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A Report of the
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Bureau For Science and Technology
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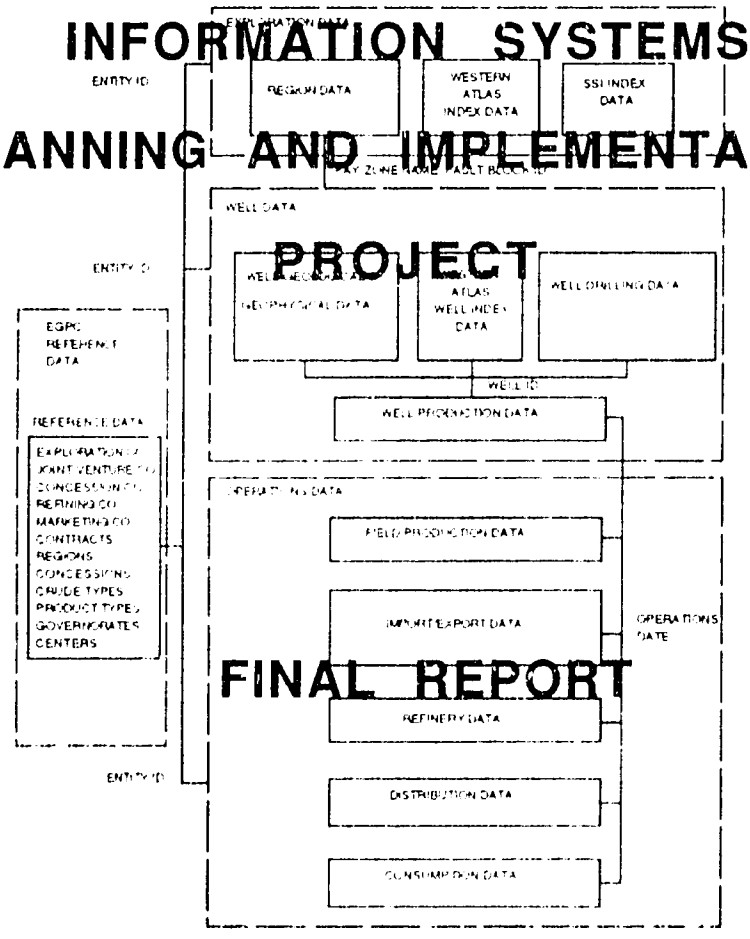
VOLUME I

EGYPTIAN GENERAL PETROLEUM CORPORATION

INFORMATION SYSTEMS PLANNING AND IMPLEMENTATION PROJECT



FINAL REPORT

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Conventional Energy Technical Assistance Project
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EGPC INFORMATION SYSTEMS
PLANNING & IMPLEMENTATION STUDY

FINAL REPORT
MANAGEMENT SUMMARY

Introduction:

The Egyptian General Petroleum Corporation (EGPC) leads the Egyptian petroleum sector towards efficient exploration, production, and utilization of fossil fuel in order to increase foreign exchange currency and promote export. As the EGPC organization grows, and the communication between EGPC and their subsidiary companies increases, the need for information management also increases. For this reason, U.S.A.I.D., under the Mineral, Petroleum and Groundwater Assessment Project, funded the EGPC Information Systems Planning & Implementation Study. The purpose of this study is to assist EGPC in organizing the existing data, and to permit enhanced information interchange between the exploration, production, and operations divisions.

The study was developed with four primary objectives in mind. They are summarized as follows:

- Objective 1: The first objective is to assess the information requirements at EGPC for the three divisions under the scope of the study. Part of this data assessment involved coordinating with the two previously U.S.A.I.D.-funded projects with Integrated Technologies and Scientific Software Intercomp. The intent of this coordination was to take these two data bases into consideration when designing the overall EGPC mainframe data base.

  Another important facet of objective one was to develop a detailed work plan. This involved reassessing the proposed scope of work to determine the level of effort that could be accomplished within the current budget level of the contract.

- Objective 2: This objective was to design an overall system of data input, retrieval, and data communication that satisfies the information needs of the exploration, production, and operations divisions within EGPC. Again, the level of implementation was to be within the schedule and cost restraints of the overall study.

- Objective 3: This objective was to provide the necessary application software which would assist EGPC management in making decisions. The amount of software and implementation of the software was also governed by the budgetary limits of the contract.

- Objective 4: The final objective of this study was to upgrade the General Library at EGPC. The scope of this effort included making a current evaluation of the

existing facility and making recommendations for an improved library design and implementation.

Project Tasks:

The scope of the study was divided into six tasks. The following is a synopsis of the project tasks, and the deliverables that Bechtel furnished to accomplish them.

- Task 1: Organize the Study - To complete Task 1, the Bechtel Team held a series of orientation meetings with EGPC. The purpose of these meetings were to familiarize the Bechtel Team with the EGPC organization and its key individuals and, at the same time, provide the team members with a framework of how EGPC operates. Initially, the team wanted to assess the magnitude of the data requirements at EGPC, and to make the reassessment of project scope that was called out in objective 1. As a result of the high level of cooperation and assistance provided by the EGPC professionals, Bechtel was able to furnish the following deliverables: project organization; documents confirming scope and expected deliverables; a project work plan; and meeting notes discussing the results of the orientation sessions with EGPC.

- Task 2: Analyze the Situation and Define Requirements - This task was divided into two sub tasks. The following is a summary of each sub-task and how each was completed during the course of the project.

  - Task 2.1: Review Project Operations - To assess the information requirements of EGPC, it was necessary to analyze the functionality of the EGPC departments. This was done through an extensive series of interviews with EGPC professionals. These interviews were begun at the Vice-Chairman level for each of the three divisions under the scope of the contract. This approach is called "top-down" planning. Through discussions with senior management, the Bechtel Team was able to gain an understanding of management goals and objectives. This is an important step in planning information systems that will conform to these goals and objectives.

    After the interviews with management, the Bechtel Team then began interviews with middle management, supervisors, and the people who actually generate the day-to-day documents required to run an enterprise. These interviews formed the basis of the functional analysis of EGPC. The following is a group of sample questions which were presented to each functional group:

    - What reports are received by your sector/department?

    - What data is contained on each report?

    - Where do the reports come from?

- How often do you receive these reports?
- What type of reports does your sector/department do?
- Which pieces of data on these reports are of particular interest to your sector/department?
- How are these pieces of information used by your sector/department?
- To whom is this data routinely supplied?
- Would it be possible for the Bechtel Team to obtain copies of the reports and forms that are received or generated by your sector/department?

By reviewing this type of information, the Bechtel Team was able to determine how information is used by EGPC, and how the data is shared by the various groups. Each function within EGPC has its own particular data needs, and based on this, Bechtel supplied the following deliverables based on the functionality:

- Functional Business Models of EGPC: These diagrams show the major functional areas under the scope of work (exploration, production, and operations) and provide details as to the lower level functions that are done in each area.

- Information Usage Models: These models illustrate the functional areas of EGPC, and chart the exchange of information that takes place both internally to EGPC and to the external companies with which communication is routinely done.

Another important activity that was completed during Task 2 was the collection of sample forms and reports that are used by EGPC. These forms and reports were catalogued and analyzed to develop the detailed data requirements.

Task 2.2: Review Present Systems - The purpose of this sub-task is to coordinate the design of the data bases with the previous U.S.A.I.D.-funded projects. The intent was to avoid possible duplication of effort between Bechtel and the other on-going projects at EGPC. The deliverables for this task were to specify the hardware required for communication with the existing projects, and to locate software that will be suitable for such a connection.

The deliverables for this sub-task were satisfied by Bechtel in the following way:

- A report was furnished to EGPC entitled "Alternatives for Data Base

Integration". In this report, Bechtel discussed the criteria that data communication hardware and software must meet. First, the centralized data base must be accessible from several types of computers simultaneously. Second, user departments must be able to query the data base and obtain information without the need for the I/S department to develop a program. The hardware and software required to make the connections with current computer systems at EGPC were identified. The means for making connections to future computers at EGPC subsidiary companies were also identified.

- Task 3: Design Solutions - This task involved the formulation of the design for the new integrated data bases. The task was divided into five sub-tasks. A brief description of each sub-task and the methods that were used by Bechtel to satisfy each one is as follows:

  Task 3.1: Define Requirements - The data requirements were developed by analyzing the forms and reports that had been gathered in the previous tasks. The results of this data analysis were shown in the Task 3 Report and entitled "EGPC Data Hierarchy". This hierarchy splits the data into four broad categories: exploration data, well data, operations data, and entities or "reference" data. Shown under each of these categories are the subject data bases that are designed to support the functions that were identified in Task 2.

  Task 3.2: Develop Conceptual and Logical Design - Contained in the Task 3 report was an "Overview of EGPC Data". This document listed the categories of data and the subject data bases and also showed the major entities that comprise each data base. Also enclosed in the Task 3 Report are cross-reference matrices that analyze the EGPC data and explore the relationships between data elements. The types of matrices that were completed were: entity to data collection matrices; subject area to entity matrices; subject area to function matrices; and entity to process matrices.

  Task 3.3: Devolop Detailed Design - The detailed design is showon the data relationship diagrams. These diagrams show the entities that exist in each data base. Also shown are the relationships that exist from one entity to another. These relationships are established to ensure that data bases will operate efficiently, and redundancy will be controlled. Shown underneath each entity are the attributes and the primary and foreign keys that link distinct portions of the data bases to each other.

  Task 3.4: Develop Solution Alternatives - After the submittal of the Task 3 Report, a review was held with each of the functional groups of EGPC to review the design that was done by Bechtel. The purpose of this review was to obtain alternate ideas for data and applications groupings. Several changes were made to the original data groupings as a result of this review, and these changes incorporated into the design.

Task 3.5: Review Alternatives and Select Primary Schema - Bechtel's recommendation for the primary scheme was presented in the Task 3 Report in the section entitled "Alternatives".

- Task 4: Data Base Implementation - The data base implementation was divided into three sub-tasks. The following is a synopsis of these sub-tasks, and a summary of how they were accomplished by Bechtel.

  Task 4.1: Create Integrated Data Bases - All of the data tables were created using Oracle. The fields within each table were then created and the data types and field lengths finalized. As part of the Task 1 Report, Bechtel stated that they did not think it possible to create all of the data bases within the schedule and budget allotted to this project. However, because the development of all of the data bases was a very high priority for EGPC, Bechtel decided to give this maximum effort. At the end of the project, Bechtel had succeeded in creating all of the data bases at no additional cost to the project.

  Task 4.2: Develop Software to Input, Retrieve, and Maintain the System - Bechtel developed a menu-driven system whereby data can be entered and retrieved. The maintenance of the system is one of the many "built-in" features contained in the Oracle software that was supplied by the project.

In order to maximize the benefit of the data bases that Bechtel had completed, and to ensure that the EGPC I/S department would use the data base after Bechtel's involvement with the project was complete, Bechtel decided to conduct the demonstration of the data bases with small groups from the I/S department. This accomplished two things: first, it gave the I/S professionals further training on using the Oracle tools. Second, it allowed a larger number of EGPC employees to become familiar with the details of the data base design. It also provided "hands-on" experience in the areas of data input, data retrieval, and data base maintenance. These activities were begun on PC's at Bechtel's office. They were repeated when Oracle was installed on the IBM 3090 at EGPC.

- Task 5: Develop User Applications - This task consisted of several sub-tasks. The following is a description of how each sub-task was completed.

  Task 5.1: Install Application Software - With the concurrence of EGPC, Bechtel utilized the budgetary limits for application software to purchase application development tools including Oracle (a fourth generation application development system and data base management system). Using Oracle, the I/S professionals at EGPC will be able to develop applications that will access the data bases installed by Bechtel. Pilot applications were developed by Bechtel using Oracle, and members of EGPC's I/S department were trained during each stage of the application development.

Also purchased for EGPC under this contract was CASE (Computer Aided Software Engineering) tools. CASE tools are used by I/S professionals to conduct informations systems planning, analysis, and design. Training was provided in the use of CASE tools to five members of the I/S department at EGPC.

Task 5.2.1: On-the-Job Training - Beginning with the first orientation meetings that were held with EGPC functional groups, Bechtel requested that an EGPC I/S person attend each meeting. By attending and watching the processes of functional analysis, data analysis, and data base design, EGPC people were exposed to the proper steps to be taken at each phase of the project. This continued throughout the project including the installation of the data base and the development of applications.

Task 5.2.2: Local Training - At the end of each project phase, Bechtel conducted several training sessions with both the user groups of EGPC and with the I/S department. The user training was important so that the users would be familiar with the process, and, in future systems development work done by EGPC, would be more willing participants. The I/S training that was given was in the areas of functional design, data base design, and applications development. In all, Bechtel conducted training for approximately 20 users, and for another 20 persons in the I/S department.

Task 5.2.3: Training & Observation Visits to the U.S. - Detailed training visits were held for five members of the I/S department. This training was in the areas of data base design, data base implementation, and applications development.

Observation visits were held for five senior executives of the EGPC organizations, representing both the I/S department, and the divisions of exploration, production, and operations. Also represented was a member of EGPC's gas department. These visits provided training in the current status of the information technology industry, it looked at the possible trends for the industry in the future, and it discussed how executives can use information technology to help them do their particular roles.

- Task 6: Library Upgrade - Utilizing the budget under this contract, Bechtel hired a library consultant to conduct the library study. The purpose of this study was as follows: 1) to evaluate the current library and make recommendations; 2) to prepare a revised layout for the EGPC library; 3) to prepare organization, documentary, and retrieval data and evaluate potential software; and 4) list the tools, periodicals, and references that the EGPC library would require to bring the library to its upgraded status.

A copy of the completed library report is attached for reference.

SUMMARY AND FUTURE RECOMMENDATIONS:

The following is a summary of the steps that Bechtel feels will help EGPC to make the best use of the plan and systems that are now in place:

- Formulate an I/S Training Plan: U.S.A.I.D. and EGPC have made considerable investment in information systems in the past few years. To maximize this investment, a training plan should be formulated to continue this effort. The plan should consider three goals: first, to improve EGPC's application development capability and to allow the I/S department to function independently in this area. The applications development capability could be strengthened with further training. Second, the training that was begun by Bechtel on Oracle should be expanded to more people. This way, EGPC could broaden this capability and become more productive.

- Formulate a User Training Plan: During the functional analysis phase of this project, Bechtel found that the EGPC functional areas have a good number of people that have the aptitude and the skill for using computers. Tools have been put in place that will enable the end users to develop ad hoc queries and reports. This can make the users more self-sufficient in getting the data that they need. It would also free the I/S department of routine development requests, and enable them to spend their time developing more sophisticated applications. In short, this would increase the productivity of both groups.

- Exchange Data with Subsidiary Companies: Bechtel has provided an architecture and software at EGPC which will allow the communication between EGPC and the subsidiary companies. Using Oracle at EGPC and at the subsidiary companies allows for communicating data across many different computer platforms. This effort should be carefully planned on the subsidiary company side to avoid some of the common problems that can occur during these communication attempts. However, the groundwork has been set in terms of the data base design and the means for communicating with other subsidiary computers.

- Data Security: As the number of users grows, and the data becomes distributed across departments and subsidiary companies, the need for security becomes greater. Careful planning and consideration should be given to security at the operating system, data base, and data base table levels. The tools have been put in place that will permit a very advanced level of security if the tools are applied properly. With careful planning, EGPC can be assured that each using group will be allowed access to only those pieces of data to which they are entitled.

TASK 1 - ORGANIZE THE STUDY

Task 1, Organize the Study, constituted the preparation phase of the overall project. The goals of this task were three-fold: first, to define the activities that would transpire during the life of the study. Second, to assign responsibilities for both Bechtel and EGPC . Third, to confirm the deliverables that would be required at each phase of the study.

Task 1 also had its individual set of deliverables. They were as follows:

- Project organization documents for both Bechtel and EGPC
- Documents confirming scope and deliverables
- Project work plan
- Documentation of orientation sessions held with EGPC

PROJECT ORGANIZATION:

For the Bechtel Team, an organization chart was prepared that reflected both the organization at the start of the project as well as additions that were expected to be made later on. For the EGPC participants, matrices were prepared which showed the EGPC key personnel along the top, and the functions performed by each person on the left. These matrices were key pieces of information that were used extensively in later phases of the project. It allowed the Bechtel Team to establish direct contact with EGPC personnel and made the in-depth interview process very efficient. Using these matrices, the Bechtel Team was assured of scheduling interviews with the correct person the first time.

PROJECT SCOPE:

Included in this section of the Task 1 Report was a copy of the Scope of Work from U.S.A.I.D. In addition, the importance of a thorough functional analysis was discussed. In order to complete the data base design in the later phases of the project, the groundwork must be laid during the functional analysis. Information professionals today must delve into the functions that are completed by each department. The purpose of this two-fold. First, each function has its own particular information requirements, so an awareness of all of the functions is required to verify that all of the information requirements are known. Second, these information requirements are satisfied from many different sources. The information professional must define these sources and establish the methods of information transfer. When building a relational data base, it is necessary to know what form the information is in when it reaches the user department. This helps to define whether the data exchanges will be manual or electronic, and will be instrumental in indicating factors such as data sharing, frequency of the data, and the frequency of departmental reporting.

The functional analysis documents in the Task 1 report included an EGPC Functional Overview. This reviewed the primary functions of the three divisions under the project scope, and displayed the major types of data that is regularly exchanged.

The Functional Hierarchy was generated that defined the the functions that are done by the various divisions, sectors, and departments of EGPC.

A Functional Narrative was included in the report that discussed many of the tasks and sub-tasks that are completed each day by the various organizational entities of EGPC. This narrative was done at a summary level, and did much to orient the Bechtel Team to the management goals and objectives of EGPC.

PROJECT WORK PLAN:

In order to properly present the project work plan, it was necessary to discuss the methodologies that would be used to execute the project. This was done by providing samples of deliverables that would be provided by Bechtel for subsequent tasks.

In a systems integration project of this type, there are several elements of the design which must be completed in a logical sequence. The major elements of systems design are as follows:

- Functional Architecture: This is a series of diagrams which represent the functional areas within a company; the flow of information from one functional area to another; what form the data is in; and how the data is used.

- Data Architecture: The data architecture shows the data that is currently being stored by a company; how the data is grouped; and how these groups of data relate to one another.

- Systems Architecture: This shows the processes that will be automated within the company. The applications are organized into systems and the flow of data from one system to another is defined. Also covered here is a discussion of how the data is created in electronic form, and how computers will use it.

An "Overall Sequence of Work" was enclosed in the Task 1 report. This document displayed the individual tasks from the Scope of Work, and conveyed the completion of these tasks in the order in which they would be accomplished.

Also presented with the Project Work Plan was a recommended procedure for selecting which data bases and applications would be implemented. This procedure is used to evaluate deficiencies in information in an enterprise, and relate these deficiencies to the "cost versus benefit" of implementing their solutions.

ORIENTATION SESSIONS WITH EGPC:

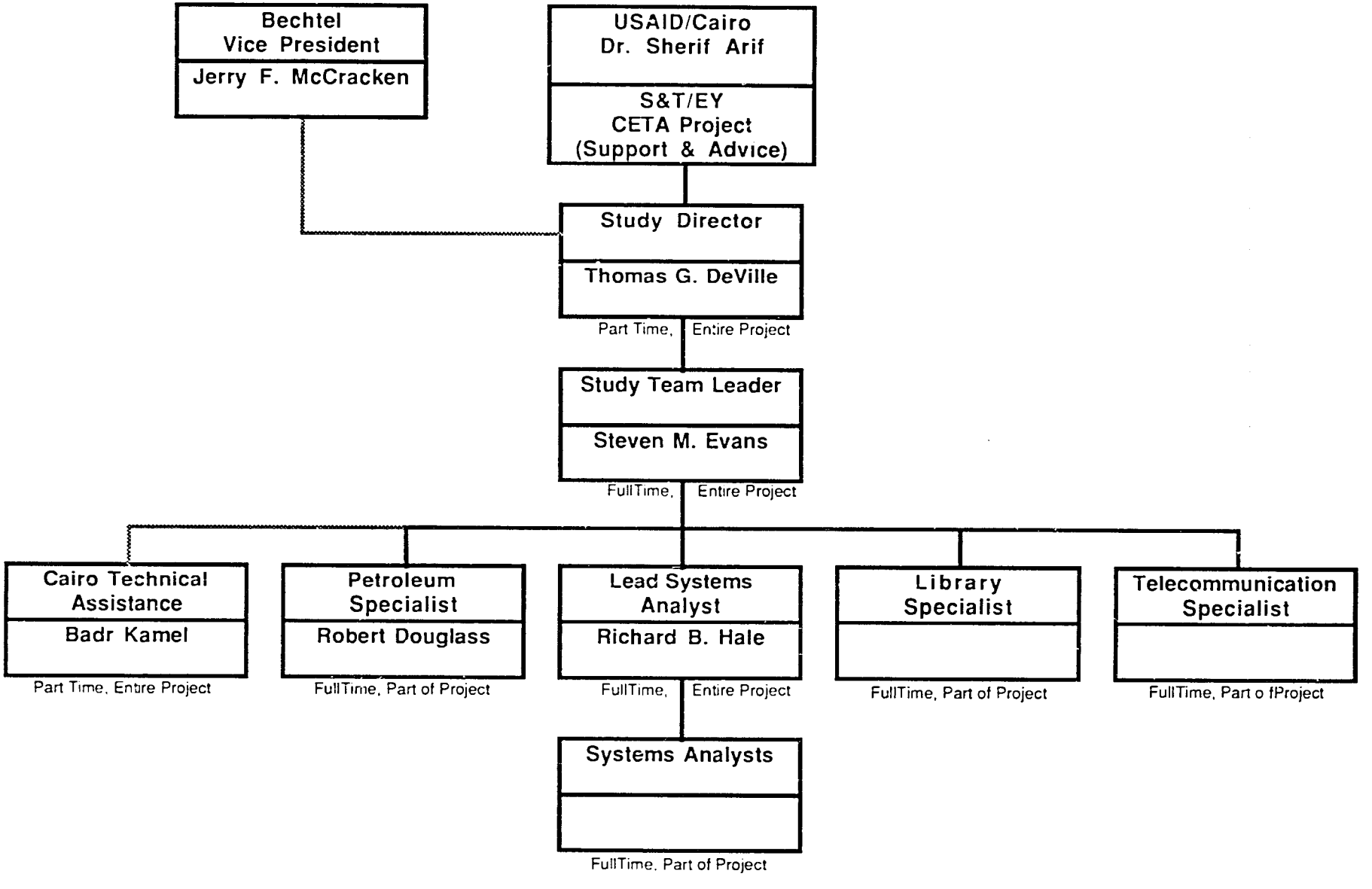
Meeting notes were taken during the orientation sessions that were held with EGPC. These notes were issued as an enclosure to the Task 1 Report.

Project Organization

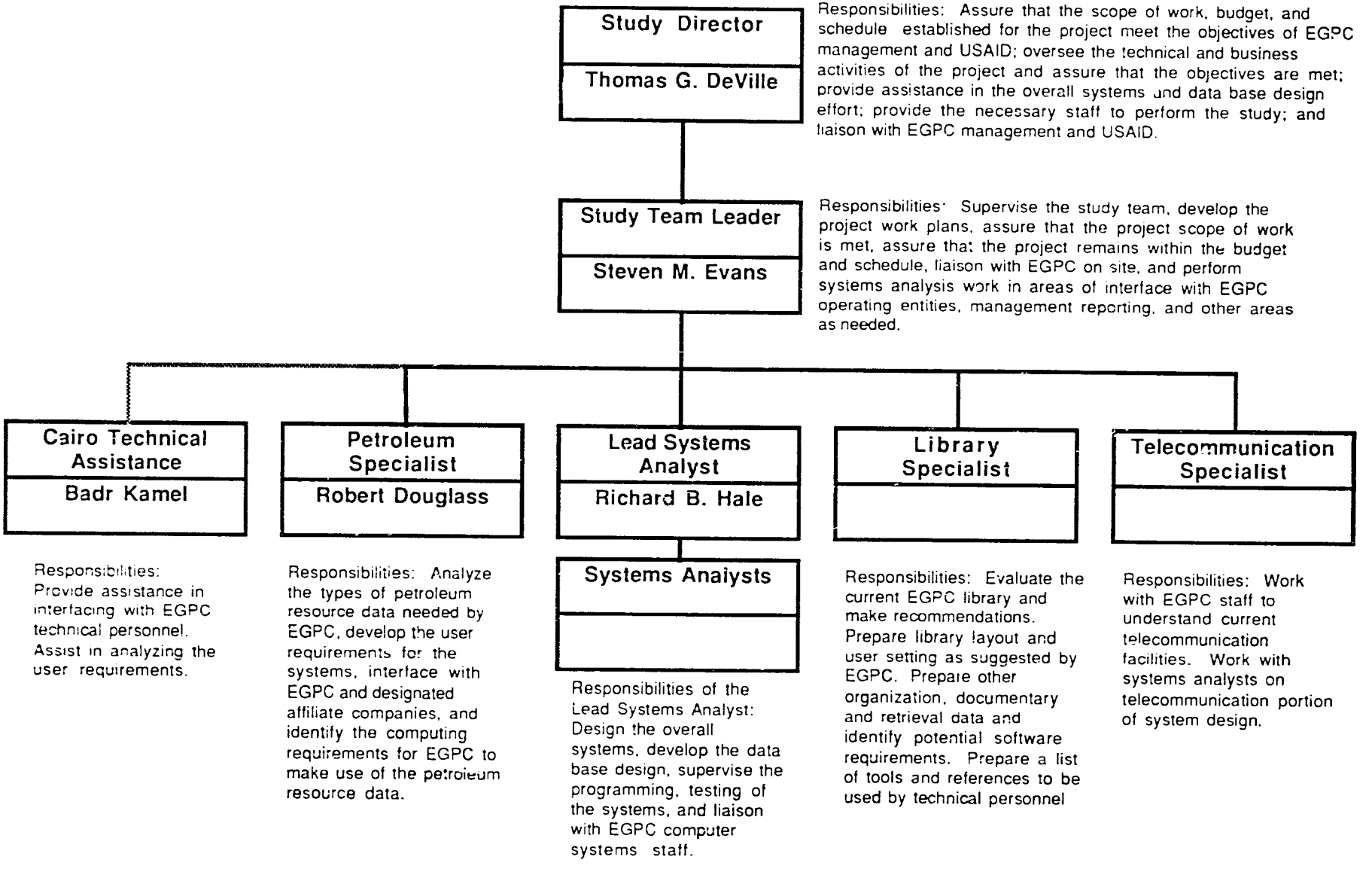
The first illustration shows the organization of the Bechtel study team. Boxes without names are for individuals expected to be required later in the project.

The next illustration shows the responsibilities of each of the Bechtel study team members.

The last illustration titled " Key EGPC Personnel for Project Interface" describes Bechtel's understanding of how EGPC personnel will be involved with the project. This is a matrix which shows the key EGPC personnel along the top and the functions performed by EGPC along the left side. This matrix is Bechtel's first pass as identifying the personnel with which the Bechtel team will interface.



Organization of Bechtel Study Team



Responsibilities of Bechtel Study Team Members

EGPC KEY PERSONNEL MATRIX
EXPLORATION

EGPC ORGANIZATION / FUNCTIONS	Geological/Geophysical Data	Physical Data	Electronic Data	Technical Control	Programs/Statistics	Exercise Agreements	Exploration Studies & Operations	Exploration Studies	Exploration Operations	Exclus/Non-exclus Studies	Exploration Agreements
Abdel Hamid Hedewy	•										
Ibrahim Gobbara		•									
Alaa Abul-Azaeim											
Mohamed Tantawi			•								
Mahmoud Marzouk				•							
Ahmed Omran					•						
Ahmed Raghib						•					
Asem Hegazy							•				
Saied El Askary											
Sayed Moussa								•			
Mohamed Sakr											
Sayed Matbouly										•	
Abdel Wahab Youssef											•

EGPC KEY PERSONNEL MATRIX
PRODUCTION

FUNCTIONS / EGPC ORGANIZATION	Production	Production Performance	Production Planning	Production Budgeting	Prod Devel Procedures	Reservoir	Reservoir Performance	Reservoir Economics	Res Devel Procedures	Drilling	Operations	Rig Performance	Development Facilities	Feasability/Economic Std	Facilities Design
Mohammed Eloui	•					•									
Shaheen Sayed		•	•	•	•	•									
Mohamed Gabily							•	•	•						
Ahmed Ammar										•					
Abdel Hamid Daoud											•				
Tawfik Abdel El Karim												•			
Nissiem Frere													•		•
Mohamed El Dally														•	

EGPC KEY PERSONNEL MATRIX
OPERATIONS

EGPC ORGANIZATION / FUNCTIONS	Supply & Maritime	Crude Lifting Programs	Import/Export programs	Tanker Operations	Refinery & Petrochem	Refinery Programs	Special Products Prog	Transportation & Dist	Trans & Dist Programs	Trans & Dist Operations	Trans & Dist Studies
Tamer Abu Bakr	•	•									
Hassan Assaf				•							
Mohamed Ragab			•								
Hassan Mohamed					•	•	•				
Moustaffa El Kabbany								•	•	•	
Hassan Ahmed Said											•

Project Scope

The Project Scope is being presented in four parts. They are as follows:

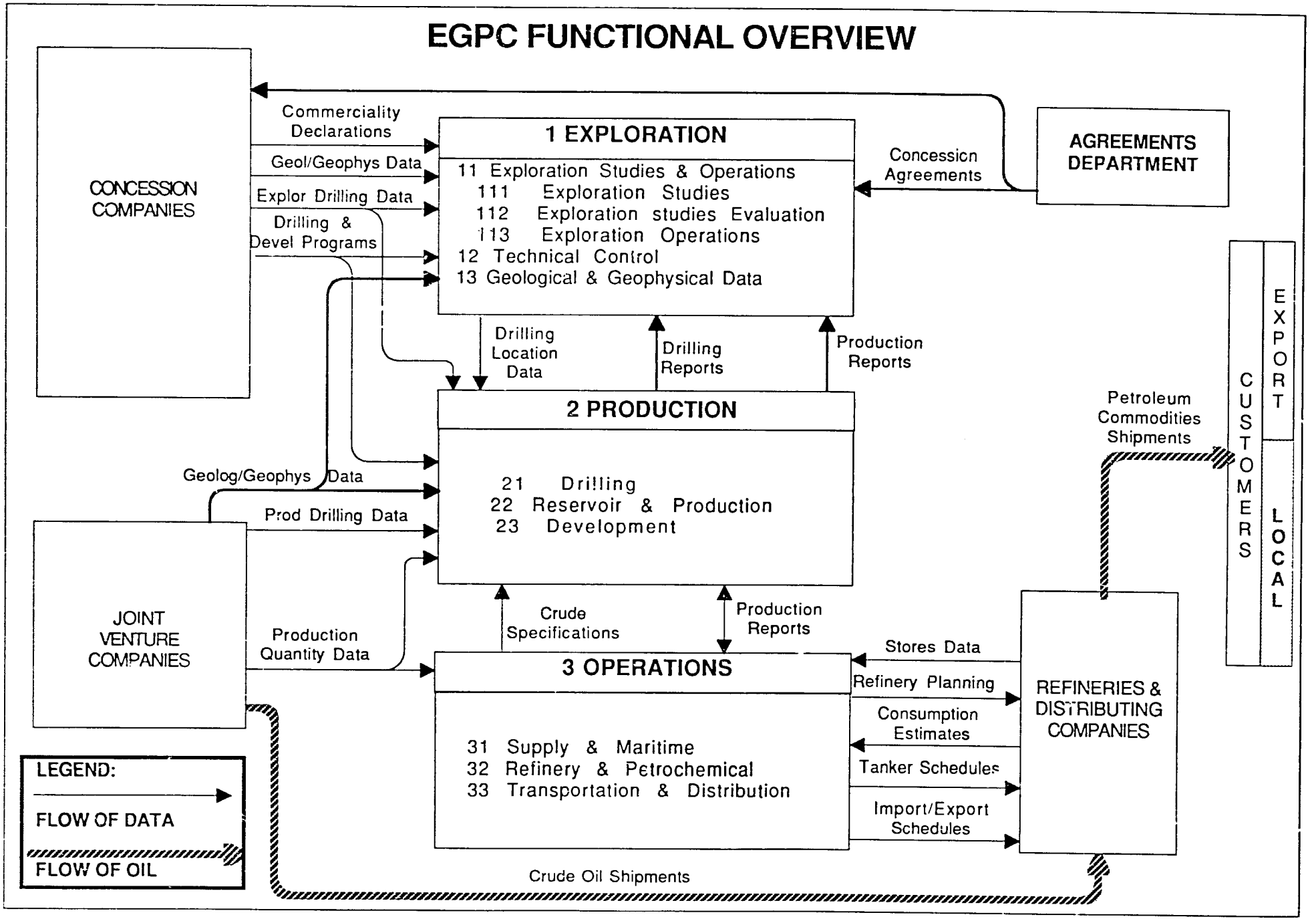
EGPC Functional Overview. This document attempts to take a "snap shot" of the overall EGPC operation. Although simplistic in nature, the intent is to illustrate the primary functions of EGPC, and the types of data that are exchanged. The same type of analysis, though in greater detail, will be prepared for the lower levels of the organization. Diagrams of this type will form the basis for identifying the data requirements of each sector or department.

Functional Hierarchy Diagrams. These diagrams begin with the three major functions of Exploration, Production, and Operations. The subfunctions are then grouped in a hierarchial manner.

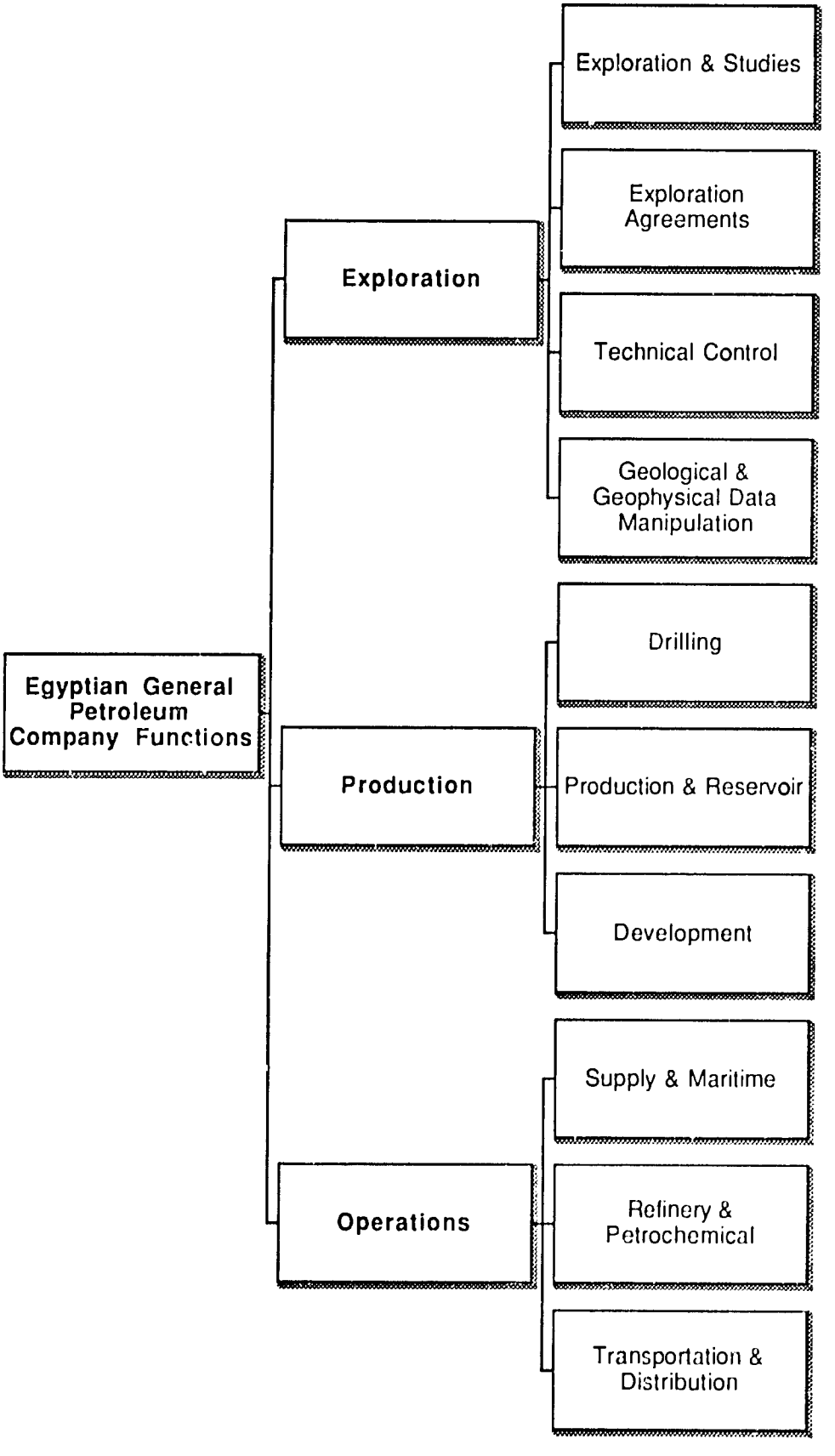
Functional Overview (Narrative). Through the orientation meetings held with EGPC staff, the Bechtel team developed a narrative describing the hierarchial functions. This effort will continue in greater detail as the lower levels of the organization are analysed.

Scope of Work. The scope of work is also enclosed. This document has been included for reference. The next section, entitled the "Project Work Plan", expands on the scope and clarifies how the deliverables will be prepared.

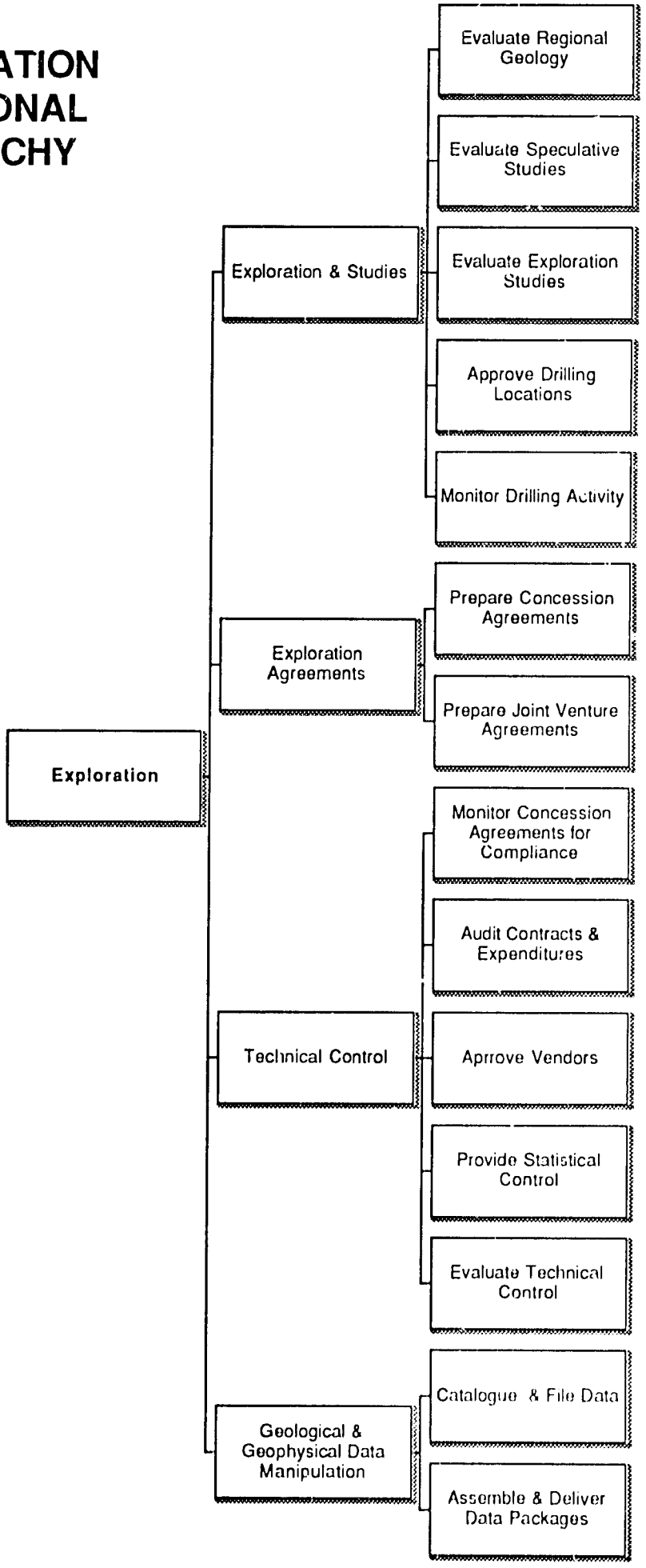
EGPC FUNCTIONAL OVERVIEW



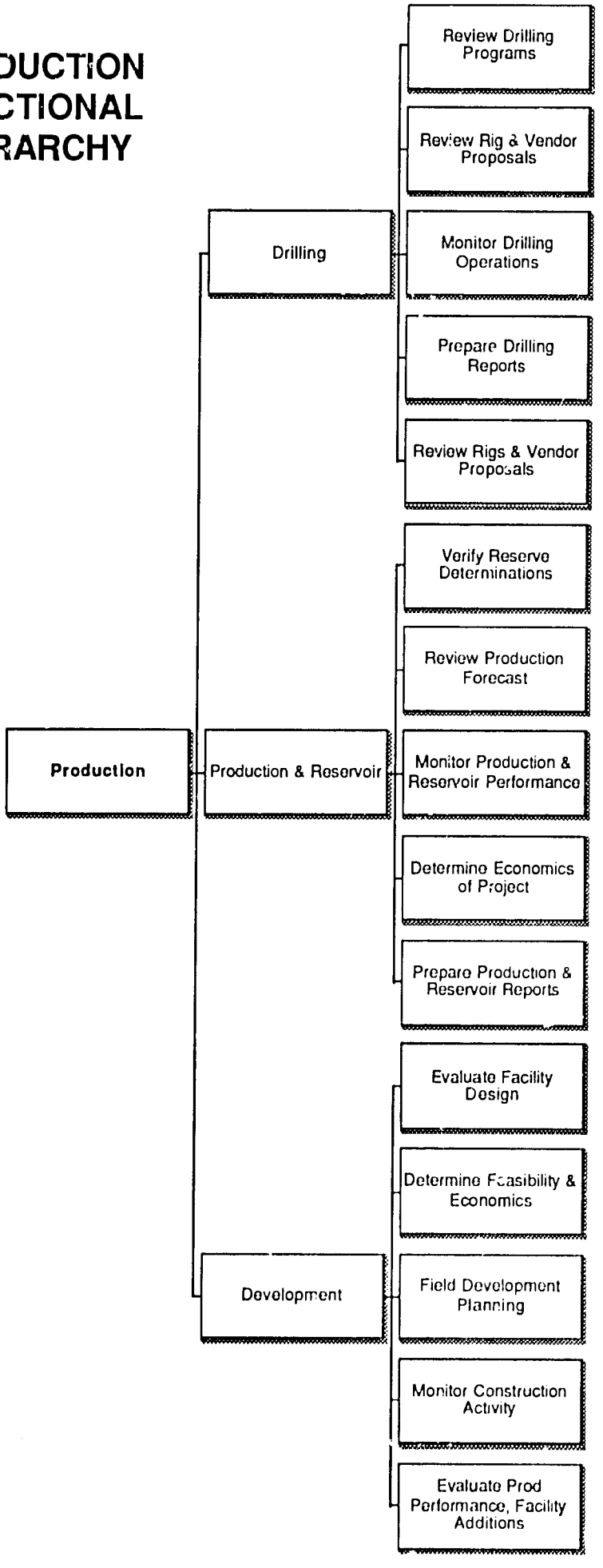
EGPC
FUNCTIONAL HEIRARCHY



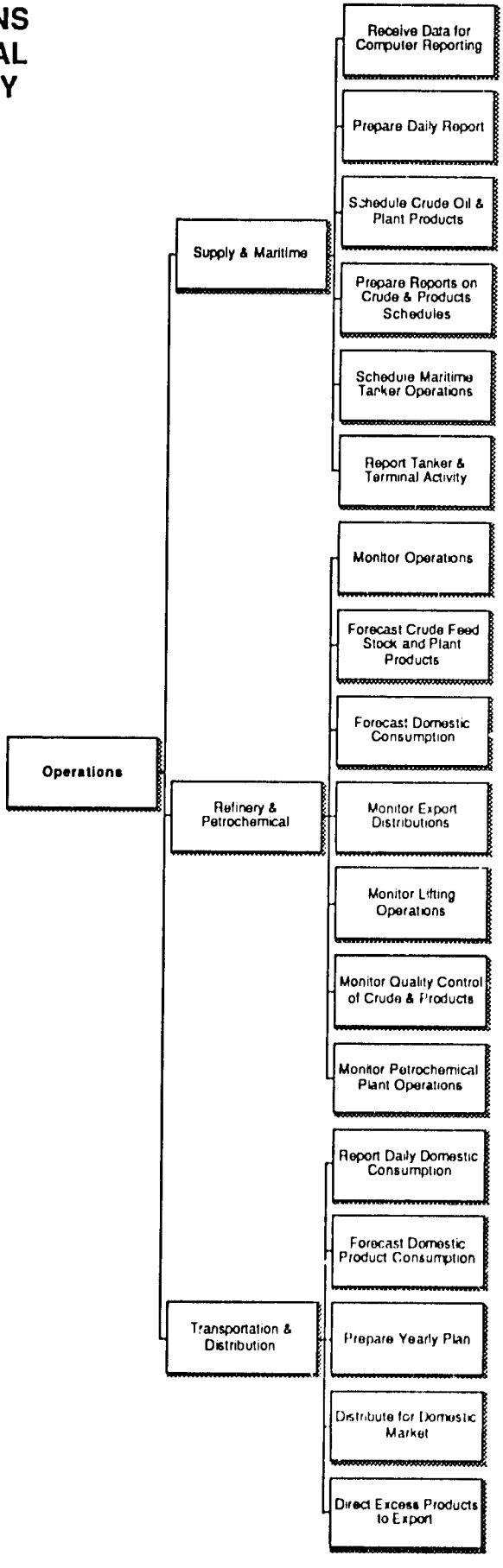
EXPLORATION FUNCTIONAL HIERARCHY



PRODUCTION FUNCTIONAL HIERARCHY



OPERATIONS FUNCTIONAL HIERARCHY



FUNCTIONAL OVERVIEW
OF
EGYPTIAN GENERAL PETROLEUM CORPORATION

The Egyptian General Petroleum Corporation (EGPC) leads the Egyptian petroleum sector towards efficient exploration, production, and utilization of fossil fuels to satisfy domestic requirements and to promote export and increase foreign exchange currency.

The EGPC Exploration and Production organization operates as a "holding" company designed to effectively promote the countries fossil fuels assets and to monitor the exploration and production ventures. The various departments are organized to effectively accomplish the company goals and objectives by promoting foreign companies to provide the hydrocarbon exploration, development and operations activities with EGPC monitoring.

The EGPC operations group is organized to control the operations of the transportation, refining, and distribution of the countries oil and gas production and refinery products for effective utilization to satisfy domestic needs and to maximize export revenue. EGPC owns all of EGYPT's six refineries (including Al Amerya Refinery Co.), and two of the five marketing and distribution firms (including Misr Petroleum Co.).

EXPLORATION

The exploration group is responsible for defining and evaluating the potential for hydrocarbon accumulations within the country, promote exploration activity, and monitor the concessionaires companies and joint venture companies activities. The joint venture companies are jointly owned by EGPC and their Partners.

EXPLORATION AND STUDIES MANAGER

Under the direction of the Exploration and Studies Manager, the geologists and geophysicists conduct independent evaluations of the country's geological structures to promote exploration activity by foreign companies. In addition, an assessment of proposals for

studies and the evaluation of the studies are made for exploration activity. After a concession has been approved, the operations of the exploration activity is monitored. After a hydrocarbon discovery is made and a joint venture company is formed, the development of the area is followed to determine if portions of the assigned area should be released or additional exploration activity should be performed.

Exploration and Joint Venture Studies Sector

The potential hydrocarbon development regions of Egypt are under geological and geophysical review to determine areas to promote exploration efforts. There are six regions that have been identified as having potential hydrocarbon accumulations which are as follows:

- Western Desert,
- Eastern Desert,
- Suez,
- Gulf of Suez,
- Delta, and
- Mediterranean Coast.

The Sector is cataloging the various geological and geophysical maps, cross-sections, and reports which have been prepared on the above areas. These data are used to provide a qualitative and quantitative assessment of the regions.

The main function of the Sector is the assessment of proposals for exploration studies and the evaluation of the studies. There are three types of studies that are evaluated:

- *Exclusive studies* are speculative studies initiated by and financed by foreign concerns for the benefit of EGPC. These studies are not available for sale. They are intended for internal use by EGPC to promote areas for exploration and to give EGPC a better understanding of an area.

- *Non-exclusive studies* are speculative studies made by consulting firms or service companies under the direction of EGPC. These are multi-client studies that may be sold to companies that are interested in bidding on a concession.

- *Operators studies* are studies made by the concessionaires or joint venture companies for the operators own benefit and made available to EGPC under the terms of the concession agreement.

When a proposal to make a speculative study (exclusive and non-exclusive) is received, it should contain the following information:

- Description of the study proposal,
- Marketing proposal with the sales price of the proposal and EGPC share of the Report income,
- Programs of seismic lines, and
- Requests for geological and geophysical data on file. (If the study proposal is approved, data that is on file will be made available and, if possible, operators will be requested to furnish additional data if required).

Using the geological and geophysical expertise of EGPC professionals, the study is evaluated for its validity. A report and recommendation is prepared and submitted to management.

Exploration Operations Sector

The responsibility of the exploration operations sector is to review exploratory packages submitted by Concessionaires, and to approve of exploratory drilling locations. The geologists and geophysicists will review the various supporting data for the exploration venture which will include the following:

- Structural contour maps,
- Isopachs of potential hydrocarbon bearing formation
- Cross-sections thru wells in the concession or offset wells,
- Seismic data,
- Well logs, and
- Drilling programs and cost estimates.

The group will meet with the Concessionaire(s) to discuss the exploratory package and agree to a drilling location. After the drilling location has been approved, the package is sent to the drilling department for their evaluation and approval.

After a discovery is made and a joint venture company is formed, the group will conduct follow-up work on the drilling of the prospect to ensure the objectives of the programs are being met. Periodic meeting are attended with the joint venture operator to review the progress of the wells being drilled and to discuss possible changes in the program. Periodic reports are issued on geologic information from wells being drilled and on evaluations prepared on the projects.

EXPLORATION AGREEMENTS MANAGER

The agreements between EGPC and the companies requesting a concession initiates with this department. When a company is awarded a concession for exploration, a draft agreement is prepared with the conditions of the agreement. The components of the agreement will include the following information:

- Description of the property.
- Obligations by phase.
- Bonus, money to be spent, and number of wells to be drilled.
- Relinquishments by phase.
- Production split.

  The production split is based on the volume of oil or gas that is produced from the concession. A typical split would begin at 80% EGPC for quantities up to 25,000 barrels per day. The EGPC share would increase to 82% for quantities of 25,000 to 50,000 B/D, and to 85% for quantities of 50,000 to 75,000 B/D.
- Cost of recovery.

  On a producing well, approximately 40% of the gross revenue is allocated for cost recovery. This recovery is divided into three types: Exploratory costs, development costs, and operating costs. These cost are amortized over 5 years, 5 years and one year, respectively. If actual recovery expenses are less that the 40% previously set aside, the contract will stipulate whether the excess will revert to EGPC or will enter into the category of contract split. The remaining 60% of gross revenue is allocated bases on the contract production split.

After the draft of an agreement is prepared, meetings are conducted between EGPC and the concessionaires to formulate the contents of

the agreement, and to come to terms with the document for the awarding of a concession.

TECHNICAL CONTROL MANAGER

It is the responsibility of the group to provide technical control of the concessionaires with regard to the exploration activities by performing the following functions:

- assure that the client comply with the concessions agreements with regard to monetary and time schedule guidelines,
- determine if the technical personnel of the clients and service companies conform to Egypt permitting regulations,
- audit and evaluate contracts, bids, and expenditures of concessionaires in the exploration for oil and gas in Egypt,
- prepare reports to management and other departments on the status of expenditures (actual versus budget), and
- approve vendors and prepare a list of vendors for management and other department information.

Programs and Statistics Sector

It is the responsibility of the sector to assure that the operating company comply with the concession agreements with regard to monitory and time schedule guidelines.

The programs that are submitted by the operator for exploration activity will contain proposed seismic surveys, drilling activities, time schedules for activities, and cost estimates. The sector will review the programs and estimated expenditure and determine if they conform to the contractual agreements with regards to level of activity and financial obligations. The sector will monitor the activity of the operator to determine if time schedules are being met and compare actual versus budget costs.

When commercial production is established on a concession and a joint interest company is formed, the sector will follow up on the assigned development area to determine if the operator satisfies the development agreement in each phase. They will review production

performance and geological information of the area to determine if portions of the concession should be relinquished.

The sector makes reports to management and other departments as to types of activities in different areas, and the status of concession areas and joint interest areas. Reports are made for concession areas, development areas, and relinquished areas.

Technical Auditing Sector

It is the responsibility of this sector to provide technical auditing of Concessionaires contracts and bids, and expenditures for the exploration activities of EGPC. When a client proposes to conduct exploration activity, the geologist and geophysics reviews the services to be performed, the time schedule for the activity, and the proposal from a cost stand point.

The sector reviews requests for contracts and bids from venders and service companies for materials and services. The are present for bid openings, and evaluate the bids with the operators. The quoted prices for materials and services are initiated by both parties. The sector approves of the selection of the vendor.

The operators submits to the sector copies of the invoices received for materials and services. The sector reviews and analyses the invoices to determine if they agree with quoted prices. If charges differ from budgets costs, they determine if the costs are reasonable. A file is maintained for each vendor and operator in order to provide a historical review of performance.

The invoices that are received are posted monthly and a cumulative total for each project is maintained to compare with contractual obligations of the operator and provide a basis to evaluate operators cost recovery.

The technical personnel of the clients and services companies are evaluated as to technical qualifications, experience, education & training, and certificate compliance (work permits). It is the intent of EGPC to have an Egyptian trained to replace an expert in the various activity fields; therefore, an Egyption will be assigned to each technical person and key employee.

The sector is responsible for evaluating all vendor contracted to work on EGPC projects. The documentation of each vender is evaluated and recommended vendors are submitted to the minister for approval.

EXPLORATION DATA MANAGER

The responsibility of this group is to receive, catalogue, file, and make available the geological and geophysical data received from the operators of concessions and joint venture programs.

When operators conduct geophysical or drilling operations on a concession, the copies of information obtained and portions of samples taken are received by EGPC. The types of information and data received are as follows:

1. Seismic
   - Maps showing seismic lines and shot locations.
   - Seismic velocity tapes with supporting data.
   - Seismic cross sections (no interpretive data).

2. Drilling
   - Samples of wet (unwashed) and dry drilling cuttings.
   - Hard copies of electric logs and tapes on logs.
   - Hard copies of interpretive composite logs and tapes on logs.
   - Portions of sidewall cores samples and reports on core analysis.
   - Portion (1/2) of full cores and reports on core analysis.
   - Reports of wire line fluid and pressure tests.
   - Reports of open hole or cased hole testing.
   - Directional survey reports.
   - Drilling reports.

3. Geological and Geophysical
   - Cross sections prepared from seismic and drilling data.
   - Structure and isopach maps prepared on various strata.
   - Reports prepared on concession areas.

As the information is received, EGPC records the type data received according to concession area and files the information and samples in the warehouse. The electric logs that are currently being run are

digitized by the operator. The older logs that are not digitized are currently being digitized by Integrated Technologies (Core Labs). The digitized logs can be readily used in computer applications. Core Labs is also generating an index data base which will identify the quantities and types of data that are being stored by concession area.

The data is not being made electronically available that would be sufficient to be used in any analytical programs. However, the data may be made electronically available by the operating companies, thus eliminating a massive data input problem.

The information and data that is available on the concessions area is made available on request from the any EGPC department. Requests for data that is given to foreign companies is coordinated by the Studies Group Sector. Information is made available for review (not copies) to foreign companies that are interested in a concession area for a fee of $2,000 per area. For $20,000, companies can receive copies of the data. Normally, about 30 to 40% of the data of an area is made available. When a company is awarded a concession, they are entitled to all the data at no additional cost.

PRODUCTION

The production groups responsibilities are to monitor the exploration drilling operations of a concession and development drilling operations of a joint venture, to evaluate the reserves determined by the operator of a concession or joint venture, and to monitor the production performance of wells and fields to determine if the operators are operating in an efficient and prudent manner.

DRILLING MANAGER

It is the responsibility of the drilling group to assure that the operating companies conform to the requirements of Egyptian Law as outlined in the manual "Concessions to Explore for Hydrocarbons in Egypt". The functions of the group are to review and approve the drilling programs, to follow up on the drilling activity, and to approve of the rigs and vendors used in the drilling operations.

Drilling Operations Sector

The drilling operations sector is responsible for reviewing and approving drilling proposals for exploratory drilling of a concession, and for development drilling of a joint venture program.

The drilling operations sector receives a concession agreement from the exploration department to review and approve of the proposed drilling program. Along with the drilling program, the agreement will contain the commitment to drill, geological and geophysical information, the number of wells to be drilled , the time schedule, and the estimated costs.

The drilling program will include the following: Well location, target depth, depth of fresh water, detailed drilling program, and other programs related to drilling and evaluation. These related programs will include the following: Drilling fluids (mud), logging, directional surveys, bit and bottom hole assembly, hydraulics, and casing & cementing.

The drilling engineers will evaluate the drilling proposals based on the expertise in drilling operations and knowledge of drilling performance of offset wells. Files and evaluations of other drilling operations are maintained by the drilling group. The engineer will meet with the operators to discuss the programs. The drilling manager has the final approval of the drilling program.

The operators will send to the sector for review and approval the requests for bids for the drilling rigs, materials and services. When the bids are received by the operator, EGPC will have an engineer at the bid openings. The operators and EGPC will make independent evaluations of the bids and approve of drilling rigs and equipment, materials, and services. If an operator recommends a service that is not the lowest bid, and the service is not visibly superior, the operator will be responsible for the additional cost as a non-recoverable cost. EGPC may agree to the selection of service that is not the minimum bid, based on the technical superiority of the bid.

Materials are selected by the operating company and approved by the drilling sector from a technical view point. The cost and supplier of the material will be approved by the Finance and Accounting Vice Chairman.

Drilling proposals for joint venture wells are reviewed, evaluated and approved as with exploratory wells.

The drilling sector follows and evaluates the drilling activity of the well by daily telex from the beginning of the operations until the well is completed and the rig is moved. Periodic meetings are held with the operator to discuss the drilling operations, problems, changes in the programs and costs. If there is to be a cost overrun, the operator will summarize the drilling activity and submit a change order for EGPC approval.

In addition to the drilling operations, the sector is responsible for approving and monitoring major remedial workover operations. They do not follow routine well servicing operations.

The drilling sector monitors about 150 wells per year. There are about 30 drilling rigs and 22 workover rigs currently operating. The sector prepares a daily drilling report for all of the rig activities and submits to the Chairman and other departments. In addition, drilling status reports are submitted monthly, quarterly, semi-annually and annually.

Drilling Rig and Services Sector

It is the function of this sector to review and approve drilling contracts, and to conduct technical studies of drilling operations.

The sector evaluates rigs and drilling contractors, and maintains a file on drilling rigs. An engineer from the sector will evaluate requests for bid on a drilling rig and be at the bid opening to make an appraisal. The sector will approve of the rig selection. The sector is building up a data base to determine the size and type of drilling rig required for each concession area for different projected total depths.

The sector drilling engineer will review the daily drilling activity and perform technical evaluation studies. These studies will include the following: Drilling time actual versus forecast, well deviation survey for bottom hole location, casing and cementing procedures, and problems encountered while drilling (stuck pipe, blow outs, etc.). The sector will evaluate the various drilling services and compare

with past performance. The sector engineer was responsible for saving about $18 million last year by analyzing drilling services.

RESERVOIR AND PRODUCTION MANAGER

It is the responsibility of the reservoir and production groups to advise management of the reserves and production forecast for the fields being operated by joint venture operators. These reserves and production estimates are primarily done by the operating companies and verified by EGPC engineers. The group monitors the performance of the wells and fields to determine if they are being operated efficiently and to the best interest of the joint interest of EGPC and the partners.

Reservoir Sector

The primary function of the reservoir sector is to verify the reserve determinations made by the joint interest owners. Using reservoir and geological data furnished by the operators, the engineers make a cursory review of the data to confirm the reserve estimates and, if there is disagreement, the operators are requested to clarify the estimates.

When a new field or zone discovery is drilled, the operator submits a plan for completion of the well and development of the area. The data submitted by the operator with the plan would include the following: Program for completion and development, structure map of the productive horizon(s), isopach maps, open hole and cased hole logs, core analysis, fluid (PVT) analysis, and the method of determining the reserves of the proposed completion and/or development.

The reservoir sector will monitor the performance of the wells and reservoirs with the aid of reports and studies furnished by the operator. When an operator proposes additional development activity and/or secondary recovery activity, the reservoir engineers will verify the reserve estimates as above. In addition, when an operator proposes remedial well work which may alter the completion of the well, the reservoir engineers will review the proposal for approval of the work.

Economics calculations are performed by the operating company for justification of well completions, development drilling, and remedial well work. The EGPC reservoir engineers will verify these calculations. The reservoir engineers will make economic calculations for special projects (laying of pipe lines or other facilities) based on production performance forecast made by the operators (confirmed by EGPC engineers).

Production Sector

The production sector is responsible for monitoring the production performance of wells, preparing production forecasts, and reporting production performance to management. The operators are required to submit a daily production report by well to EGPC. This data are assembled in a daily report by field, area and company and submitted daily to management.

At the end of each month, the operator submits a monthly production report (a legal report of production) which is used to adjust the daily reports for minor variations to be expected in normal production operations (any major variations must be clarified by the operator). The monthly well reports are used to assemble a monthly report to management with comparisons to the budget and comments on the operations. This data are also used to prepare other periodic reports.

The joint venture operators are required to submit to EGPC a yearly budget of production performance and development activity. The budget reports will contain well and field performance curves and other data which justifies the budget estimates. The production and reservoir sectors will use this data to prepare a production budget to be submitted to management.

The production sector receives several reports which enables the engineers to monitor the operations of the joint interest owners. Some of the reports and data received are as follows:

- Daily production reports.
- Monthly production reports.
- Annual activity reports.
- Workover activity reports.
- Well test reports.

- Bottom hole pressure test reports.
- Core analysis reports.
- Fluid analysis reports.
- Reservoir study reports.

DEVELOPMENT MANAGER

The development group is responsible for evaluating and approving of all facilities installed by the joint interest operators from the well head to the sales point for crude oil and associated gas produced. This includes the handling of other materials recovered during production (such as water, sulfur, solids, salt, etc.).

The facilities will include equipment for treating oil and associated gas, water disposal, gas handling, sulfur removal, solids removal, tank storage, safety equipment, power and fuel, pipelines, platforms, communications, and roads. The associated gas with crude oil that can not be used in the operations is generally flared. The group is not responsible for facilities required for dry gas well production.

When a concessionary submits a Commerciality Declaration for a new well completion, the development group evaluates the proposed facilities for the discovery well. The data to be reviewed by the group to determine the feasibility and economics of the declaration will include the following: Summary of agreement, geological and reservoir data, concession development plan, proposed facilities, production forecast, and economics. After the group has evaluated the declaration, a letter of approval will be sent to the Chairman.

The group is also responsible for evaluating and reviewing changes or additions to facilities proposed by the joint interest operators. The development group will consider whether or not facilities should be added, new facilities should be installed, or flow lines should be installed between existing facilities. As development activity on a area progresses, the group will monitor the performance of the wells to determine if changes in the facilities should be made by the operator. In addition, the group "follows-up" on the construction of facilities for completeness of the project.

OPERATIONS

SUPPLY AND MARITIME MANAGER

The supply and maritime group provides the schedules which enable all of the other operations groups to function. They schedule pipeline and tanker movement of crude oil produced, of the required materials (feed stock and chemicals) for the refinery and petrochemical plant, and of the plant products for domestic consumer use; and movement of crude oil and plant products for export sales.

All of the data required for scheduling and reporting is received and entered into a group of Personal Computers. With this data, computer programs are used to prepare a variety of daily reports (sometimes hourly) which are used for scheduling the shipments.

In addition to the internal use of the daily reports for scheduling, information is provided to prepare the following other reports: Schedule Lifting By Crude, Products Schedule, LPG Schedule, Daily Situation of Petroleum commodities Report, Daily Report Tanker & Terminal Activity, and others.

Supply Sector

In order to schedule the pipeline and tanker movements of the above listed materials between the various users, the sector receives data from the following: The crude oil production companies, the crude oil refineries, the transportation and marketing companies, the commercial department, the petrochemical plant, import and export customers, and outside maritime tanker companies. Most of the data is received by telephone calls daily (sometimes hourly) and confirmed by telex.

Some of the data that is recorded are as follows: Average daily production quantities by field, storage capacity by field, EGPC and partner share, refinery requirements, availability of tankers, stock on hand (expressed as days of supply), and status of equipment and materials.

There are 10 fields which produce 10 different types of crude (different quality and specifications) at an average daily oil

production rate of 800,000 barrels per day; of this, about 1/2 is required for the local consumption. Of the 10 fields, approximately 5 are wholly owned by EGPC and the rest are joint interest fields. The crude of two of the fields cannot be refined in Egypt due to the quality of the crude. The majority of the crude oil produced is moved by pipeline.

Calculations are performed with the computer programs to prepare the various reports. The amount of crude to go to each refinery and how much will be exported is determine by the computer data and the refinery monthly program. The volume of oil that is to be exported is determined by information received from the commercial department.

The supply sector will identify crude oil and products that are in short supply or in excess. The commercial department establishes contracts for the crude oil exporting,and for products to be purchased or exported. The contracts are set up on a "min-max" basis. The commercial department advises of special arrangements between EGPC and their partner companies to exchange crude between fields. This may be done to minimize transportation expenses.

When requests are received from customers for shipments of crude or products, the requests are prioritised by the type of customer (i.e. Government, oil company, or trader), and by the customer's historical purchasing patterns.

When the price of export crude is high, the refineries may be "short shipped" in order for EGPC to take advantage of the higher net income. The refinery is never shorted to the extent that local consumption demands are not satisfied. The refineries may have to reduce product exporting when this occurs; however, the effect on net income will be taken into consideration by the commerce department.

The refineries have complete control over the storage facilities and dispatching of crude oil and refined products.

Maritime Sector

When the maritime sector received reports from the refineries on import and export requirements, they contact customers to receive or sell shipments. They conduct daily follow-up activities regarding the location of the tankers, the current activity of the tanker (whether loading, discharging or waiting), and they review loading and discharging rates.

The maritime sector coordinates approximately 50 loads of crude oil per month. Of these, 25 are done on EGPC charter tankers. For these chartered tankers, EGPC is responsible for paying all tanker expenses (fuel, etc.), and has complete control over the tanker's activity. The other 25 cargo tankers are arranged by buyers (for export) and the terms are F.O.B. terminal.

The sector supervises 25 to 30 product loadings or unloadings per month, and approximately 20 LPG loadings per month. In all, they coordinate about 20 shipments per day. On an average, 4 shipments per day will occur and the "look-ahead" period is 4 to 5 days.

REFINERIES MANAGER

The refinery group is responsible for monitoring the operations of the refineries, forecasting the volumes of crude feed stock, forecasting the volume of domestic consumption of plant products, and monitoring the distribution of exported crude oil production and plant products.

Programs and Production Sector

It is the responsibility of this sector to provide the seven refineries operated under the direction of EGPC with the quantity schedules of crude oil (storage, plant feed stock, & export) and required plant products (domestic consumption & export). Of primary importance is processing a sufficient volume of plant products required for domestic consumption. After the domestic requirements are satisfied, plant products are exported for sales. In addition to satisfying the domestic requirements for plant products, the volume of crude oil feed stock to be delivered to the refinery is controlled

by the capacity of the refinery and the availability of crude oil with the proper quality.

The seven refineries and their processing capacities reported in million metric tons per year are as follows:

	Al Amerya Refinery (Alexandria)	- 3.0
	Alexandria	- 4.5
*	Asyut	- 1.5
*	Cairo	- 6.5
*	Nasser Petroleum	- 3.0
	Suez Oil Processing	- 3.0
*	Tanta	- 1.0
	Total	22.5

* These are capable of refining and distillation; the others are capable of refining and processing.

An annual plan is prepared for each refinery for the volume of oil to be stored at each refinery, the volume of oil to be refined, the volume of oil to be exported, the volume of plant product to be used for domestic consumption, and the volume of plant product to be exported.

In order to prepare the annual plan, reports are received from the production operators which furnish the crude oil forecasts, and from the distribution sector which furnish the domestic consumption requirements.
In addition to the crude volumes received and plant products distributed, factors to be considered in the annual plan are as follows: storage capacity, characteristics of feed stock, economics of crude pricing, and scheduled maintenance shut downs. Most of the information is received from the Supply Sector

Six months prior to issuing the annual plan, a meeting is held individually with each refinery manager to discuss the scheduled volumes of crude oil to be received, the volume of plant products to be distributed, and the plant operating cost budget.

After the annual plan is issued, monthly reports are prepared in the same format as the annual plan. The monthly reports are prepared from the daily reports received by telephone from each refinery on

production capacities, production quantities, product consumption, and stock available. A "*Daily Situation of Petroleum Commodities Report*" is prepared each day and submitted to the Oil Minister, the Supply Minister, and to EGPC Management.

Petrochemical Sector

There is one EGPC owned Petrochemical complex located in the the Alexandria Refinery with three process units. The plant receives as raw material ethylene from foreign sources. The output products are chlorine, polyvinyl chloride (PVC), and sodium hydroxide.

Quality Control Sector

It is the responsibility of the quality control sector to receive, evaluate and report on laboratory analysis that are conducted on produced crude oil, plant products, and chemicals. When operators have routine analysis conducted, copies of the report are sent to the sector manager. In addition, the sector takes independent samples and sends them to various laboratories to cross-check the results for quality control.

TRANSPORTATION AND DISTRIBUTION MANAGER

It is the responsibility of the transportation and distribution group to estimate the demands for refined products, and to distribute the products for domestic marketing or to direct excess products to exporting for sales.

Transportation and Distribution Studies Sector

The primary responsibility of this studies sector is to forecast the domestic consumption of the products recovered from the seven refineries owned and operated by EGPC. Based on statistical data and the experience of the professionals of EGPC, a yearly plan for the demand of the refinery products is prepared which serves as the basis for the operation of marketing gasoline, kerosene, lube oil, gas-oil (diesel), bunker fuel oil, and other products of the refined crude oil.

The refinery products are marketed by two government owned companies (Misr Petroleum and Co-operative Petroleum Co.), and three privately owned companies (Caltex, Esso and Mobil). All of the marketing strategies are determined by the Oil Minister and all of the marketing companies are controlled by EGPC. These operating companies prepare and submit to EGPC an Operators Monthly Report which contains marketing quantities by product for all of the locations within the 26 Governorates. With these data and the Consumers Monthly Report (storage volumes and sales), the monthly forecast of product demand is prepared to update the yearly demand plan.

Another source of information for the demand plan is the monthly consumer data furnished by the large consumers. The industrial companies and power plants will use about 50% of the fuel oils (diesel and bunker) produced by the refineries. These consumers report storage volumes, consumption, and estimated demands.

In addition to the yearly demand report, the studies sector prepared a 5-year plan and other long range forecasts. All of the reports are up-dated as information becomes available.

Transportation and Distribution Operations Sector

The transportation and distribution operations sector is responsible for the physical movement of products from the refinery storage to the consumers. This involves knowing the volumes of each product that is stored at the various locations, the estimated consumption volume of the products, the number of days supply on hand, and status of the modes of transportation of the products. The marketing companies report daily by telephone to the operations sector this information. About 280 quantity figures are received each day from the seven major stock points and from other location throughout Egypt.

The daily reports from the marketing companies is used to prepare a *Daily Situation of Petroleum Commodities Report* which is sent to the Oil Minister, the Supply Minister, and to EGPC management.. The commodities are reported in tons by product and by location showing the daily consumption, storage volumes, number days supply, and data for large consumers.

The operations group meets twice a month with the marketing companies, refineries, terminal representative and pipeline companies to discuss the marketing plans. The group determines where the shortages or excess storage volumes may exist and make plans for the movement of the products to satisfy consumer demand. Generally, the monthly plan prepared by the studies group is followed with adjustments made as required.

In the movement of the products by pipeline between storage facilities, the studies group and operations group must schedule product movement to prevent downgrading of products due to mixing of different grades of products. For instance, kerosene should not precede or follow bunker fuel due to densities of the products -- otherwise, the interface between the two products would be a down graded mixture. When moving products by pipeline, the volume of the pipeline has to be considered so as to have each product displaced at the end of each pumping phase. The product left in the line should be of a light grade to prevent plugging by a high viscosity product.

Project Work Plan

This section contains a description of Bechtel's work plan for the EGPC Information Systems Planning & Implementation Study and contains the following:

Overall Sequence of Work

Overall Design Methodology
- Overview of Bechtel's Analysis and Design Methodologies
- Functional Architecture (Sample Data Flow Diagram)
- System Architecture (Sample System Data Flow Diagram)

Data Architecture Methodology
- Description of Data Architecture Methodology
- Sample Function/Data Matrix
- Sample Data Architecture (Data Relationship Diagram)
- Sample Data Dictionary

Detail Design Methodology

Overall Sequence of Work

The "Overall Sequence of Work" describes the flow of work through the life of the project.

Overall Design Methodology

The "Overview of Bechtel's Analysis and Design Methodologies" graphically depicts the overall design functional specifications, the detailed design, and the programming. It also describes how each of these interface to verify the end product's consistency.

The "Functional Architecture Sample Data Flow Diagram" graphically depicts the data flow into a module, identifies the function of the module, and defines its output.

The "Sample System Architecture Overview" shows an example of how the functional departments are directly related with data being fed to EGPC.

Data Architecture Methodology

The "Description of Data Architecture Methodology" describes the tasks involved in the final creation of a working data dictionary.

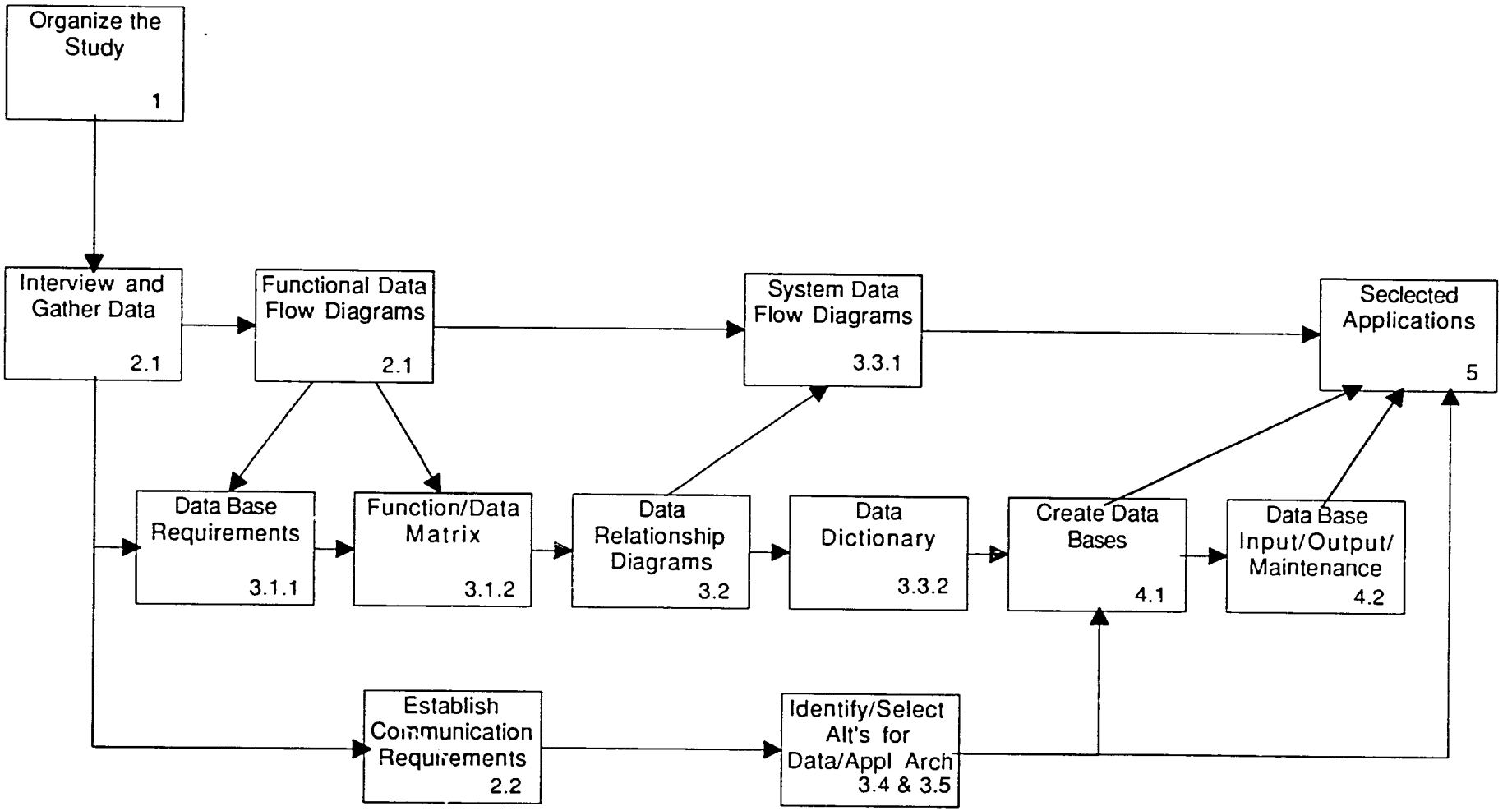
The "Sample Function Data Matrix" shows the usage of data by function.

The "Data Relationship Diagram Legend" depicts the basic architecture of the relational attributes between entities.

The "Sample Data Dictionary" shows how the data elements are defined and logically grouped.

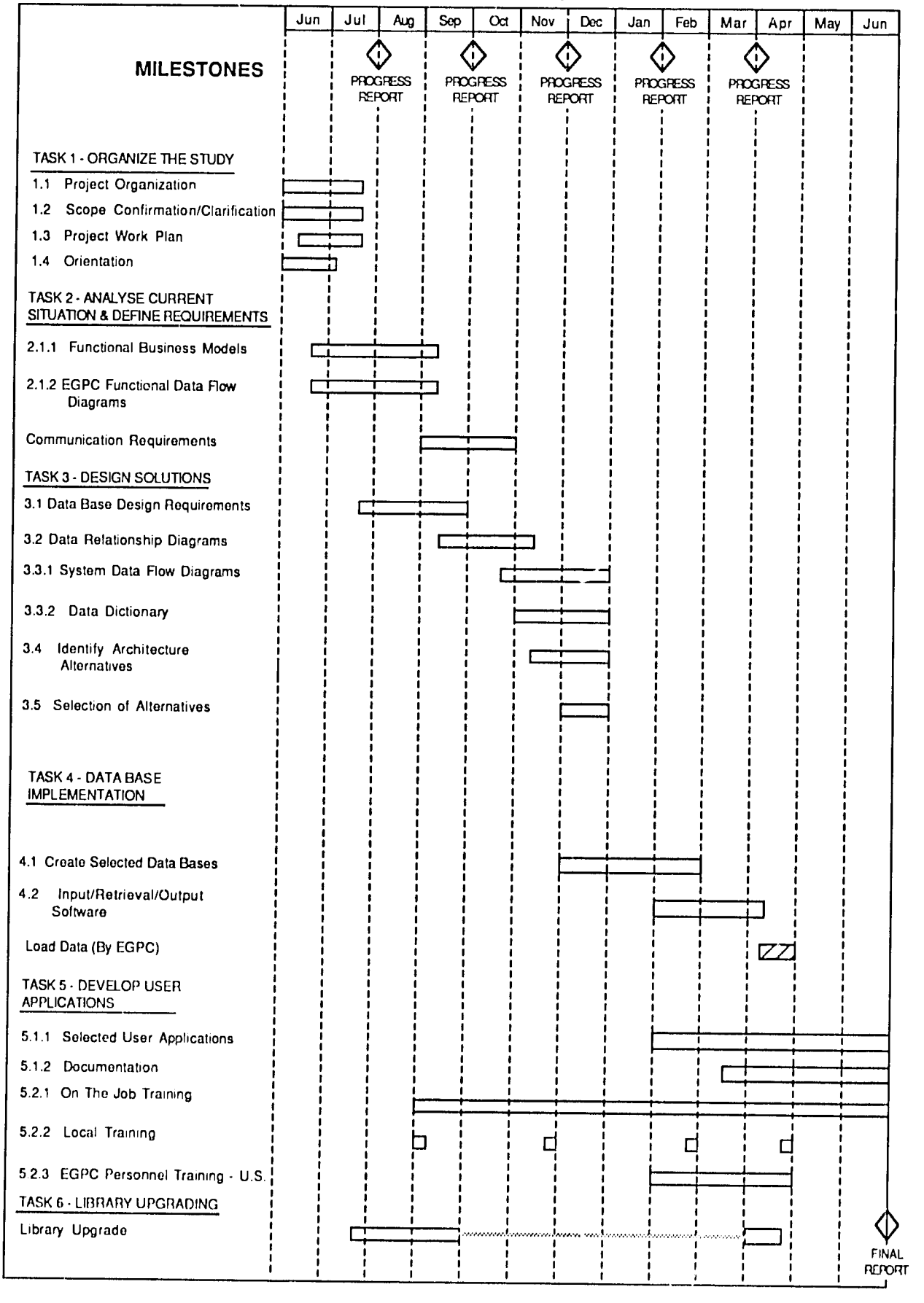
Detail Design Methodology

The "Detail Design Diagram" graphically depicts the logical progression of the subsystem/module design tools being used.

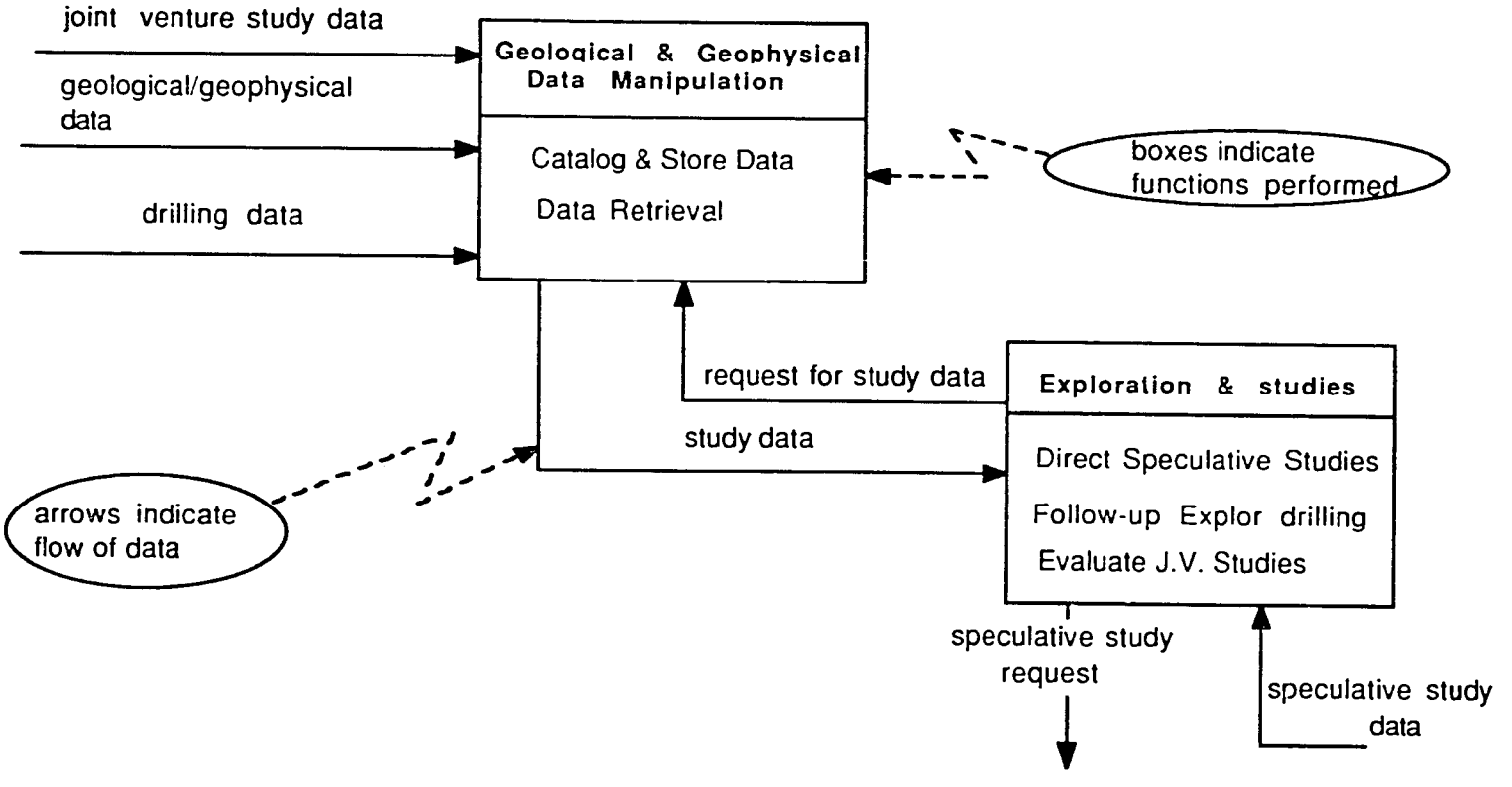


Overall Sequence of Work for EGPC Information Systems Planning and Implementation Study

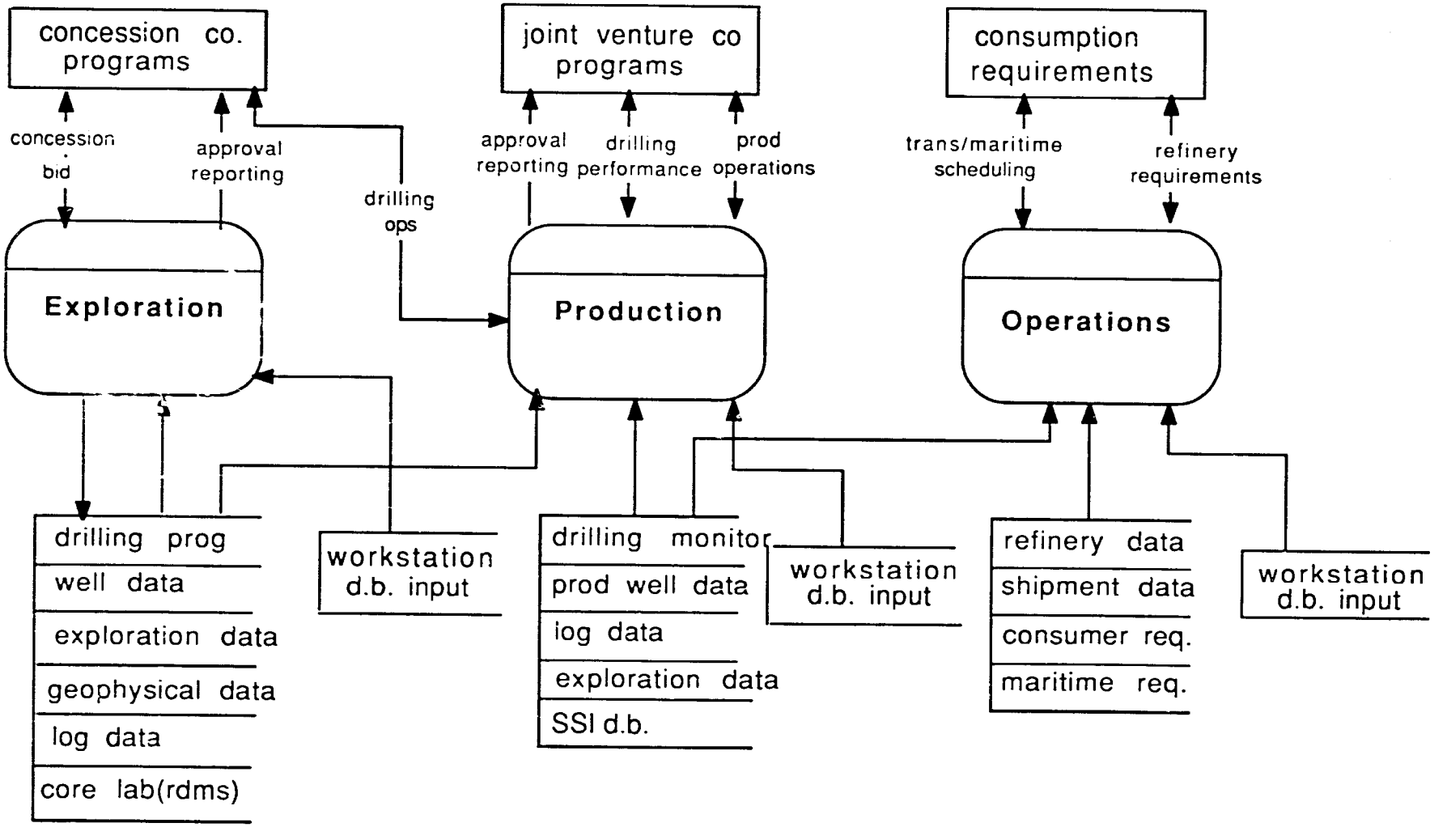
EGPC INFORMATION SYSTEMS PLANNING AND IMPLEMENTATION STUDY MASTER SCHEDULE



Functional Architecture
Sample Data Flow Diagram



SAMPLE SYSTEM ARCHITECTURE OVERVIEW



Description of Data Architecture Methodology

The sequence of events to produce a Data Base are depicted in the "Overall Sequence of Work for EGPC". These functions are performed in the following sequence:

Function/Data Matrix (3.1.2)
Data Relationship Diagrams (3.2)
Data Dictionary (3.3.2)
Create Data Base (4.1)

The Function/Data Matrix lists all of the functions and each data group within the function. Then, through further analysis, each data group is identified to a function as either being created by or used by that function. Once these have been assigned, a review of the entire matrix is done to determine the groupings of "Subject Data Bases".

The Data Relationship Diagrams will be used to determine how tables are related to each other by attribute, key attribute, and relating attribute.

The Data Dictionary will define all data elements within a data group (table). It will be used to assign field names and to assign characteristics to the element (such as type, field length, "null" indicators, and a brief statement identifying the specifics of the field).

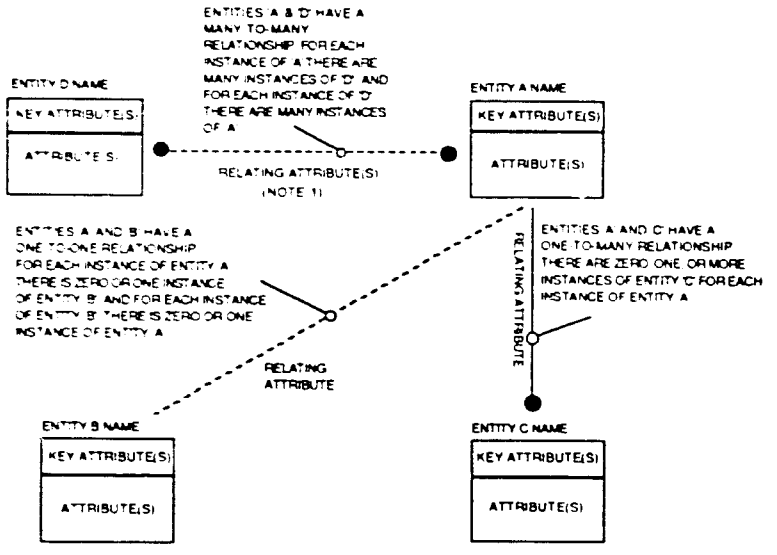
The Data Dictionary will be used as the basis for creating the Data Bases. The Data Bases will be generated either through an application program (doing direct data dictionary to data base transfer) or by manual means (transferring from the data dictionary to the data base set-up commands within SQL).

Sample Functional Data - Matrix

FUNCTIONS \ DATA Group	exploration data	well data	log data	drilling data	production well data	refinery	consumption requirements
PRODUCTION							
Drilling operations	c			c			
Development		u	u	u	u		
Reservoir	u	u	c	u			
EXPLORATION							
Geophysical	u						
Tech-control							
Operations							

LEGEND:

C = created by function
U = used by function



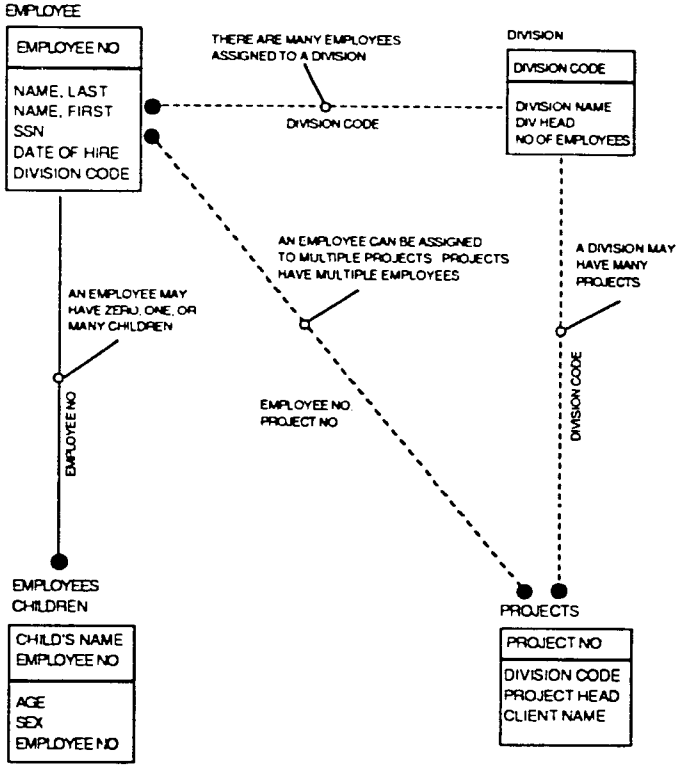
LEGEND

ENTITY	SOMETHING ABOUT WHICH DATA IS STORED (e.g. 'EMPLOYEE' IS AN ENTITY.)
ATTRIBUTE	AN ITEM OF DATA THAT APPLIES TO AND/OR DESCRIBES AN ENTITY (e.g. 'DATE OF HIRE' IS AN ATTRIBUTE OF THE ENTITY 'EMPLOYEE'.)
KEY ATTRIBUTE	THE ATTRIBUTE, OR COMBINATION OF ATTRIBUTES, THAT UNIQUELY IDENTIFY AN ENTITY (e.g. 'EMPLOYEE NUMBER' UNIQUELY IDENTIFIES THE ENTITY 'EMPLOYEE'.)
RELATING ATTRIBUTE	THE ATTRIBUTE, OR COMBINATION OF ATTRIBUTES, WHICH UNIQUELY RELATE ONE ENTITY TO ANOTHER ENTITY.
———	SOLID LINE: DEPENDENT RELATIONSHIP. THE IDENTIFICATION OF ONE ENTITY DEPENDS ON THE EXISTENCE OF THE OTHER ENTITY. THE RELATING ATTRIBUTE IS A KEY ATTRIBUTE IN BOTH ENTITIES (e.g. PARENT-CHILD RELATIONSHIP.)
- - - - - -	DASHED LINE: INDEPENDENT RELATIONSHIP. EACH ENTITY CAN BE IDENTIFIED INDEPENDENTLY OF THE OTHER. THE RELATING ATTRIBUTE IS A KEY ATTRIBUTE IN AT LEAST ONE OF THE ENTITIES.

NOTE 1. MANY-TO-MANY RELATIONSHIPS ARE A SHORTHAND NOTATION. AN ARTIFICIAL, INTERMEDIATE, ENTITY IS IMPLIED WHICH HAS THE RELATING ATTRIBUTE FROM BOTH ENTITIES.

DATA RELATIONSHIP DIAGRAM LEGEND

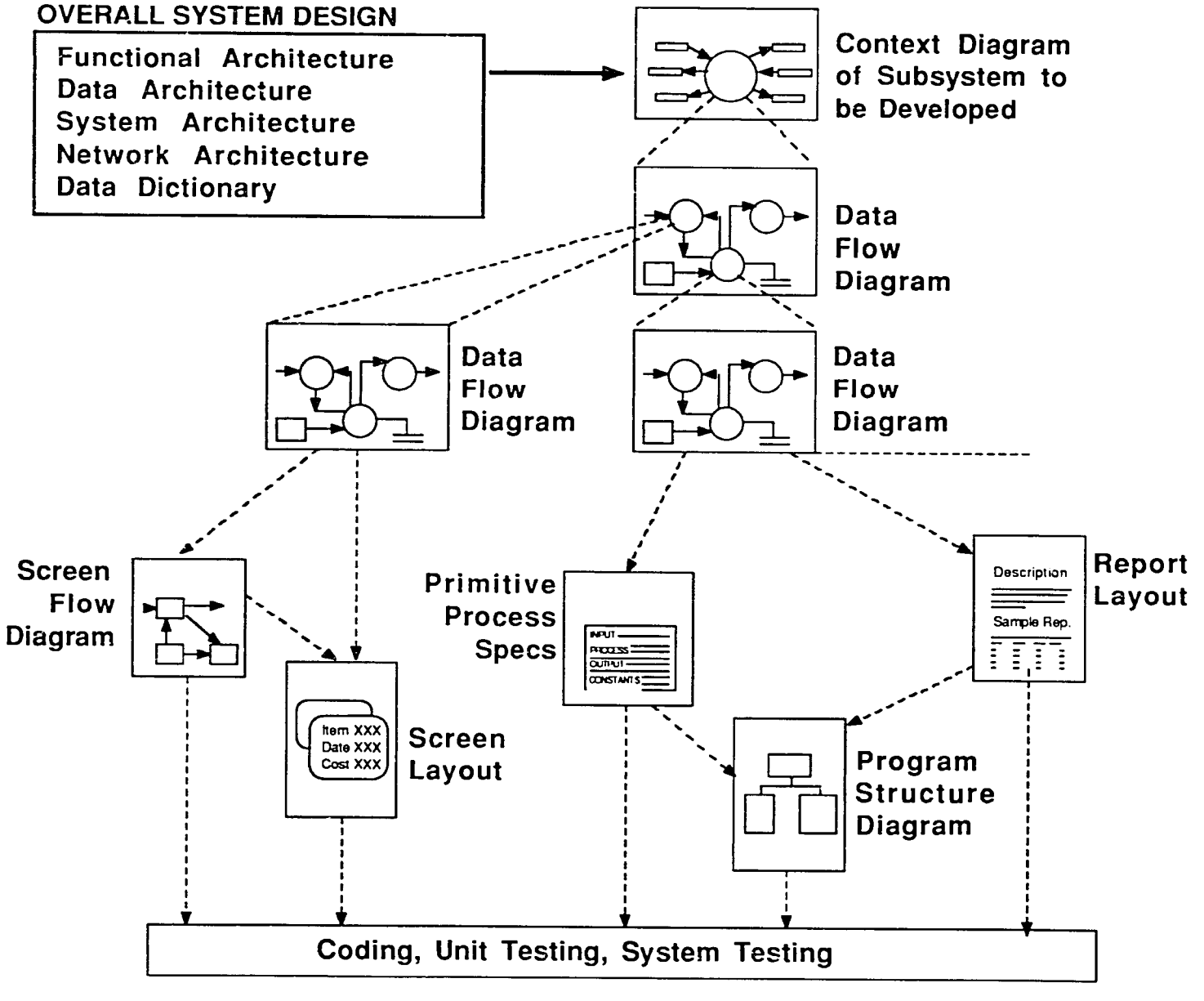
EXAMPLE



Sample Data Dictionary

Table Name	Field Name	Field Type	Field Length	Not Null (Y/N)	Remarks
Geological Directionals	Well number	CHAR	11	Y	This is the key field for this table
	Measured depth	INTEGER		N	Drill pipe depth from surface to bottom
	Vertical depth	INTEGER		N	True vertical depth from surface
	Deviation	INTEGER		N	Depth from sea level
	Azimuth degrees	DECIMAL	6,1	N	
	X-Direction	INTEGER			
	Y-Direction	INTEGER			
	Comments	VARCHAR			
Depth-Pressure Tests	Well number				
	Date of test				

Detail Design Methodology



Index of Task 1 Meeting Notes and Attendees

12 June Supply & Maritime

Bechtel Attendees

EGPC Attendees

Dr. Hassan Mohamed Gen Mgr Refineries

Eng. Hassan Said Section Mgr Trans & Dist Studies

Tamer Abubakr Gen Mgr Supply & Maritime

Notes

13 June Exploration

Bechtel Attendees

EGPC Attendees

Dr. Asem Hegazy, Geological & Geophysical Gen Mgr

Mr. Said El Askary

Mr. Amr Tantawy

Organization - Exploration Vice Chairman Salah Hafiz

Miscellaneous

SSI Study

Core Lab Study

Setting up Concessions

Main Functions:

Explorations' expectations of this project

14 June Production

Bechtel Attendees

EGPC Attendees

Eng Moussad A. Moussad - V. Chair PRODUCTION

Geol Mohammed Eloui - Gen Mgr Reservoir & Prod

Chemist Nessiem Frere - Gen Mgr Development

Eng Ahmed Ammar - Gen Mgr Drilling

Eng Amin Gamal - Gen Development Dept

Mamdouh Abdel-Salam - Dept Head Production

Organization - Production Vice Chairman M. A. Moussad

Main Departmental Functions

Production's expectations of this project

19 June Exploration Ops - Dr. Mohamad Sakr, Sector Mgr.

EGPC Attendees

Geological Operations - Atef Shalen, Dept Head

Geophysical Operations - Aly Sheta, Dept Head

Functions

Data Requirements

Index of Task 1 Meeting Notes and Attendees

What is expected from this project

19 June Assess. of Explor. Studies, S. Matbouly Dept Hd.

EGPC Attendees

Section Mgr (position vacant)

Geological Department Head - S. Matbouly

Geophysical Department Head - S. Matbouly

Functions

Data Requirements

What is expected from this project

20 June Technical Audit Sector - Mgr Ahmed M. Omran

Bechtel Attendees

EGPC Attendees

Mona Naguib

Ahmed Omran

Atef Mohamed

Main Functions:

What is expected of this project:

Organization

20 June Programs & Statistics

Bechtel Attendees

EGPC Attendees

Ahmed Sakr

Mohamed El-Sabbagh

Anwar Salama

Mohamed Hassan Farid

Atef Mohamed

Organization

Functions:

Data Requirements

What is expected of this project

22 June Eplor Contracts - Dept Head Nadia Zahran

Bechtel Attendees

EGPC Attendees

Nadia Zahran

Ahmed Omran

Atef Mohamed

Organization

Functions

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Data requirements
Currrent computer equipment
What is expected from this project

22 June Data Manipulation

Bechtel Attendees
EGPC Attendees
- Alaa Abul-Azaeim
- M. Saad Tantawy
- Atef Mohamed

Organization

22 June Agreements Sector Mgr Abdel Wahab Youssef

Bechtel Attendees
EGPC Attendees
- Abdel Wahab Youssef
- Atef Mohamed

Organization
Functions
What is expected from this project:

25 June Drilling - Gen Mgr Ahmed A. Ammar

Bechtel Attendees
EGPC Attendees
- M. A. Kassem
- M. S. Awahab
- M. Abou Bakr
- Abdel el Hamid Dawood
- Ali Tawfik Abdel Karim
- Atef Mohamed

Organization
Functions
What is expected of this project

25 June Development

Bechtel Attendees
EGPC Attendees
- Nessiem Frere
- Amr A. Osman
- Mohamed ElMenyawy
- Mohamed Farahat
- El-Sayed Abdel-Maaboud

Adel El Gendy
Maysa Elwy
Atef Mohamed
Organization
Functions
What is expected of this project:
26 June Reservoir & Production
Bechtel Attendees
EGPC Attendees
Mohammed Eloui
Ali Mohamed Mira
Mandouh Abdel Salam
Atef Mohamed
Organization
Functions
What is expected of this project:
27 June Operations - Transportation & Distribution
Bechtel Attendees
EGPC Attendees
Hassan Said
Faten Kamal
Yehia Lasheen
Farouk Serag
Tamer Abubakr
Organization
Functions
What is expected of this project:
28 June Operations - Refinery Programs & Studies
Bechtel Attendees
EGPC Attendees
Hassan Mohamed Ahmed
Shokria Ahmed Abdel Menem
Yehia Lasheen
Faten Kamal
Tamer Abubakr
Farouk Ahmed Zaki Hassib
Organization
Functions

Index of Task 1 Meeting Notes and Attendees

What is expected of this project:

29 June Operations - Supply & Maritime

Bechtel Attendees

EGPC Attendees

- Hassan Assaf
- Mohamed Said
- Yehia Lasheen
- Faten Kamal
- Tamer Abubakr
- Mrs. Salma El-Sherbini

Organization

Functions

What is expected of this project:

TASK 2 - ANALYZE THE SITUATION

Task 2, Analyze the Situation and Define Requirements, was aimed at reviewing the functions performed by the EGPC organization, the goals and objectives of the organization, and the functional needs of the organization. To do this, Bechtel conducted a detailed set of interviews with members of the EGPC organization. The interviews enabled the Bechtel Team to obtain information about the current and planned direction of EGPC, identify the information flows that exist from department to department, and begin sorting out the key data elements. This task consisted of two sub-tasks. They are as follows:

- Task 2.1: Review Project Operations
- Task 2.2: Review Present Systems

Each sub-task had its own set of deliverables. For Task 2.1, the deliverables were Functional Business Models and Information Usage Models.

FUNCTIONAL BUSINESS MODELS:

Because of the high degree of assistance and cooperation afforded to Bechtel by EGPC, most of the organizational elements were identified during the completion of Task 1, Organize the Study. However, the interview process that was held in Task 2 went into greater detail. The primary functions that had been identified previously were now broken down into sub-functions. While the interviews during Task 1 were held at the level of upper management within EGPC, those carried out in Task 2 began at management level, and then proceeded to the departments, sectors, and even to key individuals at lower levels. During Task 1, for example, the production division was listed as having four key groups under its direction. They are: drilling, production, reservoir, and development.

During Task 2, Bechtel found that the functions could be broken down much further. For the drilling department, for example, the primary functions are as follows: approve drilling programs; approve completion programs; approve contract services; prepare drilling reports; approve expenditures for cost recovery expenditures; approve drilling rigs and contractors; monitor drilling operations; and, finally, make technical evaluations as required.

Each of the functions of the drilling department comes with its own set of information requirements. For example, in order to approve drilling programs, copies of these drilling programs must be provided to the drilling department. Each drilling program will provide data elements such as: type of well, spud date, the company operating the well, the number of rig days planned, the subcontractors to be utilized, and the forecast completion date.

All of these functions for the three divisions under the study scope were reviewed during

the functional analysis phase of the project. The Functional Business Models enclosed in the Task 2 Report reflect the current functional hierarchy of EGPC from the division level to the level of the sectors and departments.

INFORMATION USAGE MODELS:

The Information Usage Models are intended to show both the functional hierarchy of the three divisions under this work scope, and the exchanges of data that occur. The primary functional units of each division are shown as large boxes with a shaded boundary around each one. The other functional groups in the same division are shown within this shaded area. Outside of the shaded area are the external groups that this functional unit would communicate with. For example, the drilling department is shown in the same shaded area as the reservoir department, the production department, and the development department. That is due to the fact that each group reports to the production division. Outside of the shaded boundary are the external functional groups that exchange data with drilling.

These external groups can be in the EGPC organization, such as is the case for the Exploration division, or they can be external to EGPC, as are the joint venture companies and the Consessionaires. The diagrams read essentially left to right. From the left are the inputs of the data from other groups. A piece of data may enter the drilling department such as a drilling program from a joint venture operator. This drilling program is handled within the drilling department by the "Approve Drilling Program" function. Another representation on the diagram may be to show drilling reports being issued to EGPC management. This is an output of the "Prepare Drilling Reports" function. These reports may be shared to other groups within EGPC other than management. In this case, the flow of the information may lead to other groups within the division, such as the reservoir department.

In all, fifteen Information Usage Models were prepared to represent the functionality of the three divisions under this study.

WORK NOT REQUIRED UNDER THE SCOPE OF WORK:

In addition to the required deliverables under the scope of work, the Bechtel Team generated other documentation in the Task 2 report to illustrate the functionality of EGPC. This extra work was done by Bechtel to further clarify the functions and data exchanges of EGPC. The following is a summary of what these additional deliverables consisted of:

FUNCTIONAL NARRATIVE:

The functional narrative explained in great detail the functions of each department that are routinely done. This narrative was taken from the interview sessions held between the Bechtel Team and the various EGPC departments. On a division level, these narratives outlined the responsibilities of each division. This narrative was also

completed at the department and sector level as well. At these lower levels, the responsibilities were shown and the processes were also shown to show how these responsibilities were met. In other words, a function may be shown such as "Issue Drilling Reports". The functional narrative also includes information as to who does the reports, where the information is obtained, whether the reports are manually generated or done by computer, and how often the reports are done.

A separate series of review meetings was held with the EGPC functional groups to ensure that the information in the functional narratives was correct. In all, this information was reviewed with EGPC on three occasions to ensure its accuracy.

"AS-IS" DATA FLOW CHARTS:

These were large diagrams that were done manually by the Bechtel Team. The "As-Is" Data Flow Charts were based on the Information Usage Models. They were considerably larger, though. The flow of data was represented as on the smaller diagrams, but, in this case, actual examples of forms and reports were "pasted" in place. For example, the receipt of a drilling program from a joint venture operator was represented by an arrow from the joint venture company to the drilling department. But on this larger format, a reduced-size copy of the actual report was pasted over the arrow for clarity. This way, when further reviews with the EGPC departments were held, there was no confusion as to what a report was called, where it came from, and who was to receive it. These charts also helped to simplify the understanding of the Information Usage Models in the user groups by using examples of actual reports that they were already familiar with.

TASK 2.2: REVIEW PRESENT SYSTEMS:

The purpose of this sub-task is to coordinate the design of the data bases with the previous U.S.A.I.D.-funded projects. The intent was to avoid possible duplication of effort between Bechtel and the other on-going projects at EGPC. The deliverables for this task were to specify the hardware required for communication with the existing projects, and to locate software that will be suitable for such a connection.

The deliverables for this sub-task were satisfied by Bechtel in the following way:

- A report was furnished to EGPC entitled **"Alternatives for Data Base Integration"**. In this report, Bechtel discussed the criteria that data communication hardware and software must meet. First, the centralized data base must be accessible from several types of computers simultaneously. Second, user departments must be able to query the data base and obtain information without the need for the I/S department to develop a program. To satisfy these criteria, Bechtel offered for EGPC's review four alternatives. They are as follows:

1. Base Case: The base case called for the use of IBM's SQL/DS (Structured Query

Language/Data System) data base software, already present in the EGPC mainframe. The advantages are that this software is relatively inexpensive, and the hardware configuration is relatively simple. The disadvantages are that there is a requirement for special programming to be done to accomplish communication; all of the applications must run on the IBM mainframe; and the user interfaces available with this configuration are less flexible than others.

2. Alternate Case A: This alternative was based on utilizing the SQL/DS data base in conjunction with a more advanced 4GL (Fourth Generation Language) such as Oracle. The advantages of this approach are that data can be uploaded and downloaded from many different types of computers; many applications can be accessed from the mainframe as though they were on the local computers; the ability of querying and manipulating the data are superior than for the base case; and little programming is required of the I/S professionals at EGPC.

3. Alternate Case B: This alternative suggested the integration of EGPC computers with other petroleum sector companies. The advantage of this approach is that the data interchange between EGPC and the other companies would be more effective. The disadvantage is that this type of communication creates the need for a very advanced data security program. This security program would be needed to ensure that the external companies obtained access to only those data elements that they are entitled to.

4. Alternate Case C: This alternative proposes the installation of Oracle on the EGPC mainframe in addition to the IBM SQL/DS data base that is currently residing there. The advantages are the same as for Cases B and C, with the following additional advantages: when EGPC converts from the VM operating system to MVS at a later date, there will be no need to convert the data base because Oracle can run under either; all mainframe users will be able to use the powerful querying and data manipulation tools of Oracle; all users can access the data base regardless of the kind of computer they are using.

With each of the Alternative Cases, Bechtel has provided diagrams which specify the interconnection hardware that will be required to make these connections work.

At the direction of EGPC, and using the hardware/software budget provided in this study's scope of work, Bechtel has adopted Alternate Case C.

EGPC INFORMATION SYSTEMS PLANNING & IMPLEMENTATION PROJECT TASK 2.1 DELIVERABLES

INTRODUCTION

The EGPC Information Systems Planning and Implementation Project includes three of the EGPC divisions: Exploration, Production, and Operations. One of the objectives of the project is to assess the information requirements of EGPC and formulate an information systems plan. EGPC has relationships and interchanges data with several types of petroleum sector companies: foreign concession companies for exploration; joint ventures for production; seven wholly owned refining companies; and marketing and distribution firms, two of which are wholly owned.

Within this context, one of EGPC management's primary goals is to effectively utilize the large volume of data that is interchanged with concession companies, joint venture companies, and wholly-owned EGPC subsidiary companies. The first step in determining how to manage this large volume of data is to understand where and how the data originates and how it is used. The documents in the report show information requirements and data interchange among the EGPC functions of Exploration, Production, and Operations as well as with the petroleum sector companies.

This report, which has been developed by the Bechtel team, is divided into five sections. These sections are as follows:

> EGPC OVERVIEW: Included in this section is a brief description of the three divisions of EGPC that are the subject of the study. The EGPC Overview Information Usage Models (IUM's) illustrate the main functional entities of EGPC, and the exchanges of information that occur. This section also contains the Functional Business Models (FBM's). These FBM's show the hierarchy of functions within EGPC.
>
> EXPLORATION: For each function shown on the EGPC Overview IUM, there is a Functional Description that explains the major functions that are performed by that function. This information was gathered by the Bechtel team through interviews that were held with cognizant EGPC staff members. There is also a lower level Information Usage Model that shows the information used and

created by the function as well as the source or destination of the information.

PRODUCTION: The contents of this section are similar to Exploration.

OPERATIONS: The contents of this section are similar to Exploration.

FUNCTION CHARTS: This section contains "As-is" Functional Data Flow Charts for each of the EGPC functions. The charts follow closely the design of the Information Usage Model, but at the same time, they exhibit the actual forms or reports that are in use by EGPC staff. These forms and reports were copied and reduced in size and placed in the information usage areas as applicable.

SAMPLE FORMS: A copy of each of the sample forms that are shown on the functional data flow charts has been enclosed for information and clarification.

The chart two pages back illustrates how all of the documents in the report relate to one other. The first document shown is the EGPC Functional Overview Information Usage Model (IUM) which is contained in this "EGPC Overview" section. The purpose of this diagram is to show the flow of information in summary form among these divisions. This diagram also shows the type of information interchanged with the petroleum sector companies. This diagram does not show all of the information interchanges. This detail is shown on the lower level diagrams.

For each of the functions shown on the Overview diagram there are four types of documents:

- Functional Business Model
- Information Usage Model (detailed level)
- Functional Description
- "As-Is" Functional Data Flow Chart

The Functional Business Models are in this "EGPC Overview" section. The detailed level Information Usage Models and the Functional Descriptions are in the three sections: "Exploration", "Production", and "Operations". The "As-Is" Functional Data Flow Charts are contained in the pocket in the back of this report.

These four documents provide different views of how information is created, used, and interchanged among functions. The Functional Business Model shows the hierarchy of functions. The Information Usage Model shows the flow of data between the function shown on the diagram (for example, 13 Geological and Geophysical Data) with the other functions and petroleum sector companies. The Functional Description discusses what happens within a function.

For convenience, all of the documents have been coded with a number corresponding to the functions. These are as follows:

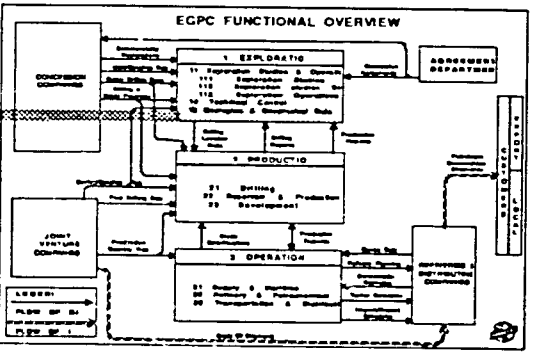
1 Exploration
- 11 Exploration Studies and Operations
  - 111 Exploration Studies
  - 112 Exploration Studies Evaluation
  - 113 Exploration Operations
- 12 Technical Control
- 13 Geological & Geophysical Data

2 Production
- 21 Drilling
- 22 Reservoir & Production
- 23 Development

3 Operations
- 31 Supply & Maritime
- 32 Refinery & Petrochemical
- 33 Transportation & Distribution

The forms and reports shown on the "As-Is" Data Flow Charts have codes that are the same as the above with a letter suffix. These are listed on the index in the front of the section titled "Sample Forms" and are marked on the sample forms themselves.

