

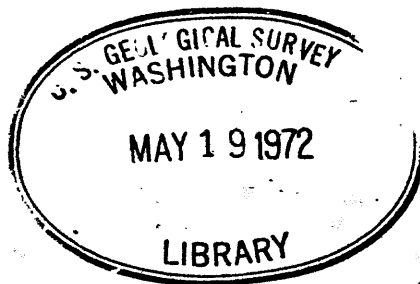
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1972

Applications of the
Generalized Information Processing System
(GIPSY)

Compiled by

D. W. Moody and Olaf Kays

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U. S. Geological Survey

Washington, D. C. 20242

January 1972

(200)
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CONTENTS

	<u>Page</u>
Introduction	1
GIPSY Description	3
Applications	7
Bibliographic Applications	10
Selected Water Resources Abstracts (OWRR)	11
Abstracts of North American Geology (USGS)	14
Biological Information Retrieval System (NODC)	17
Natural Resources Applications	24
Oil and Gas Field Study	25
Oil and Gas Field File (OOG)	28
FPC - South Louisiana Area File (OOG)	32
Natural Gas Analyses (OOG)	33
Crude Oil Analyses (OOG)	34
Oil Field Brine Analyses (OOG)	35
Committee on Drilling Statistics Well	
Data File (OOG)	36
Computerized Resource Information Bank (USGS)	37
Microprobe Data System (USGS)	42
River Basin Characteristics (USGS)	43
WRD Biological Data File (USGS)	46
WRD Station File (USGS)	50
Massachusetts Gazetteer (USGS)	53

CONTENTS

	<u>Page</u>
Management Applications	57
Department of Interior Roster of Field Offices File (OMR) :.....	58
Catalog of Federal Domestic Assistance Program (OMR)	61
Grant-in-Aid Program File (OMR)	64
Working File (OMR)	67
OCS Platform File (USGS)	69
OCS Events File (USGS)	71
WRD Project File (USGS)	74
Minutes GIPSY Users' Conference	81
Selected References	85

Applications of the Generalized Information
Processing System (GIPSY)

by

D. W.. Moody and Olaf Kays

ABSTRACT

The Generalized Information Processing System (GIPSY) stores and retrieves variable-field, variable-length records consisting of numeric data, textual data, or codes. A particularly noteworthy feature of GIPSY is its ability to search records for words, word stems, prefixes, and suffixes as well as for numeric values. Moreover, retrieved records may be printed on pre-defined formats or formatted as fixed-field, fixed-length records for direct input to other programs, which facilitates the exchange of data with other systems.

At present there are some 22 applications of GIPSY falling in the general areas of bibliography, natural resources information, and management science. This report presents a description of each application including a sample input form, dictionary, and a typical formatted record. It is hoped that these examples will stimulate others to experiment with innovative uses of computer technology.

INTRODUCTION

On May 12, 1971, the U. S. Department of Interior sponsored a one-day conference of Generalized Information Processing System (GIPSY) users located in the Washington, D. C. area. During the conference, GIPSY users exchanged experiences and recommended that various extensions and improvements be made to the GIPSY program. Twenty-two applications of GIPSY were identified during the meeting. These applications fall in the general areas of bibliographic retrieval, natural resources information, and management science.

The Generalized Information Processing System was made available to the Department of the Interior by Dr. James W. Sweeney and the University of Oklahoma Research Institute in early 1969. GIPSY was first applied to the storage and retrieval of Abstracts of North American Geology. Because of the limited resources of the Geological Survey's Computer Center, no attempt was made to publicize GIPSY or to encourage its use other than to provide manuals upon request. In a sense, this operating environment was a major test of GIPSY's ability to accommodate the users, many of whom were novices in the use of computers. The success of GIPSY is attested to by the fact that the current level of activity has been stimulated primarily by word-of-mouth communication between users and potential users.

During the conference it became apparent that the potential user population in the Department of the Interior

was much larger than was originally thought. The purpose of this compilation is to acquaint potential users with GIPSY and to describe each of the applications identified at the users' conference. It is hoped that these examples will stimulate further use of GIPSY and the development of new applications.

The final section of this report summarizes the users' recommendations and suggestions for future development of GIPSY. While complete understanding of these suggestions requires a working knowledge of GIPSY, they do indicate some of the types of problems and constraints present in the current version of the system.

Acknowledgments. -- It is impossible to thank individually all of the GIPSY users who generously responded to requests for examples of their applications. Obviously this report would not have been possible without their cooperation. Potential users are encouraged to contact the individuals responsible for the specific applications for further information. GIPSY manuals may be obtained from --

Chief, Office of Systems Research
and Development
Computer Center Division
U. S. Geological Survey
Washington, D. C. 20242

(202) 343-8264

GIPSY Description

The Generalized Information Processing System (GIPSY) was developed at the University of Oklahoma's Merrick Computing Center under the direction of Dr. James W. Sweeney (Addison and others, 1969). The system, written in Basic Assembly Language, utilizes three files: (1) a dictionary consisting of one or more look-up tables (forms) which defines the data element labels and the formats of routine record displays; (2) a dynamic address list of records that meet certain search criteria; (3) the records file containing variable-length, variable-field data (figure 1). GIPSY is compatible with IBM System/360 computers having a minimum of 65,536 bytes of core storage and 2 IBM/2311 disk drives or equivalent direct access storage.

Six utility programs are used to build and maintain GIPSY files: (1) CREATE allocates space and pre-formats the file on direct access devices; (2) DBUILD builds forms for the dictionary; (3) RBUILD builds records; (4) UPDATE alters existing records by adding, deleting, or modifying data elements; (5) DUMP creates back-up copies of the file on magnetic tape; and (6) RESTORE loads the files back onto a direct access device.

A GIPSY search is an iterative process that enables the user to make decisions about the course of his search

GIPSY DATA RETRIEVAL

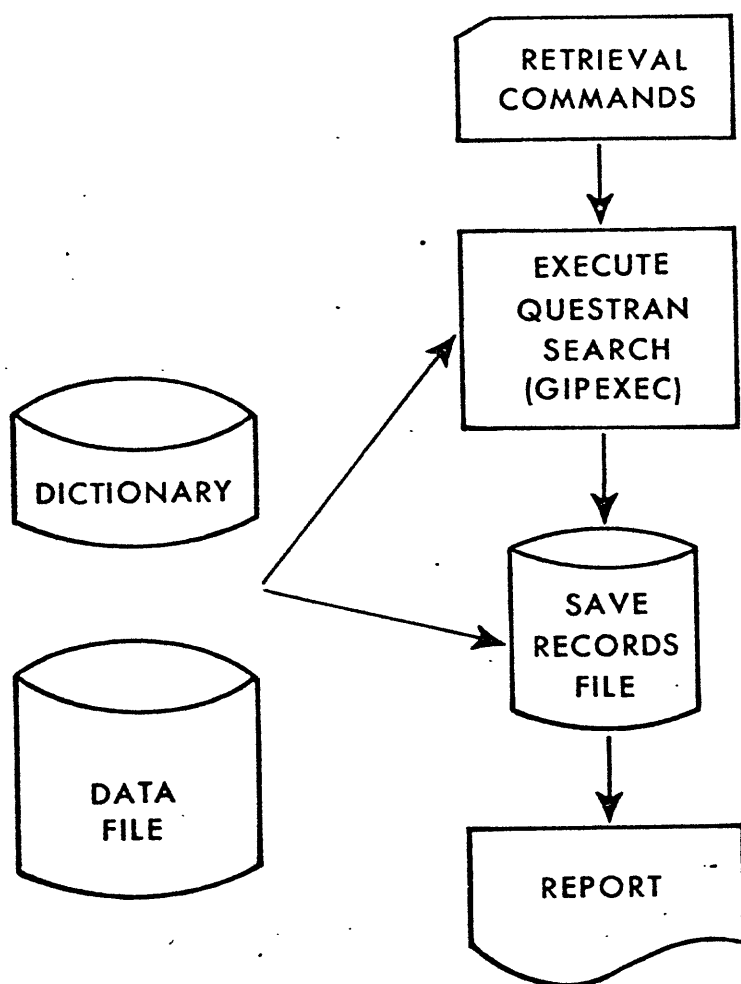


Figure 1. -- Principal components of the Generalized Information Processing System.

at various points during its execution (figure 2). Records are retrieved by using Boolean operators (AND, OR, and NOT) to combine search variables into a logic statement. Text can be searched for particular words, parts of words, phrases, or word ranges; numeric data can be searched by using relational operators (Equal to, Greater Than, and Less Than). In addition, records can be searched for the presence or absence of specified data elements.

After the search has been completed GIPSY displays the following statistics: (1) The number of records searched; (2) The number of records selected; (3) The number of records which satisfied each search variable; (4) The number of records which satisfied the relationships specified in any additional LOGIC statements. Retrieved records may be sorted on any data item in ascending or descending order before being printed. Records may be printed or transferred to machine-readable form (e.g., magnetic tape) in any predefined format; or they may be reformatted as fixed-field, fixed-length records at the time of search, thereby enabling the data to be used directly as input to other computer programs.

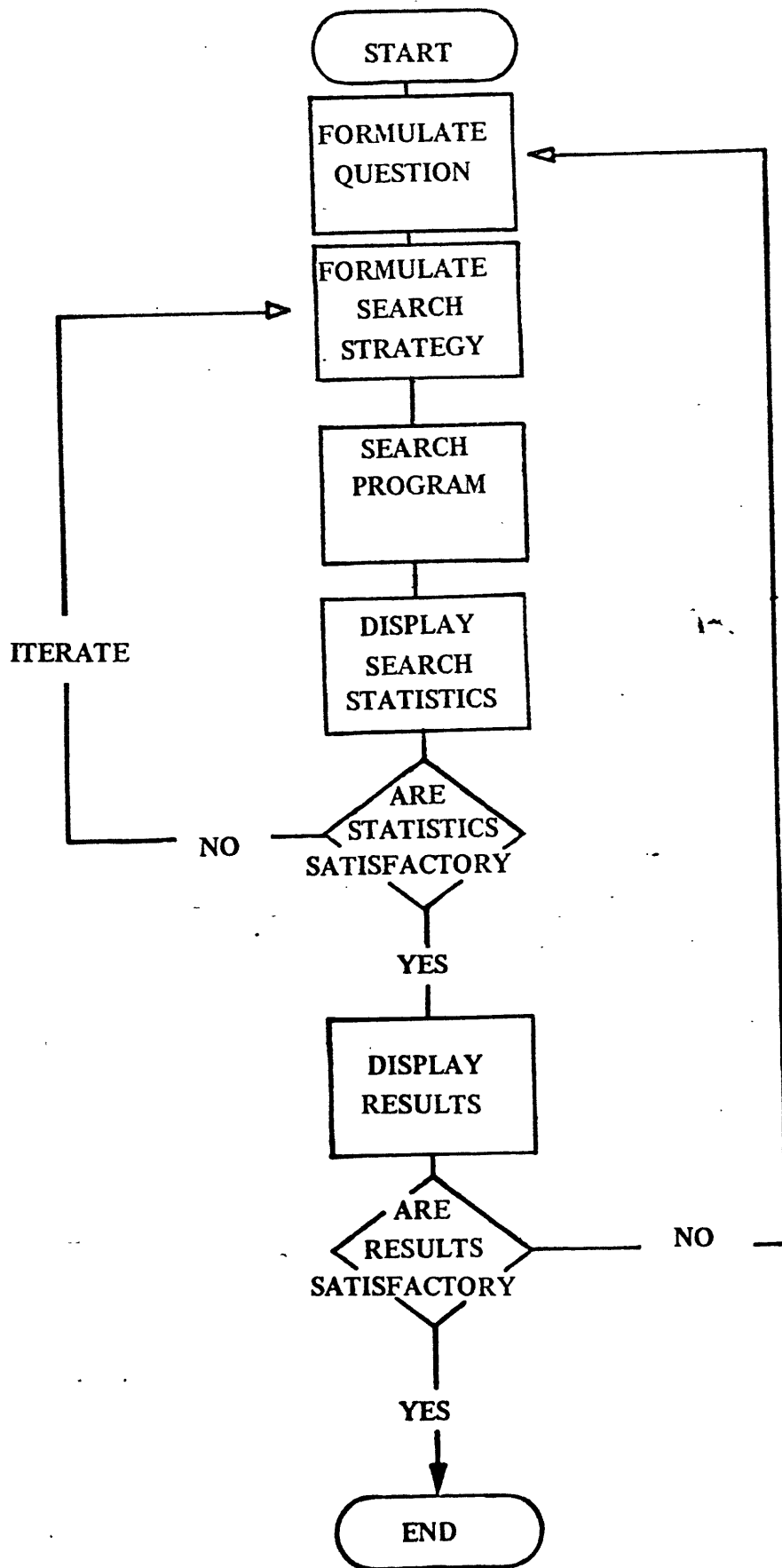


Figure 2. -- Flow chart of a GIPSY search.

APPLICATIONS

The 22 applications of GIPSY identified at the GIPSY users' conference are divided into three general areas:

1. Bibliography -- the storage and retrieval of bibliographic citations and in some cases abstracts.
2. Natural resources data -- the storage and retrieval of natural resources data or information usually associated with a set of geographic coordinates.
3. Management science -- the storage and retrieval of information utilized in the management of an organization or an activity.

Most of the application described in this section contains the following elements:

1. Title. -- title or name of the file (or information systems).
2. Sponsor. -- name and address of the sponsoring agency.
3. Contact. -- name and telephone number of the individual to contact for more information about the application.
4. Status of application -- each application is classified as follows:

Planned file -- the application is being designed.

Pilot file -- an experimental GIPSY file has been established and the application is being tested.

Operational file -- the file has been established (or is being implemented) for operational use.

A file, which for one reason or another has been discontinued is listed as inactive. Where possible the reason for a file being inactive is given.

5. Objectives. -- the objectives and purpose of the file.
6. Source documents. -- the sources of information for the file.
7. File organization. -- a general description of the types of data contained in the file. "Data elements" as used here refers to labels in the GIPSY dictionary.
8. Users. -- the principal users of the file.
9. Size of file. -- the number of records on the file as of September 1970.
10. Problem. -- a description of any problems encountered in the design or operation of the file.

In addition to the above information, each application may have one or more of the following illustrations:

1. Flowchart
2. Input document
3. GIPSY dictionary
4. GIPSY record

The parts of the GIPSY dictionary and the GIPSY record shown have been matched to illustrate how different report formats can be obtained. These illustrations should be of particular use to the novice user in designing his output forms.

BIBLIOGRAPHIC

APPLICATIONS

Title: Selected Water Resources Abstracts (SWRA)

Sponsor: U. S. Department of the Interior
Office of Water Resources Research
Water Resources Scientific Information Center
Washington, D. C. 20240

Contact: Raymond A. Jensen, (202) 343-8435

Status of application: Operational file

Objectives: To provide archival storage of bibliography and abstracts of water resources literature. The file is used to prepare recurring bibliographic searches.

Source documents: The Water Resources Scientific Information Center (WRSIC) prepares a semimonthly publication, Selected Water Resources Abstracts, from documents submitted by subject specialists located at various universities and government agencies throughout the country. The computer file is a by-product of the publication process.

File organization: Each record contains a document accession number, subject field and group code (a classification system devised by the Committee on Water Resources Research, Federal Council for Science and Technology), organization (source), title of publication, authors, project designation, date, citation, descriptors, identifiers, and abstract. Descriptors or controlled index terms are selected from the Water Resources Thesaurus, published by the Office of Water Resources Research.

Users: Specialists engaged in water resources research, planning, and management. Included in this group are personnel of approximately 1300 water resource studies conducted by the U. S. Geological Survey.

Size of file: Approximately 35,700 records at present.

G I P S Y D I C T I O N A R Y

LABEL	SP	O	U	I.F.	CLEAR TEXT
TITLE	01	2	0	6	
SOURCE	03	2	0	5	
AUTHOR	03	2	0	10	
CIT	03	2	0	21	
XD	06	1	-	1000	-----
DESCR	07	3	+	23	DESCRIPTORS
XI	06	1	0	1001	-----
IDENT	07	3	+	25	IDENTIFIERS
XA	06	1	0	1002	-----
ABSTR	07	3	+	27	ABSTRACT
FIELD	45	2	-	2	
NUMBER	45	1	0	1	ACCESSION NO.
PROJECT	45	2	0	16	

Figure 3. -- GIPSY dictionary for the Selected Water Resources Abstracts file.

SOME RUNOFF PATTERNS IN A PERMAFROST AREA OF NORTHERN CANADA,

ALBERTA UNIV, DEPARTMENT OF GEOGRAPHY, EDMONTON, CANADA.

A. SOMMER, AND E. S. SPENCE.

ALBERTAN GEOGRAPH, NO 4, PP 60-64, 1968. 5 FIG.

DESCRIPTORS

*PERMAFROST, *MELTING, *FROZEN GROUND, SNOWMELT, GLACIERS,
PRECIPITATION(ATMOSPHERIC), ICE JAMS, *STREAMFLOW, DISCHARGE(WATER),
HYDROGRAPHS, *SURFACE-GROUNDWATER RELATIONSHIPS, FLUCTUATION, REGIME,
INTERNATIONAL HYDROLOGICAL DECADE, TEMPERATURE.

IDENTIFIERS

*ACTIVE LAYER, *DIMENSIONLESS HYDROGRAPHS, GROUND THERMAL REGIME,
*NORTHWEST TERRITORIES, YELLOWKNIFE RIVER, *CANADA.

