1/5 PHOTIC ZONE 1= SURFACE 03000 LON =0 RELATIVE DEPTH CODE 11 57 SE SAMPLE IS & NON-FILTERED SAMPLE 1= SAMPLE IS A FILTERED SAMPLE 0= NOT APPLICABLE FILTERED CODE 11 77 APPEARING ON THE DATA LINES A REPLICATE SAMPLE WITH THE REPLICATE NUMBER NOTE; REPLICATE CODE HAS NOT BEEN •013 2= SND REPLICATE SAMPLE 1= 121 REPLICATE SAMPLE 0= NUT & REPLICATE SAMPLE REPLICATE CODE τī 57 PRINCIPLE INVESTIGATOR (SEE KEY CODES) 27-87 ₹₹ AVMARE NAE (REE KEA 10 CODER) Avmare Diradorition (Ree Kea 10 Coder) ٤∀ 62-12 92-25 **₩**¥ TYPE OF SAMPLE(SEE KEY TO CODES) Σ٧ 28-92 1H9IN=N \$LVQ=0 τv 56 (SNOILVOOT STATION (SEE BLM STOCS MONITORING STUDY STATION 15 75 0* HOSPIIAL ROCK 8= SUUTHERN BANK **VE RIG MONITORING AREA** # IJJSNAAT =# 2= ISANSECT 3 2= TRANSECT 2 I IDESNART =1 SAMPLE COLLECTION AREA ΙI 92 52 BLANK ΧI

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S71-A

63 67		CONTRE NUMBER	
26-22	12	LKUISE NUMBER	
54-50	13	SAMPLE DEPTH IN ME	TERS;
		NUTE: 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	A 4	PARENT SAMPLE CODE	FOR SUBSAMPLES
		NOTE: FOR A	SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FILD	WTIL CONTATE YYYY OF BE BLANK
61	1 X	RIANK	HILE COULTS NAME ON OF DEBUG
62-69	ÅR	PREVIOUS SAMPLE CO	NE - ALLOWS REEPENCE TO 1975.
02-07	-0	1074. 1077	STAAL REDODIG TO REMOVE TO 17/37
		17/6/ 17//	CONER WILL BE THE STANDARD # CHARACTER
		NUILI MUSI	COULS WILL DE THE ADDITIONAL COLD IN
		VARIEIT LIN	LULS, 62-651; THE AUDITIONAL LULS, IN
		THIS FIELD	ARE FUR PUULED SAMPLES,
		E ∎ u ∎	
		A) AAAA-C	INDICATES A POOLED SAMPLE MADE UP
		OF SAMP	LES AAAA,AAAB,AAAC
		B) AAZY-BA	A INDICATES A POOLED SAMPLE MADE
		UP OF S	AMPLES AAZY,AAZZ,ABAA
KEY TO COD	ES		
SAMPLE TY	PESAMPI	FUSAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAGEBAC(S	EDIMENT F	ACTERIOLOGY)	
CHGAHC (S	EDIMENT I	AVDROCARBONSI	TAMILTEYAS AND UNIVERSITY
CHG-MST(C	LEMTRIDV	CPAR)	IND-ICANO ATA UNITERGITI
CHC_TM (8	EDIMENT 1	GACE METAL RY	CRC-C S CIAM
CHC-IEV(B)	EDIMENT 1	IRALE MEIALDJ IEVTHDEN	188-5 141000 BADK
CHU- (T	CUINCNI -	16A1UNEJ 1808-4411 - 19761	IJP-E. IAIJUU PARN
	DIRL CHLU		
	FIFAUNA P	TTURULARBUNS)	DJP-D.J. FRESLET
UNI-MSILE	PIFAUNA (MEMISIKT IRANLJ	HHS-HILLIAM M. SALKEII
CHIMIN (E	PIFAUNA	RACE METALS)	WEP-WILLIS E. PEUUEGNAT
EPI=FSH(E	PIFAUNA [DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (E	PIFAUNA H	TYDROCARBUNS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(E	PIFAUNA 1	HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(E	PIFAUNA (HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(E	PIFAUNA 1	INVERTEBRATES)	JN-JERRY M. NEFF
EPI=MST(E	PIFAUNA P	MASTER)	JRS-JOHN R. SCHWARZ
1CH= (I)	CHTHYUPL/	NNKTON)	JH#-JOHN H, WORMUTH
INF-MST(I	NFAUNA MI	ASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(I	NFAUNA SE	DIMENT)	PLP-PATRICK L. PARKER
INF=TAX(I	NFAUNA TI	XONOMY)	NPS-NED P. SMITH
LGT-PZ (P	HOTOMETRY	()	CVB-CHASE VAN BAALEN
LMW-HC (LI	OW-MOLECI	JLAR-WEIGHT HYDROCARBO	NS) JSH-J. SELMON HOLLAND
MNK-TM (M	ACRONEKTO	IN TRACE METALS)	
MMS-C13(T	OTAL ORGA	NIC CARBON AND DELTA	C13 IN SEDIMENT)
MMS-MEI(M	EIUFAUNA)		DEN-DONALD E. WOHLSCHLAG
MMS-MST (M	EIUFAUNA	MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC (SI	EDIMENT N	YCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX (N	EUSTON T	XONOMY)	UT-GEOPHYSICAL LAB, GALVESTON
SED+ (S	EDIMENTI		ENB-E. W. BEHRENS
SED-HC (SI	FDIMENT -	YDROCARBONS	ana at us aturaly
SED-MPL (SI	EDTMENT	ATCROZODPLANKTON)	
SED-TH (SI	FDIMENT T	RACE METALSI	
SDG=DFP/S	EDIMENT P	SEPOSITION)	
STORET (S	ALTNITY-1	FNDERATURE_DEDTH)	
TOC-01 (3)		ENFERATOREFUEFIN) Serentalennuefiutty	HTRA-HNITH OF TEVAR AT RAN ANTONTO
100-31 (1) Tumatiq/11	CHT GRAIUH Dangmier	CE-UCFIN-CUNDUCIIVIII	CIDE-UNIV. UT IEXAD AL DAN ANIUNIU Cad-camusi a dantoe7
INMULUTI	~~~~~~~~~	/~~````````````````````````````````````	URRTURTUEL R. RAMIREL

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VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) WVA-O, W. VAN AUKEN WAT- (WATER COLUMN) WAT-ATP(ADENOSINE TRI-PHOSPHATE) HAT-BAC(HATER 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(ZUOPLANKTON TAXONOMY) ZPL-TM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY -----**B1 SALINITY AND TEMPERATURE, CURRENTS B3 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 ADENDSINE TRI-PHOSPHATE 11 PHYTOPLANKTON 12 FLUORESCENCE 13 MEIOFAUNA 14 NEUSTON 15 TRACE METALS 16 CARBON 14 19 SEDIMENT TEXTURE, BACTERIDLOGY, 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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LLM STOCS MONITORING STUDY STATION LOCATIONS

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A-178

TRAN.	STA.	I	LORAN	LO	RAC	L	ATI	TUDE	LO	NGI	TUDE	DEP	тн
		3H3	3H2	LG	LR						ME	TERS	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	**	42	138
	3	2300	3863	799.45	466.07	27	34	. N#	96	07	树舍	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	#*	82	269
	6	233ø	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	**	22	72
	2	2050	3918	454.46	382.00	27	30	N#	96	45	援由	49	161
	3	2040	3850	564.67	585.52	27	18	N×	96	23	# *	131	430
	4	2058	3936	431.20	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	2845	3835			27	15	N#	96	18	•2 M*	182	668
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	资本	106	348
	4	1552	3885	95.64	928.13	59	58	N#	97	20	211年	15	49
	5	1623	3867	192.19	888.06	26	58	N#	97	62	谢舍	40	131
	6	1790	3808	411.48	824,57	26	58	N×	96	30	WA	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	59	10	N#	96	39	教会	47	154
	3	1425	3663	333.77	1241.34	59	10	N#	96	24	1911年	91	298
	4	1075	3763	163.42	1456.90	59	10	N#	97	Ø8	W×	15	49
	>	1170	3738	213.13	1387.45	26	10	N#	96	54	對素	37	121
	6	1355	3685	304.76	1272.48	26	10	N#	96	31	W A	65	213
	7	1448	3659	350.37	1224.51	26	10	N#	96	20	₩★ .	130	426
(HR)	1	2159	3900	635.06	422.83	27	32	85N##	96	28	198**	75	246
(9)	2	2169	3902	644.54	416.95	27	32	46N**	96	27	25 * **	72	237
	3	2163	3900	641.60	425.10	27	32	05N**	96	27	35#**	81	266
	4	2165	3905	638.40	411.18	27	33	02N**	96	29	03***	76	250
(58)	1	2086	3889	563.00	468.28	27	59	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	86N**	96	31	47W**	82	269
	4	2078	3890	551.12	472.73	27	59	148**	96	32	87***	82	269
RIG 1 MONITOR (7)	-67			626.81	246,85	27	44	21.12	96	42	58,86	83	109
			NOTE:	* MEANS	DECREES	AND	MTP	INTER					

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 TRANSECTSEMANATING FROM THE DRILL SITE AND CONCENTRIC CIRCLES 100, 500, 1000, AND 2000 METERSFROM THE DRILL SITE:STATION1DRILL SITE40N=2000

41

NE-2000

10	N-100	42	E-2000	
11	NE-100	43	SE-2000	
12	E-100	44	5-2000	
13	SE-100	45	Sw-2000	
14	5-100	46	W-2000	
15	Sw-100	47	NW-2000	
16	W-100			
17	Nw-160	50	NNE-2000	
		51	ENE-2000	
18	100 M IN SEDIMENT PLUME	52	ESE-2000	
19	100 M OPPOSITE SEDIMENT	53	SSE-2000	
	PLUME	54	SSW-2000	
		55	WS#-2888	
20	N-500	56	WN#-2060	
21	NE-500	57	NNW-2000	
22	E-500			
23	SE-500	60	NNE-1000	
24	5-500	61	ENE-1000	
25	Sw-500	62	ESE-1000	
59	W-500	63	SSE-1000	
27	Nw-500	64	SSW-1000	
		65	NS#=1080	
30	N-1000	66	WNW-1000	
31	NE-1000	67	NN#-1000	
32	E-1000			
33	SE-1000			
34	5-1000			
35	Sm-1000			
30	w-1000			
37	Nw-1888			
RIG MONITORIN	IG SAMPLES TAKEN:			
BEFORE DR	ILLING SEPTEMBER 25-27,	1976		
DURING DR	ILLING JANUARY 1 AND 14,	1977		
AFTER DRI	LLING FEBRUARY 28 - MAR	CH 3, 1977		

		START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
TYPE	2	1	16	007210
		7	I1	CARD TYPE (ALWAYS 2)
		8	3X	BLANK
		11	▲4	SAMPLE CODE*
		15	13	SPECIES CODE**
		18	16	ABUNDANCE (NUMBER OF INDIVIDUALS/TRAWL SAMPLE)
		24	FB	WEIGHT (GRAMS)
		32	A10,A7	FAMILY NAME
		49	3A10	GENUS-SPECIES NAME
	TYPE	TYPE 2	START COLUMN TYPE 2 1 7 8 11 15 18 24 32 49	START COLUMN FIELD TYPE TYPE 2 1 16 7 11 8 3X 11 A4 15 13 18 16 24 FB 32 A10,A7 49 3A10

FURMAT FOR CODED SPECIES LIST (FILE 14)

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

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A-179

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COMMENTS

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE ** CODED SPECIES LIST IS IN FILE 14.

NUTE: 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 -----FILE 15: METHODS, DATA FORMAT AND COMMENTS FILE 16: DATA FILE FOR RIG MONITORING STUDY METHODS ****** 2.43 CM DIAMETER CORE TO A DEPTH OF 5 CM IN A SMITH-MCINTYRE GRAB SAMPLE. SAMPLE: SELVED THROUGH 500 AND 62 MICRON MESH. MATERIAL ON 62 MICRON MESH SIEVE Retained, stained, counted. DATA FORMAT ----CARD TYPE 1---STANDARD INVENTORY CARD---COLUMNS FIELD TYPE DESCRIPTION 1 11 ALWAYS Ø (ZERO) 2-3 STUDY AREA (SEE STUDY AREA KEY) 12 ALWAYS 210 FOR MASTER FILES 4=6 13 7 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 I 1 9-10 2X BLANK 11-14 A4 SAMPLE CODE (FINAL CODE ASSIGNED) 15=16 12 MONTH 17-18 DAY 12 19-20 YEAR 12 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 14 OR CENTRAL STANDARD TIME)

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A-181

25	1×	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	15	STATION (SEE BLM STOCS MONITORING STUDY STATION
		LOCATIONS)
29	A1	DEDAY; NENIGHT
36-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-30	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
37-39	▲3	SAMPLE USE (SEE KEY TO CODES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	I1	REPLICATE CODE
		Ø= 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 Ø 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
		B= NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5= BOTTOM
		6= NOT APPLICABLE
		B= 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	11	DISSULVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE
	• •	BEEN USED; APPEARS TU ALWAYS BE 0 (ZERU)
47	11	
		US NUT A POULED SAMPLE
		1ª A POULED SAMPLE
" •	• •	NUILI MAY NUL RAVE DEEN USED
40	11	LIVE CUDE LUDES UNKNUNN; MAT NUT HAVE BEEN USED;
		APPEARS IN ALWATS DE 8 (ZERN)
49	11	ARCHIVE LUDE
		DE MUI AN ARCHIVE JAMPLE
E (4	τ.	DHALTTY CONTROL CODE
70	* 1	WURLII LUNIKUL LUUE
		DE NUI A GUALIII LUNIKUL JAMMLL 1- A (maitty control sample
5 1	T 4	13 A WUALIIT LUNIKUL SAMPLE
21	11	GUNIKAGIEU GUUE Biank od ge dim contracted eandie
		BLANN UN DE BLA CONTRACTER SAMPLE
		1 HUI A DEM LUNIKALIEU SAMPLE