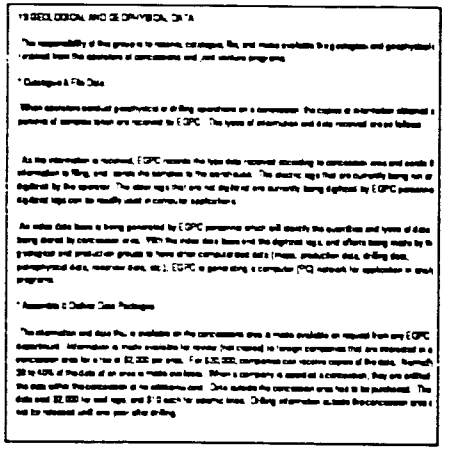
EGPC Functional Overview



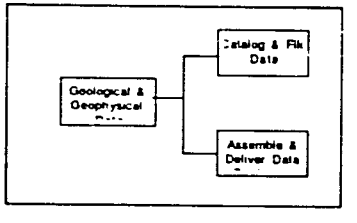
Details of One Function

For Example,
13 Geological and
Geophysical Data

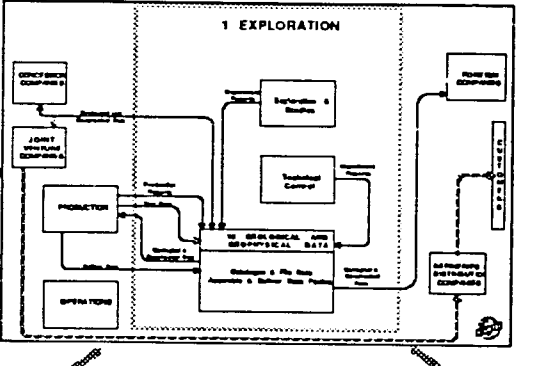
13 Geological and Geophysical Data Functional Description



13 Geological and Geophysical Data Functional Business Model (FBM)



13 Geological and Geophysical Data Information Usage Model (IUM)



"As-Is" Data Flow Chart Showing Department Inputs and Outputs (Reports, Forms, Telex's, Telephone Calls, Etc.)

Functional Analysis Documents

FUNCTIONAL OVERVIEW
of
EGYPTIAN GENERAL PETROLEUM CORPORATION

The following page shows an overview of the information interchange among the EGPC divisions of Exploration, Production, and Operations as well as with the petroleum sector companies.

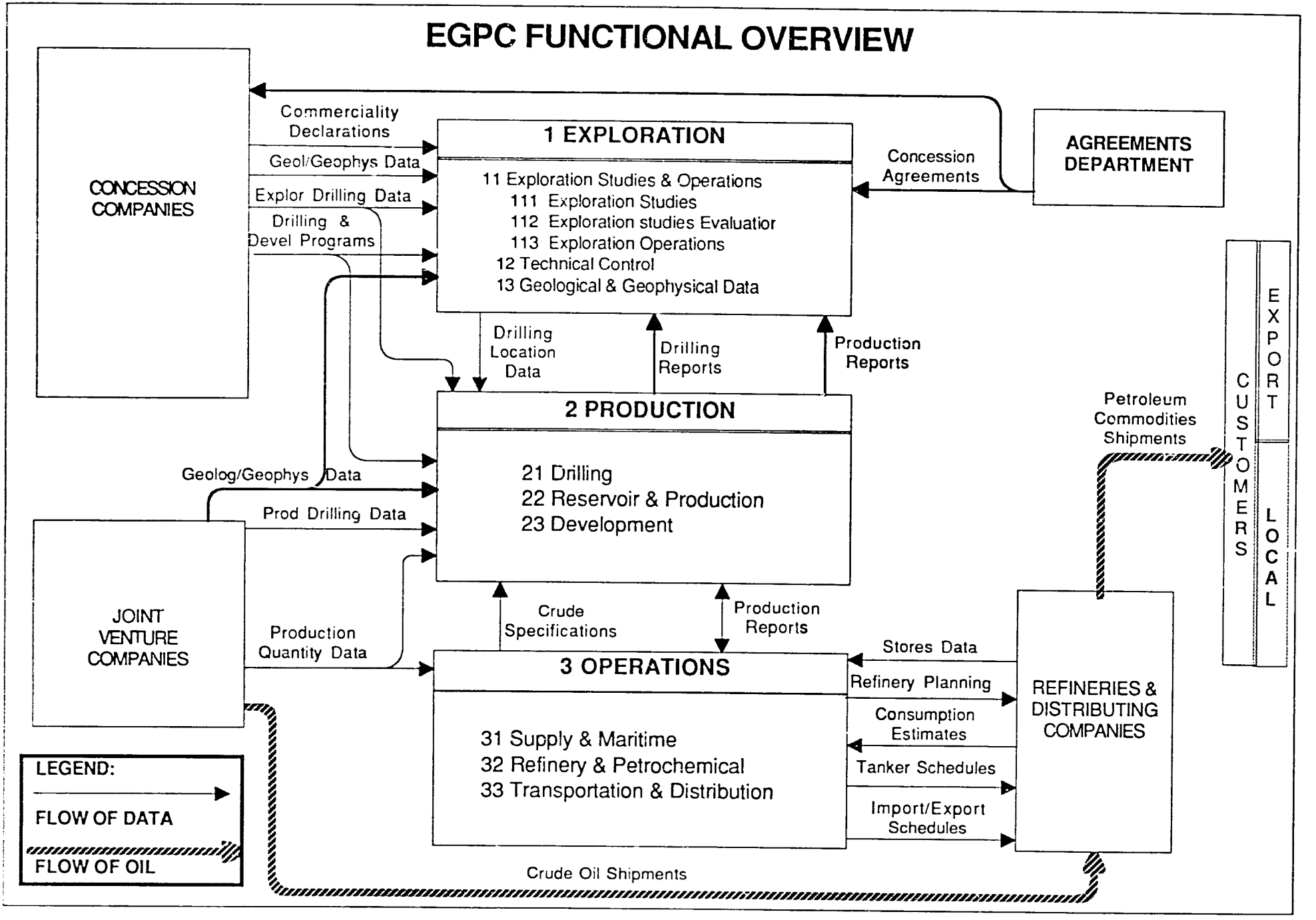
1 EXPLORATION The exploration division is responsible for evaluating the potential for hydrocarbon accumulations within the country, promoting exploration activity, and monitoring the concession companies and joint venture companies activities. There are three major functions performed by the Exploration division: Exploration Studies and Operations, Technical Control, and Geological and Geophysical Data. The information requirements for each of these is described further in the section titled "Exploration".

2 PRODUCTION The production division is responsible for monitoring the exploration drilling operations of a concession and the development drilling operations of a joint venture; evaluating and approving of facilities installed by the operators; monitoring the production performance of wells and fields to determine if the operators are operating in an efficient and prudent manner; evaluating the reserves determined by the operator of a concession or joint venture; and making reserves and production forecasts for budgeting and planning. The three major functions of the Production division are Drilling, Reservoir and Production, and Development.

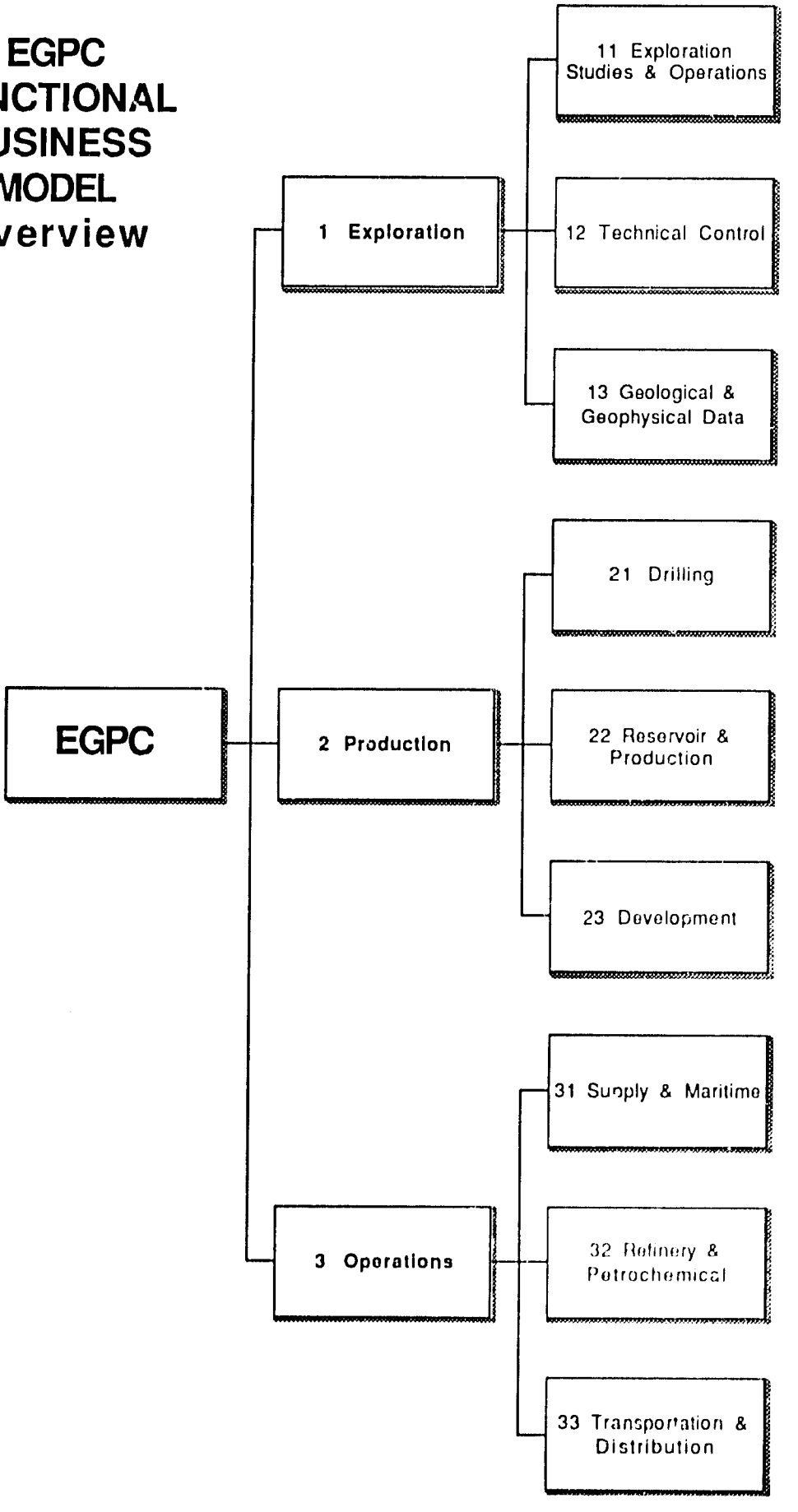
3 OPERATIONS The operations division is responsible for monitoring the storage of all crude oil production from Egypt oil operations. For EGPC's share of production, the division is responsible for distribution, refining and exporting of crude oil, and distribution of the refined products for domestic consumption or exporting. EGPC determines the production split between the operator and EGPC, and monitors the operators' distribution for their share of production. The three major functions of the Operations division are Supply and Maritime, Refinery and Petrochemical, and Transportation and Distribution.

Following the EGPC Functional Overview diagram, there are Functional Business Model diagrams which show the hierarchy of EGPC functions.

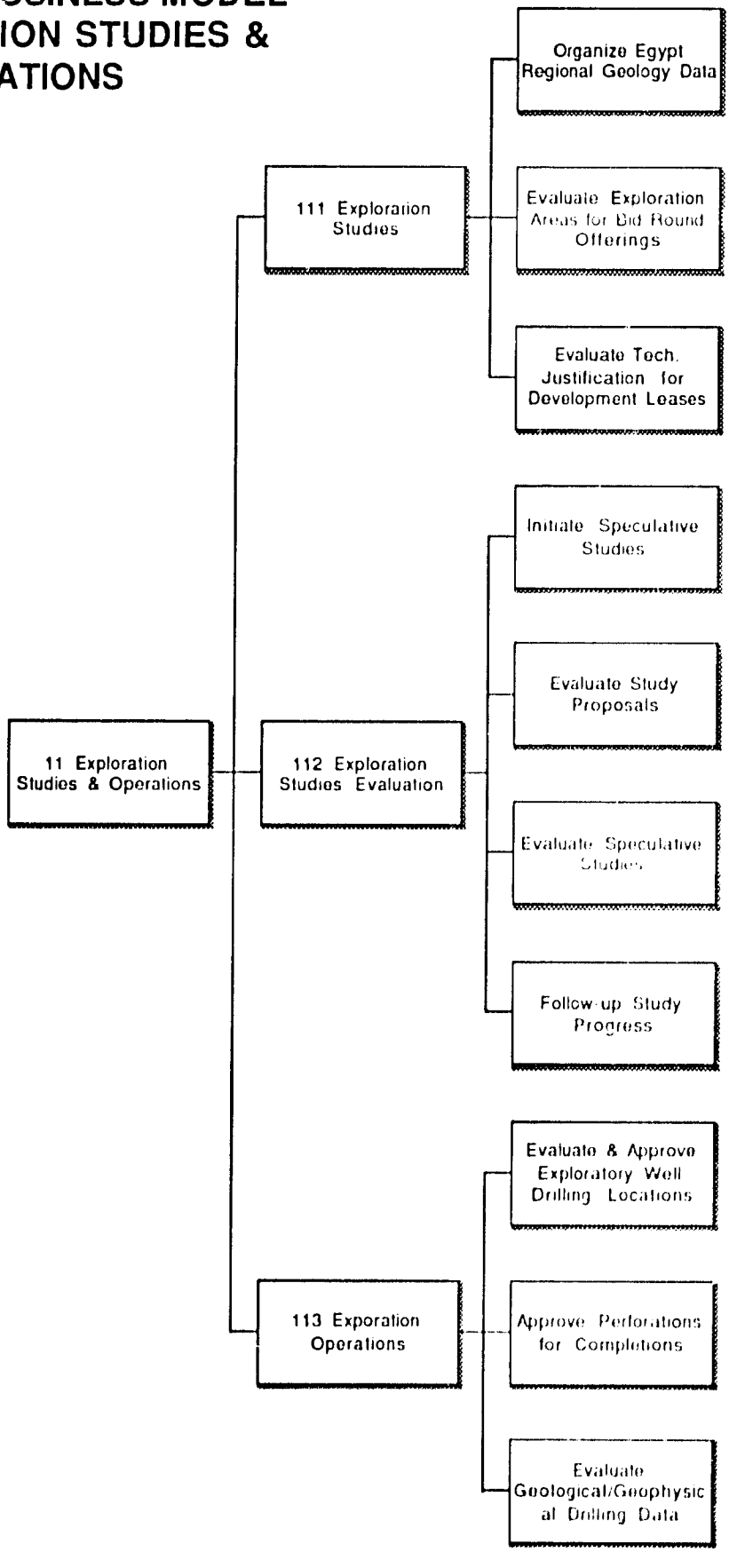
EGPC FUNCTIONAL OVERVIEW



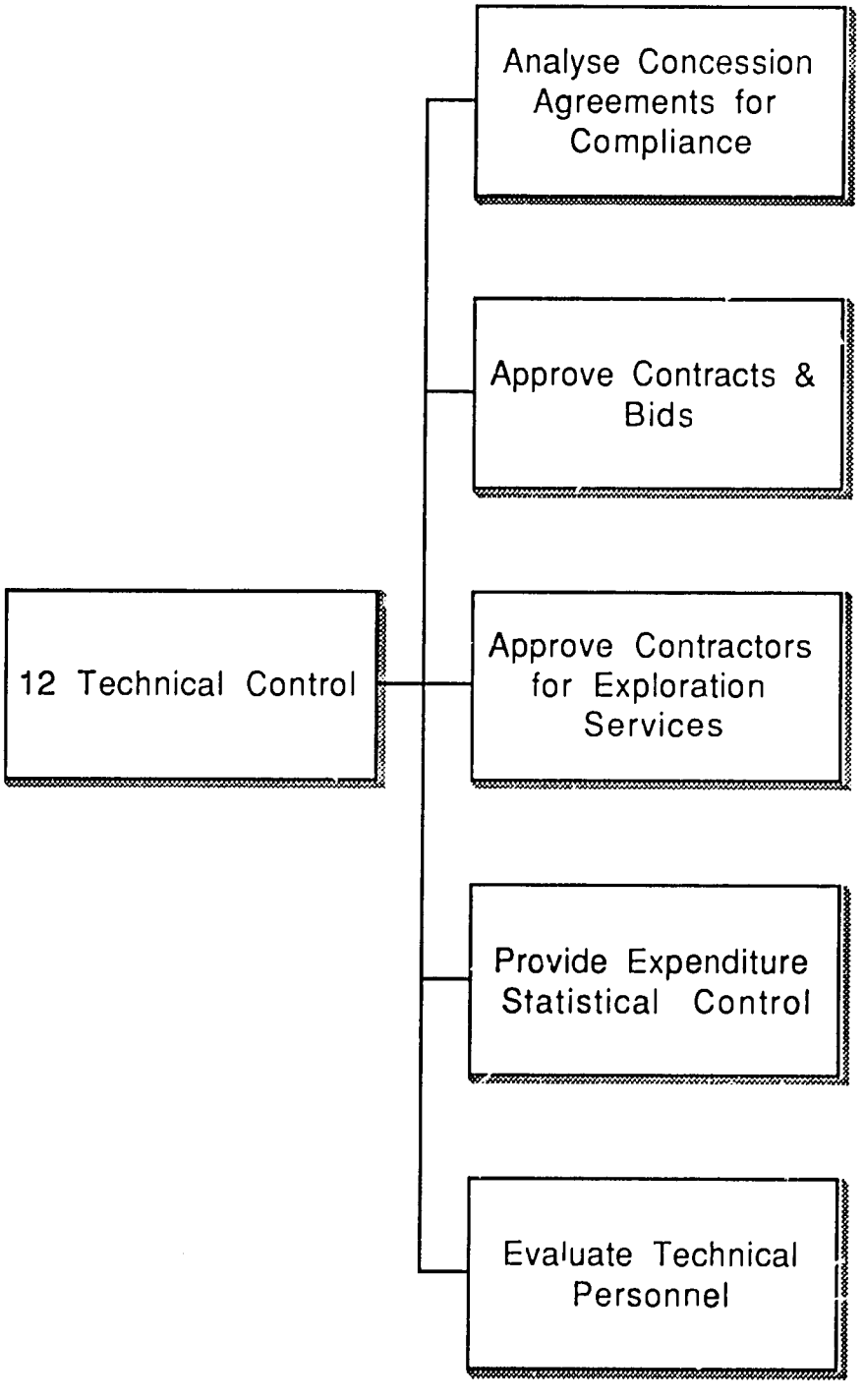
EGPC FUNCTIONAL BUSINESS MODEL Overview



EGPC
FUNCTIONAL BUSINESS MODEL
11 EXPLORATION STUDIES & OPERATIONS

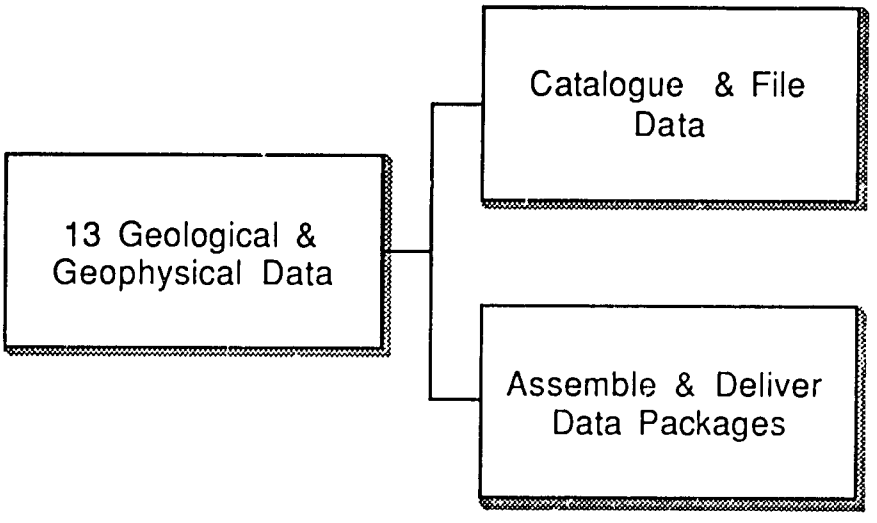


EGPC
FUNCTIONAL BUSINESS MODEL
12 TECHNICAL CONTROL

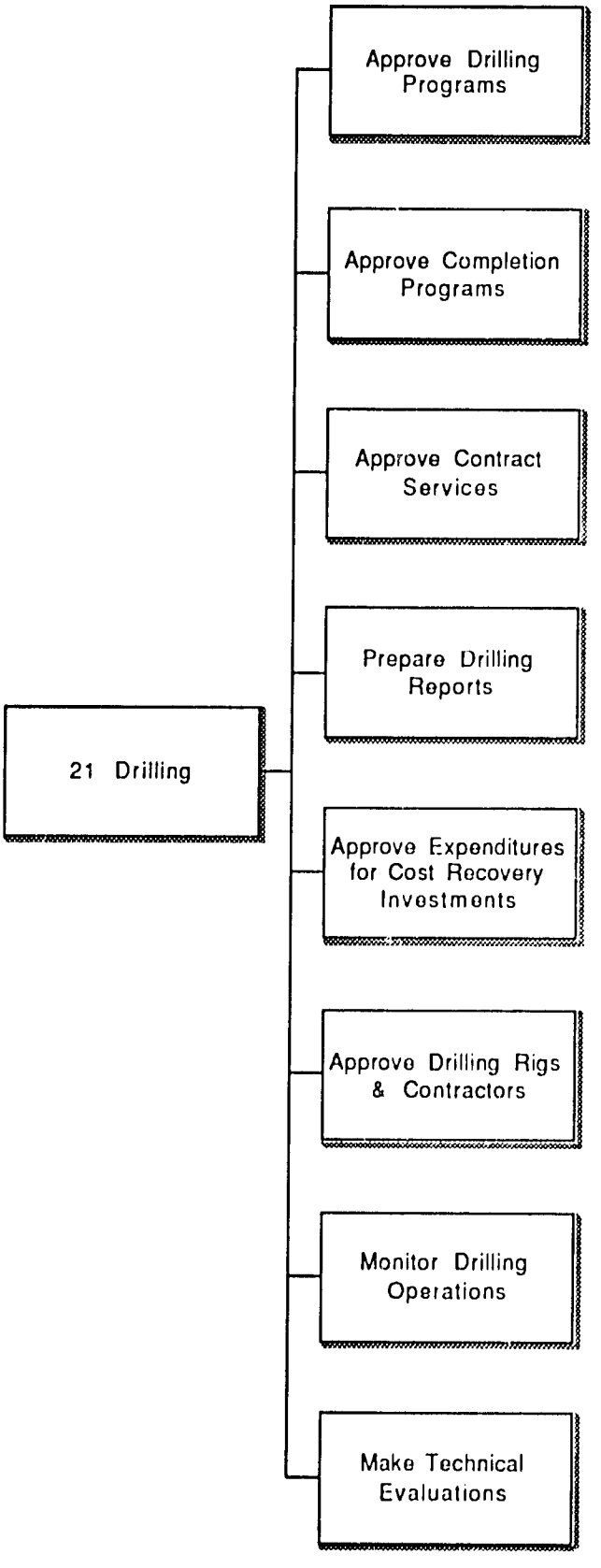


EGPC
FUNCTIONAL BUSINESS MODEL

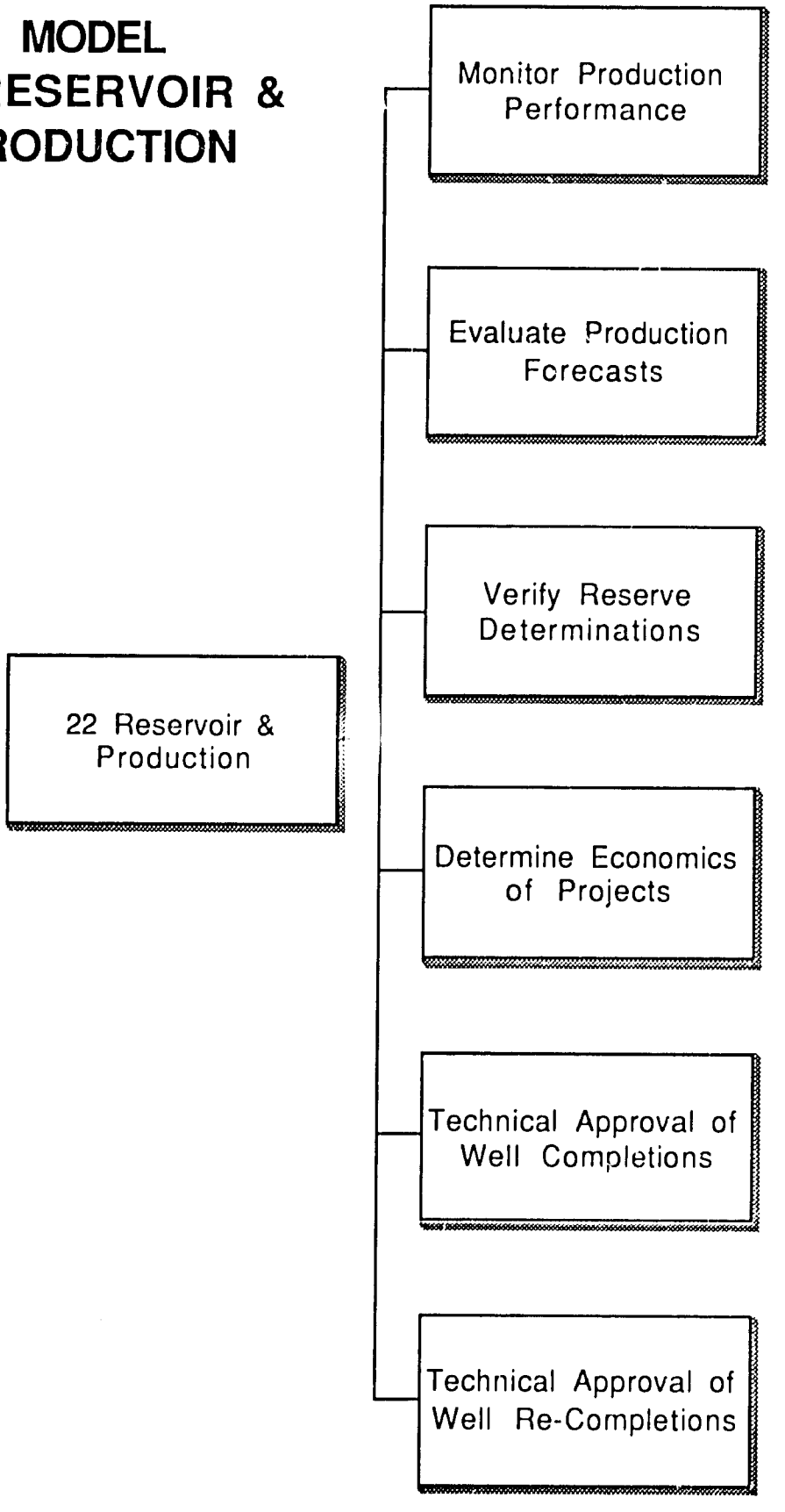
13 GEOLOGICAL & GEOPHYSICAL DATA FUNCTION



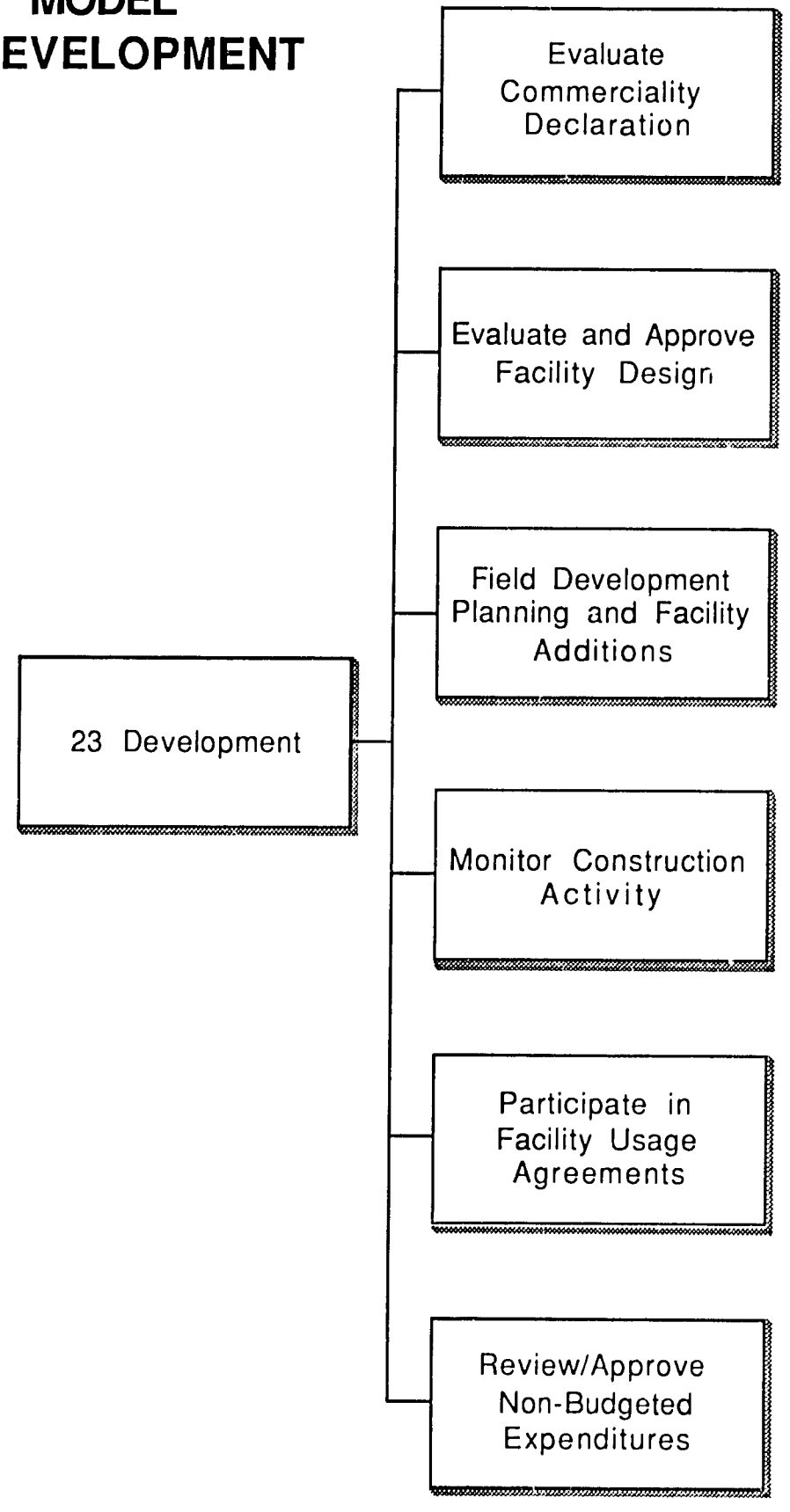
EGPC
FUNCTIONAL BUSINESS MODEL
21 DRILLING



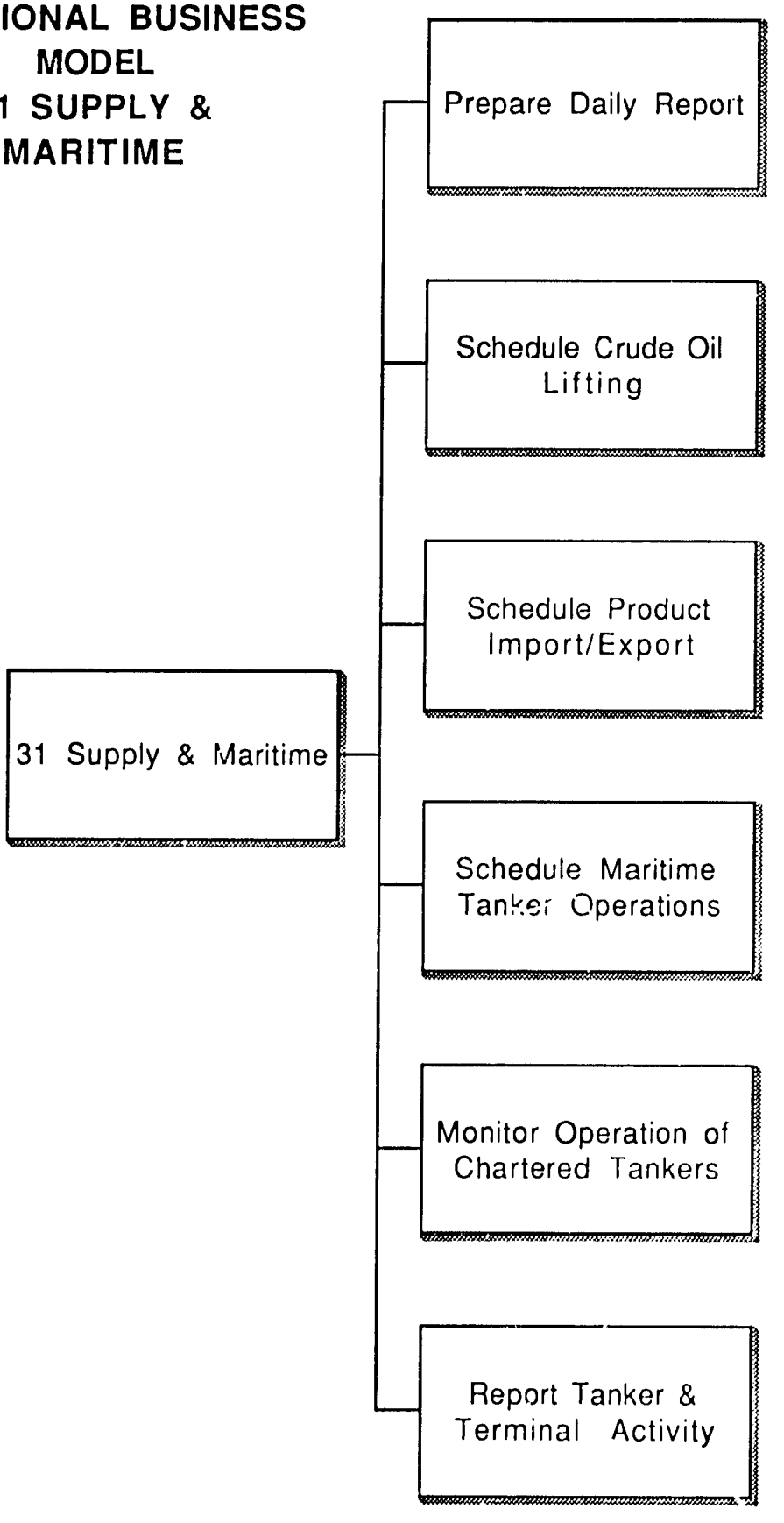
EGPC
FUNCTIONAL BUSINESS MODEL
22 RESERVOIR & PRODUCTION



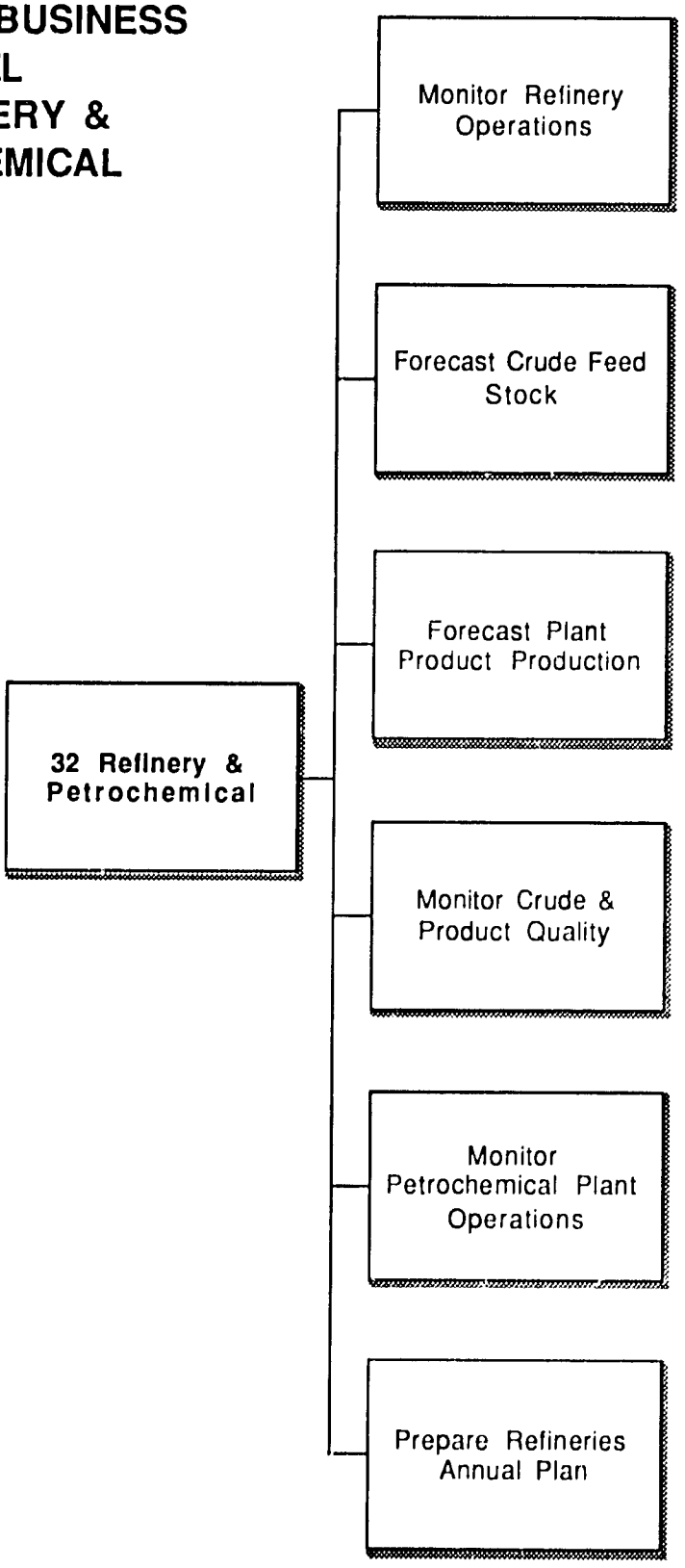
EGPC
FUNCTIONAL BUSINESS MODEL
23 DEVELOPMENT



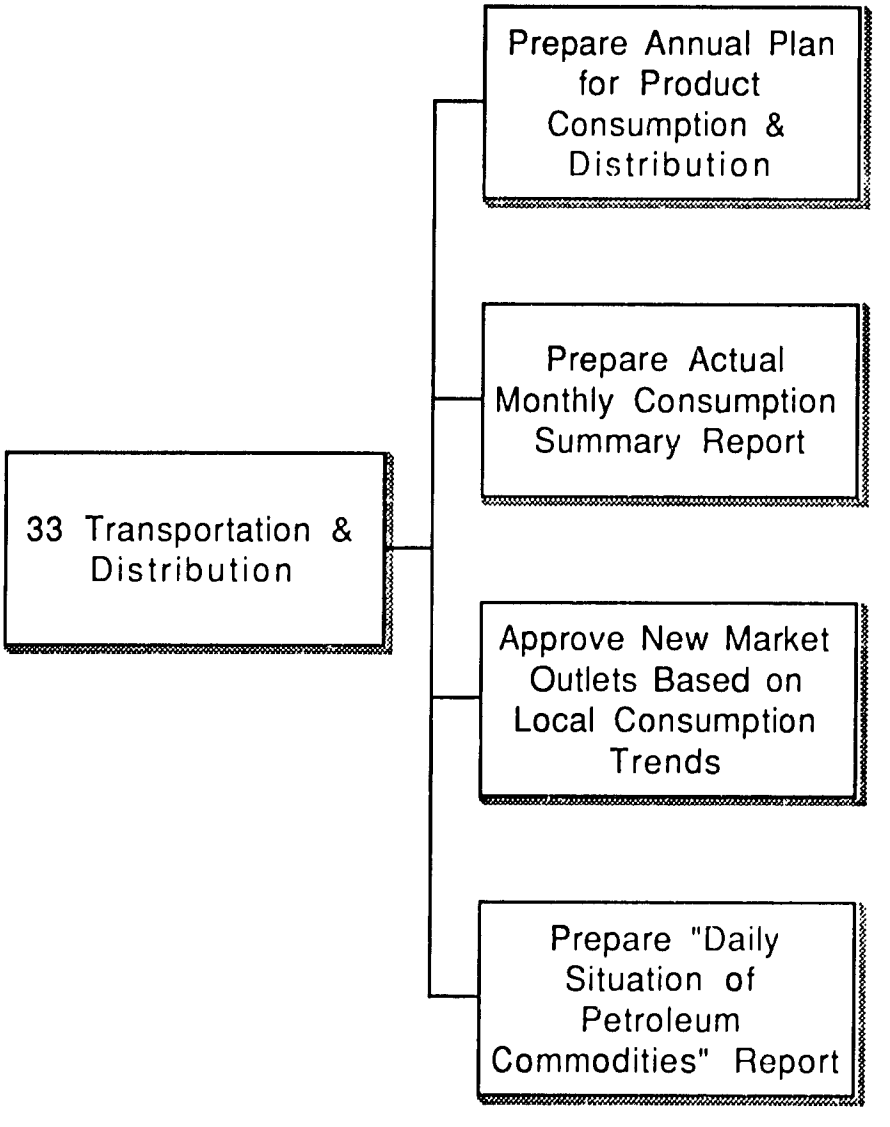
EGPC FUNCTIONAL BUSINESS MODEL 31 SUPPLY & MARITIME



EGPC
FUNCTIONAL BUSINESS MODEL
32 REFINERY & PETROCHEMICAL



EGPC
FUNCTIONAL BUSINESS MODEL
33 TRANSPORTATION & DISTRIBUTION



11 EXPLORATION STUDIES AND OPERATIONS

Under the direction of the Exploration Studies and Operations Manager, the geologists and geophysicists conduct independent evaluations of the country's geological structures to promote exploration activity by foreign companies. In addition, an assessment of proposals for studies and the evaluation of the studies are made for exploration activity in "open" areas. After a concession has been approved, the operations of the exploration activity is monitored. After a hydrocarbon discovery is made and a joint venture company is formed, the development of the area is followed to determine if portions of the assigned area should be released or additional exploration activity should be performed.

The following three sections describe the three major functions of Exploration Studies and Operations:

111 Exploration Studies
112 Exploration Studies Evaluation
113 Exploration Operations

111 Exploration Studies

* Organize Egypt Regional Geology Data

Geological, geophysical, petrophysical, and drilling data are received from EGPC data files, concession companies, joint interest owners, and the Egyptian Petroleum Research Institute. These data are cataloged and entered into an index data base and a geoscience data base.

The Index data base is prepared for the various geological and geophysical maps and reports that are received. The report type, company, area, results of report, location of report, etc. are entered into the index data base. In addition, information that would affect business decisions such as the location of distribution pipe lines, cost of exploratory and development wells, etc. is also catalogued.

The geoscience data base contains data from seismic lines, electric logs, petrophysical analysis, and geochemical analysis. These data are input into the data base at a location on a grid system that has been developed for all of Egypt. Information is entered according to the grid location to identify five separate zones throughout Egypt showing depth to the zone, thickness of the zone, and geoscience data. Structure and isopach maps are prepared on the five zones for the basins to determine potential exploration "plays" which may develop into exploration "leads" and "prospects".

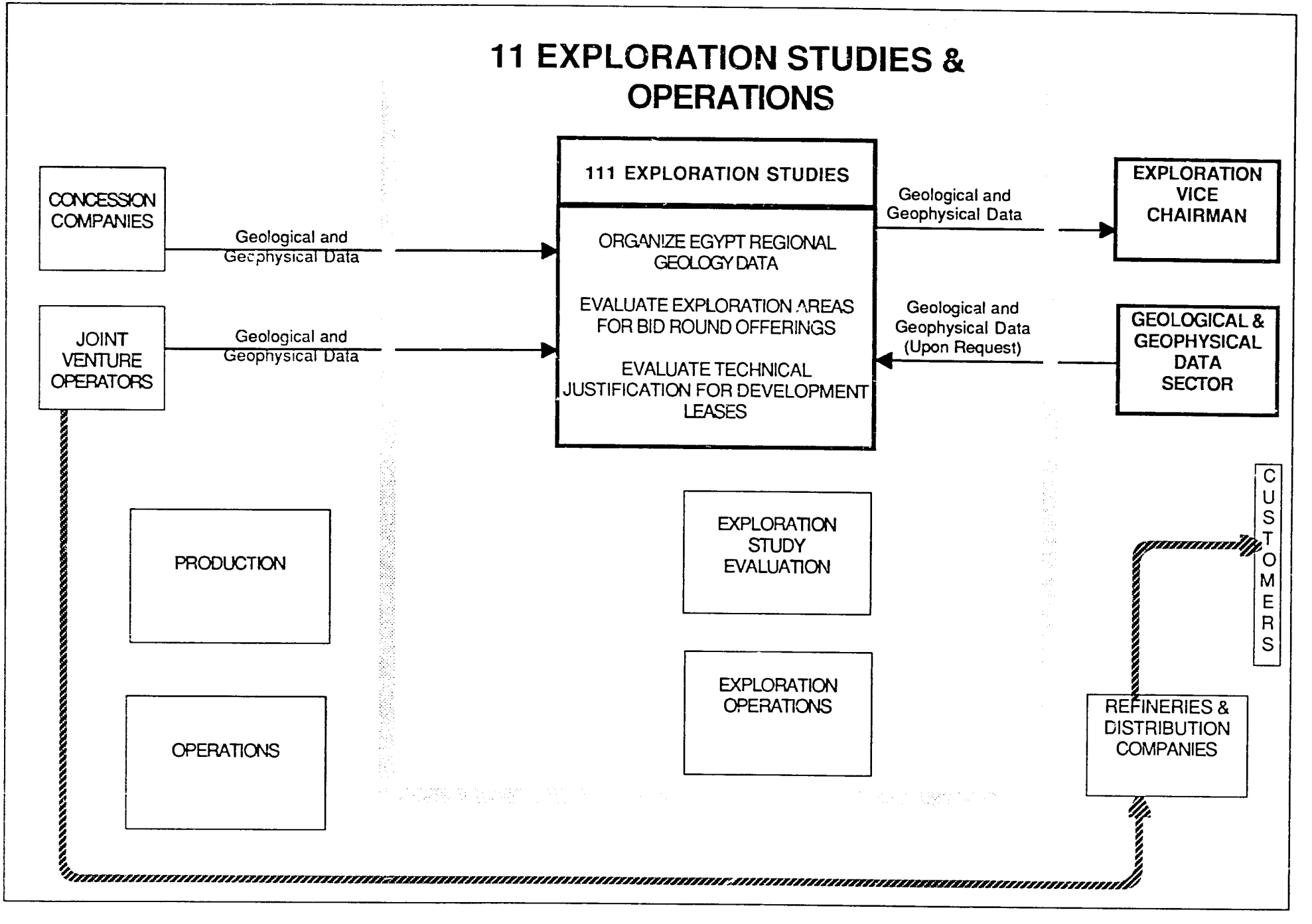
There are seven regions (basins) that have been identified as having potential hydrocarbon accumulations which are as follows:

- Delta
- Eastern Desert
- Gulf of Suez
- Mediterranean
- Sinai
- Red Sea
- Western Desert

* Evaluate Exploration Areas For Bid Round Offerings

When there is an interest in a specific area for possible exploration activity, such as a request from the Vice Chairman of Exploration for possible bid round, the Sector provides an analysis of the area using the referenced data bases.

11 EXPLORATION STUDIES & OPERATIONS



112 Exploration Studies Evaluation

* Initiate Speculative Studies
* Evaluate Study Proposals

There are three types of studies that are evaluated: Exclusive Studies, Non-Exclusive Studies and Operators Studies.

Exclusive studies are speculative studies initiated by EGPC to promote and encourage exploration activities in the different regions of Egypt. These studies are financed by foreign concerns for the benefit of EGPC. They are intended for internal use by EGPC to gain a better understanding of an area, and to present to foreign companies for exploration and encourage investment.

Non-exclusive studies are speculative studies made by consulting firms or service companies under the direction of EGPC. These are multi-client studies that are available for sale to companies that are interested in bidding on a concession. The studies are also to highlight new potentials of existing exploration areas, and to help in solving regional exploration problems.

Operators studies are studies made by the concessionaires or joint venture companies for the operators own benefit and made available to EGPC under the terms of the concession agreement.

* Evaluate Speculative Studies

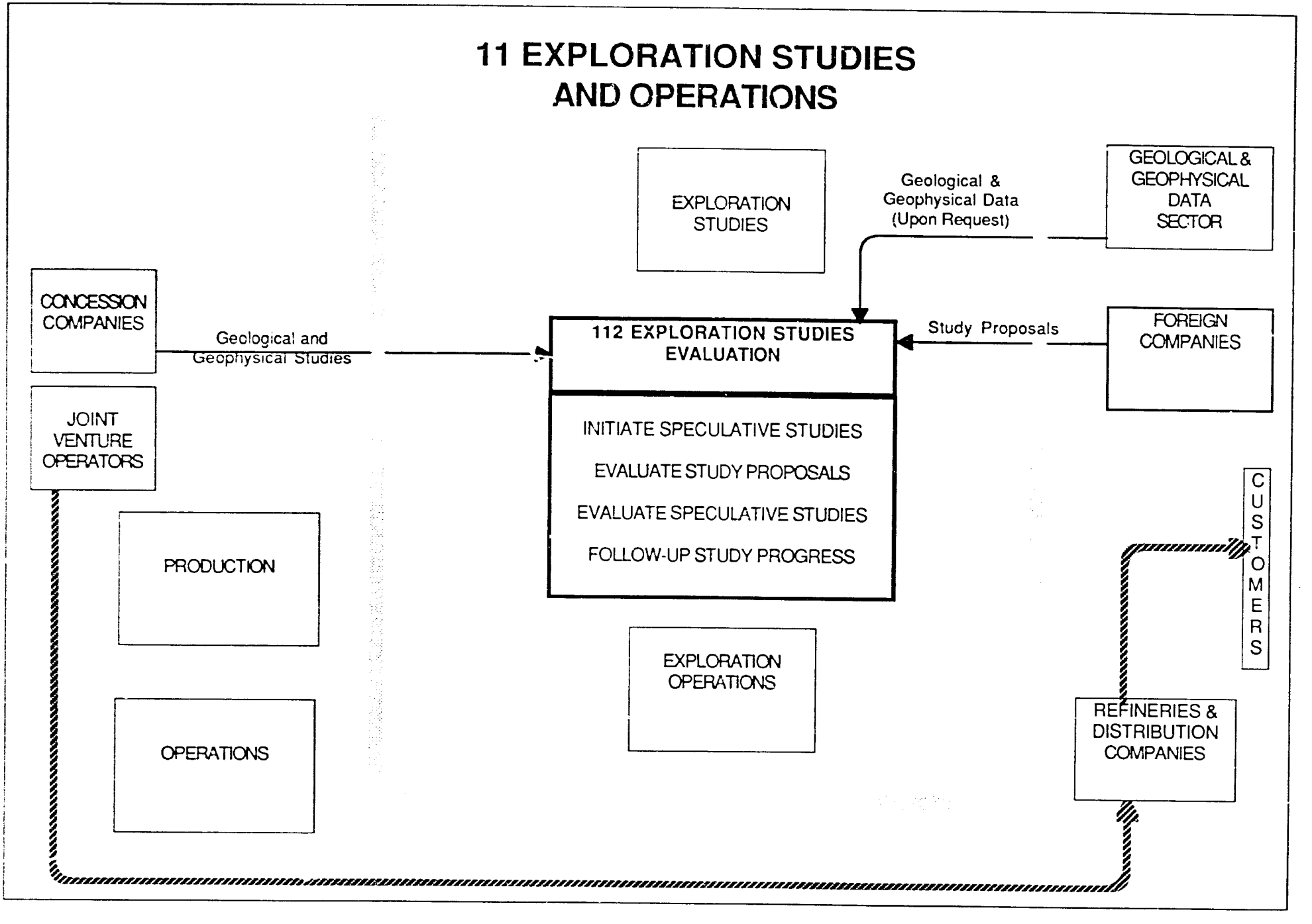
When a proposal to make a speculative study is received, the EGPC geological and geophysical professionals evaluate the following information:

- Description of the study proposal,
- Marketing terms with the sales price of the Study and EGPC share of the Study income,
- Programs of seismic surveys, re-processing geochemical, sedimentological, etc.)
- Requests for geological and geophysical data on file.

* Follow-Up Study Progress

As a study progress, the sector follows-up on the progress of the study and evaluates different phases of the study.

11 EXPLORATION STUDIES AND OPERATIONS



113 Exploration Operations

* Evaluate and Approve Exploratory Well Drilling Locations

The exploration operations sector reviews exploratory well recommendations submitted by concessionaires, and approves of exploratory drilling locations. The geologists and geophysicists will review the various supporting data for the recommendation which will include the following:

- Structural contour maps.
- Isopachs of potential hydrocarbon bearing formations.
- Cross-sections thru wells in the concession or offset wells.
- Seismic data.
- Drilling programs and cost estimates.

The group will meet with the concessionaire(s) to discuss the exploratory well recommendation and agree to a drilling location. After the drilling location has been approved, information on the exploratory well is sent to the drilling department for approval of the drilling prognosis and cost estimate.

* Approve Perforations for Completion

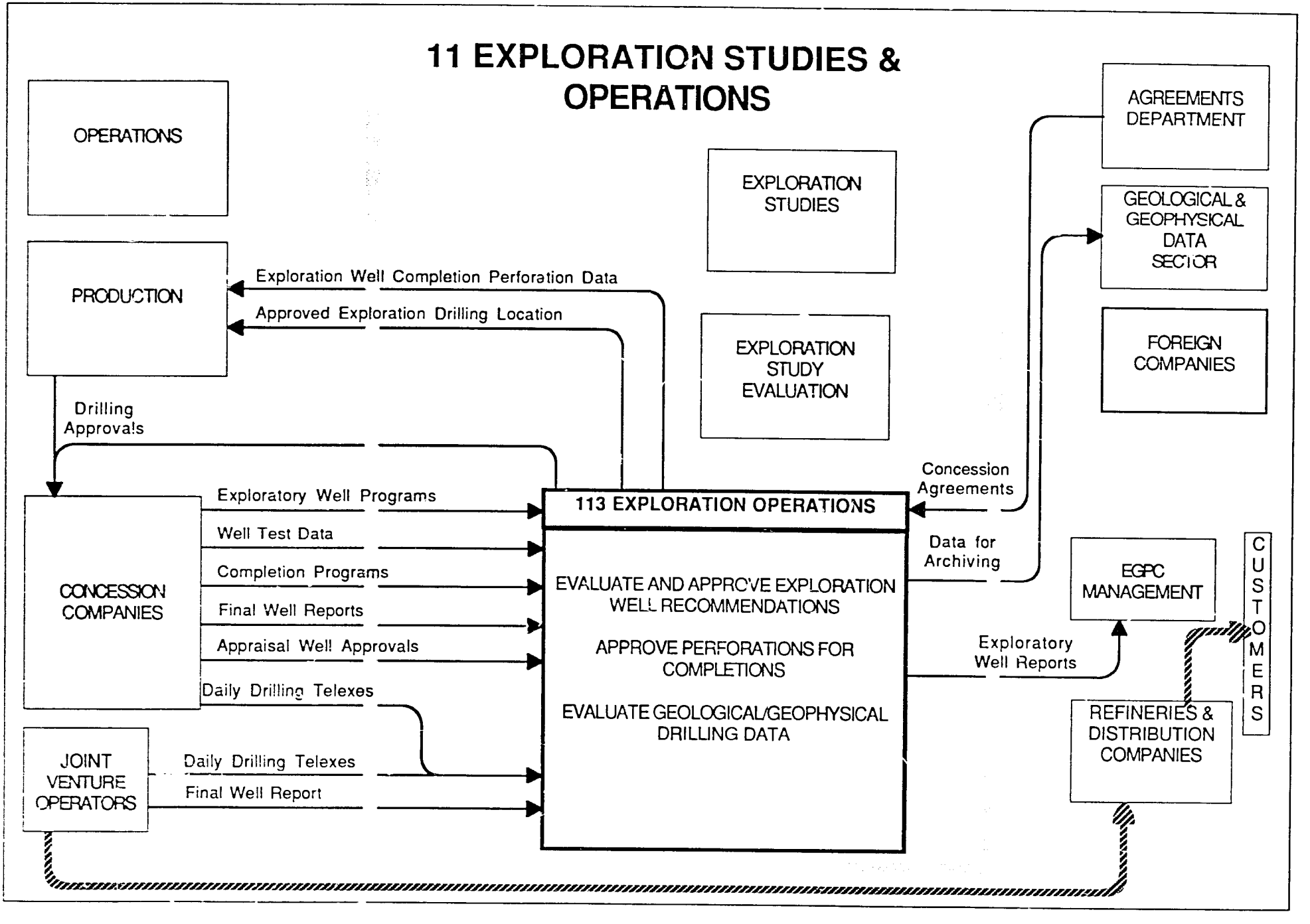
The group approves of recommended perforations for well completions and re-completion operations. The sector approves of the perforating interval and the drilling Sector approves of the procedure for the operations and costs.

* Evaluate Geological/Geophysical Drilling Data

The group conducts follow-up work on the drilling of the prospect to ensure the objectives of the programs are being met. Periodic meetings are held with the operator to review the progress of the wells being drilled and to discuss possible changes in the program such as testing, side-tracking, abandonment, etc.

Periodic geological reports are issued by the sector on the concessionaires and joint ventures operators drilling activity and geophysical activity. Reports are prepared on a daily, weekly, monthly, semi-annually, and yearly basis.

11 EXPLORATION STUDIES & OPERATIONS



12 TECHNICAL CONTROL

It is the responsibility of the Technical Control Group to provide technical control of the concessionaires with regard to the exploration activities by performing the following functions:

- Assure that the clients comply with the concessions agreement with regard to costs and time schedule guidelines.
- Audit and evaluate contracts, bids, and expenditures of concessionaires in the exploration for oil and gas in Egypt.
- Approve vendors and prepare a list of vendors for management and other department information.
- Provide statistical control of the exploration activities of the operators.
- Determine if the technical personnel of the clients and service companies conform to Egypt permitting regulations.
- Prepare reports to management and other departments on the status of expenditures (actual versus budget).

<u>Program Planning & Technical Control</u>

* Analyze Concession Agreements for Compliance

It is the responsibility of the sector to assure that the operating companies comply with the concession agreements with regard to expenditure and time schedule guidelines.

The programs that are submitted by the operator for exploration activity will contain proposed seismic surveys, drilling activities, time schedules for activities, and cost estimates. The sector will review the programs and estimated expenditures and determine if they conform to the contractual agreements with regards to level of activity and financial obligations. The sector will monitor the activity of the operator to determine if time schedules are being met and compare actual versus budget costs.

When commercial production is established on a concession and a joint interest company is formed, the sector will follow up on the assigned development area to determine if the operator satisfies the development agreement in each phase. They will review production performance and geological information of the area to determine if portions of the concession should be relinquished.

12 TECHNICAL CONTROL (continued)

The sector makes reports to management and other departments as to types of activities in different areas, and the status of concession areas and joint interest areas. Reports are made for concession areas, development areas, and relinquished areas.

Technical Revision for Exploration Expenditures

* Approve Contracts & Bids

It is the responsibility of this sector to provide technical auditing of concessionaires contracts and bids, and expenditures for the exploration activities of EGPC. When a client proposes to conduct exploration activity, the geologist and geophysicists reviews the services to be performed, the time schedule for the activity, and the proposal from a cost stand point.

The sector reviews requests for contracts and bids from vendors and service companies for materials and services. They are present at bid openings, and evaluate the bids with the operators. The quoted prices for materials and services are approved and initialled by both parties. The sector approves of the selection of the vendor.

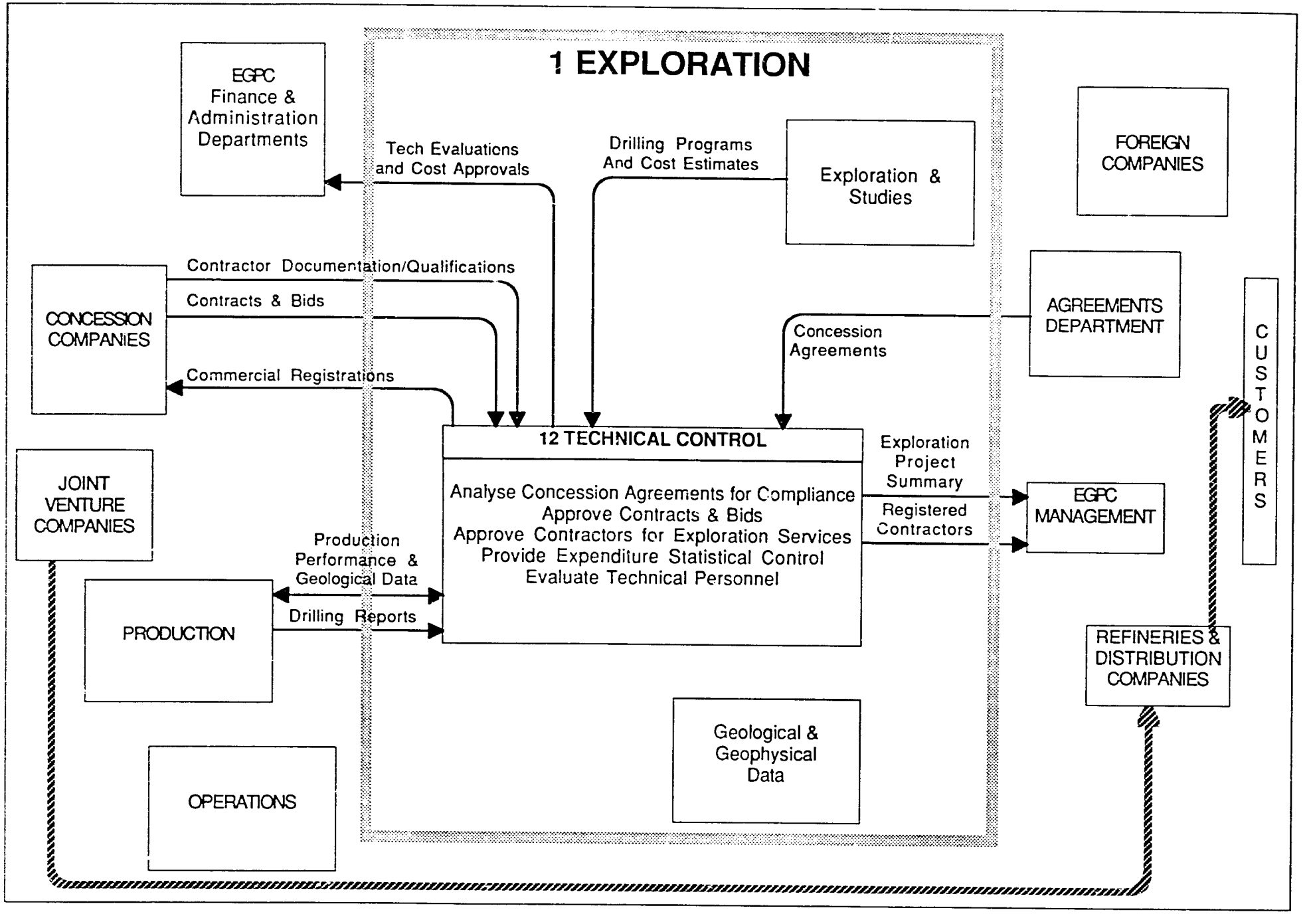
* Approve Contractors for Exploration Services

The sector is responsible for evaluating all vendors contracted to work on EGPC projects. The documentation of each vender is evaluated and recommended vendors are submitted to the minister for approval.

*Provide Expenditure Statistical Control

The operators submits to the sector copies of the invoices received for materials and services. The sector reviews and analyses the invoices to determine if they agree with quoted prices. If charges differ from budget costs, they determine if the costs are reasonable. A file is maintained for each vendor and operator in order to provide a historical review of performance.

The invoices that are received are posted monthly and a cumulative total for each project is maintained to compare with contractual obligations of the operator and provide a basis to evaluate operators cost recovery.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Approve Contracts & Bids
Approve Contractors for Exploration Services
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Production Performance & Geological Data
Drilling Reports
PRODUCTION
REFINERIES & DISTRIBUTION COMPANIES
Geological & Geophysical Data
OPERATIONS

13 GEOLOGICAL AND GEOPHYSICAL DATA

The responsibility of this group is to receive, catalogue, file, and make available the geological and geophysical data received from the operators of concessions and joint venture programs.

* Catalogue & File Data

When operators conduct geophysical or drilling operations on a concession, the copies of information obtained and portions of samples taken are received by EGPC. The types of information and data received are as follows:

1. Seismic
   - Maps showing seismic lines and shot locations.
   - Magnetic tapes for seismic lines.
   - Sections for seismic lines (no interpretive data).

2. Drilling
   - Samples of wet (unwashed) and dry drilling cuttings.
   - Hard copies of electric logs and tapes on logs.
   - Hard copies of interpretive composite logs.
   - Portions of sidewall cores samples and reports on core analysis.
   - Portion (1/2) of full cores and reports on core analysis.
   - Reports of wire line fluid and pressure tests.
   - Reports of open hole or cased hole testing.
   - Directional survey reports.
   - Geological, palentological, and geochemical reports.
   - Drilling reports.

3. Geological and Geophysical
   - Cross sections prepared from seismic and drilling data.
   - Structure and isopach maps prepared on various strata.
   - Reports prepared on concession areas.

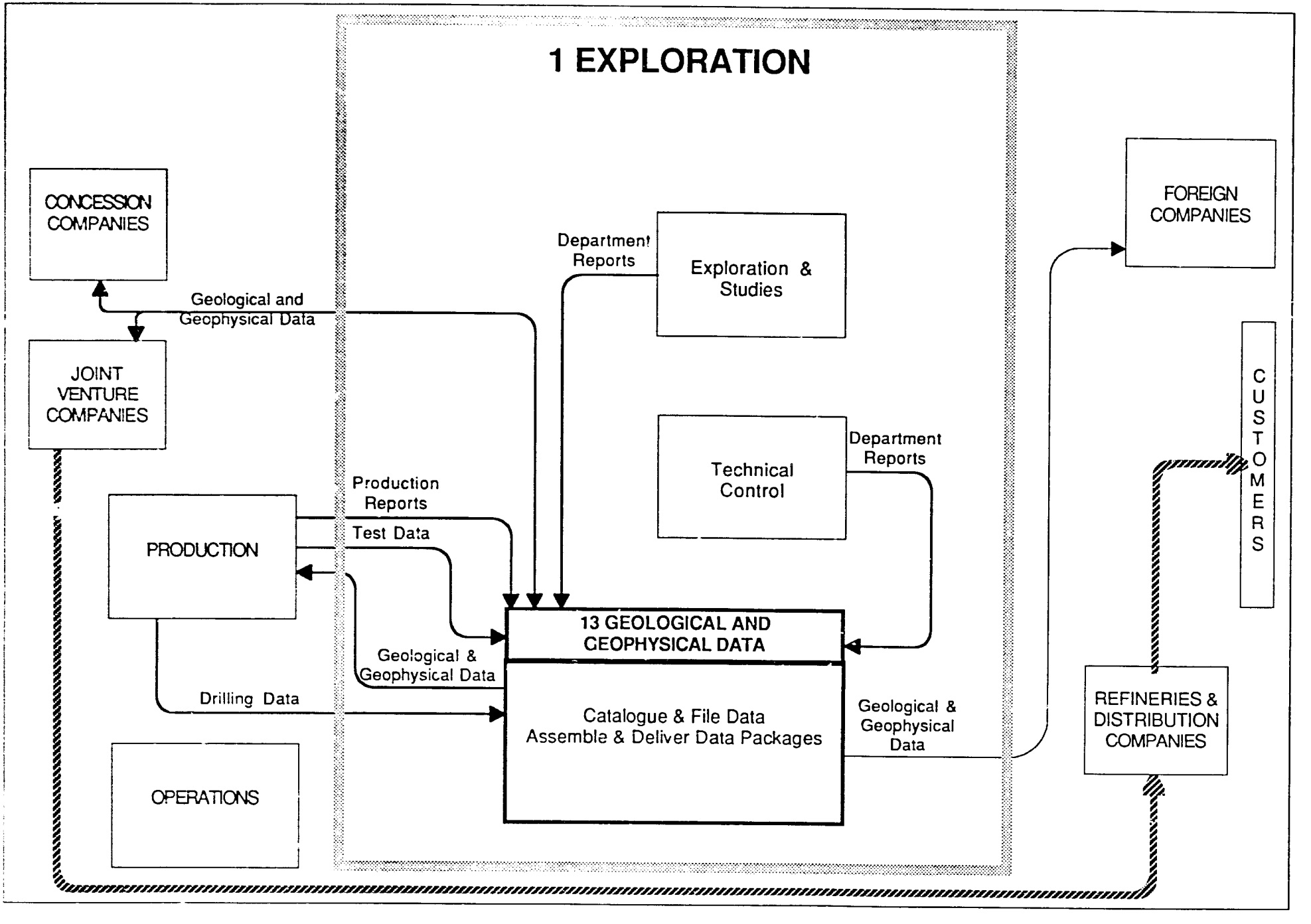
13 GEOLOGICAL AND GEOPHYSICAL DATA (continued)

As the information is received, EGPC records the type data received according to concession area and sends the information to filing, and sends the samples to the warehouse. The electric logs that are currently being run are digitized by the operator. The older logs that are not digitized are currently being digitized by EGPC personnel.

An index data base is being generated by EGPC personnel which will identify the quantities and types of data that are being stored by concession area. With the index data base and the digitized logs, and efforts being made by the geological and production groups to have other computerized data (maps, production data, drilling data, petrophysical data, reservoir data, etc.), EGPC is generating a computer (PC) network for application in analytical programs.

* Assemble & Deliver Data Packages

The information and data that is available on the concessions area is made available on request from any EGPC department. For a fee of $2,000 per area, information is made available for review (but not copied) by foreign companies that are interested in a concession. For $20,000, companies can receive copies of the data. Normally, about 30 to 40% of the data of an area is made available. When a company is awarded a concession, they are entitled to all the data within the concession at no additional cost. Data outside the concession area has to be purchased. These data cost $2,000 for well logs, and $10 each for seismic lines. Drilling information outside the concession area can not be released until one year after drilling.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REFINERIES & DISTRIBUTION COMPANIES
CUSTOMERS

21 DRILLING

It is the responsibility of the drilling group to assure that the operating companies conform to the requirements of Egyptian Law as outlined in the manual "Concessions to Explore for Hydrocarbons in Egypt". The functions of the group are to review and approve the drilling programs, to follow up on the drilling activity, to approve of the rigs and vendors used in the drilling operations, and to make technical evaluations of the drilling operations.

Drilling Operations

* Approve Drilling Programs

The drilling operations sector is responsible for approving drilling proposals for exploratory drilling of a concession, for development drilling of a joint venture well, and for completion programs of drilling wells and well re-completions, and approving of contract services.

The drilling operations sector receives an Exploratory Well Recommendation to review and approve of the proposed drilling program and cost estimate. Along with the drilling program, the agreement will contain the commitment to drill, geological and geophysical information, the number of wells to be drilled , the time schedule, and the estimated costs.

The drilling program will include the following: Well location, target depth, depth of fresh water formations, detailed drilling program, and other programs related to drilling and evaluation. These related programs will include the following: Drilling fluids (mud), logging, directional surveys, bit and bottom hole assembly, hydraulics, and casing & cementing.

The drilling engineers will evaluate the drilling proposals based on their expertise in drilling operations and knowledge of drilling performance of offset wells. Files and evaluations of other drilling operations are maintained by the drilling group. The engineer will meet with the operators to discuss the programs. The drilling manager has the final approval of the drilling program.

21 DRILLING (continued)

* Approve of Completion Programs

When a drilling well is to completed, the operator will submit a completion program for approval. The reservoir engineer will provide technical approval of the perforations and the drilling engineer will approve of the procedure and cost estimate.

* Approve of Contract Services

The operators will send to the sector for review and approval the requests for bids for the drilling rigs, materials and services. When the bids are received by the operator, EGPC will have an engineer at the bid openings. The operators and EGPC will make independent evaluations of the bids and approve of drilling rigs and equipment, materials, and services. If an operator recommends a service that is not the lowest bid, and the service is not visibly superior, the operator will be responsible for the additional cost as a non-recoverable cost. EGPC may agree to the selection of service that is not the minimum bid, based on the technical superiority of the bid. Materials are selected by the operating company and approved by the drilling sector from a technical view point. The cost and supplier of the material will be approved by the Finance and Accounting Vice Chairman.

Development well drilling proposals for joint venture wells are reviewed, evaluated and approved as with exploratory wells.

* Prepare Drilling Reports

The drilling sector follows and evaluates the drilling activity of the well by daily operations reports (telex or written) from the beginning of the operations until the well is completed and the rig is moved. Periodic meetings are held with the operator to discuss the drilling operations, problems, changes in the programs and costs. If there is to be a cost overrun, the operator will summarize the drilling activity and submit a change order for EGPC approval.

In addition to the drilling operations, the sector is responsible for approving and monitoring major work over operations. Routine well servicing operations are not monitored.

21 DRILLING (continued)

The drilling sector monitors about 150 wells per year. There are about 30 drilling rigs and 22 work over rigs currently operating. The sector prepares a daily drilling report for all of the rig activities which is submitted to the EGPC chairman and other EGPC departments, and to the chairman of the joint venture operators. In addition, drilling reports are submitted monthly, quarterly, semi-annually and annually to EGPC management.

* Approve Expenditures for Cost Recovery Investment

At the end of a drilling operation, the finance department sends to the drilling sector a summary of the invoices for the operation. The sector reviews the costs to determine if they agree with approved costs for the activity charged. The finance department requires this approval in order to calculate the operators allowed cost of recovery for their investment as specified in the joint venture agreement.

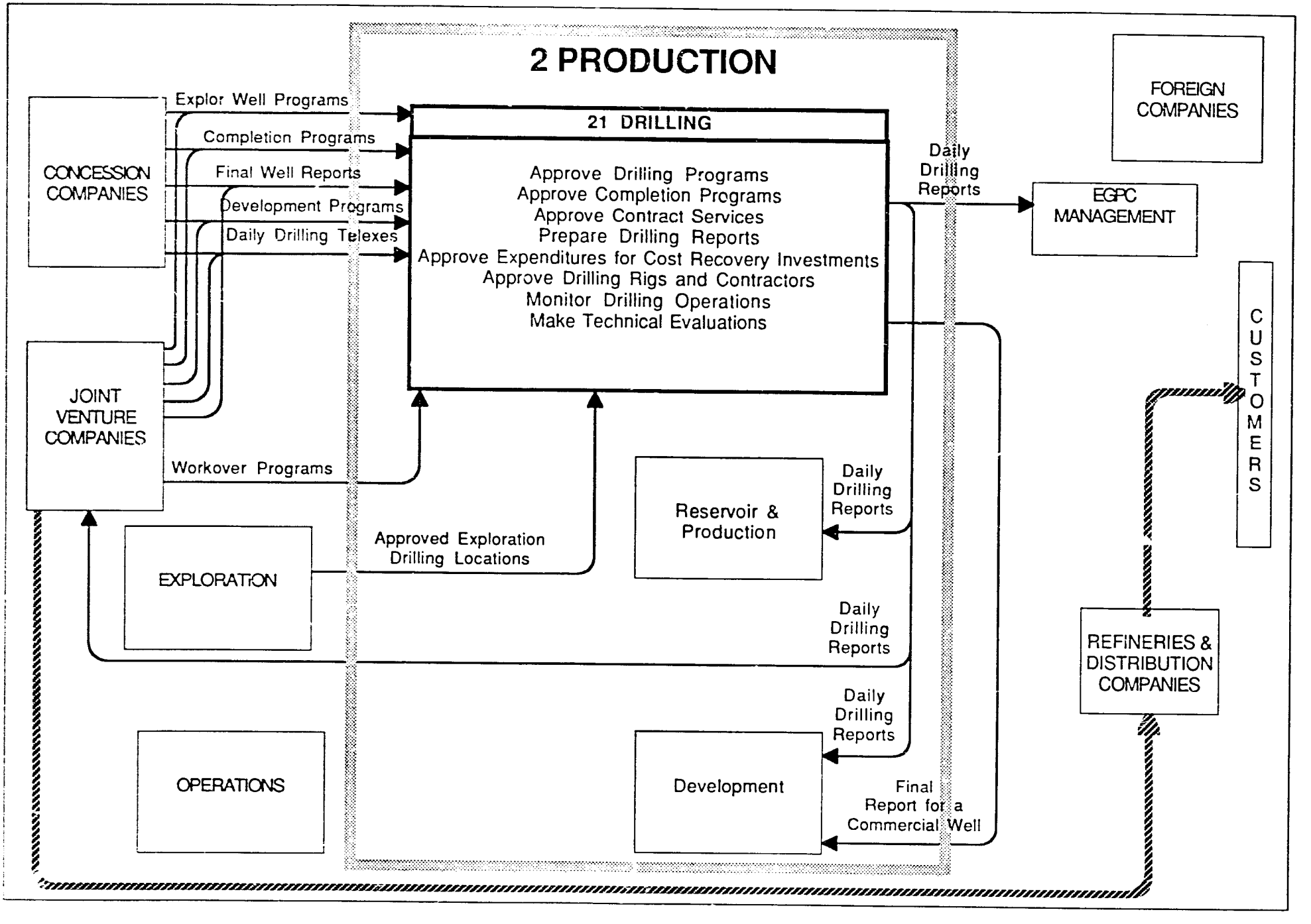
Drilling Rig and Services

* Approve of Drilling Rigs and Contractors

The sector evaluates rigs and drilling contractors, and maintains a file on drilling rigs. An engineer from the sector will evaluate requests for bid on a drilling rig and be at the bid opening to make an appraisal. The sector will approve of the rig selection. The sector is building up a data base to determine the size and type of drilling rig required for each concession area for different projected total depths.

* Monitor Drilling Operations
* Make Technical Evaluations

The sector drilling engineer will review the daily drilling activity and perform technical evaluation studies. These studies will include the following: Drilling time actual versus forecast, well deviation survey for bottom hole location, casing and cementing procedures, and problems encountered while drilling (stuck pipe, blow outs, etc.). One of the more important evaluation tools is the plots of forecast drilling versus time with actual drilling versus time. Noted on the graph will be the drilling depth with information on casing depths, deviation surveys, hole problems, mud information, and other data. Similar plots may be made for drilling cost information.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21 DRILLING
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22 RESERVOIR AND PRODUCTION

The responsibility of the production and reservoir groups is to advise management of production and reserve forecasts made for the fields for EGPC budgeting and planning. The production and reserves estimates are primarily done by the operating companies and verified by EGPC engineers. The group monitors the performance of the wells and fields to determine if they are being operated efficiently and to the best interest of EGPC and the partners.

Production

* Monitor Production Performance
* Evaluate Production Forecasts

The production sector is responsible for monitoring the production performance of wells, preparing production forecasts, and reporting production performance to management. The operators are required to submit a daily production report by well to EGPC. This data are assembled in a daily report by field, area and company and submitted daily to management.

At the end of each month, the operator submits a monthly production report (a legal report of production) which is used to adjust the daily reports for minor variations to be expected in normal production operations (any major variations must be clarified by the operator). The monthly well reports are used to assemble a monthly report to management with comparisons to the budget and comments on the operations. This data are also used to prepare other periodic reports.

The joint venture operators are required to submit to EGPC a yearly budget of production performance and development activity. The budget reports will contain well and field performance curves and other data which justifies the budget estimates. The production and reservoir sectors will use this data to prepare a production budget to be submitted to management.

22 RESERVOIR AND PRODUCTION (continued)

The production sector receives several reports which enables the engineers to monitor the operations of the joint interest owners. Some of the reports and data received are as follows:

- Production reports including:
  - Production quantities
  - Work over activity reports
  - Well test reports
  - Bottom hole pressure test reports
  - Core analysis data
  - Fluid analysis reports
- Production forecasts
- Reserve determinations
- Development programs
- Well completion programs
- Workover programs
- Annual activity reports
- Fluid analysis reports
- Reservoir study reports

<u>Reservoir</u>

* Verify Reserve Determinations

The functions of the reservoir sector is to verify the reserve determinations made by the joint interest owners, and to make reserves and production forecasts for budgeting and planning. Using reservoir and geological data furnished by the operators, the engineers make a review of the data to confirm the reserve estimates and, if there is disagreement, the operators are requested to clarify the estimates.

* Evaluate Reservoir Performance

The reservoir sector will evaluate the performance of the wells and reservoirs with the aid of reports and studies furnished by the operator. When an operator proposes additional development activity and/or secondary recovery activity, the reservoir engineers will verify the reserve estimates as above.

22 RESERVOIR AND PRODUCTION (continued)

* Determine Economics of Projects

Economics calculations are performed by the operating company for justification of well completions, development drilling, and remedial well work. The EGPC reservoir engineers will verify these calculations. The reservoir engineers will make economic calculations for special projects (laying of pipe lines or other facilities) based on production performance forecast made by the operators (confirmed by EGPC engineers).

* Technical Approval of Well Completions

The Sector provides technical approval of development drilling, well completions and re-completions, and other expenditures where hydrocarbon reserves justify the expenditure.

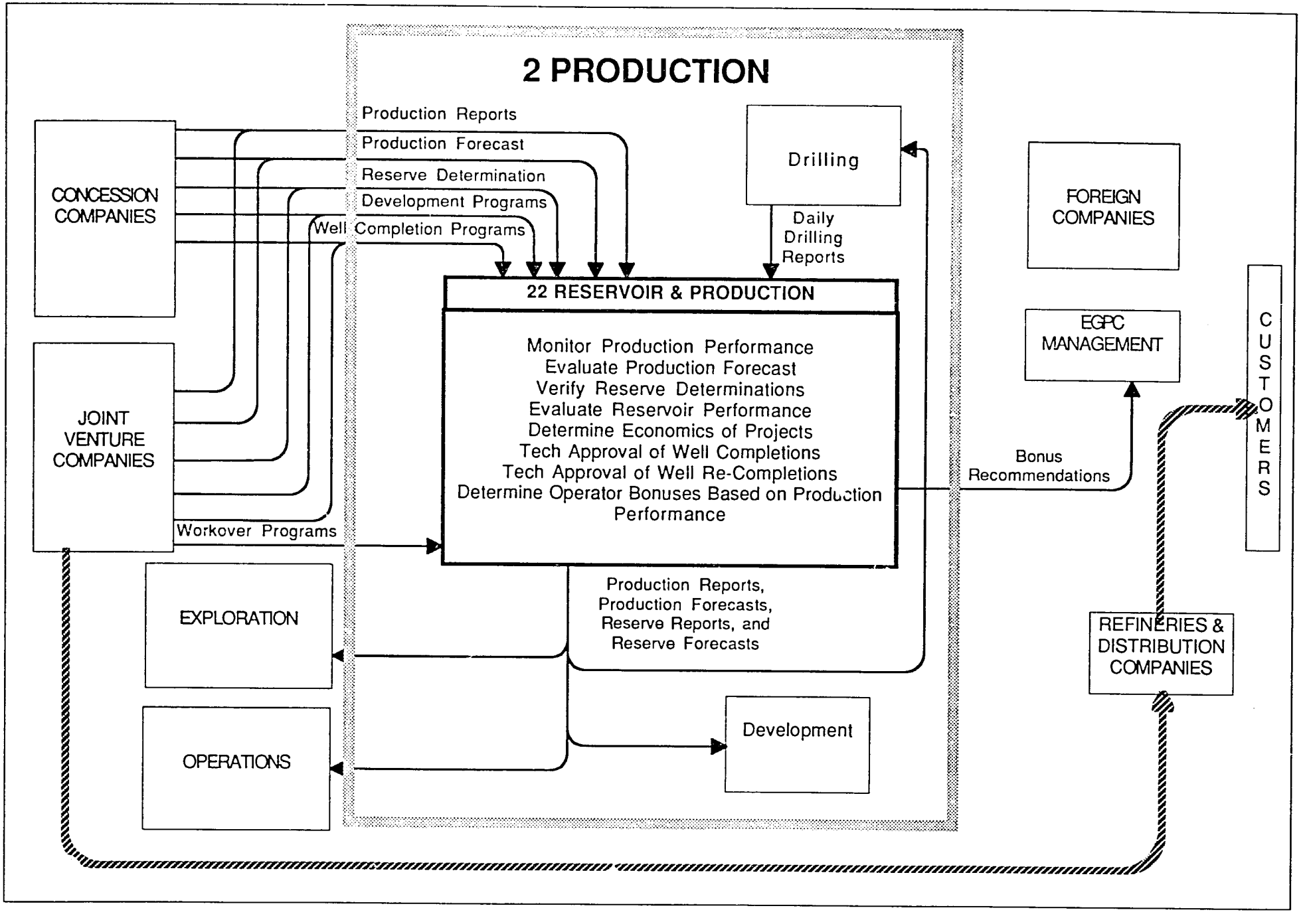
When a new field or zone discovery is drilled, the operator submits a plan for completion of the well and development of the area. The data submitted by the operator with the plan would include the following: Program for completion and development, structure map of the productive horizon(s), isopach maps, open hole and cased hole logs, core analysis, fluid (PVT) analysis, and the method of determining the reserves of the proposed completion and/or development.

* Technical Approval of Well Re-completions

When an operator proposes remedial well work which may alter the completion of the well, the reservoir engineers will review the proposal for approval of the work.

* Determine Operator Bonuses Based on Production Performance

Planned production figures are kept by this sector and then compared to the actual production on a daily basis. From this data, a ratio is developed that indicates the operators performance versus the plan. Under the terms of the agreement with the operator, bonuses may be paid if a high ratio of actual production is maintained. This sector will review the production performance ratio and submit a recommendation to EGPC management if a bonus is warranted.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23 DEVELOPMENT

* Evaluate Commerciality Declaration

When a concession company submits a Commerciality Declaration for a new well completion, the development group evaluates the proposed facilities for the discovery well. The data to be reviewed by the group to determine the feasibility and economics of the declaration will include the following: Summary of agreement, geological and reservoir data, concession development plan, proposed facilities, production forecast, and economics. After the group has evaluated the declaration, a letter of approval will be sent to the Chairman; prepared jointly by the Exploration and Production Departments.

* Evaluate and Approve Facility Design

The development group is responsible for evaluating and approving of all facilities installed by the joint interest operators from the well head to the sales point for crude oil and associated gas produced. This includes the handling of other materials recovered during production (such as water, sulfur, solids, salt, etc.).

The facilities will include equipment for treating oil and associated gas, water disposal, gas handling, sulfur removal, solids removal, tank storage, safety equipment, power and fuel, pipelines, platforms, communications, and roads. The associated gas with crude oil that can not be used in the operations is generally flared. The group is not responsible for facilities required for dry gas well production.

* Field Development Planning and Facility Additions

The group is responsible for evaluating and reviewing changes or additions to facilities proposed by the joint interest operators. The development group will consider whether or not facilities should be modified, new facilities should be installed, or flow lines should be installed between existing facilities. As development activity on a area progresses, the group will monitor the performance of the wells to determine if changes in the facilities should be made by the operator.

23 DEVELOPMENT (continued)

* Monitor Construction Activity

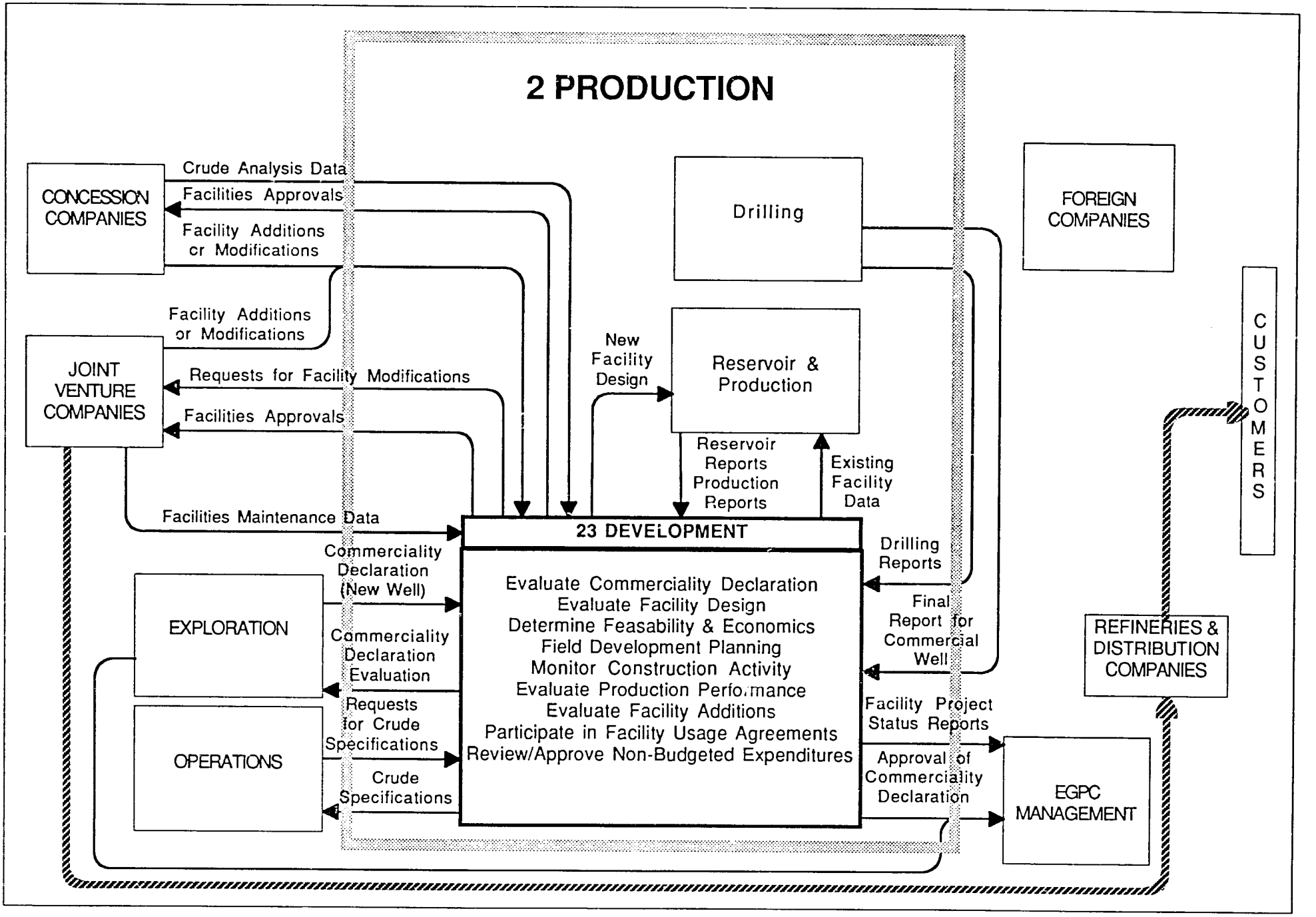
The group will "follow-up" on the construction of facilities for completeness of the project and determine if the installation are as approved.

* Participate in Facility Usage Agreements

The development sector attends advisory committed meeting on facilities that serve more than one operator. For instance, a shipping terminal which services several operators. The cost of operating these facilities are prorated based on a unit of participation basis.

* Review/Approve Non-Budgeted Expenditures

When it is necessary for operators to make additions or changes to facilities that are not planned in the yearly budget, the group evaluates and approves of the expenditures.


2 PRODUCTION
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EGPC MANAGEMENT

31 SUPPLY AND MARITIME

The supply and maritime group provides crude oil storage reports and the schedules of movement of crude oil produced. The group schedules movement of the required materials (feed stock and chemicals) for the refinery and petrochemical plant, of the plant products for domestic consumer use, and movement of crude oil and plant products for export sales. With the exception of one pipeline, the movement of oil is by tanker.

Supply

* Prepare Daily Reports

The supply sector receives crude oil storage data, production rates, and refinery requirements. They receive an estimate of the volume of product in short supply or excess. The data is entered into a group of personal computers (PC's) and computer programs are used to prepare a variety of daily reports which are used for scheduling shipments.

* Schedule Crude Oil Lifting

In order to schedule the movement of crude oil and plant products, the sector receives data from the following: The crude oil production companies, the refinery shipping department, the commercial department, the petrochemical plant, import and export customers, outside maritime tanker companies, and maritime agencies. Most of the data is received by telephone calls daily (sometimes hourly) and confirmed by telex. Some of the data that is recorded are as follows: Average daily production quantities, storage capacity, stock on hand (expressed as days of supply). refinery requirements, and availability of tankers.

In addition to the internal use of the daily reports for scheduling, information is provided to prepare the following other reports by the operations group: Schedule Lifting By Crude, Products Schedule, LPG Schedule, Daily Situation of Petroleum Commodities Report, Daily Report Tanker & Terminal Activity, and others.

There are 10 fields which produce 10 different types of crude (different quality and specifications) at an average daily oil production rate of 800,000 barrels per day; of this, about 1/2 is required for the local consumption. Of the 10 fields, approximately 3 are wholly owned by EGPC and the rest are joint interest fields. The crude of two of the fields cannot be refined in Egypt due to the quality of the crude.

31 SUPPLY AND MARITIME (continued)

* Schedule Product Import/Export

The supply sector will identify crude oil and products that are in short supply or in excess. The commercial department establishes contracts for the crude oil to be exported, and for products to be purchased or exported. When requests are received from customers for shipments of crude or products, the requests are placed in order of priority by the type of customer (i.e. Government, oil company, or trader), the customer's historical purchasing patterns, and percentage of contract performance.

The refineries have complete control over the storage facilities and dispatching of crude oil and refined products.

Maritime

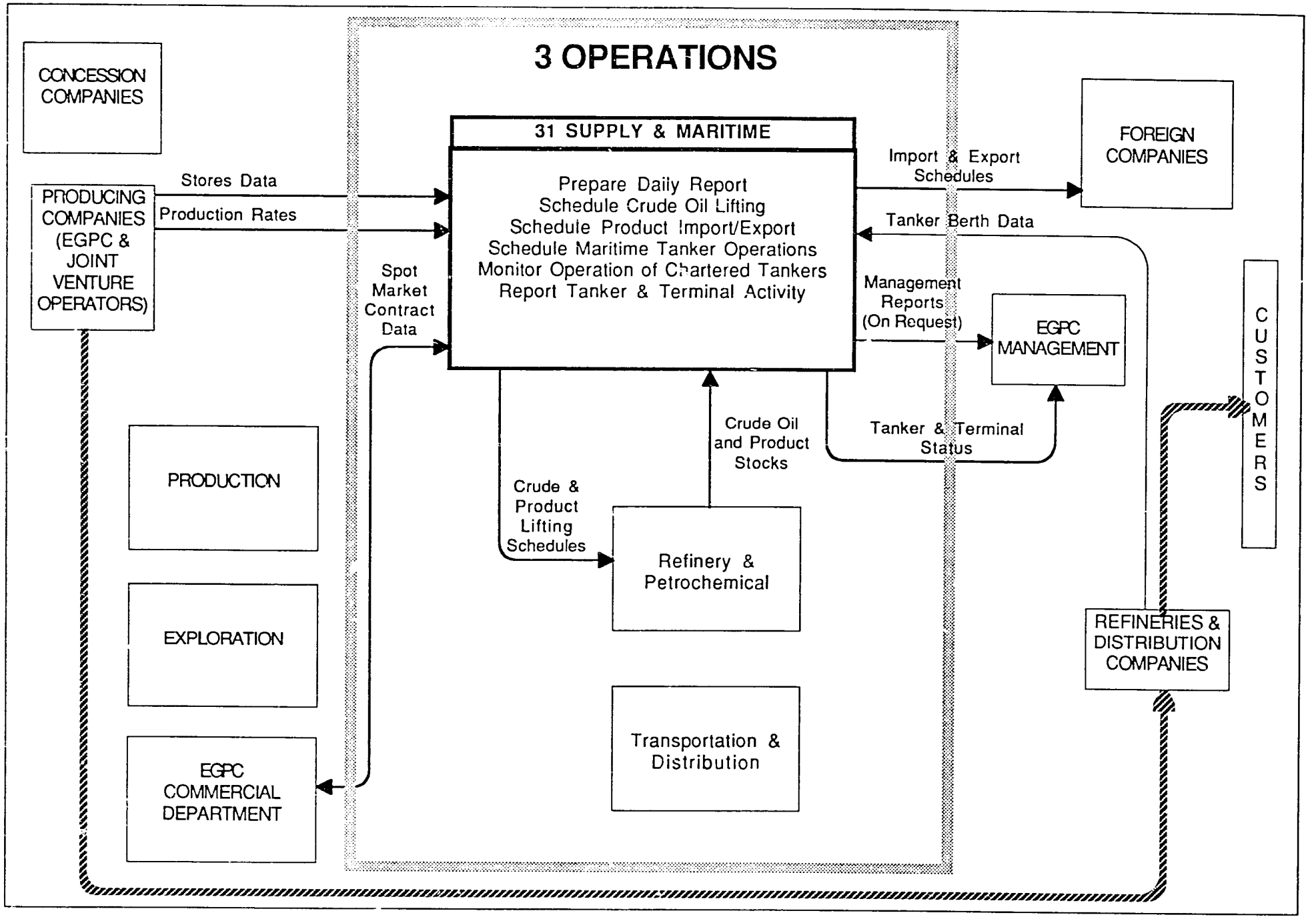
* Schedule Maritime Tanker Operations
* Monitor Operation of Chartered Tankers
* Report Tanker & Terminal Activity

When the maritime sector receives reports from the refineries on import and export requirements, they contact customers to receive or sell shipments. They conduct daily follow-up activities regarding the location of the tankers, the current activity of the tanker (whether loading, discharging or waiting), and they review loading and discharging rates.

The maritime sector coordinates approximately 50 loads of crude oil per month. Of these, 25 are done on EGPC charter tankers. The other 25 cargo tankers are arranged by buyers (for export) and the terms are F.O.B. terminal.

The EGPC charter tankers are for the coastal movement of crude oil and LPG. EPGC is responsible for paying all tanker expenses (fuel, etc.), and has complete control over the tanker's activity.

The sector supervises about 30 product loadings or unloading per month, and about 20 LPG loadings per month. In all, they coordinate about 20 shipments per day. An average of 4 shipments per day will occur with a "look-ahead" period of 4 to 5 days.


3 OPERATIONS
CONCESSION COMPANIES
PRODUCING COMPANIES (EGPC & JOINT VENTURE OPERATORS)
Stores Data
Production Rates
Spot Market Contract Data
31 SUPPLY & MARITIME
Prepare Daily Report
Schedule Crude Oil Lifting
Schedule Product Import/Export
Schedule Maritime Tanker Operations
Monitor Operation of Chartered Tankers
Report Tanker & Terminal Activity
Import & Export Schedules
FOREIGN COMPANIES
Tanker Berth Data
Management Reports (On Request)
EGPC MANAGEMENT
CUSTOMERS
Crude Oil and Product Stocks
Tanker & Terminal Status
Crude & Product Lifting Schedules
Refinery & Petrochemical
PRODUCTION
EXPLORATION
EGPC COMMERCIAL DEPARTMENT
Transportation & Distribution
REFINERIES & DISTRIBUTION COMPANIES

32 REFINERIES AND PETROCHEMICAL

The refinery group is responsible for monitoring the operations of the refineries, forecasting the volumes of crude feed stock, and forecasting the volume of plant products.

* Monitor Refinery Operations
* Forecast Crude Feed Stock
* Forecast Plant Product Production

It is the responsibility of this sector to provide the seven refineries operated under the direction of EGPC with the quantity schedules of crude oil (storage, plant feed stock, & export) and required plant products (domestic consumption & export). Of primary importance is processing a sufficient volume of plant products required for domestic consumption. After the domestic requirements are satisfied, plant products are exported for sales. In addition to satisfying the domestic requirements for plant products, the volume of crude oil feed stock to be delivered to the refinery is controlled by the capacity of the refinery and the availability of crude oil with the proper quality.

The seven refineries and their processing capacities reported in million metric tons per year are as follows:

Al Amerya Refinery (Alexandria)	-	3.0
Alexandria	-	4.5
Asyut	-	1.5*
Cairo	-	6.5*
Nasser Petroleum	-	3.0*
Suez Oil Processing	-	3.0
Tanta	-	1.0*
Total	-	22.5

* These are capable of refining and distillation; the others are capable of refining and processing.

* Prepare Refineries Annual Plan

An annual plan is prepared for each refinery for the volume of oil to be stored at each refinery, and the volume of plant product to be used for domestic consumption.

32 REFINERIES AND PETROCHEMICAL (continued)

In order to prepare the annual plan, reports are received from the production operators which furnish the crude oil forecasts, and from the distribution sector which furnish the domestic consumption requirements. In addition to the crude volumes received and plant products distributed, factors to be considered in the annual plan are as follows: storage capacity, characteristics of feed stock, and scheduled maintenance shut downs.

Six months prior to issuing the annual plan, a meeting is held individually with each refinery manager to discuss the scheduled volumes of crude oil to be received, the volume of plant products to be distributed, and the plant operating cost budget.

After the annual plan is issued, monthly reports are prepared in the same format as the annual plan. The monthly reports are prepared from the daily reports received by telephone from each refinery on production capacities, production quantities, product consumption, and stock available.

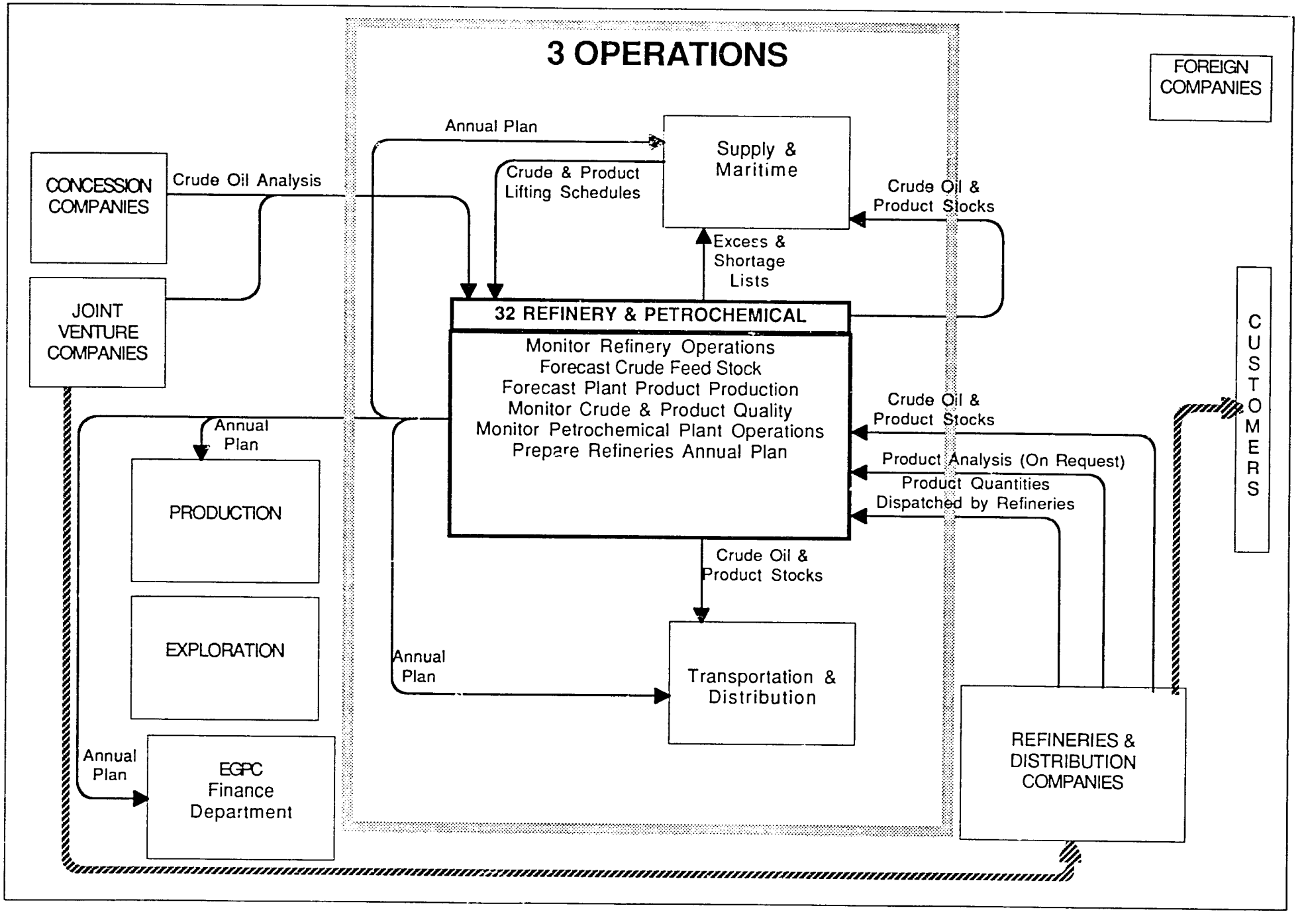
A weekly meeting is attended by the EGPC refinery and distribution groups, and the distributing companies to discuss adjustments to the plans based on domestic consumption.

* Monitor Petrochemical Plant Operations

There is one EGPC owned Petrochemical complex located in the Alexandria Refinery with three process units. The plant receives as raw material ethylene from foreign sources. The output products are chlorine, polyvinyl chloride (PVC), and sodium hydroxide.

* Monitor Crude & Product Quality

It is the responsibility of the quality control sector to receive, evaluate and report on laboratory analysis that are conducted on produced crude oil, plant products, and chemicals. When operators have routine analysis conducted, copies of the report are sent to the sector manager. In addition, the sector manager takes independent samples and sends them to various laboratories to cross-check the results for quality control.


3 OPERATIONS
FOREIGN COMPANIES
CONCESSION COMPANIES
JOINT VENTURE COMPANIES
Crude Oil Analysis
Annual Plan
Supply & Maritime
Crude & Product Lifting Schedules
Crude Oil & Product Stocks
Excess & Shortage Lists
32 REFINERY & PETROCHEMICAL
Monitor Refinery Operations
Forecast Crude Feed Stock
Forecast Plant Product Production
Monitor Crude & Product Quality
Monitor Petrochemical Plant Operations
Prepare Refineries Annual Plan
Crude Oil & Product Stocks
Product Analysis (On Request)
Product Quantities Dispatched by Refineries
CUSTOMERS
Annual Plan
PRODUCTION
EXPLORATION
Crude Oil & Product Stocks
Annual Plan
Transportation & Distribution
REFINERIES & DISTRIBUTION COMPANIES
Annual Plan
EGPC Finance Department

33 TRANSPORTATION AND DISTRIBUTION

It is the responsibility of the transportation and distribution group to estimate the demands for refined products, to distribute the products for domestic marketing or to direct excess products to exporting for sales, and to prepare the "Daily Situation of Petroleum Commodities" report.

Transportation and Distribution

* Prepare Annual Plan for Product Consumption & Distribution

The responsibility of the Studies Sector is to forecast the Egyptian domestic consumption of refinery products and the volume of products for export, and prepare an Annual Plan. The Annual Plan is made from statistical information developed from historical consumption trends, daily and monthly reports from the marketing companies, and the experience of the professionals at EGPC. Another source of information for the plan is the monthly consumer data furnished by the large consumers. The industrial companies and power plants will use about 50% of the fuel oils produced by the refineries. These consumers report storage volumes, consumption, and estimated demands.

The plan is prepared for gasoline, kerosene, lube oil, gas-oil (diesel), fuel oil and other products of the refined crude oil. The refinery products are marketed by two government owned companies (Misr Petroleum and Co-Operative Petroleum Co.), and three privately owned companies (Caltex, Esso and Mobil). All of the marketing strategies are determined by the Oil Minister and all of the marketing companies are controlled by EGPC. These marketing companies prepare and submit to EGPC an Operators Monthly Report which contains marketing quantities by product for all of the locations within the 26 Governorate.

In addition to the yearly demand report, the studies sector prepares a 5-year plan and other long range forecasts. All of the reports are up-dated as information becomes available.

* Prepare Actual Monthly Consumption Summary Report

The Studies Sector prepares the Consumers Monthly Report which is actual storage volumes and sales based on the information furnished by the marketing companies. A monthly forecast of each product demand is prepared and is used to update the yearly demand plan.

33 TRANSPORTATION AND DISTRIBUTION (continued)

* Approve New Market Outlets Based on Local Consumption Trends

The studies sector is responsible for analyzing the requirement and approve of installations of new service stations. The demand and capacity of service stations in an area is evaluated based on the reports received from the marketing companies to determine the need for adding services.

Transportation and Distribution Operations

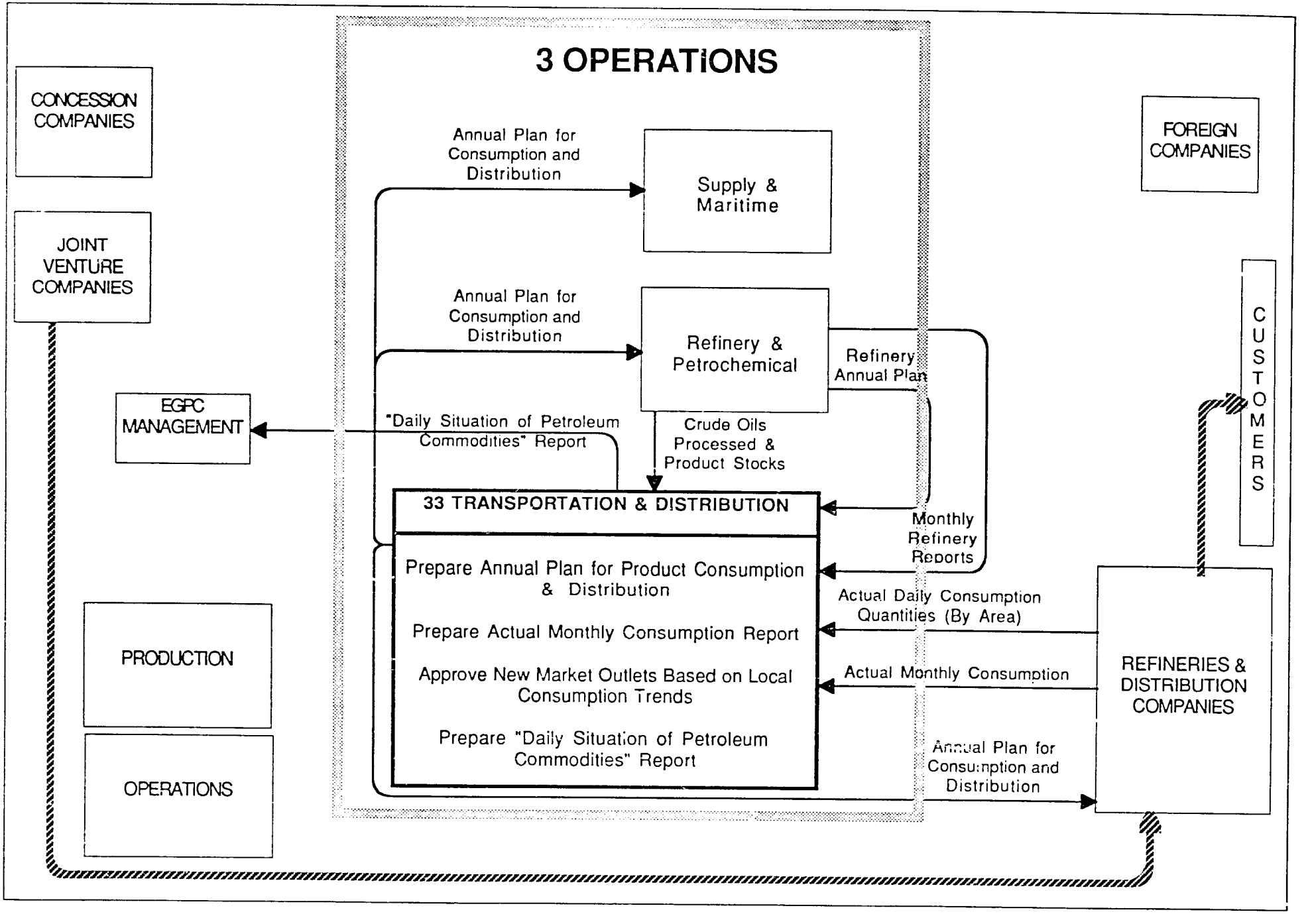
* Prepare "Daily Situation of Petroleum Commodities" Report

The transportation and distribution operations sector is responsible for the physical movement of products from the refinery storage to the marketing companies. This involves knowing the volumes of each product that is stored at the various locations, the estimated consumption volume of the products, the number of days supply on hand, and status of the modes of transportation of the products. The marketing companies report daily by telephone to the operations sector this information. About 280 quantity figures are received each day from the seven major stock points and from other locations throughout Egypt.

The daily reports from the marketing companies is used to prepare a "Daily Situation of Petroleum Commodities" Report which is sent to the Oil Minister, the Supply Minister, and to EGPC management. The commodities are reported in tons by product and by location showing the daily consumption, storage volumes, number days supply, and data for large consumers.

The operations group meets twice a month with the marketing companies, refineries, terminal representatives, and pipeline companies to discuss the marketing plans. The group determines where the shortages or excess storage volumes may exist and make plans for the movement of the products to satisfy consumer demand. Generally, the monthly plan prepared by the studies group is followed with adjustments made as required. An in house (EGPC) meeting is held weekly to follow up on the bi-weekly meetings.

In the movement of the products by pipeline between storage facilities, the studies group and operations group must schedule product movement to prevent downgrading of products due to mixing of different grades of product.


3 OPERATIONS
CONCESSION COMPANIES
JOINT VENTURE COMPANIES
EGPC MANAGEMENT
PRODUCTION
OPERATIONS
Annual Plan for Consumption and Distribution
Supply & Maritime
Annual Plan for Consumption and Distribution
Refinery & Petrochemical
Refinery Annual Plan
"Daily Situation of Petroleum Commodities" Report
Crude Oils Processed & Product Stocks
33 TRANSPORTATION & DISTRIBUTION
Prepare Annual Plan for Product Consumption & Distribution
Prepare Actual Monthly Consumption Report
Approve New Market Outlets Based on Local Consumption Trends
Prepare "Daily Situation of Petroleum Commodities" Report
Monthly Refinery Reports
Actual Daily Consumption Quantities (By Area)
Actual Monthly Consumption
Annual Plan for Consumption and Distribution
FOREIGN COMPANIES
CUSTOMERS
REFINERIES & DISTRIBUTION COMPANIES

INDEX OF FORMS & REPORTS

The following are forms, reports, telexes, etc. that have been gathered by the Bechtel team during the functional interviews that were conducted during Task 2.

These are shown in reduced form on the large (56 x 60 cm) data flow charts in the pocket at the end of this report. They are reproduced full size here for readability and convenience.

The forms are coded with numbers that refer to the function that is closest to their origination. For example, form 111A, Rock Samples, is shown on the the chart for the function "111 Exploration Studies".