ABSTRACT

DIMENSIONLESS HYDROGRAPHS OF THE YELLOWKNIFE RIVER, N.W.T., CANADA, SHOW
PEAK RUNOFF IN JULY. THIS IS TOO LATE TO BE RELATED DIRECTLY TO
SNOWMELT, BECAUSE MEAN MONTHLY TEMPERATURE FIRST RISES ABOVE FREEZING
IN MAY. THE GRADUAL RISE AND FALL OF DISCHARGE IS NOT LIKE THE ABRUPT
RISE AND FALL ASSOCIATED WITH SNOWMELT REGIMES. THE PEAK IS TOO LATE TO
BE EXPLAINED BY UPSTREAM ICE BLOCKAGE. PRECIPITATION AND DISCHARGE DATA
FOR 1957-58 INDICATE THAT FLOWS REGIME IS NOT APPRECIABLY AFFECTED BY
THE SUMMER PRECIPITATION PATTERN; DISCHARGE VARIED LESS THAN 1 PERCENT,
WHILE PRECIPITATION VARIED BY 300 PERCENT. HIGH FLOWS ARE IN JULY, THE
HOTTEST MONTH, WITH A PATTERN SIMILAR TO GLACIAL-MELT STREAM REGIME.
THE THERMAL REGIME IN THE ACTIVE PERMAFROST LAYERS IS SUGGESTED AS THE
CONTROL OF FLOW REGIME. DATA ARE PRESENTED IN DIMENSIONLESS
HYDROGRAPHS, MONTHLY PRECIPITATION GRAPHS, MONTHLY TEMPERATURE GRAPHS,
AND A GRAPH OF GROUND THERMAL REGIME.

FIELD 02A

ACCESSION NO. W68-00011

Figure 4. -- GIPSY record from the Selected Water Resources
Abstracts file.

Title: Abstracts of North American Geology and Geophysical Abstracts files

Sponsor: U. S. Geological Survey
Computer Center Division
Washington, D. C. 20242

Contact: Olaf Kays, (202) 343-8264

Status of application: Operational file (inactive)

Objectives: To provide archival storage of earth sciences bibliography for use in compiling recurring bibliographies and conducting retrospective searches.

Source documents: Magnetic tapes used to prepare Abstracts of North American Geology and Geophysical Abstracts. The existing bibliographic tapes were converted to GIPSY format in 1969. The Geological Survey discontinued publication of all bibliographic serials as of December 1971. Therefore the file is inactive.

File organization: Each record contains the name of the author, date of publication, title, citation, number of illustrations, index terms (U. S. Geological Survey, 1967), abstract, and reference number.

Users: Earth scientists in the Geological Survey and other Federal agencies.

Size of file: The Abstracts of North American Geology file contains approximately 66,000 citations, about 60 percent of which have abstracts covering the period 1960-1969. The Geophysical Abstracts file contains 24,000 citations, 85 percent of which have abstracts covering the period 1966-1969.

G I P S Y DICTIONARY BUILD FORM - BIBREC 69298

LABEL	SP	0	U	I.F.	CLEAR TEXT
AUTHOR	04	2	-	00100	
DATE	06	2	0	00110	
TITLE	06	1	+	00060	
REFER	06	2	0	00220	
ILLUS	08	2		00400	
SCORA	09	1	0	00229	-----
TERMS	10	3	+	00230	INDEX TERMS
SCORB	09	1	-	00269	-----
ABSTR	10	3	+	00270	ABSTRACT
NUMBER	09	1	0	00010	REFERENCE NO.

Figure 5. -- GIPSY dictionary for the Abstracts of North American Geology and Geophysical Abstracts file.

OAKESHOTT, GORDON B.

1966, PARKFIELD EARTHQUAKES OF JUNE 27-29, 1966, MONTEREY AND SAN LUIS
OBISPO COUNTIES, CALIFORNIA-PRELIMINARY REPORT, GEOLOGIC FEATURES

SEISMOL. SOC. AMERICA BULL., V. 56, NO. 4, P. 961-966, 1966.
ILLUS.

INDEX TERMS

CALIFORNIA EARTHQUAKES JUNNE 27-29 1966 PARKFIELD GEOLOGIC SETTING
JUNE 27-29 STRUCTURAL GEOLOGY PARKFIELD AREA SAN ANDREAS FAULT ZONE
FAULT PATTERN FAULTS STRIKE-SLIP SAN ANDREAS PATTERN

ABSTRACT

THE EPICENTRAL REGION OF THE EARTHQUAKES THAT SHOOK THE PARKFIELD
AREA IN SOUTHERN MONTEREY COUNTY, CALIF., IN JUNE 1966 IS ON A KNOWN
ACTIVE SEGMENT OF THE SAN ANDREAS FAULT. THE FAULT ZONE SHOWS A
BRAIDED PATTERN OF BRANCHING EN ECHELON MAJOR FAULTS. TOPOGRAPHIC
FORMS TYPICAL OF THE FEATURES OF RIFT VALLEYS TESTIFY TO THE RECENCY
OF FAULT MOVEMENTS.-D.B.V.

REFERENCE NO. NAB6605528

Figure 6. -- GIPSY record from the Abstracts of North
American Geology file.

Title: Biological Information Retrieval System

Sponsor: National Oceanic and Atmospheric Administration
National Oceanographic Data Center
Rockville, Maryland 20852

Contact: Dr. Elaine V. Collins, (202) OX 3-3782

Status of application: Operational file

Objectives: To provide archival storage of marine biology bibliography for use in answering requests for information.

Source documents: NODC receives documents by subscription, or exchange, or on loan from NOAA Library. Documents are checked for pertinence to the scope of the file and assigned descriptors from a thesaurus developed by NODC.

The file has been restricted to the following subject areas:

A. Topics of major interest:

Distribution; ecology; sampling techniques of phytoplankton, zooplankton, and benthos; analysis techniques; growth culture techniques; productivity; particulate and dissolved organic matter; food chains; nutrient cycles; biodeterioration.

B. Topics of lesser interest (limited files):

Microbiology; pollution; aquaculture; bioluminescence; noxious and poisonous organisms; medicinal uses of aquatic products; deep scattering layer.

C. Excluded topics (unless directly pertinent to any topic above):

Physiological studies; genetics; fish or shellfish stock assessment; vertebrate anatomy and taxonomy; behavioral studies.

Each pertinent document is checked against an author file for possible duplication. If it is a new item (A) a

bibliographic citation card is typed and placed in the author file, and (B) the complete citation is typed on an index sheet (sample attached).

The document and index sheet are given to an indexer who reads the document and assigns appropriate descriptors for subject (based on a thesaurus developed in-house); for area (by general area, e.g., North Atlantic Ocean, and Marsden square and quadrant); and for taxonomy (genus name, and higher taxonomic names assigned for each phylum generally based on FAO classification).

File organization: Data elements include an accession number, year of publication, authors, title, citation, general geographic location, marsden squares covered by report contents, subject codes, subject descriptors, and taxonomic descriptors. Descriptors are from a controlled list.

Users: This file will be used primarily by NODC staff engaged in responding to requests for information from other Federal agencies, universities, industry, and the general public.

Size of file: Approximately 9,000 records at present.

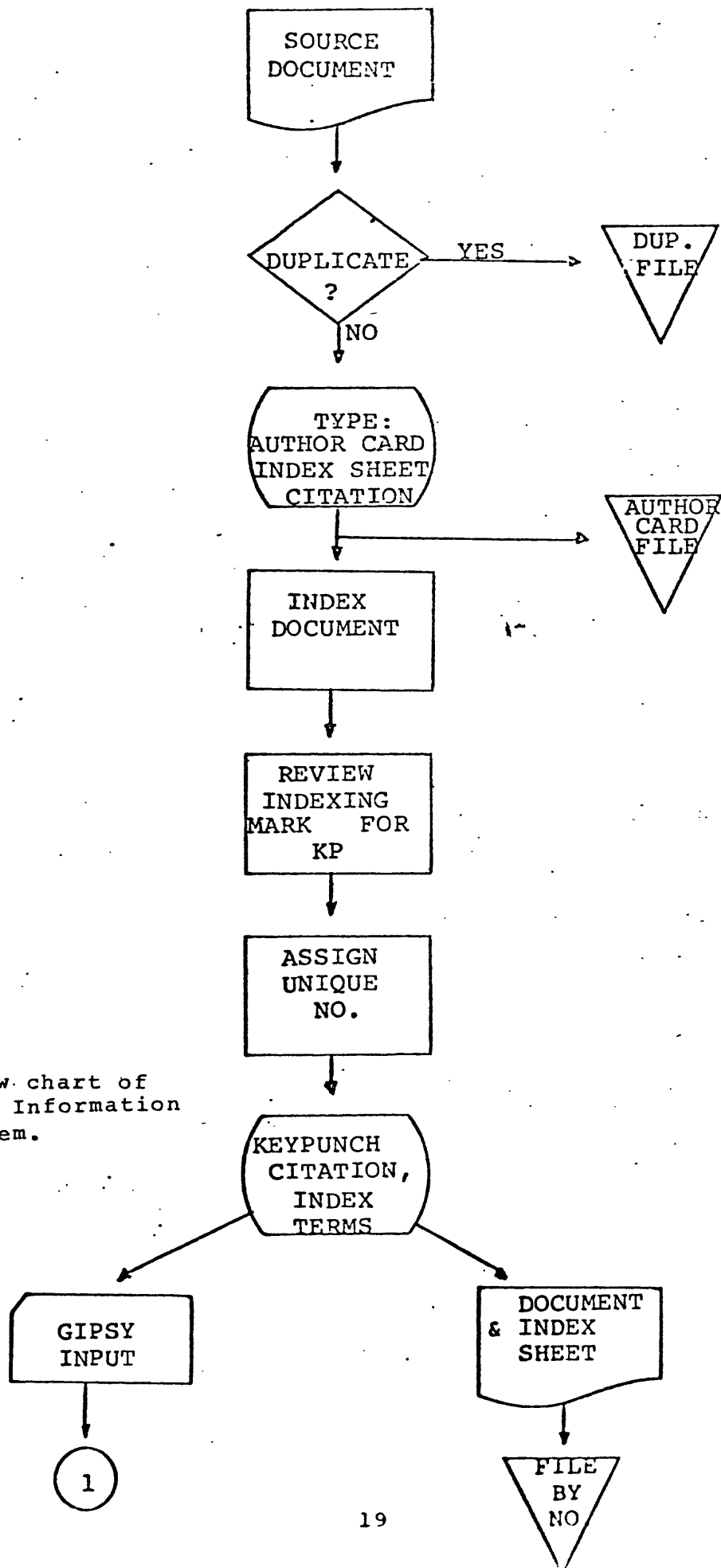


Figure 7. -- Flow chart of the Biological Information Retrieval System.

NODC BIOLOGICAL INFORMATION RETRIEVAL SYSTEM

LIBRARY

ACCESSION NO. A<N 8979 > YEAR B< 1957 >

AUTHORS C< HENRY, D. P. >

TITLE D< SOME LITTORAL BARNACLES FROM THE TUAMOTU, MARSHALL
AND CAROLINE ISLANDS >

CITATION E< PROC. U. S. NAT. MUS., SMITHSON. INST. 107(3381),
25-38. >

GENERAL AREA F<AR; NW NE; SW; SE; NA; SA; IN; AN;
BL; ME>

MARSDEN SQUARES G< 019-0 020-3 020-4 020-0 022-3 022-0 >

H<SC- TX
DT

DO NOT PUNCH	
INDEXER	_____
DATE REC'D	_____
DATE INDEXED	_____
REVIEWER	_____
DATE REV'D	_____

Figure 8. -- Input document for NODC Biological Information Retrieval System.

	NATURAL CONTROL	EXPOSURE	
AQUACULTURE—AQ	PHYSICAL CONTROL	FOOD AVAILABILITY	
	WOOD BORERS	ILLUMINATION	
AERATION SYSTEMS	BIOLUMINESCENCE—BL	LIGHT PENETRATION	
ARTIFICIAL FEEDS		MONSOON	
ARTIFICIAL TANKS		MOON	
FERTILIZED WATERS		OXYGEN DEFICIENCY	
FISH FARMS	MEASUREMENTS OF BIOLUMINESCENCE	pH	
NATURAL RESERVOIRS	SIGNIFICANCE OF BIOLUMINESCENCE	POLARIZED LIGHT	
NURSERY GROUNDS	CHEMISTRY OF SEA WATER—CH	POWER PLANTS	
SHELLFISH PONDS		PRECIPITATION	
SEA WATER SYSTEMS		PRESSURE	
SURVIVAL		SALINITY	
BEHAVIOR—BE*	BUFFERS	SPECIFIC GRAVITY	
BIOCHEMISTRY OF ORGANISMS—BI	CHEMICAL ELEMENTS*	SUBSTRATUM COMPOSITION	
	COMPLEXED ORGANIC COMPOUNDS*	TEMPERATURE	
	ABSORPTION SPECTRA	DISSOLVED OR FREE GASES	TURBIDITY
ASH CONTENT ANALYSES	DISSOLVED ORGANIC MATTER	WEATHER	
BIOCHEMICAL COMPOSITION	EXCRETORY PRODUCTS	WIND	
BIOCHEMICAL ENERGETICS	FECAL MATERIALS	ENVIRONMENT TYPES—ET	
BIOCHEMISTRY OF PHOTOSYNTHESIS	INORGANIC ACIDS*		AERIAL
BLOOD CHEMISTRY	METABOLITES*		ANAEROBIC ENVIRONMENTS
DEGRADATION	NUTRIENTS*		BAYS
FERMENTATION	ORGANIC ACIDS*	BENTHIC	
FLUORESCENCE	ORGANIC DETRITUS	BIOLOGICAL DESERT AREAS	
NP	PARTICULATE ORGANIC MATTER	BRACKISH WATER	
NUTRIENT CYCLES	CULTURES OF PLANTS—CU	CANALS	
NUTRIENT DISTRIBUTION		ALGAL CULTURES	CAVES
NUTRIENT FIXATION		BACTERIAL CULTURES	DAMS
NUTRIENT STUDIES		CLOSED CULTURES	DRAINAGE RECLAMATION
RESPIRATION	FUNGAL CULTURES	ENVIRONMENT CONSERVATION	
SYNTHESIS	GROWTH STUDIES IN CULTURE	ESTUARIES	
UPTAKE OF INORGANIC SUBSTANCES	INCUBATION TECHNIQUES	FAULTS	
AMINO ACIDS*	PURE CULTURES	FJORDS	
ANIMAL HORMONES*	VIRAL CULTURES	GLACIERS	
ANIMAL PIGMENTS*	YEAST CULTURES	HARBORS	
CARBOHYDRATES*	ECOLOGICAL SYSTEMS—EC	ICE	
CAROTENOIDS*		ICE ISLANDS	
CHLOROPHYLL A		ANNUAL CROP	INTERTIDAL
CHLOROPHYLL B		ECOSYSTEMS	ISLANDS
CHLOROPHYLL C	ENERGY BUDGETS	LAGOONS	
COENZYMES*	MICROCOSMS	LAKES	
ENZYMES*	PALEOECOLOGY	MARSHES	
LIPIDS*	REDOX POTENTIAL	MEIOBENTHIC	
NUCLEIC ACIDS*	REHABILITATION	NERITIC	
PLANT HORMONES*	STANDING CROP	OCEANIC	
PLANT PIGMENTS*	SUCCESSION	REEFS	
PROTEINS*	THEORETICAL MODELS	ARTIFICIAL REEFS	
TOXINS*	TRANSPLANTATION	SEAMOUNTS	
VITAMINS*	ENVIRONMENTAL FACTORS—EF	SEDIMENTS	
BIODETERIORATION—DT		ACCLIMATIZATION	SHELF
		ASTRONOMICAL PHENOMENA	SLOPE
		DENSITY	STREAM DISCHARGE AREAS
	DEPTH	STREAMS	
CHEMICAL CONTROL	DESICCATION	SUBLITTORAL	
CONTROL TESTS*	DESTRUCTIVE ACTION OF SEA	SUBMARINE CANYONS	
DETERIORATION	DIFFUSION RATES	SUPRALITTORAL	
FOULING ORGANISMS	EVAPORATION	SURFACE	
MARINE BORERS	EXPLOSIVES	TRENCHES	
MATERIALS*		0—50M ZONE	