52-53 54-56	12 13	CRUISE NUMBER SAMPLE DEPTH IN 1 NUTE: 999 MEAN 991 MEAN 992 MEAN 993 MEAN	METERS; 5 NOT APPLICABLE 3 VERTICAL TOW FROM SURFACE TO 25 METERS 5 VERTICAL TOW FROM 25 TO 50 METERS 5 VERTICAL TOW FROM 50 METERS TO BOTTOM
57-68	A 4	PARENT SAMPLE CON NOTE: FOR THIS FIELD)E FOR SUBSAMPLES A SAMPLE WHICH IS NOT A SUBSAMPLE D WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK	
62-69	A 8	PREVIOUS SAMPLE (1976, 197 Note: Mos Variety (This field E.G.=	CODE ALLOWS REFERENCE TO 1975, 7 FINAL REPORTS TO BLM 7 CODES WILL BE THE STANDARD 4 CHARACTER IN COLS. 62-65); THE ADDITIONAL COLS. IN 0 ARE FOR POOLED SAMPLES,
			. INDILATES A PULLED SAMPLE MADE UP
		UP SA	APLES ARAA, AAAB, AAAL
			SAA INDILAIES A PUULED SAMPLE MADE Samdies Aaty, Aatt, araa
		UP OF	JARTLEJ AALIJAALLJADAA
KEY TO COD	ES ••		
SAMPLE TY	PE-SAMP	LE USAGE	DISPUSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(S	EDIMENT	BACTERIOLOGY)	
CHG-HC (S	EDIMENT	HYDROCARBUNS)	TAMU-TEXAS A+M UNIVERSITY
CHG=MST(E	HEMISTRY	GRABJ	LHP-LINDA H, PEQUEGNAT
CHG-TM (S	EDIMENT	TRACE METALSJ	CSG-C.S. GIAM
CHG-TEX(S	EDIMENT	TEXTURE)	TSP-E, TAISOO PARK
CHL= (T	DTAL CHL	OROPHYLL-1975)	
CHT-HC (E	PIFAUNA	HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST (E	PIFAUNA	CHEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (E	PIFAUNA	TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI-FSH(E	PIFAUNA	DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (E	PIFAUNA	HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(E	PIFAUNA	HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(E	PIFAUNA	HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(E	PIFAUNA	INVERTEBRATES)	JN-JERRY M. NEFF
EPI=MST(E	PIFAUNA	MASTER)	JRS+JOHN R. SCHWARZ
ICH= (I)	CHTHYOPL	ANKTON)	JHW-JDHN H, WORMUTH
INF=MST(I	NFAUNA M	ASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(I	NFAUNA S	EDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(1	NFAUNA T	AXONOMY)	NPS-NED P. SMITH
LGT-PZ (P	HOTOMETR	Y)	CVB-CHASE VAN BAALEN
LMW-HC (LI	OW-MOLEC	ULAR-WEIGHT HYDROCARE	SONS) JSH-J. SELMON HOLLAND
MNK-TM (M	ACRONEKT	ON TRACE METALS)	
MMS-C13(T	OTAL ORG	ANIC CARBON AND DELT	L C13 IN SEDIMENT)
MMS-MEI(M	EIOFAUNA)	DEW-DONALD E. WOHLSCHLAG
MMS-MST (M	EIOFAUNA	MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MYG-MYC (S	EDIMENT	MYCOLOGY)	PJ-PATRICIA L. JOHANSEN
NEU-TAX (N	EUSTON T	AXONOMY)	UT-GEOPHYSICAL LAB. GALVESTON
	EVIMENT)		LND+L. N. BLMKENS
SED-HE (S	LUIMENI :	HTUKULAKBUNS)	
SEDAMPL(SI	ENTWENT :	MILKUZUUFLANKIUNJ	
SED-TM (SI	EDIMENT	INAUL METALS)	
SDG=DEP(S	EDIMENT	DEPOSITION)	
STD-ST (S	ALINITY-	TEMPERATURE-DEPTH)	
TDC-ST (T	EMPERATU	RE-DEPTH-CONDUCTIVITY	UTSA-UNIV. OF TEXAS AT SAN ANTONIO
TRM=TUR(T	RANSMISS	DMETRY-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(PROTOZDA) WAT-P14(CARBON14 PHYTOPLANKTON) **MAT-SSM(MATER-SUSPENDED SEDIMENT)** WAT-TOC(TOTAL ORGANIC CARBON) ZCT-TH (ZOOPLANKTON TRACE METALS) ZPL-HC (ZOOPLANKTON HYDROCARBONS) ZPL-TAX(ZDOPLANKTON TAXONOMY) ZPL-IM (ZOOPLANKTON TRACE METALS) STUDY AREA KEY ---- ---- ---**01 SALINITY AND TEMPERATURE, CURRENTS U3 DISSOLVED OXYGEN, NUTRIENTS** 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS US HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES 06 INVERTEBRATE EPIFAUNA AND INFAUNA 07 BENTHIC FISH **B8 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.	L	ORAN		LO	RAC	L	ATI.	TUDE	LO	NGI	TUDE	DEP	TH
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003		1180.07	171.46	28	12	N#	96	27	**	18	59
	2	2440	3950		961.49	275.71	27	55	N×	96	28	¥*	42	138
	3	2300	3863		799.45	466.07	27	34	N=	96	07	将来	134	439
	4	2583	4815		1206.53	157.92	28	14	N#	96	29	N#	10	33
	5	2360	3910		861.09	369.08	27	44	N#	96	14	₩ ★	82	269
	6	2330	3892		819.72	412.96	27	39	N×	96	12	W×	180	328
2	1	2078	3962		373.62	192.04	27	40	N#	96	59	M #	22	72
	2	2050	3918		454.46	382.00	27	30	N#	96	45	¥*	49	161
	3	2040	3850		564.67	585.52	27	18	N*	96	23	戦争	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	¥#	98	322
	7	2045	3835				27	15	N×	96	18	•5 W*	182	696
3	1	1585	3880		139.13	909.98	26	58	N#	97	11	**	25	82
	2	1683	3841		286.38	855.91	26	58	N×	96	48	M #	65	213
	3	1775	3812		391.06	829.02	26	58	N#	96	33	M×	106	348
	4	1552	3885		95.64	928.13	26	58	N×	97	20	¥#	15	49
	5	1623	3867		192.19	888.06	26	58	N#	97	95	**	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 A	47	154
	3	1425	3663		333.77	1241.34	59	10	N#	96	24	N R	91	298
	4	1073	3763		163,42	1456.90	26	10	N#	97	08	操会	15	49
	5	1170	3738		213.13	1387.45	26	19	N#	96	54	戦争	37	121
	6	1355	3685		304.76	1272.48	56	10	N*	96	31	**	65	213
	7	1448	3659		350.37	1224,51	26	10	Nŧ	96	20	湖本	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	25***	72	237
	3	2163	3900		641.60	425.10	27	32	05N**	96	27	35***	81	266
	4	2165	3985		638.40	411.18	27	33	02N**	96	29	03w**	76	250
(58)	1	2886	3889		563.00	468.28	27	26	49N**	96	31	18###	81	266
(8)	2	2001	3889		560.95	475.80	27	26	14N**	96	31	82W**	82	269
	3	2074	3890		552.92	475,15	27	26	06N**	96	31	47#**	82	269
	4	2078	3890		551.12	472,73	27	26	148**	96	32	87₩**	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	MI	NUTES					
				**	MEANS	DEGREES	MINU	ITES	S SECON	DS				

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-2900 41

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NE-2000

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10	N-100	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	5-2000
13	SE-100	45	SW-2000
14	S-100	46	w-2000
15	Sw-100	47	N#-2000
16	W-100		
17	NW-188	50	NNE-2000
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2000
19	100 M OPPOSITE SEDIMENT	53	SSE-2000
-	PLUME	54	SSW-2000
		55	WSW-2000
20	N=500	56	WNW-2880
21	NE-500	57	NN#-2000
22	E-500		
23	SE-500	60	NNE-1000
24	S=500	61	ENE-1000
25	S#-500	62	ESE-1000
26	w=500	63	SSE-1000
27	N#=548	64	SSW-1000
		65	WSW-1000
30	N-1888	66	WNW-1000
31	NF-1888	67	NNW-1909
32	F-1000	•••	
32	SE-1000		-
20	S-1998		
15	S==1000		
26	5 - 1 0 0 0 5 - 1 0 4 4		
30	N=1000		
31	~~~···		

RIG MONITORING SAMPLES TAKEN:

i.

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	16	013210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	▲4	SAMPLE CODE*
			15	I1	PERIOD CODE
			•••		1 = WINTER
					2 = MARCH
					3 # APRIL
					4 = SPRING
					5 # JULY
					A = AUGUST
					7 I FALL
					A = NOVEMBER
					9 = DECEMBER
			1.6	12	THE TAN DAY
			10	13	VEAD
			1.4	11	1 - 1074
					1 = 1970
			20	11	TRANSECI
			21	12	STATION
			23	15	NEMATODA
			28	14	HARPACTICOIDA :

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32	13	KINDRHYNCHA :
35	13	OSTRACODA :TRUE MEIOFAUNA
38	13	HALICARIDAE : (NUMBER OF INDIVIDUALS/10 CUBIC METERS)
41	13	NAUPLII : (2 REPLICATES AVERAGED)
44	13	TURBELLARIA :
47	13	TRUE OTHERS
50	12X	BLANK
62	14	FORAMINIFERA:PROTISTA
66	13	OTHER PRUTOZOA =: (NUMBER OF INDIVIDUALS/10 CUBIC METERS) (2 REPLICATES AVERAGED)
69	13	POLYCHAETA
72	13	BIVALVA :
75	13	GASTROPODA :===TEMPORARY MEIOFAUNA
78	13	PERACARIDA : (NUMBER OF INDIVIDUALS/10 CUBIC METERS)
81	13	DECAPODA : (2 REPLICATES AVERAGED)
84	13	TEMPORARY OTHERS

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COMMENTS

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NUTE: 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) PHINCIPLE INVESTIGATOR: FOR SEDIMENT MENRY 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

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---JARREL-ASH MODEL 810 ATOMIC ABSORPTION SPECTROPHUTOMETER

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---

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COLUMNS	FIELD TYPE	DESCRIPTION
1	I 1	ALWAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES

7 8 9=1 12	I1 I1 2X	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS) STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY
19-20	15	YEAR
21-24	14	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1X	BLANK
20	11	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	12	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	DEDAY; NENIGHT
30-32	A 5	TTPE OF SAMPLE(SEE KEY TO CODES)
33-30	A4 47	SAMPLE DISPUSITION (SEE REY TO CODES)
J/=37 44-43	A 3	SAMPLE USE (SEE NET IU LUUES) BRINCIPIE INVERTIGATOR (SEE NEV CORES)
43	11	REPUTCATE 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	11	FILTERED CODE 0= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE
45	I 1	2= SAMPLE IS A NON-FILTERED SAMPLE RELATIVE DEPTH CODE
		Ø= 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	11	DISSOLVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)
47	11	POOLED CODE U= 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 Ø (Zero)

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49	I 1	ARCHIVE CODE	
		Ø= NOT	AN ARCHIVE SAMPLE
		· 1= AN /	ARCHIVE SAMPLE
50	I1	QUALITY CONTRO	DL CODE
		B= NOT	A QUALITY CONTROL SAMPLE
F •		1= A UL	JALITY CONTROL SAMPLE
21	**	CUNIKACIED CUL	JE DR d- Rim contracter campie
		DLANK L	JA DE DEM CONTRACTED SAMPLE
52-53	12	CONTRE NUMBER	A DEM CUMINACIEN SAMPLE
54-56	13	SAMPLE DEPTH	IN METERS:
	•-	NOTE: 999 M	ANS NOT APPLICABLE
		991 M	ANS VERTICAL TOW FROM SURFACE TO 25 METERS
		992 ME	ANS VERTICAL TOW FROM 25 TO 50 METERS
		993 ME	ANS VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A 4	PARENT SAMPLE	CODE FOR SUBSAMPLES
		NOTE: F	OR A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FI	ELD WILL CONTAIN XXXX OR BE BLANK
10		DLANK DOSUTONO SAMO	
02-07	AC	PREVIOUS SAMPL	LE LUDE ALLOWS REPERENCE TO 1975;
		17707 1 NATE: N	1977 FINAL REFURIS TO DEM 1987 FORES WILL RE THE STANDADD & CHADACTED
		VARIETY	((IN COLS. 62065); THE ADDITIONAL COLS. IN
		THIS FI	ELD ARE FOR POOLED SAMPLES.
		E.G.=	
		A) AA	A-C INDICATES A POOLED SAMPLE MADE UP
		OF	SAMPLES AAAA,AAAB,AAAC
		B) AA2	Y-BAA INDICATES A POOLED SAMPLE MADE
		UP	OF SAMPLES AAZY,AAZZ,ABAA
KEY TO COD	ES		
SAMPLE IT	PE==3AMP1 FD1MENT (LE USAGE	DISPUSITION AND PRINCIPLE INVESTIGATOR
CHC-HC (S	EDIMENT I EDIMENT I	VDBOCABBONE)	TAMIL TEWAR AAM UNTUEDOTTY
CHG-HGT(C)	EDIMENT F Memtetdy	CDARN	I MALITNA H DECUECUAT
CHG=TM (S	FDIMENT 1	RACE METALSI	CREAT S STAM
CHG-TEX(S	EDIMENT 1	FXTURE)	TSPOF, TAISON PARK
CHL- (T	UTAL CHL	ROPHYLL-1975)	
CHT-HC (EI	PIFAUNA H	YDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(E	PIFAUNA (HEMISTRY TRAWL)	WMS-WILLIAM M. SACKETT
CHT-TM (E	PIFAUNA 1	RACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI=FSH(E	PIFAUNA [EMERSAL FISH)	RR-RICHARD REZAK
EPI=HC (EI	PIFAUNA H	IYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(E	PIFAUNA H	ISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(E	PIFAUNA H	IISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(E	PIFAUNA I	NVERTEBRATES)	JN-JERRY M. NEFF
- EF1=M3((E)	FIFAUNA P	IAD FERJ	JKS-JUHN K. SCHWARZ
ILLE MET(IL	NEALINA MA	eten)	JANTJUAN A. NUKMUIA UT-daat arangar maring lad
INF=SED(1)	NFALINA SP	DIMENI)	DID_DATOTCK I DADKED
INF-TAX(T)	NFAUNA TA	XONOMY)	NPSENED P. SMITH
LGT-PZ (P)	HOTOMETRY)	CVB-CHASE VAN BAALEN
LMW-HC (LO	DW-MOLECU	LAR-WEIGHT HYDROC	ARBONS) JSH-J. SELMON HOLLAND
MNK-TM (M/	ACRONEKTO	N TRACE METALS)	
MMS-C13(T(DTAL ORGA	NIC CARBON AND DE	LTA C13 IN SEDIMENT)
MMS-MEI (ME	EIOFAUNA)		DEW+DONALD E. WOHLSCHLAG
MMS=MST (ME	LOFAUNA	MASTER GRAB)	DK-DAN L. KAMYKOWSKI
MTG-MYC(SE	LUIMENT M	YCULOGY]	PJ=PATRICIA I. JOHANSEN

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NEU-TAX(NEUSTON TAXONOMY)
                                           UT-GEOPHYSICAL LAB. GALVESTON
SED- (SEDIMENT)
SED-HC (SEDIMENT HYDROCARBONS)
                                             ENB-E. W. BEHRENS
 SED-MPL(SEDIMENT MICROZOOPLANKTON)
 SED-TH (SEDIMENT TRACE METALS)
 SDG-DEP(SEDIMENT DEPOSITION)
 STD-ST (SALINITY-TEMPERATURE-DEPTH)
 TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
                                           UTSA-UNIV. OF TEXAS AT SAN ANTONID
                                              SAR-SAMUEL A. RAMIREZ
 TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
 VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
                                              WVA-O. W. VAN AUKEN
 MAT-
       (WATER COLUMN)
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
 WAT-C13(DELTA C13)
                                           UT-AUSTIN
 WAT-CLN(CHLUROPHYLL-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-MULECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICROZUOPLANKTON)
 WAT-MYC(WATER CULUMN MYCOLOGY)
                                           RICE-RICE UNIVERSITY
 WAT-NUT(NUTRIENTS)
                                           RU-RICE UNIVERSITY
 WAT-N14(CARBON14 NANNOPLANKTON)
                                              REC-RICHARD E. CASEY
 WAT-PHY (PHYTOPLANKTON)
 #AT-PRU(PROTOZDA)
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
------
B1 SALINITY AND TEMPERATURE, CURRENTS
U3 DISSOLVED OXYGEN, NUTRIENTS
04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
06 INVERTEBRATE EPIFAUNA AND INFAUNA
W7 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 MICROZOUPLANKTON (PROTOZDA)
24 ZOOPLANKTON
25 SHELLED MICROZOOPLANKTON
26 TOTAL ORGANIC CARBON AND DELTA CARBON 13
27 LIGHT ABSORPTION (PHOTOMETRY)
30 HISTOPATHOLUGY
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41 WATER COLUMN MICROBIOLOGY

A-192

LORAC

LR

171.46

275.71

466.07

157,92

369.08

412.96

192.04

382.00

585.52

310.30

487.62

506.34

989.98

855.91

829.82

928.13

888.06

824.57

1423.50

1310.61

1241.34

1456.90

1387.45

1272.48

1224.51

422.83

416.95

425.10

411.18

468.28

475.80

475.15

472.73

MEANS DEGREES AND MINUTES

MEANS DEGREES MINUTES SECONDS

LG

1180.07

961.49

799.45

861.09

819.72

373.62

454.46

564.67

431.26

498.85

568.54

139.13

286,38

391.06

192.19

411.48

187,50

271.99

333.77

163.42

213.13

304.76

350.37

635.06

644.54

641.60

638.48

563.00

560.95

552.92

551.12

626.81

95.64

1296.53

LONGITUDE

96 27 W*

96 20 W*

96 07 N#

96 29 W#

96 14 MR

96 12 W*

96 59 W*

96 45 W*

96 23 W*

96 50 W*

96 36 N*

96 29 #*

97 11 W*

96 48 W#

96 33 W*

97 20 W*

97 82 W*

96 30 W#

97 01 W#

96 39 W*

96 24 W*

97 98 W#

96 54 m*

96 31 W*

96 28 W*

96 28 19W**

96 27 25w**

96 29 83#**

96 31 18W**

96 31 82W**

96 31 47W**

96 32 B7W**

96 27 35*** 81

96 18.5 W*

DEPTH

METERS FEET

59

138

439

269

328

72

161

430

112

256

322

600

82

213

34A

131

410

88

154

298

121

213

426

246

237

266

250

266

269

269

269

109

49

49

33

18

42

134

10

100

22

49

131

36

78

98

182

25

65

106

15

40

125

27

47

91

15

37

65

130

75

72

76

81

82

82

82

82

LATITUDE

28 12 N#

27 55 N#

27 34 N*

28 14 N* 27 44 N*

27 39 N*

27 40 N*

27 30 N*

27 18 N* 27 34 N*

27 24 N*

27 24 N*

27.15 N#

26 58 N*

26 58 N*

26 58 N*

26 58 N#

26 58 N*

26 58 N*

26 10 N*

26 10 N*

26 10 N*

26 10 N*

26 18 N*

26 18 N#

26 10 N#

27 32 85N**

27 32 05N**

27 33 82N**

27 26 49N**

27 26 14N**

27 26 06N**

27 26 14N**

246.85 27 44 21.12 96 42 58.86 83

27 32 46N**

40 BENTHIC MICROBIOLOGY

42 BENTHIC MYCOLOGY

43 WATER COLUMN MYCOLOGY

3H3

2575

2440

2300

2583

2360

2330

2078

2050

2040 2058

2032

2068

2045

1585

1683

1775

1552

1623

1790

1130

1300

1425

1073

1170

1355

1448

2159

2169

2163

2165

2086

2081

2074

2078

KEY TO RIG MONITORING STATIONS

1

2

3

4

(HR)