111 EXPLORATION STUDIES

- 111A ROCK SAMPLES
- 111B STATIGRAPHY
- 111C SIESMIC MAGNETIC TAPE
- 111D SEISMIC SECTION
- 111E MAP
- 111F ELECTRIC LOG
- 111G COMPOSITION LOG
- 111H CASING
- 111I CORES
- 111J SIDE WALL CORES
- 111K TEST
- 111L REPORTS
- 111M MAPS
- 111N XSECTION
- 111O SEISMIC
- 111P 3D SEISMIC
- 111Q AIRMAG
- 111R LAB ANALYSIS
- 111S GRAVITY

113 EXPLORATION OPERATIONS

- 113A EXPLORATORY WELL REPORTS

INDEX OF FORMS & REPORTS

113B EXPLORATION DRILLING
113C EXPLORATORY WELL PROGRAM
113D APPRAISAL WELL PROPOSAL
113E FINAL WELL REPORT
113F DAILY DRILLING TELEXES
113G GEOPHYSICAL ACTIVITY DURING THE MONT (SEISMIC LINES)
113H DAILY SUMMARY DRILLING REPORT

12 TECHNICAL CONTROL
12A CONTRACTORS REGISTERED IN EGPC
12B EGPC SPECULATIVE EXPLORATION PROJECTS
12C OPENING OF TENDERS
12D CONTRACTOR DOCUMENTATION/QUALIFICATIONS
13A COMMERCIALITY DECLARATION (ATTACHMENTS - TECH DATA)

21 DRILLING
21A DAILY DRILLING TELEXES
21B DRILLING PROGRAMS
21C COMPLETION PROGRAM
21D EXPLORATORY WELL PROGRAM
21E WORKOVER PROGRAM
21F DAILY DRILLING REPORT
21G QUARTERLY DRILLING REPORT
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22 RESERVOIR & PRODUCTION
22A DAILY PRODUCTION REPORT
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22C DEVELOPMENT STUDY PACKAGE
22D MONTHLY CRUDE OIL PRODUCTION STATEMENT
22E MONTHLY PRODUCTION & STATUS OF WELL SUMMARY

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31A SCHEDULE LIFTINGS BY DATE
31B SCHEDULE LIFTINGS BY TYPE
31C SCHEDULE LIFTINGS BY CRUDE
31D IMPORT/EXPORT SCHEDULE
31E GENERAL STATUS OF EXPORTED PRODUCTS

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31F GENERAL STATUS OF IMPORTED PRODUCTS
31G TANKER STATUS
31H EXPORT PRODUCTS CONTRACTS & TENDERS
31I NAPTHA CONTRACT PERFORMANCE STATUS - 1
31J NAPTHA CONTRACT PERFORMANCE STATUS - 2

32 REFINERY & PETROCHEMICAL
32A CRUDE OILS PROCESSED & PRODUCTS
32B CRUDE OILS & PRODUCTS STOCKS
32C DAILY OIL MOVEMENT CRUDE OILS RECEIVED
32D DELIVERED CRUDE FOR REFINERY
32E EVALUATION OF REFINERY COMPANIES
32F PRODUCTION OF MAJOR & SECONDARY UNIT FOR REFINERY PETROLEUM COMPANIES
32G REFINERY WAGES OF PETROLEUM PRODUCTS FOR REFINING CO.
32H GAS PLANT DAILY PRODUCTION REPORT
32I DAILY OIL MOVEMENT REPORT

33 TRANSPORTATION & DISTRIBUTION
33A "DAILY SITUATION OF PETROLEUM COMMODITIES" REPORT
33B ACTUAL MONTHLY CONSUMPTION SUMMARY
33C ACTUAL MONTHLY CONSUMPTION
33D YEARLY CONSUMPTION OF MAIN PRODUCTS
33E MONTHLY T&D PLAN FOR PRODUCTS
33F MONTHLY SALES OF PRODUCTS OF SUPPLY & SERVICE STATIONS AND SIDEWALK PUMPS
33G GAS LIQUID SITUATION
33H PUMP & SHIPPING MOVEMENT SITUATION
33I AMOUNT OF LPG DELIVERED TO EGYPT AREAS

2B

E.G.P.C.
EXPLORATION DIVISION
GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

PREPARED BY REVISED BY DATE

H/well
1/box

Well-ID -

ROCK SAMPLES

GROUP CODE	SERIAL NO.	AREA CODE	CO. CODE	WELL I.D. EXP WELL NO.	DEVELOP. WELL NO	PLATFORM WELL NO	SEC TRACT	SAMPLE TYPE	CORE NO.	BOX NO.	1 TOP DEPTH	1 BOTTOM DEPTH	1 SACKS NO	2 TOP DEPTH	2 BOTTOM DEPTH	2 SACKS NO	3 TOP DEPTH	3 BOTTOM DEPTH	3 SACKS NO	MAP	SECURITY LEVEL
13	15	12	13	14	13	13		12	13	13	F8.2	F8.2	13	F8.2	F8.2	13	F8.2	F8.2	13		12

(Rock-Smp)

111A

EGPC - EXPLORATION DIVISIO - GENERAL DEPARTMENT OF GEOLOGY A GEOPHYSICAL INFORMATION

2B

STRATIGRAPHY

111B

GROUP CODE	SERIAL NO	FORMATION CODE	Eng. Location CODE	1 TOP DEPTH	1 BOTTOM DEPTH	1 SHOWS	1 FORMATION CODE	1 EQ. CODE	2 TOP DEPTH	2 BOTTOM DEPTH	2 SHOWS	2 FORMATION CODE	2 EQ. CODE	3 TOP DEPTH	3 BOTTOM DEPTH	3 SHOWS	3 FORMATION CODE	3 EQ. CODE	4 TOP DEPTH	4 BOTTOM DEPTH
.3	15	14	13	F 8.2	F 8 2	12	14	13	F 8 2	F 8 2	12	14	13	F 8 2	F 8 2	12	14	13	F 8 2	F 8 2

1B

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EXPLORATION DIVISION
GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

111C

PREPARED BY REVISED BY DATE

SEISMIC MAGNETIC TAPE

GROUP CODE	SERIAL NO.	AREA CODE	CO. CODE	LINE NO.	S.P. FROM		S.P. TO		INSTRUMENT TYPE	FORMAT	CHANNELS RECORDER	CHANNELS DATA	DATE	CONTRACTOR	MEDIA TYPE	REMARKS	SECURITY LEVEL
I3	I5	I2	I3	A 15	F 6.1	A2	F 6.1	A2	A 15	I 4	I 4	I 4	I 7	I2	I2	A 20	I2

1B

E.G.P.C.
EXPLORATION DIVISION
GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

PREPARED BY REVISED BY DATE

IIID

SEISMIC SECTION

GROUP CODE	SERIAL NO	AREA CODE	CO CODE	LINE NO	SHOT FROM		SHOT TO		DATA ACQUISITION: DATE	CONTRACT	RECORDER: TYPE	SAMPLE RATE	INS CHANN	DATA CHANN	FOLD	LENGT	CABLE: SPREAD LENGTH	GROUP INT	ENERGY: SOURCE	SP INTERVAL	NO HOLE	PROCESSING: DATE	TYPE	CONTRACT	FOLD	MEDIA TYPE	MEDIA COND	SCALE	SECURITY LEVEL
I3	I5	I2	I3	A 15	F6 1	A2	F6 1	A2	I7	I2	A(12)	I2	I4	I4	I3	I2	F7 2	I3	I2	F6 2	I2	I7	I3	I2	I3	I2	I2	I7	I2

1B

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EXPLORATION DIVISION
GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

111E

PREPARED BY: REVISED BY: DATE:

MAP

GROUP CODE	SERIAL NO	AREA CODE	CO CODE	TOP LEFT CORNER COOR.				BOTTOM RIGHT CORNER COOR.				MAP TYPE	ON TOP (FORMATION CODE)			SCALE	DATE	SECURITY LEVEL	MEDIA COND.	MEDIA TYPE	
				LAT.	LONG.	X	Y	LAT.	LONG.	X	Y		1	2	3						
I3	I5	I2	I3	F 9 2	F 9 2	F 10 2	F 10 2	F 9 2	F 9 2	F 10 2	F 10 2	I2	I3	I3	I3	I 7	I 7	I2	I2	I2	

E.G.P.C.

EXPLORATION DIVISION

GENERAL DEPARTMENT OF GEOLOGICAL

AND GEOPHYSICAL INFORMATION

2B

PREPARED BY: REVISED BY: DATE:

111F

ELECTRIC LOG

GROUP CODE	SERIAL NO.	AREA CODE	CO CODE	WELL ID: EXP WELL NO.	WELL ID: PLATFORM WELL NO	WELL ID: DEVELOP WELL NO	LOG TYPE: ELECTRICAL	LOG TYPE: CURVE 1	LOG TYPE: CURVE 2	LOG TYPE: CURVE 3	LOG TYPE: CURVE 4	LOG TYPE: CURVE 5	LOG TYPE: CURVE 6	TOP DEPTH	BOTTOM DEPTH	SCALE 1	SCALE 1	SCALE 2	LOGGING CO.	BHT	RMF	RMF TEMP	MUD TYPE	MUD WEIGHT	MUD VIS	SALINITY CL⁻	C⁺ OR F⁺	M OR F	MEDIA TYPE	LOGGING DATE	SECURITY LEVEL	MEDIA COND.
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2B

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GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

PREPARED BY: REVISED BY DATE

111G

COMPOSITE LOG

COMPOSITE LOG

GROUP CODE	SERIAL NO	AREA CODE	CO CODE	WELL ID				SURFACE COOR				BOTTOM HOLE COOR.				ELEVATION	WATER DEPTH	R T	F T D
				EXP WELL NO	PLAT WELL NO	DEVELOP WELL NO		LAT	LONG	X	Y	LAT.	LONG	X	Y				
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2B

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EXPLORATION DIVISION
GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

111H

PREPARED BY | REVISED BY | DATE

COMPOSITE LOG 2

GROUP CODE	SERIAL NO	SPUD DATE	DRILLING END DATE	PTA UNIT	CASING 1 SIZE	CASING 1 DEPTH	CASING 2 SIZE	CASING 2 DEPTH	CASING 3 SIZE	CASING 3 DEPTH	CASING 4 SIZE	CASING 4 DEPTH	CASING 5 SIZE	CASING 5 DEPTH	CASING 6 SIZE	CASING 6 DEPTH	FOOTAGE LEFT	MECH COND	MECH TYPE	INITIAL CLASSIF	FINAL CLASSIF
13	15	17	17	1	F6 3	F8 2	F6 3	F8 2	F6 3	F8 2	F6 3	F8 2	F6 3	F8 2	F6 3	F8 2	12	12	12	12	12

GONE

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GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

111I

PREPARED BY: REVISED BY DATE

COMPOSITE LOG-4

CORES

GROUP CODE	SERIAL NO	1					2					3					4					
		CORE NO	CORE TYPE	TOP	BOTTOM	REC %	CORE NO	TYPE	TOP	BOTTOM	REC %	CORE NO	TYPE	TOP	BOTTOM	REC %	CORE NO	TYPE	TOP	BOTTOM	REC %	
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E.G P.C.
EXPLORATION DIVISION
GENERAL DEPARTMENT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

1115

PREPARED BY REVISED BY DATE

COMPOSITE LOG-5

SIDE WALL CORES

GROUP CODE	SERIAL NO	1			2			3			4			5			6			7			8			9		
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I3	I5	I3	F8 2	I	I3	F8 2	I	I3	F8 2	I	I3	F8 2	I	I3	F8 2	I	I3	F8 2	I	I3	F8.2	I	I3	F8 2	I	I3	F8.2	I

2B

EXPLORATDN DIVISION
GENERAL DEPARTMNT OF GEOLOGICAL
AND GEOPHYSICAL INFORMATION

PREPARED BY REVISED BY DATE

111K

COMPOSITE LOG #

GROUP CODE	SERIAL NO	TESTS																
		TEST NO	TEST TYPE	TOP	BOTTOM	CHOKE SIZE	RATE	RATE UNIT	GOR	API	TEMP	T U	BOT PRS S I P	P U	BS & W %	DATE	REMARKS
I3	I5	I2	I2	F8 2	F8 2	F5 3	I5	A2	I5	F4 1	F5 1	A1	I4	A1	I3	I7	A (58)

Composite Log Tests

111K

SCIENTIFIC SOFTWARE INTERCOMP

REP1

PAGE 1 of

"REPORTS' DATA" Screen

Coded by

Date:

TITLE:

TYPE:

REPORT/PAPER? (R/P)

DATE: / /

CONCESSIONAIRE:

CONTRACTOR:

AUTHOR:

NO VOLUMES:

NO. PAGES:

NO. INCLUSIONS:

QUALITY:

REGION: W. DESERT

BASIN/HIGH:

FIELD/AREA:

WELL:

REPORT LOCATION -- BUILDING: EGPC (MAADI)

CABINET NO.:

ABSTRACT/REMARKS:

8/1/88

Data Entry

SCIENTIFIC SOFTWARE-INTERCOMP

"REPORTS" DATA
(CONT'D)

REP 2 | 2 of 2

Coded by | Date:

ABSTRACT/REMARKS: (CONT'D)

SCIENTIFIC SOFTWARE INTERCOMP.

"MAPS" DATA System

Page 1 of 1

Catalog: Doc.

MAP TITLE: SHOT POINT ELEVATION MAP IN DAHAB PROSPECT

REPORT TITLE:

TYPE: SEISMIC SHOT POINT

DATE: 03/01/1970

CONCESSIONAIRE: PHILLIPS

CONTRACTOR: WEPCO

AUTHOR: A. SHEHAB

NW COORDINATE: 30 53 00.00 28 37 00.00

SE COORDINATE: 30 34 00.00 29 00 00.

HORIZON:

SCALE: 1:50000

CONTOUR INTERVAL: 10

MEASUREMENT UNITS: M

MEDIA: PAPER

QUALITY: FAIR

REGION: W. DESERT

BASIN/HIGH: DAHAB-WIRCIR

FIELD/AREA: AMEIN

WELL:

MAP LOCATION -- BUILDING: EGPC MADI

CABINET NO.:

1114

SCIENTIFIC SOFTWARE

XSEC 1 | 1 of 1

Coded by: | Date

"XSECTION" DATA

XSEC TITLE

REP TITLE:

TYPE: | DATE: / /

CONCESSIONAIRE: | CONTRACTOR:

AUTHOR:

INTERVAL: | MEASUREMENT UNITS:

DATUM: | SCALE-HORIZONTAL: | VERTICAL:

BEGINNING DIRECTION: | ENDING DIRECTION:

MEDIA: PAPER | QUALITY:

REGION: W. DESERT | BASIN/HIGH:

FIELD/AREA: | WELL:

XSECTION LOCATION -- BUILDING: EGPC(MAADI) | CABINET NO.:

IIIN

SCIENTIFIC SOFTWARE-INTERCOMP

SEIS1 | Page 1 of 1

"SEISMIC" DATA

Coded by: Date:

LINE NO.:

DATE RECORDED: / /

TYPE:

ORIG/REPROCESSED?(O/R)

DATE PROCESSED: / /

COORDINATES - BEGINNING: .

END: .

BEGINNING DIRECTION:

ENDING DIRECTION:

BEGINNING SHOT NO.:

ENDING SHOT NO.:

CONCESSIONAIRE:

RECORDING CONTRACTOR: 1 2 3 4 5 6 7 8 9 10 15

PROCESSING CONTRACTOR:

LINE TITLE: 5 10 15

RECORDING LENGTH:

ENERGY SOURCE: 10 20

STACK:

SAMPLE RATE:

SHOT PT INTERVAL:

GROUP INTERVAL:

TRACE:

DATUM: 5 10

SCALE - HORIZONTAL: 5

UNITS:

MEDIA:

QUALITY: 5

VERTICAL:

UNITS:

REGION: W. DESERT

BASIN/HIGH: 5 10 15

FIELD/AREA: 5 10 15 20

SEISMIC LOCATION -- BUILDING: PETROLEUM INSTITUTE

BOX NO.: 5 10 15

8/1/82

1110

SCIENTIFIC SOFTWARE-INTERCOMP

3D1

"3D SEISMIC" DATA

Coded by: Date:

TITLE: 70

TYPE: 6 ORIG/REPROCESSED?(O/R) DATE RECORDED: / /

CONCESSIONAIRE: 19 DATE PROCESSED: / /

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NW COORDINATE: LAT 11 . Long . SE COORDINATE: LAT 11 . Lon 11 .

RECORDING TYPE: 10 RECORDING LENGTH: 1

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DATUM: 10 SCALE - HORIZONTAL: 7 VERTICAL: 7

CONTOUR INTERVAL: 4

MEDIA: 10 QUALITY: 9

REGION: W. DESERT 16 BASIN/HIGH: 15

FIELD/AREA: 18

3D SEISMIC LOCATION -- BUILDING: 20 BOX NO.: 15

111 P

"AIRMAG" DATA

Coded by: Date:

TITLE: 70

DATE RECORDED: / /

DATE PROCESSED: / /

CONCESSIONAIRE: 18

RECORDING CONTRACTOR: 18

PROCESSING CONTRACTOR: 18

NW COORDINATE: " . " .

SE COORDINATE: " . " .

DATUM: 10

SCALE: 7

CONTOUR INTERVAL: 3

FLIGHT ALTITUDE: 5

FLIGHT INTERVAL: 1

PROCESSING TYPE: 10

TIE LINE INTERVAL: 1

MEDIA: 10

QUALITY: 9

REGION: W. DESERT 16

BASIN/HIGH: 15

FIELD/AREA: 18

AIRMAG LOCATION -- BUILDING: 20

BOX NO.: 15

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"LAB ANALYSIS" DATA

Coded by: Date:

TITLE:

TYPE: DATE: / /

CONCESSIONAIRE: CONTRACTOR:

NO. PAGES: NO. INCLUSIONS: NO. SAMPLES:

TOP DEPTH: BTM DEPTH: MEASUREMENT UNITS:

SAMPLE SOURCE: QUALITY:

REGION: W. DESERT BASIN/HIGH:

FIELD/AREA: WELL:

LAB ANALYSIS LOCATION -- BUILDING: EGPC (MAADI) CABINET NO.:

REMARKS:

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SCIENTIFIC SOFTWARE-INTERCOMP

GRAVITY COMPUTATIONS

REPORT TITLE:

TYPE: DATE: / /

CONCESSIONAIRE:

RECORDING CONTRACTOR: PROCESSING CONTRACTOR:

COMPUTATIONS DATA (Y/N):

CONCESSIONAIRE: CONTRACTOR:

AUTHOR:

QUALITY:

REGION: BASIN/HIGH:

FIELD/AREA:

GRAVITY DATA -- BUILDING: CABINET NO:

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EGYPTIAN GENERAL PETROLEUM CORP.
EXPLORATION OPERATION DEV.

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WEEKLY REPORT
EXPLORATION WELLS

DATE : 1 \ 8 \ 1989

COMPANY / REGION	WELL NAME / RIG/CONCESSION / DAYS	DRILLING DEPTH	APPROVED TOTAL DEPTH	AGE / FORMATION / LITHOLOGY	TARG FORMATION	TARG DEPTH	REMARKS
GUPCO G.O.S	Gb-65-7a GS-334-4 Senfru 49 Days	8052	[illegible]	Nubia FM	Nubia SST L.Cenomanian	[illegible]	-Top Nubia FM @ (- 2909') 9' low to progn. -Set 9 5/8" @ 8050 -Cementing
P.BEL. G.O.S.	G1 82-21 (APS - 5) COPE - 7 138 DAYS	4135 m (-3935m)	4200 m -4055 m	Nubia "B"	Nubia "A" L.Cenomanian Nubia "A"	[illegible] -3985 m -3995 m	-F.T.D. @ 4135 m -Oil shows in Turon & Cenom. -Nubia "A" SST. show oil shows -Conditioning hole for logging
FEND G.O.S.	G1 78-1b KEY GIBRALTER 77 DAYS	8562 -7055	[illegible]	L.Cret. Sh Nubia FM	Nubia SST Matulla FM		Fair Oil shows in Matulla - Drilling ahead
WEPCO W.D.	Ig-14 -1 Khaori-1 S.F - 104 192 Days	14400'	14400	Khatatba FM	- Khatatba FM -Alam El Bueib	10500	- F.T.D.@ 14400' -DSTE1 REC:gas & cond.in AEB D7 -DSTE2 & 3 REC: FM water in AEB D5 -DST #4 @ 12478'-12460' in AEB "D3" (12302'-12296') in AEB "D3" REC : FM water - DST #5 @ (12342' -12315') in AEB D1 REC : GAS & COND. -DST #6 @ (7046' -7022') in Bahariya FM - REC : OIL (38-39 API) Mainteroppen left
CONOCO W.D	IG -19 -A Kavat West -II ECC -11 11 DAYS	8675'	-8820'	Dol., Sh & S.St AEB "3"	- AEB E 3 A - AEB E 3 B - AEB E 3 D - AEB E 3 E	-7825' -8050' -8450' -8525	-AEB E 3 @ 8492' (- 7865') 40' low to progn - AEB E 3A @ 8550' (- 7918') 93' low to progn - No oil shows yet - Drilling ahead
IEOC DELTA	Ta 62-1 EDC - 1 79 DAYS	FBTD 2311 m	2[illegible] m	Qawasim FM	Abu Madi FM.	2298 m.	- Gas shows recorded in Abu Madi Sd -DST #1 in APU MADI FM REC : GAS - Prepare for 2nd test
Wepco W.D	Jd 54-1 Gidava-1 ECC-8 48 Days	11509	11500	Abu Madi Sd	Abu Madi Sd L.Miocene Sd Upper Eocene	[illegible] [illegible]	-F.T.D @ 11509 -Run E. logs

G \ A.SHETIA

M.Salir

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DRILLING DURING MONTH OF _____

الحفر الاستكشافي خلال شهر مارس ١٩٨٩

البئر WELL	المنطقة AREA	البئر WELL	نوع TYPE	مركز الحفر RIG TYPE	معدل الايجار المدفوع دولار/يوم AVERAGE DAILY RENT $/DAY	تاريخ بدء الحفر DATE SPUD	العمق الكلي المحفور TOTAL DEPTH THIS MONTH	العمق الكلي المحفور TOTAL DEPTH THIS MONTH	العمق الكلي المحفور TOTAL DEPTH THIS MONTH	المسافة المحفورة خلال الشهر DISTANCE DRILLED THIS MONTH	عدد ايام الحفر	العمق النهائي FINAL DEPTH	تاريخ الوصول لعمق النهائي DATE FINAL DEPTH	المجموع الكلي للمحفور TOTAL DISTANCE DRILLED	عدد ايام الحفر NO OF DAYS DRILLING	معدل الحفر DRILLING RATE FT/DAY	تاريخ الانتهاء DATE COMPLETED	حالة البئر WELL STATUS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	٩٨	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	٢٢	—	—	٥١٠٦ DRILLED	٢٢	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	٢٨١٠	١٤	—	—	٢٨١٠	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]	١١٩٧٦	٢٦	[illegible]	[illegible]	[illegible]

TOTAL NO OF WELLS

اجمالي الآبار

٨

NO OF WELLS COMPLETED

آبار انتهى حفرها

٤

NO OF WELLS SUSPENDED

آبار معلقة

٦

NO OF WELLS ABANDONED

آبار جافة

١١

① اجمالي الأمتار المحفورة خلال الشهر = ٢٢٧٠٤ قدم

② اجمالي ايام الحفر خلال الشهر = ١٦٢ يوم

③ معدل الحفر = ١٤٠ قدم/يوم

① TOTAL FOOTAGE DRILLED / MONTH (FT)

② TOTAL NO OF DAY OF DRILLING (DAYS)

③ AVERAGE FT/DAY

EXPLORATORY WELL PROGRAM

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2B well Marker

GENERAL INFORMATION

Well name	: Dabaa (Ih-35-B)
Classification	: Exploratory
Country	: Egypt
Region	: Western Desert
Concession	: Dabaa
Operator	: Khalda Potroleum Co.
Partners	: Conoco 48.5% Phoenix Resources 6.5% Oranje-Nassau 15.0% Nikko Petroleum 10.0% Norsk Hydro 20.0%
Location	: SP 397 Seismic line 53815 36 KM NW of Alamein Oil Field
Co-Ordinates	: Lat : 35 37' 13.823 Y : 263211.91 Long: 22 1' 7.252" X : 737907.78
Rig	:
RKB - GL	:
K.B. Elevation	: 335' AMSL (Provisional)
G.L. Elevation	: 307' AMSL (Provisional)
Proposed T.D.	: 12,107'

Objectives : **The prisary objectives are:**

Lower Bahariya sand stone	a) 6160' (-5825')
Alamein Dolomite	a) 8715' (-8380')
Alam EL Buieb unit 3A	a) 9869' (-9534')
Alam EL Bueib unit 3E	a) 11819'(-11484')

THE SECONDARY OBJECTIVE IS :
Abu Roash - Unit .

DABAA/3

137

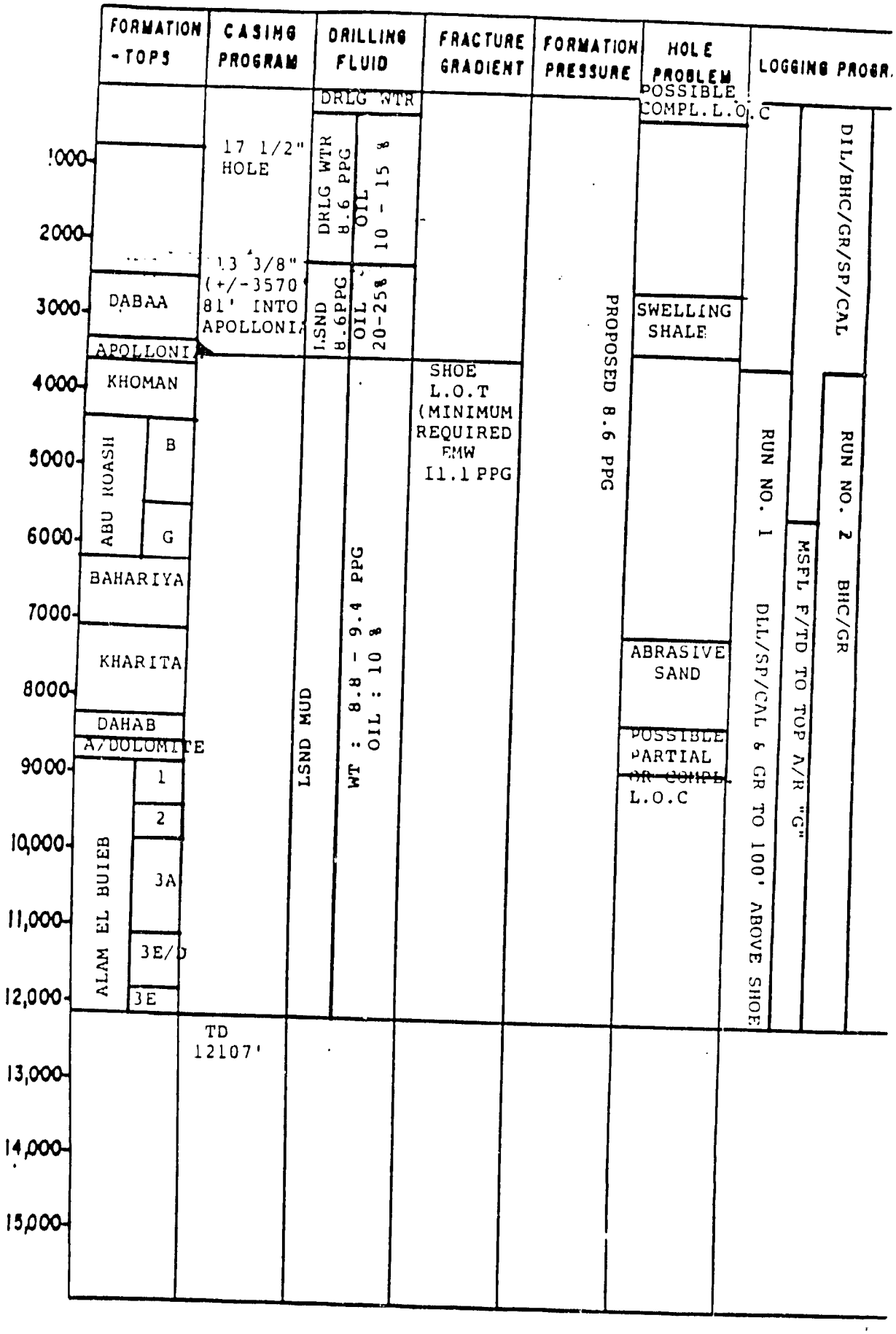
KHALDA PETROLEUM COMPANY

WELL PLAN OUTLINE

WELL : DABAA (Ih-35-B)

RIG :

113C-



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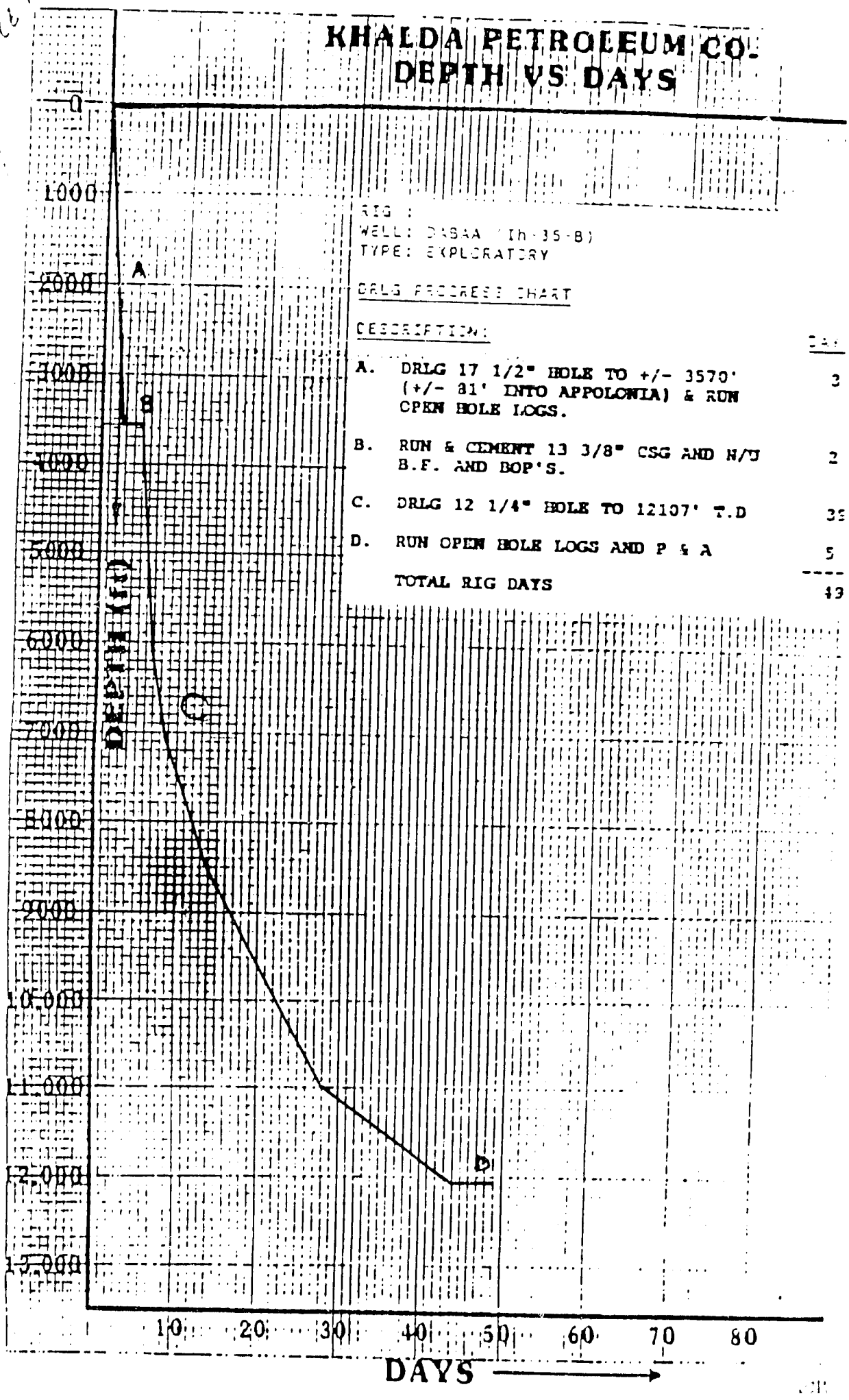
KHALDA PETROLEUM CO.
DEPTH VS DAYS



RIG :
WELL: DABAA (Ih-35-B)
TYPE: EXPLORATORY

DRLG PROGRESS CHART

DESCRIPTION:

		DAYS
A.	DRLG 17 1/2" HOLE TO +/- 3570' (+/- 81' INTO APPOLONIA) & RUN OPEN HOLE LOGS.	3
B.	RUN & CEMENT 13 3/8" CSG AND N/U B.F. AND BOP'S.	2
C.	DRLG 12 1/4" HOLE TO 12107' T.D	33
D.	RUN OPEN HOLE LOGS AND P & A	5
	TOTAL RIG DAYS	43

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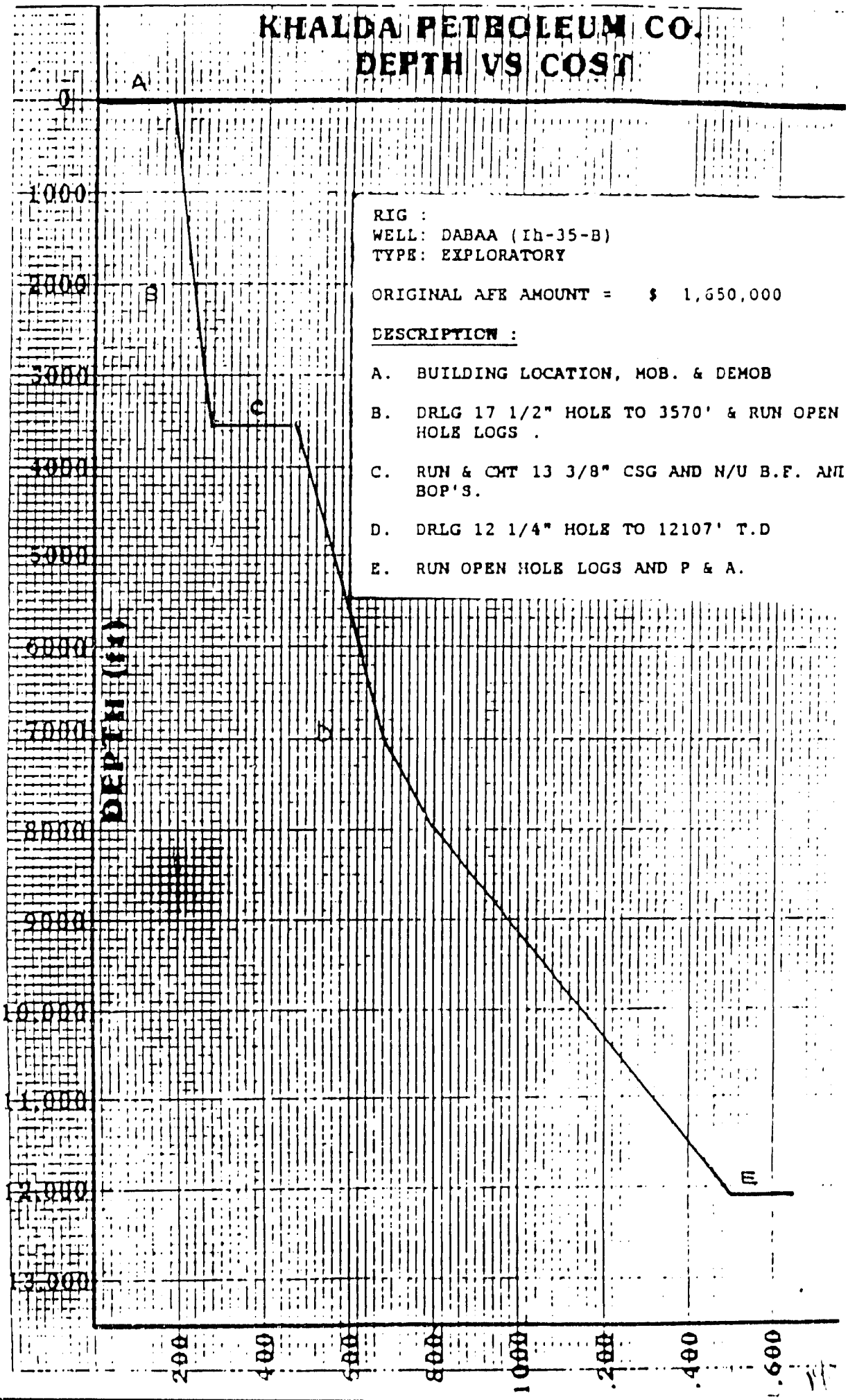
KHALDA PETROLEUM CO.
DEPTH VS COST



RIG :
WELL: DABAA (Ih-35-B)
TYPE: EXPLORATORY

ORIGINAL AFE AMOUNT = $ 1,650,000

DESCRIPTION :

A. BUILDING LOCATION, MOB. & DEMOB

B. DRLG 17 1/2" HOLE TO 3570' & RUN OPEN HOLE LOGS .

C. RUN & CMT 13 3/8" CSG AND N/U B.F. AND BOP'S.

D. DRLG 12 1/4" HOLE TO 12107' T.D

E. RUN OPEN HOLE LOGS AND P & A.

1 BC

AFE NO.

XHALDA PETROLEUM CO.

AUTHORITY FOR EXPENDITURE - DETAIL SHEET

WELL Ih 35 - B FIELD DABBA TD 12,107' DATE 3 / 4 / 198

AFE DESCRIPTION

DRILL AND LOG TO 12,107' (DRY HOLE BASIS)

DEVELOPMENT ( ) EXPLORATION (X) OPERATIONS ( )

WORKOVER TYPE DAY WORK 49 DAYS @ $ 9150

DESCRIPTION	FTR	MATERIAL & DEPR. INTAN.	FTR	DRILLING INTANGIBLES
On Hand Materials & Equipment	5011			XXXXXXXXXX
New Material Purchased	5091	127,000		XXXXXXXXXX
Total Materials		127,000		XXXXXXXXXX
Loss/Gain Salvaged Material	1012		4021	
Fuel, Water, Lubricants, Electricity	1031		4031	220,500
Company Engineering & Design Cost	1041			XXXXXXXXXX
Contract Engineering & Design Cost	1051			XXXXXXXXXX
Site Work, Location Damages, Roads	1071		4071	50,000
Salvage & Dismantling Costs	1081		4081	
Mobilization & Demobilization	1091		4091	175,000
Contractors Standby Costs	1101		4101	
Drilling Contract - footage	1111		4111	
Drilling Contract-Daywork 49X$150	1121		4121	448,350
Drilling Bits & Reamers		XXXXXXXXXX	4131	125,000
Fishing Tool Expense		XXXXXXXXXX	4141	10,000
Directional Drilling Cost		XXXXXXXXXX	4151	
Mud Materials		XXXXXXXXXX	4161	70,000
Cement Materials		XXXXXXXXXX	4171	35,000
Non - Controllable Materials	1181		4181	2,000
Catering Services	1201		4201	11,300
Special Drilling Tool Rental		XXXXXXXXXX	4211	15,000
Well Testing		XXXXXXXXXX	4221	
Mud Services		XXXXXXXXXX	4231	11,000
Core and Misc. Analysis	1241		4241	
Coring Services	1251		4251	
Drill Stem Test		XXXXXXXXXX	4261	
Perforating		XXXXXXXXXX	4271	
Acidizing, Fracturing, Shooting		XXXXXXXXXX	4281	
and Logging		XXXXXXXXXX	4291	30,000
Well Surveys & Electrical Logging		XXXXXXXXXX	4301	104,000
Transportation	1311		4311	30,000
Chemicals		XXXXXXXXXX	4321	30,000
Cementing Services		XXXXXXXXXX	4331	20,000
Presweep, Mine Clearance & Costs	1381		4361	
Company Labor & Supervision	1381		4381	92,000
Contract Labor & Supervision	1391		4391	10,000
Facilities, Fabrication & Inst.	1411			XXXXXXXXXX
Facilities - Inspection	1421			XXXXXXXXXX
Miscellaneous Costs	1451		4451	33,850
Customs Fees	1461		4461	
Total Intangibles		$		$ 1,523,000
Total Material		$ 127,000		$ 127,000
Grand Total - AFE		$		$ 1,650,000

MATERIAL DETAIL

13 3/8" CSG TO +/- 3880'	@ =	$ 122,000
13 3/8"-3000 PSI CSG HD.	=	$ 5,000
TOTAL		$ 127,000

PREPARED BY AMH/AES DATE 3/4/1989 APPROVAL

Orig/rs. AFE/92

3-4-89 3-4-89 3-4-89

113C-

[illegible] PETROLEUM CO.
FINAL CASING AND CEMENTING REPORT

WELL ---------- DEPTH ---------- DATE ----------

CASING	NO. JOINTS SHOE	LENGTH	SIZE	WT.	GRADE	THRD.
	Float Collar					
	DV Collar					

TOTAL FOOTAGE _____ CUT OFF _____ CASING ABOVE ROTARY _____

REMARKS NO. CENTRALIZERS/ SCRATCHERS :

Casing Wt : _____ In Air _____ In Mud _____ After Pump cmt 1st Stage
Wt. Set On Slips Lbs _____

CEMENT :

Depth of Shoe _____ Depth of Collar _____ DV Tool Or Top of Liner _____

FIRST STAGE :
Bumped Plug At _____ A.M. _____ P.M. Date _____ With _____ Psi. Float Held _____

Lead Slurry SX _____ Class _____ Plus _____

Mix At _____ ppg.

Tail Slurry SX _____ Class _____ Plus _____

Mix At _____ ppg.

Mud Returns : Yes ( ) NO ( ) Cement Returns: Yes _____ Bbls. NO ( )
Displacement Rate: Initial (____) BPM Final (____) BPM
REMARKS Casing Reciprocated ( ) Yes ( ) NO _____

SECOND STAGE :

D.V.Opened _____ A.M. _____ P.M. Date _____ With _____ Psi, Circ. Rate _____ Opn. Press ___ Psi

Bumped Plug At _____ A.M. _____ P.M. Date _____ With _____ Psi. DV Closed( ) Yes ( ) N

Lead Slurry SX _____ Class _____ Plus _____

Mixed At _____ ppg.

Tail Slurry SX _____ Class _____ Plus _____

Mixed At _____ ppg.

Mud Returns: Yes ( ) NO( ) Cement Returns: Yes _____ Bbls. _____ NO ( )
Displacement Rate : Initial (_____) BPM FINAL (_____)
REMARKS _____

CEMENT COMPANY: _____ DRILLING FOREMAN: _____
F/113

ATTACHMENT NO. 7

113C-

CONTINENTAL OIL COMPANY
WELL CONTROL DATA SHEET

Well Name _____ Rig _____ Date _____ TD _____

I. Pump Output

	Type	Liner	Stroke	Max. Press. psi	Displacement bbl/Stroke
Pump No. 1					
Pump No. 2					

II. Capacity and Displacement of Drill String

				Cap	Displ		Cap	Displ
DP size x Length	" x	'	Cap & Displ	&		bbl/1000'	&	
DP size x Length	" x	'	Cap & Displ	&		bbl/1000'	&	
DC size x Length	" x	'	Cap & Displ	&		bbl/1000'	&	
Total Depth =		'						
				Totals - Cap & Displ				

III. Pump Strokes to Fill the Hole during a Trip = DP Displ in bbl/1000' x Length of Stand / Pump Displacement in bbl/stroke x 1000 = _____ Stroke/St.

IV. Annulus Capacity

Casing x DP	"	Length	'	Ann Cap	bbl/1000'
Casing x DC	"	Length	'	Ann Cap	bbl/1000'
Liner x DP	"	Length	'	Ann Cap	bbl/1000'
Hole x DP	"	Length	'	Ann Cap	bbl/1000'
Hole x DC	"	Length	'	Ann Cap	bbl/1000'
	Total Depth		'		
				Total Annulus Capacity	

V. Pit Volume - Record all volumes, circle active volumes

Pit No. 1	Size	x	x	'	Cap	bbl/in	
Pit No. 2	Size	x	x	'	Cap	bbl/in	
Pit No. 3	Size	x	x	'	Cap	bbl/in	
Pit No. 4	Size	x	x	'	Cap	bbl/in	
Sand Trap	Size	x	x	'	Cap	bbl/in	
Trip Pit	Size	x	x	'	Cap	bbl/in	
					Total Cap	bbl/in	

VI. Maximum Safe Surface Pressure

Casing Size _____ Weight _____ Grade _____ Setting Depth _____ Min Yield Pressure _____ ps

Working pressure of blowout preventers, wellhead, valves and lines _____ psi

Min frac grad _____ lb/gal at _____ ft (casing shoe or weakest zone).

(Min frac grad - mud wt used) x depth of weakest zone x 0.052 =
Max Initial Casing SIP _____ psi*

*After kick fluid is circulated into casing, the pressure may increase above this value without fracturing the formation.

VII. Well Killing Volumes

Circ to bit (DP dead) = Total drill strg cap in bbl / Pump displ in bbl/stk = _____ = _____ stk

Circ annulus (old mud to surf) = Total ann cap in bbl / Pump displ in bbl/stk = _____ = _____ stk

Circ all around (annulus dead) = Cap drl string + cap annulus = _____ stk

VIII. Trip Margin

Plastic Viscosity		Yield Point		Pipe Speed		Surge* Press	

*From appropriate nomograph in the CONOCO Drilling Manual, Section III.

Trip margin in ppg = Surge press in psi/1000 ft / 40 = _____ ppg

113C.

CONTINENTAL OIL COMPANY
WELL CONTROL WORKSHEET

P_{low} = _____ psi at _____ SPM. P_{low} = _____ psi at _____ SPM. P_{low} = _____ at _____

I. Measure

P_{dp} = Shut in drill pipe pressure _____ psi

P_{csg} = Shut in casing pressure _____ psi

Vol = Volume gained _____ bbl

II. Determine

MW_o = Original mud weight in drill string

ΔMW = Mud weight increase required (from table below) _____ ppg

MW_n = New mud weight (MW_o + ΔMW) _____ ppg

P_I = Initial circulating pressure (P_{dp} + P_{low}) _____ ppg

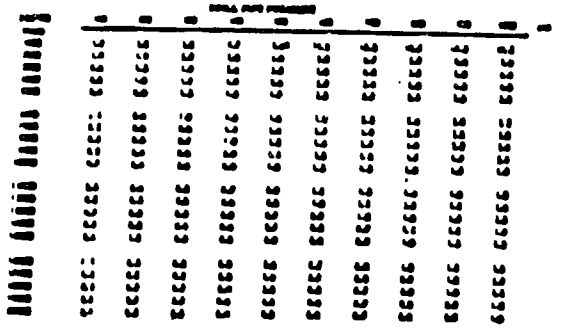
P_F = Final circulating pressure(P_{low} x $\frac{MW_n}{MW_o}$) _____ psi*

_____ psi*

*If permitted by frac gradient, add 50 to 100 psi to drill pipe circulating pressures. This additional pressure will also be imposed on the casing.

Add mud weight needed for trip margin after kick fluid has been circulated out.

III. Mud Weight Increase Required to Balance a Kick, ppg



ppg/gal = $\frac{\text{Shut in drill pipe pressure}}{\text{Depth x 0.052}}$ = $\frac{\text{SIDPP x 19.2}}{\text{Depth}}$

For drill pipe pressures greater than 1000 psi, add values horizontally.

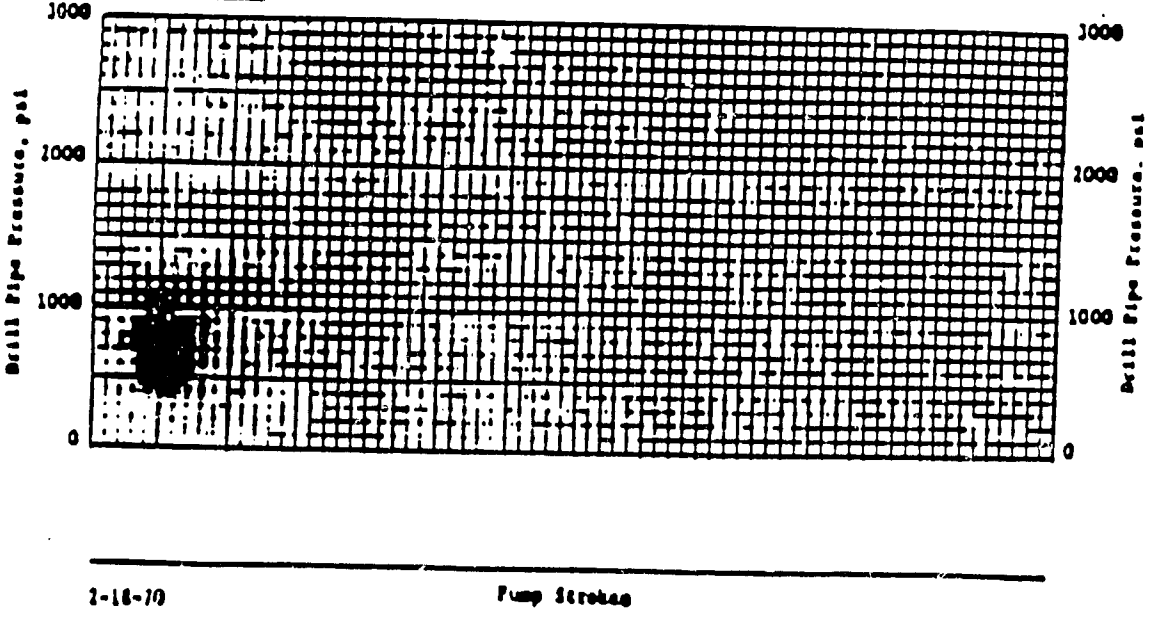
Example:

SIDPP = 1600 psi incr. = 2.8(1000 psi)

Depth = 7000 ft + 1.7(600 psi)

4.5 ppg/gal at 1600 psi

IV. Pumping Schedule



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113 D

CONFIDENTIAL

EAST GEMSA CONCESSION, GULF OF SUEZ
APPRAISAL WELL PROPOSAL
GEMSA SE-(E) Revised

BY: EAST GEMSA E & P STUDY TEAM

MAY 1989
CAIRO, EGYPT

SHELL EGYPT E and P
REPORT NO. SE 89/20

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Table 1. Gemsa SE-3,4 test results

Table 2 Gemsa Offshore field: STOIIP and reserve estimates

Table 3 Comparison of ADMER of A-I and mean case PADE run.

Table 4 Cases A-I: proven/probable STOIIP and economic evaluation.

FINAL WELL REPORT

113E

[illegible]

[illegible] WELL DATA

Company :	Gulf of Suez Petroleum Company (GUPCO)
Well Name :	October G- 6
Location :	Gulf of Suez
Position :	Latitude : 29° 52' 33.[illegible]" N Longitude 32° 03' 43.17" E Surface : X = 687, 256 E Y = 816, 348 E
Field :	October
Rig :	Offshore Comet, (JACKUP)
RKB - MSL :	25 ft
Water Depth :	183 ft
Spud Date :	28th November 1988
Completion Date :	23rd January 1989
Total Depth :	10334 ft
EXLOG Unit :	DL [illegible]
Crew Logging :	F. HASSAN G. ABDALLAH W. HELMY G. [illegible] T. YASSA

GTPCO October G-6
EXLOG Int. Inc.

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EXPLOR Exploration - Operations GRAB

DATE : 2/8/89 REPORT NO : 58

WELL NAME : GIDDIYA NO.1X WELL TYPE : EXPLORATION

FIELD AREA: BORG EL ARAB RIG : EDC-8

DEPTH AT7:00 AM.. 11,508' TD. PROGRESS :

DAYS FROM SPUD. : 49 OPER AT7:00: CIRC. TO COND. HOLE AND MUD

OPERATIONS SUMMARY :

==========

1 HR CIRC. OUT PIPELAX SLUG.

1 HR MIX AND SPOT 30 BBLS OF 2ND SLUG PIPE LAX AND DISPLACED SAME AROUND B.H.A.

7 HRS WORK ON STUCK PIPE, STRING FREE.

5 HRS POOH , 4D JAR AND 16 X 6 1/2 DCB.

5 HRS MU 8 1/2" BIT ON NEW STABL BHA AND RIH TO 10,202'

1 HR WASHED AND REAMED FROM 10,202' TO 10,272'

1 HR CONTINUED RIH FREE TO 11,150'

2 HRS WASHED AND REAMED TO 11,508'

1 HR CIRC. TO COND. HOLE AND MUD.

MUD WT. : 13 , VISC. : 52, WL. : 3.6, CL=WGHPGPCA : 80

H.: 9 PV. : 24, YP: 13

GELS. : 4/12, OIL : 4 O/O SOLID : 20 O/O , SAND : 0.4

PUMPS NO.1: 6 1/2 X 12, PSI 1050 GPH.: 277

SPM : 60

BIT NO. : 16RR, SIZE : 8 1/2 , TYPE : S86F, JETS : OPEN

113G

6th page of 7 page Report

Seismic

Geophysical Activities

ثانيا: النشاط الجيوفيزيقي

(1) المساحة السيزمية البرية :- On-shore Sisemic Area

Total number of on-shore sisemic research teams is 6 belonging to 3 Geophysical Services Companies

اجمالى عدد فرق البحث السيزمية البرية ٦ فرقه تابعه لـ ٣ شركات خدمات جيوفيزيقيه

اجمالى اطوال الخطوط السيزمية المنجزة خلال هذا الشهر ٤٩٤٫٦٢كم + ٣٢ كم٢ (بالمقابل ٣٨٢٫٨٥ كم فى شهر مايو ١٩٨٩)

Total sisemic lengths (lines) executed during this month is 494.62 Km + 32 KM² (against 382.8 KM in MAY '89)

المنطقة AREA	الشركة COMPANY	منطقة البحث Exploration AREA	الفرقة TEAM	الكيلومترات Kilometers	مصدر الطاقة Source of ~~power~~ energy	المدة Duration	عدد الطيات NO of Folds (Layers)	المسافة بين Distance between: الصاعات SPEAKERS	المسافة بين Distance between: نقاط التفجير points of explosion	ملاحظات Remarks
المحراء الغربية Western desert	شل Shell	مطروح - الابيض Matrouh/Obayed	ويسترن/٧٢٠ Western/720	٢١٢٫٤ كم٢ 212.4 Km²	فيبروسيز Vibrosize	٦/١ - ٦/٣٠ 1/6 - 30/6	١٢٠ 120	٢٥ متر 25 meters	٢٥ متر 25 meters	مساحه ثنائيه Double Area
	بدر الدين Badr El Din	بدر الدين - ٢ (Badr El Din-2)	اس اس ال/٦٨٤ S-S-L/684	٣٢ كم٢ 32 Km²	فيبروسيز Vibrosize	٦/٢١ - ٦/٣٠ 21/6 - 30/6	٢٠ 20	٥٠ متر 50 m.	٥٠ متر 50 m.	مساحه ثلاثيه Triple Area
	خالده Khaldah	فاجور FAGOUR	ويسترن ٧٥٥/ Western/755	٣٫٤٢ كم٢ 3,42 Km²	فيبروسيز Vibrosize	٦/٢٩ - ٦/٣٠ 29/6 - 30/6	٦٠ 60	٥٠ متر 50 m.	٦٠ متر 60 m.	مساحه ثنائية Double Area
المحراء الشرقيه Eastern Desert	اسو Esso	محراء شرقيه Eastern Desert	ويسترن/٧١٥ Western/715	٢٤٤٫٣ كم٢ 244.3 Km²	فيبروسيز Vibrosize	٦/١ - ٦/٣٠ 1/6 - 30/6	٦٠ 60	٦٠٠ متر 60 m	٦٠ متر 60 m	مساحه ثنائيه Double Area
سيناء Sinai	شل Shell	صدر Sidr	اس اس ال/٦٨٤ SSL/684	١٣٫٩ كم٢ 13.9 Km²	فيبروسيز Vibrosize	٥/١٧ - ٦/٨ 17/5 - 8/6	١٢٠ 120	٢٥ متر 25 m	٢٥ متر 25 m	مساحه ثنائيه Double Area
	شل Shell	صدر Sidr	M.T / A.E.T	٢٠٫٦ كم٢ 20.6 Km²	فيبروسيز Vibrosize	٦/١ - ٦/٢٤ 1/6 - 24/6	١٢٠ 120	٢٥ متر 25 m	٦٠ متر 60 m	مساحه ثنائيه Double Area

113G

REMARKS ملاحظات :-

- قامت شركة ويسترن / ٧١٥ برصد محطات جاذبيه ومغناطيسيه لمساحه ٣٨٩٫٧٥ كم فى منطقة المحراء الشرقيه وذلك لحساب شركة اسو
- انهت شركة اس اس ال /٦٨٤ العمل بمنطقة صدر لمساحة اجماليه ٦٠ كم وذلك لحساب شركة شل
- انهت شركة M.T / A.E.T العمل بمنطقة صدر لمساحه اجماليه ١٥٠ كم وذلك لحساب شركة شل

SSL/684 Co. has completed work at Sidr Area for Shell's account (Area 60 km)

M.T/A.E.T. Co. has completed work at Sidr Area for Shell's account (Area 150 km)

GPD-2705 7/77

BECHTEL

CALCULATION SHEET

CALC. NO. _____ REV. NO. _____

ORIGINATOR _____ DATE _____ CHECKED _____ DATE _____

PROJECT _____ JOB NO _____

SUBJECT _____ SHEET NO. _____

~~DAILY DRILLING REPORT~~

GULF OF SUEZ

GUPCO - MORGAN 1/184 (DEVELOPMENT) 19 Days (VANGUA
Depth 8753 FT - silt and sand layers (KAREEM FM.), mudding in process.

July 58/84 (DEVELOPMENT) (S.F - 1
READJUSTING OF GUIDE PIPE 24 inch LOCAT

OCTOBER G-1 (EXTEND + UNDER COMPLETE (O.T
DEPTH 11857 FT (PBTD) - WAITING FOR WEATHER CONDITIONS TO IMPROVE SO AS T RE-ERECT DRILLING RIG AT SITE.

(SNEFERU
MORGAN 190-193 (WATER INJECTION) 24 Days
COMPLETED CONVERTING WELL FROM WATER INJECTION TO PRODUCTION WELL AS THER WAS EVIDENCE OF PETROLEUM PRESENCE. DEPTH 7453 FT - COMPETED DISMANTELING OF EXPLOSION PREVENTION UNITS, INSTALLATION AND TESTING OF CHRISTMAS TREE. COMPLETE PERFORATING ~~BUILDING~~ OF WELL ~~AT~~ FOUR ~~[illegible]~~ DISTANCES IN DEPTH (FROM 6960 TO 7148 FT) - TOTAL PERFORATED ~~PERFORATED~~ DISTANCES 122 FT - BREAKING OF DRILLING PIPES (5 INCH) IN PROGRESS.

EXPLORATION OPERATIONS
DAILY SUMMARY DRILLING REPORT

113H-1

EGPC
الهيئه المصريه العامه للبترول

الادارة العامة للحفر
EXPLORATION

الثلاثاء : ١٩٨٩/٦/٦

OPERATIONS
العمليات

OPERATIONS SUMMARY
ملخص العمليات

NUMBER OF WELLS
عدد الابار

عدد الاجهزة No. of RIG										
بحرى	ارض	إستكشافى	تنميه	اصلاح	بئر مياه	حقن مياه	إكمال	ردم وهجر		
15	10	14	14	05	11	11	11	11		
OFF-SHORE	ON-SHORE	EXPLORATION	DEVELOPMENT	REPAIR	WATER WELL	WATER INJECTION WELL	UNDER COMPLETION	PLUGED + ABANDENED		

GULF OF SUEZ
خليج السويس : -

GUPCO جابكو مرجان ١٨٤/١ (تنميه) ١٩ يوم (VANGUARD)

العمق ٨٧٥٣ قدم - الطبقات حجر طفلى ورملى (KAREEM FM.) ، جارى إدارة الطفله .

يوليه ٨٤/٥٨ (تنميه) (S.F - 136)

جارى إعادة تصحيح وضع ماسورة التوجيه ٢٤ بوصه .

اكتوبر 1 - G (مد واكمال) (O.TIDE)

العمق ١١٨٥٧ قدم (PBTD) - فى إنتظار تحسن الاحوال الجويه لاعادة تثبيت جهاز الحفر على الموقع .

مرجان ١٩٠ - ١٩٣ (حقن مياه) ٢٤ يوم (SNEFERU)

تم تحويل البئر من حقن مياه إلى بئر إنتاج، لوجود شواهد بتروليه . العمق ٧٤٥٣ قدم - تم فك وإنزال مجموعة مانع الانفجار وتركيب وإختبار شجرة عيد الميلاد ، تم تثقيب البئر اربع مسافات فى العمق (٦٩٦٠ - ٧١٤٨) قدم - مجموع المسافات المثقبه ١٢٢ قدم - جارى تكسير مواسير الحفر ٥ بوصه .

مرجان ١٤٥/٣ (إملاح/حقن مياه) ٦ ايام (MERCURY)

العمق ٧٢٦٦ قدم (PBTD) - جرت محاولة إنتاج البئر بمساعدة النتروجين (PH = 5) تم الخروج بـ COIL TBG وتحرير حازم الإنتاج ، جارى النزول بتركيب حقن المياه .

5M - 80 - G1 شمال اكتوبر 1 - 183 (إستكشافى) ٤٤ يوم (COMET)

العمق ١٣٧٩٧ قدم - الطبقات حجر رملى وطفلى (NUBIA) ، جارى الحفر .

مرجان ٣٠/٨ (إملاح) (T - 2)

فى انتظار تحسن الاحوال الجويه لتحريك الجهاز من الموقع .

الدولية (نزازات) 20 - 82 G1 (إستكشافى) ٨١ يوم (ENDURER)

بترول العمق ١٣٥٦٧ قدم - الطبقات حجر جيرى وطفلى ورملى (CEN.FM.) جارى الحفر.

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CONTRACTORS REGISTERED IN EGPC FOR EXPLORATION SERVICES

SERVICE CO.	COMMERCIAL REG. NO.	ADDRESS
Seismic Acquisition		
C.G.G.	10315 Cairo.	Villa 10, Road 5, Maadi, cairo.Tels:3518523-3512578.
GEOSOURCE	169985 Cairo.	9,Dr. Mahrouki St,Helioplis cairo .Tels:669482-2919336.
G.S.I.	248663 Cairo.	26,Horreya St,Helioplis,Cairo. Tels: 2907122-2917923-2917064.
PRAKLA	3823 Giza.	3, Abdel Halim Hussein St,Dokki,Giza.Tels:717562.
S.S.L.	167526 Cairo	35,El Higaz st, Mohandeseen, Giza.Tels:3461513-3460926.
WESTERN ARABIAN GEOPYSICAL	209658 Cairo.	12, Tulumbat St., Garden City,Cairo.Tels :3550281 3549656-3541572.
FORUM EXPLORATION/ PROFESSIONAL GEOPHYSICS	248509 Cairo.	Crystal Tower,4 Morad El Sheraei St., Heliopolis,Cairo. Tels: 2433476 .
SEISMIC PROCESSING :-		
C.G.G.	10315 Cairo.	Villa 10, Road 5, Maadi, Cairo.Tels:3518523-3512578.
G.S.I.	248663 Cairo.	26, Horreya St, Helioplis, Cairo.Tels:2907122-2917923
TENSOR	7941 Cairo.	10, Sekket Hadid Helwan El Kalaa.Tels:3515778-3508653
FORUM EXPLORATION/ PROFESSIONAL GEOPHYSICS	248509 Cairo.	Crystal Tower,4 Morad El Sheraei St., Heliopolis,Cairo. Tels:2433476.
MAGNETO TELLURIC		
EREX/PHOENIX	79227 Ciza.	317B Pyramids st. Giza. Tels:843703.
FORUM / AET (ADVANCED ELECTRONIC TECHNOLOGY)	248509 Cairo.	Crystal Tower,4 Morad El Sheraei St., Heliopolis,Cairo. Tel:2433476.
C.G.G.	10315 Cairo.	Villa 10, Road 5, Maadi, Cairo.Tels:3518523-3512578

E. G. P. C.
TECH. CONTROL
Agreements Department

E.G.P.C. SPECULATIVE EXPLORATION PROJECTS (SINCE MARCH 1985)

SER. NO.	PROJECTS	VOLUME	CONTRACTOR	REMARKS
	I - EXPLORATION PROJECTS FINANCED BY AID			
A.	Assiut /Qena Seismic Survey . (Data Review, Reprocessing, Seismic Acquisition & Basin Evaluation) .	800 Kms + 1200 Kms Repr	Geosource/ Gearhart	
B.	Well Electrical Log Data base : (Digitization 100 well reformating 400 well creation of Reservoir Charactarization System for 500 well .	500 well	Corelab	
	II- SPECULATIVE EXPLORATION PROJECTS			
1.	Offshore Western Desert, shallow & deep seismic survey (Phase I).	2968 Kms	Western Geo.	
2.	Offshore Western Desert, shallow & deep seismic survey (Phase II).	2593 Kms	Western Geo.	
3.	Offshore Western Desert, Reprocessing of 1974 Seismic Data (Phase III).	2250 Kms	Western Geo.	
4.	Offshore Western Desert, Interpretation of a/m data (Phase IV).	8000 Kms	Western Geo.	
5.	Regional Geological / Geochemical Study of Paleozoic Sediments of W.D.	30 Wells	PaleoServices	

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F-Tender

12C

NONE

CONFIDENTIAL

CIRCULATION
1) [illegible]
2) [illegible]
3) [illegible]
4) [illegible]
~~File~~ CONTRACT SERVICES - LDN
FILE: GRG - CONTRACTS FILE

OPENING OF TENDERS

Job title .....WIRELINE LOGGING SERVICE.....

Contracts Engineer GUTHER/TAYLOR Project Manager/~~Engineer~~ W.D. BROWN.

Date invited .....18.4.89..... Date Due .....1.5.89.....

Amount Allowed in Budget .....-..... Form of Tender REIMBURSABLE AGAINST DAYRATE + EQUIP. CHARGES.

The above information, together with the names of all contractors invited to bid, is to be completed by the Contract Engineer before the opening of tenders.

Contractors Invited

GEARHART (Pico)	Bid Submitted
SCHLUMBERGER	Bid Submitted

Tenders opened in the presence of

Signed .....B. Edwards..... Date .....10.5.89.....

EGPC .....

Copies to .....[illegible]

12C

BP EXPLORATION

12D

Mr. Mahmoud Marzouk
General Manager for Technical Control
of Exploration Companies.

E. G. P. C.
Palestine Street - 4th Section
New Maadi.

Your Ref		كتابكم
Our Ref	30/010 - 40/102	كتابنا
Date	8/6/1989	التاريخ

Dear Mr. Marzouk,

Britoil (Development) Ltd. West Natrun Concession
Bid List Approval
Mine Clearance

BP. Petroleum Development - Egypt - on behalf of Britoil, plan to drill an exploration well in West Natrun this summer. In preparation for this operation it will be necessary to clear the access route and location of any explosives.

It is proposed to seek tenders for this work from the following list of companies:

1. Saad Rafaie Contracts
2. Riza Contracts
3. Sapesco Contracts
4. El-Faiyrouz Co./Welco

The last named company does not appear on our copy of the EGPC. Services List but they claim to have provided a mine clearance service to most of the operators in the Western Desert.

Your guidance as to which companies should be invited for the work in West Natrun would be appreciated.

Yours Sincerely,

J.D. Brown
Drilling Manager

48.jb

BP Petroleum Development Ltd. Egypt Branch
9 Mohandes Galal St. Mohandessin Giza A.R.E.
Tel 3461105 3461109 3461110 3461123 Tlx 92124 BPUSH UN
Fax 3448087 P.O. Box 25 CAIRO 11511 C.R. 40180

COMMERCIALITY DECLARATION

(ATTACHMENTS)

According to the 3C item of the concession agreement, the contractor evaluates the commercial discovery in order to decide whether it deserves commercial development, taking into consideration (reserves, production, exportation facilities, expected crude price and all other technical & economical factors).

Since the EGPC and the contractor meet together based on this declaration to review all the data which helps them to consider the development agreement, and in order to unify the required data as much as possible, following are the main data to be attached to the commerciality declaration:-

1. A location map illustrating well (s) location drilled by the company up to the commerciality declaration date, with regard to the concession's borders & the nearest production facilities:

   Scale 1: 500,000
   : 250,000
   Or : 100,000

2. Structure contour maps on top of the oil bearing formations:

   Scale 1: 50,000
   Or : 10,000

3. Isopach map (s):

   Scale 1: 50,000
   Or : 10,000

13A-1

4. Structural cross-section:

   Scale 1: 5,000
   Or : 100,000

5. Detailed section for the producing zone, supported by well logs.

6. A summary of testing results (RFT, DST, PROD. TESTS, etc.).

7. PVT analysis.

8. Computer geological cross-section (if available).

9. A summary of exploratory drilling operations (including appraisal wells) carried out by the company in this structure including the following:-
   - -Spud date
   - -Total depth
   - -Type of completion
   - -Total cost/well

10. Total expenses till the commerciality declaration date, distributed on the exploration years, and compared to the concession obligations.

11. Original oil in place calculation (OOIP) and its physical properties.

12. The proposed development scenarios, the cost & economical justification of each.

13. The detailed field development according to selected scenario, including:-
    - -Secondary recovery methods and Related oil Recovery.
    - -Handling of the associated gas (for the application of the prevention of gas burn law).
    - - Proposed production facilities and it's lay out map.
    - -Proposed transportation facilities to the nearest exportation terminal.
    - -Ballast water treatment facilities.

14. The proposed yearly production forecast (for the first five years of production).

13A-2

15. The estimated budget for the field development up to exportation date.

16. Any additional data.

13H-3

RIG---EDC INC.

1 - AUG.27.80 [illegible] -334-4 EXP.: EDC-INF. [illegible]-F-2 [illegible] 12500

2 - 58 54 [illegible] 9-5/8 7900 [illegible] TVD ?

3 - 9715 930 [illegible] 12-SH RUDEIS.

4 - 126.00 4160 424,000 24,360 2,553 [illegible] 3,[illegible],000

5 - 3163 -- 447 [illegible] 1087 -- 25-30K [illegible]

6 - PL 10 50 [illegible] 15 26 5 8 10 5 52K -- 40 30 -- [illegible]

7 - 2 0.3 [illegible] 14 300 -- -- -- 140 PHPA-1 REL-97 PPM

8 - [illegible] 33 -- -- 110 1140 1030 [illegible]

9 - 110 -- -- 110

10- 10 40 [illegible] 8 10 17.0 150 10 [illegible] 9.0 35 [illegible]

11- 2500 400 [illegible] 23 200 316 960 427 -- 5-1/2 96 12 4723

RH 12- 23 8-1/2 FDS 13-13-13 0.39 INC 1001 24 41.7 40 115
5890037

	SN	Length
14- 8-1/2 [illegible]	5890037	1.00
N.M.STAB (FBG)	75537	5.5[illegible]
3.MONEL	MG5-16	11.27
STAB (3/4 BG)	75556	5.35
MONEL D.C.	9219	29.21
STAB (FBG)	75554	5.00
3-6-1/2 D.C. Drill Collars		22.35
JARS	U1660/D1678	36.00
36 HWDP		1089.[illegible]

Drilling Assembly

15- 1276 56 [illegible] 5[illegible]-1/2 240 235 245 320 [illegible] 220

16- CECH [illegible]

17- 3 0096 2.75 N 67 E
3 0313 [illegible] N 74 E
3 0621 [illegible] N 85 E

Deviation Surveys

Calculated at Surv.
18- 9621 9600 [illegible] 224.10 -- 74.10 -- [illegible] N 85 E .39

22- -- 30 340 40 430 -- 30 320 40 440

21A

23- 3000 AUG. AUG 3 4 MON AUG 3 [illegible]

24- 75 3 63 9 ERNST ENVOLDSON -- [illegible]

TIME DIST.

HOURS

6-1/2 DRLG FRM 8705 TO 9161

1 SURVEY ON BLOCK LINE AT 9096 [illegible] N 67 E

5 DRLG FM 9161 TO 9378

1 SURVEY ON BLOCKLINE AT 9313 3 DEG N 74 E

8 DRLG FM 9378 TO 9684

1 SURVEY ON BLOCKLINE AT 9621 3-3/4 DEG N 85 E

1-1/2 DRLG FM 9684 TO 9715

BHA-15 TO 45 UNIT D.EXP.: 1.35 TO 1.51 BH. DENS 9.4

EST PORE PRESSURE 9.5 PPG.

LOAD [illegible] - 186 M.TON.

21A decoder 21F

158

8/9/89

DEVELOPMENT WELL PROG

THE BADR PETROLEUM COMPANY (BAPETCO)
BED 3-6

DRILLING PROGRAMME
LOCATION BED-3-E
(BED 3-6)

PREPARED BY : ENG. Y. ZAKARIA
DATE : MAY 1989

21B-1

THE BADR PETROLEUM COMPANY (BAPETCO)
BED 3-6

1) BASIC WELL DATA

1.1 Summary of Basic Well Data

Name		: BED 3-E(BED 3-6)
Classification		: Development (vertical)
Country		: EGYPT
Concession		: BADR EL-DIN
Surface Location	Lat	: 29° 50' 19.62"
	Long	: 27° 56' 55.00"
Co-ordinates	N	: 3,301,347
	E	: 591,645

Cost Centre	: 2131306
Planned total depth (MBDF)	: 3785 m
Surface Elevation (BMSL)	: 15 m
Rotary Elevation (BMSL)	: 5.54 m
Derrick Floor Elevation (AGL)	: 9.46 m
Rig	: EDC-10
Objectives	: Kharita oil-rim
Tolerance	: Circle radius 50m at 3785 mbdf
	: based on surface position
Planned Casing Programme (MBDF)	: 20" set at 120m
	: 13 3/8" set at 1140m
	: 9 5/8" set at 2600m
	: 7" set at 3785m

2) DRILLING PROGRAMME

2.1 Operations Sequence

(All depth in M BDF)

2.1.1 Stove pipe

30" stove pipe will be set during site preparation

21B-2

8/9/89

21C-1

Completion Program

2C Drilling Plan

شركة بدر الدين للبترول (بابيتكو)

BADR PETROLEUM COMPANY (BAPETCO)

2, Farid Simeka Str., Boktor Sq.
Heliopolis, CAIRO
Tel.: 2452254 - 2453573
2433837 - 2434811
Telex: 2531 P.O. Box 5958

٢ شارع فريد سميكة ـ ميدان بقطر
مصر الجديدة ـ القاهرة
ت : ٢٤٥٢٢٥٤ ـ ٢٤٥٣٥٧٣
٢٤٣٣٨٣٧ ـ ٢٤٣٤٨١١
تلكس : ٢٥٣١ ص.ب : ٥٩٥٨

Your ref.:
Our ref.:
Date:

خطابكم رقم :
ملف رقم : هـ ب/٦٠/٠٠٨
التاريخ : ١٩٨٩/٦/٢٨

السيد / مدير عام الحفر
الهيئة المصرية العامة للبترول
المعادى الجديدة ـ القاهرة

تحية طيبة وبعد

برجاء الموافقة على برنامج صيانة واكمال بئر بدر الدين ٩-١
مرفق طيه صوره من البرنامج

وتفضلوا بقبول فائق الاحترام

م / محمد عيد
نائب مدير عام العمليات

٠٠٠٢ب/م ٥

BED 9-1

REENTRY & COMPLETION PROGRAMME

OBJECTIVES

To complete the well on the Bahariya formation and A/R"G" formation as a two-zone (straddle) completion :

Well status

7" liner shoe at	3405	mbdf
TD (7" hole)	3535	mbdf
PBTD	3405	mbdf

Perforated intervals :

A/R "G"	3239.5-3233.5	mbdf	(Squeezed)
	3250.5-3246.5	mbdf	(Squeezed)
	3320 - 3314	mbdf	(Squeezed)
Bahariya	3334 - 3339.5	mbdf	(Squeezed)

Reservoir Pressure

Initial reservior pressure at Bahariya = 4994 psi at 3269 mbdf
equivalent to 0.466 psi/ft
Initial reservoir pressure at A/R 'G' = 4829 psi at 3191 mbdf
equivalent to (0.461) psi/ft

Sequence of events:-

1- Check carefully all the well head valves for any accumulated pressure and bleed off pressure.

2- POOH and L/D killstring.

3- N/UP adapter flange 11" x 5000-13 5/8" x10,000 install wear Bushing in T.H.S.

4- N/up 13 5/8" BOP'S and test same for 5000 psi.

5- RIH with 8 1/2" Bit and drill cement plug to the top of liner at 2744 mbdf using drill water

6- RIH with 6" Bit and drill cement to 3298 mbdf using 0.485 psi/ft mud

7- RIH with 6" milling tools and mill on fish the slip segment and model "N" Bridge plug to 3301 mbdf Mill cement to 3351 m, if slow progress run 6" bit and drill to 3351 mbdf.

NOTE :

i) While drilling cement keep a record of the drillability of the cement i-e make a penetration rate log.

ii) Monitor carefully loss to the formation (specially after penetrating Abu Roash 'G' perforations).

8/9/89

EXPLORATORY WELL PROG

21D

TO : OPERATIONS MANAGER
FROM : G.R. GARZA

DATE : APRIL , 25, 1989.

SUBJECT : WELL PLAN FOR DABAA (Ih-35-B)

Enclosed is a program which has been prepared to assist in the drilling of DABAA. A Vertical hole Exploratory Well located in the Conoco's Dabaa concession area of the Western Desert.

NOTE :

* FORMATION TOPS TO BE CORRECTED ACCORDING TO THE ASSIGNED RIG RKB.

WRITTEN BY:

A. Mohamed
ENG. ASHRAF MOHAMED

CHECKED BY:

25.4.89
ENG. AHMED EL SEGINY

APPROVED BY:

G.R. GARZA

Cecil E. Ray
CECIL E. RAY

for 25.4.89
SARWAT A. EL ENIN

M. A. HALIM

DABAA/1
Drlg/rs.

21 D

WELL PLAN
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III-	PROCEDURE FOR RIG ACCEPTANCE	5
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	2- SAFETY PRACTICES.	
	3- DRILLING OPTIMIZATION PROGRAM	
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	7- KILL SHEET & L.O.T. FORMS	
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DABAA/2

210-2

X

8/9/89

WORK-OVER PROG

PETROBEL
Belayim Petroleum Co.
El Mokhayem El Dayem St.
Nasr City - Cairo, Egypt
Phone : 603136 - 605214 - 602980
P.O Box 7074 Cairo
Cable Address : PETROBEL
Telex No. PETBL 92449 - 92373 UN

بتروبل
شركة بترول بلاعيم
شارع المخيم الدائم - مدينة نصر
تليفون : ٦٠٣١٣٦ / ٦٠٥٢١٤ / ٦٠٢٩٨٠
ص.ب : ٧٠٧٤ - القاهرة - العنوان التلغرافي : بتروبل
تلكس رقم بتبل : ٩٢٤٤٩ / ٩٢٣٧٣

Dept. — ادارة : العمليات - هندسة البترول

Ref. No. — رقم القيد : هـ.ب - ١٧٨ (١/٣) .

Date — التاريخ : ١٩٨٩/٥/٤

السيد/ مدير عام الحفر
الهيئة المصرية العامة للبترول

بعد التحية ...

مرفق لسيادتكم برنامج الصيانة للبئر 112-49 برجاء التكرم بالموافقة على البرنامج المذكور مع تحميل بتروبل برسم النظر المقرر.

وشكرا ...

مدير عام هندسة البترول
مهندس / طارق العطار

مرفقات/

21 ع-1

PETROBEL

A. PET. ING. DIV.

WORKOVER PROGRAM FOR
WELL 112 - 49

SCOPE :

To :- Recover S/R pump stuck .

- Check and eliminate reason (s) of S/R pump stuck

- Resume well pumping from zone II
  (Exp. rate ± 40 M3/D) .

WELL DATA : (As per attached sketch)

WELL PAST HISTORY :

This vertical well was drilled & completed in June 1965 as development well .

ZONE III :

Perforated the intervals (2412-2399 mts) in Jun,1965, tested same and never produced .

ZONE (IV) :

The well was completed as a single pump producer from, zone . with 60 M3/D rate and 0.2 % W.C. in Jun,1965 , in Feb 1978 the well worked-over to increase the well production , on 2/1/1981 worked over the well due to pump stuck , failed to resume well pumping from zone IV due to dropping fluid level F/ 1396 mts (4580 ft) F/ 2362 mts (7750 ft) , on 2/12/1981 worked-over the well , record 1 TDT log against the intervals (2544 mt 2225 mts) , and isolated zone IV with blind end model "G" pkr . Last pumping rate was 30 M3/D and 25 % W.C.

ZONE II :

In Dec. 1981 perforated the interval (2248-2230 M)with 2-1/8" Enerjet and pumped as S/R pumper with rate 60 M3/D and 0.2 % W.C. successful light work-over jobs had been done since that date due to S/R stuck . On 9/03/1989 worked-over the well , isolated zones III and IV W/ 5-1/2" B.plug , left (7 jts 2-7/8" D/Pa above milling tool) in well and resumed well pumping With 40 M3/D , 0.7 % W.C. On 31/03/1989 well quit pumping . Hoist failed to restore well pumping due to rod pump stuck and left well for tbg rig . Last prod. rate was 40 M3/D , 0.7 % W.C., G.O.R. 17 M3/ , .

PROCEDURE :

1 - Move H-40 Rig to well location , R/U , connect the necessary surface connections , collect dead oil in rig tanks .

2 - Bleed-off csg and tbg pressure to atmosphere .

3 - Remove tbg bonnet , N/U BOP. and test function of same.

21E-2

4 - POH prod. string till [illegible] all 1" fiber glass S/R then back-off the remaining part of 7/8" steel S/R and POH the rest of tbg in stands with S/R balance inside .

N.B.:- Special care should be considered while retrieving the fiber glass S/R and try to minimize the loss percent of same S/R .

5 - RIH W/ production string , bottom-up as follows :-

- One jt 2-7/8" tbg , 6.5 #/ft .EU,open-end .
- 2-1/2" RWT pump shoe to be set at ± 1830 mts (6000 ft).
- One jt. 2-7/8" tbg , 6.5 #/ft , EU .
- 2-7/8" x 7" page hyd. anchor .
- 2-7/8" tbg , 6.5 #/ft , EU , up to surface .

N.B.:- Rabbit tbg while running .

6 - N/D BOP., install tbg bonnet . RIH W/ 2-1/2"x2"x20'RWT pump on S.rod string as follows :-

- One jt 3/4" x 30' S.rod + spiral guide .
- 60 jts 7/8" x 30' S.rod
- 130 " 1" x 30' fiber glass S.rod .
- Pony rods for adjusting .

7 - Adjust S.rod string , check pumping if ok, turn well to prod. stream w/ 10 SPM , 120 St. length and

P.U $\frac{C\ 320\ D}{21.3/120}$

8 - Release rig after 24 hrs observation

ENG: OMAR YASER

/m.m

A/R: 22/04/1989

9/89

23/4

ENG. M. G. HASSANEIN

FIELDS GEN. MANAGER

21E-3

PET. ENG. DEV.
Abu Rudeis

Date 11-5-89

WELL PROGRAM

Well 112 - 49 | Elevation : K.B. .....

Coordinates : X: 661 151 Y: 833 349 | Casing Flange .....

Date spudded : 12 APRIL 1965 | Date perforated : .....

Date [illegible] on Production : Zone III-Not yet produced. Zone IV 11/8/89. | Present Status : .....

Cementations

good

poor

9-5/8" csg J-55,40 #/ft.

9-5/8" shoe @ 355mt.

SALT BED
1960-1980M

7"csg,J-55,26#/ft

T.O.C.@ 1090 Mt

5-1/2"x7"L.H.P 1926 Mts

7"csg shoe @ 2058.[illegible]m

Fish in Mar.89
Top of fish @2191M

- B.pkr milling tool 1.15M
- Junk sub 1.12 M
- Bit sub 0.84 M
- 7 jt 2-7/8"D/Ps 65.87 M

5-1/2" Liner.

B.P.T.@ 2544 mts.

2548.9 Mts.

Pipes Zone II
Perforations
2230-2248 Mts

PROD. ST. BOTT-UP

1-2-7/8"tbg open end,6.5#/[illegible]
EU 9.53 mtn .

2-2-1/2"RWT pump shoe @183[illegible]

3-One jt 2-7/8"tbg EU .9.5[illegible]

4-7x2-7/8" D.hyd. anchor

5-192 jts 2-7/8"EU 1822 Mts

2230 mts
II
2248 mts

5-1/2"B.plug @ 2281 mts

5-1/2" Model"G"pkr @2286.5

2339.5 mt
III
2412.4 mt
2497.4 mt
2537 mt IV

Pet Eng

M.NASS

Lant. W. D. ON. 10 / 3 / 1987

21E-4

GUPCO DAILY DRILLING REPORT

IDENTIFICATION

1	DATE	WELL NAME	TYPE	FIELD-AREA	RIG	PAGE PAGES 1 OF	AUTHORIZED TOTAL DEPTH TVD MD
2	REPORT NO.	FOREMAN		LAST CASING SIZE MD TVD		FEET	MAX. SURFACE PRESSURE
3	PRESENT OPERATION 05:00		CASING DATA:				Total Hours
4	TOTAL DEPTH AT 05:00	PROGRESS	FORMATION	LITHOLOGY	DAYS FROM SPUD TO TD	TOTAL DAYS	

WELL COST

5	DAILY MUD COST $	CUMULATIVE MUD COST $		DAILY WELL COST $	CUMULATIVE WELL COST $	AUTHORIZED WELL COST $

MUD AND SOLIDS CONTROL EQUIPMENT

6	M/W	SAMP. POINT	VIS	PH	PV	YP	GEL-0 10	SOL VAC COR	CL	CaCL	Ca	MG	OIL %	SAND %	CAKE	PF	MF	API WL	HTHP	TEST TEMP		
7	O/W RATIO	STB.	ALK.	FLT	SOLIDS LBS/BBL BENT.	LGS	HGS	TOTAL DILUTION/BBLS. DIESEL	S/WATER	NEW PRE/MIX MUD	CIRC. VOLUME	PRE/ MIXED	SHAKER SCREENS									
8	MUD LOST	FORMATION	DUMPED	SOLIDS EQUIP.	D-SANDER	HRS.	PSI	M/W UP	GPM UP	D-SILTER	HRS.	PSI	M/W UP	GPM UP								
9	MUD CLEANER CONES & SCREENS HRS.	PSI	MW UP	GPM UP	MW SCM. UP	MW DISG	SCREEN	CENTRIFUGE HOURS	M/W IN	M/W OUT	GPM	MAX. P/PRESS	MIN. P/PRESS	MUD ENGINEER								

HYDRAULICS AND BITS

10	PUMP PRESSURE PSI	GPM	HHP	BIT NO.	ANNULAR VELOCITY FT/MIN DP	DC	MOTOR	Vc CRITICAL VELOCITY DP	DC	MOTOR	MUD PUMP 1. LINER SIZE	EFFIC.	MAX PSI LINER	MUD PUMP 2. LINER SIZE	EFFIC.	MAX PSI LINER						
11	BIT NO.	SIZE	TYPE	JETS/32ND.			IFA	DEPTH OUT	FEET	HOURS	FT/HR	WOB	RPM	TOTAL FT & HOURS								
	SR/NUMBER	CUTTING STRUCTURES	INNER	OUTER	DULL CHR.	LOCATION	BEARING SEALS	GAUGE	OTHER DULL CHAR.	REASON PULLED												
12	BIT NO.	SIZE	TYPE	JETS/32ND.			IFA	DEPTH OUT	FEET	HOURS	FT/HR	WOB	RPM	TOTAL FT & HOURS								
	SR/NUMBER	CUTTING STRUCTURES	INNER	OUTER	DULL CHR.	LOCATION	BEARING SEALS	GAUGE	OTHER DULL CHAR.	REASON PULLED												
13	BIT NO.	SIZE	TYPE	JETS/32ND.			IFA	DEPTH OUT	FEET	HOURS	FT/HR	WOB	RPM	TOTAL FT & HOURS								
	SR/NUMBER	CUTTING STRUCTURES	INNER	OUTER	DULL CHR.	LOCATION	BEARING SEALS	GAUGE	OTHER DULL CHAR.	REASON PULLED												

DRILLING ASSEMBLY

	DRILLING ASSEMBLY-FROM BOTTOM UP COMPONENT	SR/NUMBER	LENGTH	DRILLING ASSEMBLY CONTINUED COMPONENT	SR/NUMBER	LENGTH
1				8		
2				9		
3				10		
4				11		
5				12		
6				13		
7				14		

21E

15	TOTAL DHA LENGTH FT	TOTAL DHA WEIGHT LB	WEIGHT BELOW JARS LB	JAR HOURS	ROT. WEIGHT	S/O WEIGHT	P/U WEIGHT	TORQUE ON BOTTOM	TORQUE OFF BOTTOM

16	BARITE SKS	CEMENT "G" SKS	CEMENT + 3% SKS	D/WATER BL	DIESEL BL	S/WATER BL	MUD MW	DIR.	SEAS FEET

MAJOR DOWN EQUIPMENT

17	1. DAYS:		3. DAYS:		5. DAYS:	
17	2. DAYS:		4. DAYS:		6. DAYS:	

GUPCO DAILY DRILLING REPORT CONTINUATION

18	DATE	WELL NAME & NUMBER	FOREMAN	PAGE 2 OF PAGES

SURVEY DATA

19 DIRECTIONAL ENGINEER:

	DEPTH	INCLINATION	DIRECTION	DEPTH	INCLINATION	DIRECTION	DEPTH	INCLINATION	DIRECTION
20	1			5			9		
20	2			6			10		
20	3			7			11		
20	4			8			12		

	LAST SURVEY	MD	TVD	VERTICAL SECTION	+ N	- S	+ E	- W	ANGLE	DIRECTION	DOG LEG
21											

PERSONNEL

	TOTAL	GUPCO	CONTRACTOR	SERVICE	NAMES	
22					FISHING SUPV.	COMPL SUPV.

TIME DISTRIBUTION HOURS

23		TIME DISTRIBUTION 05:00 TO 05:00 HOURS.
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		

21F-2

170

2C
Well drilling
yearly summ

Exp ration and Production dri ing Oct/Dec. 87
Compared with General drilling Plan of Jul 87 / Jun 88

الحفر الانتاجي والاستكشافي اكتوبر / ديسمبر ١٩٨٧
مقارنة بخطة الحفر العام يوليو ٨٧ / يونيو ١٩٨٨

	الحفر الانتاجي Production drilling		الحفر الاستكشافي Exp Dril.		الاجمالي TOTAL		اجمالي Yearly Total العام
	بحري OFF S.	بري ON. S.	بحري OFF. S.	بري ON. S.	بحري OFF. SH.	بري ON. S.	
فعلي الربع الثاني	٨	١٢	٨	٨	١٦	٢٠	٣٦
	8	12	8	8	16	20	36
خطة عام ٨٧/٨٨	٣٦	٩١	١٣	٤٢	٤٩	١٣٣	١٨٢
	36	91	13	42	49	133	182
نسبة تحقيق الخطة %	٢٢,-	١٣,-	٦٢,-	١٩,-	٣٣,-	١٥,-	٢٠,-
	22,-	13,-	62,-	19,-	33,-	15,-	20,-

* Actual no. of wells drilled during 2nd Quarter (Oct-Dec. 87)
* Year Plan 87/88
* % accomplished

اجمالي عدد آبار الحفر TOTAL NO OF WELLS

	الانتاجي PRODUCTION	الاستكشافي EXPLOR.	الاجمالي TOTAL
فعلي الربع الثاني ٨٧/٨٨	٢٠	١٦	٣٦
	20	16	36
خطة عام ٨٧/٨٨	١٢٧	٥٥	١٨٢
	127	55	182
نسبة تحقيق الخطة %	١٦,-	٢٩,-	٢٠,
	16	29	20

* Actual no of wells drilled during 2nd Quarter (Oct-Dec 87)
* Year Plan 87/88
* % accomplished

اصلاح الآبار (جهاز شهر) RIG REPAIRS (PER MONTH)

الشركة COMPANY	خطة عام ٨٧/١٩٨٨ Yr. Plan 87-88	فعلي الربع الثاني ٨٧/٨٨	
جابكو	١٢,٥ 12.5	٨ 8	GUPCO
خالدة	٣٦,- 36	٣,٥ 3.5	KHALDA
بترودريل	٣٩,- 39	١٣,٤ 13.4	PETROBEL
عجيبة	١,- 1	٠,٢ 0.2	AGIBA
سوكو	٤,- 4	- -	SUCO
بدر الدين	- -	- -	BADR EL DIN
ويبكو	- -	٠,٤ 0.4	WEPCO
الاجمالي	٩٢,٥ 92.5	٢٥,٥ 25.5	TOTAL

4 of 7

21G-1

2C

COMPARISON OF DRILLING ACTIVITIES DURING THE YEAR 1987

مقارنـــه بين نشاط الحفـر خـلال عـام ١٩٨٧

DRILLING ACTIVITY DURING THE YEAR 1987
نشـاط الحفـر خـلال عـام ١٩٨٧

	يناير / مارس MAR / JAN.	ابريل/يونيه JUN / APR	يوليو/سبتمبر SEPT. / JULY	اكتوبر/ ديسمبر OCT. DEC.
عدد الاجهزه المساهمه فى عمليات الحفر والاصلاح No. of drilling rigs involved in drilling + repair	٣٩ 39 ٢٠ بحرى + ١٩ ارض 20 OFF-SHORE 19 ON-SHORE	٣٥ 35 ١٠ بحر + ٢٥ ارض 10 OFF-SHORE 25 ON-SHORE	٣٣ 33 ١١ بحرى + ٢٢ ارض 11 OFF-SHORE 22 ON-SHORE	٣٦ 36 ١٥ بحرى + ٢١ ارض 15 OFF-SHORE 21 ON-SHORE
عدد الابـار الاستكشافيـة المحفـوره No. of exploration wells drilled	١٦ 16 ٨ بحرى + ٨ بحرى 8 ON-SHORE 8 OFF-SHORE	١٥ 15 ٤ بحرى + ١١ بحرى 4 ON-SHORE 11 OFF-SHORE	١٧ 17 ١٢ بحرى + ٥ بحرى 12 ON-SHORE 5 OFF-SHORE	١٦ 16 ٨ بحرى + ٨ بحرى 8 ON-SHORE 8 OFF-SHORE
عدد الابـار الانتاجية المحفـوره No of production wells drilled	١٢ 12 ٨ بحرى + ٤ بحرى	١٨ 18 ٦ بحرى + ١٢ بحرى	٢١ 21 ١٥ بحرى + ٦ بحرى	٢٠ 20 ١٢ بحرى + ٨ بحرى
اجمالى الابار الاستكشافيه والانتاجيه التى تم حفرهـا . Total no. of exploration and production wells drilled.	٢٨ 28 ١٦ بحرى + ١٢ بحرى	٢٣ 33 ١٠ بحرى + ٢٣ بحرى	٣٨ 38 ٢٧ بحرى + ١١ بحرى	٣٦ 36 ٢٠ بحرى + ١٦ بحرى
نسـبة تحقيق الخطه % من اجمالى السـنه Yr. Plan achievement in %	٢٢٪ 22 %	٢٥,٨٪ 25.8 %	٢١,٠٪ 21 %	٢٠٪ 20 %
نسبة تحقيق برامج الاصلاح % من خطة الاصلاح للعام كامـلا Repair program achievement in %	٣٨,٣٪ 38.3 %	٢٣,٣٪ 23.3 %	٥٪ 5 %	٢٨٪ 28 %
اجمالى عدد الابار الجارى حفرها فى نهايـة المـده Total no. of well undergoing	٢٠ 20	١٧ 17	١٧ 17	١٣٪ 13 %

216-2

2C drilling detail

WELL COST ANALYSIS SHEET

21H

COMP/AREA:---------- WELL NAME :---------- TYPE:----------

RIG:---------- SPUDED:---------- ENDED:----------

T.D./W.D.:---------- FOOTAGE DRLD.:------- DAYS:----------

DESCRIPTION	ESTIM. COST ($)	ACTUAL COST ($)	% FROM CUMM. COST	NOTES
1 .Site Survey or Rig Positioning.				
2 .Rig Mob. & Demob.				
3 .Rig Move.				
4 .Drlg. Rig Cost.				
5 .Transportation.				
6 .Fuel .				
7 .Water Supply.				
8 .Mud Materials .				
9 .Mud Engineering.				
10.Mud Logging .				
11.Bits.				
12.Directional Services.				
13.Electric Logging.				
14.Coring.				
15.Casing .				
16.Tubulars & Accessors.				
17.Cementing Services.				
18.Drill Stem Testing.				
19.Drlg. Rental Tools.				
20.Well Head Equipment.				
21.Labour Cost.				
22.Miscellaneous.				
Cumulative Cost ($).				
Cost ($ / Ft).				
Cost ($ / Day).				

S.A/..

3-30-
6/30/89 WED.
الاربعاء : ١٩٨٩/٨/٣٠

GPC

الهيئة المصرية العامة للبترول
GENERAL DRILLING ADMIN.
الادارة العامة للحفر

OPERATIONS
العمليات

Oil Drilling daily summary

OPER. SUMMARY
ملخص العمليات

NUMBER OF WELLS
عدد الابار

ردم وهجر	حقن مياه	بئر مياه	اصلاح	تنمية	إستكشاف	عدد الاجهزة # OF MACHINES بحرى	ارض
-	٢	-	٩	١٢	٧	١٦	١٤

Drilling Rig
(COMET)

GULF OF SUEZ
خليج السويس :-

54 DAYS
OC (تنمية) OCT.C - 8(ST.1) جابكو COMPANY (GUPCO)
(RAHA FM.) DOLOMITE LIMESTONE LAYERS FEET DEPTH وطفلى ودولوميت حجر جيرى - الطبقات ١٢٠٤٧ قدم - العمق
جارى الحفر .

Days 19
(SNEFERU)
GS.334 - 4(ST.1) (استكشافى) ٧٩ يوم
(NUKHUL) الطبقات حجر جيرى وطفلى ورملى - العمق ١٢٧٦٨ قدم
CIRCULATE THROVOH CHOCK TO CONTROL GAS KICK.

(S.F - 136)
يوليه ST.1 ٨٤/٥٨ (حقن مياه) ٨١ يوم
العمق ١١٨٨٠ قدم - تم النزول بـ RTTS ASSY. وإختباره بالضغط (وجد تسرب بـ Stand pipe) فى إنتظار تحسن الاحوال الجويه لتفريغ بعض المعدات من قارب الامداد .

(O.TIDE)
اكتوبر 3 - G (تنمية) ١٨ يوم
العمق ٨٢١٢ قدم - الطبقات انهيدريت وحجر طفلى وملح (S.GH.) ، جارى الخروج من البئر لتغيير تركيب الحفر .

(MERCURY)
بدرى 8 - E (تنمية) ١٧ يوم
العمق ٧٥٠٥ قدم - الطبقات ملح (S. GH.) ، جارى الحفر .

(T - 2)
رمضان ٤١/٦ (تنمية) ٧٠ يوم
العمق ١٢٨٠٨ قدم - تم تنظيف البئر حتى قمة القيسون المعلق ٧ يومه جارى مد القيسون المعلق لاعلى (SCAB LINER) .

(VANGUARD)
هلال ١ - ١١ A (تنمية)
فى انتظار تحسن الاحوال الجويه لإستكمال إنزال وتوجيه ماسورة التوجيه ٢٤ يومه .

(KBY - GIB)
الف (إستكشافى) GC 83 - 8 (ERDMA - W1)
اكبتان بدأ الحفر يوم ١٩٨٩/٨/٢٩ .
العمق ٤٨٥ قدم - الطبقات حجر رملى وطفلى (POST ZEIT) جارى الحفر .

(S.F - 141)
شل جمسه SE - 5A (تنمية) ٨٨ يوم
وينتج العمق ٧٨٩١ قدم (PBTD) - استمر إغلاق البئر وتسجيل مساحة تصاعد الضغط (جارى تسجيل ضغط البئر على اعماق مختلفه) .

(FORAMER IDM)
إسو EZ A - 9 (تنمية) ٨٢ يوم
العمق ١٢٠٧٧ قدم - جارى إستكمال تسجيل القطاعات الكهربيه .

(SENUSRET)
سوكو RB/C1 (اصلاح) ٥ ايام
تم الخروج بمعدات وحدة السلك ، تم تفريغ كل الضغوط الموجوده بالبئر فى إنتظار ضوء النهار لتحريك جهاز الحفر .

21-I

14.58*

92049 FINSR UN 3A

93455 SUCOO UN

SRL NO SUCO 5925 OF 25/6/89 SF

DAILY PRODUCTION REPORT

OIS NO.:2894T

TO : E.G.P.C. ATTN.: MR.M.RASHAD ABDEL HAMED

ATTN.: MR. MOH. ELWI

ATTN.: MR. ABD EL-MONIEM EL-GARABAWI

D.E.B. ATTN: P / SD.

CC. : PLANNING AND FOLLOW UP

FROM : SUCO - OPERATIONS MANAGER

SUBJECT : ZEIT BAY DAILY PRODDUCTION REPORT FOR DAY ENDING 0600 HRS ON - 25.06.89

DATE : 25.06.89

1.1	WELLS ON PRODUCTION	21	WELLS
1.2	DAILY OIL PRODUCTION	7128	M3/DAY
1.2.1	BUDGET FORECAST	8581	M3/DAY
1.2.2	PERCENTAGE PCT	83	
1.3.1	DAILY GAS PRODUCTION (ESTIMATE)	2.07	MM M3/DAY
	RAS EL BEHAR GAS	0.1	MM M3/DAY

22A

2e drilling details summary

22B

RIG--O.T.H.

1- AUG.3[illegible] 80 OCT.[illegible] 83 [illegible] U.TIDE 10F2 11-[illegible] 124[illegible]

2- 18 17 FIXRY -- NASS[illegible] 13-3/8" 5416' [illegible] 15 766

3- 8213 [illegible] F.[illegible].O.H 5.6H AT 7295 SALT,SH.[illegible]

4- 0-5/8" AT 11055' 5435 148,166 20574 [illegible] 3,000,000

5- 2920 [illegible] — 1113 2276 — 30/35 N-W 517

6- F.L [illegible] 50 -- [illegible] 20 6 14 23 21.5 [illegible] -- -- 65 [illegible]

7- [illegible] — [illegible] 11[illegible] 300 [illegible]/12 1400 1.06 1[illegible]

8- -- 33 274 -- — 85 1570 730 S40/60 S[illegible]

9- 31 — — 31 N-R — — — — N-R

10- 18 55 15.4 3.0 15 17.8 200 2 13.4 [illegible] [illegible] N-I

11- 3100 [illegible] 16 10 137 100 — 266 278 -- [illegible] 90 4480
8X12 [illegible] 4480

12- 10(R[illegible]) 12-1/4 R437 5X18 1.113 8213 [illegible] [illegible]-1/2 22-1/2
10/3[illegible] 170/15[illegible] 467 36-1/2

116[illegible] — — -- — -- — — S.H.A

14- BIT 116005 1.41'
12-1/4" N.B.STB 75576 5.48
S.MUL MC 1014 13.13
D.P. [illegible] 6[illegible]-70 3.28'
TELECO 29.01'
[illegible] 1021 29.00'
11-3/4" STB(1/20G) 75575 4.30
[illegible] LG 1027 30.71'
12-1/4" STB 76586 6.29'
12 X [illegible] D/C 366.31'
JAR W/B 1012/1-[illegible] 37.25'
3X8" D/C 90.59'
X-O 2.70'
15 HOLE 447.79'

15- 1065.05 22 55 256-1/2 /44 260 240 280

16- W.W.ATTA

17- T 7800 14.6 S25.4E
T 7806 16.6 24.4
T 7806 19.2 25.1
T 8081 22.1 24.0
T 8174 25.2 S24.4E

18- 8174 8115.30 -83.30 22.20 — — 106.30 25.2 S24.4E 3.3

22- — 40 160 60 360 — 40 160 60 360

23- 3000 AUG.27 AUG.27 10 MIN AUG.21 5 [illegible]

24- 73 9 56 8 W.MIKDENSKA — H.EL ERIAN TELE[illegible] L.FAHMY

TIME DIST.:-

17 DRLG W/ TELECO SVY 7795' - 8213'

3-1/2 POH.: HAD TIGHT INTERVAL F/ 8205' T/ 7836' A.) JARRING, WORK PIPE W/ 110 K.LB O/P.P.W/CIRC.(C[illegible]T ROTATE) AND W/R WORK PIPE THRU TIGHT INTERVAL

3-1/2 SLIP PIPE , POH FOR CHANGE B.H.A.

22B

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22C-1

TAB. 1

WEST RAZZAK CONCESSION - AGHAR FIELD

PROVEN, PROBABLE & POSSIBLE *O.O.I.P.

* ORIGINAL OIL IN PLACE

PAY ZONE	BLOCK	O.O.I.P. PROVEN MMSTBO	PROBABLE MMSTBO	POSSIBLE MMSTBO	TOTAL MMSTBO
UPPER BAHARIYA Upper Mbr.	A	2.77			10.07
	B			2.05	
	C	1.57			
	D		3.08		
UPPER BAHARIYA Lower Mbr.	A	1.82			4.14
	B			1.38	
	C				
	D		0.94		
LOWER BAHARIYA Upper Mbr. CASE 1: O.D.T.	A	2.20			5.97
	B	2.01			
	C				
	D		1.76		
LOWER BAHARIYA Upper Mbr. CASE 2: O.W.C.	A	2.70			8.23
	B	2.51			
	C				
	D		3.02		
LOWER BAHARIYA Lower Mbr.	A	11.57			25.78
	B	6.73			
	C				
	D		7.48		
TOTAL (Case 1)		28.67	13.26	4.03	45.96
TOTAL (case 2)		29.67	14.52	4.03	48.22

(1)

(2)

WEST RAZZAK CONCESSION - AGHAR FIELD

O.O.I.P. EVALUATION

PAY ZONE	BLOCK	G.B.V. MMCM	N/G %	N.B.V. MMCM	Ø %	1 - Sw %	F.V.F Boi	O.O.I.P. MMSTCM	O.O.I.P. MMSTBO	TOTAL O.O.I.P. MMSTCM	TOTAL O.O.I.P. MMSTBO
UPPER BAHARIYA Upper Mbr.	A	11.56	44.4	5.14	17.5	51.9	1.0609	0.44	2.77	1.60	10.06
	B	9.02	52.2	4.71	17.9	53.1	1.0609	0.42	2.65		
	C	4.49	58.9	2.65	18.3	54.1	1.0609	0.25	1.57		
	D	13.00	44.4	5.78	17.5	51.9	1.0609	0.49	3.08		
UPPER BAHARIYA Lower Mbr.	A	9.63	35.4	3.41	18.3	48.8	1.0609	0.29	1.82	0.66	4.14
	B	7.32	35.4	2.59	18.3	48.8	1.0609	0.22	1.38		
	C	--	--	--	--	--	--	--	--		
	D	4.98	35.4	1.76	18.3	48.8	1.0609	0.15	0.94		
LOWER BAHARIYA Upper Mbr. Case 1: O.D.T.	A	6.39	57.1	3.65	17.4	59.3	1.0609	0.35	2.20	0.95	5.97
	B	5.78	57.1	3.30	17.4	59.3	1.0609	0.32	2.01		
	C	--	--	--	--	--	--	--	--		
	D	5.04	57.1	2.88	17.4	59.3	1.0609	0.28	1.76		
LOWER BAHARIYA Upper Mbr. Case 2: O.W.C.	A	7.76	57.1	4.43	17.4	59.3	1.0609	0.43	2.70	1.31	8.23
	B	7.28	57.1	4.16	17.4	59.3	1.0609	0.40	2.51		
	C	--	--	--	--	--	--	--	--		
	D	8.62	57.1	4.92	17.4	59.3	1.0609	0.48	3.02		
LOWER BAHARIYA Lower Mbr.	A	8.64	96.7	8.35	26.4	88.8	1.0609	1.84	11.57	4.1	25.78
	B	9.01	88.1	7.94	23.0	62.4	1.0609	1.07	6.73		
	C	--	--	--	--	--	--	--	--		
	D	5.59	96.7	5.40	26.4	28.8	1.0609	1.19	7.48		

TAB. 2

22C-2

22C-3

TAB. 4

AGHAR FIELD

UPPER BAHARIYA - Upper member - Geological Data Summary

WELL		AGHAR - 1X	AGHAR - 2X	AGHAR - 3X
ROTARY TABLE (K.B.) m.		250.6 (822')	242.4 (795')	239.9 (787')
TOP m.	M.W.D.	1752.4 (5748')	1723.8 (5654')	1683.5 (5522')
	S.S.L.	1501.8 (4926')	1482.4 (4859')	1443.6 (4735')
BOTTOM m.	M.W.D.	1766.5 (5794')	1735.1 (5691')	1699.7 (5575')
	S.S.L.	1515.9 (4972')	1492.7 (4896')	1459.8 (4788')
THICKNESS m.		14.1	11.3	16.2
GROSS PAY m.		14.1	11.3	16.2
NET PAY m.		8.3	1.4	7.2
NET/GROSS PAY RATIO %		58.9	12.4	44.4
POROSITY %		18.3	16.7	17.5
WATER SATURATION %		45.9	65.6	48.1
E.H.C. m.		0.82	0.08	0.65
Ø CUT-OFF %		10.0		
V_{sh} CUT-OFF %		40.0		
S_w CUT-OFF %		70.0		
O.D.T. (AGHAR-2X) m. s.s.l.		- 1524.1 (4999')		

22C-4

TAB. 10

CAIRO OIL REFINING CO.
CHEMICAL & RESEARCH DEPT.
QUALITY CONTROL LAB.

REPORT ANALYSIS OF CRUDE OIL

FROM WELLS QATTARA RIM- 2X & AGHAR- 3 &IE-33-4

SAMPLE FROM : AGIBA PETROLEUM CO. DATE SAMPLE RECEIVED: 9/2/88

LAB. REPORT NO. : 4/E/88 DATE REPORT ISSUED :18/2/88

TEST	METHOD	RESULT		
		QATTARA RIM- 2X	AGHAR-3	IE-33-4
DENSITY @ 15 °C	IP 160	0.9627	0.846	1.0019
TOTAL SULPHUR % WT	IP 63	3.38	0.74	3.5
POUR POINT °C	IP 15	_ 4	20	8
VISCOSITY KINEMATIC @ 60 °F cSt	IP 71	1568	—	—
,, ,, @100 °F cSt		260	4.73	2700
,, ,, @140 °F cSt		80.03	3.15	512
,, ,, @170 °F cSt		39.5	2.39	190

* THE SAMPLE CONTAINS HIGH PERCENT OF WATER WHICH CAN NOT BE SEPARATED BEFORE ANALYSIS .

RESEARCH & QUALITY LAB. MANAGER

Laila Khattab

(CHEM. LAILA KHATTAB)

MA//

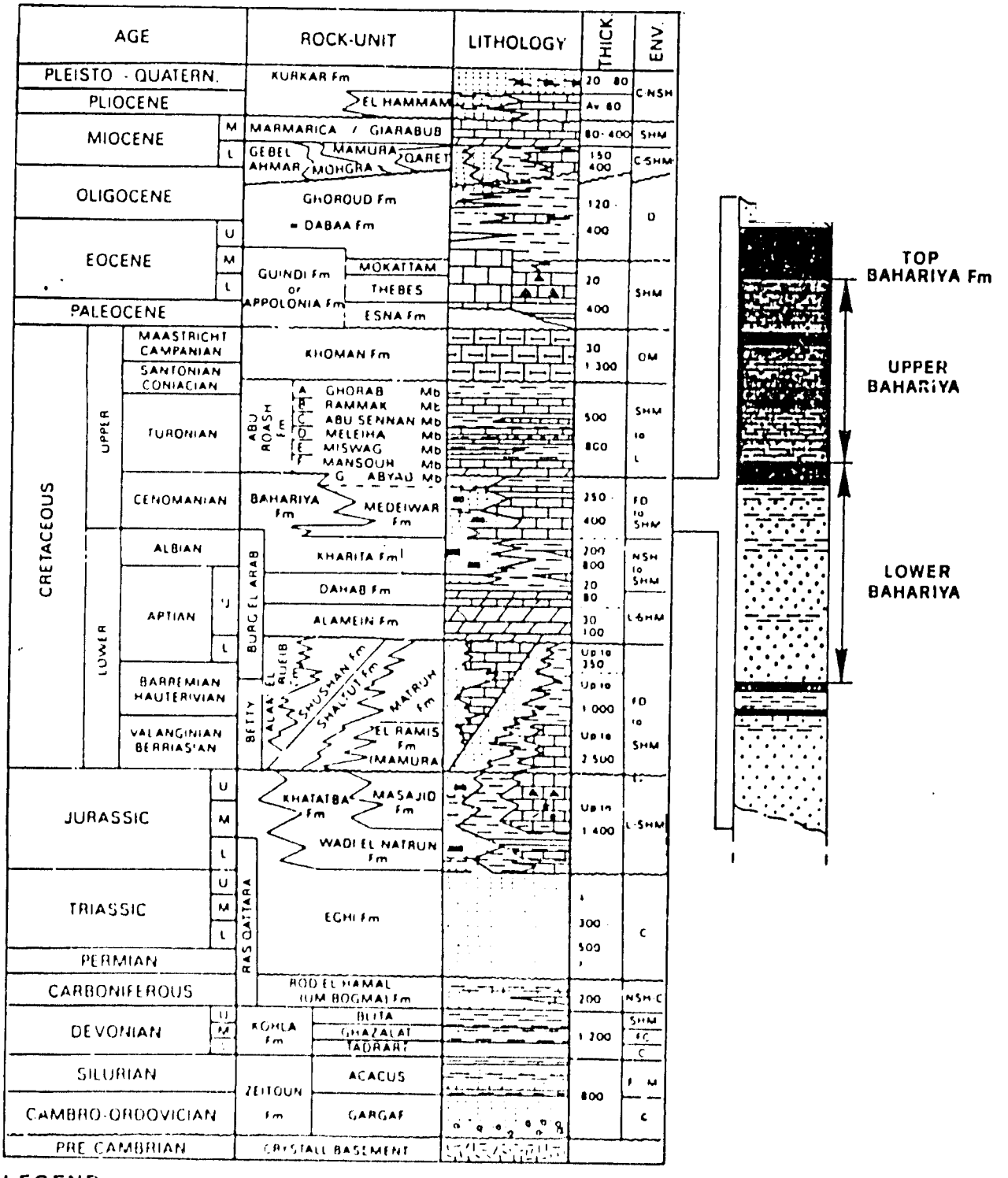
Agip

RESERVOIR DEPARTMENT
GISB

FIG: 2

GARF, QATTARA RIM & AGHAR STRUCTURES

GENERALIZED LITHOSTRATIGRAPHIC COLUMN



LEGEND

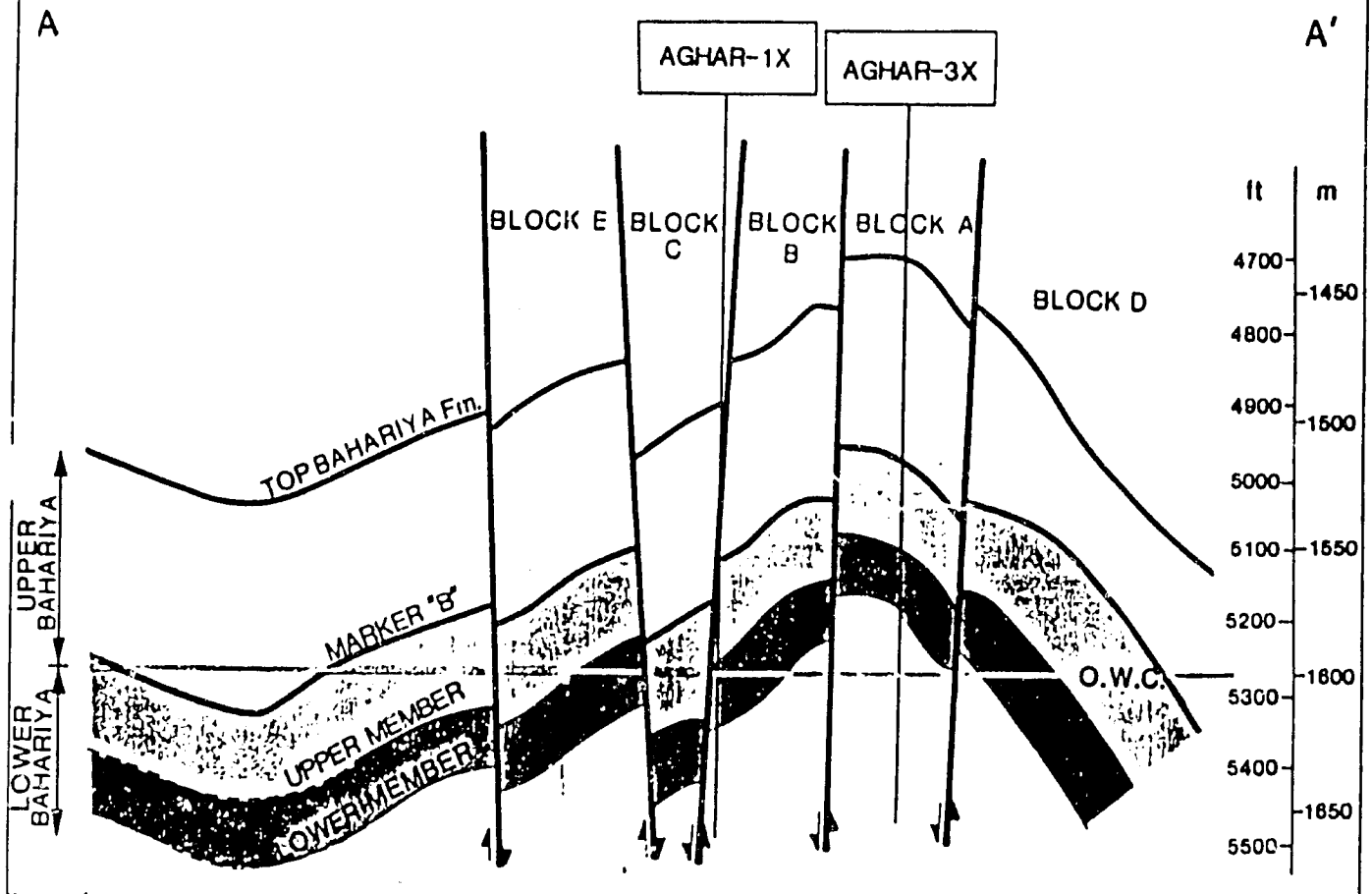
- Coarse clastic
- Fine clastic
- Limestone
- Dolomite
- Anhydrite
- Salt
- Volcanic
- Crystalline
- Chert
- Lignite
- Source Rock
- Thickness shows in m

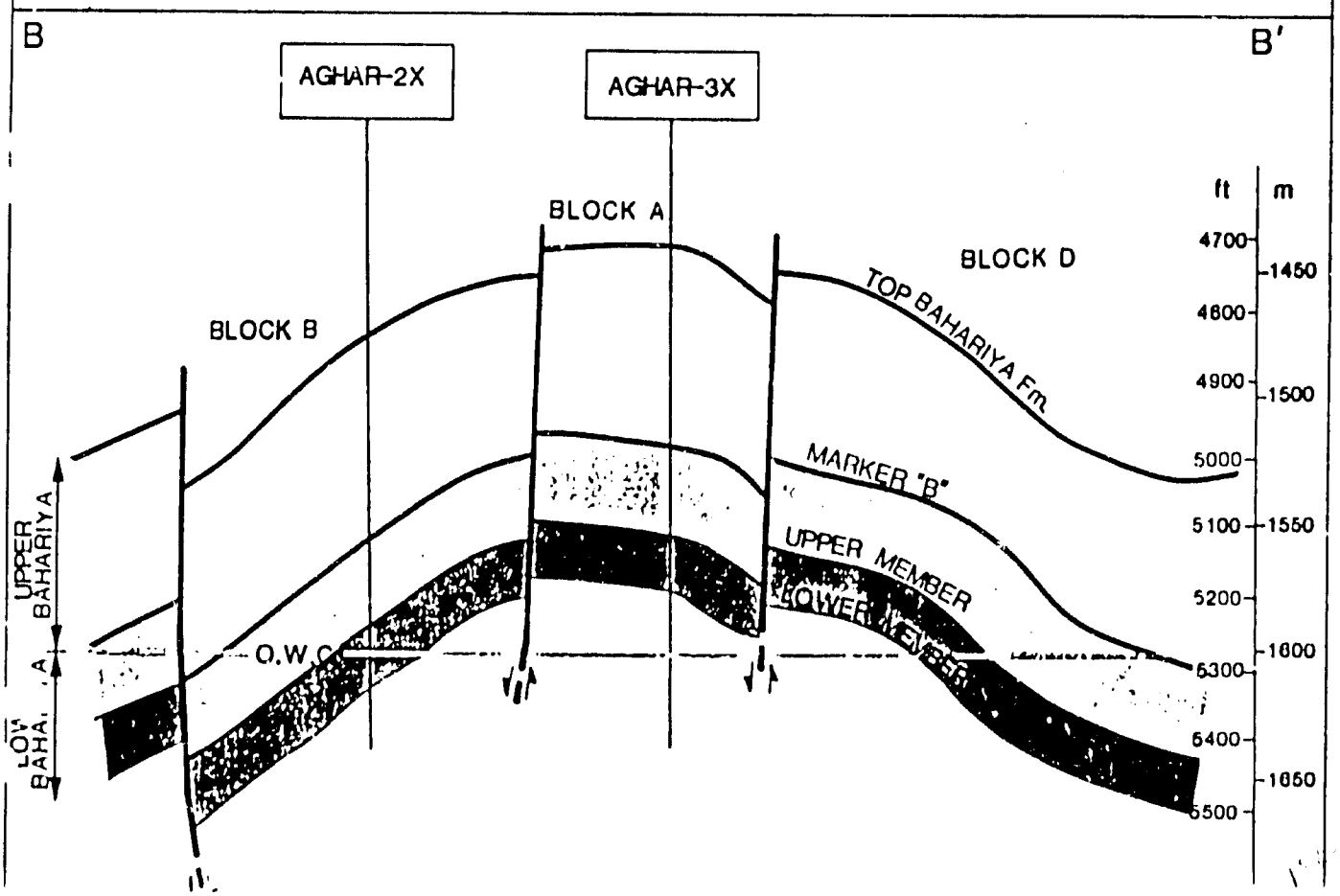
C - Continental
F - Fluviatile
D - Deltaic
L - Lagoonal
NSH - Near shore
SHM - Shallow marine
OM - Open marine

WEST RAZZAK CONCESSION-AGHAR FIELD

Geological cross sections

22C-6





22C-1

SUEZ OIL PROCESSING CO.
CHEMICAL & RESEARCH DEPT.