100M ZONE	LABORATORY TECHNIQUES*	POISONOUS MAMMALS
200M ZONE	MEASURING TECHNIQUES	POISONOUS PLANTS
500M ZONE	MOLECULAR FILTERS	PREVENTION OF CONTACT
1000M ZONE	NEKTON SAMPLERS	THERAPEUTIC TECHNIQUES
2000M ZONE	ORGANISM SEPARATING DEVICES	VENOMOUS CNIDARIANS
3000M ZONE	PARTICLE COUNTERS	VENOMOUS FISHES
4000M ZONE	PARTICLE FILTERS	VENOMOUS MOLLUSKS
5000M ZONE	PHOTOGRAPHS OF SAMPLING EQUIPMENT	VENOMOUS REPTILES
600M AND DEEPER	PHOTOMICROGRAPHY	OTHER VENOMOUS INVERTEBRATES
FEEDING HABITS—FE	PLANKTON SAMPLERS	ORGANISM RELATIONSHIPS—OR
DEPOSIT FEEDERS	POISONS	COMMENSALISM
DETRITUS FEEDERS	PRESERVATION METHODS	COMPETITION
FEEDING EXPERIMENTS	PUMPS	CROWDING
FEEDING HABITS	RADIATION FILTERS	EPIPHYTES
FEEDING MECHANISMS	SAMPLING EFFICIENCY	EPIZOA
FEEDING RATES	SAMPLING TECHNIQUES	MUTUALISM
FILTER FEEDERS	SAMPLING TECHNIQUES STANDARDIZATION	PARASITISM
FILTERING EFFICIENCY	SEINES	PREDATION
FOOD CHAINS	SIGHTINGS	
FOOD VALUE	STAINING METHODS	PATHOGENESIS—PA*
STOMACH CONTENT ANALYSES	TRAPS	PHYSICAL OCEANOGRAPHY—PO
	TRAWLS	
FISHERIES, EXPLOITATION—FX*	MICROBIOLOGY—MI	CATAclysms
COMMERCIAL USES OF SEA PRODUCTS	AEROBIC CONDITIONS	CIRCULATION
EXPLOITATION EFFECTS	ANAEROBIC CONDITIONS	COASTAL CURRENTS
FOOD TECHNOLOGY	ANTIBIOTIC PROPERTY	CONVERGENCE
MEDICINAL USES OF SEA PRODUCTS	AUTOTROPHY	CURRENTS*
TAGGING OPERATIONS	BACTERIOPHAGES	DIVERGENCE
GENETICS—GE*	BIOCIDAL ACTIVITY	DOWNWELLING
GROWTH, DEVELOPMENT—GD*	BLUE GREEN ALGAE	FRONTS
	FUNGI	HALOCLINE
BODY SIZE	GRAM NEGATIVE BACTERIA	MIXED LAYER
EMBRYONIC DEVELOPMENT	GRAM POSITIVE BACTERIA	OCEANIC CURRENTS
GROWTH STUDIES	HETEROTROPHY	PYCNOCLINE
POST-EMBRYONIC DEVELOPMENT	ISOLATION TECHNIQUES	STRATIFICATION
	MARINE BACTERIA	SUBSURFACE CURRENTS
INFORMATION HANDLING—IF	NUTRITIONAL REQUIREMENTS	THERMOCLINE
CONFERENCES	TERRESTRIAL BACTERIA	TIDAL CURRENTS
DATA SOURCES	VIRUSES	TIDES
POPULAR ARTICLES	YEASTS	TURBIDITY CURRENTS
REVIEW ARTICLES		TURBULENCE
SUBJECT BIBLIOGRAPHIES	MIGRATIONS—MG	UPWELLING
	ANADROMOUS MIGRATIONS	WATER MASSES
INSTRUMENTS AND TECHNIQUES—IT	CATADROMOUS MIGRATIONS	WAVES
AERIAL PHOTOGRAPHS	DIURNAL MIGRATIONS	WINDROWS
ANESTHETICS	HORIZONTAL MIGRATIONS	PHYSIOLOGY, ANATOMY—PH*
BIO-ASSAYS	SEASONAL MIGRATIONS	ANATOMY
BIOLOGICAL WATER SAMPLERS	VERTICAL MIGRATIONS	METABOLIC STUDIES
BOTTOM SAMPLERS		PHYSIOLOGY
CHEMICAL ANALYSES OF SEA WATER	MORTALITY—MO	PHYSIOLOGICAL RHYTHMS
CHROMATOGRAPHIC ANALYSES	MASS MORTALITIES	PHYSIOLOGICAL TOLERANCE
CHROMATIC ANALYSES	STARVATION	
CONTINUOUS PLANKTON RECORDERS	STRANDINGS	PLANKTON—PK
DREDGES	SURVIVAL VALUE	DIATOM BLOOMS
FILTERING RATE		DINOFLLAGELLATE BLOOMS
GEAR SELECTIVITY	NOXIOUS ORGANISMS—NX	MACROPLANKTON
GRABS	AGGRESSIVE ORGANISMS	NANNOPLANKTON
HANDLING OF LIVE SPECIMENS	HUMAN PATHOGENESIS	PHYTOPLANKTON
KILLING TECHNIQUES	POISONOUS FISHES	PHYTOPLANKTON BIOMASS
LABORATORY APPARATUS*	POISONOUS INVERTEBRATES	PHYTOPLANKTON BLOOMS

		ADDITIONAL TERMS	
PHYTOPLANKTON POPULATION DENSITY	ZONATION		
PLANKTON MEASUREMENTS	PRODUCTIVITY—PR		
SEDIMENTATION RATE			
TEMPERATURE DIAGRAMS	CARBON-14 METHOD		
ULTRAPLANKTON	CARBON-CHLOROPHYLL RATIO		
ZOOPLANKTON	DAILY GROSS PRODUCTION		
ZOOPLANKTON BIOMASS	ILLUMINATION TECHNIQUES		
ZOOPLANKTON BLOOMS	LIGHT-PS		
ZOOPLANKTON POPULATION DENSITY	NON-STANDARD PRODUCTIVITY		
POLLUTION—PL	NUTRIENT DEPLETION METHOD		
	OXYGEN METHOD		
BOD	pH METHOD		
INDUSTRIAL WASTES	PHOTOSYNTHETIC PERIODICITY		
MAN-MADE POLLUTION	PHOTOSYNTHETIC RATES		
NATURAL POLLUTION	PIGMENT CONCENTRATIONS		
POLLUTION CONTROL	PIGMENT DISTRIBUTION		
SEWAGE	PIGMENT METHOD		
TOXIC BLOOMS	PS-R		
TOXICITY	RADIATION BIOLOGY—RA* RADIOISOTOPES—RI*		
WASTE TREATMENT			
WATER QUALITY			
POPULATION DISTRIBUTION—PD	RADIOISOTOPE LABELING		
	RADIOISOTOPE TAGGING		
AGGREGATIONS	RADIOISOTOPE UPTAKE		
BENTHIC BIOMASS	REPRODUCTION BIOLOGY—RE* RESEARCH PLATFORMS—RP* SONIC PHENOMENA—SP*		
BENTHIC POPULATION DENSITY			
BENTHOS			
COLONIZATION			
COMMUNITY COMPOSITION			
DISPERSAL	DEEP SCATTERING LAYERS		
DIURNAL DISTRIBUTION	SOUND SCATTERING		
DIURNAL VARIATIONS	STATISTICS, COMPUTATIONS—ST		
DOMINANT SPECIES			
FACTORS CONTROLLING DISTRIBUTION		CHI SQUARE TESTS	
GEOGRAPHICAL DISTRIBUTION		COMPUTER ANALYSES	
INDICATOR SPECIES		QUALITY CONTROL	
INFORMATION THEORY		SAMPLING DISTRIBUTION	
LIFE CYCLES		STATISTICAL ANALYSES	
LIFE EXPECTANCY		TABLES FOR REDUCTION AND COMPUTATION	
MATHEMATICAL DESCRIPTIONS			
MEIOBENTHOS		TAXONOMY—TX	
MICROBIAL BIOMASS	CHECKLISTS		
MICROBIAL POPULATION DENSITY	COLOR PATTERNS		
MICRODISTRIBUTION	FIELD IDENTIFICATION		
NEKTONIC BIOMASS	NOMENCLATURE		
NEKTONIC POPULATION DENSITY	POLYMORPHISM		
NEUSTON	RACE STUDIES		
PATCHINESS	SEROLOGICAL TAXONOMY		
PLEUSTON	TAXONOMIC DESCRIPTIONS		
POPULATION ISOLATION	TAXONOMIC KEYS		
POPULATION STABILITY	UNDERWATER OPERATIONS—UN		
REPLACEMENT RATES			
SAMPLING FOR CENSUSES-SURVEYS		BOTTOM MOVIES	
SCHOOLS		BOTTOM PHOTOGRAPHS	
SEASONAL DISTRIBUTION		OBSERVATIONS BY DIVERS	
SEASONAL VARIATIONS		OBSERVATIONS BY TV	
SPATIAL DISTRIBUTION		OBSERVATIONS FROM SURFACE SHIP	
SPECIES AFFINITIES		REMOTELY CONTROLLED MANIPULATORS	
SPECIES VARIETY STUDIES		UNDERWATER MOVIES	
VERTICAL DISTRIBUTION		UNDERWATER PHOTOGRAPHS	
	UNDERWATER		

- CHLOROPHYCEAE
- XANTHOPHYCEAE
- CHRYSOPHYCEAE
- COCCOLITHOPHORIDACEAE
- BACILLARIOPHYCEAE
- CENTRALES
- PENNALES
- CRYPTOPHYCEAE
- DINOPHYCEAE
- DINOFLAGELLATA
- PHAEOPHYCEAE
- RHODOPHYCEAE
- MYXOPHYCEAE
- MYXOMYCETES
- SCHIZOMYCETES
- PHYCOMYCETES
- ASCOMYCETES
- BASIDIOMYCETES
- DEUTEROMYCETES
- BRYOPHYTA
- PTERIODOPHYTA
- SPERMATOPHYTA

PROTOZOA

- MASTIGOPHORA
- SARCODINA
- RADIOLARIA
- FORAMINIFERA
- OTHER SARCODINA
- SPOROZOA
- CILIATA
- PORIFERA
- MESOZOA
- CNIDARIA
- HYDROZOA
- SCYPHOZOA
- ANTHOZOA
- CTENOPHORA

PLATYHELMINTHES

- TURBELLARIA
- TREMATODA
- CESTODA
- ROTIFERA
- NEMATODA
- NEMERTINA
- GASTROTRICHA
- KINORHYNCHA
- PRIAPULIDA
- NEMATOMORPHA
- ACANTHOCEPHALA

BRYOZOA

- ECTOPROCTA
- ENTOPROCTA
- PHORONIDA
- BRACHIOPODA
- MOLLUSCA
- AMPHINEURA
- MONOPLACOPHORA
- PROSOBRANCHIATA
- OPISTHOBANCHIATA
- TECTIBRANCHIA
- PTEROPODA
- NUDIBRANCHIA
- PULMONATA
- SCAPHOPODA
- PELECYPODA
- CEPHALOPODA
- POLYCHAETA
- MYZOSTOMARIA
- OLIGOCHAETA
- HIRUDINEA
- ARCHIANNELIDA
- ECHIUROIDEA
- SIPUNCULOIDEA
- GEPHYREA

ARTHROPODA

- PYCNOGONIDA
- PENTASTOMIDA
- TARDIGRADA
- BRANCHIOPODA
- OSTRACODA
- COPEPODA
- CALANOIDA
- MONSTRILLOIDA
- CYCLOPOIDA
- HARPACTICOIDA
- NOTODELPHYOIDA
- CALIGOIDA
- LERNAEOPODOIDA
- MYSTACOCARIDA
- BRANCHIURA
- CIRRIPIEDIA
- MALACOSTRACA
- NEBALIACEA
- ANASPIDACEA
- MYSIDACEA
- CUMACEA
- TANAIIDACEA
- GNATHIDEA
- ISOPODA
- AMPHIPODA
- STOMATOPODA
- EUPHAUSIACEA
- DECAPODA

 CHAETOGNATHA POGONOPHORA

ECHINODERMATA

- CRINOIDEA
- ASTEROIDEA
- OPHIUROIDEA
- ECHINOIDEA
- HOLOTHUROIDEA

CHORDATA

- HEMICHORDATA
- UROCHORDATA
- ASCIDIACEA
- THALIACEA
- LARVACEA
- CEPHALOCHORDATA
- PETROMYZONTIA
- CHONDRICHTHYES
- OSTEICHTHYES
- CHELONIA
- SQUAMATA
- CROCODILIA
- AVES
- URSIDAE
- MUSTELIDAE
- OTARIIDAE
- PHOCIDAE
- ODOBAENIDAE
- ODONTOCETI
- MYSTICETI
- SIRENIA

ADDITIONAL TAXA

CHOTRYA

RUCA

AMALUS

RACLITA

G I P S Y D I C T I O N A R Y B U I L D F O R M - L I B R A R Y		
LABEL	SP. O. U.	I.F. CLEAR TEXT
A	03 2	01 ACCESSION NO.
B	15 2 +	11 YEAR PUBLISHED
C	03 2	10 AUTHC
D	03 2	06 TITLE
E	03 2	21 CITATION
F	03 1	37 CODED GEOGRAPHIC LOCATION
G	03 1	38 MARSDEN SQUARES
H	03 1	23 DESCRIPTORS
I	03 1	36 PLATFORM INFORMATION

Figure 9. -- GIPSY dictionary for the NODC Biological Information Retrieval System.

N8979	1957
HENRY, D.P.	
SCHE LITTORAL BARNACLES FROM THE TUAMOTU, MARSHALL, AND CAROLINE ISLANDS	
PROC. U. S. NAT. MUS., SMITHSON. INST. 107 (3381), 25-38.	
CODED GEOGRAPHIC LOCATION NW	
MARSDEN SQUARES	0190 0203 0204 0200 0223 0220
DESCRIPTORS	SC-TX SC-OT TAXONOMIC DESCRIPTIONS FOULING ORGANISMS
LITHOTRYA VERRUCA CHTHAMALU; TETRACLITA CIRRIPIEDIA	

Figure 10. -- GIPSY record from the NODC Biological Information Retrieval System.

NATURAL RESOURCES

APPLICATIONS

Oil and Gas Field Study

The Oil and Gas Field Study involves the compilation of a machine-retrievable data base of information on U. S. oil and gas fields by the Oil Information Center, University of Oklahoma Research Institute under a contract with the Department of the Interior (office of Oil and Gas, 1971). The study, which originated in the Office of Oil and Gas, is supported by the Bureau of Mines, the Geological Survey, the Oil Import Administration, the Federal Power Commission, and the Office of Emergency Preparedness. Six files related to this study are described below.

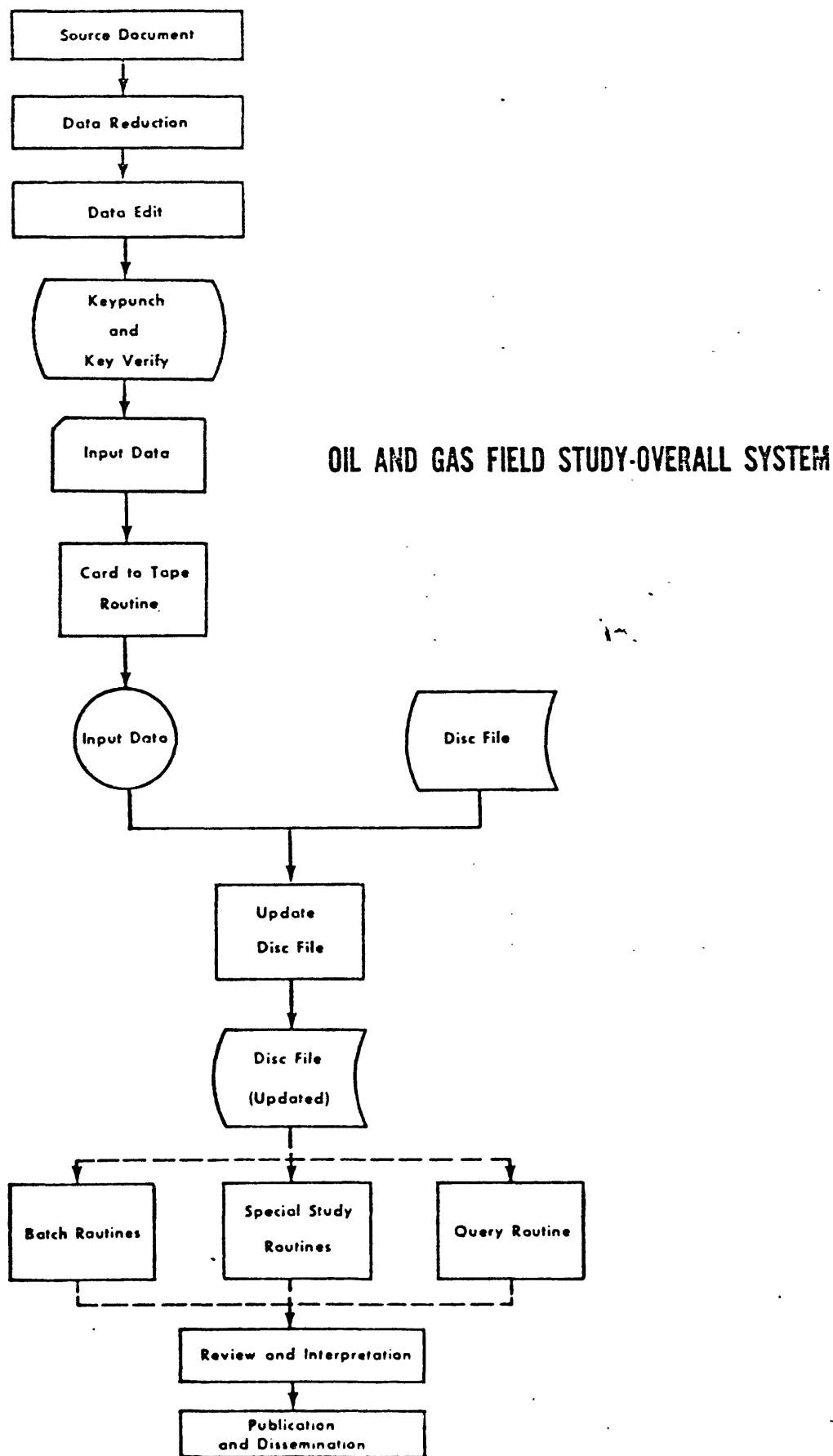


Figure 11. -- Flow chart of overall system for the Oil and Gas Field Study.