(9)

(SB)

RIG

MONITOR (7)

(8)

1

2

3

4

5

6

1

2

3

4

5

6

7

1

2

3

4

5

6

1

2

3

4

5

6

7

1

2

3

a

1

2

3

4

1-67

TRAN. STA. LORAN

BLM STOCS MUNITORING STUDY STATION LOCATIONS

3H2

4003

3950

3863

4015

3910

3892

3962

3918

3850

3936

3992

3878

3835

3880

3841

3812

3885

3867

3808

3747

3700

3663

3763

3738

3685

3659

3960

3902

3900

3905

3889

3889

3890

3890

NOTE:

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A-193

SAMOI THC	CTATIONS	ECTADI TOUEN	 THE	THITEDEECTION	0.5	T C

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:

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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	5-2949
13	SE-100	45	Sw=2000
14	S-100	46	w-2989
15	Sw-100	47	NW-2000
16	w=100		2000
17	N#-198	50	NNE-2488
		51	ENE-2000
18	100 M IN SEDIMENT PLUME	52	ESE-2400
19	100 M OPPOSITE SEDIMENT	53	SSE+2900
	PLUME	54	55#-2000
		55	WSW-2000
20	N-500	56	WNW-2000
21	NE-500	57	NNN-2000
22	E-500	•	
23	SE-500	60	NNE-1000
24	S-500	61	ENE-1400
25	Sw-500	62	ESE-1000
26	W-500	63	SSE-1000
27	N#-580	64	33N-1000
		65	WSW-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1000
32	E-1900		
33	SE-1008		
34	S-1000		
35	Sw-1000		
36	W-1900		
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	5	1	16	015210
			7	Ii	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A 4	SAMPLE CODE*
			16	FS	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---

.

FURMAT FOR CARD TYPE 1 SAME AS FOR FILE 18

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	015210
			7	II	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	▲4	SAMPLE CODE*
			15	1×	BLANK
			16	F5	CADMIUM (PPM)
			22	F4	CHRUMIUM (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	16	015210
			7	Ī1	CARD TYPE (ALWAYS 2)
			8	3X	BLANK
			11	A 4	SAMPLE CODE*
			16	2410	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	Fó	CADMIUM (PPM) **
			47	F6	CHROMIUM (PPM) **
			53	F7	COPPER (PPM) **
			60	FB	IRON (PPM)**
			68	Fð	NICKEL (PPM) **
			76	F6	LEAD (PPM)**
			82	F7	VANADIUM (PPM)**
			89	Fb	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: -.US MEANS LESS THAN 0.5 (THE DETECTION LIMIT)

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NUTE: 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 SUUTH TEXAS OUTE	R 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) GEUPHYSICAL LAB GALVESTON, TEXAS
ASSOCIATE INVESTIGATORS:	B. E. ALEMAN K. M. BERG S. F. CHQU D. R. MULLER R. A. POOLE H. S. FINKELSTEIN P. PICARAZZI M. R. REMELIIK
DIRECTORY FOR STUDY AREA	
FILE 21: METHODS, D/ FILE 22: DATA FILE (ATA FORMAT AND COMMENTS For Rig monitoring study
METHODS	
TEXTURAL ANALYSIS DATA BY 1966) FOR THE SAND-SI FOR THE MUD FRACTION	Y RAPID SEDIMENT ANALYZER METHOD (SCHLEE, IZED FRACTION AND BY THE PIPETTE METHOD (FOLK, 1974).
RELATIVE ABUNDANCES OF GA TECHNIQUE.	RAIN SIZE PARAMETERS BY THE COULTER COUNTER

DATA FORMAT

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

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COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS Ø (ZERO)
2-3	15	STUDY AREA (SEE STUDY AREA KEY)
4-0	13	ALWAYS 210 FOR MASTER FILES

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7 8	I 1 I 1	CARD TYPE, ALWAYS 1 FUR INVENTORY(SEE DATA FORMATS) Study Subarea (defined in data formats for study areas)
9-10 11-14	2X A4	BLANK SAMPLE CODE (FINAL CODE ASSIGNED)
15=16	15	MONTH
17-18	12	DAY
19-20	12	YEAR
21-24	14	TIME OF DAT (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME)
25	1 X	BLANK Sampi F. Coli Ection Adea
20	**	1 = TRANSECT 1 2 = TRANSECT 2 3 = TRANSECT 3 4 = TRANSECT 4 7 = RIG MONITORING AREA 8 = SOUTHERN BANK 9 = HOSPITAL POCK
27	15	STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS)
29	A1	DEDAY; NENIGHT
30-35	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	A4	SAMPLE DISPOSITION (SEE KEY TO CODES)
57-39	A 5	SAMPLE USE (SEE KEY TO CODES)
40-46	A 3 T 1	PEPUTCATE FORE
43	* *	REFLICATE CODE REFLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE 2= 2NO REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR A BEEN ICATE OWNER WITH THE DEBUTICATE NUMBER
		A REFLICATE SAMPLE WITH THE REFLICATE NUMBER APPEAKING ON THE DATA LINES
44	I1	FILTERED CODE
		BE NUI APPLICABLE
		IN SAMPLE IS A FILIERED SAMPLE Sm. Sample is a MON-Eil feder sample
45	T 1	DELATIVE DEDTH CODE
	••	ØE NOT CODED
		1= SURFACE
		2= 1/2 PHOTIC ZONE
		3= PHOTIC ZONE
		4= PHOTIC ZONE TO BOTTOM
		5ª BOTTOM
		OF NUL AFFLICADLE Am Actinal Nedth IN meteds civen in cols enjeg
		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
46	11	TRUM INC SIUVI AREA Dirroived Particle Code Codes Unknown, May not Have
40	11	REFN USED. APPEARS TO ALMAYS RE & (7500)
47	11	POOLED CODE
		0= NOT A POOLED SAMPLE
		1= A POOLED SAMPLE
		NOTE: MAY NOT HAVE BEEN USED
48	11	LIVE CODE CODES UNKNOWN; MAY NOT HAVE BEEN USED; Appears to always be 0 (Zero)

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49 11 ARCHIVE CODE DE NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE . QUALITY CONTROL CODE 50 I1 0= NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE CONTRACTED CODE 51 11 BLANK OR B= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 12 SAMPLE DEPTH IN METERS; 54-56 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-60 **Δ**4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 1 X BLANK 61 62-69 88 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 WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT CHI-MST(EPIFAUNA CHEMISTRY 1RAWL) CHT-TM (EPIFAUNA TRACE METALS) EPI-FSH(EPIFAUNA DEMERSAL FISH) RR-RICHARD REZAK EPI-HC (EPIFAUNA HYDROCARBONS) WEH-WILLIAM E. HAENSLY EPI-HPI(EPIFAUNA HISTOPATHOLOGY) JMN-JERRY M. NEFF WH-WILLIAM E. HAENSLY EPI-HPT(EPIFAUNA HISTOPATHOLOGY) 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 DK-DAN L. KAMYKOWSKI MMS-MST(MEIOFAUNA MASTER GRAB) MYG-MYC(SEDIMENT MYCOLOGY) PJ-PATRICIA L. JOHANSEN

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NEU-TAX (NEUSTON TAXONOMY)
                                            UT-GEOPHYSICAL LAB. GALVESTON
SED-
       (SEDIMENT)
                                               ERB-E. M. BEHRENS
 SED-HC (SEDIMENT HYDROCARBONS)
 SED-MPL(SEDIMENT MICROZOOPLANKTON)
 SED-TH (SEDIMENT TRACE METALS)
 SDG-DEPISEDIMENT DEPOSITION)
 STD-ST (SALINITY-TEMPERATURE-DEPTH)
                                            UTSA-UNIV, OF TEXAS AT SAN ANTONIO
Sar-Samuel 4, Ramirez
 TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
 VI -MPL(MICROZOOPLANK CON-VERTICAL TOW)
                                               WVAHO. W. VAN AUKEN
 WAT- (WATER COLUMN)
 WAT-ATP(ADENOSINE TRI-PHOSPHATE)
 NAT-BAC(MATER COLUMN BACTERIOLOGY)
 WAT-CI3(DELTA C13)
                                            UT-AUSTIN
 WAT-CLN(CHLOROPHYLL-WANNOPLANKTON-76-77)
                                               PJS=PAUL J. SZANISZLO
 #AT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
 WAT-DO (DISSOLVED OXYGEN)
                                            U.S.G.3.-CORPUS CHRISTI
 MAT-FLU(FLUORESCENCE)
                                               HE-HENRY BERRYHILL
 NAT-HC (NATER HYDROCARBONS)
 WAT-LH (LOM-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICROZOOPLANKION)
 WAT-MYCINATER COLUMN MYCOLOGY)
                                            RICE-RICE UNIVERSITY
                                            RU-RICE UNIVERSITY
 WAT-NUT (NUTRIENTS)
 #AT-N14(CARBON14 NANNOPLANKTON)
                                               REC-RICHARD E. CASEY
 WAT-PHY(PHYTOPLANKTON)
 WAT-PRO(PROTOZOA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 #AT-SSM(#ATER-SUSPENDED SEDIMENT)
 NAT-TOC(TOTAL ORGANIC CARBON)
 ZCT-TH (ZOOPLANKTUN TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZOOPLANKTON TAXOHOMY)
 ZPL-TH (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
----
 B1 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED OXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 #5 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 U6 INVERTEBRATE EPIFAUNA AND INFAUNA
 07 BENTHIC FISH
 US HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE,
          DISSOLVED, ZOOPLANKTON
 09 CHLOROPHYLL A
 10 ADENOSINE TRI-PHOSPHATE
 11 PHYTOPLANKTON
 12 FLUORESCENCE
 13 MEIDFAUNA
 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
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48 BENTHIC MICROBIOLOGY 41 WATER COLUMN MICROBIOLOGY

42 BENTHIC MYCOLOGY .

43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN	. STA.) .	LORAN		LC	RAC	L	ATI.	TUDE	LO	NGI	TUDE	DEP	тн
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4803		1180.07	171.46	28	12	N#	96	27	W×	18	59
	2	2440	3950		961.49	275.71	27	55	N×	96	29	**	42	138
	3	2300	3863		799.45	466.07	27	34	N×	96	07	Wŧ	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 A	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	*	22	72
	2	2050	3918		454,46	382.00	27	30	N *	96	45	**	49	101
	3	2040	3850		564.67	585,52	27	18	N#	96	23	# *	131	430
	4	2028	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	**	78	250
	6	2068	3878		560.54	506.34	27	24	N×	96	29	N *	98	322
	7	2045	3835				27	15	N≠	96	18	.5 W≭	182	600
3	1	1585	3889		139.13	989.98	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	829.82	26	58	N#	96	33	N×	196	348
	4	1552	3885		95.64	928.13	- 26	58	N×	97	28	**	15	49
	5	1623	3867		192.19	888.06	59	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	98	**	15	49
	5	1170	3738		213.13	1387.45	26	10	N#	96	54	¥*	37	121
	6	1355	3685		304.76	1272.48	59	10	N#	96	31	推會	65	213
	7	1448	3659		350.37	1224,51	59	10	N±	96	20	W*	130	426
(HR)	1	2159	3966		635.06	422.83	27	32	#5N**	96	28	19# * *	75	246
(9)	2	2169	3982		644.54	416.95	27	35	46N**	96	27	25#**	72	237
	3	2163	3900		641.60	425.10	27	32	05N**	96	27	35#**	81	266
	4	2165	3985		638.40	411.18	27	33	02N##	96	29	03***	76	250
(58)	1	2086	3889		563.00	468.28	27	26	49N++	96	31	18###	81	266
(8)	2	2081	3889		560.95	475.80	27	26	148**	96	31	02W**	82	269
	3	2074	3890		552.92	475.15	27	59	06N**	96	31	47₩**	82	269
	4	2978	3890		551.12	472.73	27	59	14N**	96	32	07₩**	82	269
RIG MONITOR (7)	1-67 1				626.81	246.85	27	44	21.12	96	42	58.86	83	109
			NOTE:	٠	MEANS	DEGREES	AND	MI	UTES					

** MEANS DEGREES MINUTES SECONDS

KEY TO RIG MONITORING STATIONS

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EMAN FROM	SAMPLING ATING FROM THE DRILL	STATIONS THE DRIN SITE:	ESTABLI LL SITE	SHED	AT THE CONCENT	INT RIC	ERSECTIO	DN OF 100,	TRANS 500,	SECTS 1000,	AND	2000	METERS

STATION	LOCATION	STATION	LOCATION
1	DRILL SITE	40	N-2000
		41	NE-2000
10	N-188	42	E-2000
11	NE-100	43	SE-2000
12	E-100	44	5-2000
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	53	SSE-2000
	PLUME	54	SSN-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	5-500	61	ENE-1000
25	Sw-500	62	ESE-1000
59	N-500	63	SSE-1000
27	NW-500	64	SSW-1000
		65	wsw-1000
30	N-1000	66	WNW-1000
31	NE-1000	67	NNW-1888
32	E-1900		
33	SE-1000		
34	S-1000		
35	Sw-1000		
36	-1000		
37	NW-1888		

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	16	019210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	Å4	SAMPLE CODE*
			15	F6	MEAN GRAIN SIZE (IN PHI UNITS)
			21	Fó	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
			68	F7	PHI SIZES GREATER THAN 10.6
			67	F7	RATIO SAND TO MUD

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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

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 21-0948 MS DATA SYSTEM. CHROMATOGRAPH ASSOCIATED WITH THIS INSTRUMENT WAS A VARIAN AEROGRAPH MODEL 2700 MODIFIED BY DUPONT.

DETAILED METHODS OF HYDROCARBON PRUCEDURES FOUND IN 1975, 1976, AND 1977 FINAL REPORTS

DATA FORMAT

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

COLUMNS FIELD TYPE

DESCRIPTION

.