ENCLOSURE 1

CRUDE OILS DATA

GENERAL CHARACTERISTIC OF WELL 1 & 8
WESTERN DESERT

Sample from : Oil & Gas Exploration GMBH
Date Received: 17/9/1980
Lab.Report No: 40/E/80
Date Report Issued : 15/10/80

Test	Method	Result Well 1	Result Well 8
Specific gravity 60/60°F	IP 160/68	0.8258	0.8361
Gravity API 60°F	Calculated	39.64	37.73
Water Content % Vol	IP 74/70	0.05	0.3
Water & Sediment % Vol	IP 75/69	0.1	1.5
Salt content % wt	IP 77/72	0.001	0.008
Total Sulphur % wt	IP 62/65	0.14	0.19
Pour Point °F	IP 75/67	75	75
Reid vapour pressure PSI 100°F	IP 69/69	7.2	6.0
Conradson carbon residue % wt	IP 13/66	1.7	2.0
Sediment content % wt.	IP 53/70	0.02	0.1
Ash content % wt	IP 4/65	0.03	0.32
Asphaltene content % wt	IP143/57	1.09	1.3
Paraffin wax content % wt	UOP 46/64	7.4	7.5
Congealing point of wax °C	IP 76/70	53.5	54.5
Inorganic Acidity mg KOH/gm	IP182/63	Nil	Nil
Nitrogen content % wt.	UOP329/58	0.023	0.034
Vanadium P.P.M.		Nil	Nil
Viscosity Kinematic 100°F G.S.	IP 71/66	3.2	4.2
Viscosity Kinematic 122°F G.S.	IP 71/66	2.45	3.25
Viscosity Kinematic 140°F G.S.	IP 71/66	2.1	2.72
Distillation	IP 24/55		
I.B.P.C.		40	45
% Vol. recovery 50°C		4	2
% " " 75°C		9	8
% " " 100		15	15
% " " 125		23	23
% " " 150		30	30
% " " 175		35	35
% " " 200		40	40
% " " 225		43	44
% " " 250		(42) 47	49
% " " 275		54	55
% " " 300		57	57
Characterisation factor	UOP 375	12	12.1

3A

MONTH: May 1989

KHALDA PETROLEUM COMPANY
MONTHLY CRUDE OIL PRODUCTION STATEMENT

PRODUCTION				PUMPED TO
DATE	GROSS BBLS	WATER BBL	NET OIL BBLS	EL HAMRA BBLS
1	26594	4770	21824	22530
2	26869	4739	22130	21076
3	26334	4222	22112	22890
4	24057	4115	19942	31626
5	28637	4923	23714	21588
6	25316	4569	20747	0
7	25794	4579	21215	30474
8	26110	4944	21166	25185
9	26026	4481	21545	26568
10	25235	3780	21455	15561
11	25724	4154	21570	13955
12	25025	4026	20999	15080
13	26883	4447	22436	15001
14	26545	4427	22118	15182
15	26016	4367	21649	27500
16	27075	4877	22198	31065
17	25362	4653	20709	28818
18	27152	5164	21988	0
19	26703	4559	22144	57105
20	26079	4366	21713	0
21	25987	4634	21353	30407
22	27402	5324	22078	21025
23	26626	5313	21313	22232
24	26345	5046	21299	21884
25	26419	5595	20824	32612
26	26622	5522	21100	23958
27	28132	5846	22286	21178

PRODUCTION PER WELL						
WELL	GROSS BBLS	WATER BBL	NET OIL BBLS	GAS MSCF	API	ZONE
SL-2	22479	536	21943	15402	38	L.BAH.U
SL-3L	24676	3698	20978	5372	44	AEB-3E
SL-3S	21915	5275	16640	2778	44.2	AEB-3A
SL-4	25072	139	24933	8154	45.8	AEB-3D
SL-5	16007	1986	14021	3588	44	AEB-3E
SL-6	844	14	830	271	45.8	AEB-3D
SL-7	30311	28365	1946	499	44	AEB-3E
SL-8L	33485	0	33485	8573	44	AEB-3E
SL-8S	34390	0	34390	5745	44.2	AEB-3A
SL-9	16525	1867	14658	2449	44.2	AEB-3A
SL-12	35157	36	35121	24653	38	L.BAH.U
SL-13	28112	8174	19938	13993	37	L.BAH.U
SL-14	22759	1527	21232	3547	44.2	AEB-3A
SL-15	30963	0	30963	7929	44	AEB-3E
SL-16	31455	7343	24112	554	38	L.BAH.M
SL-17	28506	24	28482	9313	45.8	AEB-3D
SL-18	25251	14583	10668	2730	44	AEB-3E
SL-19	24464	0	24464	17177	38	L.BAH.U
SL-20	0	0	0	0	38	L.BAH.U
SL-25	22688	0	22688	3788	38.3	AEB.3A
SL-26	16497	2350	14147	323	39,8	KHARITA
SLN-1	0	0	0	0	38.2	U.BAH
KH-1	13801	54	13747	219	39.2	L.BAH
KH-2	0	0	0	0	37.4	L.BAH
KH-3	16603	51	16552	266	36.7	L.BAH
KH-4	0	0	0	0	36.7	L.BAH
KH-6	11821	107	11714	187	36.7	L.BAH
KH-8	16435	92	16343	262	36.7	L.BAH
KH-14	28645	36	28609	459	36.7	L.BAH
SAF-1	20749	6450	14299	1901	43	AEB-3A
SAFN-1	22998	7828	15170	2035	41	AEB-3E
SAFN-2	38856	8437	30419	5202	46.3	AEB-3D
SAFN-3	27692	1820	25872	3468	40	AEB-3E

-2D X

PRODUCTION				PUMPED TO
DATE	GROSS BBLS	WATER BBL	NET OIL BBLS	EL HAMRA BBLS
28	27174	5331	21843	0
29	27398	5156	22242	28260
30	26707	5116	21591	4734
31	26569	5078	21491	37493
TOTAL	818917	148123	670794	664987

PRODUCTION PER WELL

WELL	GROSS BBLS	WATER BBL	NET OIL BBLS	GAS MSCF	API	ZONE
HAY-1	15309	13190	2119	56	42.7	AEB-3B
HAY-2	14725	8575	6150	411	45.8	AEB-3E
HAY-3	14247	9395	4852	493	43.3	AEB-3D
TUT-1	19353	13349	6004	1530	40.6	AEB-3A
TUT-2	9325	75	9250	2313	41.7	AEB-3D
TUT-3L	20972	25	20947	8360	44	AEB-3E
TUT-3S	10991	3	10988	2804	44	AEB-3A
TUT-4	4027	2719	1038	334	41.3	AEB-3A
TUT-6	9846	0	9846	2512	44	AEB-3E
TUT-W-1	10966	0	10966	1054	40	AEB-3A
	818917	148123	670794	170704		

INITIAL STOCK STB	NET PROD. STB	PUMPED TO EL HAMRA STB	FINAL STOCK STB	RECEIVED @ EL HAMRA STB
57869	670794	664987	63676	666686

REMARKS:

- Khalda Stock @ El Hamra on April 30, 1989 @ 24 hrs 186942 STB
- Khalda Net Oil received @ El Hamra during May 1989 666686 STB
- Lifting from El Hamra during May 1989 (715062) STB
- Khalda Stock @ El Hamra on May 31, 1989 @ 24 hrs. 138396 STB
- Khalda Share on diff. @ El Hamra:
  - Gain 1700 STB
  - Water Drain (1) STB
  - Sludge (Jan. 87 - May 10, 88) (170) BBL
    was already deducted from Khalda Stock on May 31, 1989.

YH/HH/A0003.TXT

22D-2

X

22E

MONTHLY PRODUCTION AND STATUS OF WELLS SUMMARY
FOR SEPTEMBER 1986

*** FIELD : EL MORGAN 2D well Nathly

** ZONE : BELAYIM

WELL NO.	STATUS	MONTHLY PRODUCTION NO. OF DAYS	AVG. OIL RATE (BOPD)	OIL BARRELS	WATER BARRELS	GAS (MMCF)	CUMULATIVE PRODUCTION NO. OF DAYS	OIL BARRELS	WATER BARRELS	GAS (MMCF)	FRACS THIS CZ EKEN ET	REMARKS
1	C PA	0				0.0	3363	1389152	13580	1379.0		PROD ANOTHER ZONE-SAME WELL
19	C PA	0				0.0	1	171	64	0.9		LOW FLOW PRESSURE
91	C PA	0				0.0	13		11494	0.0		HIGH WATER OIL RATIO
* RESERVOIR : KOHIN												PRODUCING WELLS = 0
TOTAL				0	0	0.0		1389323	25138	1379.9		
8	1 SI	0				0.0	67	9010	11516	4.5		LOW FLOW PRESSURE
27	0 GL	29	1142	33119	58879	26.5	5423	14152281	1420712	4820.2	256	PERFORATION
28	1 PA	0				0.0	3184	2213081	221863	1669.6		LOW FLOW PRESSURE
29	1 PA	0				0.0	2369	2111715	102970	1717.8		MECHANICAL PROBLEMS
54	1 GL	29	1561	45274	16090	30.0	3370	2760596	707676	1321.7		LOW LIFT GAS PRESSURE
58	0 PA	0				0.0	3214	2275163	133522	2015.3		WELL SIDE TRACKED TO NEW ZONE
60	0 PA	0				0.0	408	141336	1906	140.7		PROD ANOTHER ZONE-SAME WELL
84	0 PA	0				0.0	772	1518786	31350	735.7		WELL SIDE TRACKED TO NEW ZONE
85	0 GL	30	691	20723	164904	6.7	5054	19354089	6999622	6669.4	256	
86	0 PA	0				0.0	992	836774	310322	667.1		PROD ANOTHER ZONE-SAME WELL
102	0 SI	0				0.0	1130	1693905	378661	559.2		HIGH WATER OIL RATIO
103	0 GL	30	1132	33947	42700	13.5	1308	3164231	833114	1464.0		
104	0 GL	30	264	7906	39935	3.2	1632	2566725	1431447	1253.0		
105	0 GL	25	269	7335	22144	2.0	789	923616	1319748	453.0	256	RUN OR PULL GL. VALVES
106	0 GL	30	1190	41085	22590	34.3	1077	2445503	334862	1103.4	256	
132	0 GL	30	263	7902	40060	3.2	655	580251	637636	206.1		
160	0 GL	29	411	11926	31985	0.0	74	26664	158956	15.9	256	SCALE OR CHEMICAL TREATMENT
162	0 GL	30	398	11931	135648	0.0	96	37987	434072	18.9		
164	0 GL	29	149	4331	24921	3.9	256	145045	332996	216.2	256	SCALE OR CHEMICAL TREATMENT
166	0 GL	30	539	16171	30613	8.7	179	120633	164570	56.1	256	
171	0 GL	30	2543	76302	194	61.1	30	76302	194	61.1	256	NEW WELL ON PRODUCTION
* RESERVOIR : SOUTH												PRODUCING WELLS = 13
TOTAL				318731	569973	206.2		53680725	16039981	25168.9		
AVERAGE ...			OIL RATE =	10624 BOPD		GOR =	647	SCF/BBL		WATER CUT = 64.1 %		
** ZONE : BELAYIM												PRODUCING WELLS = 13
TOTAL				318731	569973	206.2		55073049	16065119	26548.8		
AVERAGE ...			OIL RATE =	10624 BOPD		GOR =	647	SCF/BBL		WATER CUT = 64.1 %		

DAILY PROD REPT

BBLS

الهيئة المصرية العامة للبترول
الادارة العامة للانتاج
التاريخ ٨٩/٠٨/٣٠

تقرير الانتاج وحركة الزيت الخام
عن يوم ٨٩/٠٨/٢٩

الشركة / الحقل COMPANY / FIELD	الانتاج ب/يوم ACTUAL BBLS OIL PROD/DAY	الخطة ب/يوم PLAN/DAY	نسبة تحقيق الخطة منوجا اليوم السدر CUM MONTH % / DAILY % OF PLAN	REMARKS ملاحظات
جابكو				
شعب علي	١٥٧٠٤	١٥١٠٠	١٠٤ ٧٧,٣٢	
المرجان	١٠٩٢٧٩	١٠٠٢٠٠	١٠٩ ١٠٨,٧٦	
بولينيه	٥٢٠٧٦	٤٣٥٠٠	١٢٢ ١١٥,٦٢	
رمضان	٤٢١٧٩	٤٥٥٠٠	٠٩٤ ٩٠,٤٢	
جنوب غارب ٢٠٠	٦٩٧٢	٧٦٠٠	٠٩١ ٧٦,٢٠	
صدقي خ.س ٢٨٢	٦٠٩٢	٥٧٠٠	١٠٦ ١٠٧,٢٥	
اكتوبر	١٢٥٢٤١	١٢١٦٠٠	١١١ ١١٠,٠٢	
جنوب بلاعيم ٢٠٥	-	-	--- ,٠٠	
بدري خ.س ٢١٥	٢٠٠٥٨	٢٦٨٠٠	٠٨١ ٨٢,٢٥	
يونس خ.س ٢٤٧	٤٤٦١	٤٠٠٠	١١١ ٨٥,٦٢	
مسيم خ.س ٢٢٦	-	١٠٠	--- ,٠٠	
جنوب غارب ٢٧٦	-	٥٠٠	--- ٤٦,٢٦	
خ.س ٢٦٥	٤٠٣	١٠٠	٤٠٣ ٢٩٥,٥٩	
هلال جنوب غارب ٤٠٤	٢٨٢٧٨	٣١٢٠٠	٠٩٠ ٩٢,٨١	
والي خ.س ٢٥٦	-	٢٠٠	--- ,٠٠	
خ.س ١٦٠	-	-	--- ,٠٠	
خ.س ٢٧٧	١٤٧٧	١٢٠٠	١١٢ ١١١,٥٦	
خ.س ٢٤٥	-	٥٠٠	--- ,٠٠	
خ.س ٢٢٩	٤١٦	٢٠٠	٢٠٨ ١٣٤,٧٤	
خ.س ٢٢٧	١٥٩٠	١٨٠٠	٠٨٨ ٨٩,٨٢	
خ.س ٢٦٧	-	٢٠٠	--- ,٠٠	
خ.س ٢٨١	٨٢٢	-		
خ.س ٢٩٤	٢٣٩٦	٢٧٠٠	١٢٥ ١٢٥,٩٤	
زيت الصبورة	١٢٩٦٩	-		
احمالي منطقة خ.س	٤٥٤٥١٥	٤١٩٠٠٠	١٠٨ ١٠٤,٣٦	
ورا	٢٠١٦	٢٦٠٠	٠٧٧ ٩١,٨٤	
ابو العرادين	٥١٤٥	٧٧٠٠	٠٦٦ ٨٥,٧٠	
ص.ع ١٩	-	-	--- ,٠٠	
ص.ع ٢٢	-	١٠٠	--- ,٠٠	
ص.ع ٢٢/١٥	١٦٧٣	١٨٠٠	٠٩٢ ٩٩,٠٦	
شمال ابو العرادين	٨٠٤	٣٠٠	٢٦٨ ٢٧٣,٧٥	
ش.ش ابو العرادين	-	-	--- ,٠٠	
شرق الزراو	١٠٤٥	١٠٠٠	١٠٤ ١١٠,٨٤	
احمالي منطقة ص.ع	١٠٦٨٣	١٢٥٠٠	٧٩ ٩٣,١٤	
احمالي شركة جابكو	٤٦٥١٩٨	٤٣٢٥٠٠	١٠٧ ١٠٣,٩٨	
مبروك				
بلاعيم بحري	١٥٤٦١٩	١٥٣٠٠٠	١٠٠ ١٠٠,٣٢	

الرصيد المعد للشحن ١٤٧٩٦١٥
رصيد الميناء ١٦٩١٩٦٦
سته اسبوعين المتاحه ١١٤٠٤٧٠
المشحون
بالناقلات ٠
بالانابيب ٢٨٣٤١٤

Company Field Production/Day

3A
Field daily production

Focus

22-F1

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الهيئة المصرية العامة للبترول
الإدارة العامة للإنتاج
التاريخ ٨٩/٠٨/٣٠

صفحة رقم

تقرير الإنتاج العام لإنتاج خام ٤٠م٠٤٠ زيت و غازات و مشتقاتها

عن يوم ٨٩/٠٨/٢٩ (الف ب / يوم)

المنتج PRODUCT	الإنتاج الفعلي في اليوم ACT. PROD	الخطة في اليوم PLAN	نسبة تحقيق الخطة اليوم DAILY	نسبة تحقيق الخطة منذ بدء السنة MONTHLY
زيت	٨٩٣,٩٠٦	٨٥٨,٥٨٠	١٠٤	١٠٢,٥٦
الغازات ومشتقاتها GAS & DERIVATIES	٢٠٥,٢١٠	١٢٠,٨٠٦	١٢٠	١١٦,٢١
الإجمالي	١٠٩٩,٢١٦	١٠٢٩,٣٨٦	١٠٦	١٠٤,٨٤

مدير عام الإنتاج والخزانات
عن

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الهيئة المصرية العامة للبترول
الادارة العامة للانتاج
قطاع الخطة
التاريخ ٨٩/٠٨/٣٠

صفحة رقم

DAILY SALE GAS RPT.

CONDENS. PROD

تقرير الانتاج و حركة الغازات و مشتقاتها

LPG PROD.

عن يوم ٨٩/٠٨/٢٩

AREA / المنطقة	PLANT / المحطة	PROCESSED GAS (mmcuft/day) الغازات المعالجة	SALES GAS (mmcuft) (مليون قدم ٣) DELIVERED المسلمة	SALES GAS (م٣/يوم) PLAN الخطة	SALES GAS (م٣/يوم) ACTUAL الفعلية	LIQUIDS مكثفات الغازات المنتجة م-/يوم	ACT COND PROD م-/يوم	LPG غاز مسال م-/يوم	NET EQUIVALENT غاز مسال طن/يوم	TOTAL EQUIV BBLS اجمالي غازات ومشتقاتها م-/يوم
عرادية/قدسور										
ابو الغراديق		١٣٠,٠٠٠	١١١,٠٠٠	٩٤,٤٠٠	١١٧,٥٨	٢٢٢٠٠	٤٧١٤	٣٣٣٠	٢٨٩,٨٢	٣٠٢٤٧
اجمالي منطقة عرادية/قدسور		١٣٠,٠٠٠	١١١,٠٠٠	٩٤,٤٠٠	١١٧,٥٨	٢٢٢٠٠	٤٧١٤	٣٣٣٠	٢٨٩,٨٢	٣٠٢٤٧
شمال ابو مدر										
ابومدر		١٧٢,٠٠٠	١٦٤,٠٠٠	١٢١,١٠٠	١٢٥,١٠	٣٢٨٠٠	٣٣٣٠	٧٣١	٦٨,٢٨	٢٦٩٢١
شمال ابو مدر		٤٣,٠٠٠	٤١,٠٠٠	٥٢,٥٠٠	٧٨,١٠	٨٢٠٠	٨٣٢	١٦٨	١٧,٢٢	٩٢٣٠
اجمالي منطقة شمال ابو مدر		٢١٥,٠٠٠	٢٠٥,٠٠٠	١٨٣,٦٠٠	١١١,٦٦	٤١٠٠٠	٤١٦٢	١٨٩	٨٦,٠٠	٤٦١٥١
ابو ماضي										
ابو ماضي		٢٨١,٠٠٠	٢٦١,٠٠٠	٢٨٤,٨٠٠	١٢٦,٧٦	٧٢٢٠٠	٧٧٨٣	١٩٢٣	١٦٧,٢٢	٨١٩٠٦
اجمالي منطقة ابو ماضي		٢٨١,٠٠٠	٢٦١,٠٠٠	٢٨٤,٨٠٠	١٢٦,٧٦	٧٢٢٠٠	٧٧٨٣	١٩٢٣	١٦٧,٢٢	٨١٩٠٦
خليج السويس										
جمول ج-س		١٥٧,٠٠٠	١٣٢,٠٠٠	١٠٣,٠٠٠	١٢٨,١٦	٢٦٤٠٠	٤١٢١	٧١٣٢	٦٢١,٩١	٢٧٦٨٢
الامل		١٢,٠٠٠	,٠٠٠	,٠٠٠	,٠٠٠	٠	٠	٠	,٠٠٠	٠
خليج الزيت		٦٧,٠٠٠	,٠٠٠	,٠٠٠	,٠٠٠	٠	١٠٨٠	١٦٦٣	١٤٧,٢٢	٢٧٧٣
غرب الزيت		٢٢,٠٠٠	,٠٠٠	,٠٠٠	,٠٠٠	٠	٣٥٥	٥١٦	٤٨,٢٦	٩١١
اجمالي منطقة خليج السويس		٢٥٩,٠٠٠	١٣٢,٠٠٠	١٠٣,٠٠٠	١٢٨,١٦	٢٦٤٠٠	٥٥٦٦	٩٤٠١	٨١٧,٤٨	٤١٢٦٧
ابو رودیس										
جمول ملاعيم		٥٣,٠٠٠	٧,٠٠٠	٦,٤٠٠	١٠٩,٢٨	١٤٠٠	١٦٣٦	٣٠٠٣	٢٦١,١٢	٦٠٢٩
اجمالي منطقة ابو رودیس		٥٣,٠٠٠	٧,٠٠٠	٦,٤٠٠	١٠٩,٢٨	١٤٠٠	١٦٣٦	٣٠٠٣	٢٦١,١٢	٦٠٢٩

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الهيئة المصرية العامة للمحاصيل
الادارة العامة للانتاج
المارخ ٨٦/٠٨/٢١

مديرية انتاج الزيت العام عن شهر ١٩٨٦/٠٧

الصنف / المحصول	الخطة يوم/يوم	متوسط الانتاج خلال الشهر مرصيل / يوم	الانتاج الفعلي خلال الشهر مرصيل	الخطة حتى الشهر مرصيل	نسبة تحقيق الخطة مئويا خلال الشهر
جاتكو					
شعب علي	١٢٤٠٠	٩٢١٥	٢٧٩٧٢٨	٤١٥٤٠٠	٦٧,٢٤
المرجان	٩٨٥٠٠	١٠٥٨٤١	٣١٧٤٩٢٢	٣٠٥٣٥٠٠	١٠٣,٦٨
بولسيه	٤٥٥٠٠	٤٩٨٢٨	١٤٩٥٢٢٠	١٤١٠٥٠٠	١٠١,٠١
رمصان	٤٧٥٠٠	٤٣٣٣٢	١٢٩٩٩٩٦	١٤٧٢٥٠٠	٨٨,٢٨
جدوب عارب ٢٠٠	٧٨٠٠	٧٥٠٥	٢٢٦١٢٠	٢٤١٨٠٠	٩٣,١٠
صدف جس ٢٨٢	٥٩٠٠	٥٨٥٧	١٧٥٧٢٢	١٨٢٩٠٠	٩٦,٠٨
الكوسير	١١٩١٠٠	١٢٢٢٨١	١٦٧١٢٦٩	٢٦٩٢١٠٠	١٠٧,٥٦
جدوب ملاعيم ٢٠٥	.	.	.	.	,٠٠
بدري جس ٢١٥	٢٥٢٠٠	٢٨٩٦٢	٨٦٢٩٥٨	١٠٩٤٢٠٠	٧٨,٢٢
يونس جس ٢٤٧	٤١٠٠	٤٧٢٩	١٤١٩٣٢	١٢٧١٠٠	١١١,٦٧
مسيم جس ٢٢٦	١٠٠	.	.	٢١٠٠	,٠٠
جدوب عارة ٢٧٦	٥٠٠	٥١٥	١٥٢٧٥	١٥٥٠٠	٩٩,١٩
ج ٠ س ٢٦٥	١٠٠	٢٨٧	١١٦٦٧	٢١٠٠	٢٧٦,٢٥
هلال جدوب عارة ٤٠٤	٣١٢٠٠	٣٠٥٨٧	٩١٨٤١٦	٩٦٧٢٠٠	٩٤,٦٦
والي جس ٢٥٦	٢٠٠	٦٥٩	١٩٨٠٠	٦٢٠٠	٣١٦,٣٥
جس ١٦٠	.	.	.	.	,٠٠
ج ٠ س ٢٧٧	١٢٠٠	١٤٦٥	٤٣٩٧٢	٤٠٢٠٠	١٠٠,١١
ج ٠ س ٢٤٥	٥٠٠	.	.	١٥٥٠٠	,٠٠
جس ٢٢٩	٢٠٠	٤٥٧	١٣٧٢٠	٦٢٠٠	٢٢١,٣٩
جس ٢٢٧	٩٠٠	١٨٦٨	٥٦٠٦٨	٢٧٩٠٠	٢٠٠,٩٦
جس ٢٦٧	٢٠٠	٤٣	.	٩٢٠٠	,٠٠
جس ٢٨١	.	١٩٦٨	٤٥٤٦٦	.	
جس ٢٩٤	٢٩٠٠	٣٦١٩	١٠٨٦٥٥	٨٩٩٠٠	١٢٠,٨٣
جدوب ملاعيم ٣٧٤	.	.	.	.	,٠٠
زيت الصنوبر	.	٧٨١٤	.	.	,٠٠
اجمالي صنف جس	٤١٥٢٠٠	٤٣٦٦٣٣	١٢٨٦٤٠٠٢	١٢٨٧٤٢٠٠	٩٦,٩٢
زراع	٢٨٠٠	٢٣٣٣	٧١٩٩٩	٨٦٨٠٠	٨٢,٦٣
ابو العراديب	٧٤٠٠	٧١٥٤	٢٢١٢٢٤	٢٢٦٤٠٠	٩٦,٤٢
ص ٠ ع ١٩	.	.	.	.	,٠٠
ص ٠ ع ٢٢	١٠٠	.	.	٢١٠٠	,٠٠
ص ٠ ع ١٥/٢٢	١٩٠٠	١٩٢٧	٦٠٠٦١	٥٨٩٠٠	١٠١,٦٧
شمال ابو العراديب	٣٠٠	٨٢٨	٢٥٤٠٤	٩٣٠٠	٢٧٣,١٦
شرق الزراع	١٠٠٠	١٢٢٨	٤٠٩٨٦	٢١٠٠٠	١٢٦,٥١
اجمالي صنف ص ٠ ع	١٢٥٠٠	١٢٥٦٩	٤١٦٦٧٤	٤١٨٥٠٠	١٠٠,٢٨
اجمالي شركة جاتكو	٤٢٨٨٠٠	٤٥٠٢٠١	١٣٢٨٣٦٧٧	١٣٢٩٢٨٠٠	٩٩,٦٣

22F4

DAILY REPORT OF OIL & GAS PROD / MOVEMENT

PERCENT OF TOTAL OIL & GAS

TOT GAS DERIV & EQUIV BBLS

المؤسسة العامة للبترول
الإدارة العامة للإنتاج

تقرير الانتاج وحركة الزيت الخام والغازات ومشتقاتها عن يوم ٨٦/٠٨/٢١

الشركة COMPANY	الانتاج ب/ي الخام BBL/DAY	PLAN	الزيت الخام ب/ي ضمنه مدفوع الخام مقوسا من البئر DAILY %	MONTHLY %	انتاج الغازات ومشتقاتها بالميل مكافىء ACTUAL ب/ي	PLAN ب/ي	النسبة %	النسبة الاجمالية زيت + غاز
حاسكو	٤٦٥١٩٨	٤٢٢٥٠٠	١٠٧,٥٦	١٠٣,٦٨	٦٧٩٣٠	٥٦٠٣٤	١٢١,٢٢	١٠٦,١٢
مشروع ---ن	١٩٤٦٣٦	١٩٥٠٠٠	١٩,٩٧	١٩,٥٦	٨٧٩٠٥	٦٨٩٧٨	١٢٧,٥٠	١٠٧,١١
الشركة الشامله	٢٩٢٥٣	٢٦٦٢٠	١١٠,٢٧	١١٢,٧٢				١١٠,٢٧
اوسوكو	.	.						
السديد ---و	٤٤٥٧	٤٥٠٠	٩٩,٠٤	٩٨,١٥				٩٩,٠٤
---وكو	٤٢٥٠٠	٤٢٥٠٠	١٠٢,٢٥	٩٦,٩٩				١٠٢,٢٥
ديو ---و	٥٩٠٠٠	٧١٠٠٠	٨٢,١٠	٨٩,٠٣	٢٦٨٤	٢٥٩٥	١٠٢,٤٨	٨٤,٠٣
ويبكو	٥٠٣٤	٥٧٦٠	٨٧,٤٠	٨٥,١٨	٤٦١٥١	٤٢١٩٦	١٠٩,٢٧	١٠٦,٧٢
ماسكو	١٩١٢٧	١٨٠٠٠	١٠٦,٢٦	١٠٦,١٣				١٠٦,٢٦
موبيل	١٥٢٦	٧٠٠	٢١٨,٤٣	٢١٠,٢٤				٢١٨,٤٣
عديمه	١٤٦٢١	١٤١٠٠	١٠٣,٧٧	١٠٧,٧٦				١٠٣,٧٧
حسوم	٥٤٠٠	٦٠٠٠	٩٠,٠٠	٩٠,٠٨				٩٠,٠٠
ابو	٢٢٥٣٣	١٦٦٠٠	١٥٠,٨٥	١٥٤,٧٠				١٥٠,٨٥
العمليات	١١٦٨	٨٠٠	١٤٦,٠٠	١٤٢,١٠				١٤٦,٠٠
حالده	٢٢٢٢٩	٢٠٢٠٠	١١٠,٠٤	١٠٧,٦٥				١١٠,٠٤
الامل	٤٤١١	٥٣٠٠	٨٣,٢٢	٨٧,٢٠				٨٣,٢٢
** اجمالي TOTAL	٨٩٣٥٠٦	٨٥٨٥٨٠	١٠٤,٠٧	١٠٢,٥٦	٢٠٥٧١٠	١٧٠٨٠٦	١٢٠,٤٣	١٠٦,٧٨

22F-5

الحقل FIELD	SLS GAS ACTUAL (الانتاج)	PLAN مليون قدم البئر	MM/SCF/DAY	GAS & DERIV. EQUIV BBL/DAY مكافىء (**)	%	CONDI BBL/DAY مكثفات ب/ي	LPG BBL/DAY غاز مسال ب/ي	TOT. GAS/DERIV BBLS/DAY اجمالي غازات ومشتقاتها ب/ي
حقول حرس	١٢٢,٠٠٠	١٠٣,٠٠٠		٢٦٤٠٠	١٢٨,١٦	٤١٢١	٧١٥٢	٣٧٦٨٢
الامل	,٠٠٠	,٠٠٠			,٠٠	.	.	
ابو العرادي	١١١,٠٠٠	٩٤,٤٠٠		٢٢٢٠٠	١١٧,٥٨	٤٧١٤	٣٣٣٣	٣٠٢٤٧
حقول بلاعم	٧,٠٠٠	٦,٤٠٠		١٤٠٠	١٠٦,٣٨	١٩٣٦	٣٠٠٣	٦٠٣٩
ابوقير	١٦٤,٠٠٠	١٣١,١٠٠		٢٢٨٠٠	١٢٥,١٠	٣٣٣٠	٧٩١	٢٦٩٢١
شمال ابو غرير	٤١,٠٠٠	٣٢,٥٠٠		٨٢٠٠	٧٨,١٠	٨٣٢	١٩٨	٩٢٣٠
ابو ماضي	٣٦١,٠٠٠	٢٨٤,٨٠٠		٧٢٢٠٠	١٢٦,٧٦	٧٧٨٣	١٩٢٣	٨١٩٠٦
حقيل الزيت	,٠٠٠	,٠٠٠			,٠٠	١٠٨٠	١٦٩٣	٢٧٧٣
شرق الزيت	,٠٠٠	,٠٠٠			,٠٠	٢٥٥	٥٥٦	٩١١
** اجمالي الغازات TOTA	٨١٦,٠٠٠	٦٧٢,٢٠٠		١٦٢٢٠٠	١٢١,٢٩	٢٠٥٧١٠	١٨٦٤٦	٢٠٥٧١٠

المنتج PRODUCT	انتاج ب/ي ACTUAL PRODUCTION BBL/DAY	GEN TOTAL ** الاجمالي العام PLAN خطة ب/ي	%
الزيت OIL	٨٩٣٥٠٦	٨٥٨٥٨٠	١٠٤,٠٧
الغازات ومشتقاتها GAS & D	٢٠٥٧١٠	١٧٠٨٠٦	١٢٠,٤٣

SUPPLY & MARITIME
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SCHEDUAL LIFTINGS BY DATE
DURING MONTH 1 1989

DATE	CRUDE	TYPE	COMPANY	TANKER	QTY.	AV.STOK	STORG	SHORT	PROD.
1- 2	G.O.S.M	*	AMOCO	CHENKI	124809	0	3.40		28124
- 2	BELAYIM		L-S.O.P	AL NABILA	13000	0	0.80		26000
- 3	BELAYIM	*	IEOC	AGIP.ROMA	84000	0	0.80		26000
- 2	R/BUDRA		L-S.N.P	BELLE DAPHNI	23400	0	6.00		6500
3- 4	BELAYIM		L-SUEZ	ALMADIHA	40000	204000	3.20		26000
4- 5	W.DESRT		L-GUPCO	ALSHARIFA	35572	90057	1.60		11026
5- 6	BELAYIM		L-SUKHNA	ROSE DALIA	70000	190000	3.80		26000
- 7	R/BUDRA	*	GROUP(SH)	PRESTIGE	75000	107375	5.50		6500
- 6	W.DESRT		L-AGIPA	ALAGAMI	28002	61372	3.90		11026
6- 7	BELAYIM	*	IEOC	AGIP ROMA	85000	171000	3.30		26000
- 8	Z.B.	‡‡‡		BELLE DAPHNE	69000	108462	6.60		6600
7- 9	G.O.S.M	‡‡‡	L	NYUTA	41936	317793	3.00		28124
8- 9	BELAYIM		L-SUEZ	ALMADIHA	40000	113000	4.70		26000
- 9	GHARIB	‡‡‡		NYUTA	49917	58881	3.90		6000
- 9	W.DESRT		L-KHALDA	IOANNA.V	26816	75262	4.20		11026
9-10	BELAYIM		L-SUEZ	ALNABILLA	2000	139000	4.80		26000
10-11	BELAYIM		L-SUKHNA	ROSE DALIA	70000	125000	4.30		26000
11- 9	G.O.S.M	*	AMOCO	ARILA.G	124809	334850	2.80		28124
12-14	G.O.S.M	*	AMOCO	ENKO MARU	83373	245071	4.80		28124
-11	RASELBH	‡‡‡	-	WORTHY	50000	6947	2.10		1750
-13	W.DESRT		L-KHALDA	ALSHARIFA	39203	86013	1.40		11026
-14	E. ZEIT	*	ESSO	AGATE	50000	48372	3.90		2000
13-14	SAINAI		L-S.O.P	AL.NABILA	4000	15852	31.90		318
14-12	G.O.S.M	‡‡‡		KILIO	80201	53082	5.30		35030
-13	BELAYIM	*	IEOC	AGIP.ROMA	13000	42000	-0.30		26000
-15	W.DESRT		L-GUPCO	ALAGAMI	25207	69889	4.70		11026
15-12	G.O.S.M	‡‡‡		SANTA.ANDROS	30824	87612	6.00	-1.10	35030
-13	BELAYIM	*	IEOC	AGIP ROMA	72000	279278	0.20		26000
-12	R/BUDRA	‡‡.		BELLE DAPHNI	70000	28872	6.90		6500
17-18	G.O.S.M	*	AMOCO	MAROA	124809	157111	6.90		35030
-15	BELAYIM		L-SUEZ	ALMADIHA	40000	100487	4.30		26000
-18	W.DESRT		L-PAPETCO	IOANNAV	26852	50235	3.70		11026
19-20	G.O.S.M	‡‡‡		WORLDHITACHI	99940	102181	7.40		35030
-20	RASELBH		L-SUEZ	AL NABILA	13000	18636	24.00		1750
20-19	BELAYIM		L-SUKHNA	ROSE DALIA	70000	200667	2.70		26000
21-22	GHARIB	‡‡‡		NYUTA	85000	77505	0.30	-1.20	6000
23-24	G.O.S.M	*	AMOCO	JARE ROSE	124809	146045	7.70		35030
-24	BELAYIM	*	IEOC	NORD.PACIFIC	90000	194000	0.20		26000
-24	Z.B.	‡‡‡		WORLD HITACH	114262	151897	0.00		6600
-24	W.DESRT		L-GROUP	ALSHARIFA	39395	105511	1.40		11026
24-25	BELAYIM		L-SUEZ	ALMADIHA	28000	130000	4.70		26000
25-26	Z.B.	‡‡‡		BELLE DAPHNE	30739	50835	15.50		6600
-26	W.DESRT		L-GUPCO	ALAGAMI	28792	59327	3.10		11026
26-27	G.O.S.M	*	AMOCO	ALNADIABRIT	83373	171342	7.60		35030
-27	R/BUDRA		L-SUEZ	ROSE DALIA	20000	98726	7.10		6500
-27	W.DESRT		L-PAPETCO	IOANNAV	26819	43801	5.00		11026
28-29	G.O.S.M	*	AMOCO	ANDEVOR	77840	118096	8.20		35030
29-30	BELAYIM	‡‡‡		ORDUNA	75000	153000	1.70		26000
-30	SAINAI		L-S.O.P	AL NABILA	6000	10806	46.20		318
-30	W.DESRT		L-AGIPA	AL.AGAMI	28789	80131	1.80		11026
-27	E. ZEIT		L-SUEZ	ROSEDALIA	19577	16007	9.60		2150
30-28	BELAYIM	‡‡‡		BELLE DAPHNE	70000	104000	2.50		26000
-31	RASELBH		L-SUEZ	AL MADIHA	24892	6838	19.00		1750

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SCHEDUAL LIFTINGS BY TYPE
DURING MONTH 1 1989

TYPE	CRUDE	DATE	COMPANY	T A N K E R	QTY.	AV.STOK	STORG	CHART	RECD.
	BELAYIM	1- 2	L-S.O.P	AL NABILA	13000	0	0.00		26000
	BELAYIM	3- 4	L-SUEZ	ALMADINA	40000	204000	3.20		26000
	BELAYIM	5- 6	L-SUKHNA	ROSE DALIA	70000	190000	2.80		26000
	BELAYIM	8- 9	L-SUEZ	ALMADINA	40000	113000	4.70		26000
	BELAYIM	9 10	L-SUEZ	ALMADINA	2000	139000	4.80		26000
	BELAYIM	10-11	L-SUKHNA	ROSE DALIA	70000	125000	4.30		26000
	BELAYIM	17-15	L-SUEZ	ALMADINA	40000	100487	4.30		26000
	BELAYIM	20-19	L-SUKHNA	ROSE DALIA	70000	100667	2.70		26000
	BELAYIM	24 25	L-SUEZ	ALMADINA	38000	130000	4.70		26000
	R/BUDRA	1- 2	L-S.N.P	BELLE DAPHNI	23400	0	6.00		6500
	R/BUDRA	26 27	L-SUEZ	ROSE DALIA	20000	90726	7.10		6500
	RASELBH	19-20	L-SUEZ	AL NABILA	13000	18436	24.00		1750
	RASELBH	20-21	L-SUEZ	AL MADINA	24992	6833	19.00		1750
	SAINAI	13-14	L-S.O.P	AL.NABILA	4000	15852	31.90		318
	SAINAI	29 30	L-S.O.P	AL NABILA	6000	10206	46.20		313
	W.DESRT	4- 5	L-GUPCO	ALSHARIFA	35000	10806	1.60		11000
	W.DESRT	5- 6	L-AGIPA	ALAGAMI	28000	10806	2.90		11000
	W.DESRT	8- 9	L-KHALDA	IOANNA.V	26000	10806	4.20		11000
	W.DESRT	12-13	L-KHALDA	ALSHARIFA	39000	10806	1.40		11000
	W.DESRT	14-15	L-GUPCO	ALAGAMI	25000	10806	4.70		11000
	W.DESRT	17-18	L-PAPETCO	IONNIAV	26000	10806	3.70		11000
	W.DESRT	23 24	L-GROUP	ALSHARIFA	39000	10806	1.40		11000
	W.DESRT	25-26	L-GUPCO	ALAGAMI	28000	10806	3.10		11000
	W.DESRT	26 27	L-PAPETCO	IONNIAV	26000	10806	5.00		11000
	W.DESRT	29-30	L-AGIPA	AL.AGAMI	28000	10806	1.20		11000
	E. ZEIT	29-31	L-SUEZ	ROSEDALIA	19577	16007	9.60		2150
*	G.O.S.M	1- 2	ANCCO	CHENKI	124000	0	3.40		28000
*	G.O.S.M	11- 9	ANCCO	ARILA.G	124000	334850	2.30		28000
*	G.O.S.M	13-14	ANCCO	ENKO MARU	83000	245071	4.00		28000
*	G.O.S.M	17 18	ANCCO	MARDY	124000	157111	5.90		35000
*	G.O.S.M	23-24	ANCCO	TYPE ROSE	124000	146065	7.10		35000
*	G.O.S.M	26 27	ANCCO	ALMADIADRIT	53000	171342	7.60		35000
*	G.O.S.M	29-29	ANCCO	ANDEVER	77000	112096	8.20		35000
*	BELAYIM	1- 3	TEPCO	AGIP.DONA	84000	0	0.20		26000
*	BELAYIM	6- 7	TEPCO	AGIP DONA	85000	171000	2.30		26000
*	BELAYIM	14 13	TEPCO	AGIP.DONA	13000	42000	-0.20		26000
*	BELAYIM	15-13	TEPCO	AGIP DONA	72000	279238	0.20		26000
*	BELAYIM	23 24	TEPCO	NORD.PACIFIC	90000	194000	0.20		26000
*	R/BUDRA	5- 7	GROUP(CH)	PRESTIGE	75000	107335	5.50		6500
*	E. ZEIT	12-14	ESSO	AGATE	50000	48372	3.90		2000
†††	G.O.S.M	7- 9		NYUTA	41000	317793	3.00		28000
†††	G.O.S.M	14-12		KILTO	80000	53082	5.30		35000
†††	G.O.S.M	15 12		SANTA.ANDRES	90000	27613	6.00	1.10	35000
†††	G.O.S.M	19-20		WORLDHITACHI	99000	102131	7.40		35000
†††	BELAYIM	29-30		GROUNA	75000	153000	1.70		26000
†††	BELAYIM	30 28		BELLE DAPHNE	70000	104000	2.50		26000
†††	R/BUDRA	15-12		BELLE DAPHNI	70000	23872	6.90		6500
†††	Z.B.	6 8		BELLE DAPHNE	60000	103462	6.60		6500
†††	Z.B.	23-24		WORLD HITACH	114262	151897	0.00		6500
†††	Z.B.	25-26		BELLE DAPHNE	30739	50835	15.50		6500
†††	RASELBH	12-11		WORTHY	50000	6947	2.10		1750
†††	GHARIB	8 9		NYUTA	49917	58001	2.90		6000
†††	GHARIB	21-23		NYUTA	25000	77505	0.20	1.20	6000

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SUPPLY & MARITIME
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SCHEDUAL LIFTINGS BY CRUDE
DURING MONTH 1 1989

	COMPANY	DAY	TANKER	QTY.	AV.STOK	STORG	SHORT	PROD.
G.O.S.M	1---*-AMOCO	1-2	CHENKI	124000	0	3:4		28000
	2-$$$-ISRAEIL	7-9	NYUTA	41000	317793	3:0		28000
	3---*-AMOCO	11-9	ARILA:G	124000	334850	2:8		28000
	4---*-AMOCO	12-14	ENKO-MARU	83000	245871	4:8		26000
	5-$$$-	14-12	KITO	80000	53082	5:3		35000
	6-$$$-	15-12	SANTA:ANDRES	80000	87612	6:0	1:1	35000
	7---*-AMOCO	17-18	MARCA	124000	157111	6:9		35000
	8-$$$-	19-20	WORLDHITASHI	99000	102181	7:4		35000
	9---*-AMOCO	23-24	HARE ROSE	124000	146045	7:7		35000
	10---*-AMOCO	26-27	ALNADIAPRIT	83000	171342	7:6		35000
	11---*-AMOCO	28-29	ANDEVOR	77000	118096	8:2		35000
	TOTAL PUMP			1009000		PUMP (B/D)		236000
BELAYIM	1-----L-S:O:P	1-2	AL NABILA	13000	0	0:8		26000
	2---*-IEOC	1-3	AGIP:ROMA	84000	0	0:8		26000
	3-----E-SUEZ	3-4	ALMADIHA	40000	204000	3:2		26000
	4-----L-SUKHNA	5-6	ROSE DALIA	70000	190000	3:8		26000
	5---*-IEOC	6-7	AGIP ROMA	85000	171000	3:3		26000
	6-----E-SUEZ	8-9	ALMADIHA	40000	113000	4:7		26000
	7-----E-SUEZ	9-10	ALNABILEA	2000	139000	4:8		26000
	8-----L-SUKHNA	10-11	ROSE-DALIA	70000	135000	4:3		26000
	9---*-IEOC	14-13	AGIP:ROMA	13000	42000	0:3		26000
	10---*-IEOC	15-13	AGIP ROMA	73000	279278	0:2		26000
	11-----E-SUEZ	17-15	ALMADIHA	40000	180487	4:3		26000
	12-----L-SUKHNA	20-19	ROSE-DALIA	70000	200662	2:7		26000
	13---*-IEOC	23-24	NORD:PACIFIC	90000	194000	0:2		26000
	14-----E-SUEZ	24-25	ALMADIHA	30000	130000	4:7		26000
	15-$$$-	29-30	ORDUNA	75000	153000	1:7		26000
	16-$$$	30-28	BELLE DAPHNE	70000	104000	2:5		26000
R/BUDRA	1-----E-S:N:P	1-2	BELLE-DAPHNE	23400	0	6:0		6500
	2---* GROUP(SH)	5-7	PRESTIGE	75000	107375	5:5		6500
	3-$$$	15-13	BELLE DAPHNE	70000	28872	6:9		6500
	4---E-SUEZ	26-27	ROSE-DALIA	30000	98726	2:1		6500
Z.B.	1-$$$-	4-8	BELLE DAPHNE	63000	109562	6:6		6600
	2-$$$-	23-24	WORLD HITASHI	114287	151882	0:0		6600
	3-$$$-	25-26	BELLE-DAPHNE	30739	50835	15:3		6800
RASELBH	1-$$$-	12-11	WORTHY	50000	8947	2:1		1750
	2-----E-SUEZ	19-20	AL-NABILA	13000	10439	24:0		1750
	3-----E-SUEZ	30-31	AL-MADIHA	24092	6838	19:0		1750
GHARIB	1-$$$-	8-9	NYUTA	49917	50001	3:9		6000
	2-$$$-	21-23	NYUTA	85000	77505	0.3	1:2	6000
SAINAI	1-----L-S:O:P	13-14	AL:NABILA	4000	15853	31:9		318
	2-----E-S:O:P	29-30	AL-NABILA	6000	10006	46:2		318
E. ZEIT	1---*-ESSO	13-14	AGATE	50000	48373	3:9		2000
	2-----L-SUEZ	29-27	ROSEDALIA	19577	16007	9.6		2150
GEISUM								

31 C

SUPPLY & MARITIME
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SCHEDULE

IMPORT EXPORT PRODUCTS PROGRAM
DURING MAR. 1989

PRODUCT	NO	COMPANY	TANKER	PORT	SHIPMENT	QTY.	PROGRAM	ETA	ACTU.
ETHYLENE	4		TARQUEN TR	ALEX	C 1- 27 6	2190.882	12-14/-3	17/-3	17/ 3
JP-1	8		ESSO BOMBA	ALEX	S 2- 17 1	20354.146	25-27/-2	27/-2	1/ 3
	9		GEYVE	ALEX	S 3- 17 1	19846.252	-7--9/-3	-9/-3	9/ 3
	11		FRITI GERA	ALEX	S 3- 17 1	20048.314	15-17/-3	13/-3	13/ 3
	10		USCO SEA	SUEZ	C 2- 17 3	23935.[illegible]	-8-10/-3	-9/-3	9/ 3
	12		GUDERMES	SUEZ	C 2- 27 6	24963.000	28-30/-3	31/-3	31/ 3
						=109202.932=			
GAS OIL A	3		ZAGARA	ALEX	C 1- 17 4	19225.701	-5--7/-3	10/-3	11/ 3
	4		AMIRAL FAH	ALEX	C 1- 27 4	25246.364	21-23/-3	22/-3	22/ 3
						= 44472.065=			
GAS OIL B									
LUBOIL	6								
LPG	7		GAS PACIFI	ALEX	C 2-48/ 0	3255.000	-7--9/-3	14/-3	15/ 3
	8		GAS MED	ALEX	C 2-49/ 0	2360.311	21-23/-3	21/-3	21/ 3
						= 5615.311=			
MG	8		GAS FEDILI	R.S.	C 2-55/ 0	1628.000	-2--4/-3	-5/-3	5/ 3
	10		GAS FEDILI	R.S.	C 2-57/ 0	1628.000	18-20/-3	20/-3	20/ 3
						= 3256.000=			
LAB	4		IUTA	AMER	S99- 27 2	1453.309	15-17/-3	16/-3	17/ 3
NAPHTHA	14		FALCON DUC	ALEX	S 5- 17 1	22563.231	-3--5/-3	-2/-3	4/ 3
	15		FALCON CHA	ALEX	S 6- 17 2	25210.335	15-17/-3	15/-3	16/ 3
	16		BRITISH TA	ALEX	S 6- 27 2	23335.008	20-22/-3	21/-3	24/ 3
	17		ORCHID B	ALEX	C 1- 27 6	24000.696	26-30/-3	25/-3	29/ 3
						=101609.330=			
FUEL OIL	6		UTHONT	ALEX	S 3- 17 1	24[illegible]	25-27/-3	25/-3	27/ 3
	5		PARAFOLA	NASR	C 1- 27 8	26934.[illegible]	16-18/-3	15/-3	18/ 3
						= 51283.141=			
SLACK WAX	2		NUVAJO	AMER	C 1- 27 4	2904.809	24-26/-2	24/-2	27 3
MICRO WAX	4		CONTAINERS	ALEX	S 1- 47 4	55.356	20-22/-3	22/-3	22/ 3
HEAT WAX	3		CONTAINERS	ALEX	S 1- 37 7	104.344	14-16/-3	14/-3	14/ 3
	4		CONTAINERS	ALEX	S 1- 47 7	46.478	14-16/-3	14/-3	14/ 3
	5		CONTAINERS	ALEX	S 1- 57 7	69.164	16-18/-3	20/-3	20/ 3
	6		CONTAINERS	ALEX	S 1- 67 7	55.057	22-24/-3	22/-3	22/ 3
	7		CONTAINERS	ALEX	S 1- 77 7	241.617	25-27/-3	23/-3	23/ 3
						506.660=			

317

SUPPLY & MARITIME
****

06/29/89
09:13:00
(PD-5/2)

GENERAL STATUS
EXPORTED PRODUCTS DURING 1989

QTY IN ('000)

PRODUCT	QTY. DURING MONTHES 1	2	3	4	5	6	7	8	9	10	11	12	TOTL	PRDT. CONTRACT CONT	SPOT	TOTL
*LPG *	4.8	8.0	3.2	7.6	7.8	8.1							39.5	100	0.0	100
PLAN													0.0			
%	0	0	0	0	0	0	0	0	0	0	0	0	****			
*LAB *	2.6	1.2	1.5		2.5	1.9							9.7	0.0	12.1	12.1
PLAN	1.7	1.4	1.7	1.3	1.3	1.2							8.6			
%	152	122	110	86	105	112	112	112	112	112	112	112	112			
*NAPHTHA *	157	142	102	108	103	97	0	0	0	0	0	0	709	943	329	1272
PLAN	77	58	57	66	75	123	0	0	0	0	0	0	456			
%	203	221	208	197	183	155	155	155	155	155	155	155	155			
*FUEL OIL *	18	75	51	52	46	77	0	0	0	0	0	0	319	200	253	453
PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0			
%	***	***	***	***	***	***	***	***	***	***	***	***	****			
SLACK WAX	2.9		2.9	2.4		2.7							10.9	23.6	2.7	26.3
PLAN	1.3	1.3	1.2	1.3	1.3	1.2							7.6			
%	223	111	152	160	128	143	143	143	143	143	143	143	143			
MICRO WAX		0.4	0.1	0.2	0.1								0.8	0.0	0.8	0.8
TREAT WAX		0.2	0.5		0.1	0.1							0.9	0.0	1.9	1.9
TOTAL WAX		0.6	0.6	0.2	0.2	0.1							1.7	0.0	2.7	2.7
PLAN	0.2	0.2	0.1	0.2	0.2	0.1							1.0			
%	0	150	240	200	177	170	170	170	170	170	170	170	170			
*HAB *	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
PLAN																

(T.A.A)

SUPPLY & MARITIME
****

08/10/89A)
12:17:15
(PD-5/2)

3B

GENERAL STATUS
EXPORTED PRODUCTS DURING 1988

QTY IN ('000)

PRODUCT	QTY DURING MONTHES 1	2	3	4	5	6	7	8	9	10	11	12	TOTL	PRDT. CONTRACT CONT	SPOT	TOTL
*LPG *				4.3	9.7	6.0	9.9	4.4	7.4	7.1	9.3	4.8	55.9	200	0.0	200
PLAN	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.0			
%	0	0	0	107	140	216	327	341	385	418	454	465	465			
*LAB *	1.0		2.0	2.6	2.6	1.0	2.0			2.1		2.0	15.3	0.0	21.8	21.8
PLAN	0.3	0.3	0.4	0.3	0.3	0.4	1.9	1.9	1.9	2.0	2.0	1.7	13.4			
%	333	166	300	430	512	460	287	193	145	137	113	114	114			
*N. ITHA *	70	92	98	147	152	48	79	120	90	101	115	55	1167	955	358	1313
PLAN	56	56	56	59	59	59	69	64	70	69	73	124	814			
%	125	144	154	179	195	175	165	168	163	161	161	143	143			
*FUEL OIL *	25	52	49	74	25	102	79	100	132	114	70	44	866	0	948	948
PLAN	65	65	66	98	98	98	0	0	0	0	0	0	490			
%	38	59	64	68	57	66	82	103	130	153	167	176	176			
SLACK WAX	2.7	0.9	2.1	2.8		2.8	2.9	2.9		5.7		2.8	25.6	29.1	0.0	29.1
PLAN	1.2	1.2	1.2	1.4	1.4	1.4	1.3	1.3	1.2	1.3	1.2	1.2	15.3			
%	225	150	158	170	132	144	156	164	147	176	151	167	167			
MICRO WAX	0.1	0.2	0.1			0.2	0.1			0.4	0.3		1.4	0.0	1.0	1.0
TREAT WAX		0.3	0.2	0.1		0.2	0.4			0.2	0.2	0.3	1.9	0.0	1.8	1.8
TO L WAX	0.1	0.5	0.3	0.1		0.4	0.5			0.6	0.5	0.3	3.3	0.0	2.8	2.8
PLAN	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	2.0			
%	50	150	180	142	111	140	158	135	126	147	157	165	165			
*PET COCK *	13	1	29	28	19	5	20	35	14	20	0	0	184	255	0	255
PLAN	1	1	1	1	1	1	1	1	1	1	1	1	12			
%	***	700	***	***	***	***	***	***	***	***	***	***	1533			

31E-2

(T.A.A)

SUPPLY & MARITIME
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06/29/89
09:12:14
(PD-5/2)

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GENERAL STATUS
IMPORTED PRODUCTS DURING 1989

QTY IN ('000)

PRODUCT	QTY. DURING MONTHES 1	2	3	4	5	6	7	8	9	10	11	12	TOTL	PRDT. CONTRACT CONT	SPOT	TOTL
*ETHYLENE *		4.1	2.2	2.2	2.2	2.2							12.9	14.5	2.4	16.9
PLAN	3.0	3.0	3.0	3.0	3.0	3.0							18.0			
%	0	68	70	70	71	71	71	71	71	71	71	71	71			
*AVGAS *						2.0							2.0	2.0	0.0	2.0
PLAN				0.3	0.3	0.4	0.4						1.4			
%	0	0	0	0	0	200	142	142	142	142	142	142	142			
*JP-1 *	61	81	109	22	43	40	0	0	0	0	0	0	356	588	136	724
PLAN	42	42	42	42	43	43	0	0	0	0	0	0	254			
%	145	169	199	162	149	140	140	140	140	140	140	140	140			
GAS OIL A	0	25	44	50	50	22	0	0	0	0	0	0	191	334	25	359
GAS OIL B	0	27	0	43	79	84	0	0	0	0	0	0	233	362	82	444
TOTAL GASOIL	0	52	44	93	129	106	0	0	0	0	0	0	424	696	107	803
PLAN	80	91	123	123	91	126	0	0	0	0	0	0	634			
%	0	30	32	45	62	66	66	66	66	66	66	66	66			
LUBOIL 2		3.5				4.1							7.6	7.7	0.0	7.7
LUBOIL 3		5.5		5.5	5.5								16.5	16.5	0.0	16.5
LUBOIL 10		2.0			2.2								4.2	4.4	0.0	4.4
LUBOIL 12		1.8				2.1							3.9	3.8	0.0	3.8
TOTAL LUBOIL		13		5.5	7.7	6.2							32.2	32.4	0.0	32.4
PLAN	7.0	7.0	8.0	7.0	7.0	8.0							44.0			
%	0	95	60	64	73	74	74	74	74	74	74	74	74			
*LPG *	8.8	7.2	5.7	5.2	3.8	5.1							35.8	80.0	0.0	80.0
PLAN													0.0			
%	0	0	0	0	0	0	0	0	0	0	0	0	****			
GAS OIL A	25	0	0	0	0	0	0	0	0	0	0	0	25	334	25	359
TOTAL GASOIL	25	0	0	0	0	0	0	0	0	0	0	0	25	334	25	359
PLAN	80	91	123	123	91	126	0	0	0	0	0	0	634			
%	31	14	8	6	4	3	3	3	3	3	3	3	3			

(T.A.A)

31 F

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PETROLEUM TERMINALS STATUS
MORNING OF / /

1_ GULF OF SUEZ AREA
SHIPPING TERMINALS.

a_ RAS SHOKIR _ CRUDE : NEWTA, WILL SAIL WHEN WEATHER CONDITIONS IMPROVE TO SHIP FOR "BASE OIL CO."
b_ RAS SHOKIR _ BUTANE : VACANT
c_ ZEIT BAY _ CRUDE : "
d_ " " _ BUTANE : "
e_ ZEIT EAST _ : BILLY DAFENY (CARRYING ZEIT BAY CRUDE) AND WILL SAIL TOMORROW TO SUEZ NEW DOCK.
f_ GEISOOM : VACANT
g_ RAS GHARIB
h_ WADI FERRAN _ CRUDE :
i_ " " _ BUTANE :
j_ RAS BADRAN
k_ RAS SIDR

(Changes Daily)

2_ SUEZ AREA SHIPPING TERMINAL
a_ AIN SOKHNA
b_ NEW DOCK
c_ PETROLEUM DOCK
d_ WAITING AREA

HS
ABOVE

3_ SUEZ CANAL "
4_ PORT SAID "
5_ ALEXANDRIA AREA "
a_ PETROLEUM DOCKS
b_ ETHELYNE PLATFORM
6_ ALAMAIN "

31G

TERMINAL STATUS

موقف موانئ البترول صباح يوم الثلاثاء ١٩٨٩/٦/٢٧

١ - **موانئ الشحن بمنطقة خليج السويس :**

أ - رأس شقير (خام) : نيوتا وتتراكى عند تحسن الاحوال الجوية للشحن لحساب شركة باز أويل .

ب - رأس شقير (بوتاجاز) : خالى .

ج - خليج الزيت (خام) : خالى .

د - خليج الزيت (بوتاجاز) : خالى .

ه - شرق الزيت : بيلى دافنى (بخام خليج الزيت) وتتراكى باكر لاستكمال الشحن للمرسى الجديد بالسويس .

و - جيسوم : خالى .

ز - رأس غارب : خالى .

و - أدى فيران (خام) : ١) السد العالى (بمازوت) وتتراكى اليوم لشحن خام بلاعيم (بحرى) لحوض البترول بالسويس .
٢) روزداليا تحت شحن خام بلاعيم (بحرى) للسخنه .

ط - وادى فيران (بوتاجاز) : خالى .

ى - رأس بدران : خالى .

ك - رأس صدر : خالى .

٢ - **منطقة السويس :**

أ - العين السخنة : لاشئ .

ب - المرسى الجديد : ١) **نفة شرقية** :بايونى تحت شحن مازوت لحساب شركة بى بى نافت .
٢) **نفة غربية** :المديحه انتهت من تفريغ خام بلاعيم (بحرى وبحرى) وتبحر اليوم لوادى فيران لشحن خام بلاعيم (بحرى وبحرى) للمرسى الجديد بالسويس .

ج - حوض البترول : رصيف (٥)جاز سويس انتهت من التفريغ وتبحر اليوم لرأس شقير للشحن لحوض البترول بالسويس .
رصيف (٧) النبيلة (٢) تحت تفريغ خامس بلاعيم (بحرى) وسيناء .

د - منطقة الانتظار : جازبروجرس وتتراكى اليوم بحوض البترول (رصيف ٥) لتفريغ بوتاجاز محلى .

٣ - قناة السويس : لاشئ .

٤ - بورسعيد : خالى .

٥ - **منطقة الاسكندرية :**

أ- أرصفة حوض البترول : (١/٨٧) بولدر تحت تفريغ زيت معدنى رقم (٢) من شركة موتور أويل .
(٢/٨٧) خالى .
(٣/٨٧) خالى .
(٤/٨٧) خالى .
(٥/٨٧) العجمى تحت تفريغ خام المحراء الغربيه .

خارج الميناء : ١) فيربرافو وتتراكى اليوم لشحن الكيل بنزين لحساب شركة اى او تى (٤/٨٧) .
٢) كاستور وتتراكى باكر لتفريغ وقود نفاثات من شركة بى بى نافت (٣/٨٧)

المنتظر اليوم : ديلوس لشحن مازوت لحساب شركة باز أويل .

ب - منصة الايشيلين : خاليه .

٦ - العلمين : ١) الشريفة ومن المتوقع ان تتراكى اليوم للشحن للاسكندرية .
٢) ايوانا فى للشحن للاسكندرية .

الاداره العامه
للتموين والنقل البحرى

١٩٨٩
٦/٢٧

GPD-2705 7/77

BECHTEL

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CALCULATION SHEET

CALC. NO _____ REV. NO. _____

ORIGINATOR _____ DATE _____ CHECKED _____ DATE _____

PROJECT _____ JOB NO. _____

SUBJECT _____ SHEET NO. _____

TANKERS (SHIPS) STATUS

1_ MORNING OF

✓ 1_ EGYPTIAN TANKERS :

A_ EL SAD EL ALY : AT "WADI FERRAN" CARRYING MAZOUT (FUEL OIL) . WILL BE ~~PREPARED~~ SAILING TODAY TO SHIP "BALAEM" CRUDE (ON-SHORE) TO PETROLEUM DOCK AT SUEZ

B_ EL AGAMY : AT ALEXANDRIA UNLOADING WESTERN DESERT CRUDE .

✓ 2_ TANKERS CARRYING EGYPTIAN FLAG :

A_ EL NABILA (3) : AT SUEZ PETROLEUM DOCK UNLOADING "HINA" AND "BALAEM" (ON-SHORE) CRUDE.

B_ EL SHARIFA : AT ALAMAIN WILL BE SAILING TODAY TO ALEXANDRIA

✓ 3_ TANKERS CARRYING FOREIGN FLAG :

✓ A_ "CRUDE" TANKERS :

1_ ROSE DALIA : ---

2_ BILLY DAFENY: ---.

✓ B_ "BUTANE" TANKERS :

1_ GAS SWISS : ---

2_ GAS Progress : ---

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✓ DOES NOT CHANGE

X

TANKER STATUS

"بسم الله الرحمن الرحيم"

الهيئة المصرية العامة للبترول
الادارة العامة للتموين والنقل البحرى

موقف ناقلات البترول صباح يوم الثلاثاء ١٩٨٩/٦/٢٧

١ - ناقلات مصرية :

أ - السد العالى : بوادى فيران (بمازوت) وتتراكى اليوم لشحن خام بلاعيم (برى) لحوض البترول بالسويس .

ب - العجمى : بالاسكندريه تحت تفريغ خام الصحراء الغربيه .

٢ - ناقلات ترفع العلم المصرى :

أ - النبيله (٢) : بحوض البترول بالسويس تحت تفريغ خامى سيناء وبلاعيم (برى) .

ب - الشريفه : بالعلمين ومن المتوقع ان تتراكى اليوم للشحن للاسكندرية .

ج - المديحه : بالمرس الجديد بالسويس انتهت من تفريغ خام بلاعيم (برى وبحرى) وتبحر اليوم لوادى فيران لشحن خام بلاعيم (برى وبحرى) للمرس الجديد بالسويس .

٣ - ناقلات ترفع علم اجنبى :

أ - ناقلات خام :

(١) روز داليا : بوادى فيران تحت شحن خام بلاعيم (بحرى) للسخنه .

(٢) بيلى دافنى : بشرق الزيت (بخام خليج الزيت) وتتراكى اليوم لاستكمال الشحن للمرس الجديد بالسويس .

(٣) ايوانافى : بالعلمين للشحن للاسكندرية .

ب - ناقلات بوتاجاز :

(١) جاز مويى : بحوض البترول بالسويس انتهت من التفريغ وتبحر اليوم لراس شقير للشحن لحوض البترول بالسويس .

(٢) جازبروجرس : بمنطقة الانتظار بالسويس وتتراكى اليوم بحوض البترول للتفريغ .

SUPPLY & MARITIME

06-27/89
09:14:49
(PD-SA/2)

38

EXPORT PRODUCTS CONTRACTS & TENDERS
DURING 1989

(QTY. '000)

PRODUCT	CONT	NO	PORT	COMPANY	PERIOD	QTY.	SIZE / NO
LPG	CONT	2	F.O.		0 - 6	50 - 100	1- 1 50
L.A.B.	SPOT	1	AMER		26/ 1 - 28/ 1	0 1	0- 1 1
		99	AMER		1 - 4	2 - 3	1- 1 2
		99	AMER		22/ 2 - 24/ 2	0 - 1	0- 1 1
		2	AMER		1/ 5 - 31/ 5	1 - 2	0- 1 2
		4	AMER		30/ 5 - 31/ 5	0 - 1	0- 1 1
		3	AMER		15/ 5 - 31/ 7	1 - 2	1- 2 1
		3	AMER		1/ 6 - 30/ 6	0 - 1	0- 1 1
NAPHTHA	CONT	1	ALEX		1 - 12	270 - 330	22- 25 12
		1	ALEX		1 - 12	45 - 50	22- 25 2
		1	ALEX		1 - 12	45 - 50	22- 25 2
		1	ALEX		1 - 12	135 - 165	22- 25 6
		1	ALEX		1 - 12	75 - 100	22- 25 4
		1	ALEX		1 - 12	75 - 75	22- 25 3
		99	ALEX		21/12 - 23/12	22 - 23	22- 23 1
		1	SUEZ		1 - 12	100 - 150	22- 25 6
	SPOT	1	ALEX		1/ 1 - 3/ 1	22 - 25	22- 25 1
		3	ALEX		18/ 1 - 20/ 1	25 - 30	25- 30 1
		4	ALEX		24/ 2 - 26/ 2	22 - 25	22- 25 1
		5	ALEX		3/ 3 - 5/ 3	25 - 28	25- 28 1
		6	ALEX		15/ 3 - 22/ 3	45 - 55	22- 27 2
		7	ALEX		20/ 4 - 22/ 4	27 27	22- 27 1
		8	ALEX		28/ 4 - 30/ 4	25 - 30	25- 30 1
		9	ALEX		11/ 6 - 13/ 6	22 - 25	22- 25 1
		9	ALEX		17/ 6 - 19/ 6	22 - 25	22- 25 1
		99	ALEX		29/12 - 31/12	6 - 7	6- 7 1
		2	SUEZ		18/ 1 - 20/ 1	22 - 25	22- 25 1
		10	SUEZ		13/ 6 - 15/ 6	22 - 27	22- 27 1
FUEL OIL	CONT	1	NASR		1 - 12	150 - 200	22 27 8
	SPOT	1	ALEX		1/ 2 - 2/ 2	20 - 25	20- 25 1
		2	ALEX		27/ 2 - 28/ 2	20 - 25	20- 25 1
		3	ALEX		25/ 3 - 27/ 3	22 - 27	22- 27 1
		5	ALEX		25/ 4 - 27/ 4	22 - 27	22- 27 1
		8	ALEX		25/ 6 - 27/ 6	22 - 27	22- 27 1
		99	ALEX		29/12 - 31/12	18 - 19	18- 19 1
		4	AMER		1/ 4 - 3/ 4	22 - 27	22- 27 1
		7	AMER		25/ 5 - 27/ 5	22 - 27	22- 27 1
		6	NASR		1/ 5 - 3/ 5	18 - 22	18- 22 1
		9	NASR		26/ 6 - 28/ 6	22 - 27	22- 27 1
SLACK WAX	CONT	1	AMER		1 - 4	7 - 12	2- 3 4
		2	AMER		7 - 12	6 - 11	2- 2 4
	SPOT	1	AMER		13/ 6 - 15/ 6	2 - 2	2- 2 1

(TO BE FOLLOWED)

31H

BEST AVAILABLE COPY

203

HORO WAX	SPOT	1	ALE											4
		3	ALEY		4		40	4			0	0	0	1
		2	ALE								0	0	0	3
		4	ALE								0	0	0	0
TREAT.WAX	SPOT	1	ALE								0	0	0	10
		3	ALE		4		40	4			0	0	0	1
		2	ALE		4						0	0	0	7
		4	ALE		7						0	0	0	0
H.A.B	SPOT	1	AMBER		4		30	4			0	0	0	1

BEST AVAILABLE COPY

31H-2

SUPPLY & MARITIME
****

08/30/89
12:15:50
(PD-1/3)

38

NAPHTHA
CONTRACT PERFORMANCE STATUS (1)
DURING 1988

QTY IN ('000)

COMPANY	QTY. DURING MONTHS 1	2	3	4	5	6	7	8	9	10	11	12	TOTL	CONTRACTS MIN	MAX	%
** ALEX **																
**********																
IPCO		24	27	25	51					24			151	135	165	9
AVIN OIL		40	20	43		23	23	46			23		218	200	240	91
AVIN OIL							50	49	23	69	40	23	263	270	330	79
TOYO MENKA	21	24	23	50	25	25	6		24				198	180	220	96
QTY BY CONT	21	88	70	118	76	48	79	95	47	93	72	23	830	785	955	86
QTY BY SPOT	49	4	3	4	25	0	0	5	20	8	18	32	163	153	182	92
TOTAL ALEX	70	92	73	122	101	48	79	100	67	101	90	55	998	938	1137	87
** SUEZ **																
**********																
QTY BY CONT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
QTY BY SPOT	0	0	25	25	51	0	0	20	23	0	25	0	169	170	176	96
TOTAL SUEZ	0	0	25	25	51	0	0	20	23	0	25	0	169	170	176	96
TOTAL CONT.	21	88	70	118	76	48	79	95	47	93	72	23	830	785	955	86
TOTAL SPOT.	49	4	28	29	76	0	0	25	43	8	43	32	337	323	358	94
GRAND TOTAL	70	92	98	147	152	48	79	120	90	101	115	55	1167	1108	1313	88
PLAN	56	56	56	59	59	59	69	64	70	69	72	124	814			
ACCU. %	125	144	154	179	195	175	165	168	163	161	161	143	143			

31I

(T.A.A)

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SUPPLY & MARITIME
****

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NAPHTHA
CONTRACT PERFORMANS STATUS (2)
DURING 1988

QTY IN ('000)

COMPANY	CONTRACTS DATA					ACT. SHIP			PROG	TOTAL	
	CR	DATE	NO	CARGO SIZ	MIN/MAX	NO	QTY.	%	QTY.	QTY.	%
** ALEX **											
IPCO	1	1-12	6	22.5-27.5	135-165	6	151	91		151	9
AVIN OIL	1	1-12	10	19.8-24.2	200-240	10	218	90		218	9
TC MENKA	1	1-12	8	22.5-27.5	180-220	9	198	90		198	9
AVIN OIL	2	7 12	12	25.0-25.0	270-330	11	263	79		263	7
TOTAL			36		785-955	36	830	86	0	830	8
** SUEZ **											
TOTAL			0		0- 0	0	0	***	0	0	***
GRND TOTAL			36		785-955	36	830	86	0	830	8

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CRUDE OILS PROCESSED AND PRODUCTS (MT)

CRUDE TYPE	ALEX. PET.	AMREYA	CAIRO	TANTA	EL NASR	SUEZ	ASS
G O·S.M	✓	✓	✓	✓	✓	✓	✓
BELAYIM	✓	✓	–	–	✓	✓	–
W·DESERT	✓	✓	–	–	–	–	–

PRODUCTS							
BUTANE							
NAPHTHA							
KEROSINE							
GAS OIL							
FUEL OIL							
ASPHALT							
REMARKS							

5

DATE 3C

CRUDE OILS AND PRODUCTS STOCKS (M.T.)

Daily

	ALEXANDRIA	AMREYA	CAIRO	TANTA	ELNASR	SUEZ	ALL OTHERS
CRUDE TYPE							
G.O.S.M							
BELAYIM							
WINESERT							
PRODUCTS							
PROPANE/BUTANE							
FULL RANGE NAPHTHA							
PREMIUM GASOLINE							
KEROSINE							
AVIATION TURBINE F.							
GAS OIL							
DIESEL							
FUEL OIL							

9

32B

REMARKS

Daily

OIL MOVEMENT (PIPE LINES AND TANKERS) (MT).

(1)

CRUDE OILS RECEIVED AT SUEZ.

By TANKERS

	EL NASR Refineries	SUEZ OIL PROCESSING
30 TYPE OF CRUDE		
BELAYIM	✓	✓
SARNAI	✓	–
OTHERS		

THROUGH PIPE LINE

G.O.S.M.	✓	✓

CRUDE OILS RECEIVED AT CAIRO AND TANTA THROUGH PIPE LINE

TYPE OF CRUDE

	CAIRO	TANTA
G.O.S.M.	✓	

CRUDE OIL RECEIVED AT ASSIUT THROUGH PIPE LINE

TYPE OF CRUDE	TANTA
G.O.S.M.	✓

PRODUCTS MOVEMENT THROUGH PIPE LINES (MT)

FUELS SENT TO CAIRO

BUTANE

GASOLINE

KEROSINE

GAS OIL

FUEL OIL

32C

3C

DELIVERD CRUDE FOR REFINERY

FROM yy/mm to yy/mm

RETINED CRUDE	DELIVOERED OUT	DELIVOERED IN	FINAL STOCK	INETIAL STOK	NET	BIL. OF LEDING	REFINED CRUDE
							MORGAN
							ALAMIN
							-
							-
							-
							-

32D

From ٢٢/٣٣ To ٢٢/٣٣

الخام المعظر Refined Crude	بوليصة الشحن	x ١,٢٥	الصافي Net	رصيد اول المدة Initial Stock	رصيد اخر المدة Final Stock	تسليمات داخله Delivered In	تسليمات خارجه Delivered out	الكمية : بالطن الخام المعظر Refined Crude
مرجان Morgan	,٠٠٠	,٠٠٠	,٠٠٠	١٠٤,٧٨٤,٤٥٢	٥٤,٧٠٨,٧٥٢	٩,٦٧٨,٦٨٤,٥٢٧	٤,٩٦٨,٨٥٥	٩,٢٢٢,٢٩١,٢٨١
علمين Alamein	٢,٦١٩,٢٥٤,٢٩٢	٢٢,٧٤١,٩٢٩	٢,٥٨٦,٦١٢,٣٦٤	٨٤,٩٦١,٢١٩	٥٨,٦٨٩,٩١٤	٢١,٢٥٦,٠٠٠	٢١,٢٥٦,٠٠٠	٢,٦١٢,٨٨٢,٦٦١
بلاعيم بحرى Abu El Bakhoum	١,٠٢٦,٦١٥,٦٧٥	١٢,٤٥٧,٦٦٦	١,٠٦٢,١٥٧,٩٧٩	٢٦,٥١٦,٦٥٦	٢٢,١٢٠,٢٧٢	١,٥٦٠,٥٧١,٨٤٦	١٥٨,١٧٦	٢,٦٢١,٩٥٨,٠٢٥
بلاعيم بحرى	٨٢٥,٩٦٠,٩٠٧	١٠,٤٤٩,٥١١	٨٢٥,٥١١,٢٩٦	٢٧,٠٢٩,٧٤٧	٢٩,٤٢١,٢٤١	٢٠,٠٢١,٦٩٢	٩٨٤,٤٨٤	٨٥٢,٢٠٢,١١١
راس البحار	١٠٥,٠٩٠,٩٩٥	١,٢١٢,٦٢٧	١٠٣,٧٧٧,٢٥٨	,٠٠٠	٢٢,٥٩٤,٥٢٠	٢١,٢٤٩,٩٨٢	,٠٠٠	١٠١,٥٢٢,٨٢١
راس بدران	٧٤,٠٩٨,٠٤٠	٩٢٦,٢٢٥	٧٣,١٧١,٨١٤	,٠٠٠	٢,٨٩١,٧٥١	٢١١,٩٧٦,٧٤٩	٨٥٤,١٢٢	٢٨٠,٢٩٧,٦٨٩
ميناء	٨١,٨٢٨,٢٢٢	١,٠٢٢,٨٥٤	٨٠,٨٠٥,٤٦٩	١٠,١٠٠,٦١٢	١,٦٠٤,٢٥٩	,٠٠٠	,٠٠٠	٨٩,٢٠١,٨٢٢
منكشف	,٠٠٠	,٠٠٠	,٠٠٠	٥,٠٢٦,٢٤٨	٧,٩٤٧,٥٠٥	٢٢٢,١٨٦,٥٤٥	,٠٠٠	٢١٦,٢١٥,٢٨٨
خام خليط	٢٢,٢٨٢,٥٩٢	٢٧٩,٧٨٢	٢٢,١٠٢,٨١٠	,٠٠٠	,٠٠٠	,٠٠٠	,٠٠٠	٢٢,١٠٢,٨١٠
نافتا م.للخام	٢,٧٢٧,١٨٧	٣٤,٠٦٠	٢,٦٩٣,٠٩٧	,٠٠٠	٤٩٧,٧٥٧	٥,٩٩١,٩٨٥	,٠٠٠	٨,١٩٥,٢٢٥
سولار م.للخام	٢٨٨,٥٢٦	٣,٦٠٧	٢٨٤,٩١٩	,٠٠٠	,٠٠٠	,٠٠٠	,٠٠٠	٢٨٤,٩١٩
ش.خليج السويس	٢٤,٢٢٧,٢٩١	٣٠٤,٠٩١	٢٤,٠٢٢,٢٠٠	,٠٠٠	٢,٧٦٤,٢٢٩	٧١,٥٦٤,٧٢١	,٠٠٠	٩٧,٨٢٣,٦٩٢
الاجمالى	٤,٨٤٢,٦٧٣,٨٢٩	٦٠,٥٢٢,٤٢٢	٤,٧٨٢,١٤٠,٤٠٦	٢٦٨,٥١٩,٠٢٤	٢١٦,٢٦٥,٢٠٣	١١,٨٢٨,٧١٧,٠٦٣	٢٨,٢٢١,٦٢٨	١١,٦٢٤,٢٨٩,٦٦٣

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EVALUTION OF REFFINING COM.

FROM yy/mm to yy/mm

DEVIATION		ACTUAL		PLAN		PRODCT
VALUE	QUNT	VALUE	QUNT	VALUE	QUNT	
						PREPO.
						L.P.G.
						BENZ.90
						BENZ.80
						-
						-
						-
						-

32E

Evalution of ... FROM YY/MM TO YY/MM

تقرير رقم (١٦)

الإدارة العامة للتجارة الداخلية

تقييم أداء شركة اسكندرية للبترول

من ٨٧/٠٧ الى ٨٨/٠٢

32E

الكميه : لاقرب طن
القيمه : لاقرب جنيه

المنتج — Product	Plan الخطة QUNT الكميه	Plan value القيمه	Actual الفعلى QUNT الكميه	Actual value القيمه	Deviation الانحراف QUNT كمية	Deviation value قيمة	نسبة تحقيق الخطة % كمية	نسبة تحقيق الخطة % قيمة
بروبان propane	٠	٠	٠	٠	٠	٠	٠	٠
بوتاجاز L.P.G	٢١٢٠٠	٥٢٢,٥٦٠	٤٧٦١٤	٢٩٩,٩٢٦	١٥٩١٤	٢٦٧,٢٦٦	١٥٠	١٥٠
بنزين ٩٠ Benz. 90	٠	٠	٢٨٦٨٥	١٥٧,٧٧٢	٢٨٦٨٥	١٥٧,٧٧٢	٠	٠
بنزين ٨٠ Benz. 80	١٨٩٠٠	١٠٣,٩٥٠	٢١٢١٠٢	١,٧٢٢,٠٦٢	٢٩٤٢٠٢	١,٦١٨,١١٢	١٦٥٧	١٦٥٧
نافتا Naph.	٥٤٠٦٠٠	٢,٨٢٨,١٥٠	٢١٢٢٨٨	١,٦٤٤,٧٦٤	(٢٢٧٢١١)	(١,١٩٢,٢٨٦)	٥٨	٥٨
نافتا خفيف	٠	٠	٠	٠	٠	٠	٠	٠
نافتا مذيبات	٤٠٧٥	٢١,٢٩٤	٤٦٦٢	٢٤,٤٧٦	٥٨٧	٣,٠٨٢	١١٤	١١٤
نافتا مكسان	٧٠٥٥	٢٧,٠٢٩	٦١٢٤	٢٢,٢٠٨	(٩٢٠)	(٤,٨٢١)	٨٧	٨٧
كيروسين	٢٧٠٨٠٠	٢,٩٦٦,٤٠٠	٤٢٠١٧٢	٢,٤٤١,٣٨٥	٥٩٢٧٢	٤٧٤,٩٨٥	١١٦	١١٦
كيروسين مذيبات	٧٤٢٠	٥٩,٢٦٠	١٠٠٧١	٨٠,٥٧٢	٢٦٥١	٢١,٢١٢	١٣٦	١٣٦
كيروسين شمس	١١٢٥٠	٩٠,٠٠٠	٨٦٢٠	٦٨,٩٦٤	(٢٦٢٩)	(٢١,٠٣٦)	٧٧	٧٧
توربين	٧٤٧٠٠	٧٨٤,٣٥٠	٦٩١٩٨	٧٢٦,٥٨٠	(٥٥٠١)	(٥٧,٧٧٠)	٩٢	٩٢
سولار	٥٨٧٧٠٠	٤,٤٠٧,٧٥٠	٦٠٩٢٢٨	٤,٥٦٩,٢٨٩	٢١٥٢٨	١٦١,٥٣٩	١٠٤	١٠٤
سولار كهرباء	٠	٠	٢٩٥٠٠	٤٥٤,٢٥٧	٢٩٥٠٠	٤٥٤,٢٥٧	٠	٠
مازوت	١٢٩٣٢٠٠	٢,٢٦٤,٥٦٨	١٢٩٢١٨٤	٢,٢٦٤,٢٦٦	(١١٥)	(٢٠٢)	١٠٠	١٠٠
اسفلت	١٧٢٥٠٠	١,٧٢٥,٠٠٠	١٦٦٢٧٢	١,٦١٣,٧٣٢	(٦١٢٦)	(٦١,٢٦٨)	٩٦	٩٦
زيت برايت ستوك	٤٨٨٠٠	١٢,٧٦١,٦٠٠	٦٠٢٠٧	١٦,٩٧٨,٥٠٦	١١٤٠٧	٢,٢١٦,٩٠٦	١٢٣	١٢٣
زيت تربينات	٠	٠	٠	٠	٠	٠	٠	٠
مقطرات شمعيه	٢٦٩٠٠	٦٤,٦١٢	٧٩٠٠١	١٣٨,٣٣١	٤٢١٠١	٧٣,٧١٩	٢١٤	٢١٤
م . شمعية اخرى	٠	٠	٠	٠	٠	٠	٠	٠
شمع بارافين	٢١٠٠	٧١٤,٠٠٠	٢٩٢٨	٩٩٥,٧٦١	٨٢٨	٢٨١,٧٦١	١٣٩	١٣٩
[illegible]	٠	٠	٠	٠	٠	٠	٠	٠

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PRODUCTION OF MAGOUR AND SECONTERY UNIT FORM REFINING PET. COMP.

FROM yy/ mm to yy/mm

FEED MAJOIR. DISTILLION UNIT

PLANE. QUNN.	ACT. QUANT	CRUDE NAME
		MORG.
		ALAMIN
		-
		-
		-
		PRODUCTION
		L.P.G.
		NAPH.
		KER.
		-
		-
		-

FEED SECONTERY UNIT

	MAZOT
	WAX DIST.
	PRODUCTION
	SOL.
	MAZ.
	-
	-
	-

32F

انتاج وحدات التقطير الرئيسية والثانوية
شركة البريمي للتكرير
من ٨٢٠٢ الى ٨٨٠٢

From Refinery Petroleum Oman
From YY/MM To YY/MM

Pre. السابق	Plane. QUNT الكمية المخططة	Act. Quant الكمية الفعلية	الاسم		
					وحدات تقطير رئيسية Major Distill^n unit
			Crude Name	Feed	Major distl. unit
٦٢,٢٦	١١١٠٠٠٠	١٩٢,٤٩٤,٨٨٢	مرجان	تغذية	
...	.	٢٨,٢٠٠,٤٥٠	علمين		
٢٠٥,٢١	٥٠٠٠٠٠	١,٠٢٦,٠٦٧,٩٠٥	بلاعيم بحري		
٨٧,٢٨	٥٨٠٠٠٠	٥٠٧,٩٥٤,٩٢٢	بلاعيم بري		
...	.	١٠,٢٢٢,٧٨٤	راس البحار		32 F
...	.	٢,٠٤١,٢٠٥	خام خليط		
...	.	١,٥١٩,٢١٥	ش. خليج الزيت		
======	========	==========			
١٠٢,٥٩	٢١٩٠٠٠٠	٢,٢٦٨,١٥٥,٢٦٥		*** الاجمالي	
======	========	==========			
			L.P.G		
٩٨,٠٥	١١٢٠٠	١١,٠٧٩,٦٢٠	بوتاجاز	• انتاج	Produc^n
١٢٨,٢٩	٢١٤٩٠٠	٢٧٥,١٩٢,٠٠٥	نافتا	Naph.	
١٠١,٧١	١٦١٨٠٠	١٦٤,٥٥٩,٤٨٤	كيروسين	Keros.	
٩١,٦٢	٢٤٠٥٠٠	٢٢٠,٢٥٢,١٧٦	سولار	Solar	
١٠٥,٢٠	١٤٨٥٠٠٠	١,٥٦٢,١٥٢,٤٤٨	مازوت	Mazot	
...	١٢٥٠٠	,٠٠٠	حريق	Fuel	
١٧,٠٦	٤١١٠٠	٢,٠١٠,٠٠٠	غاز حريق	Fuel Gas	
١٢٦,٩٨	٢١٩٠٠	٢٧,٨٠٨,٦٢٢	فاقد	Loss	
======	========	==========			
١٠٢,٥٩	٢١٩٠٠٠٠	٢,٢٦٨,١٥٥,٢٦٥		*** الاجمالي Total	
======	========	==========			
					Secondary Distill^n unit وحدات تقطير ثانوية
			Mazot		
٩١,٧٦	٢٤٥٠٠٠	٢٢٤,٨٠٠,٠٠٠	مازوت	• تغذية Feed	*** جهاز الزيوت Ziote unit
...	.	٥,٦٢١,٠٤٠	مقطرات شمعية wax distillate		
======	========	==========			
٩٤,٠٥	٢٤٥٠٠٠	٢٢٠,٤٢١,٠٤٠		*** الاجمالي	
======	========	==========			
			Solar		
١٥,٥٠	٢٥٨٠٠	٤,٠٠٠,٠٠٠	سولار	• انتاج Produc^n	
١٥٦,٥٩	٩٩٢٠٠	١٥٥,٤٩٢,٦٢٩	مازوت Mazot		
...	.	٢,٢٢٠	امتزات		
٧٦,١٠	٤٩٠٠٠	٣٧,٢٩٠,٣٩٠	اسفلت		
٦٧,٨٧	٢٨٠٠	١,٩٠٠,٤٥٢	زيت ١١٠/٩٠		
٥٢,٢٨	٧٠٠٠	٣,٦٥١,٨٢٧	زيت ١٦٠/١٤٠		
٢٤,٤٢	١٠٥٠٠	٧,٨١٢,٩٠٤	زيت ٢٩٠/٢٦٠		
٢٥,٢٠	٥٦٠٠	١,٩٩١,٢٥٢	زيت ١١٠/٨٠		

REFINERY WAGES OF PETR. PRODUCTS FOR REFINING P. COMP.

PERIOD YYYY/YYYY

VALUE IN . 10^3 LE	SUGGESTED REF. WAGE	QUANT	PRODUCT
			L.PG
			BENZEN
			KEROSEN
			–
			–
			–
			TOTAL

Refinery wages of petr. Products.

اجور تكرير المنتجات البترولية لمعمل اسكندرية

عن الفترة (1988/1987)

اجور تكرير (جنية/طن)

Value in thousand lb قيمة اجر التكرير الف جنية	Suggested ref. wage فئة اجر التكرير المقترح	Quant كمية حالية	المنتج	Product
666.775	15.763	42.300	بوتاجاز	L.P.G
2670.669	5.021	531.900	بنزين	Benzen
3413.552	4.745	719.400	بنزين كامل قطفة	
3761.680	7.624	493.400	كيروسين	Kerosen
959.300	9.593	100.000	توربين	Turbain
5002.211	6.392	783.800	سولار	Solar.
71.175	4.745	15.000	مذيبات نفطية	Naphth. Sol
190.630	7.624	25.000	مذيبات كيروسينية	Keros. Solv.
3335.730	1.777	1939.100	مازوت	Mazut
2078.520	9.124	230.000	اسفلت	Asph.
17558.676	270.226	65.000	زيوت اساسية	
383.527	323.279	3.000	شموع	Waxes
0.000	0.000	53.100	فاقد	Loss.
		-516.000	فروق مسموحة	
50325.551		4533.00	الاجمالي	Total

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FEED GAS / 7499

[illegible] : DEPUTY OPS. SUPT. [illegible]

[illegible] : [illegible] GAS PLANT SUPT. [illegible]

SUB: D.P.S. GAS PLANT DAILY PROD. REPORT

A) DAILY TOTAL REPORT :

1. ASSOCIATED GAS TO THE PLANT :

		MMSCFD	MMSCFD	TONS
UNIT 101		37.5	1.062	
UNIT 102		42	1.188	
UNIT 103 (H.P)		22.4	0.634	
UNIT 103 (L.P)		11.0	0.312	
UNIT 104		34.6	0.980	
ANAL GAS		13	0.368	
(TOTAL)		160.5	4.545	4525
2 . GAS PROCESSED IN 104 UNIT		160.5	4.545	4525
3 . FUEL GAS CONSUMPTION		20.6	0.583	542
4 . FLARED REGENERATION GAS		—	—	—
5 . FLARED DRY GAS		—	—	—
6 . GAS PLANT 104 UNIT OUT PUT		125.3	3.548	3324
7 . FUEL GAS TO R/S & FACILITIES		—	—	—
8 . SALES GAS DELIVERED TO PPC.		123.7	3.503	3262
9 . SALES GAS PRESSURE MAX./MIN.		1356 /	1350	
10. FEED AND SALES GAS SP.GR. RESP. (AV)		0.667 /	0.7613	
11. TOTAL BUTANE IN FEED GAS (AV)			4.9	MOLE %
12. C3+ IN RESIDUE GAS			0.39	MOLE %
13. C3+ YIELD			57	MOLE %

14. GAS ANALYSIS :

	A) SALES				B) FEED				C) ANAL			
	N2	C1	CO2	H2S	C2	C3	IC4	NC4	IC5	NC5	C6+
A)	0.69	72.07	3.19	0.7	14.7	[illegible]	0.36	0.41	[illegible]	[illegible]	—
B)	0.62	46.49	[illegible]	10.9	13.44	13.60	1.49	2.42	[illegible]	[illegible]	[illegible]
C)	0.47	77.41	0.47	[illegible]	11.49	[illegible]	0.44	1.66	[illegible]	[illegible]	[illegible]

15. [illegible] : [illegible] 1.[illegible] [illegible] [illegible] [illegible]

17. A. LOCAL SPEC.	[illegible]	M.TON	[illegible]	BBLS
B. EXPORT SPEC.	—	M.TON	—	

17. SUCC. LPG. PROD W./DELIVERED

18. L.P.G. LOADING :

A) BY TRUCK

B) BY TANKER.

19. L.P.G. CLOSING STOCK :

A. LOCAL	[illegible]	M.TON	[illegible]	BBLS.
B. EXPORT	[illegible]	M.TON	[illegible]	
C. TOTAL	2417	M.TON	[illegible]	BBLS.

20. LOADED LPG. SPECIFIC GRAVITY

21. L.P.G. CLOSING STOCK V.P. 6.11/6.91 KG/CM.SQ

22. LOADED L.P.G. V.P. —

23. LOADED L.P.G. PROPANE CONT.

24. LOADED L.P.G. TOT. BUTANE CONT. —

25. LOADED L.P.G. PENTANES CONT. —

26. LOADED LPG. 95 VOL ./. EVAPORATED AT —

27. MERCAPTAN CONT. —

28. COND. OPENING STOCK	429	M.TON	4151	BBLS.
29. COND. PROD.	432	M.TON	4145	BBLS.
30. COND. PUMPED TO P.S.1	535	M.TON	5156	BBLS.
31. COND. CLOSING STOCK	323	M.TON	3110	BBLS.
32. COND. SP.GR.			0.6527	
33. COND. RVP. AT 100 DEG-F.			13.5	PSI

REMARKS.

+ INSPECTED 4 V104. FOUND GAS PORES AND POROSITY BETWEEN SHELL AND MANHOLE KNECK. (WELDING IS REJECTED).

A.MOKADEM

CC: MR. S.ABDEIN .
: MR. M.R. JILE.
: DR. F.A.KENAWY.
: MR. J.A.BABCOCK.
: MR. A.EL-AYAT.

32H-2

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[illegible] AUG. [illegible], 1993

TO : OPERATIONS GEN. MANAGER

FM : G.O.S. DIST. GEN. MAGT. Terminal

((G.O.S. DAILY OIL MOVEMENT REPORT))

1- SUMMARY :

TITLE	BBLS.	DAILY D.[illegible]
+ OIL RECEIVED IN STORAGE + + + + + + + + + +	425,694	25
+ TOTAL LIFTED + + + + + + + + + + + + + + +	276,864	14
+ TOTAL STOCK + + + + + + + + + + + + + + +	2,860,184	15
+ BOAT STOCK + + + + + + + + + + + + + + +	501,223	
+ SHIPPABLE STOCK FOR P.P.C.+ + + + + + + + +	306,615	9
+ SHIPPABLE STOCK FOR TANKERS + + + + + + +	934,490	10
+ STOCK UNDER SETTLE + DRAINAGE + + + + + +	1,137,856	21
+ STORAGE SPACE + + + + + + + + + + + + + + +	1,294,789	
+ TANKS OUT OF SERVICE + + + + + + + + + + +	310 + 312	

2- TANKER LIFTING : N O N E

3- P.P.C. LIFTING : 276,864 BBLS.

MAMDOUH MAHGOUB ++

CC : ENGINEERING GEN. MANAGER
: CRUDE OIL DIV. MANAGER
: PROCESS DIV. MANAGER

32I -1

[illegible] SEND BY [illegible] AT [illegible] 0840 [illegible] [illegible]

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[illegible] [illegible]

[illegible] DAILY PRODUCTION REPORT [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]PRESS.
[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0	0.00	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]		
[illegible] 307.	[illegible]	46.00	[illegible]		
[illegible] 30[illegible].	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 300.	[illegible]	27.00	[illegible]		
[illegible] 17[illegible].	[illegible]	[illegible]	[illegible]		
[illegible] 160.	0	0.00	0		
[illegible]	0	0.00	0		
[illegible] 277.	1410	16.00	[illegible]		
[illegible] 294.	3242	[illegible]	[illegible]		
[illegible] 306.	0	0.00	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 371.	0	0.00	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]		
[illegible] 361.	[illegible]	16.00	[illegible]		
[illegible] 36[illegible].	364	16.00	[illegible]		
[illegible] 367.	0	0.00	0		
[illegible] 374.	0	0.00	0		
TOTAL GOS PROD . . .	425461	39.46	224	532.0	

PROCESS RECOVERY - 7297

TOTAL GOS. FLUID (OIL AND WATER) - 702790

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GAS AVAILABLE TO G/PLANT (MMSCFPD)

UNIT	METER LOCATION	
101	(R/BKR)	38.[illegible]
102	(R/USH)	44.2
103	HP (PROCESS)	26.1
10[illegible]	LP (PROCESS)	10.[illegible]
10[illegible]	(BADR[illegible])	40.[illegible]
TOTAL GAS TO [illegible] 104		15[illegible].3

SUMMARY OF FLARED GAS (MMSCFPD)

MORGAN-1 PLATFORM	1.[illegible]
MORGAN-3 PLATFORM	[illegible]
MORGAN-36 PLATFORM	[illegible]
MORGAN-55 PLATFORM	[illegible]
BADRI PLATFORM	[illegible]
OCTOBER PLATFORM	[illegible]
JULY PLATFORM	1.[illegible]
RAMADAN PLATFORM	[illegible]
SHOAB ALI PLATFORM	[illegible]
PROCESS AREA (LP)	[illegible]
PROCESS AREA (HP)	[illegible]
R/BKR AREA	[illegible]
R/USH AREA	[illegible]
TOTAL GOS FLARED [illegible]	[illegible]

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[illegible] 1.9. [illegible]

([illegible] INJECTION SUMMARY)

[illegible] PLANT :

- [illegible] : [illegible] BBLS.
- [illegible] : [illegible] BBLS.
- [illegible] PUMPS STATUS:

ON LINE	ST.BY	OUT OF ORDER	PRES.
P-4A B.D.[illegible]	P-4C	P-4B	2300 PSIG

- SAMPLE POINT :

SAMPLE POINT	CORR.RATE M.P.Y.	O2 PPM	CL2 PPM	TURBIDITY J.T.U.	T.S.S. PPM	C.C S.U
[illegible] NO. 3			2	1.36	3.39	173
[illegible] NO. 6			1.2-0.8	0.24	0.23	14
[illegible] NO. 12	2.5-4.5	0.015-.006		0.54-0.24-0.16	0.32-0.36	23-21
[illegible] NO. 36	0.5				0.3[illegible]-0.62 1.2	122
[illegible] - 62					7.6 - 4.75	310
[illegible] - 15					5.67-4.41	471
[illegible]- 170					4.06-2.65	171

- REMARKS :

- P-4G WITHOUT DISCH. CHECK AND BALL VALVES .
- P-3D PUMP ROTOR UNDER REPAIR . PUMP MOTOR OUT OF ORDER
- FUEL GAS HEATER AT CONST. A/SH.
- SCUT POLY PIG : THROUGH 120,030 [illegible] .
- [illegible] ON FLUSHING .

32I-3

SHOAB ALM PLANT :

- INJEC. RATE : 16,480 BBLS.
- TOTAL PLANT OUTPUT : 25,080 BBLS.
- INJECTION PUMPS STATUS.

ON LINE	ST.BY	OUT OF ORDER	PRES.
P-4C6 A.B	—	—	275 PSIG

- SAMPLE POINT :

SAMPLE POINT	CORR.RATE M.P.Y.	O2 PPM	CL2 PPM	H2S PPM	TURBIDITY J.T.U.	T.S.S. PPM	C.C S.U

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[illegible]

- [illegible] :

- [illegible]
- [illegible]
- [illegible]

- [illegible] :

- [illegible] : [illegible] : [illegible]
- [illegible] : [illegible]
- [illegible] :

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	2300 PSIG

- SAMPLE POINTS	SUPER.RATE [illegible]	[illegible]	J-2 [illegible]	SUPERIORITY [illegible]	T.S.S [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	1.27	1.22	[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]		[illegible]	0.26-0.32	0.33-0.6[illegible]	[illegible]
[illegible]				0.24-0.27	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		0.4	0.32-0.47	[illegible]
[illegible]		[illegible]			0.36	

- REMARKS :

- [illegible] BACK AT 9.00 AM .
- FLUSHING ALL [illegible] LINES .
- J-22.23 SHUT IN 24 HRS DUE TO HIGH T.S.S.
- SENT POLY PIG THROUGH J-56 LINE . RECEIVED THE PIG AND ALL FLUSH THE LINE AFTER PIG REMOVING .
- J-62 THE SECOND PIG IS NOT YET RECEIVED .
- PLANT ALMOST DOWN AT 4.45 AM DUE TO POWER FAILURE (HUMIDITY)

[illegible] :

- [illegible] : FLUSHING

- REMARKS :

- SENT POLY PIGS THROUGH BACPI A,C,D+E RECEIVED D,E . WILL CHECK A,C .

32I-4

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[illegible] SENT BY [illegible] AT [illegible] 0855 LT TKS .

DAILY SITUATION OF PETROL. COMMODITIES

(سرى للغاية)
(CONFIDENTIAL)

الوحدة / طن
UNIT / TON

REGIONAL

EGPC
الهيئة المصرية العامة للبترول
الادارة العامة للنقل والتوزيع
TRASPORTATION AND DISTRIBUTION

موقف عام المواد البترولية صباح / / ١٩

GENERAL SITUATION OF PETROLEUM COMMODITIES
MORNING / / 19

الكفاية بالأيام STORAGE WITH COVERAGE / DAYS	معدل الاستهلاك (الف طن) CONSUMPTION RATE (1000 TON)	المجموع الكلى TOTAL	STORAGE AREAS مستودعات الأقاليم: أسوان ASWAN	قنا KENA	سوهاج SOHAG	المنيا EL MINIA	بنى سويف BENI SUEF	الفيوم FAYOUM	المنصورة MANSOURA	الزقازيق ZAGAZIG	كفر الدوار KAFR EL DAWAR	بنها BANHA	بورسعيد PORTSAID	منطقة أسيوط ASSUIT AREA	منطقة طنطا TANTA AREA	منطقة الاسكندرية ALEXANDRIA AREA	منطقة السويس SUEZ A	منطقة القاهرة CAIRO AREA	المادة COMMODITY
																		LIQUID	سائل بوتاجاز مسا BUTANE
																		Naphtha	نافتا NAFTA
																		OCTANE NO 90 80	90 BENZINE بنزين 80
																			كيروسين KEROSINE
																		NORMAL ELECTRICITY	عادى سولار كهرباء SOLAR
																			ديزل DIESEL
																			مازوت MAZOUT

ارصدة الخام CRUDE STORAGE

CAIRO	القاهرة
SUEZ	السويس
EL NASR	النصر
ALEXANDRIA	الاسكندرية
AMERIYA	العامرية
TANTA	طنطا
ASSUIT	أسيوط

- TOTAL BUTANE INCL. REFINERIES, PIPELINES AND WELLS. — إجمالى البوتاجاز يشمل المعامل والخطوط والحقول
- TOTAL SOLAR INCL. ( )1000 TONS AT POWER STATIONS. — « السولار يشمل ( ) الف طن بمحطات الكهرباء
- TOTAL MAZOUT INCL ( )1000 TONS AT POWER STATIONS AND MAJOR CONSUMERS. — « المازوت يشمل ( ) الف طن « ولدى كبار المستهلكين

NOTES
ملاحظات

	GRUDE خام	MAZOUT مازوت	SOLAR سولار	KEROSINE كيروسين	BENZINE بنزين	BUTANE بوتاجاز	TOTAL STORAGE INCL. إجمالى الارصده تشمل:
TANKERS UNLOADING							— ناقلات تحت التفريغ
PIPELINE							— خطوط أنابيب
TRUCKS							— وسائل نقل
TOTAL							— المجموع

مدير عام النقل والتوزيع
TRANSPORTATION + DISTRIBUTION GENERAL MANAGER

33A

3E

AMOUNT OF PRODUCT CONSUMED

FROM yy/mm to yy/mm

	TOTAL	ZIT.	MAZOT	SALAR/DIS.	DEROS.	BENZEN	L.P.G.	GOVERNEMENT
								CAIRO
								ALEX.
								GIZA
								-
								-
								-
								-

33B-1

** نموذج 21 **

الوحده / طن مترى

** تقرير رقم 6 **

الهيئه المصريه العامه للبترول
الإداره العامه للنقل والتوزيع
قطاع دراسات النقل والتوزيع

AMOUNT OF PRODUCT CONSUMED

FROM YY/MM TO YY/MM

بسم الله الرحمن الرحيم

كميات الاستهلاك للمنتجات البترولية
عن الفترة من 8701 الى 6712

TOTAL الاجمالى		OIL زيوت	WAXOT مازوت	SALAR/DIST. سولار/ ديزل	KEROSENE كيروسين	BENZENE بنزين	LPG بوتاجاز	GOVERNMEAT المحافظة
26.5	4753437	61363	2765923	746452	313655	657647	207437	القاهره
2.5	441021	11773	102470	92063	92765	82022	59313	الغلبوبيه
7.9	1408774	16455	747620	197429	113452	236987	90331	الجيزه
36.8	6603232	69591	3616013	1035949	525372	973166	357741	اجمالى منطقة القاهره
.2	33290	692	369	27941	4497	3211	1570	الوادى الجديد
1.3	227961	3425	39663	64153	62077	31093	7560	الفيوم
1.3	230333	4236	38507	74063	79547	27199	6731	بنى سويف
2.8	506334	7925	196978	101503	141862	46580	12026	المنيا
3.3	600523	8522	314430	107625	121193	40576	6127	اسيوط
2.1	382382	6297	117245	84237	131232	34505	9316	سوهاج
2.1	379405	9326	67416	120335	110019	54647	8662	قنا
1.1	197530	3826	54419	67165	37379	29204	5637	اسوان
14.3	2563873	44249	829077	656082	707911	266975	59579	اجمالى منطقة وجه قبلى
8.5	1527386	24314	747569	313302	102583	223710	111368	الاسكندريه
1.6	289029	4921	21561	133134	27339	45772	1242	مرسى مطروح
10.5	1882557	15970	1215797	371296	187313	73215	13436	البحيره
20.6	3699432	45205	1984927	872732	317745	347727	131046	اجمالى منطقة الاسكندريه
5.2	930079	14229	400322	210265	181176	90765	41302	الدقهليه
3.6	646249	12150	71339	247004	185608	99419	30619	الشرقيه
4.0	722752	10330	283302	171586	145636	75285	32513	الغربيه
1.9	317900	7149	82140	102316	87867	28392	10036	كفر الشيخ
1.6	293059	5532	23350	93193	112889	41665	15421	المنوفيه
1.0	183957	3215	3135	63130	45271	29234	16751	دمياط
17.3	3102996	52758	867638	903514	761474	384760	151352	اجمالى منطقة وسط دلتا
.5	140249	2977	7659	71943	14513	32303	10347	بورسعيد
2.3	503491	6712	302617	131581	12626	42429	12517	السويس
2.5	442892	2733	293764	130219	3727	11334	1275	البحر الاحمر
.3	72374	950	5990	54333	1333	3315	1453	سيناء الجنوبيه
4.0	715202	6809	521541	177262	25503	47072	13334	الاسماعيليه
.7	85297	1991	0	62337	3330	11636	1603	سيناء الشماليه
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				

PRODUCTION OF FILLING STATION

FROM yy/mm TO yy/mm

TANTA /SLY.	FILED /TON	SUZE FILED /SLY.	FILED /TON	TAMH. FILED /SLY.	FILED /TON	MAX. FILED /SLY.	FILED /TON	MOST. FILED /SLY.	FILED /TON	MONTH
										JUL
										AUG.
										SEP.
										OCT.
										—
										—

33C
1/2

Prod. of Fuel Oil from YY/MA To MY/AA

الشهر MONTH		Motor مطور		Max القصوى		Tamoh طموه		Swis سويس		Toni طنطا		اجمالى	
		Fixed/Eva مثبت بالطن	معها اسطوانة	معها بالطن	معها اسطوانة	معها بالطن	معها اسطوانة	معها بالطن	معها اسطوانة	معها بالطن	معها اسطوانة	معها بالطن	معها اسطوانة
L1													
Jul. يوليو		١٥٢٥١	١٢٢٠١٢٨	١١٤١٦	٩١٢٢٢٧	١٠٨٧٩	٨٧٠٢٩٩	٩١٨٢	٧٢٤٦٦٥	٥٨٥٠	٤٦٨٠٥٢	٥٢٧٩	٤٢٠٦٥٩١
Aug. اغسطس		١٥٢٢٦	١٢٤٢١٠٨	١١٥٩١	٩٢٧٢٩٢	١٠٦١٦	٨٤٩٢٠٤	٩٤٢٠	٧٥٤٤٠٥	٦٥٠٥	٥٢٠٤٠٢	٥٢٦٦٨	٤٢٩٢٥١٢
Sept. سبتمبر		١٥٧٨٥	١٢٦٢٨٠٤	١١٢٢٨	٩٠٦٢٦٩	١١٠٢٨	٨٨٢٠٧٠	٩٤٠٢	٧٥٢٢٨٤	٦٥٥٢	٥٢٤٢٥٢	٥٤١٠٧	٤٢٢٨١٨٤
١. الربع		٤٦٥٦٢	٣٧٢٥٠٥٤	٣٤٢٢٥	٢٧٤٦٨٩٩	٣٢٥٢٢	٢٦٠٢٧٢٢	٢٨٠١٦	٢٢٤١٢٥٤	١٨٩٠٨	١٥١٢٧٠٨	١٦٠٢٥٤	١٢٨٢٨٧٨٨
Oct. اكتوبر		١٦٩٦٩	١٢٥٧٥٨٤	١١٨٠٠	٩٤٤٠٦٦	١٢١٤٧	٩٧١٨٢٠	٩٥١١	٧٦٠٨٩٢	٧٥١٤	٦٠١١٨٢	٥٧٩٤١	٤٦٢٥٥٤٤
Nov. نوفمبر		١٨٢١٢	١٤٦٤٩٧٠	١٢٢٨١	٩٨٢٥٢٦	١٢٨٢٢	١٠٢٦٥٦٢	١٠٣٠٥	٨٢٤٤٢٤	٧٦١٦	٦٠٩٢٨٧	٦١٢٤٦	٤٩٠٧٧٨٢
Dec. ديسمبر		١٩٢٥٨	١٥٤٠٦٩٥	١٢٨٧٤	١١٠٩٩٧٢	١٢٩٨٥	١١١٨٨٤٨	١١٢٨١	٩٠٢٥٠٤	٧٨١١	٦٢٤٩٤٠	٦٢٢٠٩	٥٢٩٦٩٦٠
٢. الربع		٥٤٥٢٩	٤٢٦٢٢٤٩	٣٧٩٥٥	٣٠٢٦٥٦٨	٣٨٩٦٤	٣١١٧٢٢٠	٣١٠٩٧	٢٤٨٧٨٢٠	٢٢٩٤١	١٨٢٥٠٩	١٨٥٤٩٦	١٤٨٤٠٢٨٦
Jan. يناير		١٩٥٠١	١٥٦٠١٠٠	١٢٨٢٧	١١٠٦٩٧٦	١٢٩٤١	١١١٥٢٤٢	١١٢٢٨	٨٩٩٠٨٤	٦٩٦٧	٥٥٧٢٩٢	٦٥٤٨٤	٥٢٢٨٨٩٦
Feb. فبراير		١٧٧٨٢	١٤٢٢٦١٢	١٢٤٧٢	١٠٧٧٩٧	١٢٤٤٨	٩٩٥٩١٢	١٠٦١٧	٨٤٩٤١٢	٧١٢٧	٥٧٠١٦٠	٦١٤٤٦	٤٩١٥٨٩٤
MAR مارس		١٩٧٥٦	١٥٨٠٥٢٠	١٤٩١٩	١١٩٢٥٢٥	١٢٦٨٩	١١١٩١٢٢	١٠٨٧٥	٨٧٠٠٠٧	٧٩٥٤	٦٢٦٢٧٧	٦٧٤٩٢	٥٢٩٩٥٦١
١. الربع		٥٧٠٢٩	٤٥٦٢٢٢٢	٤٢٢٢٨	٣٣٧٨٢٠٨	٤٠٢٧٨	٣٢٢٠٢٧٧	٣٢٧٢٠	٢٦١٨٥٠٤	٢٢٠٤٨	١٧٦٢٩٢٠	١٩٤٤٢٢	١٥٥٥٤٢٥١
Apr. ابريل		١٧٦٢٢	١٤٠٩٨١٨	١٢٠٤٦	١٠٤٢٧٥٨	١٢٥٩٧	١٠٠٧٧٨٩	٩٨١٢	٧٨٥٠٦١	٧٦٨٧	٦١٥٠٢٩	٦٠٧٦٥	٤٨٦١٤٥٥
مايو		١٢١٥٨	٩٧٢٦٥٨	٠	٠	١٠٨٥٥	٨٦٨٤٧٤	٨٤٢٨	٦٧٥٠٧٥	٦٨٥١	٥٤٨١٠٤	٢٨٢٠٢	٣٠٦٤٢١١
٢. الربع		٢٩٧٨٠	٢٢٨٢٤٧٦	١٢٠٤٦	١٠٤٢٧٥٨	٢٢٤٢٢	١٨٧٦٢٢٢	١٨٢٥١	١٤٦٠١٢٦	١٤٥٢٨	١١٦٢١٢٢	٩٩٠٦٧	٧٢٢٥٧٦٦
Tot. اجمالى		١٨٧٩٢٠	١٥٠٢٤٠١١	١٢٧٥٦٤	١٠٢٠٥٥٢٢	١٢٥٢٢٧	١٠٨٢٦٦٤٢	١١٠٠٩٤	٨٨٠٧٨٢٤	٧٨٤٢٥	٦٢٧٥١٨٠	٦٢٩٢٤٠	٥١١٤٩١٩١

الوحده طن مطرو

33C
2/3

YEARLY CONSUMPT OF THE MAIN PRODUCTS.