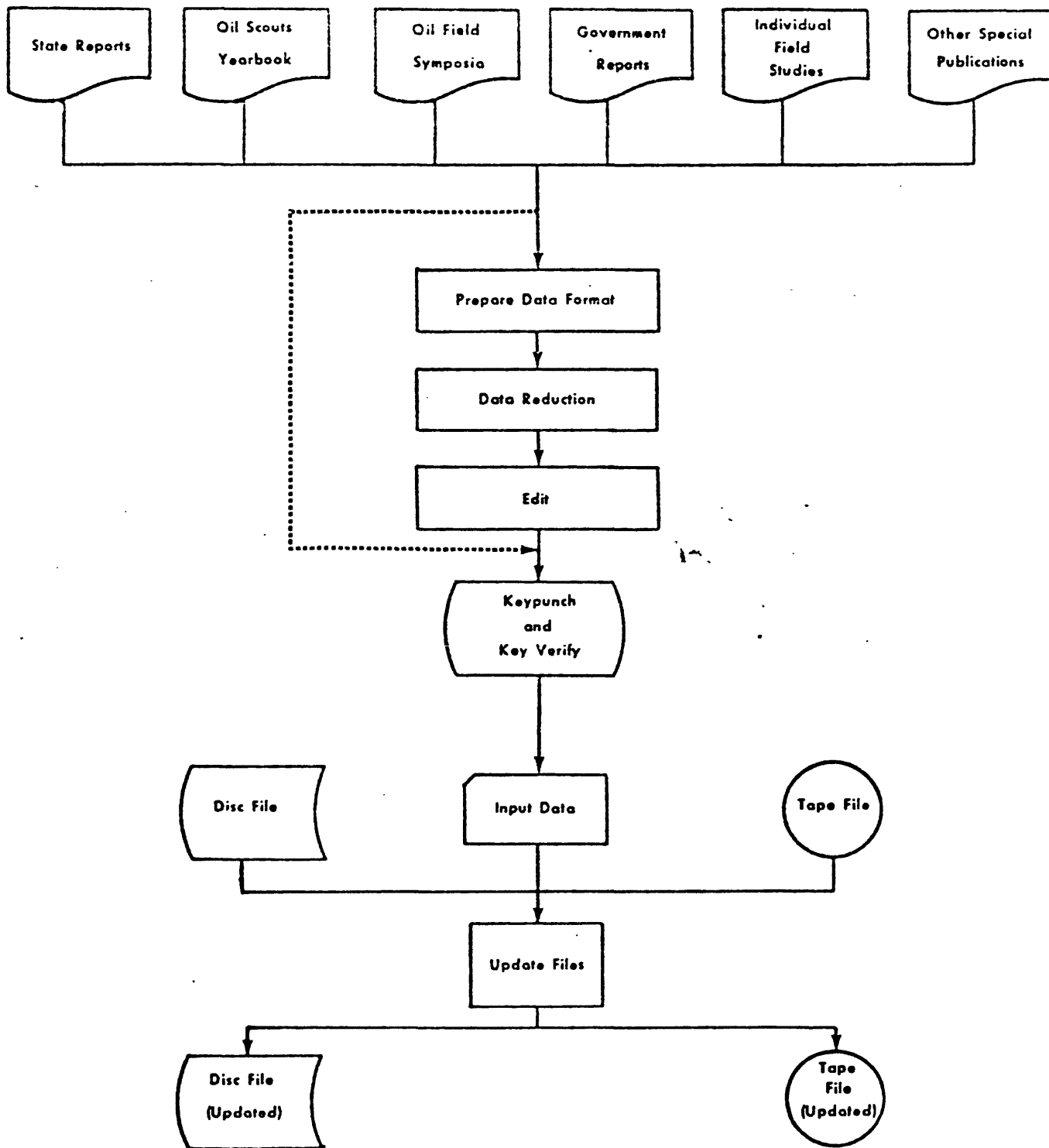


Figure 12. -- OIL AND GAS FIELD STUDY - INPUT PROCESS

Title: Oil and Gas Field File

Sponsor: U. S. Department of the Interior
Office of Oil and Gas
Washington, D. C. 20240

Contact: Richard F. Meyer, (202) 343-5093

Status of application: Pilot file

Objectives: To provide a file of published information on oil and gas pools in the United States in order to relate production to geographic and geologic areas, and to fluid analyses. The file will also provide a means of estimating recoverable reserves.

Source documents: Resource information is obtained from monthly or annual field production reports published by oil and gas producing states, symposium volumes prepared by local geological societies, journal articles and files of the Bureau of Mines and the Federal Power Commission.

File organization: Each record contains up to 605 data elements describing the location of the pool, pool classification, geologic occurrence, producing status, discovery well, wells and acreage, physical reservoir data, gas pressure and gas-oil ratios, annual and cumulative production, and reserves. Pools are identified by name and a Federal Power Commission field code. Geographic coordinates may be added at a later date.

Users: At present the major users are agencies sponsoring the study: The Office of Oil and Gas, Bureau of Mines, Geological Survey, Bureau of Land Management, and Oil Import Administration of the Department of Interior; the Federal Power Commission; and the Office of Emergency Preparedness. These agencies utilize the file for research and planning purposes.

Size of file: Approximately 37,000 records at present.
The maximum size of the file will be about 60,000 records.

OIL AND GAS STUDY

FORM - OOG 331

A IDENTIFICATION

A1 CONTINENT < NORTH AMERICA > CONT
 A2 COUNTRY < U. S. A. > COUNTRY
 A3 STATE < STATE >
 A4 COUNTY < COUNTY >
 A5 FIELD < FIELD >
 A5A FIELD CODE NUMBER (FROM FPC CODE BOOK) < FLDCODE >
 A5B UNIQUE ID NUMBER < UNIDID >
 A6 POOL < POOL >
 A7 SOURCE DOCUMENT (RECORD NAME, VOLUME, NUMBER AND DATE)
 < DOCUM >

B POOL DATA

B1 REGULATORY DISTRICT (TEXAS RRC DIST.) < REGDIST >
 B2 PRODUCING FORMATION NAME < PRODFOR >
 B3 GEOLOGIC AGE OF PRODUCING FORMATION (FROM DICTIONARY OF STRATI-
 GRAPHIC NAMES)
 B3A ERA < ERA >
 B3B SYSTEM < SYSTEM >
 B3C SERIES < SERIES >
 B4 DESIGNATION OF FIELD & POOL BY STATE REGULATORY AGENCY (CIRCLE PROPER
 CODES)
 B4A OIL OIL B4D ALLOCATED OR EXEMPT ALOEX
 B4B CONDENSATE CONDEN B4E NON-ALLOCATED OR NON-EXEMPT
 B4C GAS GAS B4F GAS STORAGE GASTORG
 B5 OFFSHORE (CIRCLE IF POOL IS OFFSHORE) OFFSHR
 B5A LOUISIANA < LAOFF > B5D ALASKA < ALASOFF >
 B5B TEXAS < TEXOFF > B5E OTHER < OTHROFF >
 B5C CALIFORNIA < CALOFF >

C POOL DATA (GENERAL INFORMATION)

C1 NUMBER OF POOLS IN FIELD < NUMPOOL >
 C2 YEAR POOL DISCOVERED < YRDISCP >
 C3 YEAR POOL ABANDONED < YRABANP >

Figure 13. -- Input document for the Oil and Gas Field file.

(Revised 12/70)

LABEL	SP	OU	I.F.	CLEAR TEXT
CILCAS	05	0	0	05 OIL AND GAS STUDY
CUNT	04	0	C	10 CONTINENT-
COUNTRY	04	0	20	COUNTRY-
STATE	04	0	30	STATE-
COUNTY	04	0	540	COUNTY NAME-
FIELD	04	0	550	FIELD NAME-
FLOCODE	05	0	555	FIELD CODE-
POOL	04	0	560	POOL NAME-
CCOMP	04	0	570	SOURCE DOCUMENT-
POOLDAT	02	0	575	POOL DATA
REGDIST	04	0	580	REGULATORY DISTRICT-
PRODFOR	04	0	590	PRODUCING FORMATION NAME-
CEPLAGE	04	0	600	GEOLOGIC AGE OF PRODUCING FORMATION
ERA	05	0	610	ERA-
SYSTEM	05	0	620	SYSTEM-
SERIFS	05	0	630	SERIES-
DESIGN	04	0	640	DESIGNATION OF FIELD & POOL BY STATE REG. AGENCY
CIL	05	0	650	OIL (STATE DESIGNATION OF FIELD OR POOL)
CONDEN	05	0	660	CONDENSATE (STATE DESIGNATION OF FIELD OR POOL)
GAS	05	0	670	GAS (STATE DESIGNATION OF FIELD OR POOL)
ALCEX	05	0	680	ALLOCATED OR EXEMPT (STATE DESIGNATION OF FIELD OR POOL)
NALCEX	05	0	690	NON-ALLOCATED OR NON-EXEMPT (STATE DESIGNATION)
OFFSHR	04	0	700	OFFSHORE LOCATION
LACFF	05	0	710	OFFSHORE LOUISIANA-
TEXOFF	05	0	720	OFFSHORE TEXAS-
CALCFF	05	0	730	OFFSHORE CALIFORNIA-
ALASOFF	05	0	740	OFFSHORE ALASKA-
CTHROFF	05	2	750	OTHER OFFSHORE-
POLDATA	02	0	760	POOL DATA (GENERAL INFORMATION)
NUMPOOL	04	0	765	NUMBER OF POOLS IN FIELD-
YRDISCP	04	0	770	YEAR POOL DISCOVERED-
YRABANP	04	0	780	YEAR POOL ABANDONED-
METHOD	04	0	785	FIELD DISCOVERY METHOD
SEISMIC	06	0	790	SEISMIC (FIELD DISCOVERY METHOD)
SUBSURF	06	0	800	SUBSURFACE (FIELD DISCOVERY METHOD)
SEISSUB	06	0	810	SEISMIC PLUS SUBSURFACE (FIELD DISCOVERY METHOD)
SURFACE	06	0	820	SURFACE (FIELD DISCOVERY METHOD)
GRNMAG	06	0	830	GROUND MAGNETICS (FIELD DISCOVERY METHOD)
AIRMAG	06	0	840	AIRBORNE MAGNETOMETER (FIELD DISCOVERY METHOD)
PHOTO	06	0	850	PHOTOGEOLOGY (FIELD DISCOVERY METHOD)
RANDRIL	06	0	860	RANDOM DRILLING (FIELD DISCOVERY METHOD)
CIDREEN	06	0	870	OLD WELL REENTERED (FIELD DISCOVERY METHOD)
GEOCHEM	06	0	880	GEOCHEMICAL (FIELD DISCOVERY METHOD)
GRAVITY	06	0	890	GRAVITY (FIELD DISCOVERY METHOD)
TREND	06	0	900	TREND (FIELD DISCOVERY METHOD)
CTHREDM	06	0	905	OTHER (FIELD DISCOVERY METHOD)

Figure 14. -- GIPSY dictionary for the Oil and Gas Field file.

OIL AND GAS STUDY

CONTINENT- NORTH AMERICA

COUNTRY- U.S.A.

STATE- NEW MEXICO

COUNTY NAME- LEA

FIELD NAME- SANMAL
FIELD CODE- 30-556320

POOL NAME- PENN

SOURCE DOCUMENT- ANNUAL REPORT OF THE NEW MEXICO OIL & GAS ENGINEERING
COMMITTEE, VOLUME 1, SOUTHEAST NEW MEXICO, 1968 - OIL SCOUTS REVIEW, 1968
- MUSEWELL GEOLOGICAL SOCIETY SYMPOSIUM, 1956

POOL DATA

PRODUCING FORMATION NAME- PENN

DESIGNATION OF FIELD & POOL BY STATE REG. AGENCY
- JIL (STATE DESIGNATION OF FIELD OR POOL)POOL DATA (GENERAL INFORMATION)
YEAR POOL DISCOVERED- 1958
TRAP TYPE (SPECIFIC)
ANTICLINE (SPECIFIC TRAP TYPE)TEMPORARILY ABANDONED
JIL (TEMPORARILY ABANDONED)DEEPEST WELL IN POOL
DEPTH OF DEEPEST WELL IN POOL (FT.)- 11842
FORMATION NAME (DEEPEST WELL IN POOL)- PENNDISCOVERY WELL
OPERATOR NAME (DISCOVERY WELL)- GULF
WELL NO. (DISCOVERY WELL)- 1

LEASE NAME (DISCOVERY WELL)- MAUDE SANDERS

LEASE TYPE (DISCOVERY WELL)
FEE (DISCOVERY WELL)

WELLS AND COMPLETION METHODS

ABANDONED (PLUGGED) (WELLS-POOL)-
SHUT-IN OR TEMPORARILY ABANDON (WELLS)- 1

PROVED ACREAGE (DEVELOPED ACRE 40

PRODUCING INTERVAL (POOL)-
AVERAGE THICKNESS (PROD INTERVAL) FT.- 14
DEPTH TO TOP (PROD INTERVAL) FT.- 11708

RESERVOIR DATA - GENERAL

LITHOLOGY (SPECIFIC)
SMALL (RESERVOIR LITHOLOGY)
LIMESTONE (RESERVOIR LITHOLOGY)PRIMARY DRIVE TYPE
GAS EXPANSION OR VOLUMETRIC (DRY GAS POOLS ONLY) (P DRIVE)

POROSITY

RANGE
AVERAGE (PERCENT)(POROSITY)- 7

PERMEABILITY (MILLIDARCIES)

RANGE (PERMEABILITY)
LOW (MILLIDARCIES) (PERM RANGE)- 0.5
HIGH (MILLIDARCIES) (PERM RANGE)- 1SHUT-IN BOTTOM HOLE PRESSURE (PSIA)
INITIAL OR ORIGINAL RESERVOIR PRESSURE (PSIA)- 3823

PRODUCTION

ANNUAL PRODUCTION
YEAR OF REPORT FOR CUMULATIVE PRODUCTION- THRU 1968
CRUDE OIL (CUMULATIVE)(BBL)- 10,433

CRUDE OIL ANALYSIS: TOTAL SAMPLE

API GRAVITY

RANGE (API GR. CRUDE)
AVERAGE (API GR.-CRUDE)- 42.5

RESISTIVITY (WATER)

OHM-METERS- .103
TEMP (DEGREES F)- 68

CHEMICAL CONSTITUENTS (PPM OR MG. PER LITER)

TOTAL SOLIDS (PPM)- 76569
NA+ PLUS K+ (PPM)- 25935
CA++ (PPM)- 2806
MG++ (PPM)- 57C
CL- (PPM)- 45300
SU4-- (PPM)- 1117

Figure 15. -- GIPSY record from the Oil and Gas Field file.

Title: Federal Power Commission - South Louisiana Area File

Sponsor: U. S. Department of the Interior
Office of Oil and Gas
Washington, D. C. 20240

Contact: Richard F. Meyer, (202) 343-5093

Status of application: Operational File

Objectives: To provide a file of data gathered during price rate hearings on gas fields in the FPC South Louisiana Area. The data will be used primarily for research and planning.

Source Documents: Records presented during the FPC South Louisiana Area rate hearings.

File organization: Each record may contain up to 355 data elements. The data are similar to that contained in the Oil and Gas Field File.

Users: Primarily the U. S. Geological Survey and the Federal Power Commission.

Size of File: The file contains 5,221 records and is complete.

Title: Natural Gas Analyses

Sponsor: U. S. Department of the Interior
Office of Oil and Gas
Washington, D. C. 20240

Contact: Richard F. Meyer, (202) 343-5093

Status of Application: Operational file

Objectives: To provide a file of natural gas analyses collected by the Bureau of Mines, principally under its helium program. The analyses will be used for research and planning purposes.

Source documents: Analyses were provided by the Bureau of Mines, Amarillo, Texas on magnetic tape. The tape data was converted to the GIPSY system using an auxiliary program.

File organization: Each record may contain up to 35 data elements which include: identification of the analysis, location of the sample, wellhead pressure, heating valve, specific gravity, and gaseous constituents (mol percent). Provision is made for remarks pertaining to the analysis.

Users: See Oil and Gas Field File

Size of file: At present the file contains 4500 records. It will be updated periodically.

Title: Crude Oil Analyses

Sponsor: U. S. Department of the Interior
Office of Oil and Gas
Washington, D. C. 20240

Contact: Richard F. Meyer, (202) 343-5093

Status of application: Operational file

Objectives: To provide a file of crude oil analyses performed by the U. S. Bureau of Mines since 1921. These analyses will be used for research and planning purposes.

Source documents: Analyses were provided by the U. S. Bureau of Mines, Bartlesville, Oklahoma on punched cards. The card data were converted to the GIPSM system using an auxiliary program..

File organization: Each record may contain up to 124 data elements which include: identification of the analysis, location of the sample, specific gravity, API gravity, sulphur content, nitrogen content, asphalt content, isotope ratios, carbon residue, viscosity, residuum (percent of crude, specific gravity, and volume percent), volume percent and molecular weight of each petroleum fraction, metals present in oil, and related data.

Users: See Oil and Gas Field File

Size of file: At present this file contains 6,059 records. The file will be updated periodically.

Title: Oil Field Brine Analyses

Sponsor: U. S. Department of the Interior
Office of Oil and Gas
Washington, D. C. 20240

Contact: Richard F. Meyer, (202) 343-5093

Status of Application: Operational file

Objectives: To provide a file of oil field brine analyses prepared by the Bureau of Mines. The information will be used to follow a number of lines of research related to oil production.

Source documents: Analyses were provided by the U. S. Bureau of Mines, Bartlesville, Oklahoma on magnetic tape. The tape data was converted to the GIPSY system using an auxiliary program.