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		•
1	I 1	ALWAYS Ø (ZERO)
2-7		STUDY ADEA (REE STUDY ADEA VEY)
2-3	16	STUDT AREA (SEE STUDT AREA RET)
4=6	13	ALWAYS 210 FOR MASTER FILES
7	11	CARD TYPE, ALWAYS 1 FOR INVENTORY(SFE DATA FORMATS)
A	T 1	CTHON SUBADES (DEETNED IN DATA FORMATS FOR STUDY ADEAS)
0	11	STUDI SUBAREA (DEFINED IN DATA FORMATS FOR STUDI AREAS)
9=12	5 X	BLANK
11-14	▲4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-14	13	NONTH
13-10	16	
17-18	12	DAY
19-20	12	YEAR
21-24	T A	TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME
61-64	14	THE OF DAT LEGERE LEATHAL DATEIGHT THE
		OR CENTRAL STANDARD TIMEJ
25	1 X	BLANK
26	Ťs	SAMPLE COLLECTION APEA
	••	
		13 iranseli 1
		2= TRANSECT 2
		Im TRANSFET I
		4= IRANSELI 4
		7# RIG MONITORING AREA
		AR SOUTHFRN BANK
		AE HOSAIIYE HOCK
27	12	STATION (SEE BLM STOCS MONITORING STUDY STATION
		(DCATIONS)
20		
29	A1	Depat: NEWIGH!
30-32	A3	TYPE OF SAMPLE(SEE KEY TO CODES)
33-36	▲4	SAMPLE DISPOSITION (SEE KEY TO CODES)
33-30		
3/=34	AD	SAMPLE USE (SEE KET TU CUDES)
40-42	A3	PRINCIPLE INVESTIGATOR (SEE KEY CODES)
43	T 1	REPLICATE CODE
~	••	
		BE NUL A REFLICATE SAMPLE
		1= 1ST REPLICATE SAMPLE
		25 2ND REPLICATE SAMPLE
		NOTE; REPLICATE CODE HAS NOT BEEN
		CONSISTENTLY USED: REPLICATE CODE MAY BE Ø FOR
		A DEDITCATE SAMDIE WITH THE DEDITCATE MUMBED
		A REFLICATE SAMPLE WITH THE REFLICATE NUMBER
		APPEAKING ON THE DATA LINES
44	11	FILTERED CODE
	••	
		BE NUI AFFLICADLE
		1# SAMPLE IS A FILTERED SAMPLE
		2= SAMPLE IS A NON-FILTERED SAMPLE
45	T 1	DELATIVE DEPTH CODE
47	**	
		B= NUT CODED
		1= SURFACE
		2= 1/2 PHOTIC 70NF
		3 PHUTIC ZUNE
		4= PHOTIC ZONE TO BOTTOM
		5# BOTTOM
		DE NUI APPLICADLE
		B= ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56
		9= VERTICAL TOW: ALL DEPTHS SAMPLED
		NOTE AFLATIVE DEPTH CODE HAR BEEN
		NULES RELATIVE DEFIN CODE HAS BEEN
		INCONSISTENTLY USED; IN MOST CASES IT HAS NOT
		BEEN CODED ON THE INVENTORY LINE: IF RELATIVE
		DEBTH TO MICOTNE FROM THE INVESTORY ITHE IT HAV
		PERIO A STATE THE TRADUCT FILE I MAT
		BE GIVEN ON THE DATA LINES DR CAN BE DETERMINED
		FROM THE STUDY AREA
46	T 1	DISSOLVED PARTICLE CODE - CODES UNKNOWN. MAY NOT HAVE
-0	* *	SECONDETED FRANCELE CODE CODES UNRAUMAS MAI NUL MATE
		BEEN USED; APPEARS TO ALWAYS BE 6 (ZERO)
47	I1	POOLED CUDE
		A= NOT & POOLED SAMPLE
		IF A FUULEV JAMFLE

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A-204

		NOTE: MAY	NOT HAVE BEEN USED
48	I 1	LIVE CODE COD	ES UNKNOWN; MAY NOT HAVE BEEN USED;
		APPEARS 1	D ALWAYS BE Ø (ZERO)
49	I 1	ARCHIVE CODE	
		Ø= NOT AN	ARCHIVE SAMPLE
	•.	15 AN ARE	CODE
26	11	WUALIT LUNIKUL	
		0= NUL A 1- A OUAL	TTY CONTROL CAMPLE
51	T 1	CONTRACTED CODE	III CONIRUL SAMELL
	* *	BIANK OP	HE RIM CONTRACTED SAMPLE
		1 = NOT A	RIM CONTRACTED SAMPLE
52-53	12	CRUTSE NUMBER	
54-56	13	SAMPLE DEPTH IN	METERS
		NOTE: 999 MEAN	IS NOT APPLICABLE
		991 MEAN	S VERTICAL TOW FROM SURFACE TO 25 METERS
		992 MEAN	S VERTICAL TOW FROM 25 TO 50 METERS
		993 MEAN	S VERTICAL TOW FROM 50 METERS TO BOTTOM
57-60	A 4	PARENT SAMPLE CO	DE FOR SUBSAMPLES
		NOTE: FOR	A SAMPLE WHICH IS NOT A SUBSAMPLE
		THIS FIEL	D WILL CONTAIN XXXX OR BE BLANK
61	1 X	BLANK	
62-69	A8	PREVIOUS SAMPLE	CODE ALLOWS REFERENCE TO 1975,
		1976, 197	7 FINAL REPORTS TO BLM
		NOTE: MOS	T CODES WILL BE THE STANDARD 4 CHARACTER
		VARIETY (IN COLS. 62-65); THE ADDITIONAL COLS. IN
		THIS FIEL	D ARE FOR POOLED SAMPLES,
		E.G.=	
		AAAA (A	C INDICATES A PUOLED SAMPLE MADE UP
		OF SA	MPLES AAAA, AAAB, AAAC
		B) AAZY-	BAA INDICATES A POOLED SAMPLE MADE
		UP OF	SAMPLES AALT, AALL, ABAA
	e e		
KET TU CUU	23		
SAMPLE TY	PESAMP	LE USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(S	EDIMENT	BACTERIOLOGY)	
CHG-HC (S	EDIMENT	HYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST (C	HEMISTRY	GRAB)	LHP-LINDA H. PEQUEGNAT
CHG-TM (S	EDIMENT	TRACE METALS)	CSG-C.S. GIAM
CHG-TEX(S	EDIMENT	TEXTURE)	TSP-E. TAISOO PARK
CHL= (T	OTAL CHL	OROPHYLL-1975)	
CHT-HC (E	PIFAUNA	HYDROCARBONS)	BJP-B.J. PRESLEY
CHT-MST(E	PIFAUNA	CHEMISTRY TRAWL)	MMS-WILLIAM M. SACKETT
CHT-TM (E	PIFAUNA	TRACE METALS)	WEP-WILLIS E. PEQUEGNAT
EPI=FSH(E	PIFAUNA	DEMERSAL FISH)	RR-RICHARD REZAK
EPI-HC (E	PIFAUNA	HYDROCARBONS)	WEH-WILLIAM E. HAENSLY
EPI-HPI(E	PIFAUNA	HISTOPATHOLOGY)	JMN-JERRY M. NEFF
EPI-HPT(E	PIFAUNA	HISTOPATHOLOGY)	WH-WILLIAM E. HAENSLY
EPI-INV(E	PIFAUNA	INVERTEBRATES)	JN-JERRY M. NEFF
EPI-MST(E	PIFAUNA	MASTER)	JRS-JOHN R. SCHWARZ
1CH- (I	CHTHYOPL	ANKTON)	JHW-JOHN H. WORMUTH
INF-MST(I	NFAUNA M	ASTER)	UT-PORT ARANSAS MARINE LAB.
INF-SED(I	NFAUNA S	EDIMENT)	PLP-PATRICK L. PARKER
INF-TAX(I	NFAUNA T	AXONOMY)	NPS-NED P. SMITH
LUT-PZ (P	HUIDMETR		CVB-CHASE VAN BAALEN
LMW-HC (L	UN-MOLECI	ULAR-WEIGHT HYDROCAR	BONS) JSH-J. SELMON HOLLAND
MNK=1M (M	ALRUNEKT	UN FRACE METALS)	
MMS=C13(T	UTAL URG	ANIC CARBON AND DELT	A C13 IN SEDIMENT)

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DEW-DONALD E. WOHLSCHLAG
 MMS-MEI(MEIOFAUNA)
                                              DK-DAN L. KAMYKOWSKI
 MMS-MST(MEIOFAUNA MASTER GRAB)
                                              PJ-PATRICIA L. JOHANSEN
 MYG-MYC(SEDIMENT MYCOLOGY)
NEU-TAX (NEUSTON TAXONOMY)
                                           UT-GEOPHYSICAL LAB. GALVESTON
                                              ENB-E. W. BEHRENS
 SED- (SEDIMENT)
 SED-HC (SEDIMENT HYDROCARBONS)
 SED-MPL(SEDIMENT MICROZOOPLANKTON)
SED-TM (SEDIMENT TRACE METALS)
 SDG-DEP(SEDIMENT DEPOSITION)
 SID-ST (SALINITY-TEMPERATURE-DEPTH)
                                           UTSA-UNIV. OF TEXAS AT SAN ANTONIO
 TDC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
                                              SAR-SAMUEL A. RAMIREZ
 TRM-TUR(TRANSMISSOMETRY-TURBIDITY)
                                              WVA-D. N. VAN AUKEN
 VT -MPL(MICROZOOPLANKTON-VERTICAL TOW)
 WAT-
      (WATER COLUMN)
 WAT-ATP (ADENUSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
                                           UT-AUSTIN
 WAT-CI3(DELTA CI3)
 WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                              PJS-PAUL J. SZANISZLO
 HAT-CLP(CHLORDPHYLL-PHYTOPLANKTON-76-77)
 WAT-DU (DISSOLVED OXYGEN)
                                           U.S.G.S.-CORPUS CHRISTI
                                              HB-HENRY BERRYHILL
 wAT-FLU(FLUORESCENCE)
 WAT-HC (WATER HYDROCARBONS)
 WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICKOZOOPLANKTON)
                                           RICE-RICE UNIVERSITY
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                           RU-RICE UNIVERSITY
 MAT-NUT(NUTRIENTS)
                                              REC-RICHARD E. CASEY
 WAT-N14(CARBON14 NANNOPLANKTON)
 WAT-PHY(PHYTOPLANKTON)
 WAT-PRU(PROTOZUA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TOC(TUTAL ORGANIC CARBON)
 ZCT-TM (ZOUPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZDOPLANKTON TAXONOMY)
 ZPL-TM (ZDOPLANKTON TRACE METALS)
STUDY AREA KEY
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 U1 SALINITY AND TEMPERATURE, CURRENTS
 03 DISSOLVED OXYGEN, NUTRIENTS
 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES
 00 INVERTEBRATE EPIFAUNA AND INFAUNA
 U7 BENTHIC FISH
 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE,
          DISSOLVED, ZOOPLANKTON
 49 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 MICROZOUPLANKTON (PROTOZOA)
 24 ZOOPLANKTON
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25 SHELLED MICROZOOPLANKTON
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20 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 STUCS MONITORING STUDY STATION LOCATIONS

TRAN.	STA.	ι	ORAN	LO	RAC	LATI	TUDE	LOI	VG I '	TUDE	DEP	тн
		3H3	342	LG	LR					ME	TERS	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	**	42	138
	3	2300	3863	799.45	466.87	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	Wt	82	269
	6	2330	3892	819.72	412.96	27 39	P N#	96	12	WR	100	328
2	1	2978	3962	373.62	192.04	27 40	N#	96	59	**	22	72
	2	2050	3918	454.46	382.00	27 30	N#	96	45	₩ ★	49	161
	3	2040	3850	564.67	585.52	27 18	N#	96	23	N R	131	430
	4	2058	3936	431.26	310.30	27 34	N#	96	50	Wŧ	36	112
	5	2035	3992	498.85	487.62	27 24	N#	96	36	展末	78	256
	6	2068	3878	560.54	506.34	27 24	N#	96	29	Witt	98	322
	7	2045	3835		•	27 15	N#	96	18.	,5 ₩*	182	640
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	85	製ま	42	131
	6	1790	3808	411.48	824.57	26 58	N×	96	30	**	125	410
4	1	1130	3747	187.50	1423.50	26 10	N#	97	01	**	27	88
	2	1300	3700	271.99	1310.61	26 10	N#	96	39	**	47	154
	3	1425	3663	333.77	1241.34	26 10	N#	96	24	# #	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 A	65	213
	7	1448	3659	350.37	1224.51	26 10	N×	96	50	W#	130	426
(HR)	1	2159	3900	635,06	422.83	27 32	05N**	96	28	19₩±±	75	246
(9)	2	2169	3962	644.54	416.95	27 32	46N##	96	27	25***	72	237
	3	2163	3960	641.60	425.10	27 32	05N**	96	27	35W**	81	599
	4	2165	3905	638.40	411.18	27 33	Ø2N**	96	29	03***	76	250
(SB)	1	2086	3889	563.00	468.28	27 26	49N**	96	31	18***	81	266
(8)	2	2081	3889	560.95	475.80	27 26	14N++	96	31	82***	82	269
	3	2374	3890	552.92	475.15	27 26	96N**	96	31	47₩ * *	82	269
	4	2078	3890	551.12	472.73	27 26	14N**	96	32	07#±*	82	269
RIG 1 MONITOR (7)	-67			626,81	246.85	27 44	21.12	96	42	58.86	83	109
			NOTE: +	MFANE	DECREES		NUTES					
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MEANS DEGREES MINUTES SECONDS

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A-207

A-208

KEY TO RIG MONITORING STATIONS

	SAMPLING STATIONS ESTABLISHED AT	THE INTERSECTI	ON OF TRANSECTS			
EMAN	NATING FROM THE DRILL SITE AND CON	CENTRIC CIRCLES	100, 500, 1000,	AND	2000	METERS
FROM	A THE DRILL SITE:					
SIAI	LUCATION	STATION	LOCATION			
,	DOTUS STTE	40	N-3000			
•	DATE SILE	44 82	N=2000			
10	N=100	41	NE - 2000			
1 1		42	E=2000			
		43	35-2000			
12	E=100 85-100	44	3-2000			
13		43	SM-2000			
14	3=100 Sm 1.00	40	M-5888			
13	SW-100	47	NW-2888			
10	N-100					
17	vw-198	50	NNE-2000			
		51	ENE-2000			
18	100 M IN SEDIMENT PLU	ME 52	ESE-2000			
19	100 M UPPOSITE SEDIME	NT 53	SSE-2000			
	PLUME	54	SS#-2000			
		55	WS#-2000			
20	N-500	56	*N#-2888			
21	· NE-500	57	NN#-2000			
22	E-500					
23	SE-500	68	NNE-1000			
24	S-500	61	ENE-1000			
- 25	Sw-500	62	ESE-1000			
26	W-500	63	SSE-1000			
27	N#-588	64	SS#-1000			
		65	WS#=1000			
30	N-1000	66	WNW-1888			
31	NE-1800	67	NNW-1040			
32	E-1000					
33	SE-1999					
34	S=1000					
35	Sw-1000					
36	n=1000					
37						
•••						
RIG	MONITORING SAMPLES TAKEN:					
	AFFORE DRILLING SEPTEMORE 25-	27. 1976				
	DURING DRILLING JANUARY 1 AND	14. 1977				
	AFTER DOTI I INC AND FERDIARY 24 -	147 1777 ·				
	ALIEN ANTEETHA LEDNARI ED -	MARUN 31 1911				

			START COLUMN	FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	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	▲4	SAMPLE CODE*

	15 17 19	5X 15 81	BLANK YEAR PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING 5 = JULY 6 = AUGUST 7 = FALL 8 = NOVEMBER
	20	FIA	9 = DECEMBER DRY WEIGHT (G)
	30	F10	WET WEIGHT (G)
	40	FB	TOTAL NON-SAPONIFIABLE WEIGHT (G)
	48	F8	HEXANE WEIGHT (G)
	56	FB	BENZENE WEIGHT (G)
CARD TYPE 3	1	16	008210
	7	I 1	CARD TYPE (ALWAYS 3)
	8	I1	SUB-STUDY AREA SAMPLE TYPE
			1 = HYDROCARBONS IN SEDIMENTS
			2 = HYDROCARBONS IN ZOOPLANKTON
			3 = PARIICULAIE HYDROCARBONS IN WAIER
	•		4 S DISSULVED HTDRUCARBUNS IN WATER
	11	2× 44	SAMPI F CODF+
	15	21	RIANK
	17	12	YEAR
	19	11	PERIOD CODE
			1 = WINTER
			2 = MARCH
			3 = APRIL
			4 = SPRING
			5 = JULY
			6 = AUGUST
			7 = FALL
			B = NOVEMBER
	20	• •	9 S DELEMBER
	210	11	FRACTION CODE
) - NEANG EEN7ENE
			Z = DENZENE Z = MFTHANOI
	21	14	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

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.