ZIOT	MAZ.	SOLA/DES.	DEROS	L.P.G.	BENEN	YEAR
						78
						79
						80
						81
						-
						-
						-

السنة Year	Benzen بنزينات	LPG غاز سائل	Kerosen كيروسين	Solar/Diesel سولار/ ديزل	M.F.O. مازوت	Ziut زيوت	اجمالى
٧٨ 78	٩٥٧,٩	٢٩٧,٢	١٣٩٢,٨	١٨٢٥,٠	٤٤٠٤,٩	١٥٧,٥	٩٠٢٦,٥
٧٩ 79	١٠٥٤,١	٣٣٧,٦	١٤٤٦,٠	٢٠٩١,٠	٤٩٤٠,٤	١٤٨,٣	١٠٠١٧,٤
٨٠ 80	١١٥٤,٧	٣٨١,٦	١٥٠٢,٥	٢٣٩٢,٧	٥١٣١,١	١٤٢,٥	١٠٧٠٥,٩
٨١	١٢٧٤,٠	٤٣٧,٦	١٦١٦,١	٢٩٧٦,٨	٥٨٤٨,٣	١٦١,٧	١٢٣١٤,٦
٨٢	١٤٣٢,٨	٤٧٦,٧	١٨٥٥,٤	٣٣٦٤,٣	٦٥٢٥,٦	١٨٣,٤	١٣٧٣٨,٢
٨٣	١٦١٠,٥	٥٢٠,١	١٩٨٧,١	٣٦٨٢,٠	٧٠٥٨,٨	١٩٣,٩	١٥٠٥٢,٣
٨٤	١٨٠٨,٦	٥٧٩,٥	٢١٠٨,٨	٤١١٣,٩	٧٦٤٧,٢	٢٣٠,٣	١٦٤٨٨,٣
٨٥	١٩٥٩,٥	٦١٥,٢	٢٢١٩,٨	٤٠٢٧,٦	٧٧٣٦,٠	٢٣٢,٣	١٦٧٩٠,٤
٨٦	٢٠٢٥,٢	٦٦٦,٨	٢٣٣٠,٠	٣٨٤٥,٥	٧٥٣٥,٦	٢٣٨,٢	١٦٦٤١,٢
٨٧	٢١٠٠,٢	٧٤٢,٥	٢٣٨٤,٠	٤٠٢٦,٦	٨٤٢٧,١	٢٥٤,٢	١٧٩٣٤,٦

Monthly Plan

3U

بسم الله الرحمن الرحيم

TRANSPORTATION + DISTRIBUTION PLAN OF ~~FOR~~ REFINERIES PETROLEUM PRODUCTS DURING THE MONTH OF ____ 198-

خطة نقل و توزيع انتاج المعامل من المنتجات البترولية

خلال شهر ____ ١٩

الهيئة المصرية العامة للبترول

الادارة العامة للنقل والتوزيع

EGPC

TRANSPORTATION + DISTRIBU DEPT.

KIND OF PRODUCT : نوع المنتج

ملاحظات REMARKS	العجز أو الزيادة BALANCE (+) OR (-)	الاستهلاك الشهرى MONTHLY CONSUMPTION	اجمالى المتاح خلال الشهر TOTAL PRODUCTION DURING THE MONTH	الانتاج المتوقع EXPECTED PRODUCTION	رصيد أول الشهر BALANCE BEGINNING OF MONTH	سعات التخزين STORAGE CAPACITIES	مناطق الانتاج PRODUCTION AREAS
					VOLUME STORED AT BEGINNING OF MONTH		

33E

نموذج رقم (١٩) FORM # 19

SALES OF PETROLEUM PRODUCTS
OF SUPPLY + SERVICE STATIONS AND SIDE-WALK PUMPS

مبيعات المواد البترولية

من محطات الخدمة والتموين والطلمبات الرصيف

الفترة : شهرية PERIOD : MONTHLY

الوحدة : ألف لتر عدا الزيوت بالطن UNIT : 1000 lit (excl. oil = ton)

شركة

محافظة

شهر Month | سنة Year

REMARKS ملاحظات	SALES المبيعات شهر ٩٠				STATION إسم المحطة NAME	STATION كود المحطة CODE	STATION رقم المحطة NUMBER	إسم المركز AREA NAME	كود المركز AREA CODE
	زيوت oil	سولار Disel	CAR Fuel 90 OCTANE	بنزين ممتاز CAR FUEL 80 OCT. N.					
					الإجمالي TOTAL				

الأسبوع الرابع من الشهر التالي لنهاية الفترة .

FOURTH WEEK OF THE FOLLOWING MONTH

يعد تقديم النموذج

DATE OF SUBMITAL (OF FO
EGPC

33E

33F

3U

EGYPTIAN GENERAL PETROLEUM CORP.
الهيئة المصرية العامة للبترول
TRANSPORTATION & DISTRIBUTION
الادارة العامة للنقل والتوزيع
قطاع الغاز السائل
GAS LIQUID SECTOR

GAS LIQUID SITUATION
موقف الغاز السائل

(UNIT - METRIC TON)
(الوحدة بالطن المترى)

صباح يوم / / ١٩٨
MORNING OF / /1198

LOCAL BUTANE GAS RECEIVABLES

المنطقة AREA	الاستلامات من البوتاجاز المنتج محليا: الكمية المستلمة QUANTITY RECEIVED	الاستلامات من البوتاجاز المنتج محليا: الرصيد CUMULATIVE VOLUME	الموقف بمصانع التعبئة: رصيد السب BULK STORAGE	الموقف بمصانع التعبئة: رصيد المعبأ BOTTLES STORAGE 1 TONE 80 BOTTLES	الموقف بمصانع التعبئة: إجمالى الأرصدة بالمصنع TOTAL STORAGE IN FILLING STATION
منطقة القاهرة CAIRO AREA					
— مصنع التعبئة بمسطرد	MOSTOROD FILLING STATION				
— مصنع التعبئة بطلوه	TOHOWAN FILLING STATION				
— ~~[illegible]~~					
— معمل القاهرة للتكرير	CAIRO REFINERY				
— جهاز الفصل بدهشور	DAHSHOUR SEPARATOR ~~NOT-CAL~~	DAHSHOUR Fill station			
منطقة الاسكندرية ALEXANDRIA AREA					
— مصنع التعبئة بالمكس	MAY FILLING STAT.				
— معمل الاسكندرية للتكرير	ALEXANDRIA REFINERY				
— معمل النصر بالعامرية	AMERIYA REF.				
— جهاز الفصل بأبوقير	ABU KIR FILLING STATION				
منطقة السويس	SUEZ AREA				
— مصنع التعبئة بالسويس	SUEZ FILLING STAT.				
— معمل السويس للتصنيع	SUEZ REFINERY				
— معمل النصر بالسويس	NASR (SUEZ) REFINERY				
— جهاز الفصل بشقير	SHUKIR FILLING STAT.				
— جهاز الفصل بأبورديس	ABU RODAIS FILLING STAT				
— جهاز الفصل بخليج الزيت	ZEIT BAY FILLING STATION				
منطقة طنطا	TANTA AREA				
— مصنع التعبئة بطنطا	TANTA FILLING STAT.				
— معمل طنطا للتكرير	TANTA REF.				
— جهاز الفصل بأبو ماضى	ABU MADDI FILLING STATION				
منطقة أسيوط	ASSUIT AREA				
— مصنع التعبئة بأسيوط	ASSUIT FILLING STAT				
— معمل التكرير بأسيوط	ASSUIT REF.				
الإجمالى	TOTAL				

336

موقف الناقلات بالاسكندرية : —
TANKERS SITUATION — ALEXANDRIA

موقف الناقلات بالسويس : —
TANKERS SITUATION — SUEZ

مدير قطاع الغاز السائل

EGPG
الهيئة المصرية العامة للبترول

قطاع النقل والتوزيع
TRANS. + DIST. SECTOR

PUMPING & SHIPPING MOVEMENT SITUATION

موقف حركة التدفيعات والشحونات

صباح يوم / / ١٩٨

MORNING OF / /198

UNIT : TON
الوحده : طن

1 - PUMPING MOVEMENT
١ - حركة التدفيعات

PIPELINE خط	MATERIAL مادة	QUANTITY كميه	CONDENSATE متكثفات	BUTANE بوتاجاز	B ب	K ك	S س	D د	M م	K خ	TOTAL اجمالى
10" SUEZ - MOSTOROD السويس - مسطرد ١٠											
12" SUEZ - MOSTOROD السويس - مسطرد ١٢											
18" SHOKIR - MOSTOROD شقير - مسطرد ١٨											
SHOKIR/ MOSTOROD شقير - اسيوط											
12" EL NAY - TANTA البكر - طنطا ١٢											
12" EL NAY - KAFR EL DWAR البكر - كفرالدوار ١٢											
6" EL NAY - KAFR EL DWAR. البكر - كفرالدوار ٦											
12" TANTA/ MOSTOROD - BANHA طنطا - مسطرد ١٢ TANTA - BANHA طنطا - بنها											
12" MOSTOROD - TANTA - BANHA مسطرد - طنطا ١٢ MOSTOROD - BANHA مسطرد - بنها											
16" MOSTOROD - EL TIBBINE مسطرد - التبين ١٦											
MOSTOROD - EL MENIYA مسطرد - المنيا											

2 - SHIPPING
٢ - الشحونات

SHIPPED MATERIAL (SINCE BEGINNING OF MONTH)
الشحون من اول الشهر

MATERIAL المادة	RAIL ROAD سكه حديد برنامج PLANNED	RAIL ROAD سكه حديد منفذ ACTUAL	BARGES (RIVER NILE) وحدات نهرية برنامج	BARGES (RIVER NILE) وحدات نهرية منفذ	RAIL ROAD سكه حديد	BARGES (RIVER NILE) وحدات نهرية
FUEL OIL مازوت MAZOUT منتجات بيضاء LIGHT PRODUCTS			PLANNED	ACTUAL	RAIL ROAD	X BARGES (RIVER NILE)
TOTAL اجمالى						

TON TO BANI SUEF
طن لبنى سويف

TON TO SUGAR CO. ⊗
طن الى السكر

(فاروق سرا)
TRANS. + DIST. SECTION MANAGER

33H

23

AMOUNT OF L.P.G. DELIVERED TO EGYPT AREAS

NUMBER OF WORKING hrs.	AMOUNT OF FILED TON.	SLY.	AREA
			ALEX.
			CAIRO
			TANTA
			SUZE
			ASUT
			--
			--
			--

33I-1

Egypt Areas

No of working hrs	عدد ساعات التشغيل ساعة/عام	الكميات المنتجة طن متري Tons	الكميات المنتجة بالجيجاجول GJ amount fuel	المنطقة Area
				منطقة القاهرة Cairo
	١٢,٢٧٩	١٨٧,٩٢٥	١٥,٠٢٤,٠١١	منطقة المنصورة MOST
	٨,٨١٨	١٢٥,٢٢٢	١٠,٨٢٦,٦٤٢	منطقة طنطا TANTO
	٨,٥٨٦	١٢٧,٥٦٩	١٠,٢٠٥,٥٢٢	منطقة الإسكندرية ALEX.
	٥,٩٨٠	١١٠,٠٩٨	٨,٨٠٧,٨٢٤	منطقة السويس SWIZ
	٤,٢٠٢	٧٨,٤٤٠	٦,٢٧٥,١٨٠	منطقة طنطا Tanta
	٢٥٠	٤,٥١٥	٣٦١,٢٢٨	منطقة أسيوط ASIUT
	٤٠,٢١٦	٦٤٢,٨٨٠	٥١,٥١٠,٤٢٩	الإجمالي Total

33I-2

TASK 3: DESIGN SOLUTIONS

The goal of Task 3, Design Solutions, is to develop the logical design of the integrated data bases. To develop this design, the Bechtel team relied heavily upon the reports and forms that were collected from EGPC during the prior two tasks. Having collected these data samples in these earlier tasks, and having established the functionality, the next step was to analyze the data content of these samples and to build the data structure.

The task was divided into five sub-tasks. A brief description of each sub-task and the methods that were used by Bechtel to satisfy each one is as follows:

Task 3.1: List Information Requirements For Each Functional Area - The data requirements were developed by analyzing the forms and reports that had been gathered in the previous tasks. Each form or report that was collected from EGPC was first translated into English. On a broad basis, the content of each form was analyzed for the purpose of categorizing the subject matter of the reports. From this summary-level categorization, Bechtel generated the "D00 EGPC Data Relationship Diagram." This diagram breaks down all of the information at EGPC into four categories: exploration data, well data, operations data, and entities or "reference" data. Also shown are the relationships between one group of data to another. For example, field production data is generated by the production division. The operations division uses this information to help plan for the amount of crude that will be available to refineries. In this case, the "thing" that links this information from one division to another is the operational date on which the production occurred.

The data was further broken down to develop the "EGPC Data Hierarchy". This hierarchy again splits the data into the same categories. This time, though, the data that is under each of these categories is reviewed. From this review, subject data bases are specified. The subject data bases group key identifiers together under each category and are designed to support the functions that were identified in Task 2.

Task 3.2.1: General Schema for Required Data Bases - Contained in the Task 3 report was an "Overview of EGPC Data". This document listed the categories of data and the subject data bases and also showed the major entities that comprise each data base.

Task 3.2.2: Subschemata for Data Bases - Enclosed in the Task 3 Report are cross-reference matrices that analyze the EGPC data and explore the relationships between data elements. The types of matrices that were completed were: entity to data collection matrices; subject area to entity matrices, subject area to function matrices; and entity to process matrices. The key to this effort is to quantify exactly what each form and report is trying to say, how each report is used, who uses it, and how often it is used. In many cases, one form can be used by several different groups for entirely different reasons. Such is the case in the field production reports. The production

department is establishing actual production versus the plan, and the operations division is determining how to handle the crude each day, and at what location to handle it. These matrices help to specify the relationships between one piece of data to another, and can also help to determine how important pieces of data are to the EGPC operation.

Task 3.2.3: Data Management - Data management was achieved through the use of data relationship diagrams. These diagrams show the entities that exist in each data base. Also shown are the relationships that exist from one entity to another and from one operational group to another. These relationships are established to ensure that data bases will operate efficiently, and redundancy will be controlled.

Task 3.3.1: Chart Physical Layout of Data on Storage Devices - This activity was actually done at the conclusion of Task 2.2, Review Present Systems. The diagrams provided as "Alternatives for Data Base Integration" show the location of each data base, and the hardware and software that will be required to operate it.

Task 3.3.2: List Detailed Items of Data on Data Tables: For each of the data bases in the Task 3 Report, a series of diagrams were supplied that list the entities in each data base. Shown underneath each entity are the attributes and the primary and foreign keys that link distinct portions of the data bases to each other.

Task 3.4: Develop Solution Alternatives - After the submittal of the Task 3 Report, a review was held with each of the functional groups of EGPC to review the design that was done by Bechtel. The purpose of this review was to obtain alternate ideas for data and applications groupings. Several changes were made to the original data groupings as a result of this review, and these changes were incorporated into the design.

Task 3.5: Review Alternatives and Select Primary Schema - Again, Bechtel's recommendation for the primary scheme was presented in the Task 3 Report in the section entitled "Alternatives for Data Base Integration".

EGPC INFORMATION SYSTEMS
PLANNING & IMPLEMENTATION PROJECT
TASK 3 DESIGN SOLUTIONS

INTRODUCTION

Task three of the EGPC Information Systems Planning and Implementation Project presents the database design. In Task 2, the Information Usage Models (IUM's) detailed the source and usage of data within the three EGPC divisions: Exploration, Production, and Operations. This document describes the analysis and design of the EGPC database for that information. This database is targeted at the IBM 3090 recently installed at EGPC and running the VM operating system. In addition, data currently being organized by Western Atlas and Scientific Systems Intercomp is included to show how that data is related to the other data required by the three divisions of EGPC.

The illustration titled "Overview Of EGPC Data Generation" shows the overall sequence of EGPC activities, who generates the data for each activity, the main attribute which identifies the types of data for that activity, and the subject data bases into which the data has been grouped. These subject data bases are the following:

- Exploration Data
- Well Data
- Operations Data, and
- EGPC Reference Data.

The Exploration Data contains information generated by oil exploration activities in the various geographical divisions within Egypt. Most of this data is in the form of index records which point to physical storage locations of the data.

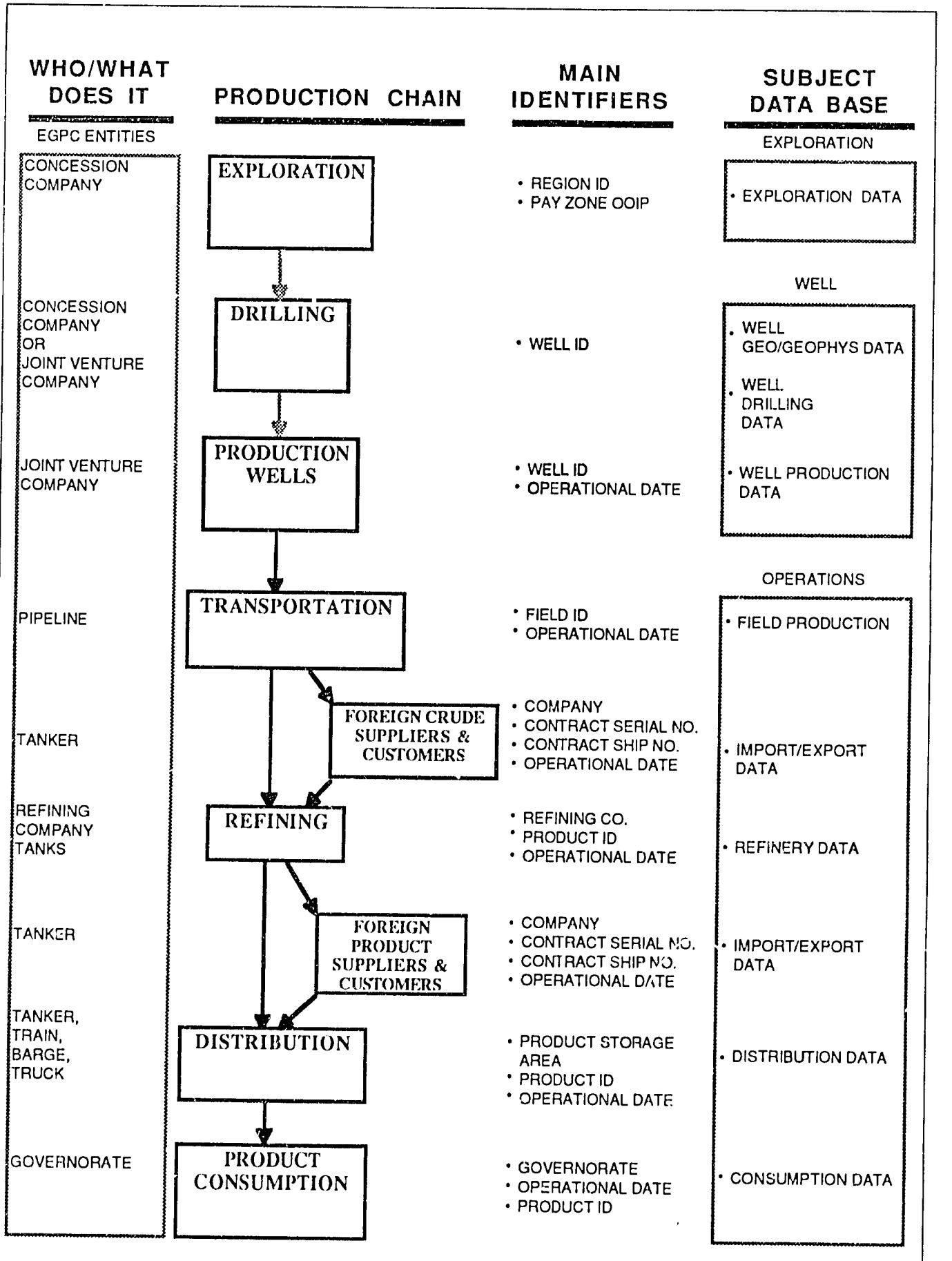
The Well Data category contains data about the wells which are, or have been, drilled throughout Egypt. Exploration Data is related to the Well Data by the Pay Zone name or Fault Block ID into which each well has been drilled and which supplies some of the information in the Exploration Data.

The Operations Data category contains information about EGPC operations such as, import and export of crude oil and products, the status of product distribution storage throughout Egypt, refinery daily output of products, and the consumption of those products in Egypt. This data is related to well data by operational date.

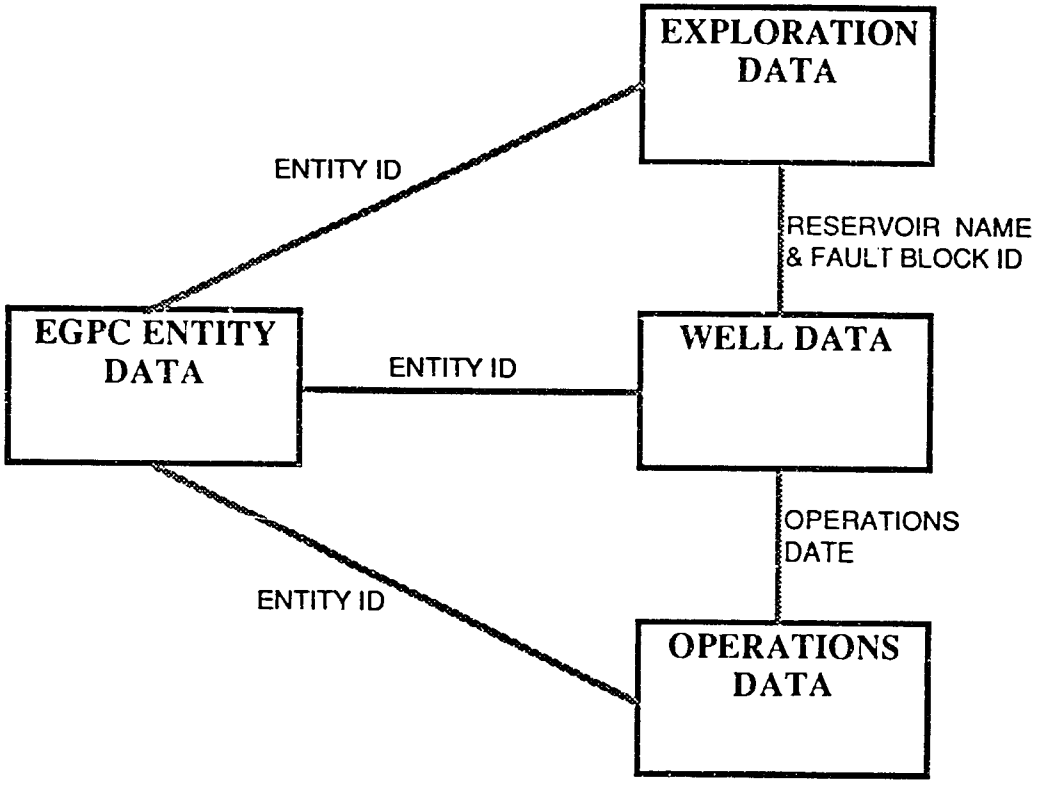
Other data, such as companies, projects, equipment or studies, is contained within the EGPC Reference Data category. This data is generally static and produced once, such as plans. The EGPC Reference Data category is related to data in the other categories by the Entity ID, or other object ID, such as plan number or concession number. The relationships between the four major categories is shown in the figure titled "D00 EGPC Data Relationships Diagram, Simplified View".

The relationship between categories, subject area data bases, and entities is shown in the figures titled "EGPC Data Hierarchy", located at the end of this introduction. The top levels of the hierarchy are categories of data and are labelled 1 through 4. Each category of data is broken down into subject area data bases. These data bases are labelled by the parent category number followed by a letter. Subsequent pages show each category of data and its development to entities.

The entities which comprise each category are shown in the figure titled "D0 Overview of EGPC Data". This diagram summarizes the high level organization of EGPC information. Each category is organized into different subject data bases. The subject data bases are indicated by a box within the category boundary, with the subject data base label above or beside the box. Within each subject data base are the entities which comprise the data. This organization provided the basis for further analysis of the data and development of the database design.



OVERVIEW OF EGPC DATA GENERATION



D00 EGPC DATA RELATIONSHIP DIAGRAM
Simplified View

BECHTEL

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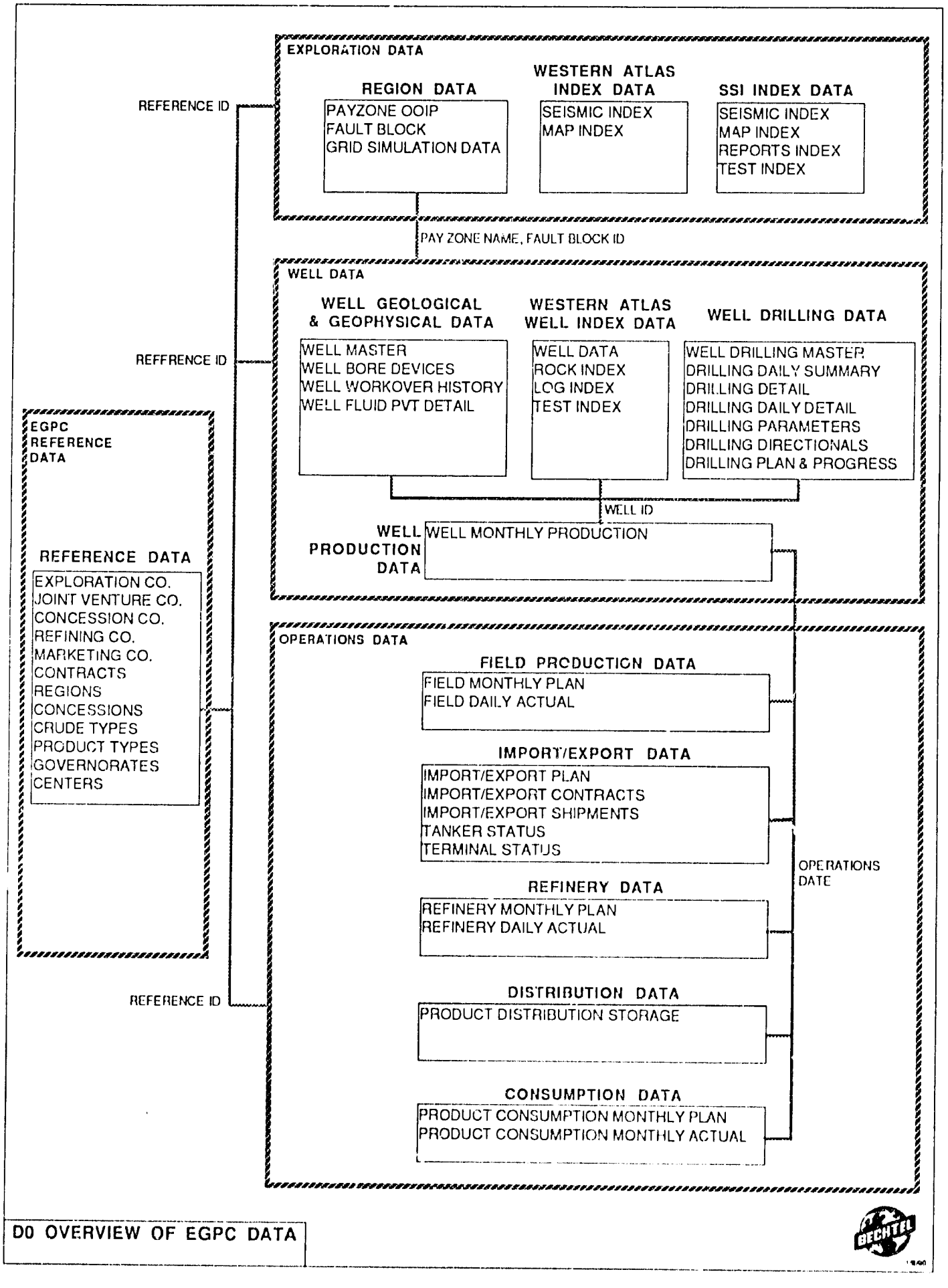
242



D0 OVERVIEW OF EGPC DATA

Explanation of Diagrams

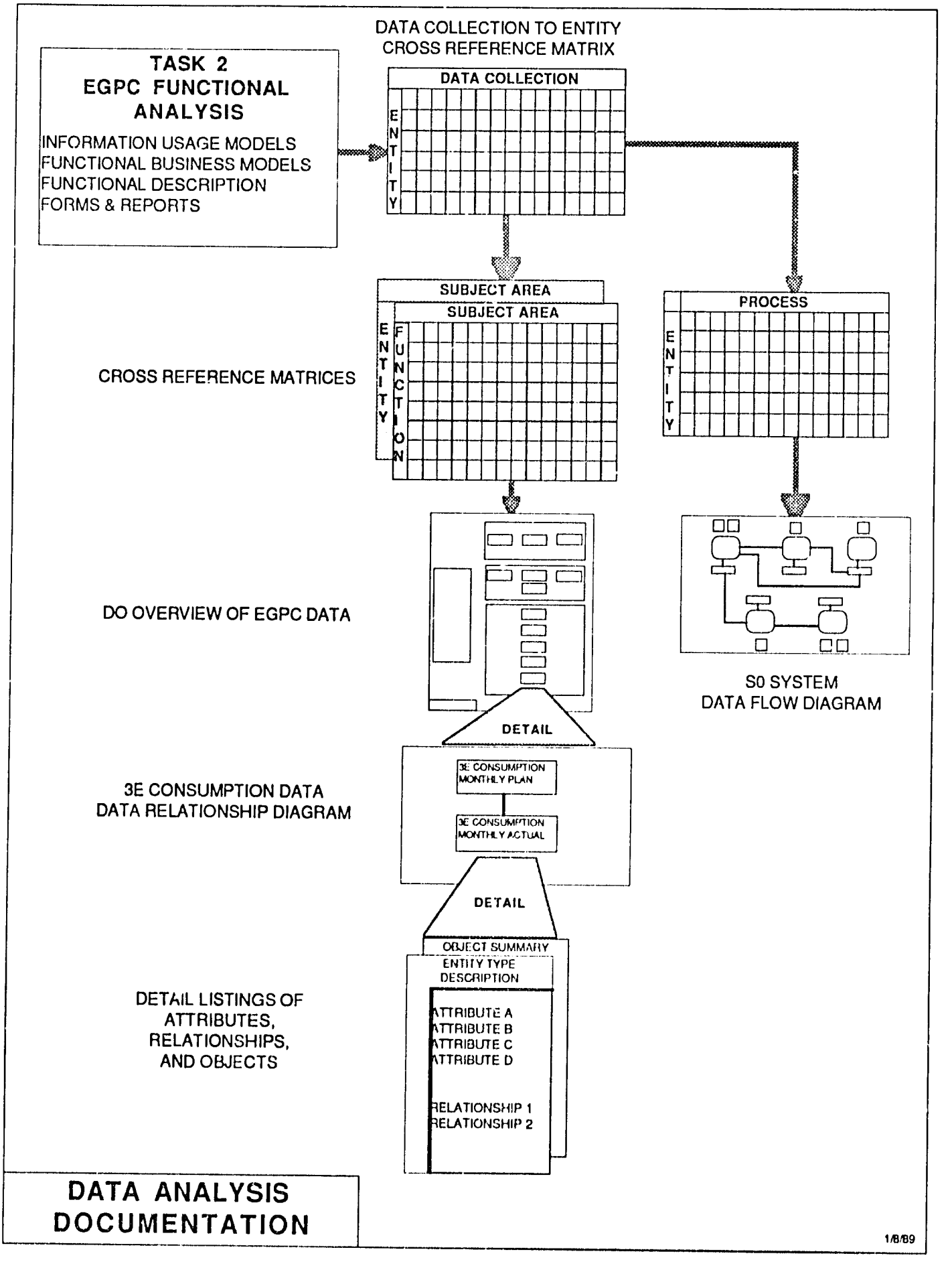
The database design used KnowledgeWare's Information Engineering Workstation (IEW). This CASE tool runs on IBM and compatible personal computers. IEW allows Bechtel Systems Analysts to organize, and systematically analyze, the large set of attributes and functions which comprise the EGPC information, and produce a comprehensive and consistent database. This section explains the types of documents and diagrams used to design the data base. Most of these diagrams are produced by IEW.

There are four types of diagrams which are used to design the data base. The figure titled "Data Analysis Documentation" outlines the four types of diagrams, the order in which the diagrams were produced, and the flow of design information from one diagram to the next. The first diagram type is the matrix. Other types are the Data Relationship Diagram (DRD), the System Data Flow Diagram (SDFD), and the detail descriptions of entities, attributes, relationships, and objects.

The Entity to Data Collection cross reference matrix is the first matrix developed for the EGPC data base design. The Information Usage Models, Functional Business Models, and Functional Descriptions were analyzed to produce the basic data entities inherent in the EGPC functions. The Entity to Data Collection cross reference matrix matches the entities to the sources of the data for each entity. A check mark in a box indicates that data for the entity (listed to the left) is derived from the source, form or report, listed along the top. This diagram is listed in the Appendix.

This matrix was further analyzed to produce three more matrices. The first of these is a Subject Area to Entity cross reference. This matrix indicates the relationship between entities and the different subject areas. A check mark in a box indicates that data in the entity (listed along the left) is involved in someway with the subject area (listed on the top). By analyzing this matrix, the correct set of entities and subject areas is developed.

The second matrix is a Subject Area to Function cross reference. This matrix identifies the relationship between a business function (listed along the left) and the information subject areas (listed along the top), and the type of relationship. Instead of a check mark in the boxes, a single letter code identifies whether the business function **C**reates data, **R**eads data, **U**pdates data, or **D**eletes Data within the corresponding subject area. Any combination of these four relationships is possible.


TASK 2
EGPC FUNCTIONAL ANALYSIS
INFORMATION USAGE MODELS
FUNCTIONAL BUSINESS MODELS
FUNCTIONAL DESCRIPTION FORMS & REPORTS
DATA COLLECTION TO ENTITY CROSS REFERENCE MATRIX
DATA COLLECTION
ENTITY
SUBJECT AREA
SUBJECT AREA
ENTITY
FUNCTION
PROCESS
ENTITY
CROSS REFERENCE MATRICES
DO OVERVIEW OF EGPC DATA
S0 SYSTEM DATA FLOW DIAGRAM
DETAIL
3E CONSUMPTION DATA DATA RELATIONSHIP DIAGRAM
3E CONSUMPTION MONTHLY PLAN
3E CONSUMPTION MONTHLY ACTUAL
DETAIL
OBJECT SUMMARY
ENTITY TYPE DESCRIPTION
ATTRIBUTE A
ATTRIBUTE B
ATTRIBUTE C
ATTRIBUTE D
RELATIONSHIP 1
RELATIONSHIP 2
DETAIL LISTINGS OF ATTRIBUTES, RELATIONSHIPS, AND OBJECTS
DATA ANALYSIS DOCUMENTATION
1/6/89

The third matrix is an Entity to Process cross reference. This matrix identifies the relationships between application processes and entities. A check mark in a box indicates that the corresponding process (listed down the left) involves the corresponding entity (listed across the top) in some way. This matrix is useful in developing the System Data Flow Diagram.

The Subject Area to Entity and Subject Area to Function matrices are used to develop the figure titled "D0 Overview of EGPC Data diagram", a Data Relationship Diagram type. This diagram shows the organization of entities within the subject areas and the high level relationships between subject areas.

From this overview diagram the detailed design of the data base is developed. This design is expressed in the Data Relationship Diagrams for each subject area. These diagrams show all the entities/tables required, and the relationships between them. Entities are represented on the diagram as boxes, and relationships as lines connecting two boxes. For a pair of entities/tables A and B, a record in A may have a one-to one relationship with a record in B, a one-to-many relationship with records in B, or, records in A may have a many-to-many relationship with records in B. Many-to-many relationships are further developed until the relationship can be expressed as one-to-one or one-to-many, and are, therefore, not shown on these diagrams.

The "one" end of a relationship is indicated on the diagram as a short line intersecting the line connecting the two entities. A "many" end of a relationship is indicated on the diagram as a "crows foot" at the end of the connecting line. The direction of the relationship is read as the outside symbol at entity A to the inside symbol at entity B. For instance, a one-to-many relationship from entity A to entity B would have a perpendicular line as the outside symbol near entity A and a crows foot as the inside symbol at entity B. This implies a one-to-one relationship from entity B to entity A and would be diagrammed as a perpendicular bar as the outside symbol at entity B and a perpendicular bar as the inside symbol at entity A.

The details of the Data Relationship Diagram are listed in the figures titled "Entity Type Descriptions", each of which corresponds to an entity box on the DRD. These pages describe the attributes contained in each entity, the attribute(s) which make up the key, the relationships to other entities in the database, and the nature of the relationships.

In IEW, each entity, attribute, function, and process is considered an "object". The Object Summary provides details about objects. Articulation of these details is necessary for proper data base design.

The fourth type of diagram used to design the EGPC data base is the System Data Flow Diagram. This diagram organizes the processes into systems and their related data base components. This type of diagram shows process categories (large round cornered boxes), the processes (named inside the large boxes), and the subject data bases associated with each system (small open ended rectangles above or below the process category boxes), the data which must be exchanged between each process (labeled lines), and the types of people who interact with the systems (3 dimensional square boxes). Data can flow from system to system, from data base to system, or from system to data base. The origin and destination determine which of the three types of data flow a particular arrow represents. The destination of an arrow is the object to which the arrow head points. The label associated with the arrow indicates the type of data which is passed exchanged. The source and target of data for applications can be determined from this diagram.

Overview of Data

The data was analyzed to determine which functions are related to which subject areas, and whether the functions create, read, update, or delete data within those subject areas. This matrix is shown in the figure titled, "Function involves Subject Area". The functions were those defined during Task 2. This matrix determines the requirements which each EGPC function imposes on the data in each subject area.

The attributes discovered during Task 2 were analyzed to determine the entities which comprise the EGPC information set. A matrix which shows the relationship between subject area and entities is shown in the figure titled, "Entity Type Is Involved In Subject Area". This matrix determines which entities "belong" to which subject areas by showing the association relationship between each entity and all subject areas.

Processes were determined by analyzing the Functional Business Models from Task 2. To determine how processes are related to entities, the matrix in the figure titled, "Entity Type Is Involved In Process" was developed. This matrix shows which entities will be required by each application process.

The rest of the report describes the details of the database design. It is divided into six sections as follows:

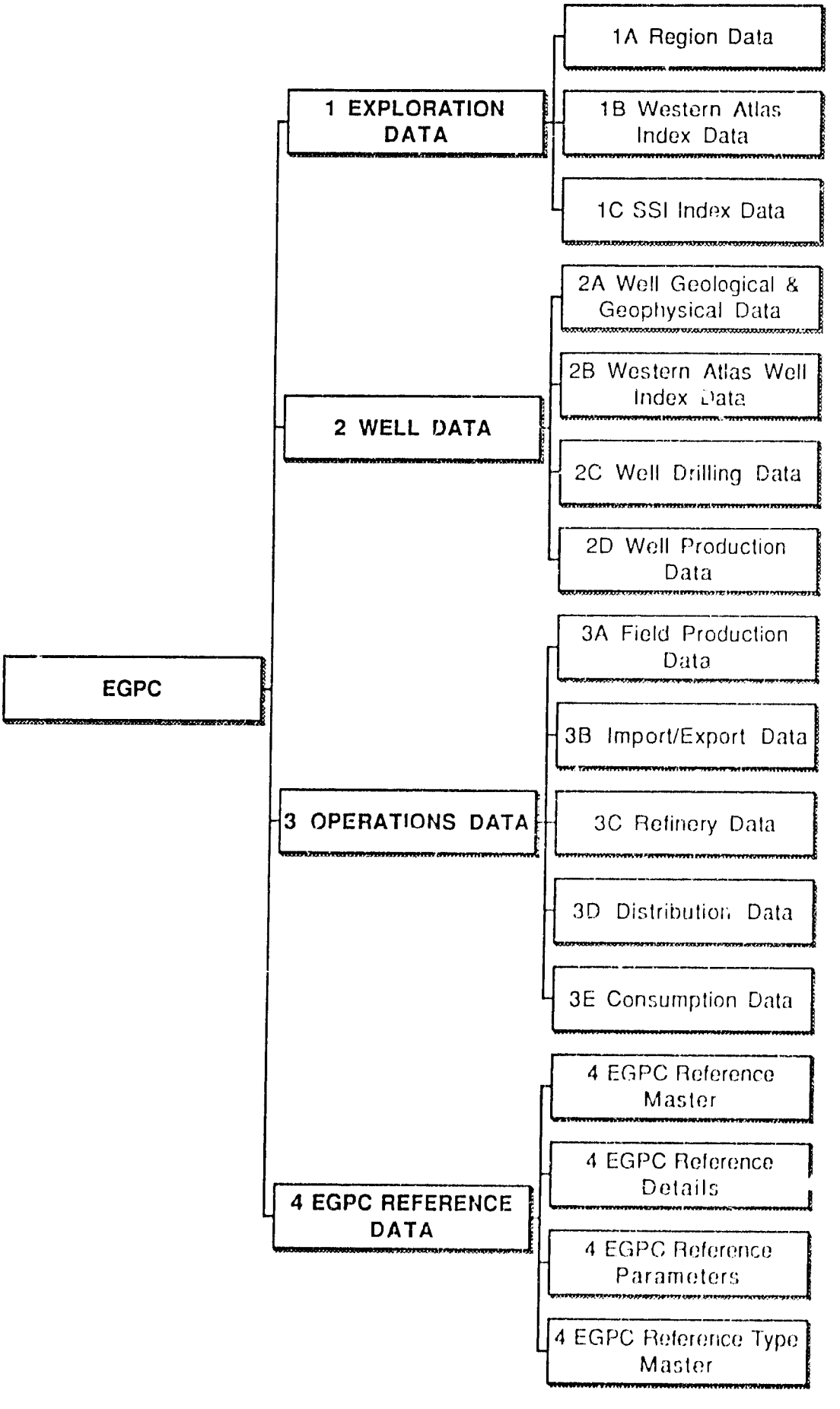
> Section II - Exploration Data: This section describes the entities which make up the Exploration data, their structure, and relationships between these entities and those of other sections. It is composed of Data Relationship Diagrams, Entity Type Descriptions, and explanatory text.
>
> Section III - Well Data: This section describes the entities which make up the Well data, the static structure of the entities, and relationships between these entities and those of other sections. It is composed of Data Relationship Diagrams, Entity Type Descriptions, and explanatory text.
>
> Section IV - Operations Data: This section describes the entities which make up the Operations data, the static structure of the entities, and relationships between these entities and those of other sections. It is composed of Data Relationship Diagrams, Entity Type Descriptions, and explanatory text.

Section V - EGPC Reference Data: This section describes the entities which make up the EGPC Reference Data, the static structure of the entities, and the relationships between these entities and those of other sections. It is composed of Data Relationship Diagrams, Entity Type Descriptions, and explanatory text.

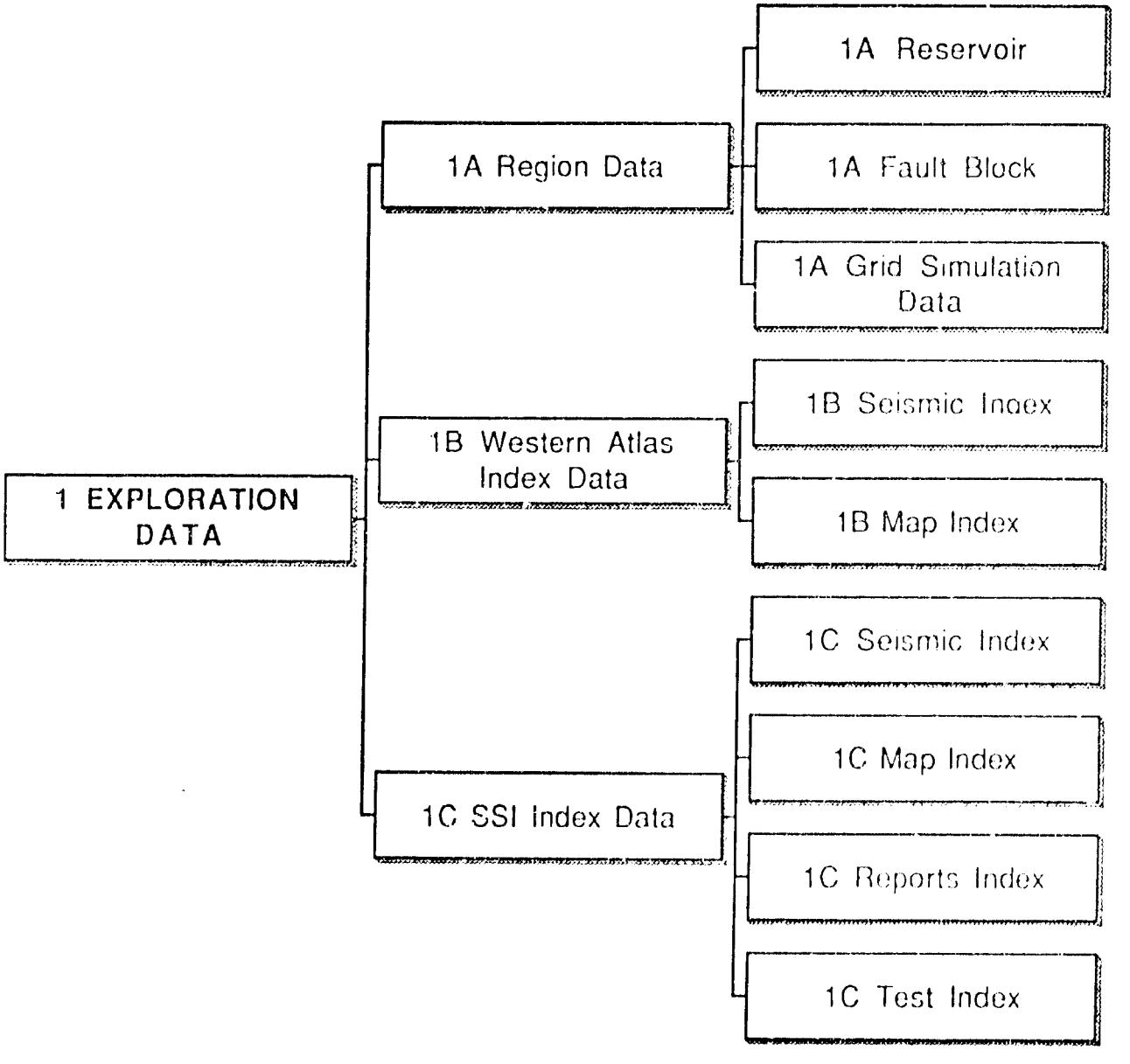
Section VI - Alternative Architectures: This section describes an alternative implementation architecture and implementation software alternatives, and includes illustrations and explanatory text.

Section VII - Appendices: This section includes an object summary for all the entities comprising the EGPC database and several other matrices which were used to develop the database architecture.

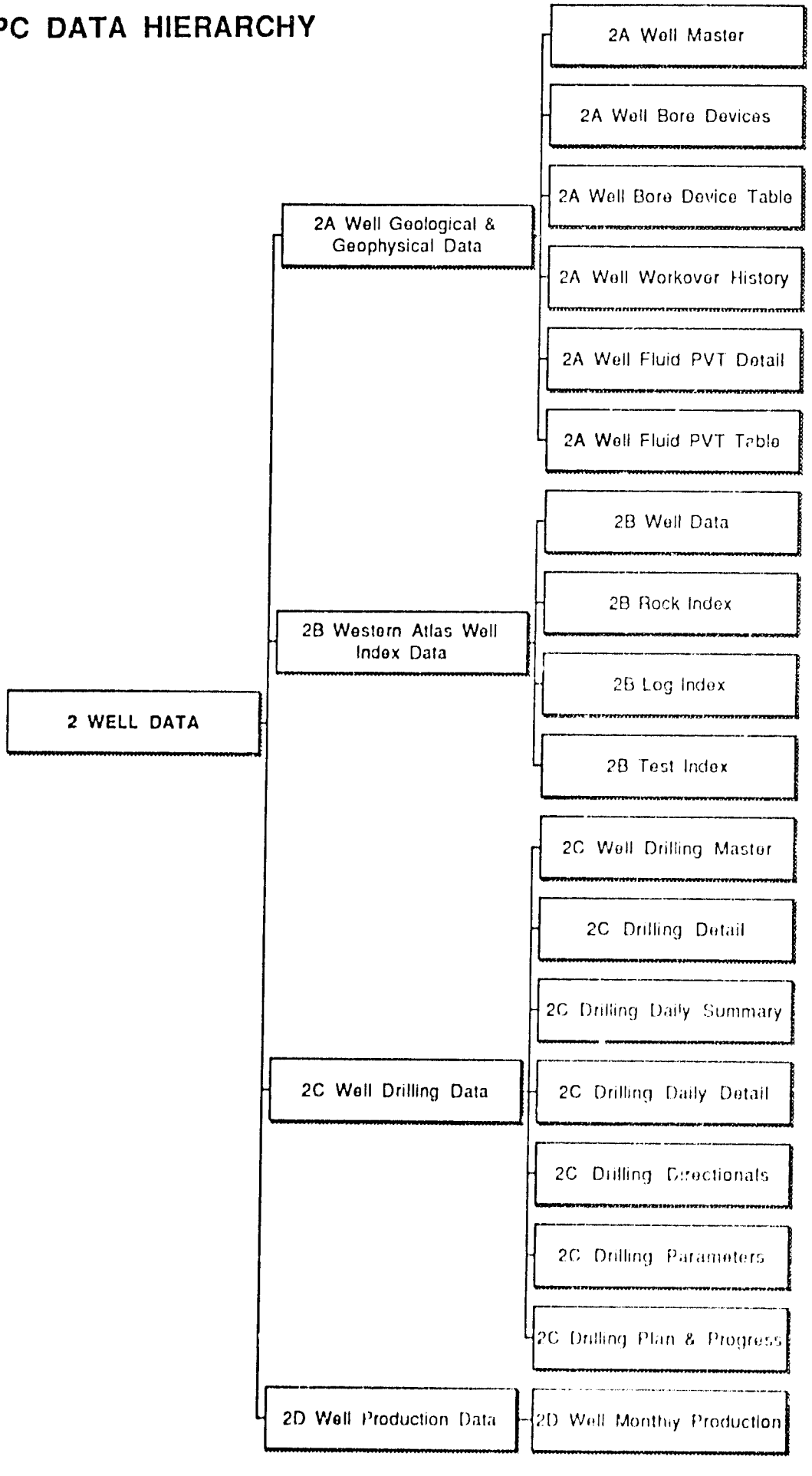
EGPC DATA HIERARCHY



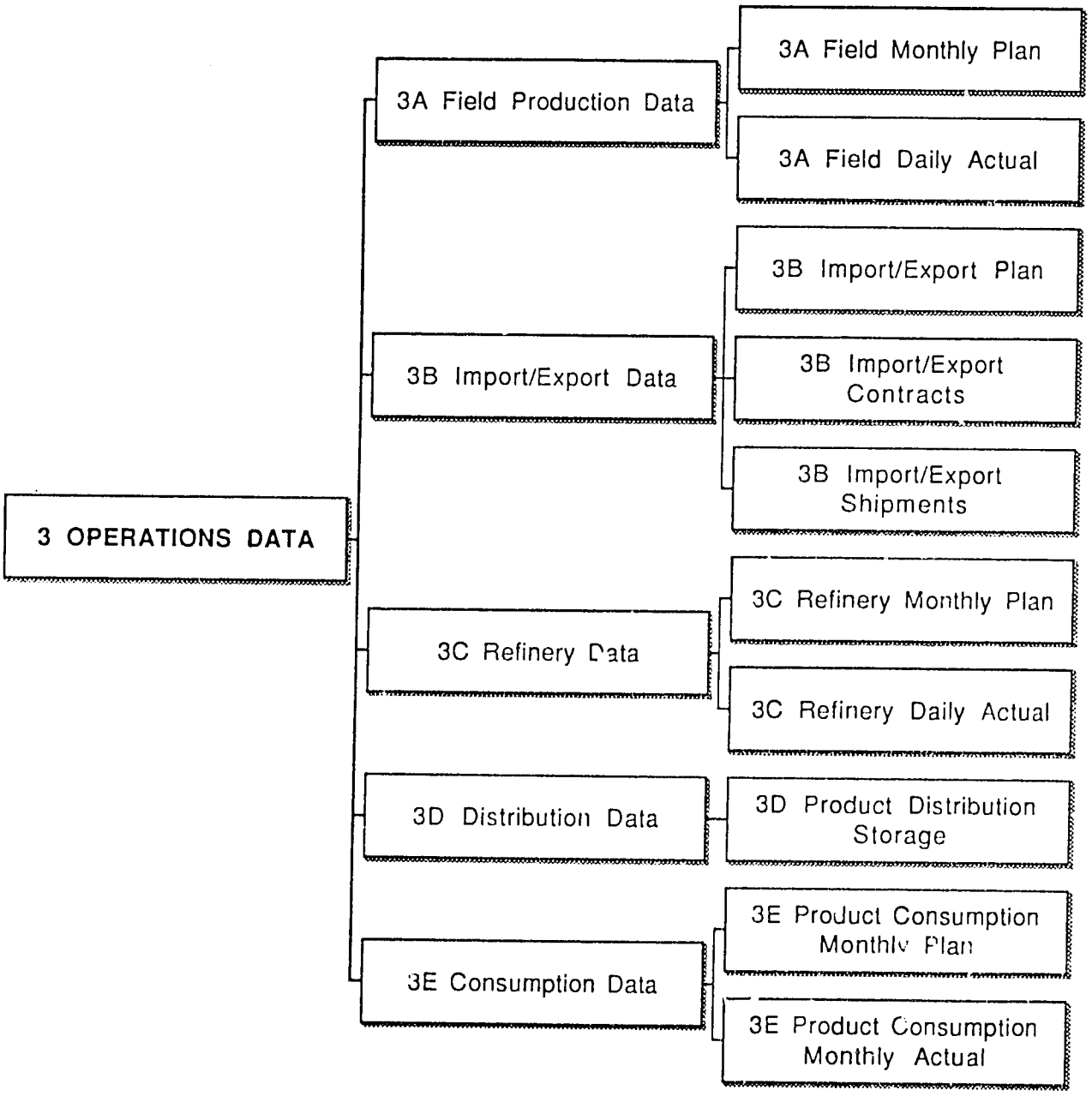
EGPC DATA HIERARCHY



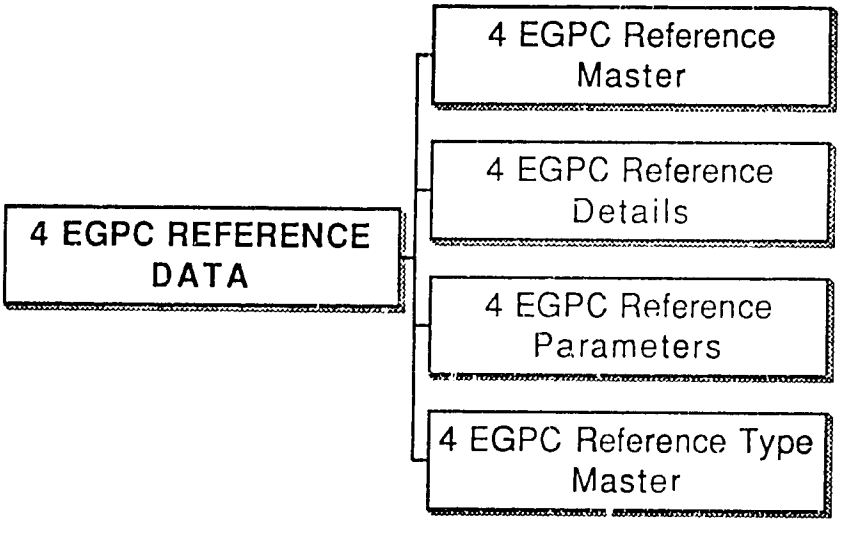
EGPC DATA HIERARCHY



EGPC DATA HIERARCHY



EGPC DATA HIERARCHY



	1A REGION DATA	1B SEISMIC SECTION INDEX	1C SSI INDEX DATA	2A WELL GEOL/GEOPHYS DATA	2B WESTERN ATLAS WELL INDEX DATA	2C WELL DRILLING DATA	2D WELL PRODUCTION DATA	3A FIELD PRODUCTION DATA	3B IMPORT/EXPORT DATA	3C REFINERY DATA	3D DISTRIBUTION DATA	3E CONSUMPTION DATA	4 REFERENCE DATA
111 EXPLORATION STUDIES	CRUD	CRUD	CRUD	R									R
112 EXPLORATION STUDIES EVAL	R	R	R										R
113 EXPLORATION OPERATIONS	RU	R		CRUD	RU	RU							R
120 TECHNICAL CONTROL						R		R					CRUD
130 GELOGICAL/GEOPHYSICAL DATA	RU	RU	RU	RU	RU	RU	RU						R
210 DRILLING	R	R		CRUD	R	CRUD	R						R
220 RESERVOIR & PRODUCTION	CRUD	R		RU	R	R	CRUD	CRUD					R
230 DEVELOPMENT	R			R	R	R	R	R					R
310 SUPPLY & MARITIME								R	CRUD	R	R		R
320 REFINERY & PETROCHEMICAL								R	R	CRUD	RU		R
330 TRANSPORTATION/DISTRIBUTION									R	R	CRUD	CRUD	CRUD

Function involves Subject Area

June 22, 1990 15:18:04

LEGEND:

C: The Function **CREATES** Data In The Subject Area
R: The Function **READS** Data From The Subject Area
U: The Function **UPDATES** Data In The Subject Area
D: The Funciton **DELETES** Data From The Subject Area

	1A REGION DATA	1B SEISMIC SECTION INDEX	1C SSI INDEX DATA	2A WELL GEOL/GEOPHYS DATA	2B WESTERN ATLAS WELL INDEX DATA	2C WELL DRILLING DATA	2D WELL PRODUCTION DATA	3A FIELD PRODUCTION DATA	3B IMPORT/EXPORT DATA	3C REFINERY DATA	3D DISTRIBUTION DATA	3E CONSUMPTION DATA	4 REFERENCE DATA
ER FAULT BLOCK	√												
ER GRID SIM DATA	√												
ER GRID SIM PRM	√												
ER RESERVOIR	√												
ES AIRMAG DATA			√										
ES GRAVITY DATA			√										
ES LAB ANALYSIS			√										
ES REPORTS			√										
ES SEISMIC 3D			√										
ES SEISMIC DATA			√										
ES XSECTION			√										
EW MAG TAPE		√											
EW MAP INDEX		√											
EW SEISMIC LINE		√											
EW SEISMIC SECT		√											
EW SEISMIC SURVEY		√											

Entity Type is involved in Subject Area

June 22, 1990 15:32:08

	1A REGION DATA	1B SEISMIC SECTION INDEX	1C SSI INDEX DATA	2A WELL GEOL/GEOPHYS DATA	2B WESTERN ATLAS WELL INDEX DATA	2C WELL DRILLING DATA	2D WELL PRODUCTION DATA	3A FIELD PRODUCTION DATA	3B IMPORT/EXPORT DATA	3C REFINERY DATA	3D DISTRIBUTION DATA	3E CONSUMPTION DATA	4 REFERENCE DATA
WD DRILL DAY DTL						√							
WD DRILL DAY SUM						√							
WD DRILL DIRECT						√							
WD DRILL PRM						√							
WD DRILL PROGRAM						√							
WD FIX DRILL DTL						√							
WG FLUID PVT DATA				√									
WG FLUID PVT PRM				√									
WG WELL DEVIC PRM				√									
WG WELL DEVICE				√									
WG WELL MSTR	√			√	√	√	√						
WG WORKOVER HIST				√									
WP WELL MON PROD							√						
WW CASING					√								
WW DEVIATION					√								
WW GENERAL WELL					√								
WW LOG RECORD					√								
WW ROCK SAMPLE					√								
WW SIDEWALL					√								
WW STRAT TOPS					√								
WW TEST DATA					√								

Entity Type is involved in Subject Area

July 2, 1990 14:32:31

	1A REGION DATA	1B SEISMIC SECTION INDEX	1C SSI INDEX DATA	2A WELL GEOL/GEOPHYS DATA	2B WESTERN ATLAS WELL INDEX DATA	2C WELL DRILLING DATA	2D WELL PRODUCTION DATA	3A FIELD PRODUCTION DATA	3B IMPORT/EXPORT DATA	3C REFINERY DATA	3D DISTRIBUTION DATA	3E CONSUMPTION DATA	4 REFERENCE DATA
OC CONSU MON ACT												√	
OC CONSU MON PLAN												√	
OD PROD DIST STOR											√		
OP FIELD DAY ACT								√					
OP FIELD MON PLAN								√					
OR REF DAY ACT										√			
OR REF MON PLAN										√			
OS IMP EXP CONTR									√				
OS IMP EXP PLAN									√				
OS SHIPMENTS									√				
OS TANKER STAT									√				
OS TERMINAL STAT									√				
RF REF DTL													√
RF REF MSTR													√
RF REF PRM													√
RF REF TYPE MSTR													√

Entity Type is involved in Subject Area

June 22, 1990 15:58:38

	01 EXPLORATION SYSTEM	02 WELL GEOSCIENCE SYSTEM	03 ARCHIVE DATA SYSTEM	04 WELL DRILLING SYSTEM	05 WELL PRODUCTION SYSTEM	06 FIELD PRODUCTION SYSTEM	07 TRANSPORTATION SYSTEM	08 REFINERY SYSTEM	09 COMPANY MANAGEMENT SYSTEM	10 PRODUCT CONSUMPTION SYSTEM	11 PRODUCT DISTRIBUTION SYS
ER FAULT BLOCK	√										
ER GRID SIM DATA	√	√									
ER GRID SIM PRM	√										
ER RESERVOIR	√										
ES AIRMAG DATA			√								
ES GRAVITY DATA			√								
ES LAB ANALYSIS			√								
ES MAPS			√								
ES REPORTS			√								
ES SEISMIC 3D			√								
ES SEISMIC DATA			√								
ES XSECTION			√								
EW MAG TAPE			√								
EW MAP INDEX			√								
EW SEISMIC LINE			√								
EW SEISMIC SECT			√								
EW SEISMIC SURVEY			√								

Entity Type is involved in Process

June 22, 1990 16:06:07

	01 EXPLORATION SYSTEM	02 WELL GEOSCIENCE SYSTEM	03 ARCHIVE DATA SYSTEM	04 WELL DRILLING SYSTEM	05 WELL PRODUCTION SYSTEM	06 FIELD PRODUCTION SYSTEM	07 TRANSPORTATION SYSTEM	08 REFINERY SYSTEM	09 COMPANY MANAGEMENT SYSTEM	10 PRODUCT CONSUMPTION SYSTEM	11 PRODUCT DISTRIBUTION SYS
WD DRILL DAY DTL				√							
WD DRILL DAY SUM				√							
WD DRILL DIRECT				√							
WD DRILL PRM				√							
WD DRILL PROGRAM				√							
WD FIX DRILL DTL				√							
WG FLUID PVT DATA				√							
WG FLUID PVT PRM				√							
WG WELL DEVIC PRM				√							
WG WELL DEVICE				√							
WG WELL MSTR	√	√	√	√	√						
WG WORKOVER HIST				√							
WP WELL MON PROD					√						
WW CASING			√	√							
WW DEVIATION			√	√							
WW GENERAL WELL	√	√	√		√						
WW LOG RECORD		√									
WW ROCK SAMPLE		√									
WW SIDEWALL		√									
WW STRAT TOPS		√									
WW TEST DATA		√									

Entity Type is involved in Process

July 2, 1990 14:36:35

	01 EXPLORATION SYSTEM	02 WELL GEOSCIENCE SYSTEM	03 ARCHIVE DATA SYSTEM	04 WELL DRILLING SYSTEM	05 WELL PRODUCTION SYSTEM	06 FIELD PRODUCTION SYSTEM	07 TRANSPORTATION SYSTEM	08 REFINERY SYSTEM	09 COMPANY MANAGEMENT SYSTEM	10 PRODUCT CONSUMPTION SYSTEM	11 PRODUCT DISTRIBUTION SYS
3 ANNUAL PLAN DATA						√	√	√		√	
3 DAILY SITUATION DATA						√	√	√		√	√
OC CONSU MON ACT										√	
OC CONSU MON PLAN										√	
OD PROD DIST STOR											√
OP FIELD DAY ACT						√					
OP FIELD MON PLAN						√					
OR REF DAY ACT								√			
OR REF MON PLAN								√			
OS IMP EXP CONTR							√				
OS IMP EXP PLAN							√				
OS SHIPMENTS							√				
OS TANKER STAT							√				
OS TERMINAL STAT							√				
RF REF DTL									√		
RF REF MSTR									√		
RF REF PRM									√		
RF REF TYPE MSTR									√		

Entity Type is involved in Process

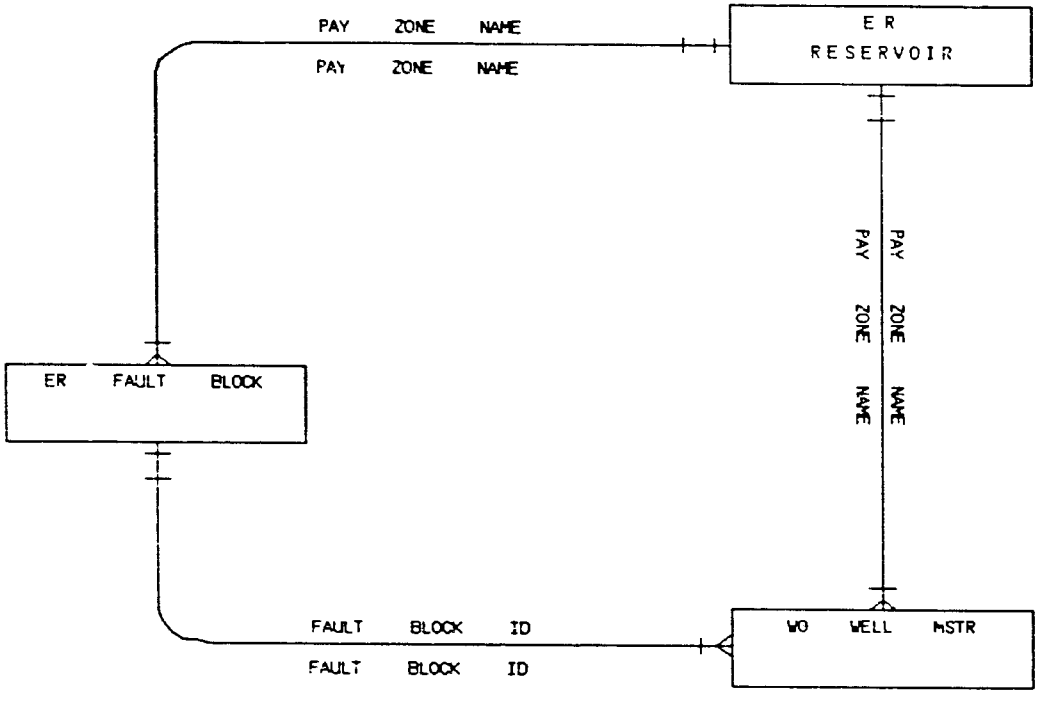
June 22, 1990 16:22:57

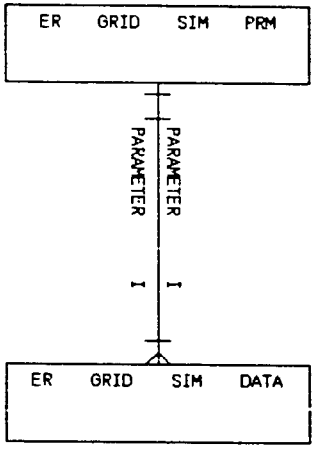
EXPLORATION DATA

The Exploration Data is composed of three major parts, Region Data, Western Atlas Index Data, and Scientific Software Intercomp Index Data. Regional data consists of three entities, Pay Zone OOIP, Fault Block, and Grid Simulation. The Pay Zone OOIP entity has the Pay Zone name as the primary key while the Fault Block entity has the Fault Block ID as the primary key. Both entities have a one-to-many relationship to the Well Master entity which connects the geological and geographical information to the well that provided the data. The Grid Simulation entity contains all the data required as input to a simulation run. The primary key is a concatenation of the Grid ID Reference, X coordinate, Y coordinate, and Z coordinate. For further detail, see the entity type descriptions at the end of this section, and figure 1A, "Exploration Data", the Data Relationship Diagram.

Western Atlas Index data consists of four entities, Seismic Line, Seismic Section, Seismic Mag Tape, and Map Index. This data is currently resident on the Western Atlas Personal Computer network installed at EGPC. The Seismic Line entity contains information about each seismic line in a given "area". This entity has a one-to-many relationship to both the Seismic Section entity and the Seismic Magnetic Tape entity. The Seismic Section entity contains data about the seismic section including a pointer to the physical storage location of the data. The Seismic Magnetic Tape entity contains data about the magnetic tape containing seismic data for a seismic line and is also a pointer to the physical storage location of the magnetic tape. The Map Index entity stores data about various geological maps including their physical storage location. For further detail, see the entity type descriptions at the end of this section, and figure 1B, "Seismic Section Index", the Data Relationship Diagram.

The Scientific Software Intercomp Index data consists of eight entities: Seismic Data, 3D Seismic Data, Lab Analysis Data, Xsection Data, Reports Data, Gravity Computations, Maps Data, and Airmag Data. These entities maintain information about reports, seismic studies, maps, etc. which has been generated for a region and maintain the physical storage location for this data. This index data is currently maintained on the SSI microvax. For further detail, see the entity type descriptions at the end of this section, and figure 1C, "SSI Indexes", the Data Relationship Diagram.





1A REGION DATA

June 22. 1990 16:32:12

ER FAULT BLOCK

Attribute Types

Id	<1-1>	PAY ZONE NAME
Id	<1-1>	FAULT BLOCK
Id	<1-1>	CASE VARIANT
	<0-M>	CASE VARIANT DESC
	<0-M>	PROVEN OOIP MMSTB
	<0-M>	PROB OOIP MMSTB
	<0-M>	POSS OOIP MMSTB
	<0-M>	OGIP MMSTCM
	<0-M>	GBV MMCM
	<0-M>	NET TO GROSS PCNT
	<0-M>	NBV MMCM
	<0-M>	THETA PCNT
	<0-M>	H20 SAT PCNT
	<0-M>	FVF BOI

Relationship Types

Id FAULT BLOCK ID <1-M> WG WELL MSTR
[FAULT BLOCK ID <1-1> ER FAULT BLOCK]

Context: 1A REGION DATA

June 21, 1990 8:09:06

ER GRID SIM DATA

Attribute Types

Id <1-1> GRID ID REF
Id <1-1> X COORD
Id <1-1> Y COORD
Id <1-1> Z COORD
Id <1-1> PRM CODE
<0-M> PRM VALUE

Relationship Types

PARAMETER ID <1-1> ER GRID SIM PRM
[PARAMETER ID <1-M> ER GRID SIM DATA]

Context: 1A REGION DATA

June 21, 1990 8:12:43

ER GRID SIM PRM

Attribute Types

Id

<1-1> PRM CODE

<0-M> PRM NAME

<0-M> PRM UNITS

Relationship Types

Id

PARAMETER ID <1-M> ER GRID SIM DATA

[PARAMETER ID <1-1> ER GRID SIM PRM]

Context: IA REGION DATA

June 21, 1990 8:11:49

ER RESERVOIR

Attribute Types

Id <1-1> PAY ZONE NAME
Id <1-1> CASE VARIANT
<0-M> CASE VARIANT DESC
<0-M> ZONE BOT DEPTH
<0-M> ZONE THICKNESS
<0-M> PROVEN RESRV MMSTB
<0-M> PROB RESRV MMSTB
<0-M> POSS RESRV MMSTB
<0-M> AVG POROSITY PCNT
<0-M> HC H2O CONTACT
<0-M> THETA CO PCNT
<0-M> VSH CO PCNT
<0-M> SW CO PCNT
<0-M> ODT METERS SSL

Relationship Types

Id PAY ZONE NAME <1-M> WG WELL MSTR
[PAY ZONE NAME <1-1> ER RESERVOIR]

Context: 1A REGION DATA

June 21, 1990 8:08:17

ES XSECTION

ES SEISMIC DATA

ES MAPS

ES REPORTS

ES SEISMIC 3D

ES AIRMAG DATA

ES LAB ANALYSIS

ES GRAVITY DATA

IC SSI INDEX DATA

June 21, 1990 14:09:37

292

ES AIRMAG DATA

Attribute Types

<1-1> TITLE
<0-M> DATEREC
<0-M> NW COORD
<0-M> SE COORD
<0-M> PROC CONTRACTOR
<0-M> REC CONTRACTOR
<0-1> CONCESSIONAIRE
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> DATUM
<0-1> CONTOUR INTERVAL
<0-1> FLIGHT INTERVAL
<0-M> TIE LINE INTVL
<0-1> FLIGHT ALTITUDE
<0-M> PROCTYPE
<0-M> DATEPROC
<0-1> SCALE
<0-1> MEDIA
<0-1> QUALITY
<0-M> BUILDING
<0-M> BOX NO

Relationship Types

*** No Relationship Types Defined ***

Context: IC SSI INDEX DATA

June 21, 1990 14:05:48

ES GRAVITY DATA

Attribute Types

<0-M> TITLE
<0-M> DATEREC
<0-M> NW COORD
<0-M> SE COORD
<0-M> PROC CONTRACTOR
<0-M> REC CONTRACTOR
<0-1> CONCESSIONAIRE
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-M> DATUM
<0-M> SCALE
<0-M> CONTOUR INTERVAL
<0-M> MEDIA
<0-1> QUALITY
<0-M> BUILDING
<0-M> BOX NO

Relationship Types

*** No Relationship Types Defined ***

Context: IC SSI INDEX DATA

June 21, 1990 14:09:18

ES LAB ANALYSIS

Attribute Types

<1-1> TITLE
<1-1> TYPE
<0-M> DATEREC
<0-1> CONTRACTOR
<0-1> CONCESSIONAIRE
<0-M> PAGES NO
<0-M> INCLUSIONS
<0-M> SAMPLES
<0-1> TOP DEPTH
<0-1> BTM DEPTH
<0-M> MEASURE UNITS
<0-M> SOURCE
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> WELL
<0-1> QUALITY
<0-M> BUILDING
<0-M> CABINET NUM
<0-1> REMARKS
<0-M> LAB NO

Relationship Types

*** No Relationship Types Defined ***

Context: IC SSI INDEX DATA

June 21, 1990 14:06:28

ES REPORTS

Attribute Types

<0-M> TITLE
<1-1> TYPE
<0-M> REPORT DATE
<0-M> REPORT PAPER
<0-1> CONTRACTOR
<0-1> AUTHOR
<0-1> CONCESSIONAIRE
<0-M> PAGES NO
<0-M> INCLUSIONS
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> WELL
<0-1> QUALITY
<0-M> BUILDING
<0-M> CABINET NUM
<0-M> ABSTRACT REMARKS
<0-M> REPORT NO
<0-M> SUB TYPE
<0-M> AREA GEOG
<0-M> AREA GEOLOG
<0-M> SUB AREA
<0-M> CONCESS BLOCK
<0-M> ENCLOS MAP
<0-M> ENCLOS SECT
<0-M> ENCLOS ELOG
<0-M> ENCLOS COMPOSITE
<0-M> ENCLOS VSP
<0-M> ENCLOS MUD LOG
<0-M> ENCLOSE DISK
<0-M> MICROFILM NO
<0-M> CONDITION VG
<0-M> CONDITION G
<0-M> CONDITION P
<0-M> SECURITY HIGH
<0-M> SECURITY LOW
<0-M> CONFIDENTIAL
<0-M> ROOM NO
<0-M> SHELF NO
<0-M> NO OF COPIES

Relationship Types

*** No Relationship Types Defined ***

Context: ICSSI INDEXDATA

July2, 1990 15:00:43

216

ES SEISMIC 3D

Attribute Types

<1-1> TITLE
<0-M> DATEREC
<0-M> NW COORD
<0-M> SE COORD
<1-1> TYPE
<0-M> ORIG REPRO
<0-M> DATEPROC
<0-M> PROC CONTRACTOR
<0-M> REC CONTRACTOR
<0-1> CONCESSIONAIRE
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> DATUM
<0-1> CONTOUR INTERVAL
<0-M> RECORDTYPE
<0-1> STACK
<0-M> RECLENGTH
<0-M> SAMPLERATE
<0-1> ENERGY SOURCE
<0-M> HORZSCALE
<0-M> VERTSCALE
<0-1> MEDIA
<0-1> QUALITY
<0-M> BUILDING
<0-M> BOX NO
<0-M> SETS 3D NO

Relationship Types

*** No Relationship Types Defined ***

ES SEISMIC DATA

Attribute Types

<0-M> LINE
<0-M> DATEREC
<0-M> BEGCOORD
<0-M> ENDCOORD
<0-M> BEGDIREC
<0-M> ENDDIREC
<0-M> BEGSHOTNO
<0-M> ENDSHOTNO
<1-1> TYPE
<0-M> ORIG REPRO
<0-M> DATEPROC
<0-M> PROC CONTRACTOR
<0-M> REC CONTRACTOR
<0-1> CONCESSIONAIRE
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> DATUM
<0-M> RECORDTYPE
<0-1> STACK
<0-M> SHOT PT INTERVAL
<0-M> RECLENGTH
<0-M> SAMPLERATE
<0-M> GROUP INTERVAL
<0-1> TRACE
<0-1> ENERGY SOURCE
<0-M> HORZSCALE
<0-M> VERTSCALE
<0-1> MEDIA
<0-1> QUALITY
<0-M> BUILDING
<0-1> BOX NO.

Relationship Types

ES XSECTION

Attribute Types

<1-1> XSEC TITLE
<0-M> REPORT TITLE
<1-1> TYPE
<0-M> REPORT DATE
<0-1> CONTRACTOR
<0-1> AUTHOR
<0-1> CONCESSIONAIRE
<0-1> INTERVAL
<0-M> MEASURE UNITS
<0-1> DATUM
<0-M> BEGDIREC
<0-M> ENDDIREC
<0-M> HORZSCALE
<0-M> VERTSCALE
<0-1> MEDIA
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> WELL
<0-1> QUALITY
<0-M> BUILDING
<0-M> CABINET NUM
<0-M> XSEC NO

Relationship Types

*** No Relationship Types Defined ***

Context: IC SSI INDEX DATA

June 21, 1990 14:00:35

ES MAPS

Attribute Types

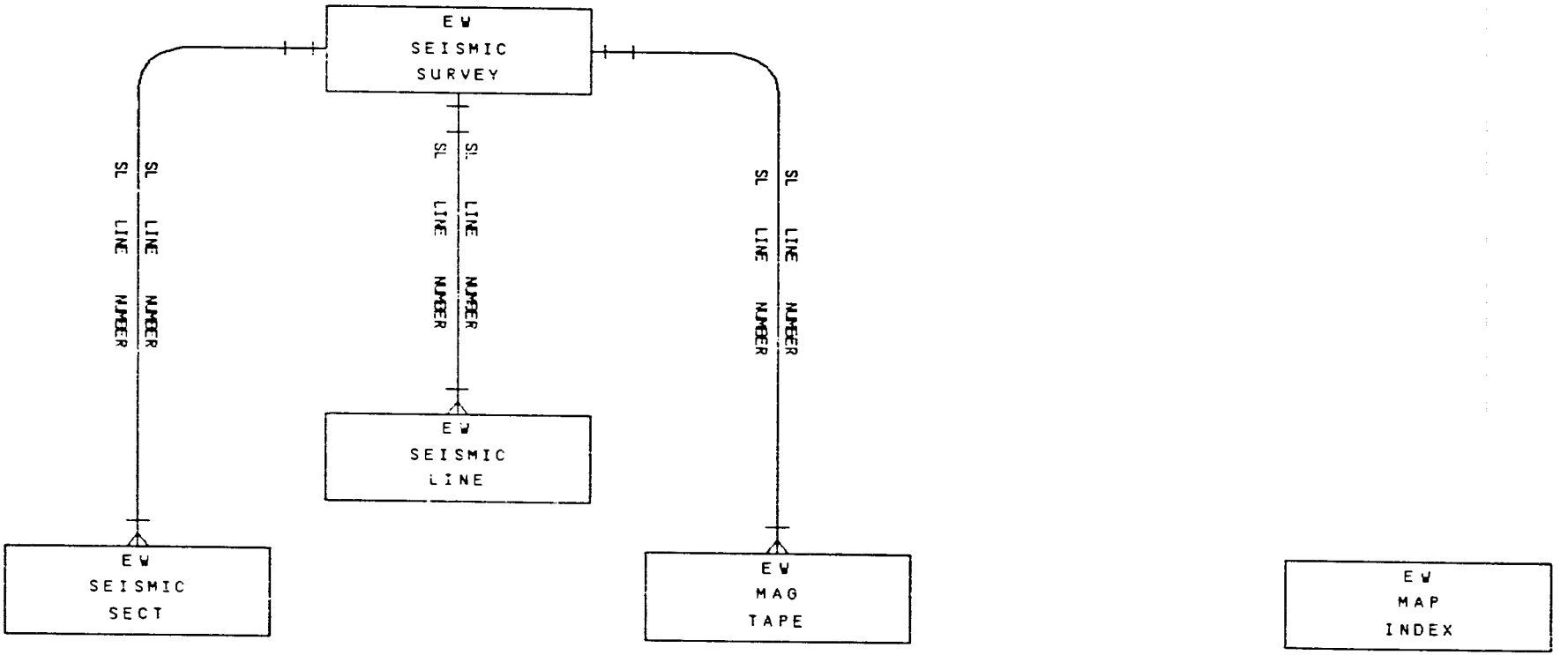
<1-1> MAP TITLE
<0-1> REPORT TITLE
<1-1> TYPE
<0-M> MAP DATE
<0-1> CONTRACTOR
<0-1> AUTHOR
<0-1> CONCESSIONAIRE
<0-M> NW COORD
<0-M> SE COORD
<0-1> HORIZON
<0-1> CONTOUR INTERVAL
<0-M> MEASURE UNITS
<0-1> SCALE
<0-1> MEDIA
<0-1> REGION
<0-M> BASIN HIGH
<0-M> FIELD NAME
<0-1> WELL
<0-1> QUALITY
<0-M> BUILDING
<0-M> CABINET NUM
<0-M> MAP NO

Relationship Types

*** No Relationship Types Defined ***

Context: IC SSI INDEX DATA

June 21, 1990 14:03:47



1B SEISMIC SECTION INDEX

June 21, 1990 8:34:10

EW MAG TAPE

Attribute Types

Id <1-1> SEIS SURVEY
Id <1-1> SL LINE NUMBER
<1-1> TAPE TYPE ABR
<0-M> SM INSTRUMENT
<0-M> SM FORMAT
<0-M> SM RECORDER CHAN
<0-M> SM DATA CHANNEL
<0-M> SM REMARKS
<0-M> SM ROOM
<0-M> SM ROW
<0-M> SM COLUMN
<1-1> MEDIA TYPE
<1-1> MEDIA COND

Relationship Types

SL LINE NUMBER <1-1> EW SEISMIC SURVEY
[SL LINE NUMBER <1-M> EW MAG TAPE]

Context: IB SEISMIC SECTION INDEX

June 21, 1990 8:30:52

EW MAP INDEX

Attribute Types

<1-1> COMPANY NAME ABR
<1-1> AREA ABR
<0-M> MP S LATITUDE
<0-M> MP S LONGITUDE
<0-M> MP B LATITUDE
<0-M> MP B LONGITUDE
<0-M> MP S X COOR
<0-M> MP S Y COOR
<0-M> MP B X COOR
<0-M> MP B Y COOR
<0-M> MP DATE
<0-M> MP SCALE
<0-M> MP ROOM
<0-M> MP ROW
<0-M> MP COLUMN
<1-1> MEDIA TYPE
<1-1> MEDIA COND
<1-1> MAP TYPE
<1-1> MAP TYPE ABR
<1-1> GEOLOGICAL AGE
<1-1> ALIAS
<1-1> FORMATION
<1-1> FORMATION ABR

Relationship Types

*** No Relationship Types Defined ***

EW SEISMIC LINE

Id

Attribute Types

<0-M> SEIS SURVEY
<1-1> SL LINE NUMBER
<0-M> SL SHOT FROM
<0-M> SL SHOT TO
<0-M> SL SHOT DATE
<1-1> AREA ABR
<1-1> COMPANY NAME ABR
<0-M> SEIS CON ABR

Relationship Types

SL LINE NUMBER <1-1> EW SEISMIC SURVEY
[SL LINE NUMBER <1-M> EW SEISMIC LINE]

Context: IB SEISMIC SECTION INDEX

June 21, 1990 8:33:43

EW SEISMIC SECT

Attribute Types

Id <1-1> SEIS SURVEY
Id <1-1> SL LINE NUMBER
<0-M> SS RECORDER TYPE
<0-M> SS SAMPLE RATE
<0-M> SS INSTRUMENT CHAN
<0-M> SS DATA CHANNEL
<0-M> SS FOLD
<0-M> SS LENGTH
<0-M> SS SPREAD LENGTH
<0-M> SS GROUP INTERVAL
<0-M> SS SP INTERVAL
<0-M> SS NUMBER HOLES
<0-M> SS PROCESS DATE
<0-M> SS PROCESS FOLD
<0-M> SS SCALE
<0-M> SS ROOM
<0-M> SS ROW
<0-M> SS COL
<0-M> SEIS CON
<0-M> SEIS CON ABR
<1-1> MEDIA TYPE
<1-1> MEDIA COND
<1-1> ENERGY
<0-M> SEIS PRO

Relationship Types

SL LINE NUMBER <1-1> EW SEISMIC SURVEY
[SL LINE NUMBER <1-M> EW SEISMIC SECT]

Context: IB SEISMIC SECTION INDEX

June 21, 1990 13:13:04

EW SEISMIC SURVEY

Attribute Types

Id <1-1> SEIS SURVEY
<0-1> UPPER LEFT LAT
<0-1> UPPER LEFT LONG
<0-1> LOWER RIGHT LAT
<0-1> LOWER RIGHT LONG
<0-1> AREA
<0-1> COMPANY NAME
<0-1> SEIS CON

Relationship Types

Id SL LINE NUMBER <1-M> EW MAG TAPE
[SL LINE NUMBER <1-1> EW SEISMIC SURVEY]
Id SL LINE NUMBER <1-M> EW SEISMIC LINE
[SL LINE NUMBER <1-1> EW SEISMIC SURVEY]
Id SL LINE NUMBER <1-M> EW SEISMIC SECT
[SL LINE NUMBER <1-1> EW SEISMIC SURVEY]

Context: 1B SEISMIC SECTION INDEX

June 21, 1990 13:13:46

WELL DATA

The Well Data is composed of four major parts, Well Geological and Geophysical Data, Western Atlas Well Index Data, Well Drilling Data, and Well Production Data. The Well Geological and Geophysical data consists of four entities and two tables. The four entities are: the Well Master, Well Bore Devices, Well Workover History, and Well Fluid PVT Data. The two tables are the Well Bore Device Table and the Well Fluid PVT Table. The Well Bore Device Table is associated with the Well Bore Devices entity and the Well Fluid PVT Table is associated with the Well Fluid PVT Data entity. The tables and entities are both implemented within the DBMS.

Well Geological and Geophysical Data

The Well Master entity contains all the data associated with a well that is not repeated. That is, "one time" data This data includes such attributes as the field the well is in, the spud date, the final well depth, etc. Associated with each Well Master record are records for the other three entities. The Well Bore Devices entity contains data about how devices were used in drilling or testing the well. For instance, the top and bottom depth for which a particular drill bit was used would be a record in this entity. The key for this entity is the concatenation of the Well ID, Top Depth, and Device Code. Associated with this entity is the well bore device table. This table is keyed by the code and name for a well bore device. The characteristics of the device are maintained in the table.

The second entity associated with the well master is the Well Fluid PVT Details. The key for this entity is a concatenation of the Well ID, the test Sample Date, and the Fluid PVT Parameter ID. The data is the value for the parameter in the key. Associated with the Well Fluid PVT Details entity is the Well Fluid PVT Table. This table uses the Fluid PVT Parameter ID as the key, and maintains the name for the parameter and the units of measure.

The last Well Data entity is the Well Workover History entity. This entity uses the concatenation of the Well ID and the Operating Date as a key and maintains text related to well workover plans and results.

Western Atlas Index Data

The Western Atlas Index data consists of the General Well Entity and seven associated entities: Sidewall Data, Log Record, Strat Tops, Deviation Data, Casing Data, Rock Sample Records, and Test Data. The General Well entity uses the Well ID as the key and maintains general well

information such as the company drilling or owning the well, the area that it is located in, etc. Associated with each general well record are records from each of the other entities.

This data is currently implemented on the Western Atlas network of personal computers. This data base may be implemented on the IBM 3090 or software to access this data from the 3090 may be written. This decision will be made during the implementation phase.

Well Drilling Data

Well Drilling Data consists of the Well Drilling Master entity, five associated entities and one Drilling Parameter Table. The Well Drilling Master is similar to the Well Master, and is related by Well ID to the Well Master entity. The Well Drilling Master maintains all "one-time" data related to drilling the well which is not already included in the well master entity. The key for this entity is also the Well ID.

The Drilling Detail entity has as a key the concatenation of the Well ID and the Drilling Parameter ID. The data maintained by this entity is the value of the drilling parameter ID which makes up part of the key. The Drilling Daily Detail entity maintains data which must be reported each day, including detail daily cost data. The key for this entity is a concatenation of the Well ID, the Operating Date, and the Drilling Parameter ID. Duplicate keys are allowed. The data is the value for the Drilling Parameter ID which is part of the key. The two entities are very similar. The difference is the Drilling Detail entity does not record values for parameters which are generated daily. Both entities are related to the Drilling Parameter ID table. This table maintains the Drilling Parameter Name and the Drilling Parameter Units of measure for all Drilling Parameter ID's.

The Drilling Directionals entity maintains the Inclination, Direction, and Operating Depth for a well as it is being drilled. This entity is keyed by a concatenation of the Well ID and Depth attributes.

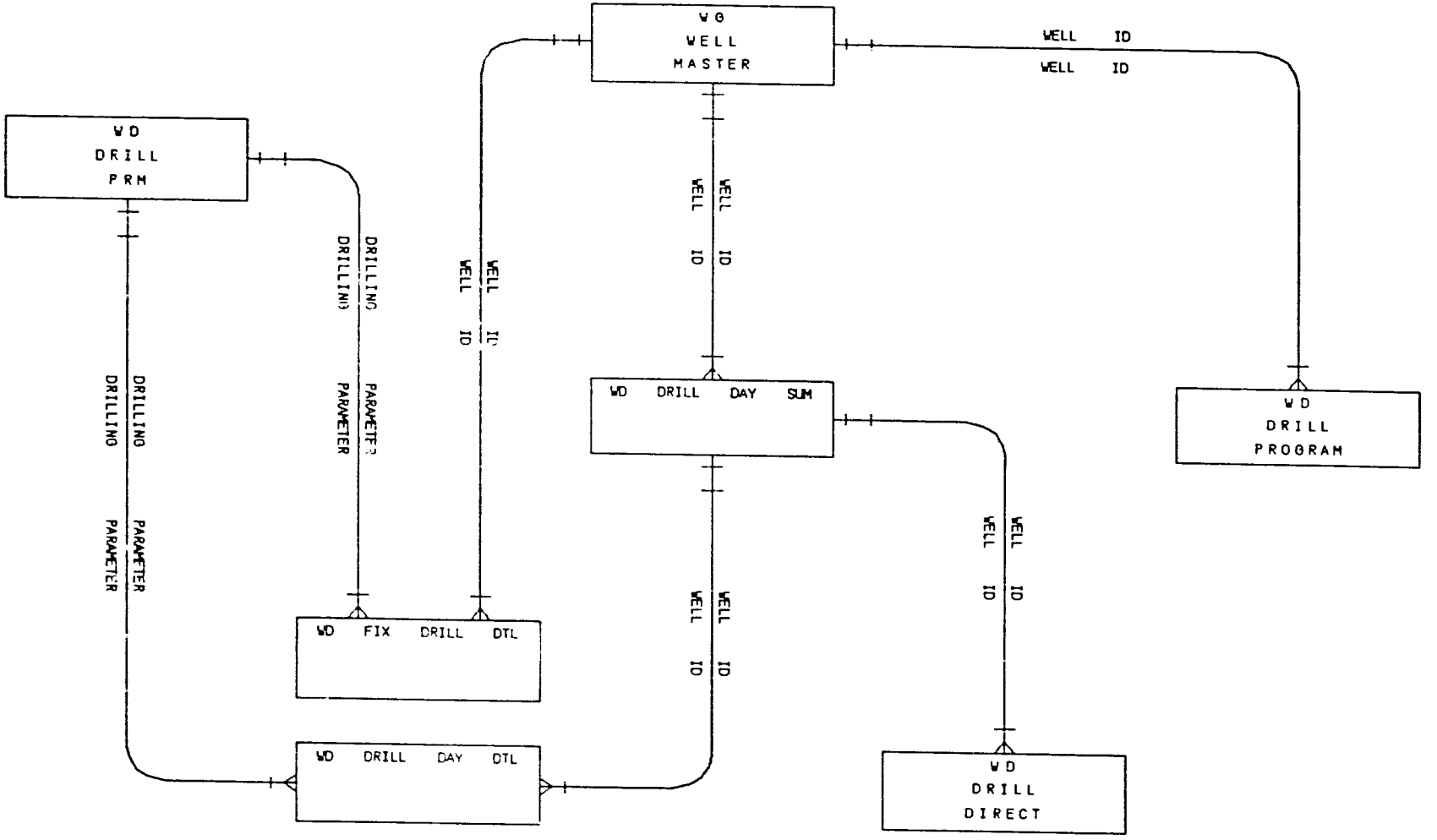
Daily drilling detail data is summarized each day and maintained in the Drilling Daily Summary entity. This entity uses a concatenation of the Well ID and the Operating Date as its key. Values for summary parameters are maintained in this data set. These values include both Drilling Daily Detail and Drilling Directionals. These three tables are, therefore, related.

The Drilling Plan and Progress entity maintains planned and actual data for milestones during the drilling process. The key for this entity is the concatenation of the Well ID and the Milestone.

Well Production Data

The Well Production data consists of one entity, Well Monthly Production. The key for this entity is a concatenation of the Well ID and the Year/Month. The entity records production quantities of various liquids and gases from individual wells for the month and year indicated by the key.

The well data architecture is detailed in figures 2a thru 2d and in the Entity Type Descriptions, which follow.



2C WELL DRILLING DATA

July 2. 1990 14:27:25

22

WD DRILL DAY DTL

Attribute Types

Id <1-1> WELL ID
Id <1-1> OPER DATE
Id <1-1> DRILL PRM CODE
<0-M> DRILL PRM VALUE

Relationship Types

WELL ID <1-1> WD DRILL DAY SUM
[WELL ID <1-M> WD DRILL DAY DTL]
DRILLING PARAMETER <1-1> WD DRILL PRM
[DRILLING PARAMETER <1-M> WD DRILL DAY DTL]

Context: 2C WELL DRILLING DATA

June 21, 1990 14:56:31

WD DRILL DAY SUM

Attribute Types

Id <1-1> WELL ID
Id <1-1> OPER DATE
<0-M> REMARKS

Relationship Types

WELL ID <1-1> GENERAL WELL
[WELL ID <1-M> WD DRILL DAY SUM]
Id WELL ID <1-M> WD DRILL DIRECT
[WELL ID <1-1> WD DRILL DAY SUM]
Id WELL ID <1-M> WD DRILL DAY DTL
[WELL ID <1-1> WD DRILL DAY SUM]

Context: 2C WELL DRILLING DATA

June 21, 1990 14:54:13

WD DRILL DIRECT

Attribute Types

Id <1-1> WELL ID
Id <1-1> DEPTH
<1-1> INCLINATION
<0-M> AZIMUTH
<0-M> ANGLE
<1-1> OPER DEPTH

Relationship Types

WELL ID <1-1> WD DRILL DAY SUM
[WELL ID <1-M> WD DRILL DIRECT]

Context: 2C WELL DRILLING DATA

June 21, 1990 14:57:10

WG WELL MSTR

Attribute Types

Id <1-1> WELL ID
<0-M> FIELD NAME
<0-M> REPR WELL
<0-M> WAT WELL
<0-M> INJ WELL
<0-M> OFFSHORE

Relationship Types

Id WELL ID <1-M> WG WELL DEVICE
[WELL ID <1-1> WG WELL MSTR]
Id WELL ID <1-M> WG FLUID PVT DATA
[WELL ID <1-1> WG WELL MSTR]
Id WELL ID <1-M> WG WORKOVER HIST
[WELL ID <1-1> WG WELL MSTR]

Context: 2A WELL GEOL/GEOPHYS DATA

July 2, 1990 14:12:08

WD DRILL PRM

Attribute Types

Id <1-1> DRILL PRM CODE
<0-M> DRILL PRM NAME
<0-M> DRILL PRM UNITS

Relationship Types

Id DRILLING PARAMETER <1-M> WD DRILL DAY DTL
[DRILLING PARAMETER <1-1> WD DRILL PRM]
Id DRILLING PARAMETER <1-M> WD FIX DRILL DTL
[DRILLING PARAMETER <1-1> WD DRILL PRM]

Context: 2C WELL DRILLING DATA

June 21, 1990 14:53:01

DRILLING PARAMETERS

employee company name
employee id
crew type
crew size
number of days planned
number of days actual
drilling days scheduled
drilling days actual
daily rent cost
well cost activity description

WD DRILL PROGRAM

Attribute Types

Id <1-1> WELL ID
Id <1-1> MILESTONE
<0-M> MILESTONE DESC
<1-1> DEPTH
<0-M> RIG DAYS PLAN
<0-M> RIG DAYS ACT
<0-M> COST PLAN
<0-M> COST ACT

Relationship Types

WELL ID <1-1> GENERAL WELL
[WELL ID <1-M> WD DRILL PROGRAM]

Context: 2C WELL DRILLING DATA

June 21, 1990 14:54:57

WD FIX DRILL DTL

Attribute Types

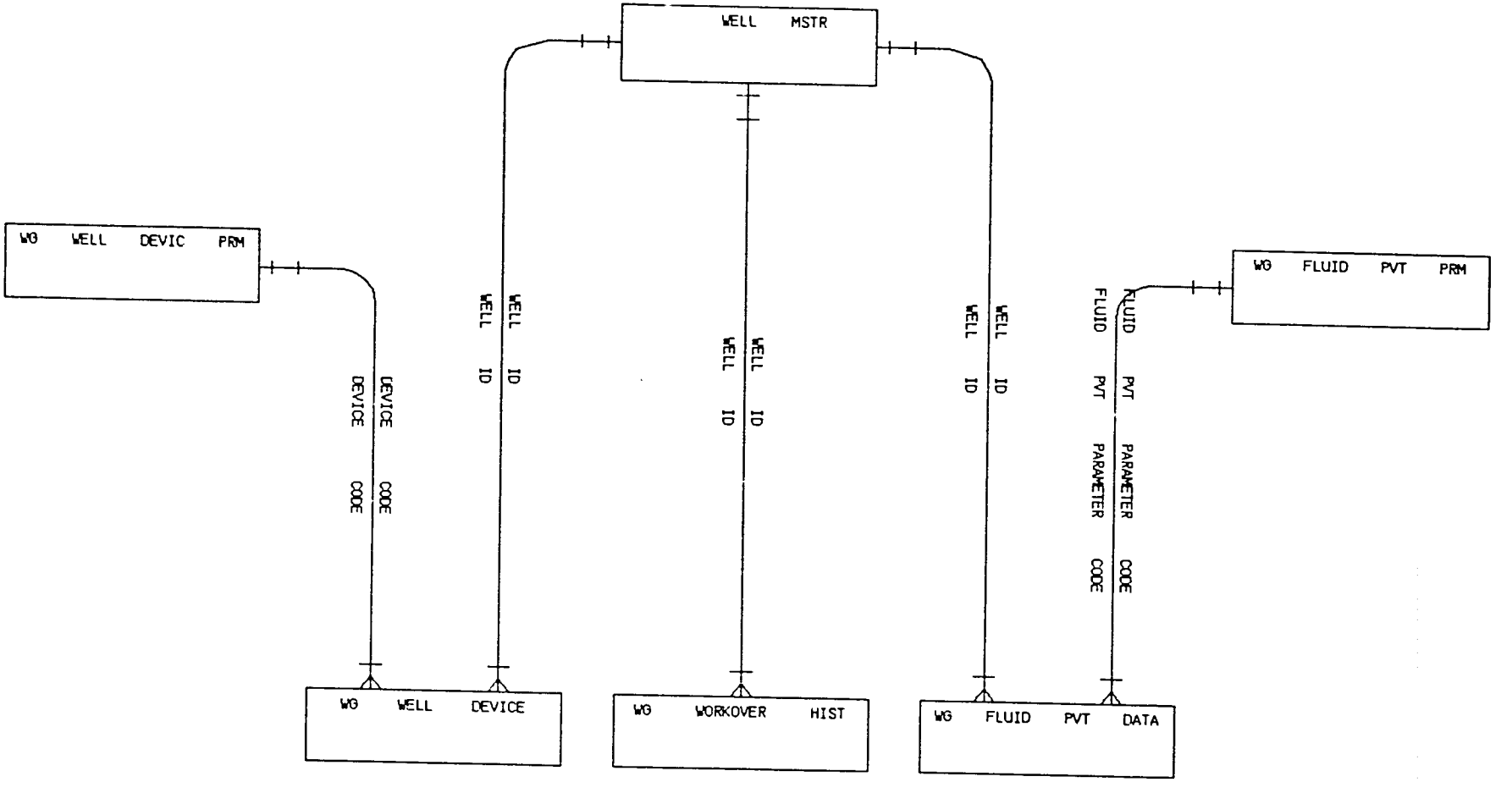
Id <1-1> WELL ID
Id <1-1> DRILL PRM CODE
<0-M> DRILL PRM VALUE

Relationship Types

WELL ID <1-1> GENERAL WELL
[WELL ID <1-M> WD FIX DRILL DTL]
DRILLING PARAMETER <1-1> WD DRILL PRM
[DRILLING PARAMETER <1-M> WD FIX DRILL DTL]

Context: 2C WELL DRILLING DATA

June 21, 1990 14:55:42



2A WELL GEOL/GEOPHYS DATA

June 21, 1990 14:21:58

WG FLUID PVT DATA

Attribute Types

Id <1-1> WELL ID
Id <1-1> SAMPLE DATE
Id <1-1> PVT PRM CODE
<0-M> PVT PRM VALUE

Relationship Types

WELL ID <1-1> WG WELL MSTR
[WELL ID <1-M> WG FLUID PVT DATA]
FLUID PVT PARAMETER CODE <1-1> WG FLUID PVT PRM
[FLUID PVT PARAMETER CODE <1-M> WG FLUID PVT DATA]

Context: 2A WELL GEOL/GEOPHYS DATA

June 21, 1990 14:28:56

WG FLUID PVT PRM

Attribute Types

Id

<1-1> PVT PRM CODE
<0-M> PVT PRM NAME
<0-M> PVT PRM UNITS

Relationship Types

Id

FLUID PVT PARAMETER CODE <1-M> WG FLUID PVT DATA
[FLUID PVT PARAMETER CODE <1-1> WG FLUID PVT PRM]

Context: 2A WELL GEOL/GEOPHYS DATA

June 21, 1990 14:24:39

WELL FLUID PVT PARAMETERS

well fluid/gas flow rate
well gas/oil ratio
API (gravity of crude)
temperature of crude
bottom hole shut in pressure
bottom hole sediments
bottom hole % water
crude oil gravity (API)
crude oil % water
crude oil % salt
crude oil % sulphur
pour point temperature
viscosity
remarks
mud sample date
mud viscosity
mud chemical composition
mud test temperature
mud oil/water ratio
mud testing equipment
mud type

WG WELL DEVIC PRM

Attribute Types

Id

<1-1> DEVICE CODE

<1-1> DEVICE NAME

Relationship Types

Id

DEVICE CODE <1-M> WG WELL DEVICE

[DEVICE CODE <1-1> WG WELL DEVIC PRM]

Context: 2A WELL GEOL/GEOPHYS DATA

June 21, 1990 14:23:45

SAMPLE PARAMETER TYPES

WELL BORE DEVICE PARAMETERS

drill bit number
drill bit size
drill bit type
number hrs drill bit used
bit turning speed (RPM)
cutting structures
well status
well classification
crude oil test method

WG WELL DEVICE

Attribute Types

Id <1-1> WELL ID
Id <1-1> TOP DEPTH
Id <1-1> DEVICE CODE
<0-M> BOT DEPTH
<0-M> DEVICE VALUE
<0-1> COMMENTS

Relationship Types

WELL ID <1-1> WG WELL MSTR
[WELL ID <1-M> WG WELL DEVICE]
DEVICE CODE <1-1> WG WELL DEVIC PRM
[DEVICE CODE <1-M> WG WELL DEVICE]

Context: 2A WELL GEOL/GEOPHYS DATA

June 21, 1990 14:27:36

WG WELL MSTR

Attribute Types

Id <1-1> WELL ID
<0-M> FIELD NAME
<0-M> REPR WELL
<0-M> WAT WELL
<0-M> INJ WELL
<0-M> OFFSHORE
<0-M> ONSHORE

Relationship Types

Id WELL ID <1-M> WG WELL DEVICE
[WELL ID <1-1> WG WELL MSTR]
Id WELL ID <1-M> WG FLUID PVT DATA
[WELL ID <1-1> WG WELL MSTR]
Id WELL ID <1-M> WG WORKOVER HIST
[WELL ID <1-1> WG WELL MSTR]

Context: 2A WELL GEOL/GEOPHYS DATA

July 2, 1990 14:39:40

WG WORKOVER HIST

Attribute Types

Id <1-1> WELL ID
Id <1-1> WORKOVER DATE
<0-1> REMARKS

Relationship Types

WELL ID <1-1> WG WELL MSTR
[WELL ID <1-M> WG WORKOVER HIST]

Context: 2A WELL GEOL/GEOPHYS DATA

June 21, 1990 14:28:10

WP WELL MON PROD

2D WELL PRODUCTION DATA

June 21, 1990 15:12:19

WP WELL MON PROD

Attribute Types

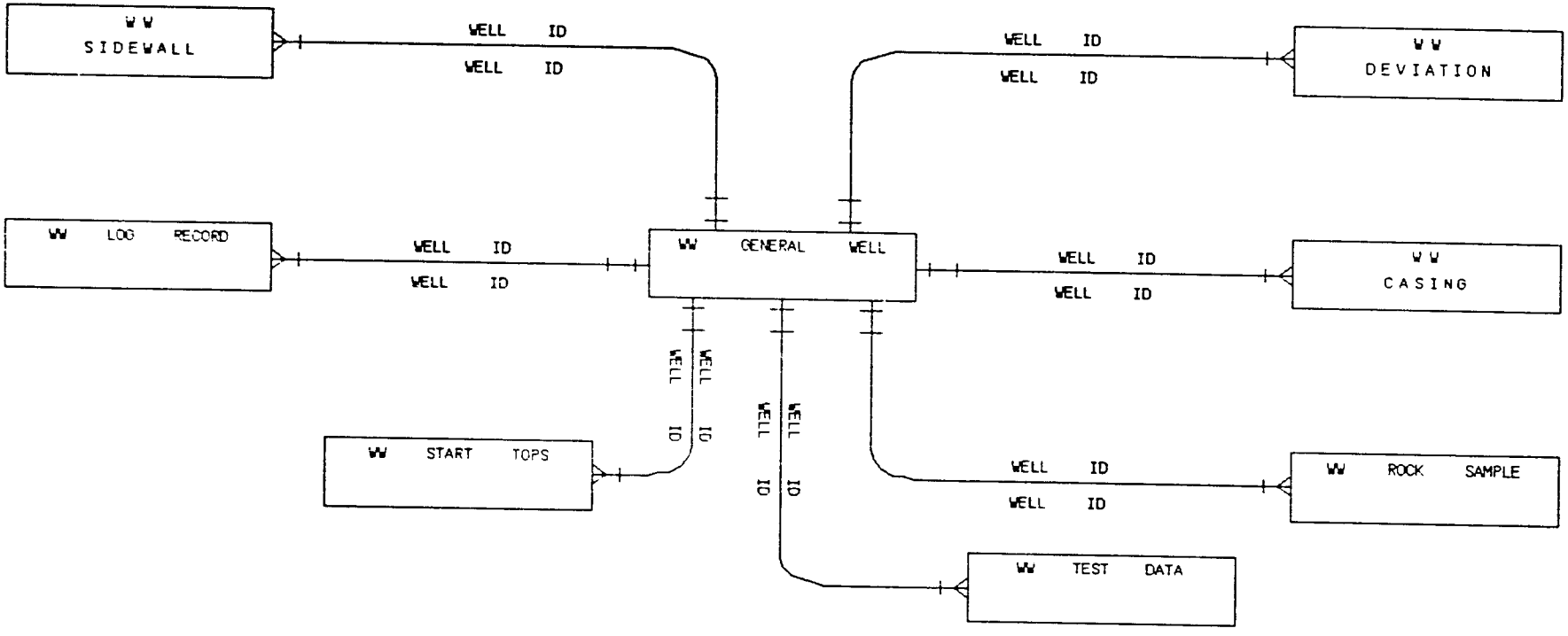
Id <1-1> WELL ID
Id <1-1> OPER MON
<0-M> GROSS BBLS ACT
<0-M> WATER BBLS ACT
<0-M> OIL BBLS ACT
<0-M> GAS MSCF ACT
<0-M> REMARKS

Relationship Types

*** No Relationship Types Defined ***

Context: 2D WELL PRODUCTION DATA

June 21, 1990 15:12:57



28 WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:42:02

WW CASING

Attribute Types

Id <1-1> WELL ID
Id <1-1> CA SIZE
Id <1-1> CA DEPTH

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW CASING]

Context: 28 WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:40:02

WW DEVIATION

Attribute Types

Id <1-1> WELL ID
Id <1-1> DV DEPTH
<0-M> DV AZIMUTH
<0-M> DV ANGLE

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW DEVIATION]

Context: 2B WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:38:10

WW GENERAL WELL

Attribute Types

Id <1-1> WELL ID
<0-M> AREA
<1-1> AREA ABR
<1-1> COMPANY NAME
<1-1> COMPANY NAME ABR
<1-1> WELL STATUS
<1-1> WELL STATUS ABR
<0-M> GW EXP WELL
<0-M> GW PLT WELL
<0-M> GW DEV WELL
<0-M> GW SIDE TRK
<0-M> GW WELL NAME
<0-M> GW WELL ABR
<0-M> GW OLD WELL NAME
<0-M> GW DEVIATED
<0-M> GW DIG LOG ID
<0-M> GW ELEVATION
<0-M> GW WATER DEPTH
<0-M> GW ROTARY TABLE
<0-M> GW FTD
<0-M> GW SPUD DATE
<0-M> GW DRILLING DATE
<0-M> GW DEPTH UNIT
<0-M> GW S LATITUDE
<0-M> GW S LONGITUDE
<0-M> GW B LATITUDE
<0-M> GW B LONGITUDE
<0-M> GW S X COOR
<0-M> GW S Y COOR
<0-M> GW B X COOR
<0-M> GW B Y COOR

Relationship Types

Id WELL ID <1-M> WW DEVIATION
[WELL ID <1-1> WW GENERAL WELL]
Id WELL ID <1-M> WW CASING
[WELL ID <1-1> WW GENERAL WELL]
Id WELL ID <1-M> WW ROCK SAMPLE
[WELL ID <1-1> WW GENERAL WELL]
Id WELL ID <1-M> WW TEST DATA
[WELL ID <1-1> WW GENERAL WELL]
Id WELL ID <1-M> WW START TOPS
[WELL ID <1-1> WW GENERAL WELL]
Id WELL ID <1-M> WW LOG RECORD
[WELL ID <1-1> WW GENERAL WELL]
Id WELL ID <1-M> WW SIDEWALL
[WELL ID <1-1> WW GENERAL WELL]

Context: ZENWESTERNATLASWELL INDEXDATA

June21, 1990 14:39:31

WW LOG RECORD

Attribute Types

Id <1-1> WELL ID
Id <1-1> LOG NAME
<1-1> LOG NAME ABR
<1-1> MEDIA TYPE
<1-1> MEDIA COND
<1-1> MUD TYPE
<1-1> LOG COMPANY
<0-M> LG DATE
<0-M> LG MUD WEIGHT
<0-M> LG MUD VISCOSITY
<0-M> LG MUD SALINITY
<0-M> LG B HOLE TEMP
<0-M> LG R MUD FILTRATE
<0-M> LG RMF TEMP
<0-M> LG TEMPERATURE U
<0-M> LG ROOM
<0-M> LG ROW
<0-M> LG COL
<0-M> CR TOP DEPTH
<0-M> CR BOT DEPTH
<0-M> CR DEPTH UNITS
<0-M> CR SCALE

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW LOG RECORD]

Context: 2B WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:38:48

WW ROCK SAMPLE

Attribute Types

Id <1-1> WELL ID
Id <1-1> RS CORE NUMBER
<1-1> SAMPLE TYPE
<0-M> RS PERCENT RECOV
<0-M> RS DEPTH UNITS
<0-M> RS ROOM
<0-M> RS ROW
<0-M> RS COLUMN
<0-M> RS BOX NUMBER
<0-M> SA TOP DEPTH
<0-M> SA BOT DEPTH
<0-M> SA NUMBER OF SACKS

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW ROCK SAMPLE]

Context: 2B WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:41:05

WW SIDEWALL

Attribute Types

Id <1-1> WELL ID
Id <1-1> SW DEPTH
<0-M> SIDEWALL TYPE
<0-M> SW CORE NUMBER

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW SIDEWALL]

Context: 2B WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:37:39

WW STRAT TOPS

Attribute Types

Id <1-1> WELL ID
Id <1-1> FORMATION
<1-1> FORMATION ABR
<1-1> GEOLOGICAL AGE
<1-1> ALIAS
<1-1> SHOW
<0-M> ST TOP DEPTH
<0-M> ST BOT DEPTH

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW STRAT TOPS]

Context: 2B WESTERN ATLAS WELL INDEX DATA

June 22, 1990 16:57:59

WW TEST DATA

Attribute Types

Id <1-1> TEST TYPE
Id <1-1> TS TEST NUMBER
Id <1-1> WELL ID
<1-1> PROD RATE UNIT
<1-1> PROD RATE UNIT ABR
<1-1> TEST TYPE ABR
<0-M> TS TOP DEPTH
<0-M> TS BOT DEPTH
<0-M> TS DEPTH UNIT
<0-M> TS CHOKE
<0-M> TS RATE
<0-M> TS PRESS UNITS
<0-M> TS GOR
<0-M> TS API
<0-M> TS TEMPERATURE
<0-M> TS TEMPERATURE U
<0-M> TS BHSIP
<0-M> TS BS AND W
<0-M> TS DATE

Relationship Types

WELL ID <1-1> WW GENERAL WELL
[WELL ID <1-M> WW TEST DATA]

Context: 2B WESTERN ATLAS WELL INDEX DATA

June 21, 1990 14:41:36

OPERATIONS DATA

The Operations Data is composed of five major parts: Field Production Data, Import/Export Data, Refinery Data, Distribution Data, and Consumption Data. The Field Production data consists of two entities. The two entities are: the Field Monthly Plan and Field Daily Actual. The Import/Export Data consists of five entities: Import/Export Plan, Import/Export Contracts, Import/Export Shipments, Tanker Status, and Terminal Status. The Refinery Data consists of two entities: Refiner Daily Actual and Refinery Monthly Plan. Distribution Data has only one entity, the Product Distribution Storage. Consumption Data has two entities, Consumption Monthly Actual and Consumption Monthly Plan. The following paragraphs describe the entities and data sets in more detail.

Field Production Data

The Field Monthly Plan entity uses a concatenation of the Field Code, Year/Month, and Crude/Gas Type as the primary key. For each field, crude or gas type, and year/month, the planned amount produced and actual amount produced is recorded. In addition, the units and adjustment factor are also recorded. For each record in this entity, records storing the actual amount of the crude and/or gas produced by a field each day are recorded. The key for this entity, Field Daily Actual, is the same as for Field Monthly Plan, except that the date attribute indicates the day rather than the month. These entities are related by operations date to the Well Production Data. This allows calculation of the adjustment factor, and comparison of actual monthly well output for all wells in a field to be compared to the Field Monthly Plan data.

Import/Export Data

The Import/Export Plan entity maintains the planned and actual quantities of products and crude oils imported and exported. The key for this entity is a concatenation of the year/month, crude/product type, and import/export type attributes.

The Import/Export Contracts entity maintains data about the import and export contracts required to fulfill the plan. The key is a concatenation of the Company the contract is signed with and the Contract Serial Number. Associated with each Import/Export Contract record are the many records which comprise the Import/Export Shipments entity. This entity uses the Company, Contract Serial Number, and Contract Shipment Number as the concatenated key.

The Terminal Status entity and the Tanker Status entity are also part of the Import/Export Data. The Terminal Status entity maintains text type status information for each berth at each terminal every day. The Tanker Status entity maintains the same text type status information about tankers.