File organization: Each record may contain up to 66 data elements which include: identification of the analysis, location of the sample, analysis (agency), pH, specific gravity, chemical constituents (mg./liter), organic acids, and a section for other chemical data and notes.

Users: See Oil and Gas Field File

Size of file: At present the file contains 2700 records. It will be updated periodically.

Title: Committee on Drilling Statistics Well Data File

Sponsor: U. S. Department of the Interior
Office of Oil and Gas
Washington, D. C. 20240

Contact: Richard F. Meyers (202) 343-5093

Status of application: Planned file.

Objectives: To provide statistical analyses of exploratory wells drilled in the United States since 1953 and of development wells drilled since 1964. Of particular interest will be an analysis of factors affecting success ratios of different classes of wells drilled.

Source documents: Magnetic tapes of data gathered by the Committee on Drilling Statistics of the American Association of Petroleum Geologists are available for exploratory wells drilled since 1964 and exploratory and development wells since 1966. Data sheets are available for exploratory wells drilled between 1953 and 1964.

Users: See Oil and Gas Field File.

Size of file: The file is planned to contain approximately 75,000 records.

Title: Computerized Resource Information Bank (CRIB)

Sponsor: U. S. Geological Survey
Geologic Division, Branch of Mineral Resources
Washington, D. C. 20242

Contact: James A. Calkins, (202) 282-7268

Status of application: Pilot file

Objectives: To provide archival storage for mineral resource data collected as part of the Survey's Mineral Resources Inventory Program. The file will provide basic statistics on the past production and future potential of over 200 commodities in the United States as well as information on their geographic distribution, geologic setting, and mineral assemblages.

Source documents: Resource information is acquired from existing manual card files, regional economic geologists and commodity specialists engaged in field work as part of mapping programs, and literature searches.

File organization: Each record may contain up to 180 data elements. Record identification is provided by country, state, county, district (area), and name of the deposit. Latitude and longitude, UTM coordinates, and altitude describe the mineral deposit location. Each commodity present at the site is listed together with its production significance, ore production (weight, grade, and year produced), commodity production, and known or estimated reserves. The record also describes the geologic setting of the deposit, related mineral assemblages, and descriptive notes. References to the source of information are cited at the end of the record.

Users: Commodity specialists, economic geologists, and field project leaders of the Survey's Geologic Division will evaluate availability of specific commodities as the need arises. Other commodities will be routinely monitored.

Size of file: The file contains approximately 25 records for use in developing procedures for building an operational file.

Problems: Data on the amount, units of measurement, accuracy, and grade must be repeated for the production, potential reserves, and potential resources of each commodity present at the site. The presentation of this material is handled by assigning separate sets of labels to each class, i.e., production, potential reserves, and potential resources. A maximum of 6 commodities in each class is assumed. While this presentation is suitable for a display of the entire record, retrieval of data on specific commodities is cumbersome. The presentation can be improved by presenting the data in fixed field-fixed length format within a GIPSY label.

G I P S Y D I C T I O N A R Y B U I L D F O R M - C R I B 71187 U N I V E R S I T Y O F O K L A H O M A P A G E 1

L A B E L S P O U I . F . C L E A R T E X T

T I T L E 01 1 10 TEST OF CRIB RESOURCES FILE REVISION 3

CCMINFO 02 1 0 20 COMMODITY INFORMATION

A10 04 1 30 COMMODITY.....

SIGNIF 46 1 + 40 SIGNIFICANCE:

A20 48 1 50 MAJOR

A30 49 1 60 COPRODUCT

A40 48 1 70 MINOR

A50 45 1 80 BYPRODUCT

A60 48 1 90 OCCURRENCE

A70 48 1 100 POTENTIAL

ARO 04 1 110 ASSOCIATED COMMODITIES..

A90 04 1 120 ORE MINERALS.....

NAMELOC 02 1 0 130 NAME AND LOCATION

C10 04 1 140 MAIN NAME.....

C 04 1 150 MODIFIER.....

C30 04 1 160 DISTRICT AREA...

HEADERA 04 1 0 170 COUNTRY LATITUDE UTM NORTHING 2 DEG QUAD NO

C50 05 2 180 COUNTRY

C90 17 2 + 190 LATITUDE

C120 30 2 + 200 UTM NORTHING

C40 44 2 + 210 2 DEG QUAD NO.

HEADER 04 1 0 211 STATE LONGITUDE UTM EASTING DEPOSIT NO.

C60 05 2 220 STATE

Figure 17. -- GIPSY dictionary for the Computerized Resource Information Bank.

NAME AND LOCATION

MAIN NAME..... LOST RIVER TIN MINE
 MODIFIER..... MINE
 DISTRICT, AREA... LCST RIVER

COUNTRY LATITUDE UTM NORTHING 2 DEG QUAD NO
 US 65 10 29N

STATE LONGITUDE UTM EASTING DEPOSIT NO.
 02 167 10 00W

COMMODITY DATA

MAJOR MINOR POTENTIAL
 SN W F BE PB ZN

MINERAL-CHEMICAL TYPES: OXIDE TUNGSTATE FLUORIDE

ORE MINERALS: CASSITERITE, STANNITE, WOLFRAMITE, CHRYSOBERYL, GALENA, SPHALERITE, FLUORITE.

COMMODITY PRODUCTION (MULTI-COMMODITY REPORTING)

	ACCURATE FIG-OR-ESTIMATE	UNITS	AVR GRD PRODUCTION YRS
SN	3.5	TONS	1913-14
W	.6	TONS	1913-14
SN	83.4	TONS	1949-55
SN	342.2	TONS	

SOURCE OF INFORMATION.. SAINSBURY, 1969, USGS BULL 1287

COMMENTS..... COM1&COM2=MAIN LODE;COM3=PLACER;COM4=LODE. MINE BEING REOPENED FOR SN, F, W, BE, BASE METALS.

POTENTIAL (RESERVES AND RESOURCES)-MULTI-COMMODITY REPORTING

ITEM	ACCURATE FIG OR ESTIMATE	UNITS	GRADE
1 SN ORE	200500	TONS	1.3%SN;.125%W03
2 SN	5200000	LBS	
3 SN-W03 ORE	105000	TONS	.76%SN;.6%W03
4 SN	1600000	LBS	
5 W03	62500	STU	
6 SN	45368000	LBS	

SOURCE OF INFORMATION.. SAINSBURY, 1969, USGS BULL 1287 P63

COMMENTS..... ITEMS 1-5 = MEASURED & INDICATED RESERVES. ITEM 6 = TOTAL RESERVES & POTENTIAL RESOURCES OF TIN. LARGEST DOMESTIC LODE RESERVE OF TIN KNOWN IN US.

GEOLOGY

GEOLOGIC TYPE..... VEINS, STOCKWORK, REPLACEMENT & OTHER TYPES
 HOST/COUNTRY ROCKS..... LIMESTONE, GRANITE
 ASSOC IGNEOUS ROCKS..... GRANITE
 STRATIGRAPHIC AGE..... PRODOVICIAN

GEOLOGICAL DESCRIPTIVE NOTES:
 COMPLEX ORE SHOTS ALONG DIKES IN AND ABOVE CUPULA OF GRANITE, ABOVE A THRUST FAULT.

REFERENCES:

- (1) SAINSBURY, 1964, USGS BULL 1129
- (2) SAINSBURY, 1969, USGS BULL 1287

REPORTER
 SAINSBURY 3/71

RECORD IDENTIFICATION

COUNTRY..... US
 ORGANIZATION.. GS

Title: Microprobe Data System

Sponsor: U. S. Geological Survey
Geologic Division, Branch of Mineral Resources
Washington, D. C. 20242

Contact: R. Barry Finkelman, (202 282-7341)

Status of application: Operational file (inactive)

Objectives: To organize and tabulate large numbers of microprobe analyses and produce graphical reports by specific elements.

Source documents: Laboratory analytical sheets and punch cards

File organization: Morphological and optical data are stored together with microprobe analyses.

Users: Micromineralogy Study Group

Problems: Data from microprobe analyses were placed on cards in a fixed-length, fixed-field format and then converted to GIPSY format. Major changes in the punch card format at a later date required that the conversion program to GIPSY format be rewritten. This has not been done to date.

Title: River Basin Characteristics

Sponsor: U. S. Geological Survey
Water Resources Division
Systems Laboratory Group
Washington, D. C. 20242

Contact: David W. Moody, (202) 343-3626

Status of application: Pilot file

Objectives: To provide hydrologists with a convenient means of storing and retrieving physiographic and meteorological parameters controlling the streamflow characteristics of river basins. During a recent review of the Geological Survey's stream gaging network, physiographic and meteorological parameters were measured and various streamflow statistics were computed. Regression models were then developed which related the streamflow characteristics to the river basin characteristics for the river basin or hydrologic region. This file will facilitate further studies of the interrelationships between river basin characteristics.

Source documents: Punch card files and state reports.

File organization: In its present form each record may contain up to 105 data elements which include the USGS station number, station name, physiographic parameters, meteorological parameters, and streamflow parameters. Other data elements can be easily added to the file as the need arises.

Users: USGS hydrologists, other Federal agencies and state cooperators.

Size of file: The pilot file contains information on stations located in the State of Kansas.

FORM- BASIN DICTIONARY LISTING

INTERNAL	EXTERNAL	SPACING	OPTION	USASI	CLEAR TEXT
00010	IDEN	004	1	-	** WATER RESOURCES DIVISION BASIN CHARACTERISTICS FILE **
00015	STAN	004	1	0	_____
00020	STAND	005	1	+	STATION NUMBER ---
00025	SNAM	004	1	0	_____
00030	SNAME	005	1	+	STATION NAME ---
00035	PLAC	004	1	0	_____
00040	PLACE	005	1	+	LOCATION -----
00050	LATIT	005	1	0	LATITUDE -----
00060	LONGI	005	1		LONGITUDE ---
00070	AA	002	1	-	_____
00080	PHY	003	1	+	PHYSIOGRAPHIC PARAMETERS
00085	PHYS	004	1		
00090	DRAIN	005	1		DRAINAGE AREA (SQ MI)
00100	HIGHT	005	1		MEAN BASIN ELEVATION (FT)
00120	AREA5	005	1		BASIN AREA ABOVE 5000 FT (PERCENT +1)
00140	AREA2	005	1		BASIN AREA ABOVE 2000 FT (PERCENT +1)
00200	BWIDE	005	1		BASIN WIDTH (MI)
00220	VWIDE	005	1		VALLEY WIDTH (MI)
00260	CENTR	005	1		LENGTH TO CENTER OF BASIN (MI)
00300	ALLUV	005	1		ALLUVIAL AREA (SQ MI)
00350	DEPTH	005	1		DEPTH OF ENTRENCHMENT (FT)
00360	CLONG	005	1		MAIN CHANNEL LENGTH (MI)
00370	CWIDE	005	1		MAIN CHANNEL WIDTH (FT)
00380	SLOPE	005	1		MEAN CHANNEL SLOPE (FT/MI)
00400	MEAND	005	1		MEANDER RATIO
00420	BIFRC	005	1		BIFURCATION RATIO
00490	SURST	005	1		SURFACE STORAGE INDEX (PERCENT +1)

Figure 19. -- GIPSY dictionary for the River Basin Characteristics file.

STATION NUMBER -- 068680

STATION NAME ---- SALINE R NR WILSON, KANS.

PHYSICGRAPHIC PARAMETERS

ORAINAGE AREA (SQ MI)	1900.0000
MEAN BASIN ELEVATION (FT)	2280.0000
BASIN WIDTH (MI)	7.2500
VALLEY WIDTH (MI)	1.0000
LENGTH TO CENTER OF BASIN (MI)	123.0000
ALLUVIAL AREA (SQ MI)	139.0000
DEPTH OF ENTRENCHMENT (FT)	20.0000
MAIN CHANNEL LENGTH (MI)	262.0000
MAIN CHANNEL WIDTH (FT)	60.0000
MEAN CHANNEL SLOPE (FT/MI)	7.5200
MEANDER RATIO	1.5700
BIFURCATION RATIO	4.9500
FORESTED AREA (PERCENT + 1)	1.1800
MEDIAN GRAIN SIZE OF BED MATERIAL (MM)	0.2500

METEOROLOGICAL PARAMETERS

AVE. MIN. JAN. DAILY AIR TEMPERATURE (DEG F)	18.0000
AVE. MAX. JUL. DAILY AIR TEMPERATURE (DEG F)	95.1000
MEAN ANNUAL PRECIPITATION (IN)	21.9900
24-HR. 2-YR PRECIPITATION (IN)	2.4800
24-HR. 100-YR PRECIPITATION (IN)	5.9900
MEAN ANNUAL SNOWFALL (IN)	21.2700
MEAN ANNUAL EVAPORATION (IN)	62.0000
SOIL CONSERVATION SERVICE "S" INDEX	3.0500

STREAMFLOW PARAMETERS

ANNUAL DISCHARGE STATISTICS	
MEAN ANNUAL DISCHARGE (CFS)	165.6000
STANDARD DEVIATION OF ANNUAL MEAN DISCHARGES	148.7000
SKEWNESS OF ANNUAL MEAN DISCHARGES (+1.000)	3.5770
1ST ORDER SER. CORREL. ANN. MEAN DISCH. (+1.000).	1.1470

MONTHLY DISCHARGE STATISTICS	
MEAN OCT. DISCHARGE (CFS)	105.6000
MEAN NOV. DISCHARGE (CFS)	54.6200
MEAN DEC. DISCHARGE (CFS)	41.4000
MEAN JAN. DISCHARGE (CFS)	37.6200
MEAN FEB. DISCHARGE (CFS)	68.5800
MEAN MAR. DISCHARGE (CFS)	84.3400
MEAN APR. DISCHARGE (CFS)	107.8000
MEAN MAY DISCHARGE (CFS)	267.3000

Figure 20. -- GIPSY record from the River Basin Characteristics file.

Title: WRD Biological Data File

Sponsor: U. S. Geological Survey
Water Resources Division, Systems Laboratory Group
Washington, D. C. 20242

Contact: David W. Moody, (202) 343-3626

Status of application: Pilot file

Objectives: In addition to streamflow data and water quality data, WRD also collects biological data on streams, lakes, and reservoirs. While water quantity and quality information is routinely handled with ADP techniques, biological data are difficult to handle because of the great variety of aquatic organisms. A truly national system for biologic data would have to be able to handle thousands of codes for all the plants and animals commonly found. In one place, however, only a relatively few species would be needed - for example, 10 phyla and 60 species cover nearly all animals accounted in a study of a Maryland estuary. Therefore, it was desired to have a retrieval program which could be first applied at the local or regional level, and which would be compatible upwards with an eventual national system. Another problem was the establishment of temporary names for unidentified organisms - for example, "Stalked yellow spheres" - until such time as the organism is identified. The purpose of this file was to demonstrate the application of GIPSY to the storage and retrieval of this type of information.

Source documents: Field notes and laboratory card file

File organization: Each record may contain 30 data elements or more depending upon the number of species of animals encountered in a sample. Information included station number, stream name, latitude and longitude, mile point on stream, cross-section position, depth, type of sample (grab, dredge, or panel), other data available at site (chemical, physical, or environmental), description of bottom, sampling method, dates, panel analysis (wet volume, dry weight, ash weight, organic weight, etc.), number of phyla, genera, and species in sample, species list, and comments.

In addition to the open ended list of animals, a code was assigned to each species identified thus far in the project. For each species identified, the following information was provided in fixed-field, fixed-length format: density (weight per unit area of panel), percent coverage (percentage of panel covered by the particular species), maximum and minimum size (mm) of animals observed, descriptive notes. There were no limits placed on the length of the comments, since they occurred at the end of the fixed-length, fixed-field format.

Users: WRD research personnel.

Size of file: The pilot file contained 25 records.

A 1 C 00010 *** WATER RESOURCES DIVISION BIOLOGICAL DATA BASE ***
 AA 1 - 00020 STATION NUMBER.....
 AB 1 0 00030 STREAM.....
 AC 1 0 00040 LATITUDE.....
 AD 1 0 00050 LONGITUDE.....
 AE 1 0 00060 MILE POINT.....
 AF 1 0 00070 CROSSSECTION POSITION...
 AG 1 0 00080 DEPTH (M).....
 BA 1 0 00090 GRAB SAMPLE
 BB 1 0 00100 PANAL SAMPLE
 BC 1 0 00110 DREDGE SAMPLE
 CA 1 - 00200 CHEMICAL QUALITY
 CB 1 - 00300 PHYSICAL QUALITY
 CC 1 - 00400 ENVIRONMENTAL DATA
 CD 1 - 00500 BOTTOM DESCRIPTION
 DA 3 0 00600 SAMPLING METHOD
 E 1 - 00605 -----
 EA 1 + 00610 PANEL ANALYSIS
 END 1 0 00620 PANEL NUMBER ---
 EWV 1 0 00630 WET VOLUME (ML/SQ M).....
 EDW 1 00640 DRY WEIGHT (GM/SQ M).....
 EAW 1 00650 ASH WEIGHT (GM/SQ M).....
 EOM 1 00660 ORGANIC WEIGHT (GM/SQ M).....
 EPO 1 00670 PERCENT ORGANIC.....
 F 1 - 00700 -----
 FA 1 + 00710 PANEL COUNT
 FPN 1 0 00715 PANEL NUMBER ---
 FB 3 0 00720 GENERAL DESCRIPTION

FNS 1 0 00730 NUMBER OF SPECIES PRESENT.....
 FNG 1 00740 NUMBER OF GENERA PRESENT.....
 FNP 1 00750 NUMBER OF PHyla PRESENT.....
 S 1 - 00790 -----
 SL 3 + 00800 EPIFAUNAL SPECIES LIST
 PA 1 0 01000 PROTOZOA
 PAA 1 01010 VARIOUS SPECIES.....
 PB 1 0 01500 PORIFERA
 PBB 1 15020 GELLIIUS SPECIES.....
 PBC 1 01530 MICROCIONA PROLIFERA.....
 PBA 1 01510 OTHER ---
 PC 1 0 02000 COLEENTERATA
 PCB 1 02020 CORDYLOPHORA LACUSTRIS.....
 PCC 1 02030 BIMEKIA FRANCISCANA.....
 PCO 1 02040 CAMPANULARID SPECIES.....
 PCE 1 02050 SAGARTIA (CYLISTA) LEUCOLENA.....
 PCA 1 02010 OTHER ---
 PD 1 0 02500 PLATHHELMINTHES
 POB 1 02520 STYLOCHUS ELLIPTICUS.....
 PDA 1 02510 OTHER ---
 PE 1 0 03000 NEMERTEA
 PEA 1 03020 UNIDENTIFIED SPECIES.....
 PFB 1 0 03500 BRYOZOA
 PFC 1 03520 VICTORELLA PAVIDA.....
 PFD 1 03530 BOWERBANKIA GRACILIS.....
 PFE 1 03540 MEMBRANIPORA CRUSTULENTA.....
 PFF 1 03550 ACANTHODESIA TENUIS.....
 PFG 1 03560 MEMBRANIPORA MEMBRANACEA.....