(SUB-STUDY AREAS 3 AND 4)

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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

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

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

COLUMNS	FIELD TYPE	DESCRIPTION
1	I1	ALWAYS & (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	Ī1	CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS)
8	Ii	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	A4	SAMPLE CODE (FINAL CODE ASSIGNED)
15-16	12	MONTH
17-18	12	DAY

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19-20 12 YEAR 21-24 14 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME) 25 1 X BLANK SAMPLE COLLECTION AREA 26 11 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK 1 X 27 BLANK 28 11 STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS) D=DAY: N=NIGHT 29 A1 TYPE OF SAMPLE(SEE KEY TO CODES) 30-32 A3 SAMPLE DISPOSITION (SEE KEY TO CODES) Sample use (see key to codes) 33-36 **A**4 37-39 A3 40-42 A3 PRINCIPLE INVESTIGATOR (SEE KEY CODES) REPLICATE CODE 0= NOT A REPLICATE SAMPLE 43 11 1= 1ST REPLICATE SAMPLE 2= 2ND REPLICATE SAMPLE ETC. NOTE; REPLICATE CODE HAS NOT BEEN CONSISTENTLY USED; REPLICATE CODE MAY BE Ø FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES FILTERED CODE 44 11 8= NOT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE 45 I1 RELATIVE DEPTH CODE **Ø= 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 TON; 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 11 DISSOLVED PARTICLE CUDE -- CODES UNKNOWN; MAY NOT HAVE 46 BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO) 47 11 POOLED CODE 8= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED 11 LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; 48 APPEARS TO ALWAYS BE Ø (ZERO) ARCHIVE CODE 49 I1 0= NOT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE QUALITY CONTROL CODE 50 11

B= NOT A QUALITY CONTROL SAMPLE

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A-211

		1= A QU	ALITY CONTROL SAMPLE
51	I 1	CONTRACTED COD	Ε
• •		BLANK O	R B= BLM CONTRACTED SAMPLE
		1 = NOT	A BLM CONTRACTED SAMPLE
52-53	12	CRUISE NUMBER	
54-50	13	SAMPLE DEPTH I	N METERS:
	••	NOTE: 999 ME	ANS NOT APPLICABLE
		991 MF	ANS VERTICAL TON FROM SURFACE TO 25 METERS
		992 MF	ANS VERTICAL TOW FROM 25 TO 50 METERS
		003 ME	ANS VERTICAL TOW FROM SA METERS TO BOTTOM
E 9 - 4 0	A //	DADENT RAMDIE	CODE COD SUBSANDIES
57=00	A 4	PARENT SAMPLE	LUUE FUR SUDSAMFLES No a éamdie mhích 18 Not a gurgampie
		NUILI F	DR A GAMPLE HHICH IS NUT A SUDGAMPLE
		1813 F1	CED WIEL CONTRIN XXXX OR DE DEANN
61	1.4	BLANK CANNEL	
02+69	A 8	PREVIOUS SAMPL	E LUDE CALLUNG REFERENCE IN 1975;
		19/6, 1	9// FINAL REPURIS IN DLM
		NOTE: M	UST CODES MILL BE THE STANDARD 4 CHARACTER
		VARIETY	(IN COLS. 62-65); THE ADDITIONAL COLS. IN
		THIS FI	ELD ARE FUR POOLED SAMPLES,
		E.G.=	
		AAA (A	A-C INDICATES A POOLED SAMPLE MADE UP
		OF	SAMPLES AAAA,AAAB,AAAC
		B) AAZ	Y-BAA INDICATES A POOLED SAMPLE MADE
		UP	DF SAMPLES AAZY,AAZZ,ABAA
KEY TO COD)ES		
SAMPLE TY	PESAMPL	E USAGE	DISPOSITION AND PRINCIPLE INVESTIGATOR
BAG-BAC(S	SEDIMENT E	SACTERIOLOGY)	
CHG-HC (S	SEDIMENT H	TYDROCARBONS)	TAMU-TEXAS A+M UNIVERSITY
CHG-MST (C	HEMISTRY	GRAB)	LHP-LINDA H. PEQUEGNAT
CHGeTH (S	EDIMENT 1	RACE METALS)	CSG-C.S. GIAM
CHG-TEX(S	SEDIMENT 1	FXTURE)	TSP-E. TAISOO PARK
CHI = (1	OTAL CHIC	ROPHYLL-1975)	
CHT-HC (F			
CHI-MCI(E	DIFAINA -	VDPDCAPBONS)	RJP+A.J. PRESLEY
CHT-TN (5	PIFAUNA P	TOROCARBONS)	BJP-8.J. PRESLEY WMS-WILLIAM M. SACKETT
	PIFAUNA P PIFAUNA C	TYDROCARBONS) CHEMISTRY TRAWL)	BJP-8.J. PRESLEY WMS-WILLIAM M. SACKETT WED-WILLIS E. PEQUEDNAT
501-504(E	PIFAUNA P PIFAUNA C PIFAUNA 1	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS)	BJP-8.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT
EPI+FSH(E	PIFAUNA P PIFAUNA C PIFAUNA 1 PIFAUNA C	(YDROCARBONS) (HEMISTRY TRAWL) (RACE METALS) DEMERSAL FISH)	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEM-WILLIAM E. MAENSLY
EPI+FSH(E EPI+HC (E	PIFAUNA P PIFAUNA C PIFAUNA 1 PIFAUNA P PIFAUNA P	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) AYDROCARBONS)	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY IMM- IERRY M. NEEE
EPI-FSH(E EPI-HC (E EPI-HPI(E	PIFAUNA P PIFAUNA C PIFAUNA C PIFAUNA C PIFAUNA P PIFAUNA P	AYDROCARBONS) CHEMISTRY TRAWL) (RACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY)	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF
EPI-FSH(E EPI-HC (E EPI-HPI(E EPI-HPI(E	PIFAUNA PIFAUNA PIFAUNA PIFAUNA PIFAUNA PIFAUNA PIFAUNA	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY)	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
EPI-FSH(E EPI-HC (E EPI-HPI(E EPI-HPI(E EPI-INV(E	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA S	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) INVERTEBRATES)	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
EPI-FSH(E EPI-HC (E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-MST(E	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F	AYDROCARBONS) CHEMISTRY TRAWL) RACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) ASTER)	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-JDHN R. SCHWARZ
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-INV(E EPI-MST(E ICH-(1)))	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) (NVERTEBRATES) ASTER) NKTON)	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
EPI-FSH(E EPI-HC (E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-INV(E EPI-MST(E ICH+ (1 INF-MST(1)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) ANKTON) ASTER)	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-JDHN R. SCHWARZ JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB.
EPI-FSH(E EPI-HC (E EPI-HC (E EPI-HPI(E EPI-INV(E EPI-INV(E EPI-INV(I INF-MST(I) INF-SED(I	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA SE	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) NKTON) ASTER) EDIMENT)	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-JDHN R. SCHWARZ JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER
EPI-FSH(E EPI-HC (E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-INV(E ICH- (I INF-MST(I) INF-SED(I) INF-TAX(I)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA MA CHTHYOPLA NFAUNA SE NFAUNA TA	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) NKTON) ASTER) DIMENT) AXONOMY)	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF JRS-JOHN R. SCHWARZ JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER NPS-NED P. SMITH
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-MST(E ICH- (I INF-MST(I) INF-TAX(I) INF-TAX(I)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA SE NFAUNA TA PIFAUNA TA	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) NKTON) ASTER) DIMENT) AXONOMY) ()	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF 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
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-MST(E ICH- (I INF-MST(I) INF-SED(I) INF-TAX(I) LGT-PZ(F LMW-HC(L	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA SE NFAUNA SE NFAUNA TA NFAUNA TA	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) (NKTON) ASTER) (DIMENT) AXONOMY) () JLAR-WEIGHT HYDROC	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF 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 ARBONS) JSH-J. SELMON HOLLAND
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-HPT(E EPI-MST(E ICH- (1 INF-MST(1 INF-SED(1 INF-TAX(1 LGT-PZ(F LMW-HC(L MNK-TM(M)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA MA NFAUNA MA NFAUNA SE NFAUNA SE	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) (NVERTEBRATES) ASTER) (NKTON) ASTER) (DIMENT) () JLAR-WEIGHT HYDROC (N TRACE METALS)	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 ARBONS) JSH-J. SELMON HOLLAND
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-HPT(E EPI-MST(E ICH- (1 INF-MST(1) INF-SED(1) INF-TAX(1) LGT-PZ(P LMW-HC(L MMK-TM(M) MMS-C13(1)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA MA NFAUNA MA NFAUNA SE NFAUNA SE NFAUNA TA NFAUNA TA NFAUNA TA NFAUNA TA NFAUNA TA NFAUNA SE NFAUNA TA NFAUNA SE NFAUNA SE NFAUN	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) (ISTOPATHOLOGY) (NVERTEBRATES) ASTER) (DIMENT) AXONOMY) () JLAR-WEIGHT HYDROC ON TRACE METALS) ANIC CARBON AND DE	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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT)
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-INV(E EPI-MST(E ICH- (1) INF-MST(1) INF-SED(1) INF-TAX(1) LGT-PZ(F LMW-HC(L MNK-TM(M MMS-C13(1) MMS-ME1(M	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA MA NFAUNA MA NFAUNA SE NFAUNA SE NFAUNA SE NFAUNA TA NFAUNA SE NFAUNA SE NFAUN	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) HYDROCARBONS) HISTOPATHOLOGY) HISTOPATHOLOGY) (NVERTEBRATES) HASTER) DIMENT) ASTER) DIMENT) AXONOMY) () JLAR-WEIGHT HYDROC DN TRACE METALS) ANIC CARBON AND DE	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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WUHLSCHLAG
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-MST(E ICH- (1 INF-MST(1) INF-SED(1) INF-TAX(1) LGT-PZ(F LMW-HC(L MMS-HC13(1) MMS-MST(M)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA MA NFAUNA SE CHTAUNA SE SC CHTAUNA SE CHTAUNA	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) EDIMENT) AXONOMY) () JLAR-WEIGHT HYDROC DN TRACE METALS) ANIC CARBON AND DE MASTER GRAB)	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-JDHN R. SCHWARZ JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. PLP-PATRICK L. PARKER NPS-NED P. SMITH CVB-CHASE VAN BAALEN ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WUHLSCHLAG DK-DAN L. KAMYKOWSKI
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-INV(E EPI-MST(E ICH- (I INF-MST(I) INF-TAX(I) INF-TAX(I) LGT-PZ (F LMW-HC (L MNK-TM (M MMS-C13(I) MMS-MEI(M) MMS-MST(N)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA MA NFAUNA SE NFAUNA	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) DIMENT) ASTER) DIMENT) AXONOMY) () JLAR-WEIGHT HYDROC DN TRACE METALS) ANIC CARBON AND DE MASTER GRAB) AYCOLOGY)	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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKONSKI PJ-PATRICIA L. JOHANSEN
EPI-FSH(E EPI-HC(E EPI-HC)(E EPI-HPI(E EPI-INV(E EPI-MST(E ICH- (I INF-SED(I INF-SED(I INF-TAX(I) LGT-PZ(F LMW-HC (L MNK-TM (M MMS-C13(I) MMS-MEI(N MMS-MST(N MYG-MYC(S)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA MA CHTHYOPLA NFAUNA MA NFAUNA SA HOTOMETRY OW-MOLECL ACRONEKTO OTAL ORGA EDIFAUNA SA EDIFAUNA	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) AASTER) DIMENT) ASTER) DIMENT) AXONOMY) () JLAR-WEIGHT HYDROC DN TRACE METALS) ANIC CARBON AND DE MASTER GRAB) AYCOLOGY) AXONOMY)	BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT WEP-WILLIS E. PEQUEGNAT RR-RICHARD REZAK WEH-WILLIAM E. HAENSLY JMN-JERRY M. NEFF 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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WUHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-MST(E ICH- (I INF-MST(I) INF-SED(I) INF-TAX(I) LGT-PZ(F LMW-HC(L MNK-TM(M MMS-MST(M MMS-MST(M MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) M) MSED-M(M)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA MA NFAUNA MA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA SEDIMENT N SEDIMENT N	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) (NVERTEBRATES) ASTER) CDIMENT) ASTER) CDIMENT) ASTER) CDIMENT) ASTER) CDIMENT) ASTER) CDIMENT) ASTER) CDIMENT) ASTER) CDIMENT) ASTER) CON TRACE METALS) ANIC CARBON AND DEI MASTER GRAB) AYCOLOGY) AXONOMY)	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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON EWD-E. W. BEHRENS
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-HPI(E EPI-MST(E ICH- (1) INF-MST(1) INF-SED(1) INF-TAX(1) LGT-PZ(F LMW-TA(1) LGT-PZ(F LMWS-TAX(1) MMS-MST(M MMS-MST(M MMS-MST(M MMS-MST(M) MMS-MST(M) MMS-MST(M) MMS-MST(M) M	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA MA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA NFAUNA SE CHTHYOPLA SE CONECTOR SECTIMENT SE SECTIMENT SECTIMENT	AYDROCARBONS) CHEMISTRY TRAWL) TRACE METALS) DEMERSAL FISH) AYDROCARBONS) AISTOPATHOLOGY) AISTOPATHOLOGY) ASTER) CDIMENT) AXDNOMY) AXDNOMY) MASTER GRAB) AYCOLOGY) AXDNOMY) AYDROCARBONS)	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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON EWB-E. W. BEHRENS
EPI-FSH(E EPI-HC(E EPI-HPI(E EPI-HPI(E EPI-HPT(E EPI-MST(E ICH- (I INF-MST(I) INF-TAX(I) LGT-PZ(P LMW-TA(I) MMS-C13(I) MMS-MST(M MMS-MST(M MMS-MST(M MYG-MYC(S) NEU-TAX(M SED-HC(S) SED-HC(S)	PIFAUNA F PIFAUNA C PIFAUNA C PIFAUNA C PIFAUNA F PIFAUNA F PIFAUNA F CHTHYOPLA NFAUNA MA NFAUNA SE NFAUNA	AYDROCARBONS) CHEMISTRY TRAWL) FRACE METALS) DEMERSAL FISH) HYDROCARBONS) HISTOPATHOLOGY) HISTOPATHOLOGY) HASTER) DIMENT) ASTER) DIMENT) AXONOMY) HAR-WEIGHT HYDROC DN TRACE METALS) ANIC CARBON AND DE MASTER GRAB) HYDROCARBONS) HYDROCARBONS) HYDROCARBONS)	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 ARBONS) JSH-J. SELMON HOLLAND LTA C13 IN SEDIMENT) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI PJ-PATRICIA L. JOHANSEN UT-GEOPHYSICAL LAB. GALVESTON EWB-E. W. BEHRENS

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SED-TM (SEDIMENT TRACE METALS)

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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(MICRUZUOPLANKTON-VERTICAL TOW)
                                               WVA-O. W. VAN AUKEN
 #AT=
       (WATER COLUMN)
 NAT-ATP(ADENOSINE TRI-PHOSPHATE)
 WAT-BAC(WATER COLUMN BACTERIOLOGY)
 WAT-C13(DELTA C13)
                                            UT-AUSTIN
 MAT-CLN(CHLUROPHYLL-NANNOPLANKTON-76-77)
                                               PJS-PAUL J. SZANISZLO
 wAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77)
 WAT-DO (DISSOLVED DXYGEN)
                                            U.S.G.S.-CORPUS CHRISTI
 WAT-FLU(FLUORESCENCE)
                                               HE-HENRY BERRYHILL
 WAT-HC (WATER HYDROCARBONS)
 WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICHOZOOPLANKTON)
 WAT-MYC(WATER COLUMN MYCOLOGY)
                                           RICE-RICE UNIVERSITY
 MAT-NUT(NUTRIENTS)
                                           RU-RICE UNIVERSITY
 WAT-N14(CARBON14 NANNOPLANKTON)
                                               REC-RICHARD E. CASEY
 NAT-PHY (PHYTOPLANKTON)
 WAT-PRU(PROTOZOA)
 WAT-P14(CARBON14 PHYTOPLANKTON)
 WAT-SSM(WATER-SUSPENDED SEDIMENT)
 WAT-TOC(TOTAL ORGANIC CARBON)
ZCT-TM (ZOUPLANKTON TRACE METALS)
 ZPL-HC (ZOOPLANKTON HYDROCARBONS)
 ZPL-TAX(ZUOPLANKTON TAXONOMY)
 ZPL-TH (ZOOPLANKTON TRACE METALS)
STUDY AREA KEY
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 01 SALINITY AND TEMPERATURE, CURRENTS
 U3 DISSOLVED OXYGEN, NUTRIENTS
 84 LOW-MOLECULAR-WEIGHT HYDROCARBONS
 05 HIGH-MOLECULAR-WEIGHT HYDROCARGONS, BENTHIC VERTEBRATES
 86 INVERTEBRATE EPIFAUNA AND INFAUNA
 67 BENTHIC FISH
 08 HIGH-MOLECULAR-WEIGHT HYDROCARBONS-SEDIMENT, PARTICULATE,
          DISSOLVED, ZOOPLANKTON
09 CHLOROPHYLL A
10 ADENOSINE TRI-PHOSPHATE
11 PHYTOPLANKTUN
 12 FLUORESCENCE
13 MEIOFAUNA
 14 NEUSTON
 15 TRACE METALS
16 CARBON 14
 19 SEDIMENT TEXTURE, BACTERIOLOGY, MYCOLOGY IN SEDIMENT
23 MICROZOOPLANKTON (PROTOZOA)
 24 ZUOPLANKTON
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.	L	DRAN		LO	RAC	L	ATI	TUDE	LD	NGI	TUDE	DEP	тн
		3H3	3H2		LG	LR						ME	TERS	FEET
1	1	2575	4003	1	180.07	171.46	28	12	N*	96	27	# #	18	59
	Ž	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	67	W±	134	439
	4	2583	4015	1	206.53	157.92	28	14	N#	96	29	W R	10	33
	5	2360	3910		861.09	369.08	27	44	N*	96	14	W at	82	269
	6	2330	3892		819.72	412.96	27	39	N#	96	12	N+	100	328
2	1	2078	3962		373.62	192.04	27	49	N×	96	59	**	22	72
	2	2050	3918		454.46	382.00	27	30	N#	96	45	御史	49	161
	3	2040	3850		564.67	585,52	27	18	N*	96	23	**	131	430
	4	2058	3936		431.26	310.30	27	34	N#	- 96	50	¥*	36	112
	5	2935	3992		498,85	487.62	27	24	N*	96	36	# *	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 ₩*	182	600
3	1	1585	3889		139.13	909.98	59	58	N×	97	11	N+	25	82
	2	1683	3841		286.38	855.91	26	58	N#	96	48	W±	65	213
	3	1775	3612		391.06	829.82	56	58	N×	96	33	W #	106	348
	4	1552	3885		95.64	928.13	26	56	N#	97	20	N *	15	49
	5	1623	3867		192.19	888.06	59	58	N*	97	82	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	WR	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	M #	91	298
	4	1073	3763		163.42	1456.98	56	10	N#	97	88	M #	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	**	65	213
	/	1448	3024		550.57	1224.51	20	10	N¥	96	20	W#	126	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	25#**	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	03***	76	250
(SB)	1	2086	3889		563.00	468.28	27	59	49N#±	96	31	18w**	81	266
(8)	2	2081	3889		560.95	475,80	27	26	14N±±	96	31	82%**	82	269
	3	2074	3890		552.92	475.15	27	26	86N##	96	31	47***	82	269
	4	2078	3890		551.12	472.73	27	59	14N**	96	32	87***	82	269
			NOTE:	*	MEANS	DEGREES	AND	MI	NUTES					