Refinery Data

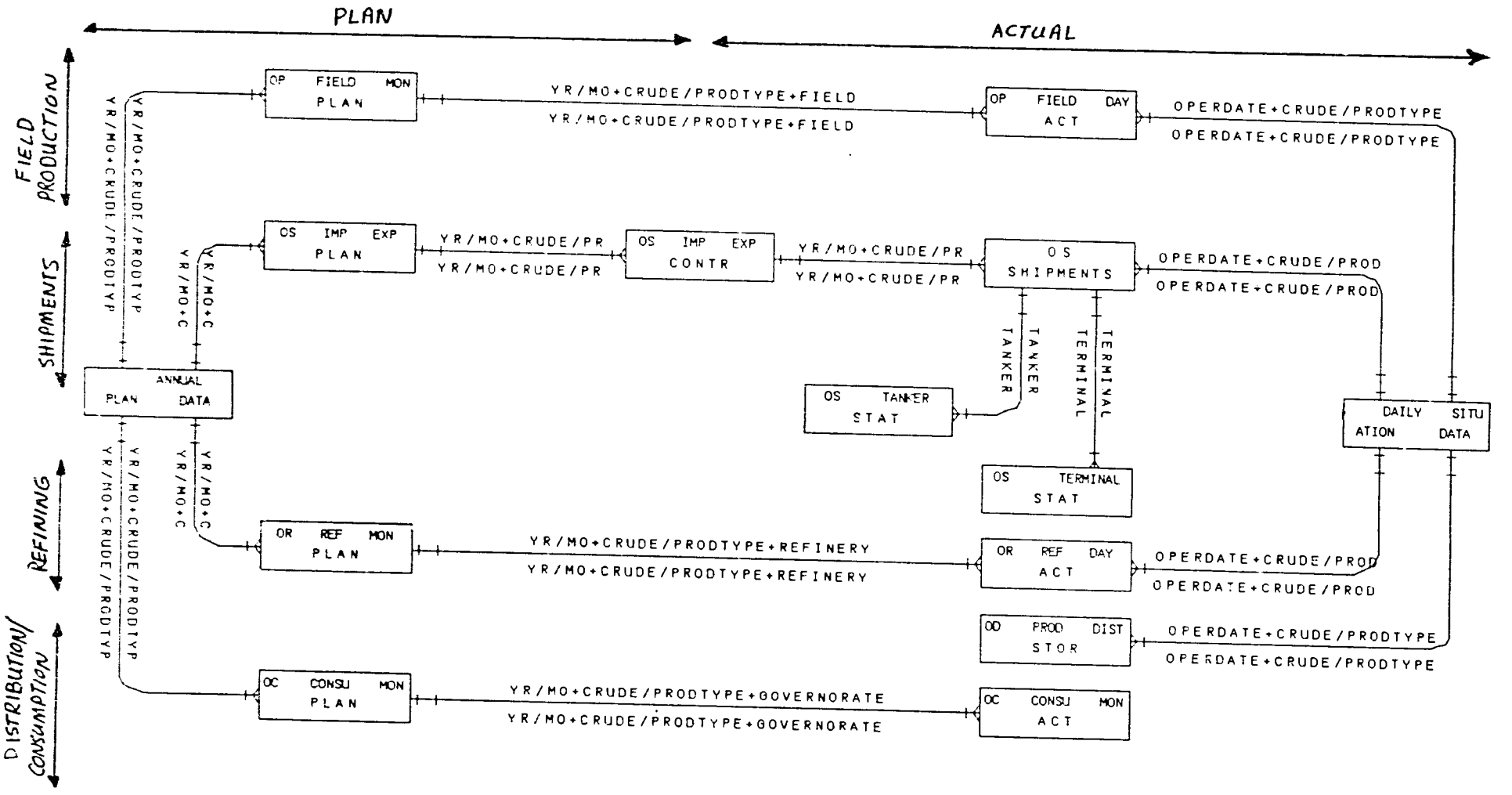
The Refinery Monthly Plan entity maintains data about the planned quantities of crude oils to be processed and products to be produced. This data is recorded by Refinery, Year/Month, and Crude/Product Type. The concatenation of these attributes provides the key for the entity. Actual amounts of crude oils processed and products produced by each refinery are also kept in the same record. Comparisons of planned to actual performance are readily available. Each record in this entity is associated with many records in the Refinery Daily Actual entity. This entity maintains information about the daily performance of the refinery, including quantities of crude oils and products on hand, the amount received via tanker, and the amount received via pipeline, the amount of crude oil processed, and the amount of each product produced. The daily quantities for a given month provide the monthly actuals for the Refinery Monthly Plan entity record.

Distribution Data

The Product Distribution Storage entity records the amount of each product at a storage area each day. The key is the concatenation of the Operational Date, Storage Area, and Product Type attributes.

Consumption Data

The Consumption Monthly Plan entity maintains the Projected Consumption Amount for all products. This entity is organized by Governorate, Year/Month, and Product Type. The concatenation of these three attributes forming the key. The Consumption Monthly Actual entity records the actual amount of each product consumed. The key for this entity is a concatenation of the Company, Governorate, Center, Product Type, and Year/Month attributes.



3 OPERATIONS

June 21. 1990 15:22:20

OP FIELD DAY ACT

Attribute Types

Id <1-1> FIELD NAME
Id <1-1> OPER DATE
<0-M> GROSS BBLS ACT
<0-M> WATER BBLS ACT
<0-M> OIL BBLS ACT
<0-M> GAS MSCF ACT
<1-1> REMARKS

Relationship Types

FIELD CODE <1-1> OP FIELD MON PLAN
[FIELD CODE <1-M> OP FIELD DAY ACT]

Context: 3A FIELD PRODUCTION DATA

June 21, 1990 15:18:56

OP FIELD MON PLAN

Attribute Types

Id	<1-1> FIELD NAME
Id	<1-1> OPER MONTH
Id	<1-1> PLAN NO
	<0-M> OIL BBLS PLAN
	<0-M> ADJ FACTOR OIL
	<0-M> OIL BBLS ACT
	<0-M> GAS MSCF PLAN
	<0-M> ADJ FACTOR GAS
	<0-M> GAS MSCF ACT

Relationship Types

Id FIELD CODE <1-M> OP FIELD DAY ACT
[FIELD CODE <1-1> OP FIELD MON PLAN]

Context: 3A FIELD PRODUCTION DATA

June 21, 1990 15:18:21

OS IMP EXP CONTR

Attribute Types

Id <1-1> COMPANY
Id <1-1> CONTRACT SERIALNO
<0-M> SHIPMENT PLAN
<0-M> CARGO PLAN MIN
<0-M> CARGO PLAN MAX
<0-M> CRUDE PROD TYPE
<0-M> IMP EXP TYPE
<0-M> CONTRACT START MON
<0-M> CONTRACT STOP MON

Relationship Types

*** No Relationship Types Defined ***

Context: 3B IMPORT/EXPORT DATA

June 21, 1990 15:27:20

OS IMP EXP PLAN

Attribute Types

Id	<1-1>	OPER MON
Id	<1-1>	CRUDE PROD TYPE
Id	<1-1>	IMP EXP TYPE
Id	<1-1>	PLAN NO
	<0-M>	QTY PLAN
	<0-M>	QTY ACT

Relationship Types

*** No Relationship Types Defined ***

Context: 38 IMPORT/EXPORT DATA

June 21, 1990 15:26:35

OS SHIPMENTS

Attribute Types

Id	<1-1>	COMPANY
Id	<1-1>	CONTRACT SERIALNO
Id	<1-1>	CONTRACT SHIP NO
	<0-M>	CRUDE PROD TYPE
	<0-M>	SHIPMENT TYPE
	<0-M>	LAY DATE1
	<0-M>	LAY DATE2
	<0-M>	CONTRACT TYPE
	<0-M>	TANKER
	<0-M>	TERMINAL
	<0-M>	BERTH
	<0-M>	QUANTITY
	<0-M>	ETA DATE
	<0-M>	ARRIVAL DATE

Relationship Types

*** No Relationship Types Defined ***

Context: 3B IMPORT/EXPORT DATA

June 21, 1990 15:28:57

OS TANKER STAT

Attribute Types

Id <1-1> OPER DATE
Id <1-1> TANKER CODE
<0-M> CRUDE PROD TYPE
<0-1> STATUS

Relationship Types

*** No Relationship Types Defined ***

Context: 3B IMPORT/EXPORT DATA

June 21, 1990 15:28:26

OS TERMINAL STAT

Attribute Types

Id	<1-1>	OPER DATE
Id	<1-1>	TERMINAL
Id	<1-1>	BERTH
	<0-M>	TANKER CODE
	<0-M>	CRUDE PROD TYPE
	<0-1>	STATUS

Relationship Types

*** No Relationship Types Defined ***

Context: 39 IMPORT/EXPORT DATA

June 21, 1990 15:27:50

OR REF DAY ACT

Attribute Types

Id <1-1> OPER DATE
Id <1-1> REFINERY
Id <1-1> CRUDE PROD TYPE
<0-M> QTY IN STORE
<0-M> QTY PROC PROD
<0-M> QTY REC BY TNKR
<0-M> QTY REC BY PIPE

Relationship Types

REFINERY + OPER DATE <1-1> OR REF MON PLAN
[REFINERY + OPER DATE <1-M> OR REF DAY ACT]

Context: 3C REFINERY DATA

June 21, 1990 15:37:35

OR REF MON PLAN

Attribute Types

Id <1-1> REFINERY
Id <1-1> OPER MON
Id <1-1> CRUDE PROD TYPE
<0-M> QTY PLAN
<0-M> QTY ACT

Relationship Types

Id REFINERY + OPER DATE <1-M> OR REF DAY ACT
[REFINERY + OPER DATE <1-1> OR REF MON PLAN]

Context: 3C REFINERY DATA

June 21, 1990 15:38:03

OD PROD DIST STOR

Attribute Types

Id <1-1> OPER DATE
Id <1-1> STORAGE AREA
Id <1-1> PROD TYPE
<0-M> QTY IN STORE
<0-M> QTY REC BY PIPE
<0-1> QTY IN PIPELINE

Relationship Types

*** No Relationship Types Defined ***

Context: 3D DISTRIBUTION DATA

June 21, 1990 15:45:50

OC CONSU MON ACT

Attribute Types

Id <1-1> COMPANY NAME ABR
Id <1-1> GOVERNORATE
Id <1-1> CENTRE
Id <1-1> PROD TYPE
Id <1-1> OPER MON
<0-M> QTY CONSUMED

Relationship Types

Id GOVERNORATE + OPER DATE <1-1> OC CONSU MON PLAN
[GOVERNORATE + OPER DATE <1-1> OC CONSU MON ACT]

Context: 3E CONSUMPTION DATA

June 21, 1990 15:49:44

OC CONSU MON PLAN

Attribute Types

Id <1-1> COMPANY
Id <1-1> GOVERNORATE
Id <1-1> CENTRE
Id <1-1> PROD TYPE
Id <1-1> OPER MON
<0-M> PROJ CONSU QTY

Relationship Types

Id GOVERNORATE + OPER DATE <1-1> OC CONSU MON ACT
[GOVERNORATE + OPER DATE <1-1> OC CONSU MON PLAN]

Context: 3E CONSUMPTION DATA

June 21, 1990 15:51:14

EGPC REFERENCE DATA

The EGPC Reference Data is a repository for information about the "things" EGPC deals with. For example, Concession Companies, Contracts, and Crude Types are "things" important to EGPC and for which data characterizing them must be kept. This part of the data base is designed around the concept that all "things" have a name, type, and set of parameters which characterize them. In addition, each type of "thing" has a different set of parameters which characterizes it, and each "thing" of a given type may have a different value for the same parameter.

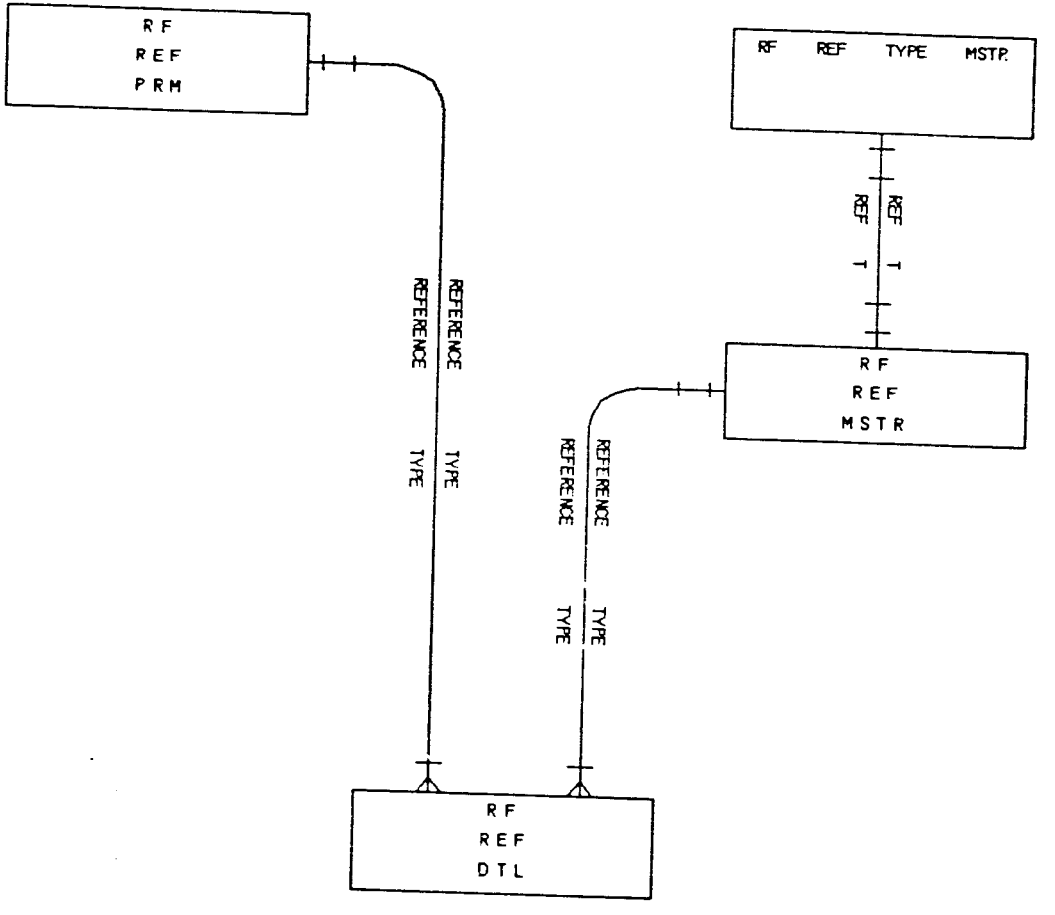
The Reference Master table records the Reference Type and Reference ID of each "thing". The key for this record is a concatenation of these two attributes. While the key must be unique, the reference ID may be the same. For instance, Belayim is the name of a crude (a reference type) and also a field (a different reference type). Associated with each Reference Master record are a series of records which identify the parameters of the Reference type and the values of those parameters. A parameter is a characteristic of the "thing". For instance, Concession Company is a Reference Type, or "thing", Esso is an occurrence of a Concession Company (a Reference ID), and the street address of Esso may be a parameter (or characteristic) of the "thing" which is maintained in the data base, and "123 Corniche El Nil" would be a value of the street address parameter.

Another table, the Reference Parameters, is part of the design. This table lists all the parameters for all the "things" (Reference Types) about which information is kept, but not a value for the parameter. In this manner, all parameters for which a value for an entity ("thing") are desired, are predefined in the table.

A final table, called the Reference Type Master, contains data about each Reference type. This table tracks whether a Reference Type in the Reference Master table can be updated via a form by everyday users or not, and whether or not it can be updated in the normal course of program execution. A short description of the Reference Type and the reporting header for forms and reports are the other fields in this table.

This architecture allows new entities, parameters, and report headers to be added or deleted from the data base without affecting the reports and data entry programs already written.

The final step of the data base design methodology is to determine how data will flow between processes. The information obtained from the previous matrices is incorporated into the figure titled "S0 EGPC System Data Flow Diagram".



4 REFERENCE DATA

June 22, 1990 17:14:54

RF REF DTL

Attribute Types

Id <1-1> REF TYPE
Id <1-1> REF ID
<0-M> REF PRM
<0-M> PRM VALUE

Relationship Types

ENTITY TYPE <1-1> RF REF MSTR
[ENTITY TYPE <1-M> RF REF DTL]
ENTITY TYPE <1-1> RF REF PRM
[ENTITY TYPE <1-M> RF REF DTL]

Context: 4 ENTITIES DATA

June 21, 1990 16:01:59

RF REF MSTR

Attribute Types

Id <1-1> REF TYPE
Id <1-1> REF ID

Relationship Types

Id ENTITY TYPE <1-M> RF REF DTL
[ENTITY TYPE <1-1> RF REF MSTR]
Id REF TYPE <1-1> RF REF TYPE MSTR
[REF TYPE <1-1> RF REF MSTR]

Context: 4 ENTITIES DATA

June 21, 1990 16:01:31

RF REF PRM

Attribute Types

Id <1-1> REF TYPE
Id <1-1> REF PRM

Relationship Types

Id ENTITY TYPE <1-M> RF REF DTL
[ENTITY TYPE <1-1> RF REF PRM]

Context: 4 ENTITIES DATA

June 21, 1990 15:54:04

RF REF TYPE MSTR

Attribute Types

Id

<1-1> REF TYPE
<0-M> UPDATE MSTR
<0-M> OTHER PROGRAM UPD
<0-M> REF TYPE DESCR
<0-1> REF TYPE HDR

Relationship Types

Id

REF TYPE <1-1> RF REF MSTR
[REF TYPE <1-1> RF REF TYPE MSTR]

Context: 4 ENTITIES DATA

June 21, 1990 16:00:57

ALTERNATIVES FOR DATA INTEGRATION
Integration with Western Atlas and SSI Data
and
Required Hardware and Software

Introduction

This section describes several alternatives for integrating data within EGPC, and between EGPC and the subsidiary companies.

A key objective of Task 2, "Analyze the Situation", was to ensure that EGPC requirements were fully understood and defined. The objective of Subtask 2.2, " Review Present Systems", was to document the current and planned systems. Included in this subtask were two items. The first was to account for the Western Atlas (Core Lab) and SSI efforts so that data could be integrated into the new mainframe data base. The second was to determine the hardware and software requirements for communicating with the Western Atlas and SSI data. (Any actual purchases of hardware or software systems were to be part of Task 5 and were subject to approval of USAID within a preallocated budget.)

Incorporation of Western Atlas and SSI Data into the Overall Design

There are two types of WA and SSI data: (a) index data that can and should be stored in a data base management system, and (b) engineering data files that are used for specific engineering calculations using a specific computer program. The engineering data files can be stored and moved in various media (disks, tape, etc.), but are not suitable for storage in a data base management system. An example of data that can and should be stored in a data base management system is index data identifying reports or seismic survey magnetic tapes. An example of the engineering data files is the data on the seismic survey tape itself.

It was recommended by Bechtel, and agreed upon by EGPC, that index data should be in the mainframe data base management system and that engineering data files should be left in the binary file format needed by the specific engineering programs. The location of the

engineering data files would be on the mainframe, VAX, PC's, or magnetic tape depending upon where the data would be needed, space requirements, and other circumstances.

Therefore, the first item of Subtask 2.2 was accomplished by incorporating the WA and SSI data bases into the mainframe data base design.

Determining Hardware and Software Required

The second item, determination of the hardware and software required for interconnecting the various EGPC computers with one another was accomplished by analyzing the network architecture requirements for EGPC accounting for the existing and planned systems.

There are three components of a network architecture for integrating data:

- The wiring or telecommunication links between computers where data is stored.
- The network communication protocol that moves the data from a computer onto the wiring or telecommunication link.
- The data base management system(s) that are used to store and retrieve the data.

Of the three items above, the least significant in terms of cost, choices, and long term impact is the first, the wiring and/or telecommunication link. The most significant is the selection of the data base management system(s).

The following sections describe the analysis that was done. There two parts:

- A description of the recommended network architecture for integrating data at EGPC.
- A description of alternatives that were investigated which led to the recommended network architecture.

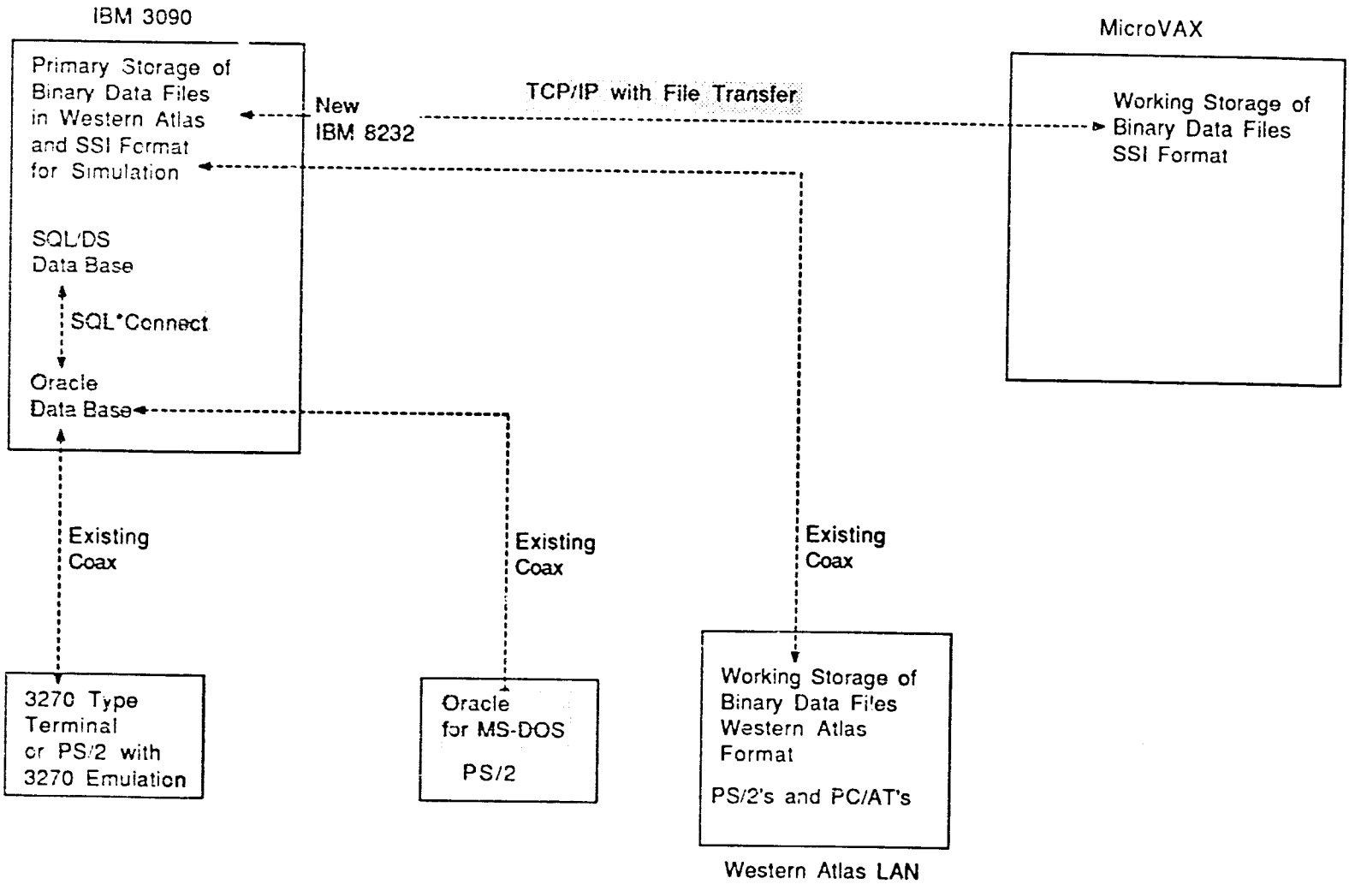
Recommended Network Architecture

The final recommended configuration is shown in simplified form in the diagram entitled 'EGPC Network Architecture Simplified View'. This diagram illustrates the various hardware, protocol, and data types present at EGPC and the general flow of data between the IBM 3090 and the four other types of computers.

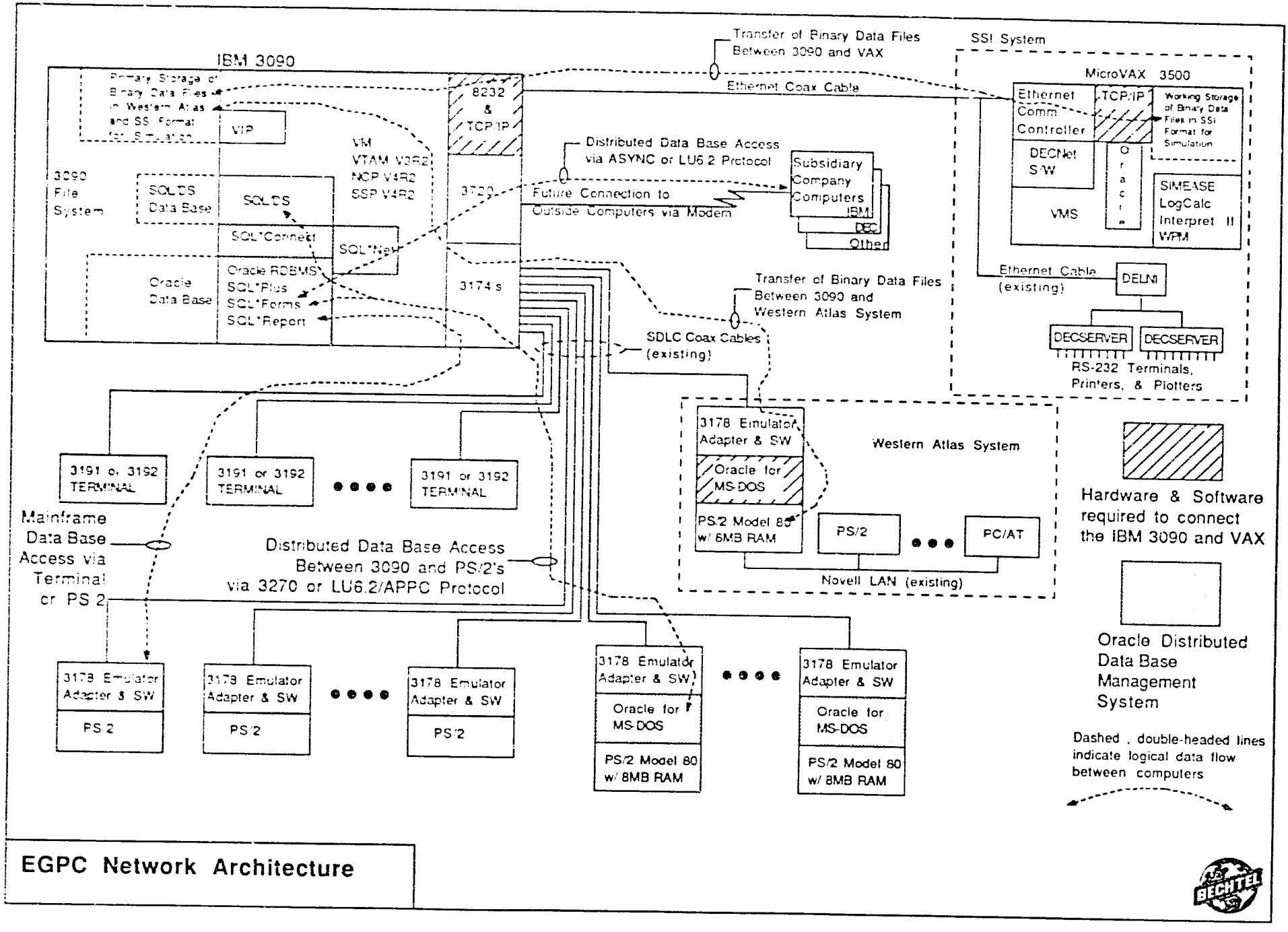
The diagram titled 'EGPC Network Architecture' provides a detailed illustration of the hardware and software components required to interconnect the various computers at EGPC. This diagram shows the communication protocols, hardware, and data management systems recommended by Bechtel for exchange of data between the IBM 3090 and other computing environments at EGPC. The shaded boxes represent components of the recommended data base management systems purchased by Bechtel as part of this project. Because of the type of distributed data base management system selected, various types of interconnection to various types of computers are feasible using mostly the existing hardware and software. The exceptions are the hatched boxes which are the additional hardware and software components required.

The dashed, double headed lines represent the flow of data. In order for data on one computer to get to another computer, they must traverse the various hardware and network protocol components. The data exchange requirements identified by this project are illustrated with the dashed, double-headed arrows.

As shown on the diagram, the most critical aspect of integrating data across departments and companies with different computers is the data management system. This system selected can interface with the different hardware and protocols existing and planned for EGPC. It can also present a single interface to all the users without regard to the operating environment, and is able to manage the different types of data so that all users have a single, global view of the data, regardless of how it is distributed.



EGPC Network Architecuture Simplified View



EGPC Network Architecture

IBM 3090 TO DEC VAX CONNECTIVITY

The following components are required to connect the IBM 3090 running VM to the DEC VAX running VMS using the TCP/IP protocols over ethernet.

IBM 3090 components, 3172 Solution (Available 9/90)

- 3172 Model 1 composed of:
  - Ethernet Adapter (feature code 2220)
  - Interconnect Controller Program (5601-400)
  - PS/2 or equivalent (5M Hard Disk, 3.5" 1.44M drive)
  - DOS 3.3, 4.0 or OS/2 DOS partition
  - 370 Channel interface cable (cable group 0185)
  - VM TCP/IP Program number 5798-FAL
  - Optional Features
    - Rack Mount assembly (feature code 2500)
    - 9309 Model 2 Rack Enclosure
    - Additional 370 Channel interface
    - Additional LAN adapters (up to 4, except MAP)

OR

IBM 3090 components, 8232 Solution (Available until 9/90)

- 8232 Model 2 Requirements
  - IBM 7532-266 Industrial Computer (RPQ 8Q0563) **Qty 2**
  - IBM 5532 or 7534 Display **Qty 2**
  - Ungermann-Bass Ethernet Card (2237A) or equivalent
  - IBM LAN Channel Support Program; 5799-PDY (PRPQ P85075) **Qty 2**
  - DOS 3.3 **Qty 2**
  - 370 Channel Interface cable (cable group 0185)
  - VM TCP/IP Program number 5798-FAL

DEC VAX components

- Fusion TCP/IP network software for VAX 3500 model FNS-UVMC-TCP

- Optional: Annual Technical Support (model FNS-TCS-TSY), Part number 400207

DEC VAX products may be purchased from:

Network Research Corporation
2380 North Rose Avenue
Oxnard, California 93030
Telephone 805-485-2700
Fax 805-485-8204

ALTERNATIVES FOR DATABASE INTEGRATION
Introduction

Bechtel investigated four alternatives for integrating the data at EGPC, both new and existing. These alternatives are: Base Case (IBM SQL/DS on the 3090), Case A (integration within EGPC), Case B (integration with petroleum sector companies), and Case C (Oracle on the 3090). Case C is the final recommendation, and has been described previously.

In addition, methods for connecting PS/2's, either local or remote, to the IBM 3090 were investigated. The different methods are described in the narrative and diagrams titled "Interconnection of the IBM PS/2's and the IBM 3090". The hardware, protocol, and data management systems required are illustrated in detail.

ALTERNATIVES FOR DATABASE INTEGRATION

One of the objectives of this project is "enhanced information interchange among EGPC's exploration, production, and operation divisions as well as between EGPC and oil companies". For this objective to be met, there are certain technical criteria that the EGPC data base management system should meet. Among the criteria are the following:

- The data base should be accessible from several types of computers simultaneously.

- Users should be able to easily query the data base and obtain the needed information without the need for IS to develop a program.

Considering these criteria along with the current plans EGPC has for computers, there are two feasible approaches:

A. Use the IBM SQL/DS data base management system. This will require conversion to the IBM DB/2 data base management system when the IBM MVS operating system is installed at a later date. It will also effectively limit users to mainframe terminal access of the data base.

B. Use a more advanced third party SQL compatible distributed data base management system that can run on many different types of computers and which can run on both the current VM and future MVS operating systems.

The latter approach has the following advantages:

- Users will be able to access the centralized IBM 3090 centralized data base from a variety of other computers and operating systems.

- The productivity of users and IS professionals will be significantly greater.

- If EGPC divisions and petroleum sector companies wish to share common, integrated data bases at a later date, the ability to do this will be enhanced and will avoid the need to develop redundant, separate data bases.

Background on the Database Access Standards

One of the objectives of EGPC is to allow more effective interchange of data between divisions and with the petroleum sector companies. An obstacle to effective interchange of data is the multitude of different computers that are used within the petroleum sector companies. Increasing use of standards within the computer industry has been making this less of an obstacle.

One area of standardization has been the means of accessing data bases.

SQL, which stands for "Structured Query Language", is a standardized method for accessing data bases that most newer data base management systems now use. SQL is now an international standard and a Federal Information Processing Standard of the U.S. government.

SQL/DS is an earlier version which IBM developed to run on their VM operating system for mainframe computers. DB/2 runs on IBM's MVS operating system. EGPC has installed SQL/DS on the centralized mainframe computer. There are currently plans to convert to DB/2 in the future when the operating system is upgraded to MVS.

SQL/DS and DB/2 are currently centralized data base management systems. To use a centralized data base management system, users must access the centralized computer using an IBM mainframe terminal or a PC emulating a terminal. The data on the mainframe can also be extracted and loaded into a data base on a remote computer. However, this process is usually too complex for most users and IS professionals are needed to handle the transfer.

This can be contrasted to distributed data base management systems (DDBMS) which can run on several different types of computer systems. The advantage of using a DDBMS is that a user can access data on a remote computer the same as if it were on the local computer. For some DDBMSs, another advantage is the ability to use the same DDBMS and run the same programs on the IBM VM operating systems, MVS operating systems, OS/2 (for the IBM PS/2 personal computers), DEC VAX computers, and other computers.

As with many centralized data base management systems, a third advantage of several DDBMSs is the availability of powerful "Fourth Generation Languages" (4GL) and user interfaces that make application development faster. These 4GLs and user interfaces are integrated with the DDBMS and can increase the productivity of IS professionals and users.

There are several DDBMSs available. Some can operate on more than one type of computer. A few will run on IBM mainframe computers. One of these DDBMSs, Oracle, can run on very many different types of computers and also interface transparently with IBM SQL/DS and DB/2 data bases.

Requirements for Data Interchange at EGPC

EGPC has some requirements for data interchange that are different from most other companies. An important function is the consolidation and disbursement of petroleum resource data from and to a wide variety of companies. This requires

accumulating the data from petroleum sector companies, storing the data, and making the data available under certain conditions.

Data interchange capability is important for EGPC to be effective in performing this role. The following are requirements of a data base management system which would improve EGPC's effectiveness in data interchange:

- Ability to access the data easily from a variety of computers.

- Ability to access the data over a variety of computer networks.

- Transparency of the data access method so that users can access data on a centralized data base as easily as if it were a local data base.

- Ability to use the same data base application programs on a variety of machines without having to write new programs.

- Flexible user interfaces.

Alternatives

The attached figures illustrate alternatives for meeting the above requirements.

Base Case

The first figure illustrates the base case configuration in which all data is accessed from the central IBM SQL/DS data base using IBM mainframe terminals or PC's (or PS/2's) emulating terminals.

The advantages of the Base Case are:

- The cost of the SQL/DS data base software is relatively inexpensive.

- The configuration is relatively simple.

The disadvantages are:

- The process for exchanging data with other non-IBM computers is complex and requires special programs to be developed.

- All of the applications that access the data base directly must run on the IBM mainframe.

- The user interfaces available are less flexible and less powerful than what is available from others.

- The architecture is closed and depends heavily on IBM products.

Case A - Integration Within EGPC

The second figure illustrates the Case A configuration in which Oracle is used on EGPC's IBM PS/2's, PC's, and DEC MicroVAX. The mainframe data base is on SQL/DS and is accessed from the other computers via Oracle's SQL*Net and SQL*Connect.

The advantages of Case A are:

- Data on the mainframe can be easily downloaded and uploaded from the other computers.

- For many applications, users on the other computers can access data on the mainframe data base as though it were on their own computer.

- The available data querying and data manipulation capability are superior to the Base Case.

- The productivity of IS professionals and users will be greater because of the advanced interface and application development tools which can be used on many types of computers.

- Applications for accessing and manipulating the data base can be developed on PC's and run on other computers. Application development is generally more productive when done on PC's than directly on a mainframe.

- The type of network used to interconnect the computers can be changed without impacting the applications or data base.

The disadvantages are:

- Oracle must be purchased for each computer that is to use this capability.

- Oracle support will be required in addition to IBM support.

Case B - Integration With Petroleum Sector Companies

The third figure illustrates the Case B configuration which is similar to Case A except that petroleum sector companies can also access the centralized data base.

The advantages of Case B are the same as Case A plus the following:

- Data interchange with the petroleum sector companies would be made significantly more effective.

The disadvantages of Case B are the same as Case A plus the following:

- There will be added data security administration workload to assure that outside petroleum sector companies are only given access to data to which they are entitled.

Case C - Use of Oracle on the Mainframe

The fourth figure illustrates the Case C configuration which is similar to Case B except that the Oracle data base management system is used in addition to, or in place of, the SQL/DS data base management system.

The advantages of Case C are the same as Case B plus the following:

- When converting from IBM VM operating system to MVS, there will not be a need to convert the data base management system since Oracle runs under either.

- All mainframe users will be able to use the more powerful data query and data manipulation capabilities of Oracle.

- EGPC users can access the data base the same no matter which machine they are using.

The disadvantages of Case C are the same as Case B plus the following:

- The cost of Oracle products on the mainframe is significantly greater than on smaller computers.

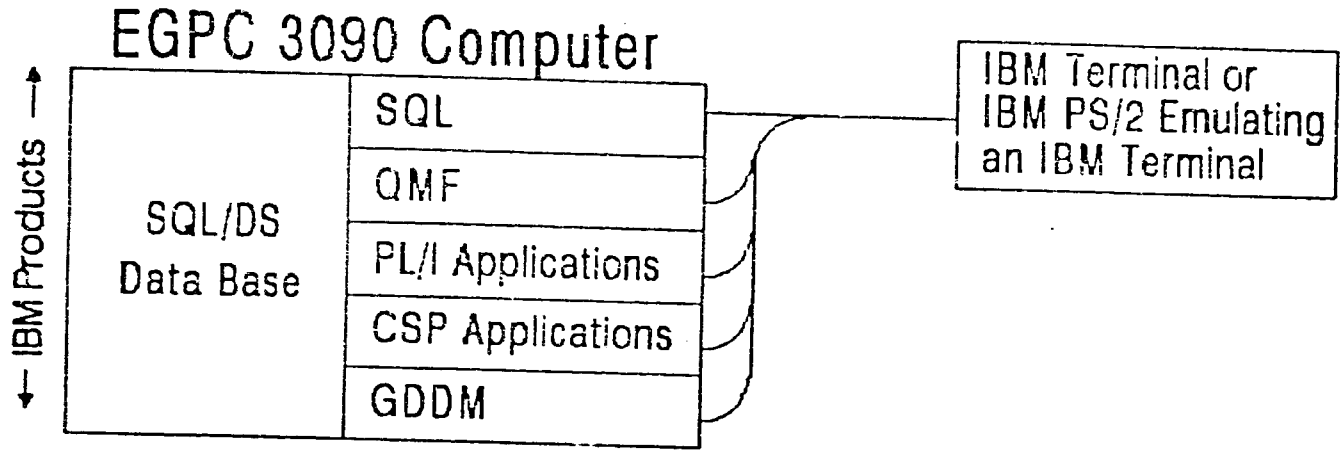
Bechtel's Recommendation

Provided proper local support can be obtained, Bechtel's recommendations, in order of preference, are:

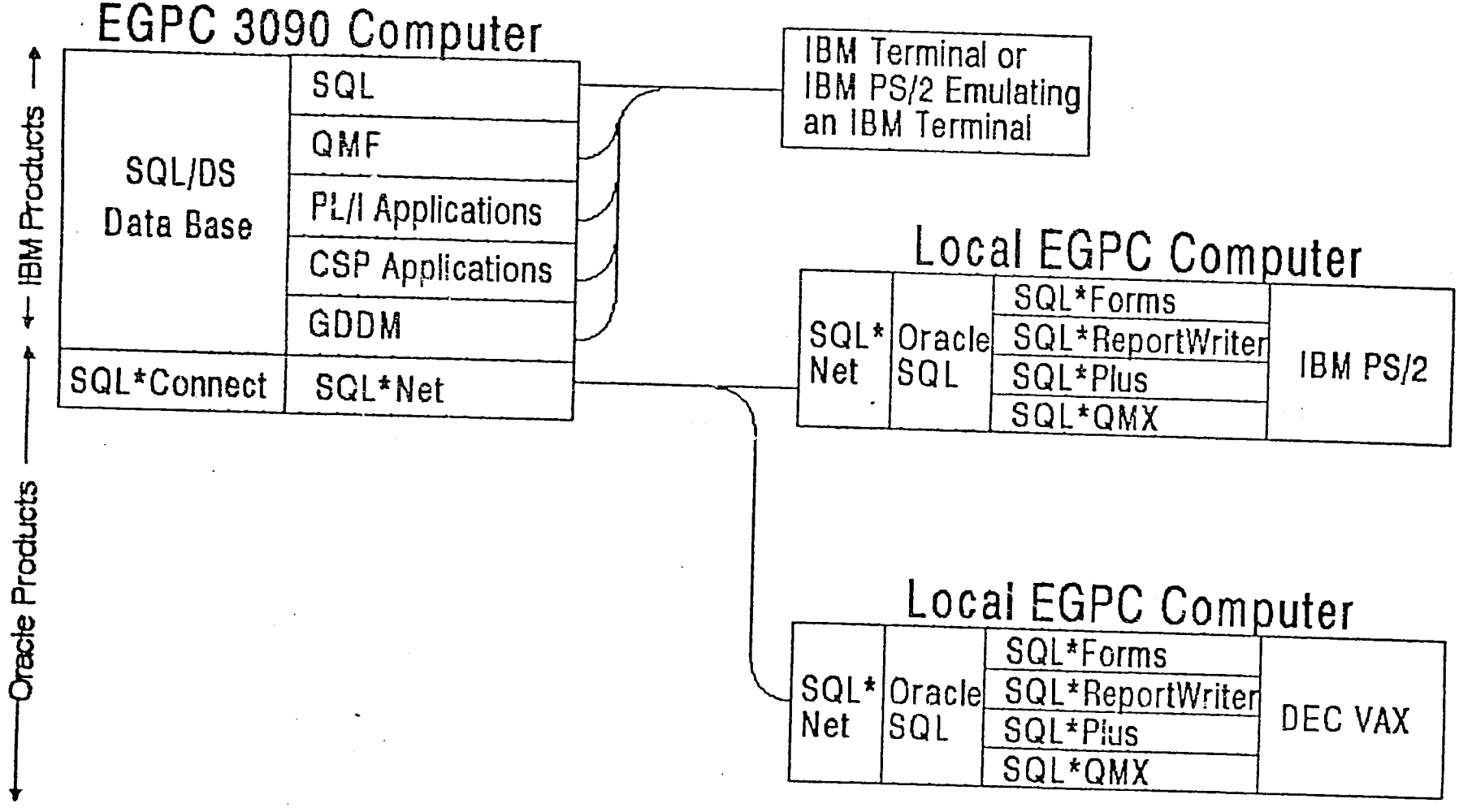
1. If satisfactory financial arrangements can be made, plan on implementing Case C. First, as soon as possible, install Oracle on a few PS/2's at EGPC using one of the larger PS/2's as a data base server on a small local area network. Perform development work on PC's or PS/2's, and access the data base initially on the server. Once the 3090 mainframe is ready, install Oracle on the mainframe. However, the connection with the other companies should not be made until the appropriate time.

2. If the above is not feasible, then plan on implementing Case A with the possibility for continuing on to Case C. Follow a phased implementation approach similar to 1 above.

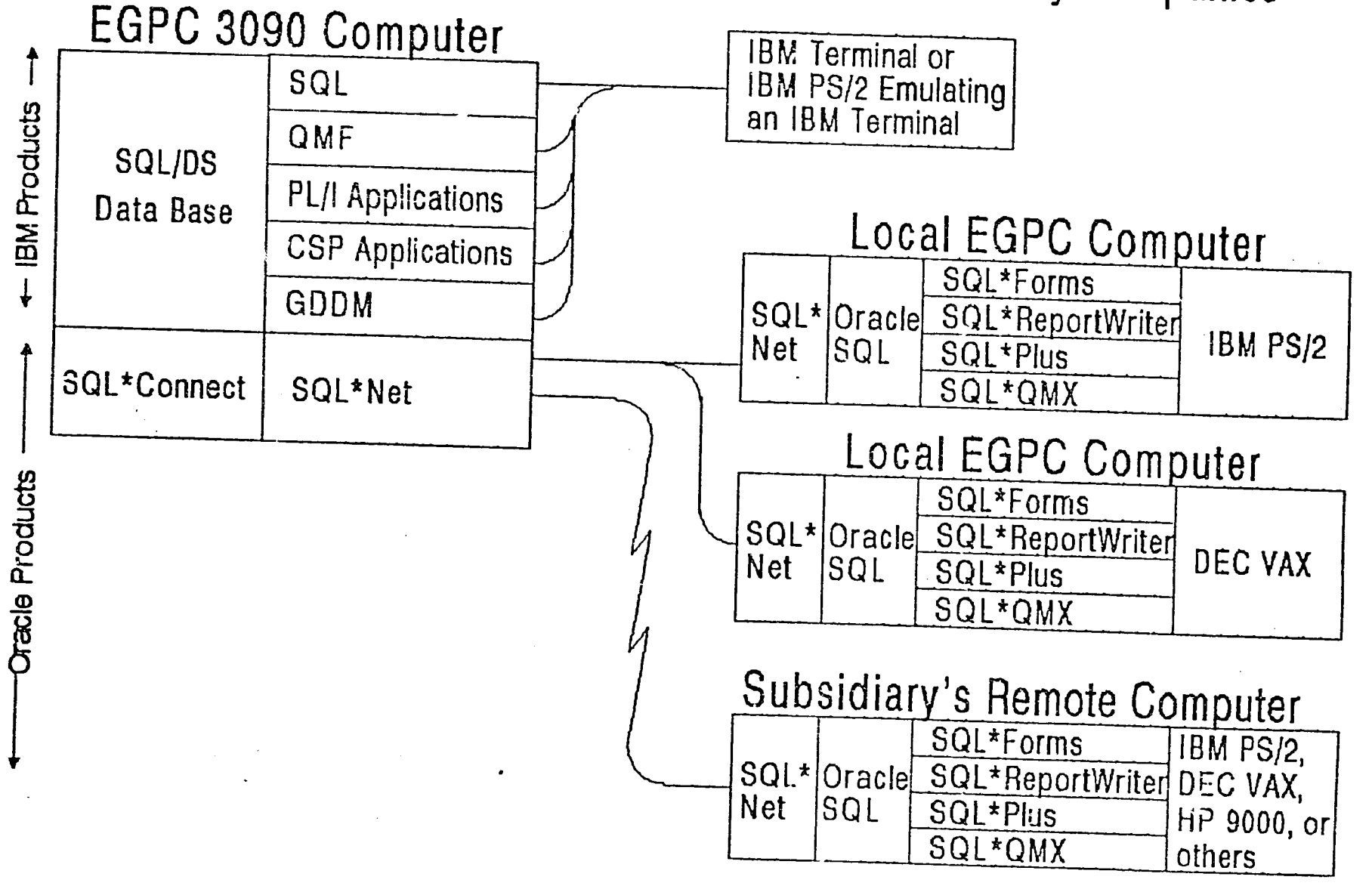
Base Case - Data Base Access by Terminal or PS/2



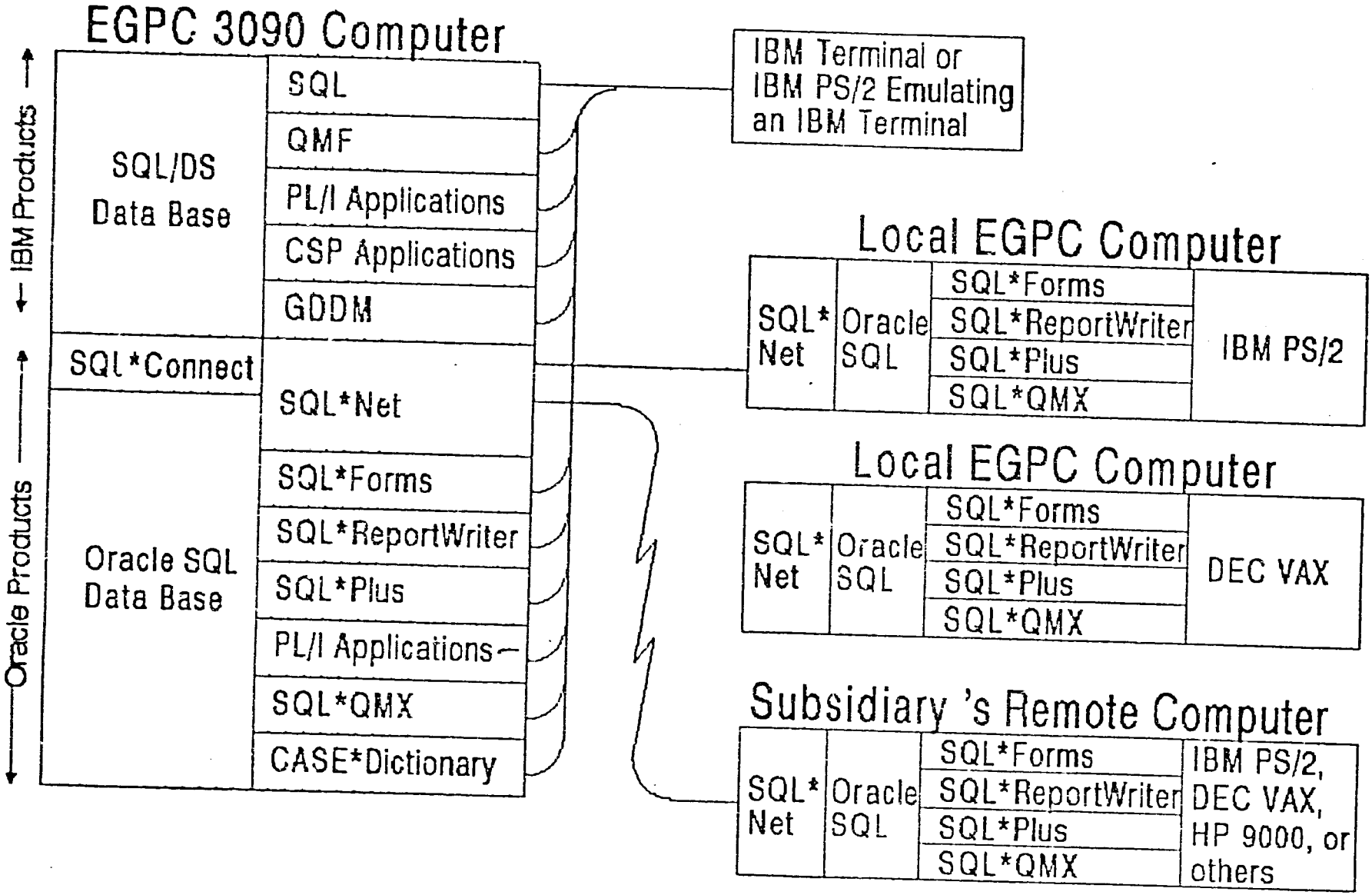
Alternate Case A - Integration Within EGPC



Alternate Case B - Integration With Subsidiary Companies



Alternate Case C - Use of Oracle on the Mainframe



INTERCONNECTION OF THE IBM PS/2's AND THE IBM 3090

To make effective use of the IBM PS/2's and the IBM 3090, they should be able to work in conjunction with each other so that:

- The development work can be done on stand-alone PS/2's or the 3090, and the programs can work on the 3090 as well as the PS/2's with little or no modification.

- The data on the 3090 can be accessed from the PS/2's.

- A portion of the data base on the 3090 can be downloaded to the PS/2's for local analysis work.

There are two diagrams titled "Alternatives for Interconnecting Oracle Between PS/2's and Between 3090 and PS/2". These two diagrams illustrate how a PS/2 data base server can be interconnected with other PS/2's for the short-term development of pilot data bases. They also show the hardware and software components needed for accessing the data base on the 3090 from the PS/2's. There are several approaches which can be used:

1. AIX (IBM's Unix operating system) on a PS/2 server with IBM TCP/IP protocol and IBM Token Ring interface cards. This would use only IBM components. However, to get into the 3090 may require an IBM VTAM/TCP/IP gateway product (8232) which would be relatively expensive. The first of the two diagrams illustrates this approach.

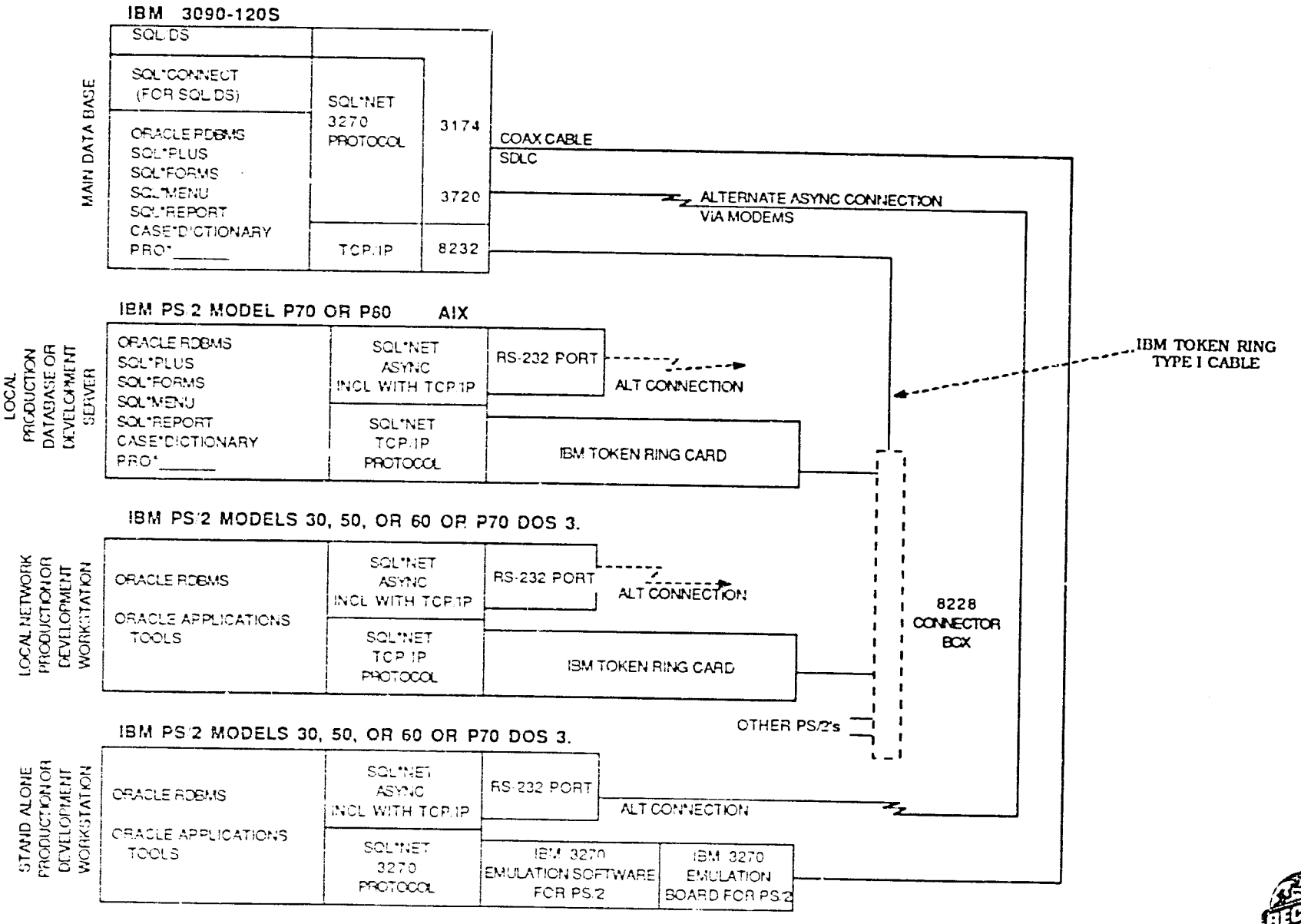
2. Xenix (Unix) on a PS/2 server with TCP/IP protocol and ethernet interface boards. However, as with the above, to get into the 3090 would also require the IBM VTAM/TCP/IP gateway product. The second of the two diagrams shows this approach.

3. DOS on individual PS/2's with 3270 protocol connections using the coax cabling into the 3174's. This would use components EGPC already has in-house or on order. However, the 3270 protocol is very awkward and slow in this configuration.

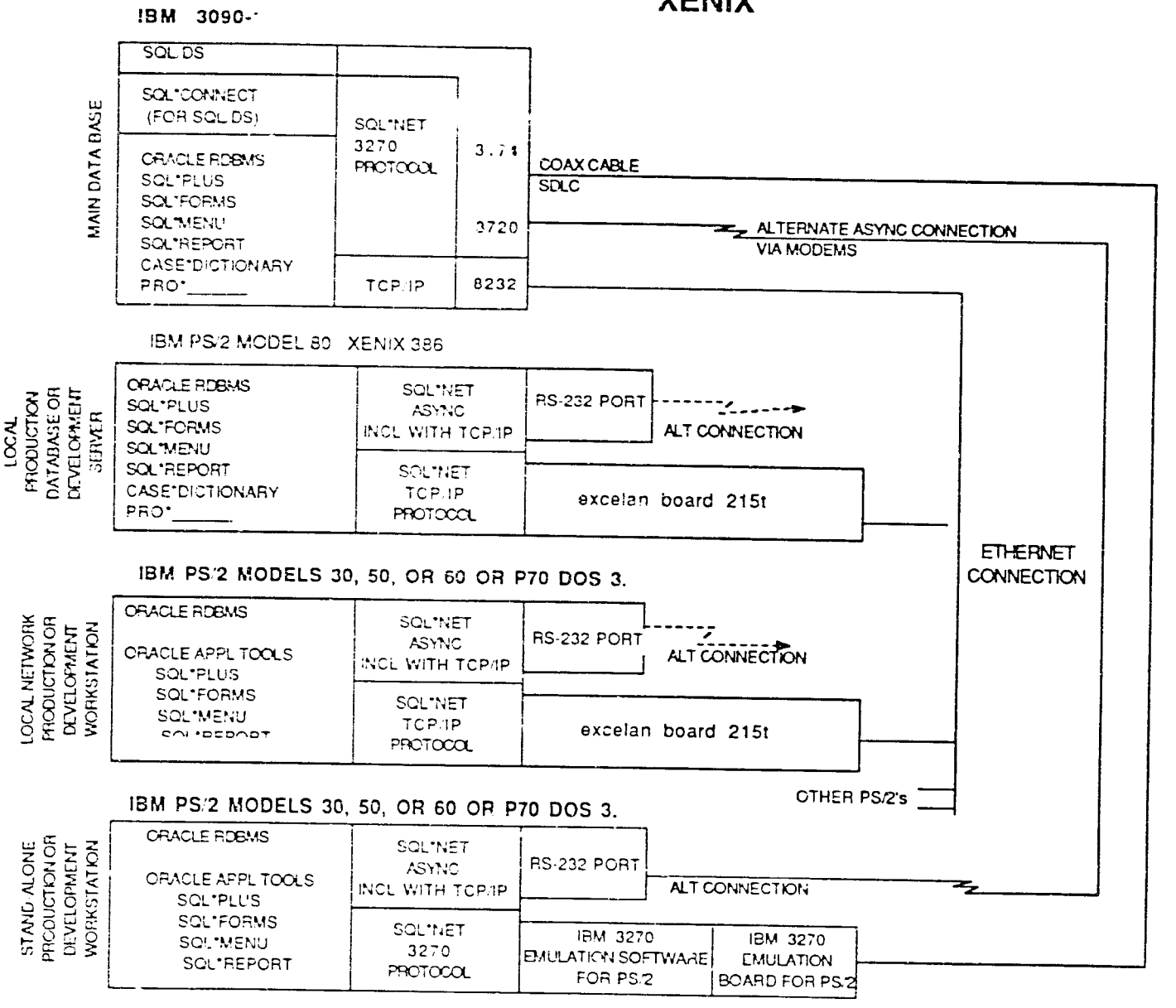
4. AIX (IBM's Unix operating system) on a PS/2 server with IBM APPC/LU6.2 peer-to-peer protocol using the existing coax cables into an IBM 3174. This would combine the advantages and avoid the disadvantages of 1, 2, and 3 above. However, this configuration is currently in Beta test and is not yet ready for use in Egypt.

For EGPC, the best situation would be to use IBM products as much as possible to minimize the number of vendors needed for support. Therefore, for the short term, Bechtel recommends the use of the first or second alternative for interconnection of a PS/2 server with other PS/2's and the third alternative for interconnection of the PS/2's with the 3090; and for the long term Bechtel recommends planning for the fourth alternative.

ALTERNATES FOR INTERCONNECTING ORACLE BETWEEN PS/2's AND BETWEEN 3090 AND PS/2



ALTERNATES FOR INTERCONNECTING ORACLE BETWEEN PS/2's AND BETWEEN 3090 AND PS/2 XENIX



	ER FAULT BLOCK	ER GRID SIM DATA	ER GRID SIM PRM	ER RESERVOIR	ES AIRMAG DATA	ES GRAVITY DATA	ES LAB ANALYSIS	ES MAPS	ES REPORTS	ES SEISMIC 3D	ES SEISMIC DATA	ES XSECTION	EW MAG TAPE	EW MAP INDEX	EW SEISMIC LINE	EW SEISMIC SECT	EW SEISMIC SURVEY
111C SEISMIC MAGNETIC TAPE													√				
111D SEISMIC SECTION																√	
111E MAP														√			
111L SSI REPORTS DATA					√	√	√	√	√	√	√	√					
220C O.O.I.P. REPORT	√		√														

Data Collection involves Entity Type

June 22, 1990 17:47:44

	GENERAL WELL	WD DRILL DAY DTL	WD DRILL DAY SUM	WD DRILL DIRECT	WD DRILL PRM	WD DRILL PROGRAM	WD FIX DRILL DTL	WP WELL MON PROD
113A EXPLORATORY WELL REPORTS	√							
113B EXPLORATION DRILLING			√					
113C EXPLORATORY WELL PROGRAM	√	√				√		
113E FINAL WELL REPORT	√	√						
113F EXPLOR DRILLING TELEX			√					
113H-1 DAILY DRILLING RPT SUM			√					
113H-2 DAILY DRILLING ACTIV SUM			√					
210B DRILLING PROGRAMS						√		
210C COMPLETION PROGRAMS						√		
210D EXPLORATORY WELL PROGRAM						√		
210E WORKOVER PROGRAM						√		
210F DAILY DRILLING REPORT		√						
210H WELL COST ANALYSIS SHEET		√						
210I DAILY DRILLING OPER REPORT			√					
220B DEVELOPMENT STUDY PACKAGE			√					
220D MONTHLY CRUDE OIL PROD								√
220E MONTHLY PROD & WELL STATUS								√

Data Collection involves Entity Type

June 22, 1990 18:09:47

	WO FLUID PVT DATA	WO FLUID PVT PRM	WO WELL DEVIC PRM	WO WELL DEVICE	WO WELL MSTR	WO WORKOVER HIST
111A ROCK SAMPLES						
111K TEST	√					
113C EXPLORATORY WELL PROGRAM					√	
210E WORKOVER PROGRAM						√
210F DAILY DRILLING REPORT						
210G QUARTERLY DRILLING REPORT						
210H WELL COST ANALYSIS SHEET						
210I DAILY DRILLING OPER REPORT						
220A DAILY PROD RPT (SUPPLIED)						
220B DEVELOPMENT STUDY PACKAGE						
220C O.O.I.P. REPORT	√				√	
220D MONTHLY CRUDE OIL PROD						
220E MONTHLY PROD & WELL STATUS						
220F DAILY PROD RPTS (PRODUCED)						

Data Collection involves Entity Type

June 22, 1990 17:55:59

	OC CONSU MON ACT	OC CONSU MON PLAN	OD PROD DIST STOR	OP FIELD DAY ACT	OP FIELD MON PLAN	OR REF DAY ACT	OR REF MON PLAN	OS IMP EXP CONTR	OS IMP EXP PLAN	OS SHIPMENTS	OS TANKER STAT	OS TERMINAL STAT
220A DAILY PROD RPT (SUPPLIED)				√								
220D MONTHLY CRUDE OIL PROD				√								
220E MONTHLY PROD & WELL STATUS				√								
220F DAILY PROD RPTS (PRODUCED)				√								
310A SCHEDULE LIFTINGS BY DATE									√			
310B SCHEDULE LIFTINGS BY TYPE									√			
310C SCHEDULE LIFTINGS BY CRUDE									√			
310D IMPORT/EXPORT SCHEDULE										√		
310E GEN STATUS OF EXPORTED PROD								√				
310F GEN STATUS OF IMPORTED PROD								√				
310G TANKER STATUS											√	√
310H EXPORT PROD CONTRACT/TEND								√				
310I NAPTHA CONTRACT PERFORM 1								√				
310J NAPTHA CONTRACT PERFORM 2								√				
320A CRUDE OILS PROCESS & PROD						√						
320B CRUDE OIL/PRODUCT STOCKS						√						
320C DAILY OIL MOVE CRUDE REC						√						
320D DELIVERED CRUDE - REFINERY						√						
320E EVALU OF REFINERY COMPANIES							√					
320F MAJOR/SECON UNIT PRODUCTION							√					
320H REFIN PROD RPT BY PLANT						√						
330A 'DAILY SITUATION' REPORT			√			√						
330B ACTUAL MONTHLY CONSUMPT SUM	√											
330D YEARLY CONSUMP OF MAIN PROD	√											
330E MONTH T&D PLAN - PRODUCTS							√					
330G GAS LIQUID SITUATION						√						
330H PUMP/SHIPPING MOVE SITUAT						√						

	RF REF OTL	RF REF MSTR	RF REF PRM	RF REF TYPE MSTR
113A EXPLORATORY WELL REPORTS				
113B EXPLORATION DRILLING				
113C EXPLORATORY WELL PROGRAM		√		
113D APPRAISAL WELL PROGRAM		√		
113E FINAL WELL REPORT				
113F EXPLOR DRILLING TELEX				
113G GEOPHYS ACTIVITY FOR MONTH				
113H-1 DAILY DRILLING RPT SUM				
113H-2 DAILY DRILLING ACTIV SUM				
113H DAILY DRILLING RPT SUMMARY				
120A CONTRACTORS REGISTER EGPC	√			
120B EGPC SPEC EXPLOR PROJECTS	√			
120C OPENING OF TENDERS				
120D CONTRACTOR DOCUM/QUALIF				
130A COMMERCIALITY DECLARATION		√		
210A DAILY DRILLING TELEXES				
210B DRILLING PROGRAMS		√		
210C COMPLETION PROGRAMS				
210D EXPLORATORY WELL PROGRAM		√		
210E WORKOVER PROGRAM				
210F DAILY DRILLING REPORT				
210G QUARTERLY DRILLING REPORT				
210H WELL COST ANALYSIS SHEET				
210I DAILY DRILLING OPER REPORT				

Data Collection involves Entity Type

June 22, 1990 18:20:47

Entity Type: 3 ANNUAL PLAN DATA

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/01/08 18:07 REVIEW
Created	1990/01/08 16:56:53 REVIEW

ASSOCIATION	TYPE	NAME
YR/MO+CRUDE/PRODTYPE	Entity Type	OP FIELD MON PLAN
		OS IMP EXP PLAN
		OR REF MON PLAN
		OC CONSU MON PLAN
Is Involved in	Process	06 FIELD PRODUCTION SYSTEM
		08 REFINERY SYSTEM
		07 TRANSPORTATION SYSTEM
		10 PRODUCT CONSUMPTION SYSTEM

Entity Type: 3 DAILY SITUATION DATA

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/01/09 09:39 REVIEW
Created	1990/01/08 16:57:16 REVIEW

ASSOCIATION	TYPE	NAME
OPERDATE+CRUDE/PRODTYPE	Entity Type	OP FIELD DAY ACT
		OS SHIPMENTS
		OD PROD DIST STOR
		OR REF DAY ACT
Is Involved in	Process	06 FIELD PRODUCTION SYSTEM
		07 TRANSPORTATION SYSTEM
		08 REFINERY SYSTEM
		10 PRODUCT CONSUMPTION SYSTEM
		11 PRODUCT DISTRIBUTION SYS

Entity Type: ER FAULT BLOCK

Definition
Borders from beginning of 1 fault to beginning of second fault.

Comments
A fault block is defined by the beginning of one fault to the beginning of another fault. Included in this definition are X, Y, and Z

coordinates. The Z coordinates, or depths, also indicate the top depths of various formations within the block.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 11:09 ROD
Created	1989/12/22 13:57:51 REVIEW

ASSOCIATION	TYPE	NAME
FAULT BLOCK ID	Entity Type	WG WELL MSTR
Is Involved in	Subject Area	1A REGION DATA
	Data Collection	220C O.O.I.P. REPORT
	Process	01 EXPLORATION SYSTEM
PAY ZONE NAME	Entity Type	ER RESERVOIR
Is Described by	Attribute Type	CASE VARIANT
		CASE VARIANT DESC
		PROVEN OOIP MMSTB
		PROB OOIP MMSTB
		OGIP MMSTCM
		GBV MMCM
		NET TO GROSS PCNT
		NBV MMCM
		THETA PCNT
		H20 SAT PCNT
		FVF BOI
		PAY ZONE NAME
		FAULT BLOCK
		POSS OOIP MMSTB

Entity Type: ER GRID SIM DATA

Definition
Data elements and values for simulation parameters.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 12:12 ROD
Created	1989/12/22 13:58:29 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1A REGION DATA
	Process	01 EXPLORATION SYSTEM
		02 WELL GEOSCIENCE SYSTEM
PARAMETER ID	Entity Type	ER GRID SIM PRM

Is Described by	Attribute Type	PRM CODE
		GRID ID REF
		X COORD
		Y COORD
		Z COORD
		PRM VALUE

Entity Type: ER GRID SIM PRM

Definition
Simulation parameters identified by a grid reference.

Comments
This table lists all of the types of parameters that are identified by a grid reference and which might be used for simulation. This table is referenced by the GRID SIMULATION entity and contains a list of valid parameters.

Some examples of "grid simulation parameters" are:

vapor phase composition
saturation pressure
oil saturation

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 11:59 ROD
Created	1989/12/22 15:28:27 REVIEW

ASSOCIATION	TYPE	NAME
PARAMETER ID	Entity Type	ER GRID SIM DATA
Is Involved in	Subject Area	1A REGION DATA
	Data Collection	220C O.O.I.P. REPORT
	Process	01 EXPLORATION SYSTEM
Is Described by	Attribute Type	PRM CODE
		PRM NAME
		PRM UNITS

Entity Type: ER RESERVOIR

Definition
Original Oil In Place

Comments

The ER RESERVOIR is an estimate of the "Original Oil In Place" at a given depth. The estimated hydrocarbon content is used by the Exploration department and the Production department to estimate well production and to forecast the decline in production.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 10:58 ROD
Created	1989/12/22 13:54:33 REVIEW

ASSOCIATION	TYPE	NAME
PAY ZONE NAME	Entity Type	WG WELL MSTR
		ER FAULT BLOCK
Is Involved in	Subject Area	1A REGION DATA
	Process	01 EXPLORATION SYSTEM
Is Described by	Attribute Type	PAY ZONE NAME
		CASE VARIANT
		CASE VARIANT DESC
		ZONE BOT DEPTH
		ZONE THICKNESS
		PROVEN RESRV MMSTB
		PROB RESRV MMSTB
		POSS RESRV MMSTB
		AVG POROSITY PCNT
		HC H2O CONTACT
		THETA CO PCNT
		VSH CO PCNT
		SW CO PCNT
		ODT METERS SSL

Entity Type: ES AIRMAG DATA

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 17:59 ROD
Created	1989/12/28 13:44:18 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	TITLE
		CONCESSIONAIRE
		DATUM

	SCALE
	CONTOUR INTERVAL
	FLIGHT ALTITUDE
	FLIGHT INTERVAL
	MEDIA
	QUALITY
	REGION
	DATEREC
	NW COORD
	SE COORD
	PROC CONTRACTOR
	REC CONTRACTOR
	BASIN HIGH
	FIELD NAME
	TIE LINE INTVL
	PROCTYPE
	DATEPROC
	BUILDING
	BOX NO

Entity Type: ES GRAVITY DATA

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/06/21 14:08 NEWUSER
Created	1989/12/28 13:44:53 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	CONCESSIONAIRE
		QUALITY
		REGION
		TITLE
		DATEREC
		NW COORD
		SE COORD
		PROC CONTRACTOR
		REC CONTRACTOR
		BASIN HIGH
		FIELD NAME
		DATUM
		SCALE
		CONTOUR INTERVAL
		MEDIA

BUILDING
BOX NO

Entity Type: ES LAB ANALYSIS

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 09:36 ROD
Created	1989/12/28 13:44:36 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	TITLE
		TYPE
		CONCESSIONAIRE
		CONTRACTOR
		TOP DEPTH
		BTM DEPTH
		QUALITY
		REGION
		WELL
		REMARKS
		DATEREC
		INCLUSIONS
		SAMPLES
		MEASURE UNITS
		SOURCE
		BASIN HIGH
		FIELD NAME
		BUILDING
		CABINET NUM
		LAB NO
		PAGES NO

Entity Type: ES MAPS

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/06/22 15:28 NEWUSER
Created	1989/12/28 13:43:01 REVIEW

ASSOCIATION	TYPE	NAME

Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	MAP TITLE
		REPORT TITLE
		TYPE
		CONCESSIONAIRE
		CONTRACTOR
		AUTHOR
		HORIZON
		SCALE
		CONTOUR INTERVAL
		MEDIA
		QUALITY
		REGION
		WELL
		MAP DATE
		NW COORD
		SE COORD
		MEASURE UNITS
		BASIN HIGH
		FIELD NAME
		BUILDING
		CABINET NUM
		MAP NO

Entity Type: ES REPORTS

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 16:48 ROD
Created	1989/12/28 13:42:44 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	TYPE
		CONCESSIONAIRE
		CONTRACTOR
		AUTHOR
		QUALITY
		REGION
		WELL
		TITLE
		REPORT DATE

REPORT PAPER
INCLUSIONS
BASIN HIGH
FIELD NAME
BUILDING
CABINET NUM
ABSTRACT REMARKS
REPORT NO
PAGES NO

Entity Type: ES SEISMIC 3D

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 17:05 ROD
Created	1989/12/28 13:43:58 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	TITLE
		TYPE
		CONCESSIONAIRE
		ENERGY SOURCE
		STACK
		DATUM
		CONTOUR INTERVAL
		MEDIA
		QUALITY
		REGION
		DATEREC
		NW COORD
		SE COORD
		ORIG REPRO
		DATEPROC
		PROC CONTRACTOR
		REC CONTRACTOR
		BASIN HIGH
		FIELD NAME
		RECORDTYPE
		RECLENGTH
		SAMPLERATE
		HORZSCALE
		VERTSCALE
		BUILDING

SETS 3D NO
BOX NO

Entity Type: ES SEISMIC DATA

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 15:30 ROD
Created	1989/12/28 13:43:36 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	TYPE
		CONCESSIONAIRE
		ENERGY SOURCE
		STACK
		TRACE
		DATUM
		MEDIA
		QUALITY
		REGION
		BOX NO.
		LINE
		DATEREC
		BEGCOORD
		ENDCOORD
		BEGDIREC
		ENDDIREC
		BEGSHOTNO
		ENDSHOTNO
		ORIG REPRO
		DATEPROC
		PROC CONTRACTOR
		REC CONTRACTOR
		BASIN HIGH
		FIELD NAME
		RECORDTYPE
		SHOT PT INTERVAL
		RECLENGTH
		SAMPLERATE
		GROUP INTERVAL
		HORZSCALE
		VERTSCALE
		BUILDING

Entity Type: ES XSECTION

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 14:18 ROD
Created	1989/12/28 13:43:23 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1C SSI INDEX DATA
	Data Collection	111L SSI REPORTS DATA
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	XSEC TITLE
		TYPE
		CONCESSIONAIRE
		CONTRACTOR
		AUTHOR
		INTERVAL
		DATUM
		MEDIA
		QUALITY
		REGION
		WELL
		REPORT TITLE
		REPORT DATE
		MEASURE UNITS
		BEGDIREC
		ENDDIREC
		HORZSCALE
		VERTSCALE
		BASIN HIGH
		FIELD NAME
		BUILDING
		CABINET NUM
		XSEC NO

Entity Type: EW MAG TAPE

Definition
Identifier for magnetic tape containing seismic data.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 13:34 ROD
Created	1989/12/26 16:18:01 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1B SEISMIC SECTION INDEX
	Data Collection	111C SEISMIC MAGNETIC TAPE
	Process	03 ARCHIVE DATA SYSTEM
SL LINE NUMBER	Entity Type	EW SEISMIC SURVEY
Is Described by	Attribute Type	MEDIA TYPE
		MEDIA COND
		TAPE TYPE ABR
		SL LINE NUMBER
		SM INSTRUMENT
		SM FORMAT
		SM DATA CHANNEL
		SM REMARKS
		SM ROOM
		SM ROW
		SM COLUMN
		SM RECORDER CHAN
		SEIS SURVEY

Entity Type: EW MAP INDEX

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 13:45 ROD
Created	1989/12/26 16:18:28 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1B SEISMIC SECTION INDEX
	Data Collection	111E MAP
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	AREA ABR
		COMPANY NAME ABR
		MEDIA TYPE
		MEDIA COND
		MAP TYPE
		MAP TYPE ABR
		GEOLOGICAL AGE
		ALIAS
		FORMATION
		FORMATION ABR
		MP S LATITUDE
		MP B LATITUDE
		MP B LONGITUDE
		MP S LONGITUDE

	MP S X COOR
	MP S Y COOR
	MP B X COOR
	MP B Y COOR
	MP DATE
	MP SCALE
	MP ROOM
	MP ROW
	MP COLUMN

Entity Type: EW SEISMIC LINE

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 12:22 ROD
Created	1989/12/26 16:17:15 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1B SEISMIC SECTION INDEX
	Process	03 ARCHIVE DATA SYSTEM
SL LINE NUMBER	Entity Type	EW SEISMIC SURVEY
Is Described by	Attribute Type	AREA ABR
		COMPANY NAME ABR
		SL LINE NUMBER
		SL SHOT FROM
		SL SHOT TO
		SL SHOT DATE
		SEIS SURVEY
		SEIS CON ABR

Entity Type: EW SEISMIC SECT

Definition
A portion of a seismic line, including depth.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/20 12:35 ROD
Created	1989/12/26 16:17:43 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	1B SEISMIC SECTION INDEX
	Data Collection	111D SEISMIC SECTION
	Process	03 ARCHIVE DATA SYSTEM

SL LINE NUMBER	Entity Type	EW SEISMIC SURVEY
Is Described by	Attribute Type	MEDIA TYPE
		MEDIA COND
		ENERGY
		SL LINE NUMBER
		SS RECORDER TYPE
		SS SAMPLE RATE
		SS DATA CHANNEL
		SS FOLD
		SS LENGTH
		SS SPREAD LENGTH
		SS GROUP INTERVAL
		SS SP INTERVAL
		SS NUMBER HOLES
		SS PROCESS DATE
		SS PROCESS FOLD
		SS SCALE
		SS ROOM
		SS ROW
		SS COL
		SEIS CON
		SEIS CON ABR
		SEIS PRO
		SS INSTRUMENT CHAN
		SEIS SURVEY

Entity Type: EW SEISMIC SURVEY

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/05/27 11:57 ROD
Created	1990/05/27 11:57:46 ROD

ASSOCIATION	TYPE	NAME
SL LINE NUMBER	Entity Type	EW SEISMIC SECT
		EW SEISMIC LINE
		EW MAG TAPE
Is Involved in	Subject Area	1B SEISMIC SECTION INDEX
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	SEIS SURVEY
		UPPER LEFT LAT
		UPPER LEFT LONG
		LOWER RIGHT LAT
		LOWER RIGHT LONG
		AREA
		COMPANY NAME

3,14

SEIS CON

Entity Type: GENERAL WELL

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 13:50 ROD
Created	1989/12/27 16:04:40 REVIEW

ASSOCIATION	TYPE	NAME
WELL ID	Entity Type	WD FIX DRILL DTL
		WD DRILL DAY SUM
		WD DRILL PROGRAM
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Data Collection	113A EXPLORATORY WELL REPORTS
		113C EXPLORATORY WELL PROGRAM
		113E FINAL WELL REPORT
	Process	03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	WELL ID

Entity Type: OC CONSU MON ACT

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 16:44 ROD
Created	1989/12/28 18:42:30 REVIEW

ASSOCIATION	TYPE	NAME
GOVERNORATE + OPER DATE	Entity Type	OC CONSU MON PLAN
Is Involved in	Subject Area	3E CONSUMPTION DATA
	Data Collection	330B ACTUAL MONTHLY CONSUMPT SUM
		330D YEARLY CONSUMP OF MAIN PROD
	Process	10 PRODUCT CONSUMPTION SYSTEM
YR/MO+CRUDE/PRODTYPE +GOVERNORATE	Entity Type	OC CONSU MON PLAN
Is Described by	Attribute Type	COMPANY NAME ABR
		GOVERNORATE
		CENTRE
		PROD TYPE
		OPER MON
		QTY CONSUMED

Entity Type: OC CONSU MON PLAN

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 16:47 ROD
Created	1989/12/28 18:42:52 REVIEW

ASSOCIATION	TYPE	NAME
YR/MO+CRUDE/PRODTYPE +GOVERNORATE	Entity Type	OC CONSU MON ACT
Is Involved in	Subject Area	3E CONSUMPTION DATA
	Process	10 PRODUCT CONSUMPTION SYSTEM
GOVERNORATE + OPER DATE	Entity Type	OC CONSU MON ACT
YR/MO+CRUDE/PRODTYPE	Entity Type	3 ANNUAL PLAN DATA
Is Described by	Attribute Type	GOVERNORATE
		COMPANY
		CENTRE
		PROD TYPE
		OPER MON
		PROJ CONSU QTY
		COMPANY NAME ABR
		PROJ CONSUMPTION

Entity Type: OD PROD DIST STOR

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/22 20:52 ROD
Created	1989/12/28 18:37:47 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	3D DISTRIBUTION DATA
	Data Collection	330A "DAILY SITUATION" REPORT
	Process	11 PRODUCT DISTRIBUTION SYS
OPERDATE+CRUDE/PRODTYPE	Entity Type	3 DAILY SITUATION DATA
Is Described by	Attribute Type	STORAGE AREA
		OPER DATE
		PROD TYPE
		QTY IN STORE
		QTY REC BY PIPE
		QTY IN PIPE
		QTY IN PIPELINE

Entity Type: OP FIELD DAY ACT

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 14:24 ROD
Created	1989/12/28 10:01:02 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	3A FIELD PRODUCTION DATA
	Data Collection	220A DAILY PROD RPT (SUPPLIED)
		220D MONTHLY CRUDE OIL PROD
		220E MONTHLY PROD & WELL STATUS
		220F DAILY PROD RPTS (PRODUCED)
	Process	06 FIELD PRODUCTION SYSTEM
FIELD CODE	Entity Type	OP FIELD MON PLAN
YR/MO+CRUDE/PRODTYPE +FIELD	Entity Type	OP FIELD MON PLAN
OPERDATE+CRUDE/PRODTYPE	Entity Type	3 DAILY SITUATION DATA
Is Described by	Attribute Type	REMARKS
		FIELD NAME
		OPER DATE
		GROSS BBLS ACT
		WATER BBLS ACT
		OIL BBLS ACT
		GAS MSCF ACT

Entity Type: OP FIELD MON PLAN

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 14:17 ROD
Created	1989/12/28 09:55:06 REVIEW

ASSOCIATION	TYPE	NAME
FIELD CODE	Entity Type	OP FIELD DAY ACT
YR/MO+CRUDE/PRODTYPE +FIELD	Entity Type	OP FIELD DAY ACT
Is Involved in	Subject Area	3A FIELD PRODUCTION DATA
	Process	06 FIELD PRODUCTION SYSTEM
YR/MO+CRUDE/PRODTYPE	Entity Type	3 ANNUAL PLAN DATA
Is Described by	Attribute Type	FIELD NAME
		OPER MONTH
		PLAN NO

		ADJ FACTOR OIL
		GAS MSCF PLAN
		ADJ FACTOR GAS
		GAS MSCF ACT
		OIL BBLS ACT
		OIL BBLS PLAN

Entity Type: OR REF DAY ACT

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 16:20 ROD
Created	1989/12/28 18:12:12 REVIEW

ASSOCIATION	TYPE	NAME
REFINERY + OPER DATE	Entity Type	OR REF MON PLAN
Is Involved in	Subject Area	3C REFINERY DATA
	Data Collection	320A CRUDE OILS PROCESS & PROD
		320B CRUDE OIL/PRODUCT STOCKS
		320C DAILY OIL MOVE CRUDE REC
		320D DELIVERED CRUDE - REFINERY
		320H REFIN PROD RPT BY PLANT
		330A "DAILY SITUATION" REPORT
		330G GAS LIQUID SITUATION
		330H PUMP/SHIPPING MOVE SITUAT
	Process	08 REFINERY SYSTEM
YR/MO+CRUDE/PRODTYPE +REFINERY	Entity Type	OR REF MON PLAN
OPERDATE+CRUDE/PRODTYPE	Entity Type	3 DAILY SITUATION DATA
Is Described by	Attribute Type	REFINERY
		OPER DATE
		CRUDE PROD TYPE
		QTY IN STORE
		QTY PROC PROD
		QTY REC BY TNKR
		QTY REC BY PIPE

Entity Type: OR REF MON PLAN

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 16:25 ROD
Created	1989/12/28 18:12:32 REVIEW

ASSOCIATION	TYPE	NAME
YR/MO+CRUDE/PRODTYPE +REFINERY	Entity Type	OR REF DAY ACT
Is Involved in	Subject Area	3C REFINERY DATA
	Data Collection	320E EVALU OF REFINERY COMPANIES
		320F MAJOR/SECON UNIT PRODUCTION
		330E MONTH T&D PLAN - PRODUCTS
	Process	08 REFINERY SYSTEM
REFINERY + OPER DATE	Entity Type	OR REF DAY ACT
YR/MO+CRUDE/PRODTYPE	Entity Type	3 ANNUAL PLAN DATA
Is Described by	Attribute Type	REFINERY
		OPER MON
		CRUDE PROD TYPE
		QTY PLAN
		QTY ACT

Entity Type: OS IMP EXP CONTR

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 14:50 ROD
Created	1989/12/28 17:38:26 REVIEW

ASSOCIATION	TYPE	NAME
YR/MO+CRUDE/PRODTYPE	Entity Type	OS SHIPMENTS
Is Involved in	Subject Area	3B IMPORT/EXPORT DATA
	Data Collection	310E GEN STATUS OF EXPORTED PROI
		310F GEN STATUS OF IMPORTED PROI
		310I NAPTHA CONTRACT PERFORM 1
		310J NAPTHA CONTRACT PERFORM 2
		310H EXPORT PROD CONTRACT/TEND
	Process	07 TRANSPORTATION SYSTEM
YR/MO+CRUDE/PRODTYPE	Entity Type	OS IMP EXP PLAN
Is Described by	Attribute Type	COMPANY
		CONTRACT SERIALNO
		SHIPMENT PLAN
		IMP EXP TYPE
		CONTRACT START MON
		CONTRACT STOP MON
		CRUDE PROD TYPE
		CARGO PLAN MIN
		CARGO PLAN MAX

Entity Type: OS IMP EXP PLAN

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 14:40 ROD
Created	1989/12/28 17:38:01 REVIEW

ASSOCIATION	TYPE	NAME
YR/MO+CRUDE/PRODTYPE	Entity Type	OS IMP EXP CONTR
Is Involved in	Subject Area	3B IMPORT/EXPORT DATA
	Data Collection	310A SCHEDULE LIFTINGS BY DATE
		310B SCHEDULE LIFTINGS BY TYPE
		310C SCHEDULE LIFTINGS BY CRUDE
	Process	07 TRANSPORTATION SYSTEM
YR/MO+CRUDE/PRODTYPE	Entity Type	3 ANNUAL PLAN DATA
Is Described by	Attribute Type	OPER MON
		CRUDE PROD TYPE
		IMP EXP TYPE
		PLAN NO
		QTY PLAN
		QTY ACT

Entity Type: OS SHIPMENTS

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 15:07 ROD
Created	1989/12/28 17:38:55 REVIEW

ASSOCIATION	TYPE	NAME
TANKER	Entity Type	OS TANKER STAT
TERMINAL	Entity Type	OS TERMINAL STAT
Is Involved in	Subject Area	3B IMPORT/EXPORT DATA
	Data Collection	310D IMPORT/EXPORT SCHEDULE
	Process	07 TRANSPORTATION SYSTEM
YR/MO+CRUDE/PRODTYPE	Entity Type	OS IMP EXP CONTR
OPERDATE+CRUDE/PRODTYPE	Entity Type	3 DAILY SITUATION DATA
Is Described by	Attribute Type	COMPANY
		SHIPMENT TYPE
		CONTRACT TYPE
		TANKER
		TERMINAL
		BERTH
		QUANTITY
		CONTRACT SERIALNO

		CRUDE PROD TYPE
		LAY DATE1
		LAY DATE2
		ETA DATE
		ARRIVAL DATE
		CONTRACT SHIP NO

Entity Type: OS TANKER STAT

PROPERTY	VALUE
Last Update	1990/03/21 15:11 ROD
Created	1990/01/04 11:38:44 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	3B IMPORT/EXPORT DATA
	Data Collection	310G TANKER STATUS
	Process	07 TRANSPORTATION SYSTEM
TANKER	Entity Type	OS SHIPMENTS
Is Described by	Attribute Type	TANKER CODE
		STATUS
		CRUDE PROD TYPE
		OPER DATE

Entity Type: OS TERMINAL STAT

PROPERTY	VALUE
Last Update	1990/03/21 16:02 ROD
Created	1990/01/04 11:39:04 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	3B IMPORT/EXPORT DATA
	Data Collection	310G TANKER STATUS
	Process	07 TRANSPORTATION SYSTEM
TERMINAL	Entity Type	OS SHIPMENTS
Is Described by	Attribute Type	TERMINAL
		BERTH
		STATUS
		OPER DATE
		TANKER CODE
		CRUDE PROD TYPE

Entity Type: RF REF DTL

PROPERTY	VALUE

Purpose	FUNDAMENTAL	
Last Update	1990/03/21 17:15 ROD	
Created	1989/12/29 14:47:22 REVIEW	

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	4 REFERENCE DATA
	Data Collection	120A CONTRACTORS REGISTER EGPC
		120B EGPC SPEC EXPLOR PROJECTS
	Process	09 COMPANY MANAGEMENT SYSTEM
REFERENCE TYPE	Entity Type	RF REF PRM
		RF REF MSTR
Is Described by	Attribute Type	REF TYPE
		REF ID
		REF PRM
		PRM VALUE

Entity Type: RF REF MSTR

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 17:10 ROD
Created	1989/12/29 14:47:08 REVIEW

ASSOCIATION	TYPE	NAME
REFERENCE TYPE	Entity Type	RF REF DTL
Is Involved in	Subject Area	4 REFERENCE DATA
	Data Collection	113C EXPLORATORY WELL PROGRAM
		113D APPRAISAL WELL PROGRAM
		120A COMMERCIALITY DECLARATION
		210B DRILLING PROGRAMS
		210D EXPLORATORY WELL PROGRAM
	Process	09 COMPANY MANAGEMENT SYSTEM
REF TYPE	Entity Type	RF REF TYPE MSTR
Is Described by	Attribute Type	REF TYPE
		REF ID

Entity Type: RF REF PRM

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 17:07 ROD
Created	1989/12/29 14:46:50 REVIEW

ASSOCIATION	TYPE	NAME
REFERENCE TYPE	Entity Type	RF REF DTL
Is Involved in	Subject Area	4 REFERENCE DATA
	Process	09 COMPANY MANAGEMENT SYSTEM
Is Described by	Attribute Type	REF TYPE
		REF PRM

Entity Type: RF REF TYPE MSTR

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 17:17 ROD
Created	1990/03/21 17:17:33 ROD

ASSOCIATION	TYPE	NAME
REF TYPE	Entity Type	RF REF MSTR
Is Involved in	Subject Area	4 REFERENCE DATA
	Process	09 COMPANY MANAGEMENT SYSTEM
Is Described by	Attribute Type	REF TYPE
		UPDATE MSTR
		REF TYPE DESCR
		OTHER PROGRAM UPD
		REF TYPE HDR

Entity Type: WD DRILL DAY DTL

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 13:00 ROD
Created	1989/12/27 16:44:56 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Data Collection	210H WELL COST ANALYSIS SHEET
		113C EXPLORATORY WELL PROGRAM
		113E FINAL WELL REPORT
		210F DAILY DRILLING REPORT
	Process	04 WELL DRILLING SYSTEM
DRILLING PARAMETER	Entity Type	WD DRILL PRM
WELL ID	Entity Type	WD DRILL DAY SUM
Is Described by	Attribute Type	WELL ID
		OPER DATE
		DRILL PRM CODE

DRILL PRM VALUE

Entity Type: WD DRILL DAY SUM

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 13:02 ROD
Created	1989/12/27 16:26:28 REVIEW

ASSOCIATION	TYPE	NAME
WELL ID	Entity Type	WD DRILL DAY DTL
		WD DRILL DIRECT
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Data Collection	113B EXPLORATION DRILLING
		113F EXPLOR DRILLING TELEX
		113H-1 DAILY DRILLING RPT SUM
		113H-2 DAILY DRILLING ACTIV SUM
		220B DEVELOPMENT STUDY PACKAGE
	Process	04 WELL DRILLING SYSTEM
	Data Collection	210I DAILY DRILLING OPER REPORT
WELL ID	Entity Type	GENERAL WELL
Is Described by	Attribute Type	WELL ID
		OPER DATE
		REMARKS

Entity Type: WD DRILL DIRECT

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 13:06 ROD
Created	1989/12/27 17:17:21 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Process	04 WELL DRILLING SYSTEM
WELL ID	Entity Type	WD DRILL DAY SUM
Is Described by	Attribute Type	WELL ID
		DEPTH
		INCLINATION
		OPER DEPTH
		AZIMUTH
		ANGLE

Entity Type: WD DRILL PRM

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 13:41 ROD
Created	1989/12/27 16:14:02 REVIEW

ASSOCIATION	TYPE	NAME
DRILLING PARAMETER	Entity Type	WD FIX DRILL DTL
		WD DRILL DAY DTL
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Process	04 WELL DRILLING SYSTEM
Is Described by	Attribute Type	DRILL PRM CODE
		DRILL PRM NAME
		DRILL PRM UNITS

Entity Type: WD DRILL PROGRAM

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 13:38 ROD
Created	1989/12/27 17:19:18 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Data Collection	113C EXPLORATORY WELL PROGRAM
		210B DRILLING PROGRAMS
		210C COMPLETION PROGRAMS
		210D EXPLORATORY WELL PROGRAM
		210E WORKOVER PROGRAM
	Process	04 WELL DRILLING SYSTEM
WELL ID	Entity Type	GENERAL WELL
Is Described by	Attribute Type	WELL ID
		MILESTONE
		DEPTH
		MILESTONE DESC
		RIG DAYS PLAN
		RIG DAYS ACT
		COST PLAN
		COST ACT

Entity Type: WD FIX DRILL DTL

PROPERTY	VALUE

Purpose	FUNDAMENTAL	
Last Update	1990/03/21 13:44 ROD	
Created	1989/12/27 16:05:40 REVIEW	

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2C WELL DRILLING DATA
	Process	04 WELL DRILLING SYSTEM
DRILLING PARAMETER	Entity Type	WD DRILL PRM
WELL ID	Entity Type	GENERAL WELL
Is Described by	Attribute Type	WELL ID
		DRILL PRM CODE
		DRILL PRM VALUE

Entity Type: WG FLUID PVT DATA

Definition
Pressure/Volume Test data.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:13 ROD
Created	1989/12/27 15:25:14 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2A WELL GEOL/GEOPHYS DATA
	Data Collection	220C O.O.I.P. REPORT
		111K TEST
	Process	04 WELL DRILLING SYSTEM
FLUID PVT PARAMETER CODE	Entity Type	WG FLUID PVT PRM
WELL ID	Entity Type	WG WELL MSTR
Is Described by	Attribute Type	WELL ID
		SAMPLE DATE
		PVT PRM CODE
		PVT PRM VALUE

Entity Type: WG FLUID PVT PRM

Definition
Definitions and values of well test variables.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:16 ROD

Created 1989/12/27 15:25:40 REVIEW

ASSOCIATION	TYPE	NAME
FLUID PVT PARAMETER CODE	Entity Type	WG FLUID PVT DATA
Is Involved in	Subject Area	2A WELL GEOL/GEOPHYS DATA
	Process	04 WELL DRILLING SYSTEM
Is Described by	Attribute Type	PVT PRM CODE
		PVT PRM NAME
		PVT PRM UNITS

Entity Type: WG WELL DEVIC PRM

Definition
Descriptions and values of downhole equipment.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/05/28 12:29 ROD
Created	1989/12/27 15:24:23 REVIEW

ASSOCIATION	TYPE	NAME
DEVICE CODE	Entity Type	WG WELL DEVICE
Is Involved in	Subject Area	2A WELL GEOL/GEOPHYS DATA
	Process	04 WELL DRILLING SYSTEM
Is Described by	Attribute Type	DEVICE CODE
		DEVICE NAME

Entity Type: WG WELL DEVICE

Definition
Downhole equipment.

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:22 ROD
Created	1989/12/27 15:21:15 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2A WELL GEOL/GEOPHYS DATA
	Process	04 WELL DRILLING SYSTEM
DEVICE CODE	Entity Type	WG WELL DEVIC PRM
WELL ID	Entity Type	WG WELL MSTR

Is Described by	Attribute Type	WELL ID
		TOP DEPTH
		DEVICE CODE
		COMMENTS
		BOT DEPTH
		DEVICE VALUE

Entity Type: WG WELL MSTR

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:42 ROD
Created	1989/12/27 14:53:23 REVIEW

ASSOCIATION	TYPE	NAME
WELL ID	Entity Type	WG WORKOVER HIST
		WG FLUID PVT DATA
		WG WELL DEVICE
Is Involved in	Subject Area	2A WELL GEOL/GEOPHYS DATA
		1A REGION DATA
	Data Collection	113C EXPLORATORY WELL PROGRAM
		220C O.O.I.P. REPORT
	Process	01 EXPLORATION SYSTEM
		02 WELL GEOSCIENCE SYSTEM
		04 WELL DRILLING SYSTEM
		05 WELL PRODUCTION SYSTEM
FAULT BLOCK ID	Entity Type	ER FAULT BLOCK
PAY ZONE NAME	Entity Type	ER RESERVOIR
Is Described by	Attribute Type	WELL ID
		FIELD NAME

Entity Type: WG WORKOVER HIST

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:19 ROD
Created	1989/12/27 15:24:48 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2A WELL GEOL/GEOPHYS DATA
	Data Collection	210E WORKOVER PROGRAM
	Process	04 WELL DRILLING SYSTEM
WELL ID	Entity Type	WG WELL MSTR
Is Described by	Attribute Type	WELL ID

REMARKS
WORKOVER DATE

Entity Type: WP WELL MON PROD

Definition
Well production data is submitted daily from each Joint Venture operator. The data is updated and submitted at the end of each month. This data is used by the Reservoir & Production department to record the production figures and to measure reservoir performance versus the plan.

PROPERTY	VALUE
Last Update	1990/03/21 14:03 ROD
Created	1989/09/27 14:31:43 STEVE

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2D WELL PRODUCTION DATA
	Data Collection	220D MONTHLY CRUDE OIL PROD
		220E MONTHLY PROD & WELL STATUS
	Process	05 WELL PRODUCTION SYSTEM
Is Described by	Attribute Type	WELL ID
		OPER MON
		GROSS BBLS ACT
		GAS MSCF ACT
		REMARKS
		WATER BBLS ACT
		OIL BBLS ACT

Entity Type: WW CASING

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:46 ROD
Created	1989/12/26 17:34:05 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DAT
	Process	03 ARCHIVE DATA SYSTEM
		04 WELL DRILLING SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	WELL ID
		CA SIZE
		CA DEPTH

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Entity Type: WW DEVIATION

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 10:49 ROD
Created	1989/12/26 17:34:20 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DAT
	Process	03 ARCHIVE DATA SYSTEM
		04 WELL DRILLING SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	WELL ID
		DV DEPTH
		DV AZIMUTH
		DV ANGLE

Entity Type: WW GENERAL WELL

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 11:16 ROD
Created	1989/12/26 17:29:17 REVIEW

ASSOCIATION	TYPE	NAME
WELL ID	Entity Type	WW SIDEWALL
		WW LOG RECORD
		WW STRAT TOPS
		WW TEST DATA
		WW ROCK SAMPLE
		WW CASING
		WW DEVIATION
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DATA
	Process	01 EXPLORATION SYSTEM
		02 WELL GEOSCIENCE SYSTEM
		05 WELL PRODUCTION SYSTEM
		03 ARCHIVE DATA SYSTEM
Is Described by	Attribute Type	AREA ABR
		COMPANY NAME
		COMPANY NAME ABR
		WELL STATUS
		WELL STATUS ABR
		WELL ID

AREA
GW EXP WELL
GW PLT WELL
GW DEV WELL
GW SIDE TRK
GW WELL NAME
GW WELL ABR
GW OLD WELL NAME
GW DEVIATED
GW DIG LOG ID
GW ELEVATION
GW WATER DEPTH
GW ROTARY TABLE
GW FTD
GW SPUD DATE
GW DRILLING DATE
GW DEPTH UNIT
GW S LATITUDE
GW S LONGITUDE
GW B LATITUDE
GW B LONGITUDE
GW S X COOR
GW S Y COOR
GW B X COOR
GW B Y COOR

Entity Type: WW LCG RECORD

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 12:03 ROD
Created	1989/12/26 17:29:52 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DATA
	Process	02 WELL GEOSCIENCE SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	MEDIA TYPE
		MEDIA COND
		MUD TYPE
		LOG COMPANY
		LOG NAME
		LOG NAME ABR
		WELL ID
		LG DATE
		LG MUD WEIGHT

LG MUD VISCOSITY
LG MUD SALINITY
LG R MUD FILTRATE
LG ROOM
LG ROW
LG COL
CR TOP DEPTH
CR BOT DEPTH
CR SCALE
CR DEPTH UNITS
LG B HOLE TEMP
LG RMF TEMP
LG TEMPERATURE U

Entity Type: WW ROCK SAMPLE

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 12:15 ROD
Created	1989/12/26 17:33:52 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DATA
	Process	02 WELL GEOSCIENCE SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	SAMPLE TYPE
		WELL ID
		RS CORE NUMBER
		RS DEPTH UNITS
		RS ROOM
		RS ROW
		RS COLUMN
		RS BOX NUMBER
		SA BOT DEPTH
		SA TOP DEPTH
		SA NUMBER OF SACKS
		RS PERCENT RECOV

Entity Type: WW SIDEWALL

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 12:19 ROD
Created	1989/12/26 17:29:33 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DAT/
	Process	02 WELL GEOSCIENCE SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	WELL ID
		SW DEPTH
		SIDEWALL TYPE
		SW CORE NUMBER

Entity Type: WW STRAT TOPS

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/06/22 16:14 NEWUSER
Created	1989/12/26 17:32:54 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DAT/
	Process	02 WELL GEOSCIENCE SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	GEOLOGICAL AGE
		ALIAS
		FORMATION
		FORMATION ABR
		SHOW
		WELL ID
		ST TOP DEPTH
		ST BOT DEPTH

Entity Type: WW TEST DATA

PROPERTY	VALUE
Purpose	FUNDAMENTAL
Last Update	1990/03/21 12:56 ROD
Created	1989/12/26 17:33:08 REVIEW

ASSOCIATION	TYPE	NAME
Is Involved in	Subject Area	2B WESTERN ATLAS WELL INDEX DAT.
	Process	02 WELL GEOSCIENCE SYSTEM
WELL ID	Entity Type	WW GENERAL WELL
Is Described by	Attribute Type	PROD RATE UNIT
		PROD RATE UNIT ABR
		TEST TYPE

TEST TYPE ABR
WELL ID
TS TEST NUMBER
TS TOP DEPTH
TS BOT DEPTH
TS DEPTH UNIT
TS CHOKE
TS RATE
TS PRESS UNITS
TS GOR
TS API
TS BHSIP
TS BS AND W
TS DATE
TS TEMPERATURE U
TS TEMPERATURE

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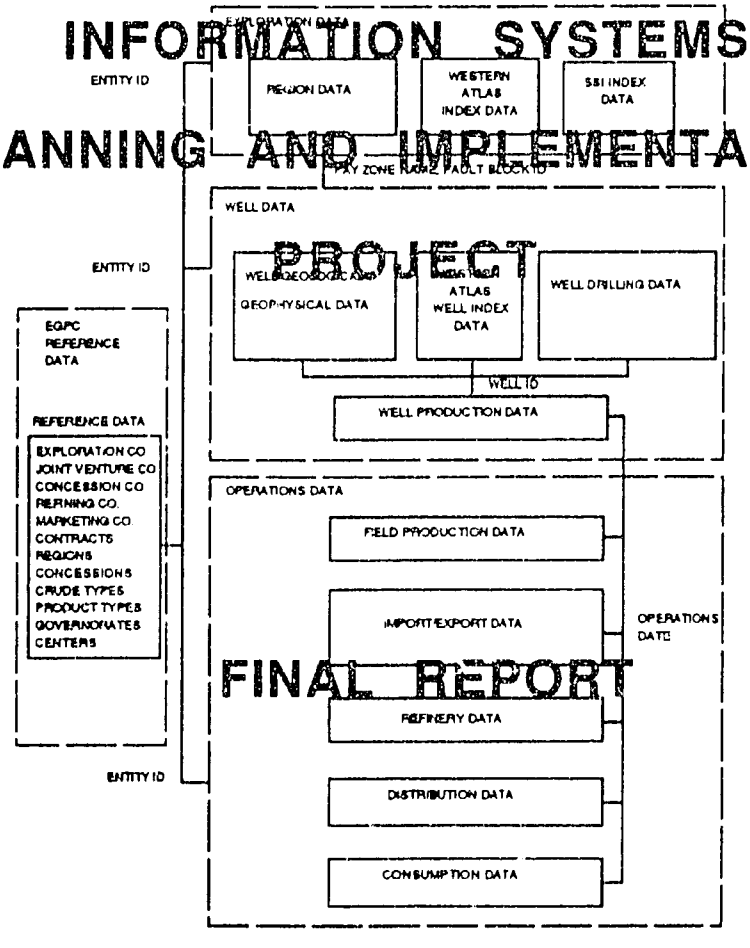
A Report of the
Office of Energy
Bureau For Science and Technology
United States Agency for International Development

VOLUME II

EGYPTIAN GENERAL PETROLEUM CORPORATION

INFORMATION SYSTEMS PLANNING AND IMPLEMENTATION PROJECT



FINAL REPORT

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Data Dictionary

The data dictionary contains information which describes the EGPC database. This data dictionary has three types of information, 1) the database listing, 2) the database index listing, and 3) the database remarks.

The database listing includes the listing of the database tables, the columns (database fields), and the description of the columns (ie. date, char, number, width, null, not null). The database tables are the implementation of the entity type descriptions completed in Task 3. During the analysis phase, data relationship diagrams were developed which showed the relationships or links between the entities or data types within each EGPC subject area. Then, details of each entity were developed and listed in figures titled *"Entity Type Descriptions"*. The details included the attributes, the attribute(s) which make up the key, the relationships to other entities in the database, and the nature of the relationships (Please refer to the Task 3 documentation for more detail). Now, there is a database table for each entity and the table columns represent the attributes. In addition, the attributes have been given specific characteristics based on their purpose and how they will be used in the system. For example, within Oracle, the column type "DATE" provides applications with the capability to add and subtract time and change display formats with the use of SQL*Plus date functions. The "NULLS" characteristic can assist in insuring database integrity by not allowing records that have missing values in critical fields to be included in the database. Therefore, all fields which comprise a table's key have a NOT NULL characteristic.

The database index listing includes the index names, the tables that they reference, and the columns used to index the records. An index on a table can increase performance and save time by enabling faster retrievals or queries from the database. However, if a table is primarily used for updates (ie. adding or deleting entire records), then indices may degrade overall performance due to the additional information that must be updated and saved for each record. Therefore, not all of the EGPC tables have an index. The standard used in naming the indices was to add an "I" to the beginning of the table name.

The database remarks give a text description of the data in the tables.

EGPC Database Listing

The following pages list each table in alphabetical order by name. For each table, the column name, which corresponds to the field name, is listed in the order in which it was specified in the SQL create statement. Each field is described by its data type and its length (number of characters it contains). The data type "number" has two values describing the length. The first number is the total length of the number. The second value specifies the number of digits to the right of the decimal point. A value such as "3 0" means numbers ranging from -999 to +999 are expected. A value such as "5 2" means numbers ranging from -999.99 to +999.99 are expected. The last column describes whether a value must be entered for the field, or may be stored without a value.