*** WATER RESOURCES BIOLOGICAL DATA BASE ***

STATION NUMBER..... 5 HALFMOON LANDING

STREAM..... NEWPORT R., GA.

PANEL SAMPLE

SAMPLING METHOD
SUBMERGED TEST PANEL 0.1M ABOVE BOTTOM

DATE BEGUN..... 690605
DATE ENDED..... 690710
DURATION..... 35

PANEL ANALYSIS

PANEL NUMBER -- G-29

NET VOLUME (ML/SQ M)..... 2807.7
DRY WEIGHT (GM/SQ M)..... 1222.2
ASH WEIGHT (GM/SQ M)..... 1098.3
ORGANIC WEIGHT (GM/SQ M).. 123.8
PERCENT ORGANIC..... 10.

PANEL CCUNT

PANEL NUMBER -- G-30

GENERAL DESCRIPTION
BALANUS COVERED THE PANEL.

NUMBER OF SPECIES..... 14
NUMBER OF GENERA..... 14
NUMBER OF PHYLA..... 7

SPECIES LIST

STALKED YELLOW SPHERES UNIDENTIFIED SMALL DELICATE THECATE HYDROID
BIMERIA FRANCISCANA SAGARTIA (CYLISTA) LEUCOLENA STYLOCHUS ELLIPTI CUS
UNIDENTIFIED PELECYPOD ANOMIA SPECIES NEREIS SUCCINEA POLYDORA LIGNI
BALANUS EBURNEUS COROPHIUM LACUSTRE MELITA NITIDA PARAPLEUS TES SPECIES
MELGULA MANHATTENSIS

PRCTOZOA			
STALKED YELLOW SPHERES.....	16.0		NOTED
COLEENTERATA			
BIMERIA FRANCISCANA.....	2	35.0-	.0

Figure 22. -- GIPSY record from the WRD Biological Data file.

Title: WRD Station File

Sponsor: U. S. Geological Survey
Water Resources Division
Washington, D. C. 20242

Contact: Robert A. Perry, (202) 343-2595

Status of application: Pilot file

Objectives: To provide a catalog of surface water, quality of water and ground water stations operated by the Geological Survey for use in managing the national hydrologic data collection program and in answering public inquiries.

Source documents: Magnetic tapes used by the Office of Water Data Coordination to publish water data catalogs.

File organization: Records for surface water, quality of water, or ground water stations may contain up to 170 data elements which include station name and location (latitude and longitude, state, county, and river basin code), type of site and station, frequency of data measurement, types of data collected, supplementary data available for the site, publication status and form of data storage, period of record, and office supplying information. The file organization is currently being reviewed prior to implementation.

Size of file: The pilot file contained information on 2,000 quality of water stations. The operational file will contain data on 18,000 surface water stations, 5,600 water quality stations, and 18,300 ground water stations.

```

G I P S Y      DICTIONARY BUILD      FORM - STATION
A      1 - 00004
STNA      1 00100 **
STAN      1 00010 STATION NUMBER .....
QWDC      1 00030 QWDC STATION NUMBER .....
AGEN      1 0 00020 AGENCY OPERATING STATION .....
B      1 00035
LO      1 00039
LOC      1 + 00040 LOCATION
LATI      1 0 00050 LATITUDE .....
LONG      1 00060 LONGITUDE .....
BST      1 0 01100 STATE .....
BS01      1 01101 ALABAMA
BS02      1 01102 ALASKA
BS03      1 01103 AMERICAN SAMOA
BS04      1 01104 ARIZONA
BS05      1 01105 ARKANSAS
BS06      1 01106 CALIFORNIA
BS07      1 01107 CANAL ZONE
BS08      1 01108 COLORADO
BS09      1 01109 CONNECTICUT
BS10      1 01110 DELAWARE
BS11      1 01111 DISTRICT OF COLUMBIA
BS12      1 01112 FLORIDA
BS13      1 01113 GEORGIA
BS14      1 01114 GUAM
BS15      1 01115 HAWAII
BS16      1 01116 IDAHO
BS17      1 01117 ILLINOIS

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G I P S Y      DICTIONARY BUILD      FORM - STATION
ALT3      1 00430 TOPOGRAPHIC MAP
ALT4      1 00440 NOT DETERMINED
SI      1 0 00114
SIY      1 + 00120 SITE .....
SI01      1 00125 STREAM
SI02      1 00130 CANAL
SI03      1 00135 LAKE
SI04      1 00140 RESERVOIR
SI05      1 00145 ESTUARY
SI06      1 00150 WELL
SI07      1 00155 SPRING
SI10      1 00160 OTHER --
TY      1 0 00165
TYP      1 00170 TYPE OF STATION .....
TYP5      1 00175 SURFACE WATER
TYPQ      1 00180 WATER QUALITY
TYPG      1 00185 GROUND WATER
FR      1 0 00219
FRQ      1 + 00220 FREQUENCY OF MEASUREMENT .....
F201      1 00230 CONTINUOUS RECORDER
F202      1 00240 TELEMETERED
F203      1 00250 DAILY
F204      1 00260 WEEKLY
F205      1 00270 MONTHLY
F206      1 00280 QUARTERLY
F207      1 00290 SEASONAL
F213      1 00300 SEMIANNUAL
F208      1 00310 ANNUAL

```

Figure 23, -- GIPSY dictionary for the WRD Station file.

** CONECH R AT BRANTLEY ALA

STATION NUMBER 02371500
 OWDC STATION NUMBER 50018
 AGENCY OPERATING STATION GS

LOCATION

LATITUDE 3134
 LONGITUDE 08615

STATE 01
 ALABAMA

COUNTY 041
 CRENSHAW

OWDC MAP NUMBER 12 I

STATUS A
 ACTIVE

SITE 101
 STREAM

TYPE OF STATION 0
 WATER QUALITY

FREQUENCY OF MEASUREMENT 201
 CONTINUOUS RECORDER

TYPES OF DATA COLLECTED 311 312 314 318 331 334 335 339 400 423
 424 4C3

** QUALITY OF WATER DATA

TEMPERATURE 1
 SPECIFIC CONDUCTANCE 1
 COLOR 1
 PH LAB 1
 DISSOLVED SOLIDS 1
 COMMON IONS 1
 HARDNESS 1
 OTHER -- 1

SUPPLEMENTARY DATA FOR SITE

** SURFACE WATER DATA
 SURFACE WATER STATION
 WATER STAGE OR LEVEL
 WATER DISCHARGE
 DRAINAGE AREA

PUBLICATION STATUS AND STORAGE OF DATA ... 901 903
 PERIODIC REPORT (5-YEAR COMP.)

Figure 24. -- GIPSY record from the WRD Station file.

Title: Massachusetts Gazetteer

Sponsor: U. S. Geological Survey
Topographic Division, Office of Geographic Names
Washington, D. C. 20242

Contact: Samuel Stulberg, (202) 343-2276

Status of application: Pilot file

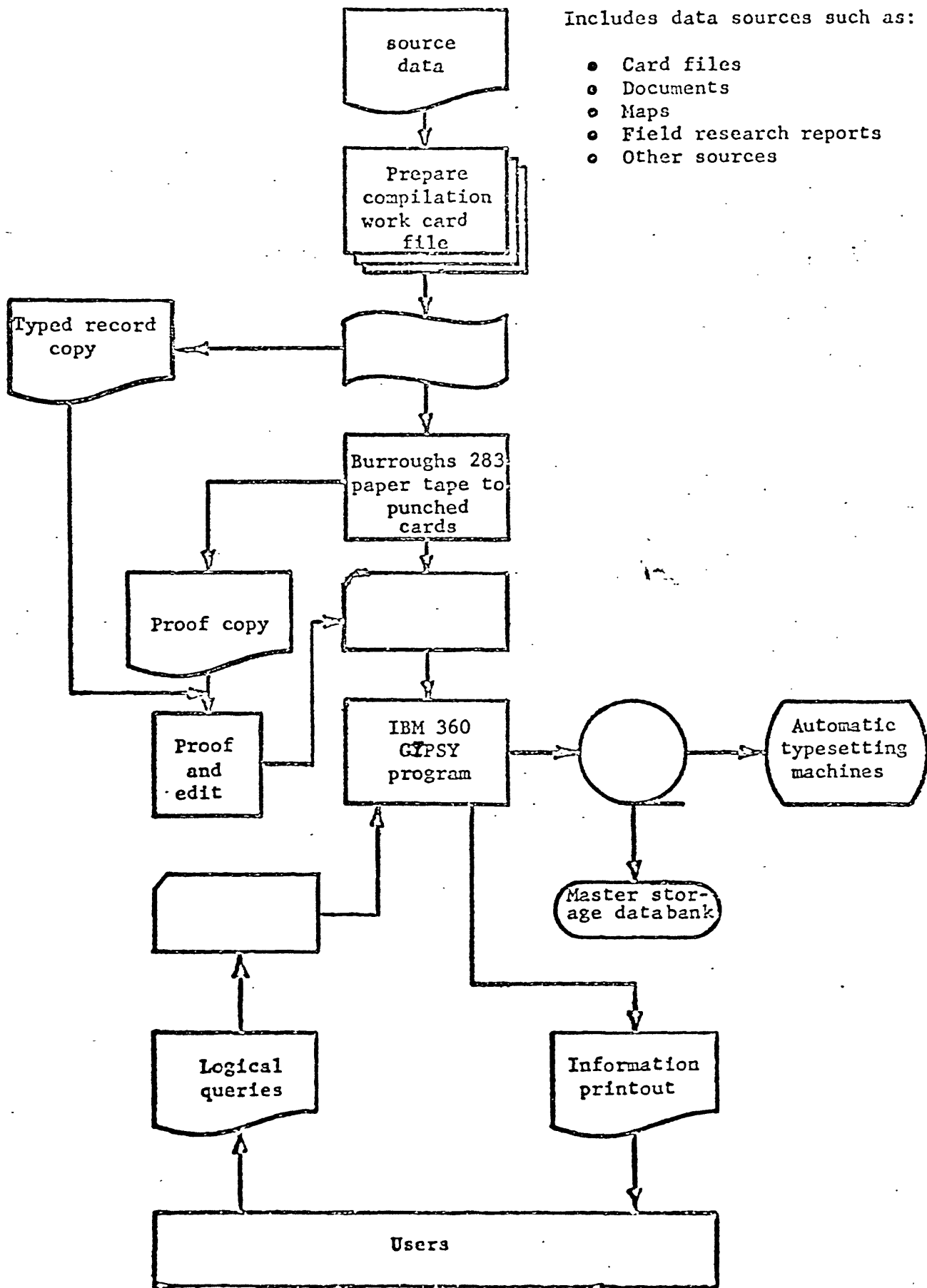
Objectives: To store information on geographic names and their related features for the United States, its territories and possessions. This file is to be used for names research, preparation of state gazetteer, answering inquiries and possibly to provide information for direct placement on maps.

Source documents: Punch card files in the Office of Geographic Names, maps, and field research reports

File organization: Each record may contain up to 16 major data elements. These include the complete place name, the appellative or generic element, language information, name classification, date of name origin, relief of area, data of Board on Geographic Names decision for the name, kind of feature name applies to, state, county, map numbers, geographic coordinates (latitude and longitude), population, linear and areal dimensions of feature, elevation (feet above sea level), river basin code, section-township-range location, description of feature, variant names applied to the feature, and history of the name including folk etymologies.

Users: Divisions of the USGS including the Office of Geographic Names and the Map Information Office.

Size of file: The present pilot file contains 5,000 names. The dictionary contains 418 labels.



Includes data sources such as:

- Card files
- Documents
- Maps
- Field research reports
- Other sources

Figure 25. -- Computer-based place-name publications system.

NAME	GENE	02109
SPEC	141	02110
AGE	1961	02111
LOG	STREAM	02112
MAP	25003	02113
CURVED	817	02114
SIZE	42220'30"N, 73222'12"W	02115
DETAILED	4 MI. LONG.	02116
IN	022	02117
DEST	HEADS AT 42223'10"N, 73221'36"W, AT THE JUNCTION OF	02118
	SLEEPY HOLLOW AND FAIRFIELD BROOKS, FLOWS S TO	02119
	SHAKER MILL POND IN WEST STOCKBRIDGE; TOWNS OF	02120
	RICHMOND AND WEST STOCKBRIDGE.	02121
NAME	CONF HILL	02122
SPEC	HILL	02123
AGE	120:141:90200	02124
LOG	HILL	02125
MAP	25003	02126
CURVED	3	02127
SIZE	42221'35"N, 73222'10"W	02128
DETAILED	1.195 FT.	02129
IN	022	02130
DEST	1 MI. S OF RICHMOND; TOWN OF RICHMOND.	02131
NAME	CONSTITUTION HILL	02132
SPEC	HILL	02133
AGE	220:90600	02134
LOG	HILL	02135
MAP	25003	02136
CURVED	12	02137
SIZE	42231'45"N, 73214'43"W	02138
DETAILED		02139
IN		02140
DEST		02141
NAME	GENE	02142
SPEC	141	02143
AGE	1961	02144
LOG	STREAM	02145
MAP	25003	02146
CURVED	817	02147
SIZE	42220'30"N, 73222'12"W	02148
DETAILED	4 MI. LONG.	02149
IN	022	02150
DEST	HEADS AT 42223'10"N, 73221'36"W, AT THE JUNCTION OF	02151
	SLEEPY HOLLOW AND FAIRFIELD BROOKS, FLOWS S TO	02152
	SHAKER MILL POND IN WEST STOCKBRIDGE; TOWNS OF	
	RICHMOND AND WEST STOCKBRIDGE.	

Figure 26. -- Input data to the Massachusetts Gazetteer.

MASSACHUSETTS GAZETTEER

NAME..... CONE BROOK

DESIGNATION..... STREAM

STATE CODE..... 25

COUNTY CODE..... 003

MAP NUMBER(S).... 8; 7

COORDINATES

LATITUDE..... 42 20 30 N

LONGITUDE..... 73 22 12 W

RIVER BASIN CODE. 02M

DESCRIPTION

HEADS AT 42 23 18 N, 73 21 36 W, AT THE JUNCTION OF SLEEPY HOLLOW AND FAIRFIELD BROOKS, FLOWS S TO SHAKER MILL POND IN WEST STOCKBRIDGE; TOWNS OF RICHMOND AND WEST STOCKBRIDGE.

GENERIC ELEMENT.. BROOK

RESEARCH CODES... 141

Figure 27. -- Simulated GIPSY record from the Massachusetts Gazetteer.

MANAGEMENT

APPLICATIONS

Title: Department of the Interior Roster of Field Offices File

Sponsor: U. S. Department of the Interior
Office of Management Research
Washington, D. C. 20240

Contact: Lora Dugard, (202) 343-6191

Status of application: Operational file

Objectives: To provide a roster of all Department of Interior field offices for publication on a quarterly or semi-annual basis.

Source documents: Existing directories

File organization: Each record contains 9 data elements: record number, bureau code, title of official responsible for office, name of organizational facility, address (street, city, state, and zip code), and number of full-time (permanent) employees.

Users: Office of Management Research and the various bureaus within the Department of Interior.

Size of file: At present the file contains information on 1,329 offices. The file will be updated quarterly or semi-annually.

INTERNAL	EXTERNAL	SPACING	FORM- RFO		DICTIONARY LISTING
			OPTION	USASI	CLEAR TEXT
00100	A	001	1	0	TITLE OF HEAD -
00200	B	001	1	0	NAME OF ORGANIZATION FACILITY
00300	C	001	1	0	STREET ADDRESS -
00400	D	001	1	0	CITY -
00500	E	001	1	0	STATE -
00600	F	001	1	0	ZIP CODE -
00700	G	001	1	0	NO. OF FULL-TIME, PERMANENT EMPLOYEES
00800	H	001	1	0	BUREAU CODE -
00900	I	001	1	0	RECORD NUMBER -

Figure 28. -- GIPSY dictionary for the Department of the Interior Roster of Field Offices file.