** MEANS DEGREES MINUTES SECONDS

ST	RT COLUMN FI	ELD TYPE	FIELD CONTENT/DESCRIPTION
CARD TYPE 2	1	16	040210
	7	I1	CARD TYPE (ALWAYS 2)
	8	I1	SUB-STUDY AREA SAMPLE TYPEBIOLOGY (ALWAYS 1)
	9	5 X	BLANK
	11	A4	SAMPLE CODE*
	15	11	STATION
	16	11	TRANSECT
	17	I1	PERIOD CODE
			1 = wINTER

•

			2 ± MARCH
			X = APRTI
			4 = SPRING
			5 B JULY
			6 # AUGUST
			7 = FALL
			8 = NOVEMBER
			9 = DECEMBER
	18	TI	STUDY TYPE
			1 = BACTERIOLOGY
			2 = MYCOLOGY
	19	11	SUBSTRATE TYPE
	•		1 = SEDIMENT
			2 # WATER COLUMN
	20	15	METHOD (ALWAYS 46 - INDICATES MICROBIOLOGY)
	22	2X	BLANK
	24	E8	TOTAL COUNT (MEAN)
	32	EB	TOTAL COUNT (1 STANDARD DEVIATION)
	40	12	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	16	040210
	7	I 1	CARD TYPE (ALWAYS 3)
	8	I 1	SUB-STUDY AREA SAMPLE TYPEBIOLOGY (ALWAYS 1)
	9	2X	BLANK
	11	· 🗚	SAMPLE CODE*
	15	I1	STATION
	16	I 1	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	F S	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	13	TIME (DAYS)
	31	1X	BLANK
	32	Eð	MEAN NUMBER WITH CRUDE OIL
	410	Ε8	1 STANDARD DEVIATION WITH CRUDE OIL
	48	F5	MEAN PERCENT DEGRADATION
	53	EB	MEAN NUMBER WITHOUT CRUDE OIL
	61	EB	1 STANDARD DEVIATION WITHOUT CRUDE OIL
	-	• /	A + A B + A
LARU ITPE 4	1	10	
	7	11	LARU TYPE (ALWAYS 4)
	8	11	SUB-STUDY AREA SAMPLE TYPE+-BIOLOGY (ALWAYS 1)
	9	22	BLANK
	11	A4	SAMPLE CUDE*
	15	11	STATION
	16	11	TRANSECT
	17	11	PERIOU LOUE (SAME AS LAND TYPE 2)
	18	11	STUDT TITE (SAME AS CARD TITE 2)
	19	11	JUDJIKAIL ITEL JAME AJ LAKU ITEL 2) CENUS AND REFELER CODE
	20	15	ABUNDANCE
	23	Eð	ADUNUANUE
	51	F 5	PERLENT OF TUTAL FUR THAT BAUTERIA TYPE
	30	/ A	DLANN DACTEDIA TYDE
	43	11	DALIERIA ITE 1 - HETEDATRADUTA
			1 - HENDROCARRONOCIASTIC
			C = MIUKULARDUNULLAJIIL

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	44	2410	GENUS AND SPECIES NAME
DATA FORMAT FI	DR FILE 27-1977	HYDROCAR	BON DATA
CARD TYPE 1	-STANDARD INVENT	TORY CARD	
	FORMAT FOR CAR	D TYPE 1	SAME AS FOR FILE 26
CAHD TYPE 2	1 7 8 9 11 15 17	16 11 2x A4 12 5A10	040210 CARO TYPE (ALWAYS 2) SUB-STUDY AREA SAMPLE TYPEHYDROCARBONS (ALWAYS 2) BLANK SAMPLE CODE** PAGE NUMBER ON WHICH SAMPLE WAS FOUND ENGLISH DESCRIPTION AND CODING OF FILE H = DEGRADATION I TO IV = TRANSECT 1 TO 6 = STATION A TO 8 = REPLICATE EXAMPLE: H-IIIIA 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. MEAN DEGREAU DECENDATION
CARD TYPE 7	, ,	r •	MEAN PERCENT DEGRADATION
LARD IYPE 3	1 7 8 9 11 15 20 21	16 11 2x A4 5x 11	040210 CARD TYPE (ALWAYS 3) SUB-STUDY AREA SAMPLE TYPEHYDROCARBONS (ALWAYS 2) BLANK SAMPLE CODE** BLANK FRACTION 1 = MEXANE 2 = BENZENE RETENTION INDEX
	25 26	1X F5	BLANK Percentage degradation for Individual peak
DATA FORMAT FO	R FILE 28-1977	PURE CUL	TURE DATA
CARD TYPE 1	STANDARD INVENT	ORY CARD	
	FORMAT SAME AS	FOR CARD	TYPE 1 OF FILE 26
CARD TYPE 2	1 7 8 9 11 15 17	16 11 11 2x A4 12 6A10	040210 CARD TYPE (ALWAYS 2) SUB-STUDY AREA SAMPLE TYPEHYDROCARBONS (ALWAYS 2) BLANK SAMPLE CODE** PAGE NUMBER ON WHICH SAMPLE WAS FOUND ENGLISH DESCRIPTION AND CODING OF FILE E = EXPERIMENTAL

			K = CONTROL
			1 TO 2 = REPLICATE
			II-I-0-1 = VIBRID SP.
			III = 1 = 0 = 1 = PSEUDOMONAS SP. 1
	4		LI-2-M-1 = PSEUDOMONAS SP. 2
			IT-1-H-3 = BACTILIIS SP.
			FYANDIER TINING SP
		~	DIDE CULTUDE CONTROL EVBEDIMENT DEDITCATE (
	,	E 0	MEAN DEDCENT DECEMBRITION
	/0	r 4	MEAN PERCENT DEGRADATION
CARD TYPE 3	1	16	040210
	7	I1	CARD TYPE (ALWAYS 3)
	8	Ĭ1	SUB-STUDY AREA SAMPLE TYPEHYDROCARBONS (ALWAYS 2)
	9	2X	BLANK
	11	▲4	SAMPLE CODE**
	15	5X	BLANK
	20	Īl	FRACTION
		•••	1 = HEXANE
			2 = BENZENE
	21	14	RETENTION INDEX
	25	1 X	BLANK
	26	E5	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

* 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

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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

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

DIRECTORY FOR STUDY AREA

FILE 29: METHODS, DATA FORMAT AND COMMENTS FILE 30: WATER COLUMN BACTERIOLOGY/BIOLOGY--1977 DATA

CAM WILSON

METHODS

SAMPLES: WATER SAMPLES COLLECTED WITH STERILE NISKIN BAG SAMPLER OR PERISTALTIC PUMP AND TYGON TUBING.

TO DETERMINE AERUBIC 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	ALNAYS Ø (ZERO)
2-3	12	STUDY AREA (SEE STUDY AREA KEY)
4-6	13	ALWAYS 210 FOR MASTER FILES
7	I1	CARD TYPE, ALWAYS 1 FOR INVENTORY(SEE DATA FORMATS)
8	Ii	STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS)
9-10	2X	BLANK
11-14	▲4	SAMPLE CODE (FINAL CODE ASSIGNED)

15-16 12 MONTH 17=18 12 DAY 19-20 15 YEAR 21-24 14 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME) 25 1 X BLANK 26 11 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 1 X BLANK 28 11 STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS) 29 DEDAY; NENIGHT A1 36-32 TYPE OF SAMPLE(SEE KEY TO CODES) A3 33-30 A4 SAMPLE DISPOSITION (SEE KEY TO CODES) 37-39 A3 SAMPLE USE (SEE KEY TO CODES) 40-42 PRINCIPLE INVESTIGATOR (SEE KEY CODES) A3 43 11 REPLICATE CODE BE 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 Ø FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES 44 11 FILTERED CODE **B= NOT APPLICABLE** 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE 45 RELATIVE DEPTH CODE 11 0= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZUNE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= BOTTOM 6= NOT APPLICABLE BE ACTUAL DEPTH IN METERS GIVEN IN COLS. 54-56 9= VERTICAL TOW; ALL DEPTHS SAMPLED NOTE: RELATIVE DEPTH CODE HAS BEEN INCUNSISTENTLY 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 11 46 DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE Ø (ZERO) POOLED CODE 47 11 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED LIVE CODE -- CODES UNKNOWN; MAY NOT HAVE BEEN USED; APPEARS TO ALWAYS BE B (ZERO) 48 11 49 11 ARCHIVE CODE 0= NOT AN ARCHIVE SAMPLE

1= AN ARCHIVE SAMPLE

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54 11 QUALITY CONTROL CODE BE NOT A QUALITY CONTROL SAMPLE 1= A QUALITY CONTROL SAMPLE CONTRACTED CODE 51 11 BLANK OR US BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 12 SAMPLE DEPTH IN METERS; 54-56 13 NOTE: 999 MEANS NOT APPLICABLE 991 MEANS VERTICAL TOW FROM SURFACE TO 25 METERS 992 MEANS VERTICAL TON FROM 25 TO 50 METERS 993 MEANS VERTICAL TOW FROM 50 METERS TO BOTTOM 57-60 PARENT SAMPLE CODE FOR SUBSAMPLES A4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 01 1 X BLANK PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62-69 **A** A 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 LHP-LINDA H. PEQUEGNAT CHG-MST(CHEMISTRY GRAB) CHG-TH (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 THACE 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 JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) 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 NPS-NED P. SMITH CVB-CHASE VAN BAALEN INF-TAX(INFAUNA TAXONOMY) LGT-PZ (PHOTOMETRY) LMW-HC (LDW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J, SELMON HOLLAND MNK-TM (MACRONEKTON TRACE METALS) MMS-C13(TOTAL ORGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIUFAUNA) DEW-DONALD E. WOHLSCHLAG MMS-MST(MEIUFAUNA MASTER GRAB) DK-DAN L. KAMYKOWSKI MYG-MYC(SEDIMENT MYCDLUGY) 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 MICRUZOOPLANKTON) SED-TM (SEDIMENT TRACE METALS) SDG-DEP(SEDIMENT DEPOSITION) STD-ST (SALINITY-TEMPERATURE-DEPTH) TUC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY UTSA-UNIV. OF TEXAS AT SAN ANTONIO TRM-TUR(TRANSMISSOMETRY-TURBIDITY) SAR-SAMUEL A. RAMIREZ VT -MPL(MICROZOUPLANKTON-VERTICAL TOW) WVA-D. W. VAN AUKEN (WATER COLUMN) WAT-ATP(ADENUSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) WAT-C13(DELTA C13) UT-AUSTIN WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLD WAT-CLP(CHLUROPHYLL-PHYTOPLANKTON-76-77) WAT-DU (DISSOLVED OXYGEN) U.S.G.S.-CORPUS CHRISTI NAT-FLU(FLUORESCENCE) HU-HENRY BERRYHILL WAT-HC (WATER HYDROCARBONS) WAT-LH (LOW-MOLECULAR-WEIGHT HYDROCARBONS) WAT-MPL(MICHOZOOPLANKTON) 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(PRUTOZUA) WAT-P14(CARBON14 PHYTOPLANKTON) WAT-SSM(WATER-SUSPENDED SEDIMENT) WAT-TOC(TOTAL ORGANIC CARBON) ZCT-TM (ZOUPLANKTON TRACE METALS) ZPL-HC (ZOOPLANKTON HYDROCARBONS)

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

ZPL-TAX(ZOOPLANKTON TAXONOMY) ZPL-TM (ZOOPLANKTON TRACE METALS)

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B1 SALINITY AND TEMPERATURE, CURRENTS W3 DISSOLVED DXYGEN, NUTRIENTS 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS 05 HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES *UG 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, BACTERIDLOGY, MYCOLOGY IN SEDIMENT 23 MICROZOOPLANKTON (PROTOZOA) 24 ZOOPLANKTON 25 SHELLED MICROZOOPLANKTON 26 TOTAL ORGANIC CARBON AND DELTA CARBON 13 27 LIGHT ABSORPTION (PHOTOMETRY) 30 HISTUPATHOLOGY 40 BENTHIC MICROBIOLOGY 41 WATER COLUMN MICROBIOLOGY 42 BENTHIC MYCOLOGY

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A-221

43 WATER COLUMN MYCOLOGY

BLM STOCS MONITORING STUDY STATION LOCATIONS

TRAN. STA.		LORAN		LORAC		LATITUDE		LON	GITUDE	DEPTH	
		3н3	342	LG	LR				ME	TERS	FEET
1	1	2575	4003	1180.07	171.46	28 1	2 N#	96	27 m±	18	59
	2	2440	3950	961.49	275.71	27 5	5 N*	96	20 #*	42	138
	3	2300	3863	799.45	466.07	27 3	4 N#	96	07 ##	134	439
	4	2583	4015	1206.53	157.92	28 1	4 N#	96	29 W*	10	33
	5	2360	3910	861.09	369.08	27 4	4 N*	96	14 W×	82	269
	6	2330	3892	819.72	412.96	27 3	9 N#	96	12 m#	100	328
2	1	2978	3962	373.62	192.04	27 4	0 N*	96	59 w×	22	72
	2	2050	3918	454.46	382.00	27 3	0 N*	96	45 #*	49	161
	3	2040	3850	564.67	585.52	27 1	8 N#	96	23 W#	131	430
	4	2058	3936	431.26	310.30	27 3	4 N#	96	50 W*	36	112
	5	5935	3992	498.85	487.62	27 2	4 N#	96	36 ##	78	256
	6	2068	3878	560.54	506.34	27 2	4 N#	96 2	29 W#	98	322
	7	2045	3835			27 1	5 N*	96	18.5 W#	182	600
3	1	1585	3880	139.13	909.98	26 5	8 N*	97	11 W#	25	82
	2	1683	3841	286.38	855.91	26 5	8 N*	96 /	48 W*	65	213
	3	1775	3812	391.06	829.02	26 5	8 N#	96	33 W*	106	348
	4	1552	3885	95.64	928.13	26 5	8 N#	97 2	20 W*	15	49
	5	1623	3867	192.19	888.06	26 5	8 N#	97 1	d2 #*	40	131
	6	1790	3898	411.48	824.57	26 5	8 N*	96 3	30 w±	125	410
4	1	1130	3747	187,50	1423.50	26 1	0 N+	97 6	8 <u>1</u> #*	27	88
	2	1300	3700	271.99	1310.61	26 1	0 N*	96 3	39 M#	47	154
	3	1425	3003	333.77	1241.34	26 1	0 N#	96 2	24 W×	91	298
	4	1073	3763	163,42	1456.90	26 1	0 N#	97 🕯	88 m×	15	49
	5	1170	3730	213.13	1387.45	26 1	Ø N*	96 5	54 W×	37	121
	6	1355	3685	304.76	1272.48	26 1	8 N#	96 3	31 W#	65	213
	7	1448	3659	350,37	1224.51	26 1	0 N±	96 2	20 W*	130	426
(HR)	1	2159	3900	635.00	422.83	27 3	2 Ø5N**	96 2	28 19***	75	246
(9)	2	2169	3902	644.54	416.95	27 3	2 46N**	96 2	27 25***	72	237
	3	2163	3900	641.60	425.10	27 3	2 Ø5N**	96 2	27 35***	81	266
	4	2165	3905	638.40	411.18	27 3	3 Ø2N**	96 2	29 03W##	76	250
(88)	1	2086	3889	563.00	468.28	27 2	6 49N**	96 3	51 18###	81	266
(8)	2	2081	3889	560.95	475.80	27 2	6 14N**	96 3	51 82W**	82	269
	3	2074	3890	552.92	475.15	27 2	6 86N**	96 3	51 47w**	82	269
	4	2078	3890	551.12	472.73	27 2	6 14N**	96 3	2 87w**	82	269