Table Name		Column Name	COLTYP	Wth		NULLS
ER_FAULT_BLOCK	1	PAY_ZONE_NAME	CHAR	30		NOT NULL
	2	FAULT_BLOCK	CHAR	2		NOT NULL
	3	CASE_VARIANT	CHAR	2		NOT NULL
	4	CASE_VARIANT_DESC	CHAR	20		NULL
	5	PROVEN_OOIP_MMSTB	NUMBER	7	2	NULL
	6	PROB_OOIP_MMSTB	NUMBER	7	2	NULL
	7	POSS_OOIP_MMSTB	NUMBER	7	2	NULL
	8	OGIP_MMSTCM	NUMBER	7	2	NULL
	9	GBV_MMCM	NUMBER	7	2	NULL
	10	NET_TO_GROSS_PCNT	NUMBER	5	2	NULL
	11	NBV_MMCM	NUMBER	7	2	NULL
	12	THETA_PCNT	NUMBER	5	2	NULL
	13	H20_SAT_PCNT	NUMBER	5	2	NULL
	14	FVF_BOI	NUMBER	6	4	NULL
ER_GRID_SIM_DATA	1	GRID_ID_REF	CHAR	5		NOT NULL
	2	X_COORD	CHAR	13		NOT NULL
	3	Y_COORD	CHAR	13		NOT NULL
	4	Z_COORD	CHAR	13		NOT NULL
	5	PRM_CODE	CHAR	5		NOT NULL
	6	PRM_VALUE	CHAR	20		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
ER_GRID_SIM_PRM	1	PRM_CODE	CHAR	5		NOT NULL
	2	PRM_NAME	CHAR	30		NULL
	3	PRM_UNITS	CHAR	15		NULL
ER_RESERVOIR	1	PAY_ZONE_NAME	CHAR	30		NOT NULL
	2	CASE_VARIANT	CHAR	2		NOT NULL
	3	CASE_VARIANT_DESC	CHAR	20		NULL
	4	ZONE_BOT_DEPTH	NUMBER	8	2	NULL
	5	ZONE_THICKNESS	NUMBER	8	2	NULL
	6	PROVEN_RESRV_MMSTB	NUMBER	7	2	NULL
	7	PROB_RESRV_MMSTB	NUMBER	7	2	NULL
	8	POSS_RESRV_MMSTB	NUMBER	7	2	NULL
	9	AVG_POROSITY_PCNT	NUMBER	5	2	NULL
	10	HC_H20_CONTACT	NUMBER	8	2	NULL
	11	THETA_CO_PCNT	NUMBER	5	2	NULL
	12	VSH_CO_PCNT	NUMBER	5	2	NULL
	13	SW_CO_PCNT	NUMBER	5	2	NULL
	14	ODT_METERS_SSL	NUMBER	8	2	NULL
ES_AIRMAG_DATA	1	TITLE	CHAR	70		NULL
	2	DATEREC	DATE	7		NULL
	3	NW_COORD	CHAR	23		NULL
	4	SE_COORD	CHAR	23		NULL
	5	PROC_CONTRACTOR	CHAR	18		NULL
	6	REC_CONTRACTOR	CHAR	18		NULL
	7	CONCESSIONAIRE	CHAR	18		NULL
	8	REGION	CHAR	16		NULL
	9	BASIN_HIGH	CHAR	15		NULL
	10	FIELD_NAME	CHAR	18		NULL
	11	DATUM	CHAR	10		NULL
	12	CONTOUR_INTERVAL	NUMBER	3	0	NULL
	13	FLIGHT_INTERVAL	CHAR	1		NULL
	14	TIE_LINE_INTERVAL	CHAR	1		NULL
	15	FLIGHT_ALTITUDE	NUMBER	5	0	NULL
	16	PROCTYPE	CHAR	10		NULL
	17	DATEPROC	DATE	7		NULL
	18	SCALE	NUMBER	7	0	NULL
	19	MEDIA	CHAR	10		NULL
	20	QUALITY	CHAR	9		NULL
	21	BUILDING	CHAR	20		NULL
	22	BOX_NO	CHAR	15		NULL
ES_GRAVITY_DATA	1	TITLE	CHAR	70		NULL
	2	DATEREC	DATE	7		NULL
	3	NW_COORD	CHAR	23		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
ES_GRAVITY_DATA	4	SE_COORD	CHAR	23		NULL
	5	PROC_CONTRACTOR	CHAR	18		NULL
	6	REC_CONTRACTOR	CHAR	18		NULL
	7	CONCESSIONAIRE	CHAR	18		NULL
	8	REGION	CHAR	16		NULL
	9	BASIN_HIGH	CHAR	15		NULL
	10	FIELD_NAME	CHAR	18		NULL
	11	DATUM	CHAR	10		NULL
	12	SCALE	NUMBER	7	0	NULL
	13	CONTOUR_INTERVAL	NUMBER	3	0	NULL
	14	MEDIA	CHAR	10		NULL
	15	QUALITY	CHAR	9		NULL
	16	BUILDING	CHAR	20		NULL
	17	BOX_NO	CHAR	15		NULL
ES_LAB_ANALYSIS	1	TITLE	CHAR	70		NULL
	2	TYPE	CHAR	10		NULL
	3	DATEREC	DATE	7		NULL
	4	CONTRACTOR	CHAR	18		NULL
	5	CONCESSIONAIRE	CHAR	18		NULL
	6	PAGES_NO	NUMBER	4	0	NULL
	7	INCLUSIONS	NUMBER	4	0	NULL
	8	SAMPLES	NUMBER	4	0	NULL
	9	TOP_DEPTH	NUMBER	9	0	NULL
	10	BTM_DEPTH	NUMBER	9	0	NULL
	11	MEASURE_UNITS	CHAR	2		NULL
	12	SOURCE	CHAR	15		NULL
	13	REGION	CHAR	16		NULL
	14	BASIN_HIGH	CHAR	16		NULL
	15	FIELD_NAME	CHAR	18		NULL
	16	WELL	CHAR	18		NULL
	17	QUALITY	CHAR	9		NULL
	18	BUILDING	CHAR	20		NULL
	19	CABINET_NUM	CHAR	5		NULL
	20	REMARKS	CHAR	144		NULL
	21	LAB_NO	CHAR	5		NULL
ES_MAPS	1	MAP_TITLE	CHAR	70		NULL
	2	REPORT_TITLE	CHAR	140		NULL
	3	TYPE	CHAR	30		NULL
	4	MAP_DATE	DATE	7		NULL
	5	CONTRACTOR	CHAR	18		NULL
	6	AUTHOR	CHAR	72		NULL
	7	CONCESSIONAIRE	CHAR	18		NULL
	8	NW_COORD	CHAR	23		NULL
	9	SE_COORD	CHAR	23		NULL
	10	HORIZON	CHAR	26		NULL
	11	CONTOUR_INTERVAL	NUMBER	7	0	NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
ES_MAPS	12	MEASURE_UNITS	CHAR	2		NULL
	13	SCALE	NUMBER	7	0	NULL
	14	MEDIA	CHAR	10		NULL
	15	REGION	CHAR	16		NULL
	16	BASIN_HIGH	CHAR	15		NULL
	17	FIELD_NAME	CHAR	18		NULL
	18	WELL	CHAR	18		NULL
	19	QUALITY	CHAR	9		NULL
	20	BUILDING	CHAR	20		NULL
	21	CABINET_NUM	CHAR	5		NULL
	22	MAP_NO	CHAR	5		NULL
ES_REPORTS	1	TITLE	CHAR	140		NULL
	2	TYPE	CHAR	10		NULL
	3	REPORT_DATE	DATE	7		NULL
	4	REPORT_PAPER	CHAR	1		NULL
	5	CONTRACTOR	CHAR	18		NULL
	6	AUTHOR	CHAR	72		NULL
	7	CONCESSIONAIRE	CHAR	18		NULL
	8	PAGES_NO	NUMBER	5	0	NULL
	9	INCLUSIONS	CHAR	4		NULL
	10	REGION	CHAR	16		NULL
	11	BASIN_HIGH	CHAR	15		NULL
	12	FIELD_NAME	CHAR	18		NULL
	13	WELL	CHAR	18		NULL
	14	QUALITY	CHAR	9		NULL
	15	BUILDING	CHAR	20		NULL
	16	CABINET_NUM	CHAR	5		NULL
	17	ABSTRACT_REMARKS	CHAR	240		NULL
	18	REPORT_NO	CHAR	5		NULL
	19	SUB_TYPE	CHAR	100		NULL
	20	AREA_GEOG	CHAR	65		NULL
	21	AREA_GEOLOG	CHAR	65		NULL
	22	SUB_AREA	CHAR	75		NULL
	23	CONCESS_BLOCK	CHAR	20		NULL
	24	ENCLOS_MAP	NUMBER	2	0	NULL
	25	ENCLOS_SECT	NUMBER	2	0	NULL
	26	ENCLOS_ELOG	NUMBER	2	0	NULL
	27	ENCLOS_COMPOSITE	NUMBER	2	0	NULL
	28	ENCLOS_VSP	NUMBER	2	0	NULL
	29	ENCLOS_MUD_LOG	NUMBER	2	0	NULL
	30	ENCLOS_DISK	NUMBER	2	0	NULL
	31	MICROFILM_NO	CHAR	20		NULL
	32	CONDITION_VG	CHAR	1		NULL
	33	CONDITION_G	CHAR	1		NULL
	34	CONDITION_P	CHAR	1		NULL
	35	SECURITY_HIGH	CHAR	1		NULL
	36	SECURITY_LOW	CHAR	1		NULL
	37	CONFIDENTIAL	CHAR	1		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
ES_REPORTS	38	ROOM_NO	CHAR	8		NULL
	39	SHELF_NO	CHAR	8		NULL
	40	NO_OF_COPIES	NUMBER	3	0	NULL
ES_SEISMIC_3D	1	TITLE	CHAR	70		NULL
	2	DATEREC	DATE	7		NULL
	3	NW_COORD	CHAR	23		NULL
	4	SE_COORD	CHAR	23		NULL
	5	TYPE	CHAR	6		NULL
	6	ORIG_REPRO	CHAR	1		NULL
	7	DATEPROC	DATE	7		NULL
	8	PROC_CONTRACTOR	CHAR	18		NULL
	9	REC_CONTRACTOR	CHAR	18		NULL
	10	CONCESSIONAIRE	CHAR	18		NULL
	11	REGION	CHAR	16		NULL
	12	BASIN_HIGH	CHAR	15		NULL
	13	FIELD_NAME	CHAR	18		NULL
	14	DATUM	CHAR	10		NULL
	15	CONTOUR_INTERVAL	NUMBER	4	0	NULL
	16	RECORDTYPE	CHAR	10		NULL
	17	STACK	CHAR	4		NULL
	18	RECLENGTH	CHAR	1		NULL
	19	SAMPLERATE	CHAR	1		NULL
	20	ENERGY_SOURCE	CHAR	20		NULL
	21	HORZSCALE	CHAR	7		NULL
	22	VERTSCALE	CHAR	7		NULL
	23	MEDIA	CHAR	10		NULL
	24	QUALITY	CHAR	9		NULL
	25	BUILDING	CHAR	20		NULL
	26	BOX_NO	CHAR	15		NULL
	27	SEIS_3D_NO	CHAR	6		NULL
ES_SEISMIC_DATA	1	LINE	CHAR	10		NULL
	2	DATEREC	DATE	7		NULL
	3	BEGCOORD	CHAR	23		NULL
	4	ENDCOORD	CHAR	23		NULL
	5	BEGDIREC	CHAR	3		NULL
	6	ENDDIREC	CHAR	3		NULL
	7	BEGSHOTNO	CHAR	6		NULL
	8	ENDSHOTNO	CHAR	6		NULL
	9	TYPE	CHAR	6		NULL
	10	ORIG_REPRO	CHAR	1		NULL
	11	DATEPROC	DATE	7		NULL
	12	PROC_CONTRACTOR	CHAR	18		NULL
	13	REC_CONTRACTOR	CHAR	18		NULL
	14	CONCESSIONAIRE	CHAR	18		NULL
	15	REGION	CHAR	16		NULL
	16	BASIN_HIGH	CHAR	15		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
ES_SEISMIC_DATA	17	FIELD_NAME	CHAR	18		NULL
	18	DATUM	CHAR	10		NULL
	19	RECORDTYPE	CHAR	10		NULL
	20	STACK	CHAR	4		NULL
	21	SHOT_PT_INTERVAL	NUMBER	4	0	NULL
	22	RECLENGTH	CHAR	1		NULL
	23	SAMPLERATE	CHAR	1		NULL
	24	GROUP_INTERVAL	NUMBER	4	0	NULL
	25	TRACE	CHAR	3		NULL
	26	ENERGY_SOURCE	CHAR	20		NULL
	27	HORZSCALE	CHAR	10		NULL
	28	VERTSCALE	CHAR	10		NULL
	29	MEDIA	CHAR	10		NULL
	30	QUALITY	CHAR	9		NULL
	31	BUILDING	CHAR	20		NULL
	32	BOX_NO	CHAR	15		NULL
ES_XSECTION	1	XSEC_TITLE	CHAR	70		NULL
	2	REPORT_TITLE	CHAR	140		NULL
	3	TYPE	CHAR	30		NULL
	4	REPORT_DATE	DATE	7		NULL
	5	CONTRACTOR	CHAR	18		NULL
	6	AUTHOR	CHAR	72		NULL
	7	CONCESSIONAIRE	CHAR	18		NULL
	8	INTERVAL	CHAR	21		NULL
	9	MEASURE_UNITS	CHAR	2		NULL
	10	DATUM	CHAR	26		NULL
	11	BEGDIREC	CHAR	3		NULL
	12	ENDDIREC	CHAR	3		NULL
	13	HORZSCALE	NUMBER	7	0	NULL
	14	VERTSCALE	NUMBER	7	0	NULL
	15	MEDIA	CHAR	10		NULL
	16	REGION	CHAR	16		NULL
	17	BASIN_HIGH	CHAR	15		NULL
	18	FIELD_NAME	CHAR	18		NULL
	19	WELL	CHAR	18		NULL
	20	QUALITY	CHAR	9		NULL
	21	BUILDING	CHAR	20		NULL
	22	CABINET_NUM	CHAR	4		NULL
	23	XSEC_NO	CHAR	5		NULL
EW_MAG_TAPE	1	SEIS_SURVEY	CHAR	17		NOT NULL
	2	SL_LINE_NUMBER	CHAR	16		NOT NULL
	3	TAPE_TYPE_ABR	CHAR	13		NULL
	4	SM_INSTRUMENT	CHAR	16		NULL
	5	SM_FORMAT	CHAR	5		NULL
	6	SM_RECORDER_CHAN	CHAR	5		NULL
	7	SM_DATA_CHANNEL	CHAR	5		NULL

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EGPC Database Listing

Table Name		Column Name	COLTYP	Wth	NULLS
EW_MAG_TAPE	8	SM_REMARKS	CHAR	21	NULL
	9	SM_ROOM	CHAR	5	NULL
	10	SM_ROW	CHAR	5	NULL
	11	SM_COLUMN	CHAR	5	NULL
	12	MEDIA_TYPE	CHAR	15	NULL
	13	MEDIA_COND	CHAR	5	NULL
EW_MAP_INDEX	1	COMPANY_NAME_ABR	CHAR	11	NOT NULL
	2	AREA_ABR	CHAR	17	NOT NULL
	3	MP_S_LATITUDE	CHAR	12	NULL
	4	MP_S_LONGITUDE	CHAR	12	NULL
	5	MP_B_LATITUDE	CHAR	12	NULL
	6	MP_B_LONGITUDE	CHAR	12	NULL
	7	MP_S_X_COOR	CHAR	11	NULL
	8	MP_S_Y_COOR	CHAR	11	NULL
	9	MP_B_X_COOR	CHAR	11	NULL
	10	MP_B_Y_COOR	CHAR	11	NULL
	11	MP_DATE	DATE	7	NULL
	12	MP_SCALE	CHAR	8	NULL
	13	MP_ROOM	CHAR	5	NULL
	14	MP_ROW	CHAR	5	NULL
	15	MP_COLUMN	CHAR	5	NULL
	16	MEDIA_TYPE	CHAR	15	NULL
	17	MEDIA_COND	CHAR	5	NULL
	18	MAP_TYPE	CHAR	33	NULL
	19	MAP_TYPE_ABR	CHAR	17	NULL
	20	GEOLOGICAL_AGE	CHAR	31	NULL
	21	ALIAS	CHAR	21	NULL
	22	FORMATION	CHAR	31	NULL
	23	FORMATION_ABR	CHAR	15	NULL
EW_SEISMIC_LINE	1	SEIS_SURVEY	CHAR	17	NOT NULL
	2	SL_LINE_NUMBER	CHAR	16	NOT NULL
	3	SL_SHOT_FROM	CHAR	9	NULL
	4	SL_SHOT_TO	CHAR	9	NULL
	5	SL_SHOT_DATE	DATE	7	NULL
	6	AREA_ABR	CHAR	17	NULL
	7	COMPANY_NAME_ABR	CHAR	11	NULL
	8	SEIS_CON_ABR	CHAR	19	NULL
EW_SEISMIC_SECT	1	SEIS_SURVEY	CHAR	17	NOT NULL
	2	SL_LINE_NUMBER	CHAR	16	NOT NULL
	3	SS_RECORDER_TYPE	CHAR	16	NULL
	4	SS_SAMPLE_RATE	CHAR	7	NULL
	5	SS_INSTRUMENT_CHAN	CHAR	5	NULL
	6	SS_DATA_CHANNEL	CHAR	5	NULL
	7	SS_FOLD	CHAR	6	NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth	NULLS
EW_SEISMIC_SECT	8	SS_LENGTH	CHAR	5	NULL
	9	SS_SPREAD_LENGTH	CHAR	10	NULL
	10	SS_GROUP_INTERVAL	CHAR	5	NULL
	11	SS_SP_INTERVAL	CHAR	10	NULL
	12	SS_NUMBER_HOLES	CHAR	6	NULL
	13	SS_PROCESS_DATE	DATE	7	NULL
	14	SS_PROCESS_FOLD	CHAR	6	NULL
	15	SS_SCALE	CHAR	8	NULL
	16	SS_ROOM	CHAR	5	NULL
	17	SS_ROW	CHAR	5	NULL
	18	SS_COL	CHAR	6	NULL
	19	SEIS_CON	CHAR	49	NULL
	20	SEIS_CON_ABR	CHAR	19	NULL
	21	MEDIA_TYPE	CHAR	15	NULL
	22	MEDIA_COND	CHAR	5	NULL
	23	ENERGY	CHAR	19	NULL
	24	SEIS_PRO	CHAR	17	NULL
EW_SEISMIC_SURVEY	1	SEIS_SURVEY	CHAR	17	NOT NULL
	2	UPPER_LEFT_LAT	CHAR	12	NULL
	3	UPPER_LEFT_LONG	CHAR	12	NULL
	4	LOWER_RIGHT_LAT	CHAR	12	NULL
	5	LOWER_RIGHT_LONG	CHAR	12	NULL
	6	AREA	CHAR	44	NULL
	7	COMPANY_NAME	CHAR	46	NULL
	8	SEIS_CON	CHAR	49	NULL
MENU_AUTH	1	USER_NAME	CHAR	10	NULL
	2	AUTH	CHAR	5	NULL
MENU_DETAIL	1	MENU_NAME	CHAR	10	NULL
	2	OPTION_NO	CHAR	2	NULL
	3	OPTION_NAME	CHAR	10	NULL
	4	OPTION_TITLE	CHAR	40	NULL
	5	COMMAND_TYPE	CHAR	1	NULL
	6	COMMAND_LINE	CHAR	15	NULL
MENU_DETAIL_V1	1	MENU_NAME	CHAR	10	NULL
	2	OPTION_NO	CHAR	2	NULL
	3	OPTION_NAME	CHAR	10	NULL
	4	OPTION_TITLE	CHAR	40	NULL
	5	COMMAND_TYPE	CHAR	1	NULL
	6	COMMAND_LINE	CHAR	15	NULL
	7	USER_NAME	CHAR	10	NULL
	8	AUTH	CHAR	5	NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
OC_CONSU_MON_ACT	1	COMPANY_NAME_ABR	CHAR	11		NOT NULL
	2	GOVERNORATE	CHAR	30		NOT NULL
	3	CENTRE	CHAR	30		NOT NULL
	4	PROD_TYPE	CHAR	25		NOT NULL
	5	OPER_MON	DATE	7		NOT NULL
	6	QTY_CONSUMED	NUMBER	6	0	NULL
OC_CONSU_MON_PLAN	1	COMPANY_NAME_ABR	CHAR	11		NOT NULL
	2	GOVERNORATE	CHAR	30		NOT NULL
	3	CENTRE	CHAR	30		NOT NULL
	4	PROD_TYPE	CHAR	25		NOT NULL
	5	OPER_MON	DATE	7		NOT NULL
	6	PROJ_CONSUMPTION	NUMBER	6	0	NULL
OD_PROD_DIST_STOR	1	OPER_DATE	DATE	7		NOT NULL
	2	STORAGE_AREA	CHAR	30		NOT NULL
	3	PROD_TYPE	CHAR	25		NOT NULL
	4	QTY_IN_STORE	NUMBER	7	0	NULL
	5	QTY_REC_BY_PIPE	NUMBER	7	0	NULL
	6	QTY_IN_PIPELINE	NUMBER	7	0	NULL
OP_FIELD_DAY_ACT	1	FIELD_NAME	CHAR	18		NOT NULL
	2	OPER_DATE	DATE	7		NOT NULL
	3	GROSS_BBLS_ACT	NUMBER	7	0	NULL
	4	WATER_BBLS_ACT	NUMBER	7	0	NULL
	5	OIL_BBLS_ACT	NUMBER	7	0	NULL
	6	GAS_MSCF_ACT	NUMBER	7	0	NULL
	7	REMARKS	CHAR	240		NULL
OP_FIELD_MON_PLAN	1	FIELD_NAME	CHAR	18		NOT NULL
	2	OPER_MONTH	DATE	7		NOT NULL
	3	PLAN_NO	CHAR	5		NOT NULL
	4	OIL_BBLS_PLAN	NUMBER	7	0	NULL
	5	ADJ_FACTOR_OIL	NUMBER	6	2	NULL
	6	OIL_BBLS_ACT	NUMBER	7	0	NULL
	7	GAS_MSCF_PLAN	NUMBER	7	0	NULL
	8	ADJ_FACTOR_GAS	NUMBER	6	2	NULL
	9	GAS_MSCF_ACT	NUMBER	7	0	NULL
OR_REF_DAY_ACT	1	OPER_DATE	DATE	7		NOT NULL
	2	REFINERY	CHAR	30		NOT NULL
	3	CRUDE_PROD_TYPE	CHAR	25		NOT NULL
	4	QTY_IN_STORE	NUMBER	8	0	NULL
	5	QTY_PROC_PROD	NUMBER	8	0	NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
OR_REF_DAY_ACT	6	QTY_REC_BY_TNKR	NUMBER	8	0	NULL
	7	QTY_REC_BY_PIPE	NUMBER	8	0	NULL
OR_REF_MON_PLAN	1	REFINERY	CHAR	30		NOT NULL
	2	OPER_MON	DATE	7		NOT NULL
	3	CRUDE_PROD_TYPE	CHAR	25		NOT NULL
	4	QTY_PLAN	NUMBER	9	0	NULL
	5	QTY_ACT	NUMBER	9	0	NULL
OS_IMP_EXP_CONTR	1	COMPANY	CHAR	50		NOT NULL
	2	CONTRACT_SERIALNO	CHAR	15		NOT NULL
	3	SHIPMENT_PLAN	NUMBER	5	0	NULL
	4	CARGO_PLAN_MIN	NUMBER	9	0	NULL
	5	CARGO_PLAN_MAX	NUMBER	9	0	NULL
	6	CRUDE_PROD_TYPE	CHAR	25		NULL
	7	IMP_EXP_TYPE	CHAR	3		NULL
	8	CONTRACT_START_MON	DATE	7		NULL
	9	CONTRACT_STOP_MON	DATE	7		NULL
OS_IMP_EXP_PLAN	1	OPER_MON	DATE	7		NOT NULL
	2	CRUDE_PROD_TYPE	CHAR	25		NOT NULL
	3	IMP_EXP_TYPE	CHAR	3		NOT NULL
	4	PLAN_NO	CHAR	15		NOT NULL
	5	QTY_PLAN	NUMBER	9	0	NULL
	6	QTY_ACT	NUMBER	9	0	NULL
OS_SHIPMENTS	1	COMPANY	CHAR	50		NOT NULL
	2	CONTRACT_SERIALNO	CHAR	15		NOT NULL
	3	CONTRACT_SHIP_NO	CHAR	15		NOT NULL
	4	CRUDE_PROD_TYPE	CHAR	25		NULL
	5	SHIPMENT_TYPE	CHAR	15		NULL
	6	LAY_DATE1	DATE	7		NULL
	7	LAY_DATE2	DATE	7		NULL
	8	CONTRACT_TYPE	CHAR	10		NULL
	9	TANKER	CHAR	25		NULL
	10	TERMINAL	CHAR	25		NULL
	11	BERTH	CHAR	5		NULL
	12	QUANTITY	NUMBER	9	0	NULL
	13	ETA_DATE	DATE	7		NULL
	14	ARRIVAL_DATE	DATE	7		NULL
OS_TANKER_STAT	1	OPER_DATE	DATE	7		NOT NULL
	2	TANKER_CODE	CHAR	20		NOT NULL
	3	CRUDE_PROD_TYPE	CHAR	25		NULL
	4	STATUS	CHAR	240		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
OS_TERMINAL_STAT	1	OPER_DATE	DATE	7		NOT NULL
	2	TERMINAL	CHAR	25		NOT NULL
	3	BERTH	CHAR	5		NOT NULL
	4	TANKER_CODE	CHAR	20		NULL
	5	CRUDE_PROD_TYPE	CHAR	25		NULL
	6	STATUS	CHAR	240		NULL
PFKEYS	1	PFKEYS	CHAR	80		NULL
	2	SEQUENCE_NO	CHAR	1		NULL
RF_REF_DTL	1	REF_TYPE	CHAR	4		NOT NULL
	2	REF_ID	CHAR	20		NOT NULL
	3	REF_PRM	CHAR	20		NOT NULL
	4	PRM_VALUE	CHAR	70		NULL
RF_REF_MSTR	1	REF_TYPE	CHAR	4		NOT NULL
	2	REF_ID	CHAR	20		NOT NULL
RF_REF_PRM	1	REF_TYPE	CHAR	4		NOT NULL
	2	REF_PRM	CHAR	20		NOT NULL
RF_REF_TYPE_MSTR	1	REF_TYPE	CHAR	4		NOT NULL
	2	UPDATE_MSTR	CHAR	1		NULL
	3	OTHER_PROGRAM_UPD	CHAR	1		NULL
	4	REF_TYPE_DESCR	CHAR	70		NULL
	5	REF_ID_HDR	CHAR	25		NULL
WD_DRILL_DAY_DTL	1	WELL_ID	CHAR	10		NOT NULL
	2	OPER_DATE	DATE	7		NOT NULL
	3	DRILL_PRM_CODE	CHAR	5		NOT NULL
	4	DRILL_PRM_VALUE	CHAR	70		NULL
WD_DRILL_DAY_SUM	1	WELL_ID	CHAR	10		NOT NULL
	2	OPER_DATE	DATE	7		NOT NULL
	3	REMARKS	CHAR	240		NULL
WD_DRILL_DIRECT	1	WELL_ID	CHAR	10		NOT NULL
	2	DEPTH	NUMBER	8	2	NOT NULL
	3	INCLINATION	CHAR	8		NULL
	4	AZIMUTH	CHAR	5		NULL

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EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
WD_DRILL_DIRECT	5	ANGLE	CHAR	10		NULL
	6	OPER_DEPTH	NUMBER	8	2	NULL
WD_DRILL_PRM	1	DRILL_PRM_CODE	CHAR	5		NOT NULL
	2	DRILL_PRM_NAME	CHAR	40		NULL
	3	DRILL_PRM_UNITS	CHAR	15		NULL
WD_DRILL_PROGRAM	1	WELL_ID	CHAR	10		NOT NULL
	2	CURRENT_DEPTH	NUMBER	8	2	NULL
	3	TARGET_DEPTH	NUMBER	8	2	NULL
	4	TARGET_NAME	CHAR	15		NULL
	5	RIG_DAYS_PLAN	NUMBER	4	0	NULL
	6	RIG_ACT_START	DATE	7		NULL
	7	COST_PLAN	NUMBER	11	2	NULL
	8	COST_ACT	NUMBER	11	2	NULL
	9	RIG_NAME	CHAR	16		NULL
	10	RES_PRESSURE	NUMBER	6	0	NULL
	11	CEMENT_GRADE	CHAR	10		NULL
WD_FIX_DRILL_DTL	1	WELL_ID	CHAR	10		NOT NULL
	2	DRILL_PRM_CODE	CHAR	5		NOT NULL
	3	DRILL_PRM_VALUE	CHAR	70		NULL
WG_FLUID_PVT_DATA	1	WELL_ID	CHAR	10		NOT NULL
	2	SAMPLE_DATE	DATE	7		NOT NULL
	3	PVT_PRM_CODE	CHAR	5		NOT NULL
	4	PVT_PRM_VALUE	CHAR	20		NULL
WG_FLUID_PVT_PRM	1	PVT_PRM_CODE	CHAR	5		NOT NULL
	2	PVT_PRM_NAME	CHAR	40		NULL
	3	PVT_PRM_UNITS	CHAR	15		NULL
WG_WELL_DEVICE	1	WELL_ID	CHAR	10		NOT NULL
	2	TOP_DEPTH	NUMBER	8	2	NOT NULL
	3	DEVICE_CODE	CHAR	5		NOT NULL
	4	BOT_DEPTH	NUMBER	8	2	NULL
	5	DEVICE_VALUE	CHAR	15		NULL
	6	COMMENTS	CHAR	240		NULL
WG_WELL_DEVIC_PRM	1	DEVICE_CODE	CHAR	5		NOT NULL
	2	DEVICE_NAME	CHAR	30		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
WG_WELL_MSTR	1	WELL_ID	CHAR	10		NOT NULL
	2	FIELD_NAME	CHAR	18		NULL
	3	REPR_WELL	CHAR	1		NULL
	4	WAT_WELL	CHAR	1		NULL
	5	INJ_WELL	CHAR	1		NULL
	6	OFFSHORE	CHAR	1		NULL
	7	ONSHORE	CHAR	1		NULL
WG_WORKOVER_HIST	1	WELL_ID	CHAR	10		NOT NULL
	2	WORKOVER_DATE	DATE	7		NOT NULL
	3	REMARKS	CHAR	240		NULL
WP_WELL_MON_PROD	1	WELL_ID	CHAR	10		NOT NULL
	2	OPER_MON	DATE	7		NOT NULL
	3	GROSS_BBLS_ACT	NUMBER	8	0	NULL
	4	WATER_BBLS_ACT	NUMBER	8	0	NULL
	5	OIL_BBLS_ACT	NUMBER	8	0	NULL
	6	GAS_MSCF_ACT	NUMBER	8	0	NULL
	7	REMARKS	CHAR	240		NULL
WW_CASING	1	WELL_ID	CHAR	10		NOT NULL
	2	CA_SIZE	CHAR	10		NOT NULL
	3	CA_DEPTH	NUMBER	8	2	NOT NULL
WW_DEVIATION	1	WELL_ID	CHAR	10		NOT NULL
	2	DV_DEPTH	NUMBER	8	2	NOT NULL
	3	DV_AZIMUTH	CHAR	5		NULL
	4	DV_ANGLE	CHAR	10		NULL
WW_GENERAL_WELL	1	WELL_ID	CHAR	10		NOT NULL
	2	AREA	CHAR	44		NOT NULL
	3	AREA_ABR	CHAR	17		NULL
	4	COMPANY_NAME	CHAR	46		NULL
	5	COMPANY_NAME_ABR	CHAR	11		NULL
	6	WELL_STATUS	CHAR	41		NULL
	7	WELL_STATUS_ABR	CHAR	13		NULL
	8	GW_EXP_WELL	CHAR	1		NULL
	9	GW_PLT_WELL	CHAR	1		NULL
	10	GW_DEV_WELL	CHAR	1		NULL
	11	GW_SIDE_TRK	CHAR	1		NULL
	12	GW_WELL_NAME	CHAR	21		NULL
	13	GW_WELL_ABR	CHAR	11		NULL
	14	GW_OLD_WELL_NAME	CHAR	21		NULL
	15	GW_DEVIATED	CHAR	2		NULL
	16	GW_DIG_LOG_ID	CHAR	11		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
WW_GENERAL_WELL	17	GW_ELEVATION	NUMBER	8	2	NULL
	18	GW_WATER_DEPTH	NUMBER	8	2	NULL
	19	GW_ROTARY_TABLE	NUMBER	8	2	NULL
	20	GW_FTD	NUMBER	8	2	NULL
	21	GW_SPUD_DATE	DATE	7		NULL
	22	GW_DRILLING_DATE	DATE	7		NULL
	23	GW_DEPTH_UNIT	CHAR	2		NULL
	24	GW_S_LATITUDE	NUMBER	8	2	NULL
	25	GW_S_LONGITUDE	NUMBER	8	2	NULL
	26	GW_B_LATITUDE	NUMBER	8	2	NULL
	27	GW_B_LONGITUDE	NUMBER	8	2	NULL
	28	GW_S_X_COOR	CHAR	11		NULL
	29	GW_S_Y_COOR	CHAR	11		NULL
	30	GW_B_X_COOR	CHAR	11		NULL
	31	GW_B_Y_COOR	CHAR	11		NULL
WW_LOG_RECORD	1	WELL_ID	CHAR	10		NOT NULL
	2	LOG_NAME	CHAR	51		NOT NULL
	3	LOG_NAME_ABR	CHAR	17		NULL
	4	MEDIA_TYPE	CHAR	15		NULL
	5	MEDIA_COND	CHAR	5		NULL
	6	MUD_TYPE	CHAR	19		NULL
	7	LOG_COMPANY	CHAR	15		NULL
	8	LG_DATE	DATE	7		NULL
	9	LG_MUD_WEIGHT	CHAR	10		NULL
	10	LG_MUD_VISCOSITY	NUMBER	6	0	NULL
	11	LG_MUD_SALINITY	NUMBER	8	2	NULL
	12	LG_B_HOLE_TEMP	NUMBER	8	0	NULL
	13	LG_R_MUD_FILTRATE	CHAR	10		NULL
	14	LG_RMF_TEMP	NUMBER	6	0	NULL
	15	LG_TEMPERATURE_U	CHAR	2		NULL
	16	LG_ROOM	CHAR	5		NULL
	17	LG_ROW	CHAR	5		NULL
	18	LG_COL	CHAR	5		NULL
	19	CR_TOP_DEPTH	NUMBER	8	2	NULL
	20	CR_BOT_DEPTH	NUMBER	8	2	NULL
	21	CR_DEPTH_UNITS	CHAR	2		NULL
	22	CR_SCALE	CHAR	6		NULL
WW_ROCK_SAMPLE	1	WELL_ID	CHAR	10		NOT NULL
	2	RS_CORE_NUMBER	NUMBER	6	0	NOT NULL
	3	SAMPLE_TYPE	CHAR	19		NULL
	4	RS_PERCENT_RECOV	NUMBER	5		NULL
	5	RS_DEPTH_UNITS	CHAR	2		NULL
	6	RS_ROOM	CHAR	5		NULL
	7	RS_ROW	CHAR	5		NULL
	8	RS_COLUMN	CHAR	5		NULL
	9	RS_BOX_NUMBER	CHAR	6		NULL

EGPC Database Listing

Table Name		Column Name	COLTYP	Wth		NULLS
WW_ROCK_SAMPLE	10	SA_TOP_DEPTH	NUMBER	8	2	NULL
	11	SA_BOT_DEPTH	NUMBER	8	2	NULL
	12	SA_NUMBER_OF_SACKS	CHAR	5		NULL
WW_SIDEWALL	1	WELL_ID	CHAR	10		NOT NULL
	2	SW_DEPTH	NUMBER	8	2	NOT NULL
	3	SIDEWALL_TYPE	CHAR	14		NULL
	4	SW_CORE_NUMBER	NUMBER	6	0	NULL
WW_STRAT_TOPS	1	WELL_ID	CHAR	10		NOT NULL
	2	FORMATION	CHAR	31		NOT NULL
	3	FORMATION_ABR	CHAR	15		NULL
	4	GEOLOGICAL_AGE	CHAR	31		NULL
	5	ALIAS	CHAR	21		NULL
	6	SHOW	CHAR	17		NULL
	7	ST_TOP_DEPTH	NUMBER	8	2	NULL
	8	ST_BOT_DEPTH	NUMBER	8	2	NULL
WW_TEST_DATA	1	TEST_TYPE	CHAR	28		NOT NULL
	2	TS_TEST_NUMBER	NUMBER	5	0	NOT NULL
	3	WELL_ID	CHAR	10		NOT NULL
	4	PROD_RATE_UNIT	CHAR	35		NULL
	5	PROD_RATE_UNIT_ABR	CHAR	8		NULL
	6	TEST_TYPE_ABR	CHAR	9		NULL
	7	TS_TOP_DEPTH	NUMBER	8	2	NULL
	8	TS_BOT_DEPTH	NUMBER	8	2	NULL
	9	TS_DEPTH_UNIT	CHAR	2		NULL
	10	TS_CHOKE	CHAR	10		NULL
	11	TS_RATE	NUMBER	8	2	NULL
	12	TS_PRESS_UNITS	CHAR	5		NULL
	13	TS_GOR	NUMBER	8	2	NULL
	14	TS_API	CHAR	10		NULL
	15	TS_TEMPERATURE	CHAR	10		NULL
	16	TS_TEMPERATURE_U	CHAR	2		NULL
	17	TS_BHSIP	NUMBER	6	0	NULL
	18	TS_BS_AND_W	NUMBER	6	0	NULL
	19	TS_DATE	DATE	7		NULL

620 records selected.

```
SQL>
SQL>
SQL>
SQL> SET PAUSE OFF
SQL> HOST EDLIN IDATDIC.SQL

SQL> HOST EDLIN IDATADIC.SQL
```

EGPC Database Index Listing

Index Name	Table Name		Column Names	
IER_FAULT_BLOCK	ER_FAULT_BLOCK	1	PAY_ZONE_NAME	ASC
	ER_FAULT_BLOCK	2	FAULT_BLOCK	ASC
	ER_FAULT_BLOCK	3	CASE_VARIANT	ASC
IER_GRID_SIM_DATA	ER_GRID_SIM_DATA	1	GRID_ID_REF	ASC
	ER_GRID_SIM_DATA	2	X_COORD	ASC
	ER_GRID_SIM_DATA	3	Y_COORD	ASC
	ER_GRID_SIM_DATA	4	Z_COORD	ASC
	ER_GRID_SIM_DATA	5	PRM_CODE	ASC
IER_GRID_SIM_PRM	ER_GRID_SIM_PRM	1	PRM_CODE	ASC
IER_RESERVOIR	ER_RESERVOIR	1	PAY_ZONE_NAME	ASC
	ER_RESERVOIR	2	CASE_VARIANT	ASC
IEW_MAG_TAPE	EW_MAG_TAPE	1	SEIS_SURVEY	ASC
	EW_MAG_TAPE	2	SL_LINE_NUMBER	ASC
IEW_MAP_INDEX	EW_MAP_INDEX	1	COMPANY_NAME_ABR	ASC
	EW_MAP_INDEX	2	AREA_ABR	ASC
IEW_SEISMIC_LINE	EW_SEISMIC_LINE	1	SEIS_SURVEY	ASC
	EW_SEISMIC_LINE	2	SL_LINE_NUMBER	ASC
IEW_SEISMIC_SECT	EW_SEISMIC_SECT	1	SEIS_SURVEY	ASC
	EW_SEISMIC_SECT	2	SL_LINE_NUMBER	ASC
IEW_SEISMIC_SURVEY	EW_SEISMIC_SURVEY	1	SEIS_SURVEY	ASC
IOC_CONSU_MON_ACT	OC_CONSU_MON_ACT	1	COMPANY_NAME_ABR	ASC
	OC_CONSU_MON_ACT	2	GOVERNORATE	ASC
	OC_CONSU_MON_ACT	3	CENTRE	ASC
	OC_CONSU_MON_ACT	4	PROD_TYPE	ASC
	OC_CONSU_MON_ACT	5	OPER_MON	ASC
IOC_CONSU_MON_PLAN	OC_CONSU_MON_PLAN	1	COMPANY_NAME_ABR	ASC
	OC_CONSU_MON_PLAN	2	GOVERNORATE	ASC
	OC_CONSU_MON_PLAN	3	CENTRE	ASC
	OC_CONSU_MON_PLAN	4	PROD_TYPE	ASC
	OC_CONSU_MON_PLAN	5	OPER_MON	ASC

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EGPC Database Index Listing

Index Name	Table Name		Column Names	
IOD_PROD_DIST_STOR	OD_PROD_DIST_STOR	1	OPER_DATE	ASC
	OD_PROD_DIST_STOR	2	STORAGE_AREA	ASC
	OD_PROD_DIST_STOR	3	PROD_TYPE	ASC
IOP_FIELD_DAY_ACT	OP_FIELD_DAY_ACT	1	FIELD_NAME	ASC
	OP_FIELD_DAY_ACT	2	OPER_DATE	ASC
IOP_FIELD_MON_PLAN	OP_FIELD_MON_PLAN	1	FIELD_NAME	ASC
	OP_FIELD_MON_PLAN	2	OPER_MONTH	ASC
	OP_FIELD_MON_PLAN	3	PLAN_NO	ASC
IOR_REF_DAY_ACT	OR_REF_DAY_ACT	1	OPER_DATE	ASC
	OR_REF_DAY_ACT	2	REFINERY	ASC
	OR_REF_DAY_ACT	3	CRUDE_PROD_TYPE	ASC
IOR_REF_MON_PLAN	OR_REF_MON_PLAN	1	REFINERY	ASC
	OR_REF_MON_PLAN	2	OPER_MON	ASC
	OR_REF_MON_PLAN	3	CRUDE_PROD_TYPE	ASC
IOS_IMP_EXP_CONTR	OS_IMP_EXP_CONTR	1	COMPANY	ASC
	OS_IMP_EXP_CONTR	2	CONTRACT_SERIALNO	ASC
IOS_IMP_EXP_PLAN	OS_IMP_EXP_PLAN	1	OPER_MON	ASC
	OS_IMP_EXP_PLAN	2	CRUDE_PROD_TYPE	ASC
	OS_IMP_EXP_PLAN	3	IMP_EXP_TYPE	ASC
	OS_IMP_EXP_PLAN	4	PLAN_NO	ASC
IOS_SHIPMENTS	OS_SHIPMENTS	1	COMPANY	ASC
	OS_SHIPMENTS	2	CONTRACT_SERIALNO	ASC
	OS_SHIPMENTS	3	CONTRACT_SHIP_NO	ASC
IOS_TANKER_STAT	OS_TANKER_STAT	1	OPER_DATE	ASC
	OS_TANKER_STAT	2	TANKER_CODE	ASC
IOS_TERMINAL_STAT	OS_TERMINAL_STAT	1	OPER_DATE	ASC
	OS_TERMINAL_STAT	2	TERMINAL	ASC
	OS_TERMINAL_STAT	3	BERTH	ASC

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EGPC Database Index Listing

Index Name	Table Name		Column Names	
IRF_REF_DTL	RF_REF_DTL	1	REF_TYPE	ASC
	RF_REF_DTL	2	REF_ID	ASC
	RF_REF_DTL	3	REF_PRM	ASC
IRF_REF_MSTR	RF_REF_MSTR	1	REF_TYPE	ASC
	RF_REF_MSTR	2	REF_ID	ASC
IRF_REF_PRM	RF_REF_PRM	1	REF_TYPE	ASC
	RF_REF_PRM	2	REF_PRM	ASC
IRF_REF_TYPE_MSTR	RF_REF_TYPE_MSTR	1	REF_TYPE	ASC
IWD_DRILL_DAY_DTL	WD_DRILL_DAY_DTL	1	WELL_ID	ASC
	WD_DRILL_DAY_DTL	2	OPER_DATE	ASC
	WD_DRILL_DAY_DTL	3	DRILL_PRM_CODE	ASC
IWD_DRILL_DAY_SUM	WD_DRILL_DAY_SUM	1	WELL_ID	ASC
	WD_DRILL_DAY_SUM	2	OPER_DATE	ASC
IWD_DRILL_DIRECT	WD_DRILL_DIRECT	1	WELL_ID	ASC
	WD_DRILL_DIRECT	2	DEPTH	ASC
IWD_DRILL_PRM	WD_DRILL_PRM	1	DRILL_PRM_CODE	ASC
I_WD_DRILL_PROGRAM	WD_DRILL_PROGRAM	1	WELL_ID	ASC
IWD_FIX_DRILL_DTL	WD_FIX_DRILL_DTL	1	WELL_ID	ASC
	WD_FIX_DRILL_DTL	2	DRILL_PRM_CODE	ASC
IWG_FLUID_PVT_DATA	WG_FLUID_PVT_DATA	1	WELL_ID	ASC
	WG_FLUID_PVT_DATA	2	SAMPLE_DATE	ASC
	WG_FLUID_PVT_DATA	3	PVT_PRM_CODE	ASC
IWG_FLUID_PVT_PRM	WG_FLUID_PVT_PRM	1	PVT_PRM_CODE	ASC
IWG_WELL_DEVICE	WG_WELL_DEVICE	1	WELL_ID	ASC
	WG_WELL_DEVICE	2	TOP_DEPTH	ASC
	WG_WELL_DEVICE	3	DEVICE_CODE	ASC

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EGPC Database Index Listing

Index Name	Table Name		Column Names	
IWG_WELL_DEVIC_PRM	WG_WELL_DEVIC_PRM	1	DEVICE_CODE	ASC
IWG_WELL_MSTR	WG_WELL_MSTR	1	WELL_ID	ASC
IWG_WORKOVER_HIST	WG_WORKOVER_HIST	1	WELL_ID	ASC
	WG_WORKOVER_HIST	2	WORKOVER_DATE	ASC
IWP_WELL_MON_PROD	WP_WELL_MON_PROD	1	WELL_ID	ASC
	WP_WELL_MON_PROD	2	OPER_MON	ASC
IWW_CASING	WW_CASING	1	WELL_ID	ASC
	WW_CASING	2	CA_SIZE	ASC
	WW_CASING	3	CA_DEPTH	ASC
IWW_DEVIATION	WW_DEVIATION	1	WELL_ID	ASC
	WW_DEVIATION	2	DV_DEPTH	ASC
IWW_GENERAL_WELL	WW_GENERAL_WELL	1	WELL_ID	ASC
	WW_GENERAL_WELL	2	AREA	ASC
IWW_LOG_RECORD	WW_LOG_RECORD	1	WELL_ID	ASC
	WW_LOG_RECORD	2	LOG_NAME	ASC
IWW_ROCK_SAMPLE	WW_ROCK_SAMPLE	1	WELL_ID	ASC
	WW_ROCK_SAMPLE	2	RS_CORE_NUMBER	ASC
IWW_SIDEWALL	WW_SIDEWALL	1	WELL_ID	ASC
	WW_SIDEWALL	2	SW_DEPTH	ASC
IWW_STRAT_TOPS	WW_STRAT_TOPS	1	WELL_ID	ASC
	WW_STRAT_TOPS	2	FORMATION	ASC
IWW_TEST_DATA	WW_TEST_DATA	1	TEST_TYPE	ASC
	WW_TEST_DATA	2	TS_TEST_NUMBER	ASC
	WW_TEST_DATA	3	WELL_ID	ASC

EGPC Database Remarks

Table Name

Remarks

ER_FAULT_BLOCK
Maintains information about the fault blocks of a pay zone and estimates of oil and gas in place. OOIP estimates must be either proven, probable, or possible. Each category will be summed and stored in the table ER_RESERVOIR.

ER_GRID_SIM_DATA
This table maintains values for all the simulation parameters for a given grid reference. The parameters are defined in the table "ER_GRID_SIM_PRM".

ER_GRID_SIM_PRM
This table maintains information about the grid simulation parameters. Specifically, the name of each parameter and the units, if the parameter is a numeric value.

ER_RESERVOIR
Maintains reservoir information. Different reserve estimates ARE possible. CASE_VARIANT allows for this situation. Proven, probable and possible reserves are totals of values entered in table ER_FAULT_BLOCK.

ES_AIRMAG_DATA
Relational representation of SSI hierarchical database. This table describes airmag data for an area of Egypt. It is an index to the location and condition of the actual data.

ES_GRAVITY_DATA
Relational representation of SSI hierarchical database. This table describes a set of gravity data for an area of Egypt. It is an index to the loction and condition of the actual data.

ES_LAB_ANALYSIS
Relational representation of SSI hierarchical database. This table describes lab analysis data from wells. It is an index to the location and condition of the actual data

ES_MAPS
Relational representation of SSI hierarchical database. This table

describes geological map data for an area of Egypt. It is an index to the location and condition of the actual map data.

ES_REPORTS

Sun Jun 24

EGPC Database Remarks

Table Name

Remarks

Relational representation of SSI hierarchical database. This table describes geological reports written about a small area in Egypt. It is and index to the location and condition of the actual report.

ES_SEISMIC_3D
Relational representation of SSI hierarchical database. This table describes a set of test data for a 3 dimensional area of Egypt. It is an index to the location and condition of the actual data.

ES_SEISMIC_DATA
Relational representation of SSI hierarchical database. This table describes a set of test data about a seismic line. It is an index to the location and condition of the actual data.

ES_XSECTION
Relational representation of SSI hierarchical database. This table describes cross section reports for a small area in Egypt. It is an index to the location and condition of the actual report.

EW_MAG_TAPE
Relational representation of Western Atlas hierarchical database. This table stores information about the magnetic tapes on which various geological data are kept. Includes an index to the location of the tape.

EW_MAP_INDEX
Relational representation of Western Atlas hierarchical database. This table stores information about geological maps, and is an index to the location of the actual data.

EW_SEISMIC_LINE
Relational representation of Western Atlas database. This table stores information about seismic lines, and is an index to the location of the actual data.

EW_SEISMIC_SECT
Relational representation of Western Atlas hierarchical database. This table stores information about seismic studies and tests performed on a section of Egypt, including the location of the actual data.

EW_SEISMIC_SURVEY

MENU_AUTH

EGPC Database Remarks

Table Name

Remarks

This table maintains the quantity of each product actually consumed by each centre each month. Comparison with expected made by joining the planned and actual tables.

OC_CONSU_MON_PLAN
This table maintains the expected monthly consumption of each product by each centre within Egypt.

OD_PROD_DIST_STOR
Maintains information on the quantity of all products in storage, in transit, or received for the day. All five refineries can ship products via pipeline to the storage areas. Does not store quantities received from each refinery.

OP_FIELD_DAY_ACT
This table maintains daily actual production of all fluids for each field. A "remarks" attribute is available to record free format information.

OP_FIELD_MON_PLAN
Table maintains monthly planned production quantities of all fluids and gases for each field, plus the actual production quantities after application of the adjustment factor. Monthly actual does not equal the sum of daily actuals.

OR_REF_DAY_ACT
This table maintains the daily actual quantity of crudes processed, products produced, current stock levels and current quantities received. Refineries receive everything by tanker or pipeline.

OR_REF_MON_PLAN
This table maintains the planned quantity of each crude oil type to be processed and the planned quantity of products to be produced. Actual figures are sums of daily actuals and are included to facilitate comparisons of planned to actual.

OS_IMP_EXP_CONTR

Maintains the contracted shipments of products, crude oils, and LPG by company. This table is not intended to track domestic transfer shipments, only foreign imp/exp shipments.

OS_IMP_EXP_PLAN
This table stores the imp/exp plan by month by crude or product, for a year. The PLAN_NO column provides a way of experimenting with different plans. PLAN_NO 1 is the operating plan, 2-n are the test plans.

OS_SHIPMENTS
This table maintains data about shipments of crude oil and refined products. LAY_DATE1 should be earlier than LAY_DATE2 and defines a window of time during which the tanker should

Table Name

Remarks
---

berth. ETA_DATE should be within this window.

OS_TANKER_STAT
This table maintains a free form character field for relevant information about tankers. This table is primarily for Egyptian registered tankers.

OS_TERMINAL_STAT
Maintains status information of all terminals. The foreign key, TANKER_CODE, is included to join the OS_TANKER_STAT table with this table.

PFKEYS

RF_REF_DTL
This table maintains current values for the parameters. To enter a record, the reference type and ID must exist in the master table, and the parameter must exist in the parameter table.

RF_REF_MSTR
This table identifies all reference types. Entries in other tables must have a reference type entry in this table. The reference ID is a specific instance of the reference type.

RF_REF_PRM
This table maintains the set of parameters associated with each reference type. This table is used to validate entries in the detail table, RF_REF_DTL. Parameters describe attributes of the reference type.

RF_REF_TYPE_MSTR

WD_DRILL_DAY_DTL
This table maintains daily values relevant to a well for drilling parameters identified in the WD_DRILL_PRM table.

WD_DRILL_DAY_SUM
This table allows free format entry of information summarizing the daily drilling progress.

WD_DRILL_DIRECT
This table maintains drilling directional data based on the depth of the well when measured.

WD_DRILL_PRM
This table cross references the drilling parameter code with the parameter name and, if numeric, stores the units of the parameter value.

WD_DRILL_PROGRAM
This table maintains information regarding the planned and actual

Table Name

Remarks
---

progress of drilling a well. It is based on drilling milestone events. A daily summary of drilling progress is maintained in the WD_DRILL_DAY_SUM table.

WD_FIX_DRILL_DTL
Maintains information about drilling that is not daily or date dependent. These drilling parameters are assigned values for a particular well

WG_FLUID_PVT_DATA
This table maintains fluid PVT test data for all wells. Each record consists of a well id, test date, test parameter, and parameter value. parameters must exist in the WG_FLUID_PVT_PRM table first.

WG_FLUID_PVT_PRM
This is a general table which stores fluid PVT test characteristics, the name or value of that characteristic, and the units, if applicable, in which the characteristic is measured.

WG_WELL_DEVICE
This table maintains an inventory of permanent in-hole devices according to the Well ID and top depth of their position in the well.

WG_WELL_DEVIC_PRM
This is a cross reference table that matches a code for a well bore device to a name for that device. Programs will use the code, while reports and forms will display the name.

WG_WELL_MSTR
This table maintains data relevant to all wells. There are only two fields at this time because Western Atlas table WG_GENERAL_WELL is also a master, and has the fields defined. Two may be merged sometime.

WG_WORKOVER_HIST
This table maintains a free format entry for information about the workover done on a given day to a well.

WP_WELL_MON_PROD
This table maintains actual production values for a well for a month.

WW_CASING
This table maintains the casing size and depth for each well, and represents an existing Western Atlas data set.

WW_DEVIATION
This table maintains data on the deviation from vertical for each well during drilling.

WW_GENERAL_WELL
It was recommended to add the field APPRAISAL_WELL. This was not added in order to remain compatible with Western Atlas. Table contains

Table Name

Remarks
---

data common to all wells, and is linked to all other tables in well DB.

WW_LOG_RECORD
It was recommended to add the following columns: RUN_NO, CIRCULATION_TIME, TIME_SINCE CIRCULATION_STOPPED. These columns were not added in order to remain compatible with SSI.

WW_ROCK_SAMPLE
This table maintains data about rock samples taken from each well. It is an index to the location of the samples and the actual data.

WW_SIDEWALL
This table maintains data about the sidewall structure for each well. It is keyed by well id and depth of the sidewall.

WW_STRAT_TOPS
This table maintains data on the depth at which each formation is encountered while drilling a well, and the geological age of the formation.

WW_TEST_DATA
This table maintains well test data identified by test number for each well. This is a Western Atlas data set.

Creating the Database Using Oracle

The SQL database creation commands may be either executed interactively in SQL*Plus, or stored in an ASCII file as SQL script and submitted later as a batch program. Bechtel elected to use the latter approach. This allows the same SQL script file to be used to install the database on multiple machines and on multiple platforms.

The EGPC database is divided into four categories: Exploration, Production, Operations and Reference Data. For each database category, three script files were created. One contained the SQL CREATE TABLE and CREATE INDEX commands. Another contained the CREATE COMMENTS commands. The third contained the SQL DROP TABLE commands to de-install the database.

SQL script files are executed in SQL*PLUS with the SQL START command. The START command retrieves a command file and runs the commands it contains.

Listings of the SQL script files used to create the database are enclosed for information.

```
Rem File Name: E_V103.SQL
Rem
Rem PURPOSE
Rem EGPC Exploration department region data table definitions
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem D. Bispo        01 Apr 90   Creation of Version 1.00
Rem R. Currey       06 May 90   Update col names & data types (1.02)
Rem D. Bispo        16 Jun 90   Update col names & data types (1.03)
Rem
Rem ***********************************************************************
Rem *                      REGION DATA TABLES                             *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: ER_FAULT_BLOCK
Prompt *********

Rem
Rem drop the fault block table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE ER_FAULT_BLOCK;

CREATE TABLE ER_FAULT_BLOCK (
        PAY_ZONE_NAME           CHAR(30)        NOT NULL,
        FAULT_BLOCK             CHAR(2)         NOT NULL,
        CASE_VARIANT            CHAR(2)         NOT NULL,
        CASE_VARIANT_DESC       CHAR(20),
        PROVEN_OOIP_MMSTB       DECIMAL(7,2),
        PROB_OOIP_MMSTB         DECIMAL(7,2),
        POSS_OOIP_MMSTB         DECIMAL(7,2),
        OGIP_MMSTCM             DECIMAL(7,2),
        GBV_MMCM                DECIMAL(7,2),
        NET_TO_GROSS_PCNT       DECIMAL(5,2),
        NBV_MMCM                DECIMAL(7,2),
        THETA_PCNT              DECIMAL(5,2),
        H20_SAT_PCNT            DECIMAL(5,2),
        FVF_BOI                 DECIMAL(6,4)
        );

CREATE UNIQUE INDEX IER_FAULT_BLOCK ON
        ER_FAULT_BLOCK (PAY_ZONE_NAME,
                        FAULT_BLOCK,
                        CASE_VARIANT);


Rem ***********************************************************************
Rem ***********************************************************************


Prompt *********
Prompt Table Name: ER_GRID_SIM_DATA
Prompt *********

Rem
Rem drop the existing grid simulation data table
Rem create the new grid simulation data table & specify the columns
Rem create the index for the grid simulation table
Rem
```

```
DROP TABLE ER_GRID_SIM_DATA;

CREATE TABLE ER_GRID_SIM_DATA (
       GRID_ID_REF              CHAR(5)          NOT NULL,
       X_COORD                  CHAR(13)         NOT NULL,
       Y_COORD                  CHAR(13)         NOT NULL,
       Z_COORD                  CHAR(13)         NOT NULL,
       PRM_CODE                 CHAR(5)          NOT NULL,
       PRM_VALUE                CHAR(20)
       );

CREATE UNIQUE INDEX IER_GRID_SIM_DATA ON
       ER_GRID_SIM_DATA (GRID_ID_REF,
                         X_COORD,
                         Y_COORD,
                         Z_COORD,
                         PRM_CODE);


Rem ***********************************************************************
Rem ***********************************************************************


Prompt *********
Prompt Table Name: ER_GRID_SIM_PRM
Prompt *********

Rem
Rem drop the existing grid simulation paramater table
Rem create the new table, specifying the columns
Rem create the index on the table, specifying the columns
Rem

DROP TABLE ER_GRID_SIM_PRM;

CREATE TABLE ER_GRID_SIM_PRM (
       PRM_CODE          CHAR(5)          NOT NULL,
       PRM_NAME          CHAR(30),
       PRM_UNITS         CHAR(15)
       );

CREATE UNIQUE INDEX IER_GRID_SIM_PRM ON
       ER_GRID_SIM_PRM (PRM_CODE);


Rem ***********************************************************************
Rem ***********************************************************************


Prompt *********
Prompt Table Name: ER_RESERVOIR
Prompt *********

Rem
Rem drop the existing reservoir table
Rem create the new reservoir table, specifying the columns
Rem create the index on the table
Rem

DROP TABLE ER_RESERVOIR;

CREATE TABLE ER_RESERVOIR (
     PAY_ZONE_NAME             CHAR(30)      NOT NULL,
     CASE_VARIANT              CHAR(2)       NOT NULL,
```

```
      CASE_VARIANT_DESC          CHAR(20),
      ZONE_BOT_DEPTH             DECIMAL(8,2),
      ZONE_THICKNESS             DECIMAL(8,2),
      PROVEN_RESRV_MMSTB         DECIMAL(7,2),
      PROB_RESRV_MMSTB           DECIMAL(7,2),
      POSS_RESRV_MMSTB           DECIMAL(7,2),
      AVG_POROSITY_PCNT          DECIMAL(5,2),
      HC_H20_CONTACT             DECIMAL(8,2),
      THETA_CO_PCNT              DECIMAL(5,2),
      VSH_CO_PCNT                DECIMAL(5,2),
      SW_CO_PCNT                 DECIMAL(5,2),
      ODT_METERS_SSL             DECIMAL(8,2)
      );

CREATE UNIQUE INDEX IER_RESERVOIR ON
       ER_RESERVOIR (PAY_ZONE_NAME,
                     CASE_VARIANT);
Rem
Rem ***********************************************************************
Rem *                      SSI INDEX DATA TABLES                          *
Rem ***********************************************************************

Prompt *******
Rem EGPC Exploration department SSI index data table definitions
Prompt *******

Prompt *******
Prompt Table Name: ES_AIRMAG_DATA
Prompt *******

Rem
Rem drop the existing airmag data table
Rem create the new table, specifying the columns
Rem

DROP TABLE ES_AIRMAG_DATA;

CREATE TABLE ES_AIRMAG_DATA (
       TITLE              CHAR(70),
       DATEREC            DATE,
       NW_COORD           CHAR(23),
       SE_COORD           CHAR(23),
       PROC_CONTRACTOR    CHAR(18),
       REC_CONTRACTOR     CHAR(18),
       CONCESSIONAIRE     CHAR(18),
       REGION             CHAR(16),
       BASIN_HIGH         CHAR(15),
       FIELD_NAME         CHAR(18),
       DATUM              CHAR(10),
       CONTOUR_INTERVAL   DECIMAL(3,0),
       FLIGHT_INTERVAL    CHAR(1),
       TIE_LINE_INTERVAL  CHAR(1),
       FLIGHT_ALTITUDE    DECIMAL(5,0),
       PROCTYPE           CHAR(10),
       DATEPROC           DATE,
       SCALE              DECIMAL(7,0),
       MEDIA              CHAR(10),
       QUALITY            CHAR(9),
       BUILDING           CHAR(20),
       BOX_NO             CHAR(15)
       );

Rem ***********************************************************************
```

```
Rem ************************************************************************

Prompt *******
Prompt Table Name: ES_GRAVITY_DATA
Prompt *******

Rem
Rem drop the existing gravity data table
Rem create the new gravity data table, specifying the columns
Rem

DROP TABLE ES_GRAVITY_DATA;

CREATE TABLE ES_GRAVITY_DATA (
        TITLE              CHAR(70),
        DATEREC            DATE,
        NW_COORD           CHAR(23),
        SE_COORD           CHAR(23),
        PROC_CONTRACTOR    CHAR(18),
        REC_CONTRACTOR     CHAR(18),
        CONCESSIONAIRE     CHAR(18),
        REGION             CHAR(16),
        BASIN_HIGH         CHAR(15),
        FIELD_NAME         CHAR(18),
        DATUM              CHAR(10),
        SCALE              DECIMAL(7,0),
        CONTOUR_INTERVAL   DECIMAL(3,0),
        MEDIA              CHAR(10),
        QUALITY            CHAR(9),
        BUILDING           CHAR(20),
        BOX_NO             CHAR(15)
        );


Rem ************************************************************************
Rem ************************************************************************

Prompt *******
Prompt Table Name: ES_LAB_ANALYSIS
Prompt *******

Rem
Rem drop the lab analysis data table
Rem create the table, specifying the columns
Rem

DROP TABLE ES_LAB_ANALYSIS;

CREATE TABLE ES_LAB_ANALYSIS (
        TITLE              CHAR(70),
        TYPE               CHAR(10),
        DATEREC            DATE,
        CONTRACTOR         CHAR(18),
        CONCESSIONAIRE     CHAR(18),
        PAGES_NO           DECIMAL(4,0),
        INCLUSIONS         DECIMAL(4,0),
        SAMPLES            DECIMAL(4,0),
        TOP_DEPTH          DECIMAL(9,0),
        BTM_DEPTH          DECIMAL(9,0),
        MEASURE_UNITS      CHAR(2),
        SOURCE             CHAR(15),
        REGION             CHAR(16),
        BASIN_HIGH         CHAR(16),
        FIELD_NAME         CHAR(18),
```

```
        WELL                CHAR(18),
        QUALITY             CHAR(9),
        BUILDING            CHAR(20),
        CABINET_NUM         CHAR(5),
        REMARKS             CHAR(144),
        LAB_NO              CHAR(5)
        );

Rem ************************************************************************
Rem ************************************************************************

Prompt *******
Prompt Table Name: ES_MAPS
Prompt *******

Rem
Rem drop the SSI maps data table
Rem create the new table, specifying the columns
Rem

DROP TABLE ES_MAPS;

CREATE TABLE ES_MAPS (
       MAP_TITLE          CHAR(70),
       REPORT_TITLE       CHAR(140),
       TYPE               CHAR(30),
       MAP_DATE           DATE,
       CONTRACTOR         CHAR(18),
       AUTHOR             CHAR(72),
       CONCESSIONAIRE     CHAR(18),
       NW_COORD           CHAR(23),
       SE_COORD           CHAR(23),
       HORIZON            CHAR(26)
       CONTOUR_INTERVAL   DECIMAL(7,0),
       MEASURE_UNITS      CHAR(2),
       SCALE              DECIMAL(7,0),
       MEDIA              CHAR(10),
       REGION             CHAR(16),
       BASIN_HIGH         CHAR(15),
       FIELD_NAME         CHAR(18),
       WELL               CHAR(18),
       QUALITY            CHAR(9),
       BUILDING           CHAR(20),
       CABINET_NUM        CHAR(5),
       MAP_NO             CHAR(5)
       );

Rem ************************************************************************
Rem ************************************************************************

Prompt *******
Prompt Table Name: ES_REPORTS
Prompt *******

Rem
Rem drop the SSI reports index table
Rem create the table, specifying the columns
Rem

DROP TABLE ES_REPORTS;

CREATE TABLE ES_REPORTS (
```

```
        TITLE              CHAR(140),
        TYPE               CHAR(10),
        REPORT_DATE        DATE,
        REPORT_PAPER       CHAR(1),
        CONTRACTOR         CHAR(18),
        AUTHOR             CHAR(72),
        CONCESSIONAIRE     CHAR(18),
        PAGES_NO           DECIMAL(5,0),
        INCLUSIONS         CHAR(4),
        REGION             CHAR(16),
        BASIN_HIGH         CHAR(15),
        FIELD_NAME         CHAR(18),
        WELL               CHAR(18),
        QUALITY            CHAR(9),
        BUILDING           CHAR(20),
        CABINET_NUM        CHAR(5),
        ABSTRACT_REMARKS   CHAR(240),
        REPORT_NO          CHAR(5),
        SUB_TYPE           CHAR(100),
        AREA_GEOG          CHAR(65),
        AREA_GEOLOG        CHAR(65),
        SUB_AREA           CHAR(75),
        CONCESS_BLOCK      CHAR(20),
        ENCLOS_MAP         DECIMAL(2,0),
        ENCLOS_SECT        DECIMAL(2,0),
        ENCLOS_ELOG        DECIMAL(2,0),
        ENCLOS_COMPOSITE   DECIMAL(2,0),
        ENCLOS_VSP         DECIMAL(2,0),
        ENCLOS_MUD_LOG     DECIMAL(2,0),
        ENCLOS_DISK        DECIMAL(2,0),
        MICROFILM_NO       CHAR(20),
        CONDITION_VG       CHAR(1),
        CONDITION_G        CHAR(1),
        CONDITION_P        CHAR(1),
        SECURITY_HIGH      CHAR(1),
        SECURITY_LOW       CHAR(1),
        CONFIDENTIAL       CHAR(1),
        ROOM_NO            CHAR(8),
        SHELF_NO           CHAR(8),
        NO_OF_COPIES       DECIMAL(3,0)
        );

Rem ***********************************************************************
Rem ***********************************************************************

Prompt *******
Prompt Table Name: ES_SEISMIC_3D
Prompt *******

Rem
Rem drop the existing SSI 3 dimensional seismic data table
Rem create the new table, specifying the columns
Rem

DROP TABLE ES_SEISMIC_3D;

CREATE TABLE ES_SEISMIC_3D (
        TITLE              CHAR(70),
        DATEREC            DATE,
        NW_COORD           CHAR(23),
        SE_COORD           CHAR(23),
        TYPE               CHAR(6),
        ORIG_REPRO         CHAR(1),
```

```
        DATEPROC          DATE,
        PROC_CONTRACTOR   CHAR(18),
        REC_CONTRACTOR    CHAR(18),
        CONCESSIONAIRE    CHAR(18),
        REGION            CHAR(16),
        BASIN_HIGH        CHAR(15),
        FIELD_NAME        CHAR(18),
        DATUM             CHAR(10),
        CONTOUR_INTERVAL  DECIMAL(4,0),
        RECORDTYPE        CHAR(10),
        STACK             CHAR(4),
        RECLENGTH         CHAR(1),
        SAMPLERATE        CHAR(1),
        ENERGY_SOURCE     CHAR(20),
        HORZSCALE         CHAR(7),
        VERTSCALE         CHAR(7),
        MEDIA             CHAR(10),
        QUALITY           CHAR(9),
        BUILDING          CHAR(20),
        BOX_NO            CHAR(15),
        SEIS_3D_NO        CHAR(6)
        );

Rem ************************************************************************
Rem ************************************************************************

Prompt *******
Prompt Table Name: ES_SEISMIC_DATA
Prompt *******

Rem
Rem drop the existing SSI seismic data table
Rem create the new table, specifying the columns
Rem

DROP TABLE ES_SEISMIC_DATA;

CREATE TABLE ES_SEISMIC_DATA (
        LINE              CHAR(10),
        DATEREC           DATE,
        BEGCOORD          CHAR(23),
        ENDCOORD          CHAR(23),
        BEGDIREC          CHAR(3),
        ENDDIREC          CHAR(3),
        BEGSHOTNO         CHAR(6),
        ENDSHOTNO         CHAR(6),
        TYPE              CHAR(6),
        ORIG_REPRO        CHAR(1),
        DATEPROC          DATE,
        PROC_CONTRACTOR   CHAR(18),
        REC_CONTRACTOR    CHAR(18),
        CONCESSIONAIRE    CHAR(18),
        REGION            CHAR(16),
        BASIN_HIGH        CHAR(15),
        FIELD_NAME        CHAR(18),
        DATUM             CHAR(10),
        RECORDTYPE        CHAR(10),
        STACK             CHAR(4),
        SHOT_PT_INTERVAL  DECIMAL(4,0),
        RECLENGTH         CHAR(1),
        SAMPLERATE        CHAR(1),
        GROUP_INTERVAL    DECIMAL(4,0),
        TRACE             CHAR(3),
```

```
        ENERGY_SOURCE     CHAR(20),
        HORZSCALE         CHAR(10),
        VERTSCALE         CHAR(10),
        MEDIA             CHAR(10),
        QUALITY           CHAR(9),
        BUILDING          CHAR(20),
        BOX_NO            CHAR(15)
        );

Rem ************************************************************************
Rem ************************************************************************

Prompt *******
Prompt Table Name: ES_XSECTION
Prompt *******

Rem
Rem drop the SSI cross section data table
Rem create the new table, specifying the columns
Rem

DROP TABLE ES_XSECTION;

CREATE TABLE ES_XSECTION
    (XSEC_TITLE        CHAR(70),
     REPORT_TITLE      CHAR(140),
     TYPE              CHAR(30),
     REPORT_DATE       DATE,
     CONTRACTOR        CHAR(18),
     AUTHOR            CHAR(72),
     CONCESSIONAIRE    CHAR(18),
     INTERVAL          CHAR(21),
     MEASURE_UNITS     CHAR(2),
     DATUM             CHAR(26),
     BEGDIREC          CHAR(3),
     ENDDIREC          CHAR(3),
     HORZSCALE         DECIMAL(7,0),
     VERTSCALE         DECIMAL(7,0),
     MEDIA             CHAR(10),
     REGION            CHAR(16),
     BASIN_HIGH        CHAR(15),
     FIELD_NAME        CHAR(18),
     WELL              CHAR(18),
     QUALITY           CHAR(9),
     BUILDING          CHAR(20),
     CABINET_NUM       CHAR(4),
     XSEC_NO           CHAR(5)
     );
Rem
Rem
Rem ************************************************************************
Rem *                WESTERN ATLAS WELL INDEX DATA TABLES                  *
Rem ************************************************************************

Prompt *********
Rem EGPC Exploration department Western Atlas index data table definitions
Prompt *********

Prompt *********
Prompt Table Name: EW_MAG_TAPE
Prompt *********

Rem
```


410

```
Rem drop the existing Western Atlas mag tape data table
Rem create the new table, specifying the columns
Rem create the index on the table
Rem

DROP TABLE EW_MAG_TAPE;

CREATE TABLE EW_MAG_TAPE (
        SEIS_SURVEY        CHAR(17)        NOT NULL,
        SL_LINE_NUMBER     CHAR(16)        NOT NULL,
        TAPE_TYPE_ABR      CHAR(13),
        SM_INSTRUMENT      CHAR(16),
        SM_FORMAT          CHAR(5),
        SM_RECORDER_CHAN   CHAR(5),
        SM_DATA_CHANNEL    CHAR(5),
        SM_REMARKS         CHAR(21),
        SM_ROOM            CHAR(5),
        SM_ROW             CHAR(5),
        SM_COLUMN          CHAR(5),
        MEDIA_TYPE         CHAR(15),
        MEDIA_COND         CHAR(5)
        );

CREATE INDEX IEW_MAG_TAPE ON
        EW_MAG_TAPE (SEIS_SURVEY,SL_LINE_NUMBER);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: EW_MAP_INDEX
Prompt *********

Rem
Rem drop the existing map index table
Rem create the new table, specifying the columns
Rem create the index on the table
Rem

DROP TABLE EW_MAP_INDEX;

CREATE TABLE EW_MAP_INDEX (
        COMPANY_NAME_ABR        CHAR(11)        NOT NULL,
        AREA_ABR                CHAR(17)        NOT NULL,
        MP_S_LATITUDE           CHAR(12),
        MP_S_LONGITUDE          CHAR(12),
        MP_B_LATITUDE           CHAR(12),
        MP_B_LONGITUDE          CHAR(12),
        MP_S_X_COOR             CHAR(11),
        MP_S_Y_COOR             CHAR(11),
        MP_B_X_COOR             CHAR(11),
        MP_B_Y_COOR             CHAR(11),
        MP_DATE                 DATE,
        MP_SCALE                CHAR(8),
        MP_ROOM                 CHAR(5),
        MP_ROW                  CHAR(5),
        MP_COLUMN               CHAR(5),
        MEDIA_TYPE              CHAR(15),
        MEDIA_COND              CHAR(5),
        MAP_TYPE                CHAR(33),
        MAP_TYPE_ABR            CHAR(17),
        GEOLOGICAL_AGE          CHAR(31),
        ALIAS                   CHAR(21),
```

```
        FORMATION                CHAR(31),
        FORMATION_ABR            CHAR(15)
        );

CREATE UNIQUE INDEX IEW_MAP_INDEX ON
       EW_MAP_INDEX (COMPANY_NAME_ABR,
                     AREA_ABR);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: EW_SEISMIC_LINE
Prompt *********

Rem
Rem drop the existing seismic line index table
Rem create the new table, specifying the columns
Rem create the index on the table
Rem

DROP TABLE EW_SEISMIC_LINE;

CREATE TABLE EW_SEISMIC_LINE (
       SEIS_SURVEY       CHAR(17)        NOT NULL,
       SL_LINE_NUMBER    CHAR(16)        NOT NULL,
       SL_SHOT_FROM      CHAR(9),
       SL_SHOT_TO        CHAR(9),
       SL_SHOT_DATE      DATE,
       AREA_ABR          CHAR(17),
       COMPANY_NAME_ABR  CHAR(11),
       SEIS_CON_ABR      CHAR(19)
       );

CREATE UNIQUE INDEX IEW_SEISMIC_LINE ON
       EW_SEISMIC_LINE (SEIS_SURVEY,SL_LINE_NUMBER);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: EW_SEISMIC_SURVEY
Prompt *********

Rem
Rem drop the existing seismic survey index table
Rem create the new table, specifying the columns
Rem create the index on the table
Rem

DROP TABLE EW_SEISMIC_SURVEY;

CREATE TABLE EW_SEISMIC_SURVEY (
       SEIS_SURVEY       CHAR(17)        NOT NULL,
       UPPER_LEFT_LAT    CHAR(12),
       UPPER_LEFT_LONG   CHAR(12),
       LOWER_RIGHT_LAT   CHAR(12),
       LOWER_RIGHT_LONG  CHAR(12),
       AREA              CHAR(44),
       COMPANY_NAME      CHAR(46),
       SEIS_CON          CHAR(49)
       );
```

```
CREATE UNIQUE INDEX IEW_SEISMIC_SURVEY ON
       EW_SEISMIC_SURVEY (SEIS_SURVEY);

Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: EW_SEISMIC_SECT
Prompt *********

Rem
Rem drop the existing seismic section index table
Rem create the new table, specifying the columns
Rem create the index on the table
Rem

DROP TABLE EW_SEISMIC_SECT;

CREATE TABLE EW_SEISMIC_SECT (
       SEIS_SURVEY                CHAR(17)        NOT NULL,
       SL_LINE_NUMBER             CHAR(16)        NOT NULL,
       SS_RECORDER_TYPE           CHAR(16),
       SS_SAMPLE_RATE             CHAR(7),
       SS_INSTRUMENT_CHAN         CHAR(5),
       SS_DATA_CHANNEL            CHAR(5),
       SS_FOLD                    CHAR(6),
       SS_LENGTH                  CHAR(5),
       SS_SPREAD_LENGTH           CHAR(10),
       SS_GROUP_INTERVAL          CHAR(5),
       SS_SP_INTERVAL             CHAR(10),
       SS_NUMBER_HOLES            CHAR(6),
       SS_PROCESS_DATE            DATE,
       SS_PROCESS_FOLD            CHAR(6),
       SS_SCALE                   CHAR(8),
       SS_ROOM                    CHAR(5),
       SS_ROW                     CHAR(5),
       SS_COL                     CHAR(6),
       SEIS_CON                   CHAR(49),
       SEIS_CON_ABR               CHAR(19),
       MEDIA_TYPE                 CHAR(15),
       MEDIA_COND                 CHAR(5),
       ENERGY                     CHAR(19),
       SEIS_PRO                   CHAR(17)
       );

CREATE UNIQUE INDEX IEW_SEISMIC_SECT ON
       EW_SEISMIC_SECT (SEIS_SURVEY,SL_LINE_NUMBER);
```

```
Rem File Name: E_COMNT.SQL
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem R. Currey       26 May 90    Create for Version 1.02
Rem D. Bispo        16 Jun 90    Update to comments for Version 1.03
Rem
Rem PURPOSE
Rem To start the EGPC Exploration department comment files which
Rem will add the data table comments.
Rem
Rem
Rem
Rem ************************************************************************
Rem *                      REGION DATA TABLE COMMENTS                      *
Rem ************************************************************************

Rem PURPOSE
Rem To add comments for the Exploration department Region data tables

Prompt *********
Prompt Table Name: ER_RESERVOIR
Prompt *********

Rem
Rem Add comment to ER_RESERVOIR table
Rem

COMMENT ON TABLE ER_RESERVOIR
IS 'Maintains reservoir information.  Different reserve estimates
ARE possible.  CASE_VARIANT allows for this situation.  Proven,
probable and possible reserves are totals of values entered in table
ER_FAULT_BLOCK.';


Rem ************************************************************************
Rem ************************************************************************


Prompt *********
Prompt Table Name: ER_FAULT_BLOCK
Prompt *********

Rem
Rem Add comment to ER_FAULT_BLOCK table
Rem

COMMENT ON TABLE ER_FAULT_BLOCK
IS 'Maintains information about the fault blocks of a pay zone and
estimates of oil and gas in place.  OOIP estimates must be either
proven, probable, or possible.  Each category will be summed and
stored in the table ER_RESERVOIR.';


Rem ************************************************************************
Rem ************************************************************************


Prompt *********
Prompt Table Name: ER_GRID_SIM_PRM
Prompt *********

Rem
Rem Add comment to ER_GRID_SIM_PRM table
```

```
Rem

COMMENT ON TABLE ER_GRID_SIM_PRM
IS 'This table maintains information about the grid simulation
parameters.  Specifically, the name of each parameter and
the units, if the parameter is a numeric value.';


Rem ************************************************************************
Rem ************************************************************************


Prompt *********
Prompt Table Name: ER_GRID_SIM_DATA
Prompt *********

Rem
Rem Add comment to ER_GRID_SIM_DATA table
Rem

COMMENT ON TABLE ER_GRID_SIM_DATA
IS 'This table maintains values for all the simulation parameters
for a given grid reference.  The parameters are defined in the
table "ER_GRID_SIM_PRM".';

Rem
Rem ************************************************************************
Rem *                          S.S.I TABLES                                *
Rem ************************************************************************

Rem PURPOSE
Rem To add EGPC Exploration department SSI data table comments

Prompt *********
Prompt Table Name: ES_SEISMIC_DATA
Prompt *********

Rem
Rem Add comment to ES_SEISMIC_DATA table
Rem

COMMENT ON TABLE ES_SEISMIC_DATA
IS 'Relational representation of SSI hierarchical database. This
table describes a set of test data about a seismic line. It is an index
to the location and condition of the actual data.';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_SEISMIC_3D
Prompt *********

Rem
Rem Add comment to ES_SEISMIC_3D table
Rem

COMMENT ON TABLE ES_SEISMIC_3D
IS 'Relational representation of SSI hierarchical database.  This table
describes a set of test data for a 3 dimensional area of Egypt.  It is an
index to the location and condition of the actual data.';
```


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```
Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_AIRMAG_DATA
Prompt *********

Rem
Rem Add comment to ES_AIRMAG_DATA table
Rem

COMMENT ON TABLE ES_AIRMAG_DATA
IS 'Relational representation of SSI hierarchical database.  This table
describes airmag data for an area of Egypt.  It is an index to the
location and condition of the actual data.';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_GRAVITY
Prompt *********

Rem
Rem Add comment to ES_GRAVITY table
Rem

COMMENT ON TABLE ES_GRAVITY_DATA
IS 'Relational representation of SSI hierarchical database.  This table
describes a set of gravity data for an area of Egypt.  It is an index to
the loction and condition of the actual data.';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_LAB_ANALYSIS
Prompt *********

Rem
Rem Add comment to ES_LAB_ANALYSIS table
Rem

COMMENT ON TABLE ES_LAB_ANALYSIS
IS 'Relational representation of SSI hierarchical database.  This table
describes lab analysis data from wells.  It is an index to the
location and condition cf the actual data';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_MAPS
Prompt *********

Rem
Rem Add comment to ES_MAPS table
Rem

COMMENT ON TABLE ES_MAPS
IS 'Relational representation of SSI hierarchical database.  This table
```

```
describes geological map data for an area of Egypt.  It is an index to
the location and condition of the actual map data.';

Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_REPORTS
Prompt *********

Rem
Rem Add comment to ES_REPORTS table
Rem

COMMENT ON TABLE ES_REPORTS
IS 'Relational representation of SSI hierarchical database.  This table
describes geological reports written about a small area in Egypt.  It is
and index to the location and condition of the actual report.';

Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: ES_XSECTION
Prompt *********

Rem
Rem Add comment to ES_XSECTION table
Rem

COMMENT ON TABLE ES_XSECTION
IS 'Relational representation of SSI hierarchical database.  This table
describes cross section reports for a small area in Egypt.  It is an
index to the location and condition of the actual report.';

Rem
Rem ************************************************************************
Rem *                      WESTERN ATLAS TABLES                            *
Rem ************************************************************************

Rem
Rem PURPOSE
Rem To add EGPC Exploration department Western Atlas data table comments
Rem

Prompt *********
Prompt Add comment to table: EW_MAP_INDEX
Prompt *********

Rem
Rem Add comment to EW_MAP_INDEX table
Rem

COMMENT ON TABLE EW_MAP_INDEX
IS 'Relational representation of Western Atlas hierarchical database.
This table stores information about geological maps, and is an index
to the location of the actual data.';

Rem ************************************************************************
Rem ************************************************************************
```


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```
Prompt *********
Prompt Add comment to table: EW_SEISMIC_LINE
Prompt *********

Rem
Rem Add comment to EW_SEISMIC_LINE table
Rem

COMMENT ON TABLE EW_SEISMIC_LINE
IS 'Relational representation of Western Atlas database.  This table stores
information about seismic lines, and is an index to the location of the
actual data.';

Rem ************************************************************************
Rem ************************************************************************


Prompt *********
Prompt Add comment to table: EW_MAG_TAPE
Prompt *********

Rem
Rem Add comment to EW_MAG_TAPE table
Rem

COMMENT ON TABLE EW_MAG_TAPE
IS 'Relational representation of Western Atlas hierarchical database.
This table stores information about the magnetic tapes on which various
geological data are kept.  Includes an index to the location of the tape.';

Rem ************************************************************************
Rem ************************************************************************


Prompt *********
Prompt Add comment to table: EW_SEISMIC_SECT
Prompt *********

Rem
Rem Add comment to EW_SEISMIC_SECT table
Rem

COMMENT ON TABLE EW_SEISMIC_SECT
IS 'Relational representation of Western Atlas hierarchical database.
This table stores information about seismic studies and tests performed
on a section of Egypt, including the location of the actual data.';
```

```
Rem File Name: DROP_E.SQL
Rem
Rem PURPOSE
Rem To drop all the EGPC Exploration tables from the data base
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem R. Currey       26 May 90   Create for Version 1.02
Rem D. Bispo        16 Jun 90   Create for Version 1.03
Rem
Rem ***********************************************************************
Rem *                    REGION DATA TABLE COMMENTS                       *
Rem ***********************************************************************

Prompt *********
Rem Drops Exploration department Region tables from the data base
Prompt *********



Prompt *********
Prompt Table Name: ER_RESERVOIR
Prompt *********

DROP TABLE ER_RESERVOIR;

Prompt *********
Prompt Table Name: ER_FAULT_BLOCK
Prompt *********

DROP TABLE ER_FAULT_BLOCK;

Prompt *********
Prompt Table Name: ER_GRID_SIM_PRM
Prompt *********

DROP TABLE ER_GRID_SIM_PRM;

Prompt *********
Prompt Table Name: ER_GRID_SIM_DATA
Prompt *********

DROP TABLE ER_GRID_SIM_DATA;


Rem
Rem ***********************************************************************
Rem *                      SSI INDEX DATA TABLES                          *
Rem ***********************************************************************

Prompt *********
Prompt Drops the Exploration Department SSI tables from the database
Prompt *********

Prompt *********
Prompt Table Name: ES_SEISMIC_DATA
Prompt *********

DROP TABLE ES_SEISMIC_DATA;

Prompt *********
Prompt Table Name: ES_SEISMIC_3D
Prompt *********
```


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```
DROP TABLE ES_SEISMIC_3D;

Prompt *********
Prompt Table Name: ES_AIRMAG_DATA
Prompt *********

DROP TABLE ES_AIRMAG_DATA;

Prompt *********
Prompt Table Name: ES_GRAVITY_DATA
Prompt *********

DROP TABLE ES_GRAVITY_DATA;

Prompt *********
Prompt Table Name: ES_LAB_ANALYSIS
Prompt *********

DROP TABLE ES_LAB_ANALYSIS;

Prompt *********
Prompt Table Name: ES_MAPS
Prompt *********

DROP TABLE ES_MAPS;

Prompt *********
Prompt Table Name: ES_REPORTS
Prompt *********

DROP TABLE ES_REPORTS;

Prompt *********
Prompt Table Name: ES_XSECTION
Prompt *********

DROP TABLE ES_XSECTION;

Rem
Rem ************************************************************************
Rem *                      WESTERN ATLAS TABLES                            *
Rem ************************************************************************

Prompt *********
Prompt Drops Exploration department Western Atlas tables from the data base
Prompt *********

Prompt *********
Prompt Table Name: EW_MAP_INDEX
Prompt *********

DROP TABLE EW_MAP_INDEX;

Prompt *********
Prompt Table Name: EW_SEISMIC_LINE
Prompt *********

DROP TABLE EW_SEISMIC_LINE;

Prompt *********
Prompt Table Name: EW_SEISMIC_SURVEY
Prompt *********

DROP TABLE EW_SEISMIC_SURVEY;
```


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```
Prompt *********
Prompt Table Name: EW_MAG_TAPE
Prompt *********

DROP TABLE EW_MAG_TAPE;

Prompt *********
Prompt Table Name: EW_SEISMIC_SECT
Prompt *********

DROP TABLE EW_SEISMIC_SECT;@
```

```
Rem File Name: O_V102.SQL  O_V103.SQL
Rem
Rem PURPOSE
Rem EGPC Operations department data table definitions
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem D. Bispo        01 Apr 90   Creation of Version 1.00
Rem R. Currey       06 May 90   Update col names & col types (1.02)
Rem D. Bispoy       16 Jun 90   Update col names & col types (1.03)
Rem
Rem ***********************************************************************
Rem *              CRUDE/PRODUCT CONSUMPTION DATA TABLES                  *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: OC_CONSU_MON_ACT
Prompt *********

Rem
Rem drop the consumption monthly actual data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OC_CONSU_MON_ACT;

CREATE TABLE OC_CONSU_MON_ACT (
       COMPANY_NAME_ABR CHAR(11)       NOT NULL,
       GOVERNORATE      CHAR(30)       NOT NULL,
       CENTRE           CHAR(30)       NOT NULL,
       PROD_TYPE        CHAR(25)       NOT NULL,
       OPER_MON         DATE           NOT NULL,
       QTY_CONSUMED     DECIMAL(6,0)
       );

CREATE UNIQUE INDEX IOC_CONSU_MON_ACT ON
       OC_CONSU_MON_ACT (COMPANY_NAME_ABR,
                         GOVERNORATE,
                         CENTRE,
                         PROD_TYPE,
                         OPER_MON);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: OC_CONSU_MON_PLAN
Prompt *********

Rem
Rem drop the consumption monthly plan data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OC_CONSU_MON_PLAN;

CREATE TABLE OC_CONSU_MON_PLAN (
       COMPANY_NAME_ABR        CHAR(11)        NOT NULL,
       GOVERNORATE             CHAR(30)        NOT NULL,
       CENTRE                  CHAR(30)        NOT NULL,
       PROD_TYPE               CHAR(25)        NOT NULL,
```


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```
        OPER_MON                DATE            NOT NULL,
        PROJ_CONSUMPTION        DECIMAL(6,0)
        );

CREATE UNIQUE INDEX IOC_CONSU_MON_PLAN ON
        OC_CONSU_MON_PLAN (COMPANY_NAME_ABR,
                           GOVERNORATE,
                           CENTRE,
                           PROD_TYPE,
                           OPER_MON);


Rem ***********************************************************************
Rem *            CRUDE/PRODUCT DISTRIBUTION DATA TABLES                   *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: OD_PROD_DIST_STOR
Prompt *********

Rem
Rem drop the product distribution storage data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OD_PROD_DIST_STOR;

CREATE TABLE OD_PROD_DIST_STOR (
        OPER_DATE       DATE            NOT NULL,
        STORAGE_AREA    CHAR(30)        NOT NULL,
        PROD_TYPE       CHAR(25)        NOT NULL,
        QTY_IN_STORE    DECIMAL(7,0),
        QTY_REC_BY_PIPE DECIMAL(7,0),
        QTY_IN_PIPELINE DECIMAL(7,0)
        );

CREATE UNIQUE INDEX IOD_PROD_DIST_STOR ON
        OD_PROD_DIST_STOR (OPER_DATE,
                           STORAGE_AREA,
                           PROD_TYPE);


Rem ***********************************************************************
Rem *                  FIELD PRODUCTION DATA TABLES                       *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: OP_FIELD_DAY_ACT
Prompt *********

Rem
Rem drop the field daily actual data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OP_FIELD_DAY_ACT;

CREATE TABLE OP_FIELD_DAY_ACT (
        FIELD_NAME      CHAR(18)        NOT NULL,
        OPER_DATE       DATE            NOT NULL,
        GROSS_BBLS_ACT  DECIMAL(7,0),
        WATER_BBLS_ACT  DECIMAL(7,0),
```

```
        OIL_BBLS_ACT     DECIMAL(7,0),
        GAS_MSCF_ACT     DECIMAL(7,0),
        REMARKS          CHAR(240)
        );

CREATE UNIQUE INDEX IOP_FIELD_DAY_ACT ON
        OP_FIELD_DAY_ACT (FIELD_NAME,
                          OPER_DATE);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: OP_FIELD_MON_PLAN
Prompt *********

Rem
Rem drop the field monthly plan data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OP_FIELD_MON_PLAN;

CREATE TABLE OP_FIELD_MON_PLAN (
        FIELD_NAME        CHAR(18)          NOT NULL,
        OPER_MONTH        DATE              NOT NULL,
        PLAN_NO           CHAR(5)           NOT NULL,
        OIL_BBLS_PLAN     DECIMAL(7,0),
        ADJ_FACTOR_OIL    DECIMAL(6,2),
        OIL_BBLS_ACT      DECIMAL(7,0),
        GAS_MSCF_PLAN     DECIMAL(7,0),
        ADJ_FACTOR_GAS    DECIMAL(6,2),
        GAS_MSCF_ACT      DECIMAL(7,0)
        );

CREATE UNIQUE INDEX IOP_FIELD_MON_PLAN ON
        OP_FIELD_MON_PLAN (FIELD_NAME,
                           OPER_MONTH,
                           PLAN_NO);


Rem ************************************************************************
Rem *                        REFINERY DATA TABLES                          *
Rem ************************************************************************

Prompt *********
Prompt Table Name: OR_REF_DAY_ACT
Prompt *********

Rem
Rem drop the refinery daily actual data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OR_REF_DAY_ACT;

CREATE TABLE OR_REF_DAY_ACT (
        OPER_DATE         DATE              NOT NULL,
        REFINERY          CHAR(30)          NOT NULL,
        CRUDE_PROD_TYPE   CHAR(25)          NOT NULL,
        QTY_IN_STORE      DECIMAL(8,0),
```

```
        QTY_PROC_PROD     DECIMAL(8,0),
        QTY_REC_BY_TNKR   DECIMAL(8,0),
        QTY_REC_BY_PIPE   DECIMAL(8,0)
        );

CREATE UNIQUE INDEX IOR_REF_DAY_ACT ON
       OR_REF_DAY_ACT (OPER_DATE,
                       REFINERY,
                       CRUDE_PROD_TYPE);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: OR_REF_MON_PLAN
Prompt *********

Rem
Rem drop the refinery monthly plan data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OR_REF_MON_PLAN;

CREATE TABLE OR_REF_MON_PLAN (
       REFINERY          CHAR(30)          NOT NULL,
       OPER_MON          DATE              NOT NULL,
       CRUDE_PROD_TYPE   CHAR(25)          NOT NULL,
       QTY_PLAN          DECIMAL(9,0),
       QTY_ACT           DECIMAL(9,0)
       );

CREATE UNIQUE INDEX IOR_REF_MON_PLAN ON
       OR_REF_MON_PLAN (REFINERY,
                        OPER_MON,
                        CRUDE_PROD_TYPE);


Rem ************************************************************************
Rem *              CRUDE/PRODUCT SHIPMENTS DATA TABLES                     *
Rem ************************************************************************

Prompt *********
Prompt Table Name: OS_IMP_EXP_CONTR
Prompt *********

Rem
Rem drop the import/export contracts data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OS_IMP_EXP_CONTR;

CREATE TABLE OS_IMP_EXP_CONTR (
       COMPANY                 CHAR(50)          NOT NULL,
       CONTRACT_SERIALNO       CHAR(15)          NOT NULL,
       SHIPMENT_PLAN           DECIMAL(5,0),
       CARGO_PLAN_MIN          DECIMAL(9,0),
       CARGO_PLAN_MAX          DECIMAL(9,0),
       CRUDE_PROD_TYPE         CHAR(25),
       IMP_EXP_TYPE            CHAR(3),
```

```
        CONTRACT_START_MON       DATE,
        CONTRACT_STOP_MON        DATE
        );

CREATE UNIQUE INDEX IOS_IMP_EXP_CONTR ON
        OS_IMP_EXP_CONTR (COMPANY,
                          CONTRACT_SERIALNO);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: OS_IMP_EXP_PLAN
Prompt *********

Rem
Rem drop the import/export plan data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OS_IMP_EXP_PLAN;

CREATE TABLE OS_IMP_EXP_PLAN (
        OPER_MON          DATE              NOT NULL,
        CRUDE_PROD_TYPE   CHAR(25)          NOT NULL,
        IMP_EXP_TYPE      CHAR(3)           NOT NULL,
        PLAN_NO           CHAR(15)          NOT NULL,
        QTY_PLAN          DECIMAL(9,0),
        QTY_ACT           DECIMAL(9,0)
        );

CREATE UNIQUE INDEX IOS_IMP_EXP_PLAN ON
        OS_IMP_EXP_PLAN (OPER_MON,
                         CRUDE_PROD_TYPE,
                         IMP_EXP_TYPE,
                         PLAN_NO);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: OS_SHIPMENTS
Prompt *********

Rem
Rem drop the shipments data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OS_SHIPMENTS;

CREATE TABLE OS_SHIPMENTS (
        COMPANY                 CHAR(50)          NOT NULL,
        CONTRACT_SERIALNO       CHAR(15)          NOT NULL,
        CONTRACT_SHIP_NO        CHAR(15)          NOT NULL,
        CRUDE_PROD_TYPE         CHAR(25),
        SHIPMENT_TYPE           CHAR(15),
        LAY_DATE1               DATE,
        LAY_DATE2               DATE,
        CONTRACT_TYPE           CHAR(10),
```

```
        TANKER                  CHAR(25),
        TERMINAL                CHAR(25),
        BERTH                   CHAR(5),
        QUANTITY                DECIMAL(9,0),
        ETA_DATE                DATE,
        ARRIVAL_DATE            DATE
        );

CREATE UNIQUE INDEX IOS_SHIPMENTS ON
       OS_SHIPMENTS (COMPANY,
                     CONTRACT_SERIALNO,
                     CONTRACT_SHIP_NO);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: OS_TANKER_STAT
Prompt *********

Rem
Rem drop the tanker status data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OS_TANKER_STAT;

CREATE TABLE OS_TANKER_STAT (
       OPER_DATE          DATE            NOT NULL,
       TANKER_CODE        CHAR(20)        NOT NULL,
       CRUDE_PROD_TYPE    CHAR(25),
       STATUS             CHAR(240)
       );

CREATE UNIQUE INDEX IOS_TANKER_STAT ON
       OS_TANKER_STAT (OPER_DATE,
                       TANKER_CODE);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: OS_TERMINAL_STAT
Prompt *********

Rem
Rem drop the terminal status data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE OS_TERMINAL_STAT;

CREATE TABLE OS_TERMINAL_STAT (
       OPER_DATE          DATE            NOT NULL,
       TERMINAL           CHAR(25)        NOT NULL,
       BERTH              CHAR(5)         NOT NULL,
       TANKER_CODE        CHAR(20),
       CRUDE_PROD_TYPE    CHAR(25),
       STATUS             CHAR(240)
       );
```

```
CREATE UNIQUE INDEX IOS_TERMINAL_STAT ON
       OS_TERMINAL_STAT (OPER_DATE,
                         TERMINAL,
                         BERTH);
```

```
Rem File Name: O_COMNT.SQL
Rem
Rem PURPOSE
Rem EGPC Operations department data table comments
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem D. Bispo        01 Apr 90    Creation of Version 1.00
Rem R. Currey       06 May 90    Update to comments for Version 1.02
Rem
Rem ************************************************************************
Rem *                 PRODUCTION DATA TABLE COMMENTS                       *
Rem ************************************************************************

Prompt ********
Prompt Add comments to table: OP_FIELD_MON_PLAN
Prompt ********

Rem
Rem Add comment to OP_FIELD_MON_PLAN table
Rem

COMMENT ON TABLE OP_FIELD_MON_PLAN
IS 'Table maintains monthly planned production quantities of
all fluids and gases for each field, plus the actual production
quantities after application of the adjustment factor.  Monthly
actual does not equal the sum of daily actuals.';

Prompt ********
Prompt Add comments to table: OP_FIELD_DAY_ACT
Prompt ********

Rem
Rem Add comment to OP_FIELD_DAY_ACT table
Rem

COMMENT ON TABLE OP_FIELD_DAY_ACT
IS 'This table maintains daily actual production of all fluids for
each field.  A "remarks" attribute is available to record free
format information.';


Rem ************************************************************************
Rem *                 SHIPMENTS DATA TABLE COMMENTS                        *
Rem ************************************************************************

Prompt ********
Prompt Add comments to table: OS_IMP_EXP_CONTR
Prompt ********

Rem
Rem Add comment to OS_IMP_EXP_CONTR table
Rem

COMMENT ON TABLE OS_IMP_EXP_CONTR
IS 'Maintains the contracted shipments of products, crude oils,
and LPG by company.  This table is not intended to track domestic
transfer shipments, only foreign imp/exp shipments.';

Prompt ********
Prompt Add comments to table: OS_IMP_EXP_PLAN
Prompt ********

Rem
```


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```
Rem Add comment to OS_IMP_EXP_PLAN table
Rem

COMMENT ON TABLE OS_IMP_EXP_PLAN
IS 'This table stores the imp/exp plan by month by crude or
product, for a year.  The PLAN_NO column provides a way of
experimenting with different plans.  PLAN_NO 1 is the operating
plan, 2-n are the test plans.';

Prompt ********
Prompt Add comments to table: OS_SHIPMENTS
Prompt ********

Rem
Rem Add comment to OS_SHIPMENTS table
Rem

COMMENT ON TABLE OS_SHIPMENTS
IS 'This table maintains data about shipments of crude oil and
refined products.  LAY_DATE1 should be earlier than LAY_DATE2
and defines a window of time during which the tanker should
berth.  ETA_DATE should be within this window.';

Prompt ********
Prompt Add comments to table: OS_TANKER_STAT
Prompt ********

Rem
Rem Add comment to OS_TANKER_STAT table
Rem

COMMENT ON TABLE OS_TANKER_STAT
IS 'This table maintains a free form character field for relevant
information about tankers.  This table is primarily for Egyptian registered
tankers.';

Prompt ********
Prompt Add comments to table: OS_TERMINAL_STAT
Prompt ********

Rem
Rem Add comment to OS_TERMINAL_STAT table
Rem

COMMENT ON TABLE OS_TERMINAL_STAT
IS 'Maintains status information of all terminals.  The foreign
key, TANKER_CODE,is included to join the OS_TANKER_STAT
table with this table.';


Rem ************************************************************************
Rem *                        REFINERY DATA TABLES                          *
Rem ************************************************************************

Prompt ********
Prompt Add comments to table: OR_REF_MON_PLAN
Prompt ********

Rem
Rem Add comment to OR_REF_MON_PLAN table
Rem

COMMENT ON TABLE OR_REF_MON_PLAN
IS 'This table maintains the planned quantity of each crude oil
```

```
type to be processed and the planned quantity of products to be
produced.  Actual figures are sums of daily actuals and are
included to facilitate comparisons of planned to actual.';

Prompt ********
Prompt Add comments to table: OR_REF_DAY_ACT
Prompt ********

Rem
Rem Add comment to OR_REF_DAY_ACT table
Rem

COMMENT ON TABLE OR_REF_DAY_ACT
IS 'This table maintains the daily actual quantity of crudes
processed, products produced, current stock levels and current
quantities received. Refineries receive everything by tanker or
pipeline.';


Rem ************************************************************************
Rem *                  DISTRIBUTION DATA TABLE COMMENTS                    *
Rem ************************************************************************

Prompt ********
Prompt Add comments to table: OD_PROD_DIST_STOR
Prompt ********

Rem
Rem Add comment to OD_PROD_DIST_STOR table
Rem

COMMENT ON TABLE OD_PROD_DIST_STOR
IS 'Maintains information on the quantity of all products in
storage, in transit, or received for the day.  All five refineries
can ship products via pipeline to the storage areas.  Does not
store quantities received from each refinery.';


Rem ************************************************************************
Rem *                  CONSUMPTION DATA TABLES COMMENTS                    *
Rem ************************************************************************

Prompt ********
Prompt Add comments to table: OC_CONSU_MON_PLAN
Prompt ********

Rem
Rem Add comment to OC_CONSU_MON_PLAN table
Rem

COMMENT ON TABLE OC_CONSU_MON_PLAN
IS 'This table maintains the expected monthly consumption of
each product by each centre within Egypt.';

Prompt ********
Prompt Add comments to table: OC_CONSU_MON_ACT
Prompt ********

Rem
Rem Add comment to OC_CONSU_MON_ACT table
Rem

COMMENT ON TABLE OC_CONSU_MON_ACT
IS 'This table maintains the quantity of each product actually
```

```
consumed by each centre each month.  Comparison with
expected made by joining the planned and actual tables.';
```

```
Rem File Name: O_DROP.SQL
Rem
Rem PURPOSE
Rem Drops all the Operations Department tables from the database
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem D. Bispo        01 Apr 90   Creation of Version 1.00
Rem R. Currey       06 May 90   Update to add prompts for Version 1.02
Rem
Rem ***********************************************************************
Rem *                 PRODUCTION DATA TABLE COMMENTS                      *
Rem ***********************************************************************


Prompt *********
Prompt Table Name: OP_FIELD_MON_PLAN
Prompt *********

DROP TABLE OP_FIELD_MON_PLAN;

Prompt *********
Prompt Table Name: OP_FIELD_DAY_ACT
Prompt *********

DROP TABLE OP_FIELD_DAY_ACT;

Prompt *********
Prompt Table Name: OS_IMP_EXP_CONTR
Prompt *********

DROP TABLE OS_IMP_EXP_CONTR;

Prompt *********
Prompt Table Name: OS_IMP_EXP_PLAN
Prompt *********

DROP TABLE OS_IMP_EXP_PLAN;

Prompt *********
Prompt Table Name: OS_SHIPMENTS
Prompt *********

DROP TABLE OS_SHIPMENTS;

Prompt *********
Prompt Table Name: OS_TANKER_STAT
Prompt *********

DROP TABLE OS_TANKER_STAT;

Prompt *********
Prompt Table Name: OS_TERMINAL_STAT
Prompt *********

DROP TABLE OS_TERMINAL_STAT;

Prompt *********
Prompt Table Name: OR_REF_MON_PLAN
Prompt *********

DROP TABLE OR_REF_MON_PLAN;

Prompt *********
```

```
Prompt Table Name: OR_REF_DAY_ACT
Prompt *********

DROP TABLE OR_REF_DAY_ACT;

Prompt *********
Prompt Table Name: OD_PROD_DIST_STOR
Prompt *********

DROP TABLE OD_PROD_DIST_STOR;

Prompt *********
Prompt Table Name: OC_CONSU_MON_PLAN
Prompt *********

DROP TABLE OC_CONSU_MON_PLAN;

Prompt *********
Prompt Table Name: OC_CONCU_MON_ACT
Prompt *********

DROP TABLE OC_CONSU_MON_ACT;
```

```
Rem FILE NAME: R_V102.SQL  R_V103.SQL
Rem
Rem EGPC Reference data table definitions
Rem
Rem PURPOSE
Rem This file contains SQL*Plus statements to create the EGPC REFERENCE
Rem database tables and indices, and load the tables with validation data.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        CHANGES
Rem D. Bispo        01 Apr 90   Creation of Version 1.00
Rem R. Currey       06 May 90   Update col names & data types (1.02)
Rem D. Bispo        16 Jun 90   Update col names & data types (1.03)
Rem                             Load tables with known data
Rem
Rem ***********************************************************************
Rem *                      RF_REF_DTL TABLE                               *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: RF_REF_DTL
Prompt *********

Rem
Rem drop the reference detail table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE RF_REF_DTL;

CREATE TABLE RF_REF_DTL (
       REF_TYPE          CHAR(4)          NOT NULL,
       REF_ID            CHAR(20)         NOT NULL,
       REF_PRM           CHAR(20)         NOT NULL,
       PRM_VALUE         CHAR(70)
       );

CREATE UNIQUE INDEX IRF_REF_DTL ON
       RF_REF_DTL (REF_TYPE,
                   REF_ID,
                   REF_PRM);


Rem ***********************************************************************
Rem *                      RF_REF_MSTR TABLE                              *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: RF_REF_MSTR
Prompt *********

Rem
Rem drop the reference master table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE RF_REF_MSTR;

CREATE TABLE RF_REF_MSTR (
       REF_TYPE          CHAR(4)          NOT NULL,
       REF_ID            CHAR(20)         NOT NULL
       );
```

```
CREATE UNIQUE INDEX IRF_REF_MSTR ON
       RF_REF_MSTR (REF_TYPE,
                    REF_ID);


Rem ************************************************************************
Rem *                        RF_REF_PRM TABLE                              *
Rem ************************************************************************

Prompt *********
Prompt Table Name: RF_REF_PRM
Prompt *********

Rem
Rem drop the reference parameter data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE RF_REF_PRM;

CREATE TABLE RF_REF_PRM (
       REF_TYPE          CHAR(4)  NOT NULL,
       REF_PRM           CHAR(20) NOT NULL
       );

CREATE UNIQUE INDEX IRF_REF_PRM ON
       RF_REF_PRM (REF_TYPE,
                   REF_PRM);


Rem ************************************************************************
Rem *                        RF_REF_TYPE_MSTR                              *
Rem ************************************************************************

Prompt *********
Prompt Table Name: RF_REF_TYPE_MSTR
Prompt *********

Rem
Rem drop the reference type master data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE RF_REF_TYPE_MSTR;

CREATE TABLE RF_REF_TYPE_MSTR (
       REF_TYPE           CHAR(4) NOT NULL,
       UPDATE_MSTR        CHAR(1),
       OTHER_PROGRAM_UPD  CHAR(1),
       REF_TYPE_DESCR     CHAR(70),
       REF_ID_HDR         CHAR(25)
       );

CREATE UNIQUE INDEX IRF_REF_TYPE_MSTR ON
       RF_REF_TYPE_MSTR (REF_TYPE);


Rem
Rem Insert into the reference type master table the basic validation data.
Rem All data entered into the Reference Database must be associated with
Rem one of the following Reference Types.
```


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```
Rem

INSERT INTO RF_REF_TYPE_MSTR VALUES
('EC', 'Y', NULL, 'EXPLORATION COMPANIES', 'EXPLORATION COMPANIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('JV', 'Y', NULL, 'JOINT VENTURE COMPANIES', 'JOINT VENTURE COMPANIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CC', 'Y', NULL, 'CONCESSION COMPANIES', 'CONCESSION COMPANIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('RC', 'N', NULL, 'REFINING COMPANIES', 'REFINING COMPANIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('MC', 'Y', NULL, 'MARKETING COMPANIES', 'MARKETING COMPANIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CT', 'Y', 'C', 'CONTRACTS', 'CONTRACTS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('FL', 'N', NULL, 'FIELDS', 'FIELDS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('RG', 'N', NULL, 'REGIONS', 'REGIONS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CS', 'Y', NULL, 'CONCESSIONS', 'CONCESSIONS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CR', 'N', NULL, 'CRUDE TYPES', 'CRUDE TYPES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('PT', 'N', NULL, 'PRODUCT TYPES', 'PRODUCT TYPES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('TK', 'Y', NULL, 'TANKERS', 'TANKERS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('TM', 'N', NULL, 'TERMINALS', 'TERMINALS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('PS', 'N', NULL, 'PRODUCT STORAGE AREAS', 'PRODUCT STORAGE AREAS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('GV', 'N', NULL, 'GOVERNORATES', 'GOVERNORATES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CN', 'N', NULL, 'CENTERS', 'CENTERS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('ES', 'Y', 'S', 'EXCLUSIVE STUDIES', 'EXCLUSIVE STUDIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('NS', 'Y', 'S', 'NON-EXCLUSIVE STUDIES', 'NON-EXCLUSIVE STUDIES');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('RP', 'Y', 'S', 'REPORTS', 'REPORTS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_AL', 'N', NULL, 'VALIDATES GEOLOGICAL FORMATION ALIASES', 'ALIAS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_AR', 'N', NULL, 'VALIDATES EGYPT GEOGRAPHICAL AREAS', 'AREA');
```

```
INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_EN', 'N', NULL, 'VALIDATES TYPE OF ENERGY USED IN SEISMIC TESTS',
'ENERGY');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_GA', 'N', NULL, 'VALIDATES TERMS USED FOR GEOLOGICAL AGES', 'GEOLOGICAL
AGE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_FO', 'N', NULL, 'VALIDATES TERMS USED FOR FORMATIONS', 'FORMATION');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_LN', 'N', NULL, 'VALIDATES TERMS USED FOR LOG NAMES', 'LOG_NAME');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_MP', 'N', NULL, 'VALIDATES MAP TYPES', 'MAP_TYPE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_MC', 'N', NULL, 'VALIDATES TERMS USED FOR MEDIA CONDITION', 'MEDIA_COND');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_MD', 'N', NULL, 'VALIDATES TERMS USED FOR MUD TYPES', 'MUD_TYPE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_PR', 'N', NULL, 'VALIDATES PRODUCTION RATE UNITS', 'PROD_RATE_UNIT');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_ST', 'N', NULL, 'VALIDATES TERMS USED FOR SAMPLE TYPES', 'SAMPLE_TYPE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_SW', 'N', NULL, 'VALIDATES SIDEWALL TYPES', 'SIDEWALL_TYPE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CSEI', 'Y', NULL, 'VALIDATES SEISMIC CONTRACTORS', 'SEIS_CON');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_SP', 'N', NULL, 'VALIDATES SEISMIC PROCESSING METHODS', 'SEIS_PRO');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_SH', 'N', NULL, 'VALIDATES TERMS USED FOR SHOW TYPES', 'SHOW');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_TA', 'N', NULL, 'VALIDATES TYPES OF MAGNETIC TAPE', 'TAPE_TYPE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_TT', 'N', NULL, 'VALIDATES TYPES OF WELL TESTS', 'TEST_TYPE');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('V_WS', 'N', NULL, 'VALIDATES TERMS USED FOR WELL STATUS', 'WELL_STATUS');

INSERT INTO RF_REF_TYPE_MSTR VALUES
('CLOG', 'Y', NULL, 'VALIDATES COMPANIES WHICH DO WELL LOGS', 'LOG_COMPANY');
```

```
Rem File Name: R_COMNT.SQL
Rem
Rem PURPOSE
Rem Add comments to the EGPC Reference data tables.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem D. Bispo        01 Apr 90   Creation of Version 1.00
Rem R. Currey       06 May 90   Update to comments for Version 1.02
Rem
Rem
Rem ***********************************************************************
Rem *                 REFERENCE DATA TABLE COMMENTS                       *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: RF_REF_PRM
Prompt *********

Rem
Rem Add comment to RF_REF_PRM table
Rem

COMMENT ON TABLE RF_REF_PRM
IS 'This table maintains the set of parameters associated with each
reference type.  This table is used to validate entries in the detail
table, RF_REF_DTL.  Parameters describe attributes of the reference type.';

Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: RF_REF_MSTR
Prompt *********

Rem
Rem Add comment to RF_REF_MSTR table
Rem

COMMENT ON TABLE RF_REF_MSTR
IS 'This table identifies all reference types.  Entries in other
tables must have a reference type entry in this table.  The reference ID
is a specific instance of the reference type.';

Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: RF_REF_DTL
Prompt *********

Rem
Rem Add comment to RF_REF_DTL table
Rem

COMMENT ON TABLE RF_REF_DTL
IS 'This table maintains current values for the parameters.  To enter a
record, the reference type and ID must exist in the master table, and
the parameter must exist in the parameter table.';

Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
```

```
Prompt Table Name: RF_RLF_TYPE_MSTR
Prompt *********

Rem
Rem Add comment to RF_REF_TYPE_MSTR table
Rem

COMMENT ON TABLE RF_REF_TYPE_MSTR
IS 'This table is a control table.  It controls updates to the master table
from the data entry form and from background programs, which may wish to
add reference IDs or reference types before updating the detail table.';
```

```
Rem File Name: R_DROP.SQL
Rem
Rem PURPOSE
Rem Drops the Reference tables from the data base
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem D. Bispo        01 Apr 90   Creation of Version 1.00
Rem R. Currey       06 May 90   Update to comments for Version 1.02
Rem
Rem
Rem ***********************************************************************
Rem *                      REFERENCE DATA TABLES
Rem ***********************************************************************


Prompt *********
Prompt Table Name: RF_REF_PRM
Prompt *********

DROP TABLE RF_REF_PRM;

Prompt *********
Prompt Table Name: RF_REF_MSTR
Prompt *********

DROP TABLE RF_REF_MSTR;

Prompt *********
Prompt Table Name: RF_REF_DTL
Prompt *********

DROP TABLE RF_REF_DTL;

Prompt *********
Prompt Table Name: RF_REF_TYPE_MSTR
Prompt *********

DROP TABLE RF_REF_TYPE_MSTR;
```

```
Rem File Name: W_V103.SQL
Rem
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem D. Bispo        01 Apr 90    Creation of Version 1.00
Rem R. Currey       06 May 90    Update col names & data types (1.02)
Rem D. Bispo        16 Jun 90    Update col names & data types (1.03)
Rem

Rem ***********************************************************************
Rem *                        DRILLING TABLES                              *
Rem ***********************************************************************

Prompt *********
Rem EGPC Production department drilling data table definitions
Prompt *********

Prompt *********
Prompt Table Name: WD_DRILL_DAY_DTL
Prompt *********

Rem
Rem drop the drilling daily detail table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WD_DRILL_DAY_DTL;

CREATE TABLE WD_DRILL_DAY_DTL (
       WELL_ID          CHAR(10) NOT NULL,
       OPER_DATE        DATE     NOT NULL,
       DRILL_PRM_CODE   CHAR(5)  NOT NULL,
       DRILL_PRM_VALUE  CHAR(70)
       );

CREATE UNIQUE INDEX IWD_DRILL_DAY_DTL ON
       WD_DRILL_DAY_DTL (WELL_ID,
                         OPER_DATE,
                         DRILL_PRM_CODE);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WD_DRILL_DAY_SUM
Prompt *********

Rem
Rem drop the drilling daily summary table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WD_DRILL_DAY_SUM;

CREATE TABLE WD_DRILL_DAY_SUM (
       WELL_ID          CHAR(10)  NOT NULL,
       OPER_DATE        DATE      NOT NULL,
       REMARKS          CHAR(240)
       );
```

```
CREATE UNIQUE INDEX IWD_DRILL_DAY_SUM ON
       WD_DRILL_DAY_SUM (WELL_ID,
                         OPER_DATE);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: WD_DRILL_DIRECT
Prompt *********

Rem
Rem drop the drilling directionals table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WD_DRILL_DIRECT;

CREATE TABLE WD_DRILL_DIRECT (
       WELL_ID            CHAR(10)         NOT NULL,
       DEPTH              DECIMAL(8,2)     NOT NULL,
       INCLINATION        CHAR(8),
       AZIMUTH            CHAR(5),
       ANGLE              CHAR(10),
       OPER_DEPTH         DECIMAL(8,2)
       );

CREATE UNIQUE INDEX IWD_DRILL_DIRECT ON
       WD_DRILL_DIRECT (WELL_ID,
                        DEPTH);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: WD_DRILL_PROGRAM
Prompt *********

Rem
Rem drop the drilling program data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WD_DRILL_PROGRAM;

CREATE TABLE WD_DRILL_PROGRAM (
       WELL_ID            CHAR(10)         NOT NULL,
       CURRENT_DEPTH      DECIMAL(8,2),
       TARGET_DEPTH       DECIMAL(8,2),
       TARGET_NAME        CHAR(15),
       RIG_DAYS_PLAN      DECIMAL(4,0),
       RIG_ACT_START      DATE,
       COST_PLAN          DECIMAL(11,2),
       COST_ACT           DECIMAL(11,2),
       RIG_NAME           CHAR(16),
       RES_PRESSURE       DECIMAL(6,0),
       CEMENT_GRADE       CHAR(10)
       );

CREATE UNIQUE INDEX I_WD_DRILL_PROGRAM ON
```

```
        WD_DRILL_PROGRAM (WELL_ID);

Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: WD_DRILL_PRM
Prompt *********

Rem
Rem drop the drilling parameters table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WD_DRILL_PRM;

CREATE TABLE WD_DRILL_PRM (
       DRILL_PRM_CODE   CHAR(5)          NOT NULL,
       DRILL_PRM_NAME   CHAR(40),
       DRILL_PRM_UNITS  CHAR(15)
       );

CREATE UNIQUE INDEX IWD_DRILL_PRM ON
       WD_DRILL_PRM (DRILL_PRM_CODE);


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: WD_FIX_DRILL_DTL
Prompt *********

Rem
Rem drop the fixed drilling detail data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WD_FIX_DRILL_DTL;

CREATE TABLE WD_FIX_DRILL_DTL (
       WELL_ID          CHAR(10)         NOT NULL,
       DRILL_PRM_CODE   CHAR(5)          NOT NULL,
       DRILL_PRM_VALUE  CHAR(70)
       );

CREATE UNIQUE INDEX IWD_FIX_DRILL_DTL ON
       WD_FIX_DRILL_DTL (WELL_ID,
                         DRILL_PRM_CODE);


Rem ************************************************************************
Rem *                          PRODUCTION TABLES                           *
Rem ************************************************************************

Prompt *********
Prompt Table Name: WP_WELL_MON_PROD
Prompt *********

Rem
Rem drop the well monthly production data table
```

```
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WP_WELL_MON_PROD;

CREATE TABLE WP_WELL_MON_PROD (
        WELL_ID           CHAR(10)          NOT NULL,
        OPER_MON          DATE              NOT NULL,
        GROSS_BBLS_ACT    DECIMAL(8,0),
        WATER_BBLS_ACT    DECIMAL(8,0),
        OIL_BBLS_ACT      DECIMAL(8,0),
        GAS_MSCF_ACT      DECIMAL(8,0),
        REMARKS           CHAR(240)
        );

CREATE UNIQUE INDEX IWP_WELL_MON_PROD ON
        WP_WELL_MON_PROD (WELL_ID,
                          OPER_MON);
Rem
Rem

Rem ***********************************************************************
Rem *              WELL GEOLOGICAL & GEOPHYSICAL TABLES                   *
Rem ***********************************************************************

Prompt *********
Rem EGPC Production department Well Geological
Rem and Geophysical data table definitions
Prompt *********

Prompt *********
Prompt Table Name: WG_FLUID_PVT_DATA
Prompt *********

Rem
Rem drop the well fluid pvt data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WG_FLUID_PVT_DATA;

CREATE TABLE WG_FLUID_PVT_DATA (
        WELL_ID           CHAR(10)          NOT NULL,
        SAMPLE_DATE       DATE              NOT NULL,
        PVT_PRM_CODE      CHAR(5)           NOT NULL,
        PVT_PRM_VALUE     CHAR(20)
        );

CREATE UNIQUE INDEX IWG_FLUID_PVT_DATA ON
        WG_FLUID_PVT_DATA (WELL_ID,
                           SAMPLE_DATE,
                           PVT_PRM_CODE);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WG_FLUID_PVT_PRM
Prompt *********

Rem
```

```
Rem drop the well fluid pvt parameter data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WG_FLUID_PVT_PRM;

CREATE TABLE WG_FLUID_PVT_PRM (
        PVT_PRM_CODE      CHAR(5)          NOT NULL,
        PVT_PRM_NAME      CHAR(40),
        PVT_PRM_UNITS     CHAR(15)
        );

CREATE UNIQUE INDEX IWG_FLUID_PVT_PRM ON
        WG_FLUID_PVT_PRM (PVT_PRM_CODE);


Rem ******************************************************************************
Rem ******************************************************************************

Prompt *********
Prompt Table Name: WG_WELL_DEVICE
Prompt *********

Rem
Rem drop the well device data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WG_WELL_DEVICE;

CREATE TABLE WG_WELL_DEVICE (
        WELL_ID           CHAR(10)         NOT NULL,
        TOP_DEPTH         DECIMAL(8,2)     NOT NULL,
        DEVICE_CODE       CHAR(5)          NOT NULL,
        BOT_DEPTH         DECIMAL(8,2),
        DEVICE_VALUE      CHAR(15),
        COMMENTS          CHAR(240)
        );

CREATE UNIQUE INDEX IWG_WELL_DEVICE ON
        WG_WELL_DEVICE (WELL_ID,
                        TOP_DEPTH,
                        DEVICE_CODE);


Rem ******************************************************************************
Rem ******************************************************************************

Prompt *********
Prompt Table Name: WG_WELL_DEVIC_PRM
Prompt *********

Rem
Rem drop the well device parameters data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WG_WELL_DEVIC_PRM;

CREATE TABLE WG_WELL_DEVIC_PRM (
        DEVICE_CODE  CHAR(5)  NOT NULL,
```

```
        DEVICE_NAME  CHAR(30)
        );

CREATE UNIQUE INDEX IWG_WELL_DEVIC_PRM ON
        WG_WELL_DEVIC_PRM (DEVICE_CODE);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WG_WELL_MSTR
Prompt *********

Rem
Rem drop the well master data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WG_WELL_MSTR;

CREATE TABLE WG_WELL_MSTR (
        WELL_ID             CHAR(10)    NOT NULL,
        FIELD_NAME          CHAR(18),
        REPR_WELL           CHAR(1),
        WAT_WELL            CHAR(1),
        INJ_WELL            CHAR(1),
        OFFSHORE            CHAR(1),
        ONSHORE             CHAR(1)
        );

CREATE UNIQUE INDEX IWG_WELL_MSTR ON
        WG_WELL_MSTR (WELL_ID);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WG_WORKOVER_HIST
Prompt *********

Rem
Rem drop the well workover history data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WG_WORKOVER_HIST;

CREATE TABLE WG_WORKOVER_HIST (
        WELL_ID             CHAR(10)   NOT NULL,
        WORKOVER_DATE       DATE       NOT NULL,
        REMARKS             CHAR(240)
        );

CREATE UNIQUE INDEX IWG_WORKOVER_HIST ON
        WG_WORKOVER_HIST (WELL_ID,
                          WORKOVER_DATE);

Rem ***********************************************************************
Rem *                    WESTERN ATLAS INDEX TABLES                       *
Rem ***********************************************************************
```