TITLE OF HEAD - MANAGER

NAME OF ORGANIZATION FACILITY WESTERN REGION, OFFICE FOR EQUAL OPPORTUNITY

STREET ADDRESS - FEDERAL CENTER, BUILDING 67

CITY - DENVER

STATE - CO

ZIP CODE - 80225

NO. OF FULL-TIME, PERMANENT EMPLOYEES 13

BUREAU CODE - EO

RECORD NUMBER - 0010

Figure 29. -- GIPSY record from the Department of the Interior Roster of Field Offices file.

Title: Catalog of Federal Domestic Assistance Programs

Sponsor: U. S. Department of the Interior
Office of Management Research
Washington, D. C. 20240

Contact: Lora Dugard, (202) 343-6191

Status of application: Operational file

Objectives: To provide information on grant and assistance programs administered by the Department of Interior in response to public inquiries. The Department uses the file for program management and analysis.

Source documents: Legislative acts and appropriate Code of Federal Regulations which establish the particular program.

File organization: Each record may contain up to 207 data elements which include: program number, title of program, name of bureau administering program, references to legislation, purpose of program, types of grant recipients, type of assistance, procedures for initiating assistance, award procedures, deadlines, time requirements for processing applications, types of reports required, measures of program accomplishment, and related program management information.

Users: Planners in Federal, state, and local governments as well as the general public.

Size of file: At present the file contains information on 127 programs administered by the Department. The file is updated quarterly.

		FORM- FARCOI			DICTIONARY LISTING
INTERNAL	EXTERNAL	SPACING	OPTION	USASI	CLEAR TEXT
00010	AA	010	1	0	PROGRAM NUMBER -
00015	AB	010	1	0	OFFICIAL TITLE OF PROGRAM -
00020	AC	010	1	0	POPULAR TITLE -
00025	AD	010	1	0	NAME OF BUREAU/DIVISION -
00030	XA	010	1	0	ACTS AND CITATIONS
00035	AE	012	2		(DESCR)
00040	AF	010	1	0	PURPOSE -
00045	XB	010	1	0	RELATIONSHIPS WITH
00050	BA	011	1		STATES -
00055	BB	011	1		STATE AGENCIES -
00060	BC	011	1		STATE INSTITUTIONS -
00065	BD	011	1		COUNTIES -
00070	BE	011	1		METRO AGENCIES -
00075	BF	011	1		CITIES -
00080	BG	011	1		UNIVERSITIES AND COLLEGES -
00085	BH	011	1		OTHER EDUCATIONAL INSTITUTIONS -
00090	BI	011	1		HOSPITALS -
00095	BJ	011	1		LOCAL PUBLIC AUTHORITIES -
00100	BK	011	1		INDIAN TRIBAL COUNCILS -
00105	BL	011	1		REGIONAL JURISDICTIONS -
00110	BM	011	1		INTERSTATE BODIES -
00115	BN	011	1		PRIVATE NON-PROFIT AGENCIES -
00120	BC	011	1		PRIVATE ENTERPRISE -
00125	BP	011	1		COOPERATIVES -
00130	BR	011	1		INDIVIDUALS -
00135	BS	011	1		OTHER AGENCIES -
00140	XD	010	1	0	ASSISTANCE RELATIONSHIPS

Figure 30. -- GIPSY dictionary for the Catalog of Federal Domestic Assistance Programs file.

PROGRAM NUMBER - NPS- 1

OFFICIAL TITLE OF PROGRAM - DISPOSAL OF SURPLUS WILDLIFE

NAME OF BUREAU/DIVISION - NATIONAL PARK SERVICE

ACTS AND CITATIONS

FEDERAL PROPERTY AND ADMINISTRATIVE SERVICES ACT OF 1949, 63 STAT
341 CFR 101-43.3, 44.3, 45.3, 45.5

PURPOSE - IN MAINTAINING PARK WILDLIFE POPULATIONS AT PROPER LEVELS,
HIGH PRIORITIES ARE GIVEN TO THE DISPOSAL OF LIVE SURPLUS ANIMALS TO
MUNICIPAL ZOOS FOR DISPLAY PURPOSES; STATE AGENCIES AND OTHER
ORGANIZATIONS FOR RESTOCKING GAME RANGES.

RELATIONSHIPS WITH

STATE AGENCIES -
COUNTIES -
METRO AGENCIES -
CITIES -
UNIVERSITIES AND COLLEGES -
INDIAN TRIBAL COUNCILS -

ASSISTANCE RELATIONSHIPS

DISPOSAL OF FEDERAL SURPLUS PROPERTY -

PROGRAM APPLICABLE TO ALL STATES -

WHO INITIATES ACTION - SUPERINTENDENT DETERMINES KINDS AND NUMBER OF
ANIMALS THAT ARE SURPLUS AND FILLS REQUESTS FOR SUCH ANIMALS BASED
ON THE FOLLOWING ESTABLISHED PRIORITIES FOR THE DISPOSAL OF LIVE
ANIMALS: 1. MUNICIPAL ZOOS; 2. INDIAN RESERVATION OR OTHER FEDERAL
AGENCIES; 3. STATE GAME AGENCIES; 4. LOCAL GOVERNMENT BODIES; 5.
PRIVATE ORGANIZATIONS.

VOCABULARY REFERENCE - REQUEST.

CEG NUMBER - 15.900

USE AND USE RESTRICTIONS - RESTOCKING OF WILDLIFE RANGES - ZOO DISPLAY
ANIMALS - SCIENTIFIC SPECIMENS - WELFARE FOOD PROGRAMS

APPLICANT ELIGIBILITY REQUIREMENTS - STATE, LOCAL OR MUNICIPAL
GOVERNMENT; EDUCATIONAL OR OTHER TAX-SUPPORTED INSTITUTION.

BENEFICIARY ELIGIBILITY - DETERMINED BY STATE OR LOCAL GOVERNMENT;
E.G., LICENSED HUNTER, WARD OF STATE, ETC.

PRE-APPLICATION COORDINATION - ANNUAL ESTIMATES OF THE TYPES AND
NUMBERS OF ANIMALS THAT WILL BE SURPLUS ARE REPORTED BY INDIVIDUAL
SERVICE UNITS TO THE WASHINGTON OFFICE ANNUALLY. STOCKING OF WILD
ANIMALS MUST BE IN ACCORDANCE WITH A PLAN JOINTLY APPROVED BY THE
STATE GAME AGENCY, AND THE OWNERS OR ADMINISTERING AGENCIES OF THE

Figure 31. -- GIPSY record from the Catalog of Federal
Domestic Assistance Programs file.

Title: Grant-in-Aid Programs. File (OMB Form 240)

Sponsor: U. S. Department of the Interior
Office of Management Research
Washington, D. C. 20240

Contact: Lora Dugard, (202) 343-6191

Status of application: Operational file

Objectives: To monitor information on recipients of grants-in-aid being provided to the Office of Management and Budget and to answer questions about various programs.

Source documents: OMB Form 240

File organization: Each record may contain up to 38 data elements which include: record number, bureau grant number, purpose, grantee's name (including address and type of organization), dates of various actions taken on grant, type of action, and funding.

Users: Office of Management Research analysts and bureau personnel.

Size of file: At present the file contains information on 1,097 grants. The file is updated as necessary.

INTERNAL	EXTERNAL	SPACING	FORM- OMS		DICTIONARY LISTING
			OPTION	USASI	CLEAR TEXT
00005	02	010	1	0	RECORD NUMBER -
00010	03	010	1	0	BUREAU/REGION -
00015	04A	010	1	0	BUREAU GRANT NUMBER -
00020	04C	010	1	0	PURPOSE -
00025	05A	010	1	0	GRANTEE'S NAME -
00030	05B	010	1	0	GRANTEE'S STATE -
00035	05C	010	1	0	GRANTEE'S ZIP CODE -
00040	06	010	1	0	GRANTEE TYPE
00045	06A	015	1		STATE
00050	06B	015	1		INTERSTATE
00055	06C	015	1		COUNTY
00060	06D	015	1		CITY
00065	06E	015	1		SCHOOL DISTRICT
00070	06F	015	1		SPECIAL UNIT
00075	06G	015	1		COMMUNITY ACTION
00080	06H	015	1		SPONSORED ORGANIZATION
00085	06I	015	1		OTHER
00090	07	010	1	0	APPLICATION RECEIPT DATE -
00095	08	010	1	0	APPLICATION ACTION DATE -
00097	08A	010	1	0	EFFECTIVE STARTING DATE -
00098	08B	010	1	0	ENDING DATE -
00100	09	010	1	0	APPLICATION ELAPSED TIME -
00102	10	010	1	0	COLLATING SEQUENCE DATE -
00105	11	010	1	0	TYPE OF ACTION
00110	11A	015	1		NEW GRANT
00115	11B	015	1		CONTINUATION GRANT
00120	11C	015	1		SUPPLEMENTAL GRANT

Figure 32. -- GIPSY dictionary for the Grant-in-Aid Programs File.

RECORD NUMBER - 00071
BUREAU/REGION - FSF 3
BUREAU GRANT NUMBER - W-76-D-6
PURPOSE - TO MAKE HABITAT IMPROVEMENTS ON STATE LANDS TO BENEFIT
UPLAND GAME IN SOUTHERN ILLINOIS.
GRANTEE'S NAME - DEPARTMENT OF CONSERVATION
GRANTEE'S STATE - IL
GRANTEE'S ZIP CODE - 62706
GRANTEE TYPE
STATE
APPLICATION RECEIPT DATE - 71- 1-14
APPLICATION ACTION DATE - 71- 1-15
EFFECTIVE STARTING DATE - 71- 1-15
ENDING DATE - 71-12-31
APPLICATION ELAPSED TIME - 001
COLLATING SEQUENCE DATE - 710115
TYPE OF ACTION
NEW GRANT
FEDERAL CONTRIBUTION
BASIC - \$ 9249
CATALOG NUMBER - 15.611

Figure 33. -- GIPSY record from the Grant-in-Aid
Programs file.

Title: Working file

Sponsor: U. S. Department of the Interior
Office of Management Research
Washington, D. C. 20240

Contact: Lora Dugard, (202) 343-6191

Status of application: Pilot file

Objectives: To provide a working file to test and experiment
with potential applications of GIPSY.

File organization: Often a potential user of GIPSY wishes
to set up an experimental file. A GIPSY dictionary con-
taining 90 labels and space for a records file has been
established to allow the user to test the system with a
minimum of effort on his part.

Users: Office of Management Research

INTERNAL	EXTERNAL	SPACING	FORM- ABST		DICTIONARY LISTING
			OPTION	USASI	CLEAR TEXT
00001	A	010	1	J	A -
00005	B	010	1	0	B -
00010	C	010	1	0	C -
00015	D	010	1	0	D -
00020	E	010	1	0	E -
00025	F	010		0	F -
00030	G	010	1	0	G -
00035	H	010	1	0	H -
00040	I	010	1	0	I -
00045	J	010	1	0	J -
00050	K	010	1	0	K -
00055	L	010	1	0	L -
00060	M	010	1	0	M -
00065	N	010	1	0	N -
00070	O	010	1	0	O -
00075	P	010	1	0	P -
00080	Q	010	1	0	Q -
00085	U	010	1	0	U -
00090	R	010	1	0	R -
00095	S	010	1	0	S -
00100	T	010	1	0	T -
00110	V	010	1	0	V -
00115	W	010	1	0	W -
00120	X	010	1	0	X -
00125	Y	010	1	0	Y -
00130	Z	010	1	0	Z -
00135	AA	010	1	0	AA -

Figure 34. -- GIPSY dictionary for the Working file.

Title: OCS Platform File

Sponsor: U. S. Geological Survey
Conservation Division, Branch of Oil
and Gas Operations
Washington, D. C. 20242

Contact: Richard Krahl, (202) 343-4528

Status of application: Pilot file (inactive)

Objectives: To provide current data on the status of more than 1800 oil and gas platforms in the Gulf of Mexico. The drilling and production operations which take place on these platforms are under the supervision of the Survey's Outer Continental Shelf Lease Management System.

Source documents: OCS platform descriptions and platform lists.

File organization: Each record may contain up to 25 data elements. These include the platform location (latitude and longitude and area-block number), lease number, company (operator), number of holes, number of zone completions, a list of major production equipment, and date of last inspection.

Users: Engineers and Field Inspectors in the Conservation Division.

Size of file: The pilot file contained information on 25 platforms.

Problems: The chief problem encountered in building the pilot file was assembling and editing the data. The Conservation Division decided to adopt a fixed-field, fixed-length format for the platform file and dispense with the equipment lists in order to facilitate implementation. The QUERY retrieval system has proved very useful in compiling statistical summaries from the fixed-length file. Eventually, the OCS platform file will be maintained on NIPS together with the OCS well file and other OCS lease management information.

U. S. GEOLOGICAL SURVEY
 CONSERVATION DIVISION
 OCS PLATFORM FILE

S2-54-A

FIELD NAME-- SOUTH PASS BLOCK 54
 DISTRICT-- 7
 LATITUDE-- 24 51 54
 LONGITUDE-- 49 15 39
 WATER DEPTH(FT)-- 240
 LEASE NUMBER(S)-- OCS-G-1806
 OPERATOR-- TEXACO INC.
 STRUCTURE NAME-- PLATFORM A

TYPE OF PRODUCTION

OIL
 GAS

TYPE OF FACILITIES

LIVING QUARTERS
 HOAT LANDING
 HELIPAD

DIAMENSIONS OF DECK(FT)-- 71 X 161
 ELEVATION OF DECK(FT AB MSL)-- 69
 NUMBER OF DECKS-- 3
 NUMBER OF LISTS-- 4
 NUMBER OF SLOTS-- 21
 TYPE OF DECK
 STEEL DECK

NUMBER OF WORKING PERSONNEL 1
 PERSONNEL ON STRUCTURE
 DAILY

NUMBER OF HOLES-- 25
 NUMBER OF ZONES-- 34
 PUMPS-- 5
 PIPES-- 12
 GSI-- 11
 TA-- 3
 PLS-- 7

NUMBER OF PRODUCTION SEPARATORS-- 3

HP VERT. 60" X 10' 1440 PSI WF 8400 HOPD
 HP VERT. 50" X 10' 1440 PSI WF 8400 HOPD
 LP VERT. 60" X 10' 1440 PSI WF 8400 HOPD

NUMBER OF TEST SEPARATORS-- 2

HP VERT. 24" X 10' 1440 PSI WF 8400 HOPD

LP VERT. 24" X 10' 1440 PSI WF 8400 HOPD
 NUMBER OF SCRUBBERS-- 1
 FLARE 30" X 10' 125 PSI WF 5 MMCFD/500 HOPD
 NUMBER OF GYCOL UNITS-- 1
 ABSORBER 48" X 17' 6" 1440 PSI WF 50MMCFD
 NUMBER OF TANKS-- 1
 SURGE TANK HORIZ. 6' X 15' 40PSI
 NUMBER OF PUMPS-- 1

25 HP ELEC. PUMP 700 PSI FOR OIL PIPELINE

TRANSPORTATION OF PRODUCTION

PIPE
 LOCATION OF ACT METER-- GARDEN ISLAND BAY- METER PROVED MONTHLY
 NAME OF PIPELINE COMPANY-- TEXACO INC. (OIL) AND TENNESSEE GAS TRANSMISSION
 COOP. (GAS)

REMARKS

OIL WELLS ARE NOW BEING PRODUCED BUT NOT GAS WELLS
 FILE LAST UPDATED-- 9/14/70

Figure 35. -- GIPSY record from the OCS Platform file.

Title: OCS Events File

Sponsor: U. S. Geological Survey
Conservation Division, Branch of Oil
and Gas Operations
Washington, D. C. 20242

Contact: Richard Krahl, (202) 343-4528

Status of application: Operational file

Objectives: To provide detailed information on the occurrence, circumstances, and damages caused by blowouts, fires, explosions, and other accidents involving oil and gas operations on the Outer Continental Shelf of the Gulf of Mexico. The results of accident investigations, company reports, pollution reports, and pollution sightings are periodically summarized to monitor the frequency of various types of events and their causes.

Source documents: Monthly Engineering Reports and accident investigations.

File organization: A record may contain up to 167 data elements including the location and date of the event, type of event, principal and secondary causes, the amount and type of pollution, number of injuries, dollars damages, lease number, name of operator (company), narrative description of event.

Users: U. S. Geological Survey engineers and other Federal agencies interested in environmental protection and safety.