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

			START COLUM	N FIELD TYPE	FIELD CONTENT/DESCRIPTION
CARD	TYPE	2	1	16	041210
			7	I1	CARD TYPE (ALWAYS 2)
			8	3 X	BLANK
			11	▲4	SAMPLE CODE =
			15	11 /	STATION
			16	I1	TRANSECT

A-222
	17	11	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	12	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	22	2X	BLANK
	24	E8	TOTAL COUNT (MEAN)
	32	F8	TOTAL COUNT (1 STANDARD DEVIATION)
	40	12	METHOD (ALWAYS 40 - INDICATES MICROBIOLOGY)
	42	21	RI ANK
	44	FB	DIL DEGRADING COUNT (MEAN)
	52	FA	OTL DEGRADING COUNT (1 STANDARD DEVIATION)
	JE	20	
CARD TYPE 3	1	16	041210
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	11	STATION
	16	II	TRANSECT
	17	11	PERIOD CODE (SAME AS CARD TYPE 2)
	18	T1	STUDY TYPE (SAME AS CARD TYPE 2)
	19	11	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	F5	PERCENT CRUDE OIL IN DEGRADATION FLASK
	25	31	RI ANK
	28	13	TIME (DAYS)
	20	1 X	RIANK
	12	FA	MEAN NUMBER WITH CRUDE OIL
	3E 44	FA	1 STANDARD DEVIATION WITH CRUDE DI
	-0	EC	MEAN DEDCENT DECRADATION
	40 67	F 9	MEAN NHEARD WITHOUT CONDE OIL
	55	E O	CAR NUMBER WITHOUT CRODE DIE
	01	20	1 STRUCKUD DEVIATION MITHODI ENDDE DIE
CARD TYPE 4	1	16	041210
	7	11	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	I 1	STATION
	16	ĪĪ	TRANSECT
	17	T 1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	TI	STUDY TYPE (SAME AS CARD TYPE 2)
	19	T 1	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	24	13	GENUS AND SPECIES CODE
	21	FA	ARIINDANCE
	21	E5	DEDGENT OF TOTAL FOR THAT RACTERTA TYPE
	31 36	7 X	BLANK
	30 // 7	7 A	BACTEDIA TYPE
	73	**	1 ± HETEROTROPHIC
			2 = HYDROCARBONOCLASTIC
	4.8	2414	CENHS AND SPECIES NAME
		2-10	APuda una difaspa nunip
COMMENTS	÷ .		
A MALINE ME LA LA			

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NUTE: 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) BENTHIC MYCOLOGY (MYG-MYC) DATA TYPE: PRINCIPLE INVESTIGATOR: PAUL J. SZANISZLO (PJS) UNIVERSITY OF TEXAS AT AUSTIN (UTA) AUSTIN, TEXAS ASSOCIATE INVESTIGATORS: ROXANN F. DAVENPORT PHILIP A. GEIS RICHARD L. HEBERT DIEDRE G. KENNEDY RUJU J. LD RICHARD P. MIHALIK PAUL E. POWELL ROWENA L. ROBERTS DIRECTORY FOR STUDY AREA -----FILE 31: METHODS, DATA FORMAT AND COMMENTS FILE 32: SEDIMENT MYCOLOGY/BIOLOGY-1977 DATA FILE 33: SEDIMENT MYCOLUGY/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 ALWAYS & (ZERO) 1 I1 STUDY AREA (SEE STUDY AREA KEY) 2-3 12 ALWAYS 210 FOR MASTER FILES 13 4-6 CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 7 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 11 9-10 BLANK 2X SAMPLE CODE (FINAL CODE ASSIGNED) 11-14 **A**4 15-16 12 MONTH 17-18 15 DAY YEAR 19-20 12

21-24 14 TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME OR CENTRAL STANDARD TIME) 25 1 X BLANK SAMPLE COLLECTION AREA 26 11 1= TRANSECT 1 2= TRANSECT 2 3= TRANSECT 3 4= TRANSECT 4 7= RIG MONITORING AREA 8= SOUTHERN BANK 9= HOSPITAL ROCK 27 1 X BLANK 28 I 1 STATION (SEE BLM STOCS MONITORING STUDY STATION LOCATIONS) 29 A1 D=DAY; N=NIGHT TYPE OF SAMPLE(SEE KEY TO CODES) 30-32 A3 33-36 **A**4 SAMPLE DISPUSITION (SEE KEY TO CODES) 37=39 A3 SAMPLE USE (SEE KEY TO CODES) 40-42 **A**3 PRINCIPLE INVESTIGATOR (SEE KEY CODES) 43 REPLICATE CODE 11 **UE 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 Ø FOR A REPLICATE SAMPLE WITH THE REPLICATE NUMBER APPEARING ON THE DATA LINES 44 11 FILTERED CODE 0= NUT APPLICABLE 1= SAMPLE IS A FILTERED SAMPLE 2= SAMPLE IS A NON-FILTERED SAMPLE RELATIVE DEPTH CODE 45 T 1 #= NOT CODED 1= SURFACE 2= 1/2 PHOTIC ZONE 3= PHOTIC ZONE 4= PHOTIC ZONE TO BOTTOM 5= 80TTUM 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 UN 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 DISSOLVED PARTICLE CODE -- CODES UNKNOWN; MAY NOT HAVE 11 46 BEEN USED; APPEARS TO ALWAYS BE Ø (ZERO) POOLED CODE 47 I1 0= NOT A POOLED SAMPLE 1= A POOLED SAMPLE NOTE: MAY NOT HAVE BEEN USED LIVE CODE -- CODES UNKNUWN; MAY NOT HAVE BEEN USED; 48 11 APPEARS TO ALWAYS BE Ø (ZERU) ARCHIVE CODE 49 11 0= NOT AN ARCHIVE SAMPLE 1 = AN ARCHIVE SAMPLE QUALITY CONTROL CODE 5Ø 11 **BE NOT A GUALITY CONTROL SAMPLE** 1= A QUALITY CONTROL SAMPLE

A-225

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CUNTRACTED CODE 51 11 BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE CRUISE NUMBER 52-53 12 54-50 13 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 PARENT SAMPLE CODE FOR SUBSAMPLES 57-60 **A**4 NOTE: FOR A SAMPLE WHICH IS NOT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK 61 1 X BI ANK PREVIOUS SAMPLE CODE -- ALLOWS REFERENCE TO 1975, 62+69 84 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 PODLED SAMPLES, E.G.= A) AAAA-C INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAAA, AAAB, AAAC 8) AAZY-BAA INDICATES A POOLED SAMPLE MADE UP OF SAMPLES AAZY, AAZZ, ABAA KEY TO CODES ------DISPOSITION AND PRINCIPLE INVESTIGATOR SAMPLE TYPE--SAMPLE USAGE BAG-BAC(SEDIMENT BACTERIOLOGY) TAMU-TEXAS A+M UNIVERSITY CHG-HC (SEDIMENT HYDROCARBONS) LHP-LINDA H. PEQUEGNAT CHG-MST(CHEMISTRY GRAB) CHG-TM (SEDIMENT TRACE METALS) CHG-TEX(SEDIMENT TEXTURE) CSG-C.S. GIAM TSP-E. TAISOO PARK CHL-(TUTAL CHLOROPHYLL-1975) CHT-HC (EPIFAUNA HYDROCARBONS) BJP-B.J. PRESLEY WMS-WILLIAM M. SACKETT CHT-MST(EPIFAUNA CHEMISTRY TRAWL) 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 JMN-JERRY M. NEFF EPI-HPI(EPIFAUNA HISTOPATHOLOGY) EPI-HPT(EPIFAUNA HISTOPATHOLOGY) WH-WILLIAM E. HAENSLY JN-JERRY M. NEFF JRS-JOHN R. SCHWARZ EPI-INV(EPIFAUNA INVERTEBRATES) EPI-MST(EPIFAUNA MASTER) 1CH- (ICHTHYOPLANKTON) JHW-JOHN H. WORMUTH UT-PORT ARANSAS MARINE LAB. INF-MST(INFAUNA MASTER) INF-SED(INFAUNA SEDIMENT) PLP-PATRICK L. PARKER INF-TAX(INFAUNA TAXONOMY) NPS-NED P. SMITH CVB-CHASE VAN BAALEN LGT-PZ (PHOTOMETRY) LMW-HC (LOW-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON MOLLAND NNK-TH (MACRONEKTON TRACE METALS) MMS-C13(TOTAL URGANIC CARBON AND DELTA C13 IN SEDIMENT) MMS-MEI(MEIUFAUNA) DEW-DONALD E. WOHLSCHLAG DK-DAN L. KAMYKOWSKI MMS-MST(MEIOFAUNA MASTER GRAB) PJ-PATRICIA L. JOHANSEN MYG-MYC(SEDIMENT MYCOLOGY) UT-GEOPHYSICAL LAB. GALVESTON NEU-TAX(NEUSTON TAXONOMY) SED- (SEDIMENT) SED-HC (SEDIMENT HYDROCARBONS) EWB-E. W. BEHRENS SED-MPL(SEDIMENT MICROZOOPLANKTON) SED-TH (SEDIMENT TRACE METALS) SDG-DEP(SEDIMENT DEPOSITION)

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STD-ST (SALINITY-TEMPERATURE-DEPTH)
                                            UTSA-UNIV. OF TEXAS AT SAN ANTONIO
SAR-SAMUEL A. RAMIREZ
TUC-ST (TEMPERATURE-DEPTH-CONDUCTIVITY
 THM-TUR(TRANSMISSOMETRY=TURBIDITY)
VI -MPL(MICROZUOPLANKTON-VERTICAL TOW)
                                               WVA-D. W. VAN AUKEN
       (WATER COLUMN)
HAT-
WAT-ATP(ADENOSINE TRI-PHOSPHATE)
WAT-BAC(WATER COLUMN BACTERIOLOGY)
WAT-CI3(DELTA CI3)
                                            UT-AUSTIN
WAT-CLN(CHLOROPHYLL-NANNOPLANKTON-76-77)
                                               PJS-PAUL J. SZANISZLO
WAT-CLP(CHLUROPHYLL-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 (LDW-MOLECULAR-WEIGHT HYDROCARBONS)
 WAT-MPL(MICROZUOPLANKTON)
WAT-MYC(WATER COLUMN MYCOLUGY)
                                            RICE-RICE UNIVERSITY
                                            RU-RICE UNIVERSITY
WAT-NUT(NUTRIENTS)
 WAT-N14(CARBON14 NANNOPLANKTON)
                                               REC-RICHARD E. CASEY
WAT-PHY (PHYTUPLANKTON)
 #AT-PRU(PROTOZDA)
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(ZUUPLANKTON TAXONOMY)
ZPL-TM (ZOUPLANKTON TRACE METALS)
STUDY AREA KEY
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B1 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
49 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 DELIA 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

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TRAN.	STA	• •	ORAN	LC	DRAC	LA	TI	TUDE	LO	NGI	TUDE	DEP	тн
		3H3	3H2	LG	LR						ME	TERS	FEET
1	1	2575	4663	1180.07	171.46	28	12	N±	96	27	# +	18	50
-	2	2440	3950	961.49	275.71	27	55	N.±	94	20		43	170
	3	2300	3863	799.45	466.97	27	24	N #	- 06	20		12/	120
	- ŭ	2583	4015	1286.53	157.92	28	14	N ±	96	20		10	437
	5	2360	3910	861.09	1 57.72	27	44	N.+	90		77 F	10	260
	6	2330	3892	819.72	412 94	27	10	N .	90	1 3	N N	100	207
	•		3072	01/072	412170	21	37		70	12	M F	100	220
2	1	2078	3962	373.62	192.04	27	40	N *	96	59	**	22	72
	2	2050	3918	454.46	382.00	27	30	N#	96	45	**	49	161
	- 3	2040	3850	564.67	585.52	27	18	N#	96	23	W th	131	439
	4	2058	3936	431.26	310.30	27	34	N#	96	50	**	36	112
	5	2032	3992	498.85	487.62	27	24	N#	96	36	W 🖈	78	256
	6	2068	3878	500.54	506.34	27	24	N#	96	29	¥ +	98	322
	7	2845	3835			27	15	N×	96	18	.5 ₩*	182	666
3	1	1585	3888	139.13	989.98	26	58	N#	97	11	**	25	82
	2	1683	3841	286.38	855.91	26	58	N×	96	48	**	65	213
	3	1775	3812	391.06	829.82	56	58	N×	96	33	**	106	348
	4	1552	3885	95.64	928.13	26	58	N#	97	20	W×	15	49
	5	1623	3867	192.19	888,96	26	58	N*	97	92	提大	40	131
	6	1790	3808	411.48	824.57	26	58	N#	96	30	# *	125	410
4	1	1130	3747	157.50	1423.50	26	10	N*	97	01	M ±	27	88
	2	1300	3700	271,99	1310.61	26	10	N#	96	39	W×	47	154
	3	1425	3003	333.77	1241.34	26	10	N#	96	24	W th	91	298
	4	1073	3763	163.42	1456.90	26	10	N#	97	08	Ww	15	49
	5	1170	3738	213.13	1387.45	26	10	N×	96	54	**	37	121
	6	1355	3085	304.76	1272.48	26	10	N#	96	31	W ±	65	213
	7	1448	3659	350.37	1224.51	26	10	N×	96	20	**	130	426
(HR)	1	2159	3900	635.06	422.83	27	32	05N**	96	28	19w**	75	246
(9)	2	2169	3982	644.54	416.95	27	32	46N**	96	27	25w**	72	237
	3	2163	3990	641.60	425.10	27	32	85N**	96	27	35N**	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	18###	81	266
(8)	2	2081	3889	560.95	475.80	27	26	14N**	96	31	82w**	82	269
	3	2074	3890	552.92	475.15	27	26	86N**	96	31	478++	82	269
	4	2078	3890	551.12	472.73	27	26	14N**	96	32	87#**	82	269
			NOTE:	* MEANS	DEGREES	AND	MIN	UTES					
			*	* MEANS	DEGREES	MINU	TĒS	SECON	DS				
		START	COLUMN F	IELD TYPE	FIELD (ONTE	NT/	DESCRI	PTIC)N			
CARD TYP	PE 2	1		16	042210	-							
		7		11	CARD TI	PE (ALW	AYS 2)					
		8		3 X	BLANK	-	-						
		11		▲4	SAMPLE	CUDE	k						
		15		I 1	STATION	• -							
		16		11	TRANSEC	:1							
		17		I1	PERIOD	CODE							

1 = WINTER 2 = MARCH 3 = APRIL

			5 = JULY
			6 = AUGUST
			7 = FALL
			8 = NOVEMBER
			9 = DECEMBER
	18	I 1	STUDY TYPE
		••	1 = BACTERIOLOGY
	19	T 1	SUBSTRATE TYPE
	4 7	11	1 - CEDIMENT
			1 - JEVIMENI 1 - JEVIMENI
	32	* 7	C = MAICK LULUMN
	20	12	METHUD (ALWAYS 40 - INDICATES MICROBIOLUGY)
	66	28	BLANK
	24	Eð	TOTAL COUNT (MEAN)
	32	E8	TOTAL COUNT (1 STANDARD DEVIATION)
	40	12	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	16	042218
	7	I1	CARD TYPE (ALWAYS 3)
	8	3X	BLANK
	11	A4	SAMPLE CODE*
	15	T 1	STATION
	16	ĪÌ	TRANSECT
	17	T 1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	T 1	STUDY TYPE (SAME AS CAPD TYPE 2)
	10	T 1	QUARTRATE TYPE (RAME AR CADA TYPE D)
	20	55	DEDEENT COUDE OTH IN DECEMPATION ELASY
	25	F 3	PERCENT CRODE DIE IN DEGRADATION PLASK
	23	24	DLANK COLUMN
	28	15	TIME (DATS)
	31	1X	BLANK
	32	Eð	MEAN NUMBER WITH CRUDE OIL
	40	E8	1 STANDARD DEVIATION WITH CRUDE OIL
	48	F5	MEAN PERCENT DEGRADATION
	53	E8	MEAN NUMBER WITHOUT CRUDE DIL
	01	E8	1 STANDARD DEVIATION WITHOUT CRUDE OIL
CARD TYPE 4	1	16	042210
	7	I1	CARD TYPE (ALWAYS 4)
	8	3 X	BLANK
	11	A 4	SAMPLE CODE*
	15	I1	STATION
	16	T1	TRANSECT
	17	T 1	PERIOD CODE (SAME AS CARD TYPE 2)
	18	Ťì	STUDY TYPE (SAME AS CARD TYPE 2)
	10	* ± T (CHRETRATE TYPE (SAME AS CARD TYPE D)
	23	11	CENIIC AND ODECIES CODE
	27	59	ABUNDANCE
	23	LO	ADUNUANUE
	21	52	PERCENT OF TOTAL FOR THAT BACTERIA
	30	45	CULTURE MEDIUM CODE
			SG = SILICA GEL OIL MEDIUM
			SGO = SILICA GEL OIL MEDIUM
			MA = MYCOLDGICAL AGAR
			YNB = YEAST NITROGEN BASE
			HX = SGO + 0.5 PERCENT N-HEXADECANE
			RD = RATE OF DEGREDATION STUDY
			(DIGITS ARE NUMBER OF DAYS
			WITH & S PERCENT CHINE OT 1
			PRAME PATE HE RECREATION STUDY WITH
			A A DEDERNATION STUDY WITH
			0.1 FERLENI ÜKUDE UIL DDC • DATE DE DECREDATION ATUDA CONTROL
			RUTTL - RAIE OF DEGREDATION STUDY CUNIRUL
			(NO DIL ADDED)

4 = SPRING

	·	41 44	3X 2A10	BLANK GENUS AND SPECIES NAME
DATA FO		FOR FILE 33 -	1977 HYDROC	ARBON DATA
CARD TH	YPE 1.	STANDARD IN	VENTORY CARD	
		FORMAT FOR CA	RD TYPE 1 SA	ME AS FOR FILE 32
		START COLUMN	FIFLD TYPE	ETELD CONTENT/DESCRIPTION
CARD TY	YPF 2	1	16	942210
••••••		;	II	CARD TYPE (ALWAYS 2)
		8	ĪĪ	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 -
				@ 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	A 4	SAMPLE CODE
		15	1 X	BLANK
		16	I 1	TRANSECT
		17	I 1	STATION
		18	1×	BLANK
		19	A13	SAMPLE TYPE
		32	1×	BLANK
		33	F3 -	PERCENT BY VOLUME OF OIL ADDED
		36	2X	BLANK
		38	15	NUMBER OF DAYS SAMPLE WAS INCUBATED
		40	5X	BLANK
		42	A6	PERIOD SAMPLED
		48	1 X	BLANK
		49	Aó	PREVIOUS SAMPLE CODE USED
CARD TY	PE 3	1	Ib	042210 CAUDA THEE (AL WARE T)
		7	11	CARD TIPE (ALMATS S)
		8	11	SAME AS FOR CARD TYPE 2 OF FILE 33
		0	28	RIANK
		11	▲ 4	SAMPLE CODE
		15	21	BLANK
		17	12	YEAR
		19	1 X	BLANK
		20	II I	FRACTION
			• •	1 = HEXANE
				2 = BENZENE
		21	14	RETENTION INDEX
		25	F9	CONCENTRATION (MICROGRAMS/GRAM)

NUTE: 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

* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NUTE: 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: 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. LU RICHARD P. MIHALIK PAUL E. PUWELL ROWENA L. ROBERTS DIRECTORY FOR STUDY AREA -----FILE 34: METHODS, DATA FORMAT AND COMMENTS FILE 35: WATER COLUMN MYCOLOGY/BIOLOGY-1977 DATA FILE 36: WATER COLUMN 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 35 - 1977 BIOLOGY DATA -------------CARD TYPE 1---STANDARD INVENTORY CARD---CULUMNS FIELD TYPE DESCRIPTION ALWAYS Ø (ZERO) 11 1 2-3 12 STUDY AREA (SEE STUDY AREA KEY) 4=6 13 ALMAYS 210 FOR MASTER FILES CARD TYPE, ALWAYS 1 FOR INVENTORY (SEE DATA FORMATS) 7 11 STUDY SUBAREA (DEFINED IN DATA FORMATS FOR STUDY AREAS) 8 I1 9-10 2 X BLANK 11-14 **A**4 SAMPLE CODE (FINAL CODE ASSIGNED) 15-16 12 MONTH 17-18 15 DAY 19-20 12 YEAR TIME OF DAY (LOCAL CENTRAL DAYLIGHT TIME 21-24 14

1= A DUALITY CONTROL SAMPLE Contracted Code	τI	TS
OUALITY CONTROL CONTROL SAMPLE D= NOT A DUALITY CONTROL SAMPLE	II	05
B= WUT AN ARCHIVE SAMPLE 1= AN ARCHIVE SAMPLE		
VECHINE CODE Veberha 10 Venavs be 0 (zero)	TI	617
FINE CODE CODES NAKNOWAS MAY NOT HAVE BEEN USEDS	11	817
1= A POOLED SAMPLE		
SUCCED SAMPLE STORES AND SUCCED SAMPLE	••	
BEEN USED; APPEARS TO ALWAYS BE 0 (ZERO)	• 1	20
DISSOFVED PARTICLE CODE CODES UNKNOWN; MAY NOT HAVE	τı	917
BE CIVEN ON THE DATA LINES OR CAN BE DETERMINED		
DEPTH IS MISSING FROM THE INVENTORY LINE, IT MAY		
BEEN CODED ON THE INVENTORY LINE; IF RELATIVE		
INCONSISTENTLY USED: IN MOST CASES IT HAS NOT		
VA VEKILAL IUN; ALL VEFING SAMPLEV Note: Deiaive depin code Has befa		
8= ACTURE DEPTH IN METERS GIVEN IN COLS, 54-56		
6= NOT APPLICABLE		
W01108 #5		
WELLOW TO BOLLOW		
24 bHOLIC JUNE 24		
IS SURFALE 24 1/2 PHOTIC 70NF		
0= NOT CODED		
RELATIVE DEPTH CODE	II	57
2= SAMPLE IS A NON-FILTERED SAMPLE		
I= SAMPLE IS A FILTERED SAMPLE		
TILICALV COVC M= NOT ICARLE	17	* *
APPEARING ON THE DATA LINES	• 1	17 17
A REPLICATE SAMPLE WITH THE REPLICATE NUMBER		
CONSISTENTLY USED; REPLICATE CODE MAY BE 0 FOR		
NOTE: REPLICATE CODE HAS NOT BEEN		
דב. לא למט אבורנולאוב סאשרוב		
J= 3P0 BEBITCYLE SYMBLE		
0= NOT & REPLICATE SAMPLE		
REPLICATE CODE	τı	277
PRINCIPLE INVESTIGATOR (SEE KEY CODES)	٤v	24-04
SYMDLE NGE (SEE KEX ID CUDES)	27	61-L1 85-55
THE OF SAMPLE (SEE KEY TO CODES)	C 4	75-05
THOINAN (YADAO	ĪV	52
(SNOILVOOT		
STATION (SEE BLM STOCS MONITORING STUDY STATION	11	85
ANALB	XT	75
ANAG NASHIUUG EG Ajng iatigen eg		
VE RIG MONITORING AREA		
4= 133SNV81 =4		
5# TRANSECT 3		
S= TRANSECT 2		
DAMPEL CULLUN AKCA	1 7	0.7
ALANA ALANDI E COLLECTION, ADEA	XŤ	52
OR CENTRAL STANDARD TIME)		

A-233

BLANK OR 0= BLM CONTRACTED SAMPLE 1= NOT A BLM CONTRACTED SAMPLE 52-53 15 CRUISE NUMBER 54-56 13 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 TON FROM 56 METERS TO BOTTOM 57-60 A4 PARENT SAMPLE CODE FOR SUBSAMPLES NOTE: FOR A SAMPLE WHICH IS NUT A SUBSAMPLE THIS FIELD WILL CONTAIN XXXX OR BE BLANK BLANK 61 1 X 62-69 ... 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-TH (SEDIMENT TRACE METALS) CSG-C.S. GIAM CHG-TEX(SEDIMENT TEXTURE) TSP-E. TAISOD PARK CHL-(TOTAL CHLOROPHYLL-1975) BJP-B.J. PRESLEY WMS-NILLIAM M. SACKETT CHT-HC (EPIFAUNA HYDROCARBONS) CHT-MST(EPIFAUNA CHEMISTRY TRAWL) 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 JN-JERRY M. NEFF EPI-INV(EPIFAUNA INVERTEBRATES) EPI-MST(EPIFAUNA MASTER) JRS-JOHN R. SCHWARZ 1CH- (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 TAXONDMY) NPS-NED P. SMITH LGT-PZ (PHOTOMETRY) CVB-CHASE VAN BAALEN LMW-HC (LOM-MOLECULAR-WEIGHT HYDROCARBONS) JSH-J. SELMON HOLLAND MNK-TH (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) EW8-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 SAR-SAMUEL A. RAMIREZ THM-TUR(TRANSMISSOMETRY-TURBIDITY) VT -MPL(MICROZOOPLANKTON-VERTICAL TOW) WVA-O. N. VAN AUKEN (WATER COLUMN) MAT-WAT-ATP(ADENOSINE TRI-PHOSPHATE) WAT-BAC(WATER COLUMN BACTERIOLOGY) WAT-C13(DELTA C13) UT-AUSTIN WAT-CLN(CHLUROPHYLL-NANNOPLANKTON-76-77) PJS-PAUL J. SZANISZLO WAT-CLP(CHLOROPHYLL-PHYTOPLANKTON-76-77) **wAT-DD (DISSOLVED DXYGEN)** 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 (ZOUPLANKTON HYDROCARBONS) ZPL-TAX(ZOOPLANKTON TAXONOMY) ZPL-TH (ZOUPLANKTON TRACE METALS) STUDY AREA KEY -----**11 SALINITY AND TEMPERATURE, CURRENTS** 03 DISSOLVED OXYGEN, NUTRIENTS 04 LOW-MOLECULAR-WEIGHT HYDROCARBONS WS HIGH-MOLECULAR-WEIGHT HYDROCARBONS, BENTHIC VERTEBRATES 06 INVERTEBRATE EPIFAUNA AND INFAUNA 07 BENTHIC FISH UB 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

STATION

TRANSECT

PERIOD CODE 1 = WINTER 2 = MARCH 3 = APRIL 4 = SPRING

11

11

11

15

16

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A-236

			5 = JULY
			6 = AUGUST
			7 I FALL
			8 = NOVEMBER
			9 = DECEMBER
	18	I 1	STUDY TYPE
			1 = BACTERIOLOGY
			2 = MYCOLDGY
	19	T 1	SUBSTRATE TYPE
	• /	••	1 = SEDIMENT
			2 m WATER COLUMN
	20	12	METHOD (ALWAYS 44 - INDICATES MICPORIOLOGY)
	22	24	BLANK
	22	54	TOTAL COUNT (MEAN)
	24	50	TOTAL COURT (1 STANDARD DEVIATION)
	36	20	TUTAL COURT (I STANDARD DEVIATION)
	49	12	MEINUD (ALMAIS 40 - INDICATES MICRODIDEDGI)
	42	27	BLANK
	44	88	OIL DEGRADING CUUNI (MEAN)
	52	Eð	OIL DEGRADING COUNT (1 STANDARD DEVIATION)
CARD TYPE 3	1	16	043210
	7	11	CARD TYPE (ALWATS 3)
	8	3X	BLANK
	11	▲4	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	11	SUBSTRATE TYPE (SAME AS CARD TYPE 2)
	20	F5	PERCENT CRUDE OIL IN DEGRADATION FLASK
	25	3X	BLANK
	28	13	TIME (DAYS)
	31	1 X	BLANK
	32	E8	MEAN NUMBER WITH CRUDE OIL
	40	Eð	1 STANDARD DEVIATION WITH CRUDE OIL
	48	FS	MEAN PERCENT DEGRADATION
	53	FB	MEAN NUMBER WITHOUT CRUDE OIL
	61	Eδ	1 STANDARD DEVIATION WITHOUT CRUDE OIL
CARD TYPE 4	1	16	043210
	7	11	CARD TYPE (ALWAYS 4)
	8	3X	BLANK
	11	44	SAMPLE CODE*
	15	11	STATION
	14	T 1	TRANSFCT
	17	1 A A	PERIOD CODE (RAME AS CARD TYPE 2)
	10	1 1 T 1	STHOV TYPE (SAME AS CARD TYPE 2)
	10	11	CUDCTDATE TYPE (CAME AS CAND TYPE 2)
	17	11	CONTRACT THE COMPEND CARD TITE ET
	20	13	GENUS AND SPECIES CODE
	23	Eð	ABUNDANLE
	31	F5	PERCENT OF TUTAL FUR THAT BALTERIA
	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)
			0.1 PERCENT CRUDE OIL
			RDC = RATE OF DEGREDATION STUDY CONTROL
			(NO OIL ADDED)

BLANK

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3X

44 2410 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	16	043210
	7	I 1	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 INCURATION TIME
			2 T A 5 PEPCENT BY VOLUME OF ALL ADDED
			A DAVE THOUGHTION TIME
			A T A 1 PERCENT RY VOLUME OF OIL ADDED on
			AN DAYS INCHRATION TIME
			WEATMEDING INCODATION TIME
			S = M S PERCENT BY VOLUME OF OIL ADDED an
			40-45 DAYS INCUBATION TIME
			A - A 1 BERCENT BY VALUE OF ATL ADDED
			D - B.I PERCENT DI VULUME UF UIL AUVED
			45 DATS INCUBATION TIME
			7 = 0.1 PERCENT BY VOLUME OF DIL ADDED
			Ø DAYS INCUBATION TIME
			8 = 0.5 PERCENT BY VOLUME OF OIL ADDED
			0 DAYS INCUBATION TIME
	9	2X	BLANK
	11	A 4	SAMPLE CODE
	15	1 X	BLANK
	16	Ī1	TRANSECT
	17	ĪI	STATION
	18	1 X	BLANK
	19	A13	SAMPLE TYPE
	32	1 X	BLANK
	33	F3	PERCENT BY VOLUME OF OIL ADDED
	36	2X	BLANK
	38	Ĩ2	NUMBER OF DAYS SAMPLE WAS INCUBATED
	40	2X	BLANK
	42	A 6	PERIOD SAMPLED
	48	1 X	BLANK
	49	A 6	PREVIOUS SAMPLE CODE USED
	••		
CARD TYPE 3	1	16	842210
	;	11	CARD TYPE (ALWAYS 3)
	Å	11	SUB-STUDY AREA (1-8)
	•	••	SAME AS FOR CARD TYPE 2 OF FILE 36
	9	2X	BLANK
	11	<u>A</u> 4	SAMPLE CODE
	15	21	BLANK
	17	12	YEAR
	19	1 ¥	BLANK
	20	T1	FRACTION
	**	- •	1 # HEXANE
			2 = BENZENE
	21	14	RETENTION INDEX
	25	F9	CONCENTRATION (MICROGRAMS/GRAM)
	L 2		· · · · · · · · · · · · · · · · · · ·

- NOTE: ALTHOUGH CONCENTRATIONS ARE ANALYSISED IN DEFINITE TERMS, THE ALUES SHOULD ONLY BE USED RELATIVE TO OTHER NATURE WITHIN THAT SAMPLE SINCE FRIMAL WEIGHT OF OIL USED IS INDEFINITE.
- ALSO -- THIS MYCOLOGY HYDROCARBON ATA COES NOT LEND ITSELF TO DIRECT COMPARISON TO Bacteriology hydrocarbon Date Decause Mycology Data 18 Sameesed as Actual Recoveries, while bacteriology data is given as percay decadation by comparison

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COMMENTS

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* ALWAYS THE SAME AS THE APPROPRIATE INVENTORY SAMPLE CODE

NOTE: FOR 1975 DATA THE FIRST CHARACIER OF THE SAMPLE CODE IS 4 BLANK FOR 1976 DATA THE FIRST CHARACIER OF THE SAMPLE CODE IS AN A FOR 1977 DATA THE FIRST CHARACIER OF THE SAMPLE CODE IS A B



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.