Size of file: The file contains 200 event descriptions reported since 1967.

```

G I P S Y   DICTIONARY   BUILD   FORM - FAIL
LABEL   SP 0 U   I.F. CLEAR TEXT

AA      01 1      10              OCS EVENTS FILE
A       02 1 0    20 FILE NUMBER --
R       02 1 0    30 LOCATION   --
C       02 1 *    40              STRUCTURE --
C1      02 1      50              STRUCTURE ID --
D       02 1 0    60 LESSEE     --
E       02 1 0    100 TYPE OF OPERATION
E1      04 1      110 DRILLING (MOBILE UNIT)
E2      04 1      120 DRILLING (FIXED UNIT)
E3      04 1      130 COMPLETION, RECOMPLETION, OR WORKOVER
E6      04 1      160 PRODUCTION
E7      04 1      170 ABANDONMENT
E9      04 1      190 OTHER (SPECIFY) --
E11     04 1      200 UNKNOWN
F       02 1 0    250 DRILLING OPERATOR --
F1      04 1 *    260              RIG NAME --
G       04 1      270 TYPE OF RIG
G1      06 1      280 MOVABLE RIG
G2      06 1      290 PLATFORM RIG
G3      06 1      300 PLATFORM RIG WITH TENDER
G4      06 1      310 BARGE
H       02 1 0    400 TYPE OF EVENT(S)
H1      04      410 BLOWOUT

```

Figure 36. -- GIPSY dictionary for the OCS Events file.


```

OCS EVENTS FILE
FILE NUMBER == 08-0910
LOCATION == 04-023
LESSEE == 135
TYPE OF OPERATION
COMPLETION, RECOMPLETION, OR WORKOVER
DRILLING OPERATOR == RIG NAME -- LITTLE BOB
TYPE OF RIG
MOVABLE RIG
TYPE OF EVENT(S)
EXPLOSION
FIRE
INJURY
FATALITY
LIST -- M2 M3 M4 M5
CAUSE OF EVENT
WELL AND HEADER SYSTEM
LEAK IN WELLHEAD ASSEMBLY (P)
LIST -- J02
EFFECTS OF EVENT
NUMBER OF MEN INJURED ----- 20
NUMBER OF FATALITIES ----- 11
GENERAL REMARKS
FAILURE OF GRAYLOC FITTING OR LEAK IN CASING ASSEMBLY LET GAS ESCAPE WHICH
IGNITED IN AN EXPLOSION.
DATE OF EVENT (YY=MM=DD) == 08-03-21

```

Figure 37. == GIPSY record from the OCS Events file.

Title: WRD Project File

Sponsor: U. S. Geological Survey
Water Resources Division
Washington, D. C. 20242

Contact: Robert A. Perry, (202) 343-2595

Status of application: Operational file

Objectives: To provide information to Survey management on the objectives, progress, funding, manpower needs, and products of approximately 1300 Water Resources Division projects. Besides meeting a variety of management needs, the file is also used to answer Congressional, Federal, state, and public inquiries about the scope, geographic distribution, and intensity of Survey activities in the field of water resources.

Source documents: Project description form (USGS-WRD Form 9-1686-B-G) which are keyboarded on an IBM Magnetic Tape/Selectric typewriter.

File organization: Each record may contain approximately 900 or more data elements depending primarily upon the complexity of funding. Major areas covered by the project description are listed below: project number, title (including a short title used in project listings), location, description of the problem, objectives, approach, anticipated benefits, manpower (including grade and specialty) need for additional manpower, type of project, fields of study, PPBS codes, use of data, distribution of data collection, anticipated information products, index terms (descriptors), distribution of work activities, fiscal data by type and source for a five-year period (PPBS planning period), number of data collection stations operated by type, progress and significant results, plans, project status, and reports published.

Users: Survey management.

Size of file: At present the file contains 100 project records.

Problems: Input of a sizable amount of textual material present in this file has been handled by using IBM Magnetic Tape/Selectric typewriters to keyboard the data. The MT/ST tapes are later converted to EBCIDIC computer codes on 9-track magnetic tape, the data formatted, and the GIPSY records built.

In several instances use was made of fixed field formats within the GIPSY record. This was necessary, in the case of fiscal information, to avoid large numbers of labels in the dictionary. However, it limits the amount of information on which to base retrievals. Extensive use is made of other computer programs to process the data selected during a GIPSY search to perform statistical analyses of numeric data and to produce reports.

U.S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

PROJECT DESCRIPTION - PART A

Project no. _____

Former
Project no. _____

1) Project number A1 ◀ - F ◯ I G C L ▶ (1a) _____
 State or region yr Serial no. Type of funds
 (Circle one or more) Proposal no.

2) Project title A2 ◀ _____ ▶

2a) Short title A2A ◀ _____ ▶

3) <u>Region</u> A3A ACR 1 (Circle one and place number in box) A3M MCR 2 A3R RMR 3 A3P PCR 4 A3W WRD 5 A3 ◀ <input type="text"/> ▶	(4) <u>Office</u> A4 ◀ _____ City _____ State <input type="text"/> ▶
	(5) <u>Initial data</u> A5 ◀ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ▶
	(6) <u>Revision date</u> A6 ◀ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ▶ yr mo day
	7) <u>Approval date</u> A7 ◀ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> by _____ yr mo day Approved by (Signature)
	8) <u>Problem</u> B1 ◀ _____ ▶

7) Approval date A7 ◀ by _____
 yr mo day Approved by (Signature)

8) Problem B1 ◀ _____ ▶

9) Location B1A ◀ _____ ▶

9) Objectives B2 ◀ _____ ▶

10) Approach B3 ◀ _____ ▶

Figure 38. -- Input document for the WRD Project file.

PROJECT DESCRIPTION - PART F

Project no. _____

(35) FDATE
 yr mo day

(35a) FYDATE

(36) Funding - Fill in the following table for each source of funds. Leave blank any entries that are not applicable. Agency codes and standard abbreviations are given in *LIST K*.

	Total	Last	This	1st	2nd	3rd	4th	5th
G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

	Seq. no.	Code	Name
COOP	<input type="text"/>	<input type="text"/>	
C	<input type="text"/>	<input type="text"/>	<input type="text"/>
D	<input type="text"/>	<input type="text"/>	<input type="text"/>
E	<input type="text"/>	<input type="text"/>	<input type="text"/>
F	<input type="text"/>	<input type="text"/>	<input type="text"/>

G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

	Seq. no.	Code	Name
COOP	<input type="text"/>	<input type="text"/>	
C	<input type="text"/>	<input type="text"/>	<input type="text"/>
D	<input type="text"/>	<input type="text"/>	<input type="text"/>
E	<input type="text"/>	<input type="text"/>	<input type="text"/>
F	<input type="text"/>	<input type="text"/>	<input type="text"/>

G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

COOP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

	I/Ø	Seq. no.	Code	Name
OFA	<input type="text"/>	<input type="text"/>	<input type="text"/>	
G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

OFA	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
-----	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

Licensee _____

G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

Total

<LIST>

G I P S Y D I C T I O N A R Y B U I L D F O R M - P R O J E C T

L A B E L S P O U I . F . C L E A M T E X T

XX1 01 1 - 00010 WRD PROJECT NUMBER

PROJNUM 02 1 - 00020

XX2 01 1 0 00030 PROJECT TITLE

TITLE 02 1 - 00040

XX3 01 1 0 00050 SHORT TITLE

STITLE 02 1 - 00060

XXXX 04 2 00070 DUMMY TO BREAK LEVEL STRING

ACR 03 1 0 00080 REGION - ACR

HCR 03 1 0 00090 REGION - HCR

RMR 03 1 0 00100 REGION - RMR

PCR 03 1 0 00110 REGION - PCR

WRD 03 1 0 00120 REGION - WRD

WREGION 03 1 - 00130

OFFICE 03 1 0 00140 OFFICE

IDATE 03 1 0 00150 DESCRIPTION PREPARED

RUATE 03 1 00160 DESCRIPTION REVISED

APPROV 03 1 00170 DESCRIPTION APPROVED

XA 01 1 - 00180 PROBLEM

PROBLEM 02 3 - 00190

XL1 01 1 - 00200 LOCATION

LOCATE 02 3 - 00210

XB 01 1 0 00220 OBJECTIVE

OBJECT 02 3 - 00230

G I P S Y D I C T I O N A R Y B U I L D F O R M - P R O J E C T

L A B E L S P O U I . F . C L E A M T E X T

GENREM 02 3 - 08740

XXX3 51 2 08750 DUMMY TO BREAK LEVEL STRING

FDATE 50 1 - 08760 FUND DATE

ZV 01 1 - 08770 SOURCE OF FUNDS BY AGENCY

ZX 02 1 - 08780

FYDATE 33 1 - 08790 FY DATE

ZY 03 1 0 08800 TOTAL

ZZ 04 1 08810 YEAR

ZZA 05 1 - 08820

FED 02 1 0 08830 FEDERAL PROGRAM (WRD FUNDS)

FEDTOT 03 1 0 08840 ** \$

FEDLAS 21 2 - 08850

FEDFIS 30 2 - 08860

FEDI 39 2 - 08870

FED2 48 2 - 08880

FED3 57 2 - 08890

FED4 66 - 08900

FED5 75 2 - 08910

COOP 02 1 0 08920 FEDERAL-STATE PROGRAM

COOP01 03 1 - 08930

COOP01C 03 1 0 08940 REP \$

COOP01D 03 1 08950 DIM \$

COOP01E 03 1 08960 UNM \$

1ST 2ND 3RD

YEAR YEAR YEAR

Figure 39. -- GIPSY dictionary for WRD Project file.

WRD PROJECT NUMBER -- # FL 71-1440

PROJECT TITLE -- RESPONSE OF WATER LEVELS TO FLOOD CONTROL OPERATIONS IN
SOUTHEASTERN FLORIDA

SHORT TITLE -- WTR LEVEL RESPONSE TO CONTROLS

REGION - ACR # 1

OFFICE - MIAMI, FL

DESCRIPTION PREPARED -- 70/07/01

DESCRIPTION APPROVED -- 71/06/14 BY PORTER E. WARD

PROBLEM

THE PERMEABILITY OF THE BISCAYNE AQUIFER AND THE DEGREE OF INTERCONNECTION BETWEEN THE AQUIFER AND THE CANALS ARE MAJOR HYDROLOGIC FACTORS IN FLOOD CONTROL IN SOUTHEASTERN FLORIDA. CANAL- AQUIFER INTERCONNECTION IS EXCELLECT IN DADE COUNTY, BUT IT BECOMES PROGRESSIVELY POOR IN BROWARD COUNTY WHERE THE UPPER PART OF THE AQUIFER CONTAINS FINE MATERIALS OF LOW PERMEABILITY. BECAUSE OF THE DIFFERENT HYDROLOGIC CHARACTERISTICS, OPERATION OF CONTROL STRUCTURES IN CANALS IN AREAS OF GOOD INTERCONNECTION WILL BE DIFFERENT FROM THE OPERATIONS WHERE INTERCONNECTION IS POOR.

LOCATION

SOUTHEAST FLORIDA

OBJECTIVE

DETAILS OF THE HYDROLOGIC CHARACTERISTICS OF INDIVIDUAL CANAL BASINS MUST BE KNOWN FOR OPTIMUM MANAGEMENT OF THE WATER RESOURCES. SOME BASIC HYDROLOGIC INFORMATION IS AVAILABLE FOR C-9 (SNAKE CREEK CANAL), C-6 (MIAMI CANAL) AND C-2 (SNAPPER CREEK CANAL) IN INDIVIDUAL INVESTIGATIVE REPORTS. THE RESULTS OF THE STUDY WILL AID IN DETERMINATION OF THE SECONDARY OR TERTIARY CANAL DRAINAGE REQUIRED IN FLOOD CONTROL.

APPROACH

THE PLAN IS TO INVESTIGATE AND EVALUATE THE RESPONSE OF GROUND- WATER LEVELS AND CANAL LEVELS IN INTERIOR AREAS TO OPERATIONS OF COASTAL SALINITY CONTROL STRUCTURES AND INLAND SECONDARY CONTROL STRUCTURES IN SELECTED PRIMARY CANALS. TESTS WILL BE MADE IN CANAL SYSTEMS IN THREE DIFFERENT GEOLOGIC ENVIRONMENTS. DURING THE TESTS WATER LEVELS WILL BE MEASURED IN SHALLOW OBSERVATION WELLS AT DIFFERENT DISTANCES FROM THE PRIMARY AND/OR INTERCONNECTED SECONDARY CANALS.

BENEFITS

THE RESULTS OF THE TESTS IN THE THREE CANALS WILL PROVIDE THE COOPERATORS WITH THE NECESSARY INFORMATION TO MANAGE THE WATER RESOURCES IN EACH OF THE THREE BASINS IN THE MOST EFFECTIVE MANNER TO PRESERVE THE FRESH WATER RESOURCES AND PREVENT SALT WATER INTRUSION.

Figure 40. -- GIPSY record from WRD Project file.

DATA SYNTHESIS
 DATA INTERPRETATION 71/10 72/10 \$ 7000

REPORT PREPARATION 72/08 73/04 \$ 8000

SUPPORT
 WOTC 70/07 73/06 \$ 2700

WORK ACTIVITY CODES - EA7 EB1 AA1 SA4 RA KB4

STATE(S) - PERCENTAGE OF PROJECT IN EACH
 FLORIDA 100%

STATE CODES - FL

WRC REGION(S) - PERCENTAGE AND SQ MI OF PROJECT IN EACH
 SOUTH ATLANTIC-GULF REGION 100% 100

TOTAL PROJECT AREA (SQ MI) 100

WRC REGION CODES - Z03

COUNTY(IES) - PERCENTAGE OF PROJECT IN EACH
 70.0% FL025 DADE
 30.0% FL011 BROWARD

WLIST FL011 FL025

CONGRESSIONAL DISTRICT(S) - PERCENTAGE OF PROJECT IN EACH
 70.0% FL DISTRICT 11
 30.0% FL DISTRICT 10

YLIST FL10 FL11

GENERAL REMARKS

SOURCE OF FUNDS BY AGENCY FY DATE 71 FUND DATE 71/05/04

	<u>TOTAL</u>	<u>LAST</u>	<u>THIS</u>	<u>1ST</u>	<u>2ND</u>	<u>3RD</u>
	<u>YEAR</u>	<u>YEAR</u>	<u>YEAR</u>	<u>YEAR</u>	<u>YEAR</u>	<u>YEAR</u>

FEDERAL-STATE PROGRAM

FL05 CENTRAL AND SOUTHERN FLA FLOOD CONTROL DIST

REP \$	5000	5000	5000			
WRD \$	5000	5000	5000			
* \$	10000	10000	10000			
** \$.0000	10000	10000			

Figure 40. -- (continued)

MINUTES
GIPSY USERS' CONFERENCE

On May 12, 1971, a GIPSY users' conference was held in Washington, D. C. The host was the Department of the Interior. During this conference, users suggested various extensions and improvements to the program. Following the meeting, the Conference Chairman contacted some of the attendees and asked them to rank the suggestions in priority order. Following are the suggestions, in priority groups, based on a sampling of attendees. Suggestions within a group are of equal rank.

I Highest Priority

1. Generic Labels. Provide synonymy or the ability to group or equate labels in the dictionary and at search time.
2. Periodicity. Provide for periodic or repeating labels or sets of labels for time dependent data. Examples: a set of labels for an employee's previous employment history or dates of reading and measurements of well head pressures at a gas well.
3. Updating. Need generally improved update procedures including the ability to update individual records through the record ID (index sequential technique), the ability to update directly from fixed field cards, and the ability to update all records in a file easily.
4. Conversion. A generalized utility program for converting existing fixed field, fixed record length files to GIPSY.

II 1st Intermediate Priority

5. Documentation. Prepare a 4-part GIPSY manual:
 - A. Basic User's Manual. Distinguish clearly between batch and TP versions and provide card layouts for batch versions.
 - B. File Maintenance. Include conversion of existing files, building new files, updating, back up files and procedures.

- C. System Details. Maximums, minimums, limitations on commands, JCL, record lengths, common system error messages and probable causes, GIPSY error messages and causes.
 - D. Utilities. Helpful hints, unusual techniques, interface with other programs, conversion programs, MT/ST, phototypesetting---get input from users.
6. Reentrant Program. Make TP GIPSY reentrant so users can share a single GIPSY partition in core.
 7. UC/LC. Provide for upper and lower case characters in storage and printout, but with search based on single case.
 8. Secondary Indexes. Allow the user to build secondary indexes (inverted files) on selected labels to improve search time.
 9. Multiple SRF's. Allow the user to build, store, and call SRF's with Questran commands and without changing JCL.

III 2nd Intermediate Priority

10. Multiple Output Files. Provide for more than one output file in COPY.
11. RPG. Provide standard report generator capability, linked to COPY, i.e., level controls, columnar sums, counts, format controls.
12. COPY Printed Output. Provide for title page, column headings on each page, and page numbers.
13. COPY, Clear Text. Access clear text from the Dictionary.
14. COPY, Variable Length. Output variable length fields and records, including user inserted labels, delimiters, edit codes--for typesetting and related applications.
15. Duplicate Records. Scan for duplicate records and delete the duplicate record(s) that occur first in the file.

IV Lowest Priority

16. COPY Parameters. Increase the limit on the number of COPY parameters beyond the present 100.
17. Logic Weight. Implement the logic weight statement in Questran.
18. Runaway Printout. Provide for setting a limit on the number of records to be printed in the batch mode.
19. Space and Level. Separate the space and level controls in the dictionary.
20. Intra-Record Sum. Extend the sum capability to summing labels within a field.
21. Dictionary. Explain which dictionary fields are left or right justified.

V Special recommendations which affect a single agency or which are not rankable in priority order.

22. On Line Update. Provide for direct on-line updating through IBM 2260 CRT terminals.
23. DUMP. Provide a fix for the DUMP utility in use at USGS. This program does not clear the track overflow byte.
24. GIPSY Newsletter

VI Comments

GIPSY's principal advantage is its simplicity. In adding these extensions, we may be moving from a user-oriented to a programmer-oriented system. The recommendations made at the user's conference will extend to versatility of the program and are wholly desirable. However, they should be optionally available to the sophisticated user or programmer and transparent, or simply not there, for the general user.

The ranking of the recommendations was based on a sampling of attendees. If any attendee disagrees with the ranking, please contact Dr. Sweeney at the University of Oklahoma directly.

I would like to thank Darrel Knoll of the National Oceanographic Data Center, David W. Moody of the Water Resources Division, U. S. Geological Survey, and Ljubo Lulich of the Water Resources Science Information Center for their assistance in organizing the user's conference.

Olaf Kays
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Washington, D. C. 20242

Conference Chairman

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