```
Prompt *********
Rem EGPC Production department Western Atlas index data table definitions
Prompt *********
Prompt Table Name: WW_CASING
Prompt *********

Rem
Rem drop the well casing index data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WW_CASING;

CREATE TABLE WW_CASING (
       WELL_ID          CHAR(10)        NOT NULL,
       CA_SIZE          CHAR(10)        NOT NULL,
       CA_DEPTH         DECIMAL(8,2)    NOT NULL
       );

CREATE UNIQUE INDEX IWW_CASING ON
       WW_CASING (WELL_ID,
                  CA_SIZE,
                  CA_DEPTH);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WW_DEVIATION
Prompt *********

Rem
Rem drop the well deviation index data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WW_DEVIATION;

CREATE TABLE WW_DEVIATION (
       WELL_ID          CHAR(10)        NOT NULL,
       DV_DEPTH         DECIMAL(8,2)    NOT NULL,
       DV_AZIMUTH       CHAR(5),
       DV_ANGLE         CHAR(10)
       );

CREATE UNIQUE INDEX IWW_DEVIATION ON
       WW_DEVIATION (WELL_ID,
                     DV_DEPTH);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WW_GENERAL_WELL
Prompt *********

Rem
Rem drop the well general index data table
Rem create the table, defining the columns
```

```
Rem create an index for the table
Rem

DROP TABLE WW_GENERAL_WELL;

CREATE TABLE WW_GENERAL_WELL (
        WELL_ID            CHAR(10)    NOT NULL,
        AREA               CHAR(44)    NOT NULL,
        AREA_ABR           CHAR(17),
        COMPANY_NAME       CHAR(46),
        COMPANY_NAME_ABR   CHAR(11),
        WELL_STATUS        CHAR(41),
        WELL_STATUS_ABR    CHAR(13),
        GW_EXP_WELL        CHAR(1),
        GW_PLT_WELL        CHAR(1),
        GW_DEV_WELL        CHAR(1),
        GW_SIDE_TRK        CHAR(1),
        GW_WELL_NAME       CHAR(21),
        GW_WELL_ABR        CHAR(11),
        GW_OLD_WELL_NAME   CHAR(21),
        GW_DEVIATED        CHAR(2),
        GW_DIG_LOG_ID      CHAR(11),
        GW_ELEVATION       DECIMAL(8,2),
        GW_WATER_DEPTH     DECIMAL(8,2),
        GW_ROTARY_TABLE    DECIMAL(8,2),
        GW_FTD             DECIMAL(8,2),
        GW_SPUD_DATE       DATE,
        GW_DRILLING_DATE   DATE,
        GW_DEPTH_UNIT      CHAR(2),
        GW_S_LATITUDE      DECIMAL(8,2),
        GW_S_LONGITUDE     DECIMAL(8,2),
        GW_B_LATITUDE      DECIMAL(8,2),
        GW_B_LONGITUDE     DECIMAL(8,2),
        GW_S_X_COOR        CHAR(11),
        GW_S_Y_COOR        CHAR(11),
        GW_B_X_COOR        CHAR(11),
        GW_B_Y_COOR        CHAR(11)
        );

CREATE UNIQUE INDEX IWW_GENERAL_WELL ON
        WW_GENERAL_WELL (WELL_ID,AREA);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WW_LOG_RECORD
Prompt *********

Rem
Rem drop the well log records index data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WW_LOG_RECORD;

CREATE TABLE WW_LOG_RECORD (
        WELL_ID                CHAR(10)        NOT NULL,
        LOG_NAME               CHAR(51)        NOT NULL,
        LOG_NAME_ABR           CHAR(17),
        MEDIA_TYPE             CHAR(15),
        MEDIA_COND             CHAR(5),
```

```
        MUD_TYPE                    CHAR(19),
        LOG_COMPANY                 CHAR(15),
        LG_DATE                     DATE,
        LG_MUD_WEIGHT               CHAR(10),
        LG_MUD_VISCOSITY            DECIMAL(6,0),
        LG_MUD_SALINITY             DECIMAL(8,2),
        LG_B_HOLE_TEMP              DECIMAL(8,0),
        LG_R_MUD_FILTRATE           CHAR(10),
        LG_RMF_TEMP                 DECIMAL(6,0),
        LG_TEMPERATURE_U            CHAR(2),
        LG_ROOM                     CHAR(5),
        LG_ROW                      CHAR(5),
        LG_COL                      CHAR(5),
        CR_TOP_DEPTH                DECIMAL(8,2),
        CR_BOT_DEPTH                DECIMAL(8,2),
        CR_DEPTH_UNITS              CHAR(2),
        CR_SCALE                    CHAR(6)
        );

CREATE UNIQUE INDEX IWW_LOG_RECORD ON
       WW_LOG_RECORD (WELL_ID,
                      LOG_NAME);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WW_ROCK_SAMPLE
Prompt *********

Rem
Rem drop the well rock sample index data table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WW_ROCK_SAMPLE;

CREATE TABLE WW_ROCK_SAMPLE (
       WELL_ID                  CHAR(10)        NOT NULL,
       RS_CORE_NUMBER           DECIMAL(6,0)    NOT NULL,
       SAMPLE_TYPE              CHAR(19),
       RS_PERCENT_RECOV         DECIMAL(5,2),
       RS_DEPTH_UNITS           CHAR(2),
       RS_ROOM                  CHAR(5),
       RS_ROW                   CHAR(5),
       RS_COLUMN                CHAR(5),
       RS_BOX_NUMBER            CHAR(6),
       SA_TOP_DEPTH             DECIMAL(8,2),
       SA_BOT_DEPTH             DECIMAL(8,2),
       SA_NUMBER_OF_SACKS       CHAR(5)
       );

CREATE UNIQUE INDEX IWW_ROCK_SAMPLE ON
       WW_ROCK_SAMPLE (WELL_ID,
                       RS_CORE_NUMBER);


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Table Name: WW_SIDEWALL
```

```
Prompt *********

Rem
Rem drop the well sidewall data index table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WW_SIDEWALL;

CREATE TABLE WW_SIDEWALL (
       WELL_ID           CHAR(10)        NOT NULL,
       SW_DEPTH          DECIMAL(8,2)    NOT NULL,
       SIDEWALL_TYPE     CHAR(14),
       SW_CORE_NUMBER    DECIMAL(6,0)
       );

CREATE UNIQUE INDEX IWW_SIDEWALL ON
       WW_SIDEWALL (WELL_ID,
                    SW_DEPTH);


Rem ****************************************************************************
Rem ****************************************************************************

Prompt *********
Prompt Table Name: WW_STRAT_TOPS
Prompt *********

Rem
Rem drop the well stratigraphic tops data index table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE WW_STRAT_TOPS;

CREATE TABLE WW_STRAT_TOPS (
       WELL_ID           CHAR(10)        NOT NULL,
       FORMATION         CHAR(31)        NOT NULL,
       FORMATION_ABR     CHAR(15),
       GEOLOGICAL_AGE    CHAR(31),
       ALIAS             CHAR(21),
       SHOW              CHAR(17),
       ST_TOP_DEPTH      DECIMAL(8,2),
       ST_BOT_DEPTH      DECIMAL(8,2)
       );

CREATE UNIQUE INDEX IWW_STRAT_TOPS ON
       WW_STRAT_TOPS (WELL_ID,
                      FORMATION);


Rem ****************************************************************************
Rem ****************************************************************************

Prompt *********
Prompt Table Name: WW_TEST_DATA
Prompt *********

Rem
Rem drop the well test data index table
Rem create the table, defining the columns
Rem create an index for the table
```

```
Rem

DROP TABLE WW_TEST_DATA;

CREATE TABLE WW_TEST_DATA (
        TEST_TYPE                   CHAR(28)          NOT NULL,
        TS_TEST_NUMBER              DECIMAL(5,0)      NOT NULL,
        WELL_ID                     CHAR(10)          NOT NULL,
        PROD_RATE_UNIT              CHAR(35),
        PROD_RATE_UNIT_ABR          CHAR(8),
        TEST_TYPE_ABR               CHAR(9),
        TS_TOP_DEPTH                DECIMAL(8,2),
        TS_BOT_DEPTH                DECIMAL(8,2),
        TS_DEPTH_UNIT               CHAR(2),
        TS_CHOKE                    CHAR(10),
        TS_RATE                     DECIMAL(8,2),
        TS_PRESS_UNITS              CHAR(5),
        TS_GOR                      DECIMAL(8,2),
        TS_API                      CHAR(10),
        TS_TEMPERATURE              CHAR(10),
        TS_TEMPERATURE_U            CHAR(2),
        TS_BHSIP                    DECIMAL(6,0),
        TS_BS_AND_W                 DECIMAL(6,0),
        TS_DATE                     DATE
        );

CREATE UNIQUE INDEX IWW_TEST_DATA ON
       WW_TEST_DATA (TEST_TYPE,
                     TS_TEST_NUMBER,
                     WELL_ID);
```

```
Rem File Name: W_COMNT.SQL
Rem
Rem PURPOSE
Rem To add EGPC Well data table comments
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem R. Currey       06 May 90   Create comments for Version 1.02
Rem D. Bispo        16 Jun 90   Update comments for Version 1.03
Rem

Rem ***********************************************************************
Rem *                WELL DRILLING DATA TABLES COMMENTS
Rem ***********************************************************************

Prompt *********
Prompt ADD COMMENTS TO THE DRILLING AND PRODUCTION TABLES
Prompt *********


Prompt **********
Prompt Add comments to table: WD_DRILL_PROGRAM
Prompt **********

Rem
Rem Add comment to WD_DRILL_PROGRAM table
Rem

COMMENT ON TABLE WD_DRILL_PROGRAM
IS 'This table maintains information regarding the planned and actual
progress of drilling a well.  It is based on drilling milestone
events.  A daily summary of drilling progress is maintained in the
WD_DRILL_DAY_SUM table.';


Rem ***********************************************************************
Rem ***********************************************************************

Prompt **********
Prompt Add comments to table: WD_DRILL_DAY_SUM
Prompt **********

Rem
Rem Add comment to WD_DRILL_DAY_SUM table
Rem

COMMENT ON TABLE WD_DRILL_DAY_SUM
IS 'This table allows free format entry of information summarizing the
daily drilling progress.';


Rem ***********************************************************************
Rem ***********************************************************************

Prompt **********
Prompt Add comments to table: WD_DRILL_DIRECT
Prompt **********

Rem
Rem Add comment to WD_DRILL_DIRECT table
Rem

COMMENT ON TABLE WD_DRILL_DIRECT
IS 'This table maintains drilling directional data based on the depth
```

```
of the well when measured.';

Rem ************************************************************************
Rem ************************************************************************

Prompt **********
Prompt Add comments to table: WD_DRILL_PRM
Prompt **********

Rem
Rem Add comment to WD_DRILL_PRM table
Rem

COMMENT ON TABLE WD_DRILL_PRM
IS 'This table cross references the drilling parameter code with
the parameter name and, if numeric, stores the units of the
parameter value.';


Rem ************************************************************************
Rem ************************************************************************

Prompt **********
Prompt Add comments to table: WD_FIX_DRILL_DTL
Prompt **********

Rem
Rem Add comment to WD_FIX_DRILL_DTL table
Rem

COMMENT ON TABLE WD_FIX_DRILL_DTL
IS 'Maintains information about drilling that is not daily or
date dependent.  These drilling parameters are assigned values
for a particular well';


Rem ************************************************************************
Rem ************************************************************************

Prompt **********
Prompt Add comments to table: WD_DRILL_DAY_DTL
Prompt **********

Rem
Rem Add comment to WD_DRILL_DAY_DTL table
Rem

COMMENT ON TABLE WD_DRILL_DAY_DTL
IS 'This table maintains daily values relevant to a well for drilling
parameters identified in the WD_DRILL_PRM table.';



Rem
Rem
Rem ************************************************************************
Rem *          WELL GEOLOGICAL/GEOPHYSICAL DATA TABLES COMMENTS           *
Rem ************************************************************************

Prompt *********
Rem PURPOSE
Rem Add comments to the EGPC Well geological/geophysical data tables.
```

```
Prompt *********


Prompt *********
Prompt Table Name: WG_WELL_MSTR
Prompt *********

Rem
Rem Add comment to WG_WELL_MSTR table
Rem

COMMENT ON TABLE WG_WELL_MSTR
IS 'This table maintains data relevant to all wells.  There are only two
fields at this time because Western Atlas table WG_GENERAL_WELL is also
a master, and has the fields defined.  Two may be merged sometime.';


Rem ***************************************************************************
Rem ***************************************************************************

Prompt *********
Prompt Table Name: WG_WELL_DEVIC_PRM
Prompt *********

Rem
Rem Add comment to WG_WELL_DEVIC_PRM table
Rem

COMMENT ON TABLE WG_WELL_DEVIC_PRM
IS 'This is a cross reference table that matches a code for a well
bore device to a name for that device.  Programs will use the code,
while reports and forms will display the name.';


Rem ***************************************************************************
Rem ***************************************************************************

Prompt *********
Prompt Table Name: WG_WELL_DEVICE
Prompt *********

Rem
Rem Add comment to WG_WELL_DEVICE table
Rem

COMMENT ON TABLE WG_WELL_DEVICE
IS 'This table maintains an inventory of permanent in-hole devices
according to the Well ID and top depth of their position in the
well.';


Rem ***************************************************************************
Rem ***************************************************************************

Prompt *********
Prompt Table Name: WG_WORKOVER_HIST
Prompt *********

Rem
Rem Add comment to WG_WORKOVER_HIST table
Rem

COMMENT ON TABLE WG_WORKOVER_HIST
IS 'This table maintains a free format entry for information about
```

```
the workover done on a given day to a well.';

Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: WG_FLUID_PVT_PRM
Prompt *********

Rem
Rem Add comment to WG_FLUID_PVT_PRM table
Rem

COMMENT ON TABLE WG_FLUID_PVT_PRM
IS 'This is a general table which stores fluid PVT test
characteristics, the name or value of that characteristic, and the
units, if applicable, in which the characteristic is measured.';

Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Table Name: WG_FLUID_PVT_DATA
Prompt *********

Rem
Rem Add comment to WG_FLUID_PVT_DATA table
Rem

COMMENT ON TABLE WG_FLUID_PVT_DATA
IS 'This table maintains fluid PVT test data for all wells.  Each record
consists of a well id, test date, test parameter, and parameter value.
parameters must exist in the WG_FLUID_PVT_PRM table first.';

Rem ************************************************************************
Rem *                WELL PRODUCTION DATA TABLES COMMENTS                  *
Rem ************************************************************************

Prompt **********
Prompt Add comments to table: WP_WELL_MON_PROD
Prompt **********

Rem
Rem Add comment to WP_WELL_MON_PROD table
Rem

COMMENT ON TABLE WP_WELL_MON_PROD
IS 'This table maintains actual production values for a well for a month.';


Rem
Rem ************************************************************************
Rem *              WELL WESTERN ATLAS DATA TABLES COMMENTS                 *
Rem ************************************************************************

Prompt *********
Rem PURPOSE
Rem To add EGPC Well Western Atlas data table comments
Prompt *********
```

```
Prompt *********
Prompt Add comment to table: WW_GENERAL_WELL
Prompt *********

Rem
Rem Add comment to WW_GENERAL_WELL table
Rem

COMMENT ON TABLE WW_GENERAL_WELL
IS 'It was recommended to add the field APPRAISAL_WELL.  This was not
added in order to remain compatible with Western Atlas.  Table contains
data common to all wells, and is linked to all other tables in well DB.';


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Add comment to table: WW_LOG_RECORD
Prompt *********

Rem
Rem Add comment to WW_LOG_RECORD table
Rem

COMMENT ON TABLE WW_LOG_RECORD
IS 'It was recommended to add the following columns: RUN_NO,
CIRCULATION_TIME, TIME_SINCE_CIRCULATION_STOPPED.  These columns
were not added in order to remain compatible with SSI.';


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Add comment to table: WW_CASING
Prompt *********

Rem
Rem Add comment to WW_CASING table
Rem

COMMENT ON TABLE WW_CASING
IS 'This table maintains the casing size and depth for each well, and
represents an existing Western Atlas data set.';


Rem ***********************************************************************
Rem ***********************************************************************

Prompt *********
Prompt Add comment to table: WW_DEVIATION
Prompt *********

Rem
Rem Add comment to WW_DEVIATION table
Rem

COMMENT ON TABLE WW_DEVIATION
IS 'This table maintains data on the deviation from vertical for each
well during drilling.';
```

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Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Add comment to table: WW_ROCK_SAMPLE
Prompt *********

Rem
Rem Add comment to WW_ROCK_SAMPLE table
Rem

COMMENT ON TABLE WW_ROCK_SAMPLE
IS 'This table maintains data about rock samples taken from each well.
It is an index to the location of the samples and the actual data.';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Add comment to table: WW_SIDEWALL
Prompt *********

Rem
Rem Add comment to WW_SIDEWALL table
Rem

COMMENT ON TABLE WW_SIDEWALL
IS 'This table maintains data about  the sidewall structure for each well.
It is keyed by well id and depth of the sidewall.';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Add comment to table: WW_STRAT_TOPS
Prompt *********

Rem
Rem Add comment to WW_STRAT_TOPS table
Rem

COMMENT ON TABLE WW_STRAT_TOPS
IS 'This table maintains data on the depth at which each formation is
encountered while drilling a well, and the geological age of the
formation.';


Rem ************************************************************************
Rem ************************************************************************

Prompt *********
Prompt Add comment to table: WW_TEST_DATA
Prompt *********

Rem
Rem Add comment to WW_TEST_DATA table
Rem

COMMENT ON TABLE WW_TEST_DATA
IS 'This table maintains well test data identified by test number for
each well.  This is a Western Atlas data set.';
```

```
Rem File Name: DROP_W.SQL
Rem
Rem PURPOSE

Rem To drop all the Well data tables from the data bas
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem R. Currey       26 May 90   Create for Version 1.02
Rem D. Bsipo        16 Jun 90   Create for Versicn 1.03
Rem
Rem
Rem ***********************************************************************
Rem *                WELL DRILLING DATA TABLES COMMENTS                   *
Rem ***********************************************************************

Prompt *********
Prompt Drops the Well Drilling and Production tables from the database
Prompt *********

Prompt *********
Prompt Table Name: WD_DRILL_PROGRAM
Prompt *********

DROP TABLE WD_DRILL_PROGRAM;

Prompt *********
Prompt Table Name: WD_DRILL_DAY_SUM
Prompt *********

DROP TABLE WD_DRILL_DAY_SUM;

Prompt *********
Prompt Table Name: WD_DRILL_DIRECT
Prompt *********

DROP TABLE WD_DRILL_DIRECT;

Prompt *********
Prompt Table Name: WD_DRILL_PRM
Prompt *********

DROP TABLE WD_DRILL_PRM;

Prompt *********
Prompt Table Name: WD_FIX_DRILL_DTL
Prompt *********

DROP TABLE WD_FIX_DRILL_DTL;

Prompt *********
Prompt Table Name: WD_DRILL_DAY_DTL
Prompt *********

DROP TABLE WD_DRILL_DAY_DTL;

Rem
Rem
Rem ***********************************************************************
Rem *              WELL GEOLOGICAL/GEOPHYSICAL DATA TABLES                *
Rem ***********************************************************************

Prompt *********
```

```
Prompt Table Name:Drops the Well Geological/Geophysical tables from the
database
Prompt *********

Prompt *********
Prompt Table Name: WG_WELL_MSTR
Prompt *********

DROP TABLE WG_WELL_MSTR;

Prompt *********
Prompt Table Name: WG_WELL_DEVICE_PRM
Prompt *********

DROP TABLE WG_WELL_DEVIC_PRM;

Prompt *********
Prompt Table Name: WG_WELL_DEVICE
Prompt *********

DROP TABLE WG_WELL_DEVICE;

Prompt *********
Prompt Table Name: WG_WORKOVER_HIST
Prompt *********

DROP TABLE WG_WORKOVER_HIST;

Prompt *********
Prompt Table Name: WG_FLUID_PVT_PRM
Prompt *********

DROP TABLE WG_FLUID_PVT_PRM;

Prompt *********
Prompt Table Name: WG_FLUID_PVT_DATA
Prompt *********

DROP TABLE WG_FLUID_PVT_DATA;

Rem ************************************************************************
Rem *              WELL PRODUCTION DATA TABLES COMMENTS                    *
Rem ************************************************************************

Prompt *********
Prompt Table Name: WP_WELL_MON_PROD
Prompt *********

DROP TABLE WP_WELL_MON_PROD;


Rem
Rem
Rem ************************************************************************
Rem *                    WELL WESTERN ATLAS DATA TABLES                    *
Rem ************************************************************************

Prompt *********
Prompt Table Name: Drops the Well Western Atlas tables from the database
Prompt *********

Prompt *********
Prompt Table Name: WW_GENERAL_WELL
```

```
Prompt *********

DROP TABLE WW_GENERAL_WELL;

Prompt *********
Prompt Table Name: WW_LOG_RECORD
Prompt *********

DROP TABLE WW_LOG_RECORD;

Prompt *********
Prompt Table Name: WW_CASING
Prompt *********

DROP TABLE WW_CASING;

Prompt *********
Prompt Table Name: WW_DEVIATION
Prompt *********

DROP TABLE WW_DEVIATION;

Prompt *********
Prompt Table Name: WW_ROCK_SAMPLE
Prompt *********

DROP TABLE WW_ROCK_SAMPLE;

Prompt *********
Prompt Table Name: WW_SIDEWALL
Prompt *********

DROP TABLE WW_SIDEWALL;

Prompt *********
Prompt Table Name: WW_STRAT_TOPS
Prompt *********

DROP TABLE WW_STRAT_TOPS;

Prompt *********
Prompt Table Name: WW_TEST_DATA
Prompt *********

DROP TABLE WW_TEST_DATA;@
```

```
Rem File Name: MNUBLD.SQL
Rem
Rem PURPOSE
Rem This file issues START commands to create the menu data base tables
Rem and load the tables with the menu structure and authorized users. To
Rem initiate this command file type: START MNUBLD.SQL from SQL*PLUS.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem R. Currey       26 May 90    Create file for version 1.02
Rem D. Bispo        28 Jun 90    Revise file for version 1.03
Rem
Rem ***********************************************************************
Rem *                  CREATE THE MENU DATA TABLES                        *
Rem ***********************************************************************

Prompt *********
Prompt Start file: M_V103.SQL
Prompt *********

START M_V103.SQL

Prompt *********
Prompt Start file: RM_INSRT SQL
Prompt *********

START RM_INSRT.SQL

Prompt *********
Prompt Start file: EM_INSRT.SQL
Prompt *********

START EM_INSRT.SQL

Prompt *********
Prompt Start file: OM_INSRT.SQL
Prompt *********

START OM_INSRT.SQL

Prompt *********
Prompt Start file: PM_INSRT.SQL
Prompt *********

START PM_INSRT.SQL
```

```
Rem File Name: M_V103.SQL
Rem
Rem PURPOSE
Rem EGPC Menu data table definitions.  This command file is executed from
Rem the START file MNUBLD.SQL.  'INSERT INTO' statements for authorized
Rem users are included after the MENU_AUTH CREATE statement.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem R. Currey       26 May 90    Create file for version 1.02
Rem D. Bispo        28 Jun 90    Revise file for version 1.03
Rem
Rem ***********************************************************************
Rem *                        MENU DATA TABLES                             *
Rem ***********************************************************************

Prompt *********
Prompt Table Name: MENU_DETAIL
Prompt *********

Rem
Rem drop the menu_detail table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE MENU_DETAIL;

CREATE TABLE MENU_DETAIL (
       MENU_NAME            CHAR(10),
       OPTION_NO            CHAR(2),
       OPTION_NAME          CHAR(10),
       OPTION_TITLE         CHAR(40),
       COMMAND_TYPE         CHAR(1),
       COMMAND_LINE         CHAR(15)
       );


Rem ***********************************************************************
Rem ***********************************************************************


Prompt *********
Prompt Table Name: MENU_AUTH
Prompt *********

Rem
Rem drop the menu_auth table
Rem create the table, defining the columns
Rem create an index for the table
Rem

DROP TABLE MENU_AUTH;

CREATE TABLE MENU_AUTH (
       USER_NAME            CHAR(10),
       AUTH                 CHAR(5)
       );

Prompt *********
Prompt ADD KNOWN USER RECORDS AND THEIR AUTHORIZATIONS
Prompt *********

INSERT INTO MENU_AUTH VALUES
```

```
('EGPC', 'M');

INSERT INTO MENU_AUTH VALUES
('EGPC', 'E');

INSERT INTO MENU_AUTH VALUES
('EGPC', 'P');

INSERT INTO MENU_AUTH VALUES
('EGPC', 'O');

INSERT INTO MENU_AUTH VALUES
('EGPC', 'R');

Rem ***********************************************************************
Rem *                              MENU VIEW                              *
Rem ***********************************************************************

Prompt *********
Prompt View Name: MENU_DETAIL_V1
Prompt *********

Rem
Rem drop the menu_detail view
Rem create the view, defining the columns
Rem

DROP VIEW MENU_DETAIL_V1;

CREATE VIEW MENU_DETAIL_V1 (
       MENU_NAME,
       OPTION_NO,
       OPTION_NAME,
       OPTION_TITLE,
       COMMAND_TYPE,
       COMMAND_LINE,
       USER_NAME,
       AUTH
       )
AS SELECT
       MENU_NAME,
       OPTION_NO,
       OPTION_NAME,
       OPTION_TITLE,
       COMMAND_TYPE,
       COMMAND_LINE,
       USER_NAME,
       AUTH
FROM
       MENU_DETAIL, MENU_AUTH
WHERE
       MENU_AUTH.USER_NAME = USER
/
```

```
Rem File Name: EM_INSRT.SQL
Rem
Rem PURPOSE
Rem Provides the 'INSERT INTO' statements to load the EGPC Menu data
Rem tables with the Exploration menus.  This file is executed by issuing
Rem a START command from SQL*PLUS using the file MNUBLD.SQL.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem R. Currey       26 May 90    Creation of file for Version 1.02
Rem D. Bispo        28 Jun 90    Revision of file for Version 1.03
Rem
Rem ***********************************************************************
Rem *                      EXPLORATION MENU DATA                          *
Rem ***********************************************************************


Prompt *********
Prompt Insert into the MENU_DETAIL table the EXPLORATION menu values
Prompt *********


INSERT INTO MENU_DETAIL VALUES
('E', '1', 'ER', 'EXPLORATION REGION SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ER', '1', 'ERD', 'REGION DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ERD', '1', 'ERDQ', 'REGION DATABASE QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ERDQ', '1', 'ERDQF', 'UPDATE FAULT BLOCK DATA', 'F', 'ERDQF');

INSERT INTO MENU_DETAIL VALUES
('ERDQ', '2', 'ERDQS', 'UPDATE GRID SIMULATION DATA', 'F', 'ERDQS');

INSERT INTO MENU_DETAIL VALUES
('ERDQ', '3', 'ERDQP', 'UPDATE GRID SIMULATION PARAMS', 'F', 'ERDQP');

INSERT INTO MENU_DETAIL VALUES
('ERDQ', '4', 'ERDQR', 'UPDATE RESERVOIR DATA', 'F', 'ERDQR');

INSERT INTO MENU_DETAIL VALUES
('ERD', '2', 'ERDU', 'REGION DATABASE UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ERDU', '1', 'ERDUF', 'UPLOAD FAULT BLOCK DATA', 'F', 'ERDUF');

INSERT INTO MENU_DETAIL VALUES
('ERDU', '2', 'ERDUS', 'UPLOAD GRID SIMULATION DATA', 'F', 'ERDUS');

INSERT INTO MENU_DETAIL VALUES
('ERDU', '3', 'ERDUP', 'UPLOAD GRID SIMULATION PARAMS', 'F', 'ERDUP');

INSERT INTO MENU_DETAIL VALUES
('ERDU', '4', 'ERDUR', 'UPLOAD RESERVOIR DATA', 'F', 'ERDUR');

INSERT INTO MENU_DETAIL VALUES
('ERD', '3', 'ERDD', 'REGION DATABASE DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ERDD', '1', 'ERDDF', 'DOWNLOAD FAULT BLOCK DATA', 'F', 'ERDDF');
```

```
INSERT INTO MENU_DETAIL VALUES
('ERDD', '2', 'ERDDS', 'DOWNLOAD GRID SIMULATION DATA', 'F', 'ERDDS');

INSERT INTO MENU_DETAIL VALUES
('ERDD', '3', 'ERDDP', 'DOWNLOAD GRID SIMULATION PARAMS', 'F', 'ERDDP');

INSERT INTO MENU_DETAIL VALUES
('ERDD', '4', 'ERDDR', 'DOWNLOAD RESERVOIR DATA', 'F', 'ERDDR');

INSERT INTO MENU_DETAIL VALUES
('ERD', '4', 'ERDR', 'REGION DATABASE REPORTS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('E', '2', 'ES', 'SSI INDICES SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ES', '1', 'ESD', 'SSI INDICES DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ESD', '1', 'ESDQ', 'SSI INDICES QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '1', 'ESDQA', 'UPDATE SSI AIRMAG DATA', 'F', 'ESDQA');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '2', 'ESDQG', 'UPDATE SSI GRAVITY DATA', 'F', 'ESDQG');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '3', 'ESDQL', 'UPDATE SSI LAB ANALYSIS DATA', 'F', 'ESDQL');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '4', 'ESDQM', 'UPDATE SSI MAP DATA', 'F', 'ESDQM');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '5', 'ESDQR', 'UPDATE SSI REPORTS DATA', 'F', 'ESDQR');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '6', 'ESDQS', 'UPDATE SSI SEISMIC DATA', 'F', 'ESDQS');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '7', 'ESDQ3', 'UPDATE SSI SEISMIC 3D DATA', 'F', 'ESDQ3');

INSERT INTO MENU_DETAIL VALUES
('ESDQ', '8', 'ESDQX', 'UPDATE SSI XSECTION DATA', 'F', 'ESDQX');

INSERT INTO MENU_DETAIL VALUES
('ESD', '2', 'ESDU', 'SSI INDICES DATA UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ESDU', '1', 'ESDUA', 'UPLOAD SSI AIRMAG DATA', 'F', 'ESDUA');

INSERT INTO MENU_DETAIL VALUES
('ESDU', '2', 'ESDUG', 'UPLOAD SSI GRAVITY DATA', 'F', 'ESDUG');

INSERT INTO MENU_DETAIL VALUES
('ESDU', '3', 'ESDUL', 'UPLOAD SSI LAB ANALYSIS DATA', 'F', 'ESDUL');

INSERT INTO MENU_DETAIL VALUES
('ESDU', '4', 'ESDUM', 'UPLOAD SSI MAP DATA', 'F', 'ESDUM');

INSERT INTO MENU_DETAIL VALUES
('ESDU', '5', 'ESDUR', 'UPLOAD SSI REPORTS DATA', 'F', 'ESDUR');

INSERT INTO MENU_DETAIL VALUES
```

```
('ESDU', '6', 'ESDUS', 'UPLOAD SSI SEISMIC DATA', 'F', 'ESDUS');

INSERT INTO MENU_DETAIL VALUES
('ESDU', '7', 'ESDU3', 'UPLOAD SSI SEISMIC 3D DATA', 'F', 'ESDU3');

INSERT INTO MENU_DETAIL VALUES
('ESDU', '8', 'ESDUX', 'UPLOAD SSI XSECTION DATA', 'F', 'ESDUX');

INSERT INTO MENU_DETAIL VALUES
('ESD', '3', 'ESDD', 'SSI INDICES DATA DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ESDD', '1', 'ESDDA', 'DOWNLOAD SSI AIRMAG DATA', 'F', 'ESDDA');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '2', 'ESDDG', 'DOWNLOAD SSI GRAVITY DATA', 'F', 'ESDDG');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '3', 'ESDDL', 'DOWNLOAD SSI LAB ANALYSIS DATA', 'F', 'ESDDL');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '4', 'ESDDM', 'DOWNLOAD SSI MAP DATA', 'F', 'ESDDM');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '5', 'ESDDR', 'DOWNLOAD SSI REPORTS DATA', 'F', 'ESDDR');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '6', 'ESDDS', 'DOWNLOAD SSI SEISMIC DATA', 'F', 'ESDDS');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '7', 'ESDD3', 'DOWNLOAD SSI SEISMIC 3D DATA', 'F', 'ESDD3');

INSERT INTO MENU_DETAIL VALUES
('ESDD', '8', 'ESDDX', 'DOWNLOAD SSI XSECTION DATA', 'F', 'ESDDX');

INSERT INTO MENU_DETAIL VALUES
('ESD', '4', 'ESDR', 'SSI INDICES DATA REPORTS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ESDR', '1', 'ESDRR', 'REPORTS INDEX SUMMARY', 'R', 'ESDRR');

INSERT INTO MENU_DETAIL VALUES
('E', '3', 'EW', 'WESTERN ATLAS INDICES SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('EW', '1', 'EWD', 'WESTERN ATLAS INDEX DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('EWD', '1', 'EWDQ', 'WESTERN ATLAS INDEX QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('EWDQ', '1', 'EWDQG', 'UPDATE MAGNETIC TAPE INDEX DATA', 'F', 'EWDQG');

INSERT INTO MENU_DETAIL VALUES
('EWDQ', '2', 'EWDQM', 'UPDATE MAP INDEX DATA', 'F', 'EWDQM');

INSERT INTO MENU_DETAIL VALUES
('EWDQ', '3', 'EWDQL', 'UPDATE SEISMIC LINE INDEX DATA', 'F', 'EWDQL');

INSERT INTO MENU_DETAIL VALUES
('EWDQ', '4', 'EWDQS', 'UPDATE SEISMIC SECTION INDEX DATA', 'F', 'EWDQS');

INSERT INTO MENU_DETAIL VALUES
('EWDQ', '5', 'EWDQV', 'UPDATE SEISMIC SURVEY DATA', 'F', 'EWDQV');
```

```
INSERT INTO MENU_DETAIL VALUES
('EWD', '2', 'EWDU', 'WESTERN ATLAS INDEX UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('EWDU', '1', 'EWDUG', 'UPLOAD MAGNETIC TAPE INDEX DATA', 'F', 'EWDUG');

INSERT INTO MENU_DETAIL VALUES
('EWDU', '2', 'EWDUM', 'UPLOAD MAP INDEX DATA', 'F', 'EWDUM');

INSERT INTO MENU_DETAIL VALUES
('EWDU', '3', 'EWDUL', 'UPLOAD SEISMIC LINE INDEX DATA', 'F', 'EWDUL');

INSERT INTO MENU_DETAIL VALUES
('EWDU', '4', 'EWDUS', 'UPLOAD SEISMIC SECTION INDEX DATA', 'F', 'EWDUS');

INSERT INTO MENU_DETAIL VALUES
('EWDU', '5', 'EWDUV', 'UPLOAD SEISMIC SURVEY DATA', 'F', 'EWDUV');

INSERT INTO MENU_DETAIL VALUES
('EWD', '3', 'EWDD', 'WESTERN ATLAS INDEX DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('EWDD', '1', 'EWDDG', 'DOWNLOAD MAGNETIC TAPE INDEX DATA', 'F', 'EWDDG');

INSERT INTO MENU_DETAIL VALUES
('EWDD', '2', 'EWDDM', 'DOWNLOAD MAP INDEX DATA', 'F', 'EWDDM');

INSERT INTO MENU_DETAIL VALUES
('EWDD', '3', 'EWDDL', 'DOWNLOAD SEISMIC LINE INDEX DATA', 'F', 'EWDDL');

INSERT INTO MENU_DETAIL VALUES
('EWDD', '4', 'EWDDS', 'DOWNLOAD SEISMIC SECTION INDEX DATA', 'F', 'EWDDS');

INSERT INTO MENU_DETAIL VALUES
('EWDD', '5', 'EWDDV', 'DOWNLOAD SEISMIC SURVEY DATA', 'F', 'EWDDV');

INSERT INTO MENU_DETAIL VALUES
('EWD', '4', 'EWDR', 'WESTERN ATLAS INDEX REPORTS', 'M', NULL);
```

```
Rem File Name: OM_INSRT.SQL
Rem
Rem PURPOSE
Rem Provides the 'INSERT INTO' statements to load the EGPC Menu data
Rem tables with the operations menus.  This file is executed by issuing
Rem a START command from SQL*PLUS using the file MNUBLD.SQL.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem R. Currey       26 May 90   Creation of file for Version 1.02
Rem D. Bispo        28 Jun 90   Revise file for version 1.03
Rem
Rem ***********************************************************************
Rem *                    OPERATIONS MENU DATA TABLES                      *
Rem ***********************************************************************


Prompt *********
Prompt Insert the OPERATIONS menu values into the MENU_DETAIL table
Prompt *********

INSERT INTO MENU_DETAIL VALUES
('O', '1', 'OS', 'SUPPLY AND MARITIME SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OS', '1', 'OSD', 'SUPPLY AND MARITIME DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OSD', '1', 'OSDQ', 'IMPORT/EXPORT PLAN DATA', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OSDQ', '1', 'OSDQP', 'QUERY IMPORT/EXPORT PLANS', 'F', 'OSDQP');

INSERT INTO MENU_DETAIL VALUES
('OSDQ', '2', 'OSDQC', 'QUERY IMPORT/EXPORT CONTRACTS', 'F', 'OSDQC');

INSERT INTO MENU_DETAIL VALUES
('OSDQ', '3', 'OSDQS', 'QUERY IMPORT/EXPORT SHIPMENTS', 'F', 'OSDQS');

INSERT INTO MENU_DETAIL VALUES
('OSDQ', '4', 'OSDQM', 'QUERY MARITIME TANKER STATUS', 'F', 'OSDQM');

INSERT INTO MENU_DETAIL VALUES
('OSDQ', '5', 'OSDQT', 'QUERY TERMINAL STATUS', 'F', 'OSDQT');


INSERT INTO MENU_DETAIL VALUES
('OSD', '2', 'OSDU', 'IMPORT/EXPORT CONTRACTS DATA', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OSDU', '1', 'OSDUP', 'UPLOAD IMPORT/EXPORT PLANS', 'F', 'OSDUP');

INSERT INTO MENU_DETAIL VALUES
('OSDU', '2', 'OSDUC', 'UPLOAD IMPORT/EXPORT CONTRACTS', 'F', 'OSDUC');

INSERT INTO MENU_DETAIL VALUES
('OSDU', '3', 'OSDUS', 'UPLOAD IMPORT/EXPORT SHIPMENTS', 'F', 'OSDUS');

INSERT INTO MENU_DETAIL VALUES
('OSDU', '4', 'OSDUM', 'UPLOAD MARITIME TANKER STATUS', 'F', 'OSDUM');

INSERT INTO MENU_DETAIL VALUES
('OSDU', '5', 'OSDUT', 'UPLOAD TERMINAL STATUS', 'F', 'OSDUT');
```

```
INSERT INTO MENU_DETAIL VALUES
('OSD', '3', 'OSDD', 'IMPORT/EXPORT SHIPMENTS DATA', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OSDD', '1', 'OSDDP', 'DOWNLOAD IMPORT/EXPORT PLANS', 'F', 'OSDDP');

INSERT INTO MENU_DETAIL VALUES
('OSDD', '2', 'OSDDC', 'DOWNLOAD IMPORT/EXPORT CONTRACTS', 'F', 'OSDDC');

INSERT INTO MENU_DETAIL VALUES
('OSDD', '3', 'OSDDS', 'DOWNLOAD IMPORT/EXPORT SHIPMENTS', 'F', 'OSDDS');

INSERT INTO MENU_DETAIL VALUES
('OSDD', '4', 'OSDDM', 'DOWNLOAD MARITIME TANKER STATUS', 'F', 'OSDDM');

INSERT INTO MENU_DETAIL VALUES
('OSDD', '5', 'OSDDT', 'DOWNLOAD TERMINAL STATUS', 'F', 'OSDDT');

INSERT INTO MENU_DETAIL VALUES
('OSD', '4', 'OSDR', 'SUPPLY AND MARITIME REPORTS', 'M', NULL);


INSERT INTO MENU_DETAIL VALUES
('O', '2', 'OR', 'REFINERY PRODUCTION MONITORING SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OR', '1', 'ORD', 'REFINERY PRODUCTION MONITORING DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ORD', '1', 'ORDQ', 'REFINERY PRODUCTION QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ORDQ', '1', 'ORDQP', 'QUERY REFINERY PRODUCTION PLAN', 'F', 'ORDQP');

INSERT INTO MENU_DETAIL VALUES
('ORDQ', '2', 'ORDQA', 'QUERY REFINERY PRODUCTION ACTUAL', 'F', 'ORDQA');


INSERT INTO MENU_DETAIL VALUES
('ORD', '2', 'ORDU', 'REFINERY PRODUCTION UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ORDU', '1', 'ORDUP', 'UPLOAD REFINERY PRODUCTION PLAN', 'F', 'ORDUP');

INSERT INTO MENU_DETAIL VALUES
('ORDU', '2', 'ORDUA', 'UPLOAD REFINERY PRODUCTION ACTUAL', 'F', 'ORDUA');


INSERT INTO MENU_DETAIL VALUES
('ORD', '3', 'ORDD', 'REFINERY PRODUCTION DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ORDD', '1', 'ORDDP', 'DOWNLOAD REFINERY PRODUCTION PLAN', 'F', 'ORDDP');

INSERT INTO MENU_DETAIL VALUES
('ORDD', '2', 'ORDDA', 'DOWNLOAD REFINERY PRODUCTION ACTUAL', 'F', 'ORDDA');

INSERT INTO MENU_DETAIL VALUES
('ORD', '4', 'ORDR', 'REFINERY PRODUCTION REPORTS', 'M', NULL);


INSERT INTO MENU_DETAIL VALUES
('O', '3', 'OD', 'PRODUCTION DISTRIBUTION SYSTEMS', 'M', NULL);
```

```
INSERT INTO MENU_DETAIL VALUES
('OD', '1', 'ODD', 'PRODUCTION DISTRIBUTION DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ODD', '1', 'ODDQ', 'PRODUCTION DISTRIBUTION QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ODDQ', '1', 'ODDQS', 'QUERY PRODUCTION DISTRIBUTION', 'F', 'ODDQS');

INSERT INTO MENU_DETAIL VALUES
('ODD', '2', 'ODDU', 'PRODUCTION DISTRIBUTION UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ODDU', '1', 'ODDUS', 'UPLOAD PRODUCTION DISTRIBUTION', 'F', 'ODDUS');

INSERT INTO MENU_DETAIL VALUES
('ODD', '3', 'ODDD', 'PRODUCTION DISTRIBUTION DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('ODDD', '1', 'ODDDS', 'DOWNLOAD PRODUCTION DISTRIBUTION', 'F', 'ODDDS');

INSERT INTO MENU_DETAIL VALUES
('ODD', '4', 'ODDR', 'PRODUCTION DISTRIBUTION REPORTS', 'M', NULL);


INSERT INTO MENU_DETAIL VALUES
('O', '4', 'OC', 'PRODUCT CONSUMPTION SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OC', '1', 'OCD', 'PRODUCT CONSUMPTION DATA BASE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OCD', '1', 'OCDQ', 'PRODUCT CONSUMPTION QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OCDQ', '1', 'OCDQP', 'QUERY/UPDATE CONSUMPTION PLAN', 'F', 'OCDQP');

INSERT INTO MENU_DETAIL VALUES
('OCDQ', '2', 'OCDQA', 'QUERY/UPDATE CONSUMPTION ACTUAL', 'F', 'OCDQA');

INSERT INTO MENU_DETAIL VALUES
('OCD', '2', 'OCDU', 'PRODUCT CONSUMPTION UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OCDU', '1', 'OCDUP', 'UPLOAD CONSUMPTION PLAN', 'F', 'OCDUP');

INSERT INTO MENU_DETAIL VALUES
('OCDU', '2', 'OCDUA', 'UPLOAD CONSUMPTION ACTUAL', 'F', 'OCDUA');

INSERT INTO MENU_DETAIL VALUES
('OCD', '3', 'OCDD', 'PRODUCT CONSUMPTION DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('OCDD', '1', 'OCDDP', 'DOWNLOAD CONSUMPTION PLAN', 'F', 'OCDDP');

INSERT INTO MENU_DETAIL VALUES
('OCDD', '2', 'OCDDA', 'DOWNLOAD CONSUMPTION ACTUAL', 'F', 'OCDDA');

INSERT INTO MENU_DETAIL VALUES
('OCD', '4', 'OCDR', 'PRODUCT CONSUMPTION REPORTS', 'M', NULL);
```

```
Rem File Name: PM_INSRT.SQL
Rem
Rem PURPOSE
Rem Provides the 'INSERT INTO' statements to load the EGPC Menu data
Rem tables with the production menus.  This file is executed by issuing
Rem a START command from SQL*PLUS using the file MNUBLD.SQL.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE        PURPOSE
Rem R. Currey       26 May 90   Creation of file for Version 1.02
Rem D. Bispo        28 Jun 90   Revise file for version 1.03
Rem
Rem ***********************************************************************
Rem *                    PRODUCTION MENU DATA TABLES                      *
Rem ***********************************************************************


Prompt *********
Prompt Insert the PRODUCTION menu values into the MENU_DETAIL table
Prompt *********

INSERT INTO MENU_DETAIL VALUES
('P', '1', 'PD', 'PRODUCTION WELL DRILLING SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PD', '1', 'PDD', 'WELL DRILLING ACTIVITY SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PDD', '1', 'PDDQ', 'WELL DRILLING QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PDDQ', '1', 'PDDQP', 'UPDATE DRILLING PROGRAM DATA', 'F', 'PDDQP');

INSERT INTO MENU_DETAIL VALUES
('PDDQ', '2', 'PDDQD', 'UPDATE DRILLING DAILY DETAIL', 'F', 'PDDQD');

INSERT INTO MENU_DETAIL VALUES
('PDDQ', '3', 'PDDQF', 'UPDATE FIXED DRILLING DETAIL', 'F', 'PDDQF');

INSERT INTO MENU_DETAIL VALUES
('PDDQ', '4', 'PDDQS', 'UPDATE DRILLING DAILY SUMMARY', 'F', 'PDDQS');

INSERT INTO MENU_DETAIL VALUES
('PDDQ', '5', 'PDDQA', 'UPDATE DRILLING DIRECTIONALS', 'F', 'PDDQA');

INSERT INTO MENU_DETAIL VALUES
('PDDQ', '6', 'PDDQT', 'UPDATE DRILLING PARAMETER TABLE', 'F', 'PDDQT');

INSERT INTO MENU_DETAIL VALUES
('PDD', '2', 'PDDU', 'WELL DRILLING UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PDDU', '1', 'PDDUP', 'UPLOAD DRILLING PROGRAM DATA', 'F', 'PDDUP');

INSERT INTO MENU_DETAIL VALUES
('PDDU', '2', 'PDDUD', 'UPLOAD DRILLING DAILY DETAIL', 'F', 'PDDUD');

INSERT INTO MENU_DETAIL VALUES
('PDDU', '3', 'PDDUF', 'UPLOAD FIXED DRILLING DETAIL', 'F', 'PDDUF');

INSERT INTO MENU_DETAIL VALUES
('PDDU', '4', 'PDDUS', 'UPLOAD DRILLING DAILY SUMMARY', 'F', 'PDDUS');

INSERT INTO MENU_DETAIL VALUES
```

```
('PDDU', '5', 'PDDUA', 'UPLOAD DRILLING DIRECTIONALS', 'F', 'PDDUA');

INSERT INTO MENU_DETAIL VALUES
('PDDU', '6', 'PDDUT', 'UPLOAD DRILLING PARAMETER TABLE', 'F', 'PDDUT');

INSERT INTO MENU_DETAIL VALUES
('PDD', '3', 'PDDD', 'WELL DRILLING DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PDDD', '1', 'PDDDP', 'DOWNLOAD DRILLING PROGRAM DATA', 'F', 'PDDDP');

INSERT INTO MENU_DETAIL VALUES
('PDDD', '2', 'PDDDD', 'DOWNLOAD DRILLING DAILY DETAIL', 'F', 'PDDDD');

INSERT INTO MENU_DETAIL VALUES
('PDDD', '3', 'PDDDF', 'DOWNLOAD FIXED DRILLING DETAIL', 'F', 'PDDDF');

INSERT INTO MENU_DETAIL VALUES
('PDDD', '4', 'PDDDS', 'DOWNLOAD DRILLING DAILY SUMMARY', 'F', 'PDDDS');

INSERT INTO MENU_DETAIL VALUES
('PDDD', '5', 'PDDDA', 'DOWNLOAD DRILLING DIRECTIONALS', 'F', 'PDDDA');

INSERT INTO MENU_DETAIL VALUES
('PDDD', '6', 'PDDDT', 'DOWNLOAD DRILLING PARAMETER TABLE', 'F', 'PDDDT');

INSERT INTO MENU_DETAIL VALUES
('PDD', '4', 'PDDR', 'WELL DRILLING REPORTS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PDDR', '1', 'PDDRR', 'DAILY DRILLING REPORT', 'R', 'PDDRR');

INSERT INTO MENU_DETAIL VALUES
('P', '2', 'PG', 'PRODUCTION WELL GEOL/GEOP SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PG', '1', 'PGG', 'WELL GEOL/GEOP DATA SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PGG', '1', 'PGGQ', 'WELL GEOL/GEOP QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PGGQ', '1', 'PGGQM', 'UPDATE WELL MASTER', 'F', 'PGGQM');

INSERT INTO MENU_DETAIL VALUES
('PGGQ', '2', 'PGGQD', 'UPDATE WELL BORE DEVICES', 'F', 'PGGQD');

INSERT INTO MENU_DETAIL VALUES
('PGGQ', '3', 'PGGQT', 'UPDATE WELL BORE DEVICE PARAMS', 'F', 'PGGQT');

INSERT INTO MENU_DETAIL VALUES
('PGGQ', '4', 'PGGQF', 'UPDATE WELL FLUID PVT', 'F', 'PGGQF');

INSERT INTO MENU_DETAIL VALUES
('PGGQ', '5', 'PGGQP', 'UPDATE WELL FLUID PVT PARAMS', 'F', 'PGGQP');

INSERT INTO MENU_DETAIL VALUES
('PGGQ', '6', 'PGGQW', 'UPDATE WELL WORKOVER HISTORY', 'F', 'PGGQW');

INSERT INTO MENU_DETAIL VALUES
('PGG', '2', 'PGGU', 'WELL GEOL/GEOP UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PGGU', '1', 'PGGUM', 'UPLOAD WELL MASTER', 'F', 'PGGUM');
```

```
INSERT INTO MENU_DETAIL VALUES
('PGGU', '2', 'PGGUD', 'UPLOAD WELL BORE DEVICES', 'F', 'PGGUD');

INSERT INTO MENU_DETAIL VALUES
('PGGU', '3', 'PGGUT', 'UPLOAD WELL BORE DEVICE PARAMS', 'F', 'PGGUT');

INSERT INTO MENU_DETAIL VALUES
('PGGU', '4', 'PGGUF', 'UPLOAD WELL FLUID PVT', 'F', 'PGGUF');

INSERT INTO MENU_DETAIL VALUES
('PGGU', '5', 'PGGUP', 'UPLOAD WELL FLUID PVT PARAMS', 'F', 'PGGUP');

INSERT INTO MENU_DETAIL VALUES
('PGGU', '6', 'PGGUW', 'UPLOAD WELL WORKOVER HISTORY', 'F', 'PGGUW');

INSERT INTO MENU_DETAIL VALUES
('PGG', '3', 'PGGD', 'WELL GEOL/GEOP DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PGGD', '1', 'PGGDM', 'DOWNLOAD WELL MASTER', 'F', 'PGGDM');

INSERT INTO MENU_DETAIL VALUES
('PGGD', '2', 'PGGDD', 'DOWNLOAD WELL BORE DEVICES', 'F', 'PGGDD');

INSERT INTO MENU_DETAIL VALUES
('PGGD', '3', 'PGGDT', 'DOWNLOAD WELL BORE DEVICE PARAMS', 'F', 'PGGDT');

INSERT INTO MENU_DETAIL VALUES
('PGGD', '4', 'PGGDF', 'DOWNLOAD WELL FLUID PVT', 'F', 'PGGDF');

INSERT INTO MENU_DETAIL VALUES
('PGGD', '5', 'PGGDP', 'DOWNLOAD WELL FLUID PVT PARAMS', 'F', 'PGGDP');

INSERT INTO MENU_DETAIL VALUES
('PGGD', '6', 'PGGDW', 'DOWNLOAD WELL WORKOVER HISTORY', 'F', 'PGGDW');

INSERT INTO MENU_DETAIL VALUES
('PGG', '4', 'PGGR', 'WELL GEOL/GEOP REPORTS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('P', '3', 'PW', 'PRODUCTION WELL DATA INDEX SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PW', '1', 'PWW', 'WESTERN ATLAS WELL DATA INDEX', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PWW', '1', 'PWWQ', 'WELL DATA INDEX QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PWWQ', '1', 'PWWQC', 'UPDATE CASING DATA', 'F', 'PWWQC');

INSERT INTO MENU_DETAIL VALUES
('PWWQ', '2', 'PWWQD', 'UPDATE DEVIATION DATA', 'F', 'PWWQD');

INSERT INTO MENU_DETAIL VALUES
('PWWQ', '3', 'PWWQG', 'UPDATE GENERAL WELL DATA', 'F', 'PWWQG');

INSERT INTO MENU_DETAIL VALUES
('PWWQ', '4', 'PWWQR', 'UPDATE ROCK SAMPLE DATA', 'F', 'PWWQR');

INSERT INTO MENU_DETAIL VALUES
('PWWQ', '5', 'PWWQW', 'UPDATE SIDEWALL DATA', 'F', 'PWWQW');
```

```
INSERT INTO MENU_DETAIL VALUES
('PWWQ', '6', 'PWWQS', 'UPDATE STRAT TOPS DATA', 'F', 'PWWQS');

INSERT INTO MENU_DETAIL VALUES
('PWWQ', '7', 'PWWQT', 'UPDATE TEST DATA', 'F', 'PWWQT');

INSERT INTO MENU_DETAIL VALUES
('PWW', '2', 'PWWU', 'WELL DATA INDEX UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PWWU', '1', 'PWWUC', 'UPLOAD CASING DATA', 'F', 'PWWUC');

INSERT INTO MENU_DETAIL VALUES
('PWWU', '2', 'PWWUD', 'UPLOAD DEVIATION DATA', 'F', 'PWWUD');

INSERT INTO MENU_DETAIL VALUES
('PWWU', '3', 'PWWUG', 'UPLOAD GENERAL WELL DATA', 'F', 'PWWUG');

INSERT INTO MENU_DETAIL VALUES
('PWWU', '4', 'PWWUR', 'UPLOAD ROCK SAMPLE DATA', 'F', 'PWWUR');

INSERT INTO MENU_DETAIL VALUES
('PWWU', '5', 'PWWUW', 'UPLOAD SIDEWALL DATA', 'F', 'PWWUW');

INSERT INTO MENU_DETAIL VALUES
('PWWU', '6', 'PWWUS', 'UPLOAD STRAT TOPS DATA', 'F', 'PWWUS');

INSERT INTO MENU_DETAIL VALUES
('PWWU', '7', 'PWWUT', 'UPLOAD TEST DATA', 'F', 'PWWUT');

INSERT INTO MENU_DETAIL VALUES
('PWW', '3', 'PWWD', 'WELL DATA INDEX DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PWWD', '1', 'PWWDC', 'DOWNLOAD CASING DATA', 'F', 'PWWDC');

INSERT INTO MENU_DETAIL VALUES
('PWWD', '2', 'PWWDD', 'DOWNLOAD DEVIATION DATA', 'F', 'PWWDD');

INSERT INTO MENU_DETAIL VALUES
('PWWD', '3', 'PWWDG', 'DOWNLOAD GENERAL WELL DATA', 'F', 'PWWDG');

INSERT INTO MENU_DETAIL VALUES
('PWWD', '4', 'PWWDR', 'DOWNLOAD ROCK SAMPLE DATA', 'F', 'PWWDR');

INSERT INTO MENU_DETAIL VALUES
('PWWD', '5', 'PWWDW', 'DOWNLOAD SIDEWALL DATA', 'F', 'PWWDW');

INSERT INTO MENU_DETAIL VALUES
('PWWD', '6', 'PWWDS', 'DOWNLOAD STRAT TOPS DATA', 'F', 'PWWDS');

INSERT INTO MENU_DETAIL VALUES
('PWWD', '7', 'PWWDT', 'DOWNLOAD TEST DATA', 'F', 'PWWDT');

INSERT INTO MENU_DETAIL VALUES
('PWW', '4', 'PWWR', 'WELL DATA INDEX REPORTS', 'M', NULL);


INSERT INTO MENU_DETAIL VALUES
('P', '4', 'PP', 'PRODUCTION MONITORING SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PP', '1', 'PPD', 'WELL AND FIELD MONITORING DATA BASE', 'M', NULL);
```

```
INSERT INTO MENU_DETAIL VALUES
('PPD', '1', 'PPDQ', 'WELL AND FIELD MONITORING QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PPDQ', '1', 'PPDQM', 'UPDATE WELL MONTHLY PRODUCTION', 'F', 'PPDQM');

INSERT INTO MENU_DETAIL VALUES
('PPDQ', '2', 'PPDQD', 'UPDATE FIELD DAILY ACTUAL PRODUCTION', 'F', 'PPDQD');

INSERT INTO MENU_DETAIL VALUES
('PPDQ', '3', 'PPDQP', 'UPDATE FIELD MONTHLY PLAN PRODUCTION', 'F', 'PPDQM');


INSERT INTO MENU_DETAIL VALUES
('PPD', '2', 'PPDU', 'WELL AND FIELD MONITORING UPLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PPDU', '1', 'PPDUM', 'UPLOAD WELL MONTHLY PRODUCTION', 'F', 'PPDUM');

INSERT INTO MENU_DETAIL VALUES
('PPDU', '2', 'PPDUD', 'UPLOAD FIELD DAILY ACTUAL PRODUCTION', 'F', 'PPDUD');

INSERT INTO MENU_DETAIL VALUES
('PPDU', '3', 'PPDUP', 'UPLOAD FIELD MONTHLY PLAN PRODUCTION', 'F', 'PPDUM');


INSERT INTO MENU_DETAIL VALUES
('PPD', '3', 'PPDD', 'WELL AND FIELD MONITORING DOWNLOAD', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('PPDD', '1', 'PPDDM', 'DOWNLOAD WELL MONTHLY PRODUCTION', 'F', 'PPDDM');

INSERT INTO MENU_DETAIL VALUES
('PPDD', '2', 'PPDDD', 'DOWNLOAD FIELD DAILY ACTUAL PRODUCTION', 'F',
'PPDDD');

INSERT INTO MENU_DETAIL VALUES
('PPDD', '3', 'PPDDP', 'DOWNLOAD FIELD MONTHLY PLAN PRODUCTION', 'F',
'PPDDM');

INSERT INTO MENU_DETAIL VALUES
('PPD', '4', 'PPDR', 'WELL AND FIELD MONITORING REPORTS', 'M', NULL);
```

```
Rem File Name: RM_INSRT.SQL
Rem
Rem PURPOSE
Rem Provides the 'INSERT INTO' statements to load the EGPC Menu data
Rem tables with the Main & Reference menus.  This file is executed by
Rem issuing a START command from SQL*PLUS using the file MNUBLD.SQL.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem R. Currey       26 May 90    Creation of file for Version 1.02
Rem D. Bispo        28 Jun 90    Revise file for version 1.03
Rem
Rem ***********************************************************************
Rem *                    MAIN & REFERENCE MENU DATA                       *
Rem ***********************************************************************


Prompt *********
Prompt Insert the MAIN and REFERENCE values into the MENU_DETAIL table
Prompt *********

INSERT INTO MENU_DETAIL VALUES
('MAIN', '1', 'E', 'EXPLORATION SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('MAIN', '2', 'P', 'PRODUCTION SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('MAIN', '3', 'O', 'OPERATIONS SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('MAIN', '4', 'R', 'REFERENCE SYSTEMS', 'M', NULL);


INSERT INTO MENU_DETAIL VALUES
('R', '1', 'RFD', 'REFERENCE SYSTEMS', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('RFD', '1', 'RFDQ', 'REFERENCE DATABASE QUERY/UPDATE', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('RFDQ', '1', 'RFDQD', 'UPDATE REFERENCE DETAILS', 'F', 'RFDQD');

INSERT INTO MENU_DETAIL VALUES
('RFDQ', '2', 'RFDQM', 'UPDATE REFERENCE MASTER', 'F', 'RFDQM');

INSERT INTO MENU_DETAIL VALUES
('RFDQ', '3', 'RFDQP', 'UPDATE REFERENCE PARAMS', 'F', 'RFDQP');

INSERT INTO MENU_DETAIL VALUES
('RFDQ', '4', 'RFDQT', 'UPDATE REFERENCE TYPE MASTER', 'F', 'RFDQT');

INSERT INTO MENU_DETAIL VALUES
('RFD', '2', 'RFDU', 'UPLOAD MASTER DATA', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('RFDU', '1', 'RFDUD', 'UPLOAD REFERENCE DETAILS', 'F', 'RFDUD');

INSERT INTO MENU_DETAIL VALUES
('RFDU', '2', 'RFDUM', 'UPLOAD REFERENCE MASTER', 'F', 'RFDUM');

INSERT INTO MENU_DETAIL VALUES
('RFDU', '3', 'RFDUP', 'UPLOAD REFERENCE PARAMS', 'F', 'RFDUP');
```

```
INSERT INTO MENU_DETAIL VALUES
('RFDU', '4', 'RFDUT', 'UPLOAD REFERENCE TYPE MASTER', 'F', 'RFDUT');

INSERT INTO MENU_DETAIL VALUES
('RFD', '3', 'RFDD', 'DOWNLOAD MASTER DATA', 'M', NULL);

INSERT INTO MENU_DETAIL VALUES
('RFDD', '1', 'RFDDD', 'DOWNLOAD REFERENCE DETAILS', 'F', 'RFDDD');

INSERT INTO MENU_DETAIL VALUES
('RFDD', '2', 'RFDDM', 'DOWNLOAD REFERENCE MASTER', 'F', 'RFDDM');

INSERT INTO MENU_DETAIL VALUES
('RFDD', '3', 'RFDDP', 'DOWNLOAD REFERENCE PARAMS', 'F', 'RFDDP');

INSERT INTO MENU_DETAIL VALUES
('RFDD', '4', 'RFDDT', 'DOWNLOAD REFERENCE TYPE MASTER', 'F', 'RFDDT');

INSERT INTO MENU_DETAIL VALUES
('RFD', '4', 'RFDR', 'REFERENCE DATABASE REPORTS', 'M', NULL);
```

```
Rem File Name: MIS_V103.SQL
Rem
Rem PURPOSE
Rem To create the table containing PFKEYS information, and load the
Rem appropriate data.  This program also creates a dummy table
Rem needed for the Reference Data applciation.  In addition, this program
Rem creates the views for the Drilling application.
Rem
Rem MODIFICATION HISTORY
Rem NAME            DATE         PURPOSE
Rem D. Bispo        16 Jun 90    Create for Version 1.03
Rem
Rem ***********************************************************************
Rem *                    Create the PFKEYS Table
Rem ***********************************************************************

DROP TABLE PFKEYS:

CREATE TABLE PFKEYS (PFKEYS CHAR(80), SEQUENCE_NO CHAR(1));

INSERT INTO PFKEYS VAlues ('Shift ShowKeys Print  RollBk DelRec        EntQry
DspErr    Exit','3');
INSERT INTO PFKEYS VAlues ('      PF1      PF2    PF3    PF4    PF5    PF8
PF9       PF10','1');
INSERT INTO PFKEYS VAlues ('      Help     ClrRec ClrBlk CreRec DupRec ExeQry
LstFldVal Commit','2');
DROP VIEW DRILL_V1;

Rem
Rem ***********************************************************************
Rem *                    Create the Temporaty Table  DUM1
Rem ***********************************************************************

DROP TABLE DUM1;

CREATE TABLE DUM1 (DUM1 CHAR(1));


Rem
Rem ***********************************************************************
Rem *                    Create the View DRILL_V1                        *
Rem ***********************************************************************

Rem This view calculates well summary data based on operational date and area

DROP VIEW DRILL_V1;

CREATE VIEW DRILL_V1 AS (
SELECT OPER_DATE,AREA,SUM(OFFSHORE) OFFSHORE,
       SUM(WM.ONSHORE) ONSHORE, SUM(GW_EXP_WELL) EXP,
       SUM(GW_DEV_WELL) DEV, SUM(REPR_WELL) REPAIR,
       SUM(WAT_WELL) WATER, SUM(INJ_WELL) INJ
from WD_DRILL_DAY_SUM DDS, WG_WELL_MSTR WM, WW_GENERAL_WELL GW
WHERE GW.WELL_ID = WM.WELL_ID
AND   GW.WELL_ID = DDS.WELL_ID
GROUP BY OPER_DATE,AREA
);

Rem
Rem ***********************************************************************
Rem *                    Create the View DRILL_V2
Rem ***********************************************************************

Rem This view provides detail data needed for the drilling application
```


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```
DROP VIEW DRILL_V2;

CREATE VIEW DRILL_V2 AS SELECT WM.WELL_ID,WM.FIELD_NAME,
GW.AREA,GW.COMPANY_NAME,DDS.OPER_DATE,
DDS.REMARKS,WP.RIG_NAME,WP.RIG_DAYS_PLAN,ST.FORMATION,WP.CURRENT_DEPTH,
WP.TARGET_DEPTH,ROUND(SYSDATE - RIG_ACT_START) ACTUAL
FROM WG_WELL_MSTR WM, WW_GENERAL_WELL GW,WD_DRILL_DAY_SUM DDS
,ww_strat_tops st,wd_drill_program wp
WHERE WM.WELL_ID = GW.WELL_ID
AND WM.WELL_ID = DDS.WELL_ID
AND WM.WELL_ID = ST.WELL_ID
AND WM.WELL_ID = WP.WELL_ID
;
```

```
Rem
Rem PURPOSE:
Rem Rem To print the database fields from the data dictionary
Rem
Rem USE:
Rem From SQLPLUS, "START DATADIC"


set pagesize 56
ttitle "EGPC Database Listing"
break on "Table Name" skip 2

select SUBSTR(tname,1,20) "Table Name", substr(colno,1,2) " ",
substr(cname,1,18) "Column Name", coltype, substr(width,1,3) "Wth",
substr(scale,1,2) " ", nulls
from columns
where creator = 'EGPC'
```

```
Rem
Rem PURPOSE:
Rem To print the database indexes from the data dictionary
Rem
Rem USE:
Rem From SQLPLUS, "START IDATADIC"


set pagesize 56
ttitle "EGPC Database Index Listing"
break on "Index Name" skip 2

select SUBSTR(iname,1,20) "Index Name", substr(tname,1,18) "Table Name",
substr(seq,1,1) " ",substr(colnames,1,20) "Column Names",
substr(iorder,1,3) " "
from indexes
where creator = 'EGPC'
order by 2,3
```

```
Rem
Rem PURPOSE:
Rem To print the database remarks from the data dictionary
Rem
Rem
Rem USE:
Rem From SQLPLUS, "START REMARKS"


ttitle     "EGPC Database Remarks"
set pagesize 60
select tname "Table Name",remarks "Remarks" from catalog where creator =
'EGPC'
ORDER BY TNAME
/
```

Data Entry Forms

The data entry forms provide a simple interface for the users to input data into the database. The applications were created using SQL*Forms and the printouts of the forms are included in this section.

A guide to reading the SQL*Forms printouts is also included in this section. The guide relates the printout text to the SQL*Forms' designer window where the code was input (The code in the SQL*Forms example windows is not the same as the code in the printout). The printout starts out with the form definitions. This primarily consists of the triggers at the form level (see A on the guide). Next, the block's are described in order of their sequence within the form. A block's description starts with the block options (see E on the guide), then, the Where Order By clause, if there is one (see F on the guide). This is followed by the listing of the triggers at the block level (see C on the guide). Then, the fields within each block are described. The description includes the field attributes (see B on the guide) and any triggers that are at the field level (see D on the guide). The printout finishes with a boiler plate of the screen(s) (see G on the guide).

The EGPC DATA ENTRY SQL*FORMS INDEX precedes the printouts and is a listing of the data entry forms and the databases they reference. The data entry form printouts follow in the same order as the index listing.

SQL*Forms Printout Guide

Example SQL*Forms Screens

```
Page 1
Screen - PUCOU                    UPDATE WELL WORKOVER HISTORY                    18-APR-90
                                  Work Size - 0

Trigger Type - PRE-FORM                    F-8 Menu - N

(A)   Seq#  1  (  2)
              SELECT SYSDATE
              INTO BLOCK1.TODAY
              FROM DUAL
                                   * Abort Trigger when Step Fails

Block Name - Block Description
1 BLOCK1 - BLOCK1
    Table -
                    Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records   1/0

Fieldname                Page Line Col  Display Field  Type Field  Len/Disp/Dry  Base Table  Prime Key  Allow Entry  Allow Update  Update if Null  Req'd Field  Fixed Length  Auto Skip  No Echo  Auto Help  Convert to Upper
( 1) TODAY               1    1    60   Y              DATE        9/  9/  9   N           N          N            N             N               N            N             N          N        N          N
                                                                   Default value - $$DATE$$

Block Name - Block Description
2 BLOCK2 - BLOCK2
    Table - WG_WORKOVER_HIST
    Trigger Type - KEY-NXTFLD      Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records   2/2   Base Crt Line - 5   Physical Lines per Record - 7
                                   F-8 Menu - N

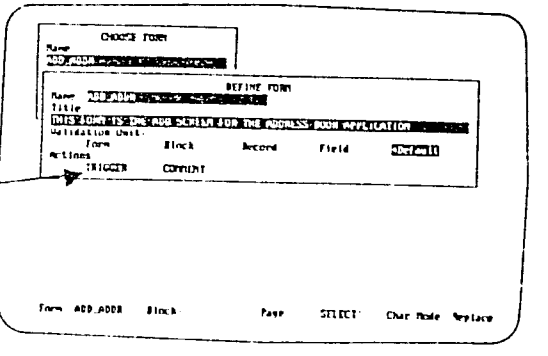
(C)   Seq#  1  (  3)
              #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
              WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
              WHEN 'REMARKS' THEN NXTREC;
              WHEN 'WORKOVER_DATE' THEN EXETRG REQ_FIELD;
              WHEN OTHERS THEN NXTFLD;
              END CASE;
                                   * Abort Trigger when Step Fails

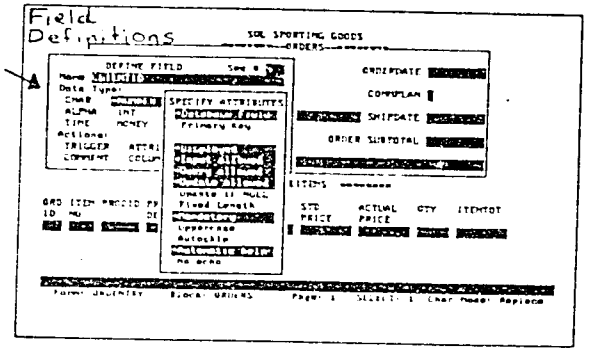
Trigger Type - CHECKWELL           F-8 Menu - N

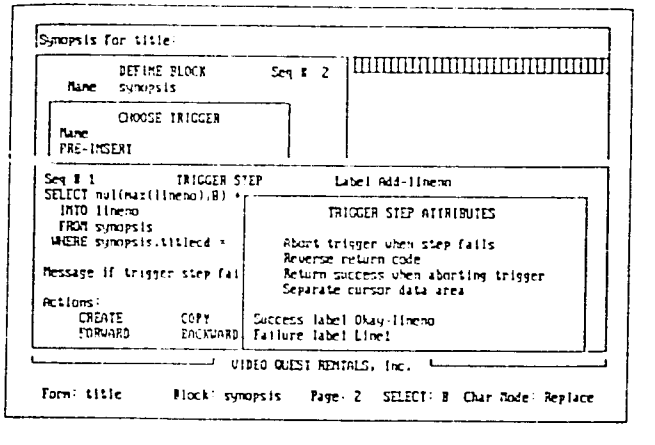
      Seq#  1  (  4)
              SELECT 'X'
              FROM WG_WELL_MSTR
              WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                   * Abort Trigger when Step Fails
                                   Failure Message - Press F9 to select a valid Well ID
      Seq#  2  (  5)
              SELECT FIELD_NAME
              INTO BLOCK2.FIELD_NAME
              FROM WG_WELL_MSTR
              WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                   * Abort Trigger when Step Fails
      Seq#  3  (  6)
              #EXEMACRO NXTFLD;
                                   * Abort Trigger when Step Fails
```

Form Level Trigger

Block Level Triggers







SQL*Forms Printout Guide Continued

```
Page 2                                   PW
                                UPDATE WELL WORKOVER HISTORY
Screen - PUGOU                            Work Size - 0                                  18-APR-90
(2 BLOCK2 - BLOCK2)
          Trigger Type - REQ_FIELD                    F-8 Menu - N

                    Seq#  1  ( 7)
                             SELECT 'X'
                             FROM DUAL
                             WHERE :BLOCK2.WORKOVER_DATE IS NOT NULL
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - Workover Date is a required field
                    Seq#  2  ( 8)
                             #EXEMACRO NXTFLD;
                                                  * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	14	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	N	N

```
          Trigger Type - KEY-LISTVAL
                    Seq#  1  ( 9)
                             #EXEMACRO GOBLK BLOCK3; CLRBLK; EXECRY;
                                                  * Abort Trigger when Step Fails
```

(2) FIELD_NAME	1	1	57	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) WORKOVER_DATE	1	3	35	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(4) REMARKS	1	5	5	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N

```
Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WO_WELL_HIST
          Where Order By - ( 11) ORDER BY WELL_ID
          Trigger Type - KEY-DUPREC
                                  Page - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 6  Physical Lines per Record - 1
                                                                  F-5 Menu - N
                    Seq#  1  ( 10)
                             #COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                    Seq#  2  ( 11)
                             #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                                  * Abort Trigger when Step Fails
                    Seq#  3  ( 12)
                             #EXEMACRO GOBLK BLOCK2; GOFLD WORKOVER_DATE;
                                                  * Abort Trigger when Step Fails
```

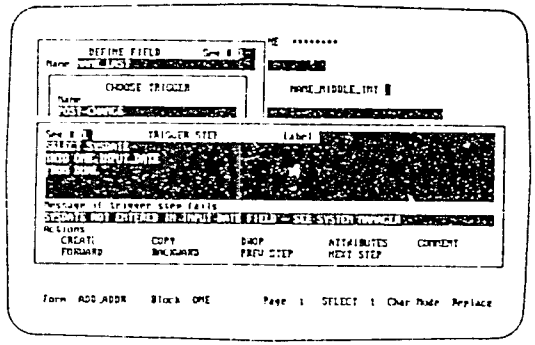
(1) WELL_ID	2	1	12	Y	CHAR	30/ 30/ 30	Y	N	Y	N	N	N	N	N	N	N	N
(2) FIELD_NAME	2	1	44	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

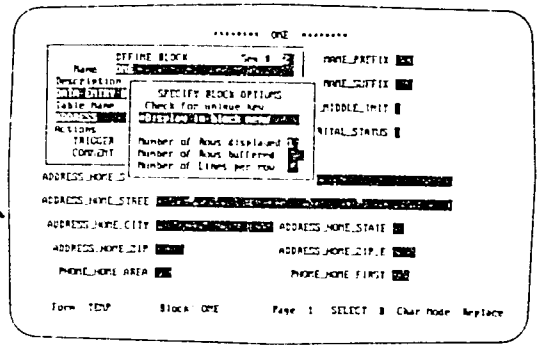
Field Level Trigger

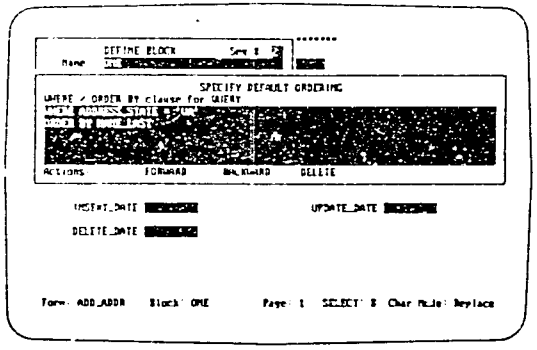
Block Options

Where Order By Clause

Example SQL*Forms Screens







SQL*Forms Printout Guide Continued

```
Page 6                                                                                                                    P.
                                                                                UPDATE WELL WORKOVER HISTORY
Screen - PUDOU                                                                        Work Size - 0                                                                                   18-APR-90

G
                                                                                Boiler Plate
                                                                                  Page 1
                 1111111111222222222233333333334444444444555555555566666666667777777777 8
        12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:     PUDOU                                                   Well Workover History
 2:
 3:     p-------------------------------------------------------------------------------q
 4:     |
 5:     |  Well ID                                                   Field Name
 6:     |
 7:     |                 Workover Date
 8:     |  Remarks
 9:     |
10:     |
11:     |
12:     |
13:     |
14:     |
15:     |
16:     |
17:     |
18:     |
19:     b-------------------------------------------------------------------------------d
20:
21:     F1-Show Keys  F2-Help  F3-Dup Field  F4-Dup Rec  F5-Create Rec  F6-Delete Rec
22:     F7-Enter Query  F8-Execute Query  F9-List Field Values  F10-Commit  ESC-Exit
23:
24:
```

EGPC DATA ENTRY SQL*FORMS INDEX

R - EGPC Reference Data Systems

RFDQ - EGPC Reference Data Base Query/Update

- **RFDQD** - Update EGPC Reference Details Data (RF_REF_DTL)
- **RFDQM** - Update EGPC Reference Master Data (RF_REF_MSTR)
- **RFDQP** - Update EGPC Reference Parameters Data (RF_REF_PRM)

E - Exploration Systems

ERDQ - Region Data Base Query/Update

- **ERDQF** - Update Fault Block Data (ER_FAULT_BLOCK)
- **ERDQS** - Update Grid Simulation Data (ER_GRID_SIM_DATA)
- **ERDQP** - Update Grid Simulation Parameters (ER_GRID_SIM_PRM)
- **ERDQR** - Update Reservoir Data (ER_RESERVOIR)

EWDQ - Western Atlas Indices Data Base Query/Update

- **EWDQG** - Update Magnetic Tape Data (EW_MAG_TAPE)
- **EWDQM** - Update Map Data (EW_MAP_INDEX)
- **EWDQL** - Update Seismic Line Data (EW_SEISMIC_LINE)
- **EWDQS** - Update Seismic Section Data (EW_SEISMIC_SECT)
- **EWDQV** - Update Seismic Survey Data (EW_SEISMIC_SURVEY)

ESDQ - SSI Indices Data Base Query/Update

- **ESDQA** - Update SSI Airmag Data (ES_AIRMAG_DATA)
- **ESDQG** - Update SSI Gravity Data (ES_GRAVITY_DATA)
- **ESDQL** - Update SSI Lab Analysis Data (ES_LAB_ANALYSIS)
- **ESDQM** - Update SSI Map Data (ES_MAPS)
- **ESDQR** - Update SSI Reports Data (ES_REPORTS)
- **ESDQS** - Update SSI Seismic Data (ES_SEISMIC_DATA)
- **ESDQ3** - Update SSI 3-D Seismic Data (ES_SEISMIC_3D)
- **ESDQX** - Update SSI Cross-section Data (ES_XSECTION)

P - Production Systems

PDDQ - Well Drilling Systems Data Base Query/Update

- **PDDQP** - Update Drilling Programs (WD_DRILL_PROGRAM)
- **PDDQD** - Update Drilling Daily Detail (WD_DRILL_DAY_DTL)
- **PDDQF** - Update Fixed Drilling Detail (WD_FIX_DRILL_DTL)
- **PDDQS** - Update Drilling Daily Summary (WD_DRILL_DAY_SUM)
- **PDDQA** - Update Drilling Directional Angle Data (WD_DRILL_DIRECT)
- **PDDQT** - Update Drilling Parameter Table (WD_DRILL_PRM)

PGGQ - Well Geological/Geophysical Data Base Query/Update

PGGQM - Update Well Master (WG_WELL_MSTR)
PGGQD - Update Well Bore Devices (WG_WELL_DEVICE)
PGGQT - Update Well Bore Device Parameter Table (WG_WELL_DEVIC_PRM)
PGGQF - Update Well Fluid PVT Data (WG_FLUID_PVT_DATA)
PGGQP - Update Well Fluid PVT Parameters (WG_FLUID_PVT_PRM)
PGGQW - Update Well Workover History (WG_WORKOVER_HIST)

PWWQ - Western Atlas Well Index Data Base Query/Update
PWWQC - Update Casing Data (WW_CASING)
PWWQD - Update Deviation Data (WW_DEVIATION)
PWWQG - Update General Well Data (WW_GENERAL_WELL)
PWWQL - Update Log Data (WW_LOG_RECORD)
PWWQR - Update Rock Sample Data (WW_ROCK_SAMPLE)
PWWQW - Update Sidewall Data (WW_SIDEWALL)
PWWQS - Update Strat Tops Data (WW_STRAT_TOPS)
PWWQT - Update Test Data (WW_TEST_DATA)

PPDQ - Well & Field Production Monitoring Systems Data Base Query/Update
PPDQM - Update Well Monthly Production (WP_WELL_MON_PROD)
PPDQD - Update Field Daily Actual Production (OP_FIELD_DAY_ACT)
PPDQP - Update Field Monthly Plan Production (OP_FIELD_MON_PLAN)

O - Operations Systems

OSDQ - Supply & Maritime Import/Export Query/Update
OSDQP - Query/Update Import/Export Plans (OS_IMP_EXP_PLAN)
OSDQC - Query/Update Import/Export Contracts (OS_IMP_EXP_CONTR)
OSDQS - Query/Update Import/Export Shipments Data Base (OS_SHIPMENTS)

OSDM - Maritime Tanker Status Data
OSDQM - Query/Update Maritime Tanker Status Data (OS_TANKER_STAT)

OSDT - Terminal Status Data
OSDQT - Query/Update Terminal Status Data (OS_TERMINAL_STAT)

ORDQ - Refinery Production Query/Update

EGPC DATA ENTRY SQL*FORMS INDEX

ORDQP - Query/Update Refinery Production Plan Data (OR_REF_MON_PLAN)

ORDU - Refinery Production Upload

ORDQA - Query/Update Refinery Daily Actual Data (OR_REF_DAY_ACT)

OCDQ - Product Consumption Monthly Plan Data Base

OCDQP - Query/Update Product Plan Consumption Data (OC_CONSU_MON_PLAN)

OCDU - Product Consumption Monthly Actual Data Base

OCDQA - Query/Update Product Consumption Monthly Actual Data (OC_CONSU_MON_ACT)

ODDQ - Product Distribution Query/Update

ODDQS - Query/Update Product Distribution Storage Data (OD_PROD_DIST_STOR)

Screen - RFDQO

RFDQO
UPDATE EGPC REFERENCE PARAMETERS DATA
Work Size - 0

28-JUN-90

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  ( 5)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  ( 6)
                               #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  ( 7)
                               #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  ( 8)
                               #COPY '25' SYSTEM.MESSAGE_LEVEL
                                                    * Abort Trigger when Step Fails
                    Seq#   2  ( 9)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                    * Abort Trigger when Step Fails
                    Seq#   3  ( 10)
                               #EXEMACRO GOBLK BLOCK2;  EXEQRY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  ( 11)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                    * Abort Trigger when Step Fails
                    Seq#   2  ( 12)
                               #EXEMACRO  GOBLK BLOCK2; EXEQRY;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1

Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2

(2 BLOCK2 - BLOCK2)
Table - RF_REF_TYPE_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 4 Physical Lines per Record - 1
Where Order By - (1) ORDER BY REF_TYPE
Trigger Type - KEY-F6 F-8 Menu - N Desc - Select valid Type

```
Seq#  1  ( 13)
         #COPY :BLOCK2.REF_TYPE :BLOCK5.REF_TYPE
                                   * Abort Trigger when Step Fails
Seq#  2  ( 14)
         #COPY :BLOCK2.REF_TYPE_DESCR :BLOCK5.REF_TYPE_DESCR
                                   * Abort Trigger when Step Fails
Seq#  3  ( 15)
         #COPY ' ' :BLOCK5.REF_ID
                                   * Abort Trigger when Step Fails
Seq#  4  ( 16)
         #COPY ' ' :BLOCK5.DUM1
                                   * Abort Trigger when Step Fails
Seq#  5  ( 17)
         SELECT REF_ID_HDR
         INTO BLOCK3.REF_ID_HDR
         FROM RF_REF_TYPE_MSTR
         WHERE RF_REF_TYPE_MSTR.REF_TYPE = :BLOCK2.REF_TYPE
                                   * Abort Trigger when Step Fails
Seq#  6  ( 18)
         SELECT REF_ID_HDR
         INTO BLOCK3.REF_ID_HDR
         FROM RF_REF_TYPE_MSTR
         WHERE RF_REF_TYPE_MSTR.REF_TYPE = :BLOCK2.REF_TYPE
                                   * Abort Trigger when Step Fails
Seq#  7  ( 19)
         #EXEMACRO  GOBLK BLOCK5;
                                   * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REF_TYPE	1	1	6	Y	CHAR	4/ 4/ 4	Y	N	Y	N	N	N	N	N	N	Y	N
Help Message - Position the cursor on the desired Reference Type and Press PF 6																	
(2) REF_TYPE_DESCR	1	1	11	Y	CHAR	65/ 65/ 65	Y	N	Y	N	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0
Where Order By - (2) ORDER BY REF_ID

(1) REF_ID_HDR	2	3	7	Y	CHAR	25/ 25/ 25	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
4 BLOCK4 - BLOCK4

```
(4 BLOCK4 - BLOCK4)
      Table - RF_REF_MSTR                    Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records   9/9   Base Crt Line - 7   Physical Lines per Record - 1
               Where Order By - (  3) WHERE REF_TYPE = :BLOCK2.REF_TYPE
                                      ORDER BY REF_ID
               Trigger Type - KEY-F6                          F-8 Menu - N  Desc - Select a valid ID

                                   Seq#   1  ( 20)
                                              #COPY :BLOCK4.REF_ID :BLOCK5.REF_ID
                                                                   * Abort Trigger when Step Fails
                                   Seq#   2  ( 21)
                                              #EXEMACRO GOBLK BLOCK5; NXTFLD;
                                                                   * Abort Trigger when Step Fails
                                   Seq#   3  ( 22)
                                              #COPY :BLOCK4.REF_ID :BLOCK5.REF_ID
                                                                   * Abort Trigger when Step Fails
               Trigger Type - KEY-NXTREC                      F-8 Menu - N

                                   Seq#   1  ( 23)
                                              #EXEMACRO NXTREC;
                                                                   * Abort Trigger when Step Fails
                                   Seq#   2  ( 24)
                                              #COPY :BLOCK2.REF_TYPE :BLOCK4.REF_TYPE
                                                                   * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REF_TYPE	2	1	10	Y	CHAR	4/ 4/ 4	Y	N	N	N	N	N	N	N	N	N	N
(2) REF_ID	2	1	19	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	N	N	N	N	Y	N

```
                                                   Help Message - Position the cursor on the desired Reference ID and Press PF6
  Block Name - Block Description
5 BLOCK5 - BLOCK5
      Table - DUM1                           Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records   1/0
               Trigger Type - PRE-INSERT                      F-8 Menu - N

                                   Seq#   1  ( 25)
                                              #EXEMACRO EXETRG CRE_DETAIL_RECS;
                                                                   * Abort Trigger when Step Fails
               Trigger Type - PRE-UPDATE                      F-8 Menu - N

                                   Seq#   1  ( 26)
                                              #EXEMACRO EXETRG CRE_DETAIL_RECS;
                                                                   * Abort Trigger when Step Fails
               Trigger Type - KEY-COMMIT                      F-8 Menu - N

                                   Seq#   1  ( 27)
```

```
(5 BLOCK5 - BLOCK5)
                                        #EXEMACRO CASE :BLOCK5.DUM1 IS
                                        WHEN 'Y' THEN COMMIT; NXTBLK; CLRBLK; EXEQRY;
                                        WHEN 'N' THEN EXETRG NO;
                                        WHEN OTHERS THEN EXETRG INVALID_OPTION;
                                        END CASE;
                                                        * Abort Trigger when Step Fails
                              Seq#   2  ( 28)
                                        #COPY ' ' :BLOCK5.DUM1
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-F6                           F-8 Menu - N  Desc - Select a valid ID

                              Seq#   1  ( 29)
                                        #EXEMACRO GOBLK BLOCK4; EXEQRY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                       F-8 Menu - N

                              Seq#   1  ( 30)
                                        #EXEMACRO GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
Trigger Type - CRE_DETAIL_RECS                  F-8 Menu - N

                              Seq#   1  ( 31)
                                                                                Failure Label - RECORD_EXISTS
                                        INSERT INTO RF_REF_DTL (REF_TYPE, REF_ID, REF_PRM)
                                        SELECT :BLOCK5.REF_TYPE, :BLOCK5.REF_ID, RF_REF_PRM.REF_PRM
                                        FROM RF_REF_PRM
                                        WHERE RF_REF_PRM.REF_TYPE =
                                        :BLOCK5.REF_TYPE
                                        AND :BLOCK5.REF_TYPE || :BLOCK5.REF_ID ||RF_REF_PRM.REF_PRM
                                        NOT IN (SELECT REF_TYPE || REF_ID || REF_PRM FROM RF_REF_DTL)
                                                        * Abort Trigger when Step Fails
                              Seq#   2  ( 32)
                                              Success Label - RECORD_EXISTS             Failure Label - ADD_NEW_REC
                                        SELECT 'X'
                                        FROM RF_REF_MSTR
                                        WHERE RF_REF_MSTR.REF_TYPE = :BLOCK5.REF_TYPE
                                        AND   RF_REF_MSTR.REF_ID = :BLOCK5.REF_ID
                                                        * Abort Trigger when Step Fails
                                                        Failure Message - This new Reference ID will be added to the Master Table
                              Seq#   3  ( 33)  Label - ADD_NEW_REC
                                        INSERT INTO RF_REF_MSTR (REF_TYPE, REF_ID)
                                        VALUES (:BLOCK5.REF_TYPE, :BLOCK5.REF_ID)
                                                        * Abort Trigger when Step Fails
                              Seq#   4  ( 34)  Label - RECORD_EXISTS
                                        #EXEMACRO NULL;
                                                        * Abort Trigger when Step Fails
Trigger Type - INVALID_OPTION                   F-8 Menu - N
```

(5 BLOCK5 - BLOCK5)

```
Seq#  1  ( 35)
         SELECT 'X'
         FROM DUAL
         WHERE :BLOCK5.DUM1 = 'Y' OR
         :BLOCK5.DUM1 = 'N' OR
         :BLOCK5.DUM1 = ' '
                          * Abort Trigger when Step Fails
                          Failure Message - This is an invalid option
Trigger Type - NO
                   F-8 Menu - N

Seq#  1  ( 36)
                                                Failure Label - EXIT_TRIGGER
         SELECT 'X'
         FROM RF_REF_MSTR
         WHERE RF_REF_MSTR.REF_TYPE = :BLOCK5.REF_TYPE
         AND   RF_REF_MSTR.REF_ID = :BLOCK5.REF_ID
                          * Abort Trigger when Step Fails
                          Failure Message - This reference ID does not currently exist.  Specify this is a new record
Seq#  2  ( 37)
                                                Failure Label - EXIT_TRIGGER
         SELECT 'X'
         FROM RF_REF_DTL
         WHERE RF_REF_DTL.REF_TYPE = :BLOCK5.REF_TYPE
         AND   RF_REF_DTL.REF_ID = :BLOCK5.REF_ID
                          * Abort Trigger when Step Fails
                          Failure Message - There are no detail records for this Ref ID.  Specify this is a new record
Seq#  3  ( 38)
         #EXEMACRO GOFLD DUM1; CLRFLD; NXTBLK;CLRBLK;EXEQRY;
                          * Abort Trigger when Step Fails
Seq#  4  ( 39)  Label - EXIT_TRIGGER
         #EXEMACRO NULL;
                          * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REF_TYPE	3	3	6	Y	CHAR	4/ 4/ 4	N	N	N	N	N	N	N	N	N	N	N
(2) REF_TYPE_DESCR	3	3	12	Y	CHAR	61/ 61/ 61	N	N	N	N	N	N	N	N	N	N	N
(3) REF_ID_HDR	3	5	6	Y	CHAR	34/ 34/ 0	N	N	N	N	N	N	N	N	N	N	N
(4) REF_ID	3	5	41	Y	CHAR	32/ 32/ 0	N	N	Y	Y	N	N	N	N	N	Y	Y
						Help Message - Press PF6 to view the Reference Master Table.											
(5) DUM1	3	8	18	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	Y	Y
						Help Message - Enter 'Y' if to copy records from the parameter to the detail table. Press F10											

```
(5 BLOCK5 - BLOCK5)
  Block Name - Block Description
6 BLOCK6 - BLOCK6
      Table - RF_REF_DTL                    Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records   9/9   Base Crt Line - 10  Physical Lines per Record - 1
          Where Order By - (  4) WHERE RF_REF_DTL.REF_TYPE = :BLOCK5.REF_TYPE
                                 AND   RF_REF_DTL.REF_ID = :BLOCK5.REF_ID
                                 ORDER BY REF_PRM
          Trigger Type - KEY-COMMIT                        F-8 Menu - N

                              Seq#   1  ( 40)
                                         #EXEMACRO GOBLK BLOCK6; COMMIT; GOFLD PRM_VALUE;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-F7                            F-8 Menu - N

                              Seq#   1  ( 41)
                                         #EXEMACRO GOBLK BLOCK5;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTBLK                        F-8 Menu - N

                              Seq#   1  ( 42)
                                         #EXEMACRO CLRBLK; GOBLK BLOCK5;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTREC                        F-8 Menu - N

                              Seq#   1  ( 43)
                                         #EXEMACRO NXTREC;
                                                                  * Abort Trigger when Step Fails
                              Seq#   2  ( 44)
                                         #COPY :BLOCK5.REF_TYPE :BLOCK6.REF_TYPE
                                                                  * Abort Trigger when Step Fails
                              Seq#   3  ( 45)
                                         #COPY :BLOCK5.REF_ID :BLOCK6.REF_ID
                                                                  * Abort Trigger when Step Fails
                              Seq#   4  ( 46)
                                         #EXEMACRO GOFLD REF_PRM;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                        F-8 Menu - N

                              Seq#   1  ( 47)
                                         #EXEMACRO CLRBLK; GOBLK BLOCK5;
                                                                  * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REF_TYPE	0	0	0	N	CHAR	4/ 4/ 4	Y	N	N	N	N	N	N	N	N	N	N
(2) REF_ID	0	0	0	N	CHAR	13/ 13/ 13	Y	N	N	N	N	N	N	N	N	N	N

RFD00
UPDATE EGPC REFERENCE PARAMETERS DATA
Work Size - 0

(6 BLOCKS - BLOCK6)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(3) REF_PRM	3	1	22	Y	CHAR	28/ 28/ 28	Y	N	Y	Y	N	N	N	N	N	Y	N
						Help Message - Enter values for this parameter or Press PF 7 to select another Reference ID											
(4) PRM_VALUE	3	1	51	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	Y	N
						Help Message - Enter Parameter values. Press PF10 to save. Press PF7 to select another Ref ID											

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
1:  RFDQD                EGPC Reference Parameters
2:     p-------------------------------------------------------------------q
3:     |                                                                   |
4:     |                                                                   |
5:     |                                                                   |
6:     |                                                                   |
7:     |                                                                   |
8:     |                                                                   |
9:     |                                                                   |
0:     |                                                                   |
1:     |                                                                   |
2:     |                                                                   |
3:     |                                                                   |
4:     |                                                                   |
5:     |                                                                   |
6:     |                                                                   |
7:     |                                                                   |
8:     b-------------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

Boiler Plate
Page 2

```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:
2:       Ref ID Header
3:
4:
5:
6:
7:
8:
9:
0:
1:
2:
3:
4:
5:
6:
7:
8:
9:
0:
1:
2:
3:
4:
```

RFDQD
UPDATE EGPC REFERENCE PARAMETERS DATA
Work Size - 0

Boiler Plate
Page 3

```
          1111111111222222222233333333334444444444555555555566666666667777777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:
2:      Type  Description
3:
4:
5:
6:
7:
8:     New Record        Press PF 10
9:
0:
1:
2:
3:
4:
5:
6:
7:
8:
9:
0:
1:
2:
3:
4:
```

RFDQM
UPDATE EGPC REFERENCE MASTER DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM RF_REF_MSTR
                                   WHERE RF_REF_MSTR.REF_TYPE=:BLOCK2.REF_TYPE
                                   AND   RF_REF_MSTR.REF_ID  =:BLOCK2.REF_ID
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Dupliacte records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM RF_REF_MSTR
                                   WHERE RF_REF_MSTR.REF_ID  =:BLOCK2.REF_ID
                                   AND   RF_REF_MSTR.REF_TYPE = :BLOCK2.REF_TYPE
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be enetered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                   * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO  GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

```
(1 BLOCK1 - BLOCK1)
  Block Name - Block Description
2 BLOCK2 - BLOCK2
      Table - RF_REF_MSTR                    Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 5   Physical Lines per Record - 1
          Where Order By - (  1) ORDER BY REF_TYPE, REF_ID
          Trigger Type - KEY-NXTBLK                        F-8 Menu - N

                                  Seq#   1  (  8)
                                           #EXEMACRO NULL;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTFLD                        F-8 Menu - N

                                  Seq#   1  (  9)
                                           #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                           WHEN 'REF_ID' THEN NXTREC;
                                           WHEN OTHERS THEN NXTFLD;
                                           END CASE;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                        F-8 Menu - N

                                  Seq#   1  ( 10)
                                           #EXEMACRO NULL;
                                                                  * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REF_TYPE	1	1	16	Y	CHAR	4/ 4/ 4	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) REF_ID	1	1	38	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 123456789012345678901234567890123456789012345678901234567890123456789012345678 90
1:  RRDQM                 EGPC Reference Master Data
2:    p-------------------------------------------------------------q
3:    |
4:    |          Type                  Reference ID
5:    |
6:    |
7:    |
8:    |
9:    |
0:    |
1:    |
2:    |
3:    |
4:    |
5:    |
6:    |
7:    |
8:    |
9:    b-------------------------------------------------------------d
0:
1:
2:
3:
4:
```

RFDQP
UPDATE EGPC REFERENCE PARAMETERS DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                    Seq#   1  (  2)
                               SELECT 'X'
                               FROM RF_REF_PRM
                               WHERE RF_REF_PRM.REF_TYPE=:BLOCK2.REF_TYPE
                               AND   RF_REF_PRM.REF_PRM =:BLOCK2.REF_PRM
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                    Seq#   1  (  3)
                               SELECT 'X'
                               FROM RF_REF_PRM
                               WHERE RF_REF_PRM.REF_TYPE=:BLOCK2.REF_TYPE
                               AND   RF_REF_PRM.REF_PRM =:BLOCK2.REF_PRM
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records may not be enetered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  4)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  5)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  6)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                 * Abort Trigger when Step Fails
                    Seq#   2  (  7)
                               #EXEMACRO  GOBLK BLOCK2;
                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

RFDQP
UPDATE EGPC REFERENCE PARAMETERS DATA
Work Size - 0

28-JUN-90

Screen - RFDQP

(1 BLOCK1 - BLOCK1)

Default Value - $$DATE$$

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - RF_REF_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 4 Physical Lines per Record - 1
Where Order By - (1) ORDER BY REF_TYPE, REF_PRM
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
```
#EXEMACRO NULL;
```
* Abort Trigger when Step Fails

Trigger Type - KEY-NXTFLD F-8 Menu - N

Seq# 1 (9)
```
#EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
WHEN 'REF_PRM' THEN NXTREC;
WHEN OTHERS THEN NXTFLD;
END CASE;
```
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (10)
```
#EXEAMCRO NULL;
```
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REF_TYPE	1	1	15	Y	CHAR	4/ 4/ 4	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) REF_PRM	1	1	40	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											

RFDQP
UPDATE EGPC REFERENCE PARAMETERS DATA
Work Size - 0

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  RFDQP                EGPC Reference Parameters
2:    p-------------------------------------------------------------------q
3:    |          Type                    Parameter                        |
4:    |                                                                   |
5:    |                                                                   |
6:    |                                                                   |
7:    |                                                                   |
8:    |                                                                   |
9:    |                                                                   |
0:    |                                                                   |
1:    |                                                                   |
2:    |                                                                   |
3:    |                                                                   |
4:    |                                                                   |
5:    |                                                                   |
6:    |                                                                   |
7:    |                                                                   |
8:    |                                                                   |
9:    b-------------------------------------------------------------------d
0:
1:
2:
3:
4:
```

ERDQF
UPDATE FAULT BLOCK DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM ER_FAULT_BLOCK
                                  WHERE ER_FAULT_BLOCK.PAY_ZONE_NAME = :BLOCK2.PAY_ZONE_NAME
                                  AND   ER_FAULT_BLOCK.FAULT_BLOCK = :BLOCK2.FAULT_BLOCK
                                  AND   ER_FAULT_BLOCK.CASE_VARIANT = :BLOCK2.CASE_VARIANT
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted .
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM ER_FAULT_BLOCK
                                  WHERE ER_FAULT_BLOCK.PAY_ZONE_NAME = :BLOCK2.PAY_ZONE_NAME
                                  AND   ER_FAULT_BLOCK.FAULT_BLOCK = :BLOCK2.FAULT_BLOCK
                                  AND   ER_FAULT_BLOCK.CASE_VARIANT = :BLOCK2.CASE_VARIANT
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                 * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO GOBLK BLOCK2,
                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	64	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK1
Table - ER_FAULT_BLOCK Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PAY_ZONE_NAME	1	3	14	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Pay Zone Name is a mandatory field																	
(2) FAULT_BLOCK	1	3	58	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Fault Block is a mandatory field																	
(3) CASE_VARIANT	1	3	74	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Case Variant is a mandatory field																	
(4) CASE_VARIANT_DESC	1	5	22	Y	CHAR	21/ 21/ 21	Y	N	Y	Y	N	N	N	N	N	N	N
(5) PROVEN_OOIP_MMSTB	1	5	59	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(6) PROB_OOIP_MMSTB	1	7	59	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(7) POSS_OOIP_MMSTB	1	9	59	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(8) OGIP_MMSTCM	1	11	59	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(9) GBV_MMCM	1	13	11	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(10) NBV_MMCM	1	13	39	Y	RNUMBER	8/ 8/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(11) NET_TO_GROSS_PCNT	1	13	70	Y	RNUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(12) THETA_PCNT	1	15	13	Y	RNUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(13) H2O_SAT_PCNT	1	15	46	Y	RNUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(14) FVF_BOI	1	15	69	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK1)

Boiler Plate
Page 1

```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901
 1: ERDQF                    Update Fault Block Data
 2:  p-------------------------------------------------------------------------q
 3:  | Pty Zone                                Ftult Block     Ctse Vtrtnt     |
 4:  |                                                                         |
 5:  | Ctse Description                        Proven OOIP              UNITS  |
 6:  |                                                                         |
 7:  |                                         Probtble OOIP            UNITS  |
 8:  |                                                                         |
 9:  |                                         Possible OOIP            UNITS  |
10:  |                                                                         |
11:  |                                         Origintl Gts             UNITS  |
12:  |                                                                         |
13:  |    GBV                        NBV             Net-to-Gross Rtio       % |
14:  |                                                                         |
15:  |    Thett        %        Wtter Sturtion       %       FVF BOI          |
16:  b-------------------------------------------------------------------------d
17:
18:
19:
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM ER_GRID_SIM_DATA
                                   WHERE ER_GRID_SIM_DATA.GRID_ID_REF=:BLOCK2.GRID_ID_REF
                                   AND   ER_GRID_SIM_DATA.X_COORD=:BLOCK2.X_COORD
                                   AND   ER_GRID_SIM_DATA.Y_COORD=:BLOCK2.Y_COORD
                                   AND   ER_GRID_SIM_DATA.Z_COORD=:BLOCK2.Z_COORD
                                   AND   ER_GRID_SIM_DATA.PRM_CODE=:BLOCK2.PRM_CODE
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  4)
                                   SELECT 'X'
                                   FROM ER_GRID_SIM_DATA
                                   WHERE ER_GRID_SIM_DATA.GRID_ID_REF=:BLOCK2.GRID_ID_REF
                                   AND   ER_GRID_SIM_DATA.X_COORD    =:BLOCK2.X_COORD
                                   AND   ER_GRID_SIM_DATA.Y_COORD    =:BLOCK2.Y_COORD
                                   AND   ER_GRID_SIM_DATA.Z_COORD    =:BLOCK2.Z_COORD
                                   AND   ER_GRID_SIM_DATA.PRM_CODE   =:BLOCK2.PRM_CODE
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  6)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  7)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                     * Abort Trigger when Step Fails
                         Seq#   2  (  8)
                                   #EXEMACRO GOBLK BLOCK2;
                                                     * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1

(1 BLOCK1 - BLOCK1)
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ER_GRID_SIM_DATA Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 5 Physical Lines per Record - 8

```
Where Order By - ( 1) ORDER BY PRM_CODE,GRID_ID_REF,X_COORD,Y_COORD,Z_COORD
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#  1  ( 9)
                             #EXEMACRO NULL;
                                              * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                    Seq#  1  ( 10)
                             #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                             WHEN 'PRM_CODE' THEN EXETRG CHECKPRM;
                             WHEN 'PRM_VALUE' THEN NXTREC;
                             WHEN OTHERS THEN NXTFLD;
                             END CASE;
                                              * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#  1  ( 11)
                             #EXEMACRO NULL;
                                              * Abort Trigger when Step Fails
Trigger Type - CHECKPRM                      F-8 Menu - N

                    Seq#  1  ( 12)
                             SELECT 'X'
                             FROM ER_GRID_SIM_PRM
                             WHERE ER_GRID_SIM_PRM.PRM_CODE = :BLOCK2.PRM_CODE
                                              * Abort Trigger when Step Fails
                                              Failure Message - Press F15 for a list of valid Grid Simulation Parameter Codes
                    Seq#  2  ( 13)
                             SELECT PRM_NAME
                             INTO BLOCK2.PRM_NAME
                             FROM ER_GRID_SIM_PRM
                             WHERE ER_GRID_SIM_PRM.PRM_COUL = :BLOCK2.PRM_CODE
                                              * Abort Trigger when Step Fails
                    Seq#  3  ( 14)
                             SELECT PRM_UNITS
                             INTO BLOCK2.PRM_UNITS
```

(2 BLOCK2 - BLOCK2)

```
FROM ER_GRID_SIM_PRM
WHERE ER_GRID_SIM_PRM.PRM_CODE = :BLOCK2.PRM_CODE
                                    * Abort Trigger when Step Fails
Seq#  4  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PRM_CODE	1	1	8	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	Y	N
Help Message - Press F15 for a list of valid Parameter Codes																	
(2) PRM_NAME	1	1	14	Y	CHAR	39/ 29/ 0	N	N	N	N	N	N	N	N	N	N	N
(3) PRM_UNITS	1	1	44	Y	CHAR	15/ 15/ 15	N	N	N	N	N	N	N	N	N	N	N
(4) GRID_ID_REF	1	3	28	Y	INT	13/ 13/ 13	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(5) X_COORD	1	1	65	Y	RINT	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Field must be entered																	
(6) Y_COORD	1	3	65	Y	RINT	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(7) Z_COORD	1	5	65	Y	RNUMBER	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(8) PRM_VALUE	1	5	28	Y	INT	13/ 13/ 13	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - ER_GRID_SIM_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record -
Where Order By - (2) ORDER BY PRM_CODE
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
#COPY :BLOCK3.PRM_CODE :BLOCK2.PRM_CODE
                                    * Abort Trigger when Step Fails
Seq#  2  ( 18)
#COPY :BLOCK3.PRM_NAME :BLOCK2.PRM_NAME
```

(3 BLOCK3 - BLOCK3)

```
                                                    * Abort Trigger when Step Fails
                    Seq#   3  ( 19)
                               #COPY :BLOCK3.PRM_UNITS :BLOCK2.PRM_UNITS
                                                    * Abort Trigger when Step Fails
                    Seq#   4  ( 20)
                               #EXEMACRO GOBLK BLOCK2; GOFLD GRID_ID_REF;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTBLK                     F-8 Menu - N

                    Seq#   1  ( 21)
                               #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                     F-8 Menu - N

                    Seq#   1  ( 22)
                               #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PRM_CODE	2	1	14	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired code and press F6											
(2) PRM_NAME	2	1	21	Y	CHAR	30/ 30/ 30	Y	N	N	N	N	N	N	N	N	N	N
(3) PRM_UNITS	2	1	53	Y	CHAR	15/ 15/ 15	Y	N	N	N	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

 1:  ERDQS                    Grid Simulation Data
 2:    p-------------------------------------------------------------------q
 3:    |                                                                   |
 4:    |  Code          Name                  Units          Coordinates   |
 5:    |                                                     X-            |
 6:    |                                                                   |
 7:    |  Grid ID Reference                                  Y-            |
 8:    |                                                                   |
 9:    |  Parameter Value                                    Z-            |
10:    |                                                                   |
11:    |                                                                   |
12:    |                                                                   |
13:    |                                                                   |
14:    |                                                                   |
15:    |                                                                   |
16:    |                                                                   |
17:    |                                                                   |
18:    |                                                                   |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

```
                                Boiler Plate
                                  Page 2

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                 Select the Desired Grid Simulation Parameter Code
 3:         p-------------------------------------------------------q
 4:         |                                                       |
 5:         |     Code   Parameter Name                Units        |
 6:         |                                                       |
 7:         |                                                       |
 8:         |                                                       |
 9:         |                                                       |
10:         |                                                       |
11:         |                                                       |
12:         |                                                       |
13:         |                                                       |
14:         |                                                       |
15:         |                                                       |
16:         |                                                       |
17:         |                                                       |
18:         |                                                       |
19:         b-------------------------------------------------------d
20:
21:
22:
23:
24:
```

ERDQP
UPDATE GRID SIMULATION PARAMETERS
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM ER_GRID_SIM_PRM
                                   WHERE ER_GRID_SIM_PRM.PRM_CODE = :BLOCK2.PRM_CODE
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted in the Grid Simulation Parameter Table
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM ER_GRID_SIM_PRM
                                   WHERE ER_GRID_SIM_PRM.PRM_CODE = :BLOCK2.PRM_CODE
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted in the Grid Simulation Parameter Table
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                    * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2

```
(2 BLOCK2 - BLOCK2)
      Table - ER_GRID_SIM_PPM              Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 7   Physical Lines per Record - 1
              Where Order By - ( 1) ORDER BY PRM_CODE
              Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                     Seq#   1  ( 8)
                                                #EXEMACRO NULL;
                                                                 * Abort Trigger when Step Fails
              Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                                     Seq#   1  ( 9)
                                                #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                                WHEN 'PRM_CODE' THEN EXETRG REQ_FIELD;
                                                WHEN 'PRM_UNITS' THEN NXTREC;
                                                WHEN OTHERS THEN NXTFLD;
                                                END CASE;
                                                                 * Abort Trigger when Step Fails
              Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                                     Seq#   1  ( 10)
                                                #EXEMACRO NULL;
                                                                 * Abort Trigger when Step Fails
              Trigger Type - REQ_FIELD                     F-8 Menu - N

                                     Seq#   1  ( 11)
                                                SELECT 'X'
                                                FROM DUAL
                                                WHERE :BLOCK2.PRM_CODE IS NOT NULL
                                                                 * Abort Trigger when Step Fails
                                                                 Failure Message - Parameter Code is a required field
                                     Seq#   2  ( 12)
                                                #EXEMACRO NXTFLD;
                                                                 * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PRM_CODE	1	1	9	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(2) PRM_NAME	1	1	23	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	N	N	N	N	N	N
(3) PRM_UNITS	1	1	61	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N

```
                                  Boiler Plate
                                    Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ERDQP                 Grid Simulation Parameters
 2:    c-------------------------------------------------------------------g
 3:    |
 4:    |
 5:    |     Parameter     Parameter                          Parameter
 6:    |     Code          Name                               Units
 7:    |
 8:    |
 9:    |
10:    |
11:    |
12:    |
13:    |
14:    |
15:    |
16:    |
17:    |
18:    |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM ER_RESERVOIR
                                  WHERE ER_RESERVOIR.PAY_ZONE_NAME = :BLOCK2.PAY_ZONE_NAME
                                  AND   ER_RESERVOIR.CASE_VARIANT  = :BLOCK2.CASE_VARIANT
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  3)
                                  SELECT 'X'
                                  FROM ER_RESERVOIR
                                  WHERE ER_RESERVOIR.PAY_ZONE_NAME=:BLOCK2.PAY_ZONE_NAME
                                  AND   ER_RESERVOIR.CASE_VARIANT =:BLOCK2.CASE_VARIANT
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  5)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  6)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                   * Abort Trigger when Step Fails
                        Seq#   2  (  7)
                                  #EXEMACRO  GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ER_RESERVOIR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/1
Where Order By - (1) ORDER BY PAY_ZONE_NAME, CASE_VARIANT
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (9)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PAY_ZONE_NAME	1	4	23	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) CASE_VARIANT	1	6	21	Y	RINT	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) CASE_VARIANT_DESC	1	6	46	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(4) ZONE_BOT_DEPTH	1	8	28	Y	RNUMBER	9/ 9/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(5) PROVEN_RESRV_MMSTB	1	8	59	Y	RNUMBER	8/ 8/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(6) ZONE_THICKNESS	1	10	28	Y	RNUMBER	9/ 9/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(7) PROB_RESRV_MMSTB	1	10	59	Y	RNUMBER	8/ 8/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(8) POSS_RESRV_MMSTB	1	12	58	Y	RNUMBER	8/ 8/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(9) AVG_POROSITY_PCNT	1	13	34	Y	RNUMBER	6/ 6/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(10) THETA_CO_PCNT	1	14	61	Y	RNUMBER	6/ 6/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(11) HC_H2O_CONTACT	1	15	24	Y	RNUMBER	9/ 9/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(12) VSH_CO_PCNT	1	16	61	Y	RNUMBER	6/ 6/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(13) CDT_METERS_SSL	1	17	24	Y	RNUMBER	9/ 9/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(14) SW_CO_PCNT	1	18	61	Y	RNUMBER	6/ 6/ 0	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

```
                                Boiler Plate
                                  Page 1

          111111111122222222223333333333444444444455555555556666666666777777777778
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ERDQR                 Update Reservoir Data
 2:    p-------------------------------------------------------------q
 3:    |                                                             |
 4:    |  Pty Zone Name                                              |
 5:    |                                                             |
 6:    |  Case Variant              Description                      |
 7:    |                                                             |
 8:    |  Zone:  Bottom Depth              Reserves:  Proven         |
 9:    |                                                             |
10:    |            Thickness                          Probable      |
11:    |                                                             |
12:    |                                             Possible        |
13:    |   Average Porosity Percent                                  |
14:    |                                           Theta Co Percent  |
15:    |   HC H2O Contact                                            |
16:    |                                             VSH Co Percent  |
17:    |   ODT Meters SSL                                            |
18:    |                                              SW Co Percent  |
19:    b-------------------------------------------------------------d
20:
21:
22:
23:
24:
```

EWDOG
UPDATE MAGNETIC TAPE DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                    Seq#   1  (  1)
                              SELECT 'X'
                              FROM EW_MAG_TAPE
                              WHERE EW_MAG_TAPE.SEIS_SURVEY=:BLOCK2.SEIS_SURVEY
                              AND   EW_MAG_TAPE.SL_LINE_NUMBER=:BLOCK2.SL_LINE_NUMBER
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                    Seq#   1  (  2)
                              SELECT 'X'
                              FROM EW_MAG_TAPE
                              WHERE EW_MAG_TAPE.SEIS_SURVEY=:BLOCK2.SEIS_SURVEY
                              AND   EW_MAG_TAPE.SL_LINE_NUMBER=:BLOCK2.SL_LINE_NUMBER
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  3)
                              #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  4)
                              #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  5)
                              SELECT SYSDATE
                              INTO BLOCK1.TODAY
                              FROM DUAL
                                                 * Abort Trigger when Step Fails
                    Seq#   2  (  6)
                              #EXEMACRO  GOBLK BLOCK2;
                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update w/ Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

(2 BLOCK2 - BLOCK1)

Help Message - Enter value for : MEDIA_TYPE

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(12) MEDIA_COND	1	17	69	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	Y	N	N	N
						Help Message - Enter value for : MEDIA_COND											
(13) SM_REMARKS	1	19	24	Y	CHAR	21/ 21/ 21	Y	N	Y	Y	N	N	N	Y	N	N	N
						Help Message - Enter value for : SM_REMARKS											

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:  EWDOG                        Seismic Magnetic Tape
2:    n-------------------------------------------------------------------q
3:    |      SEIS SURVEY                                                  |
4:    |                                                                   |
5:    |      Line Number                            e Abr.                |
6:    |                                                                   |
7:    |       Instrument                                                  |
8:    |                                                                   |
9:    |           Format                                                  |
10:   |                                                                   |
11:   |  Recorder Channel                                                 |
12:   |                                                                   |
13:   |     Data Channel                                                  |
14:   |                                                                   |
15:   |            Room                 Row             Column            |
16:   |                                                                   |
17:   |       Media Type                            Media Condition       |
18:   |                                                                   |
19:   |          Remarks                                                  |
20:   -------------------------------------------------------------------d
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM EW_MAP_INDEX
                                  WHERE EW_MAP_INDEX.COMPANY_NAME_ABR=:BLOCK2.COMPANY_NAME_ABR
                                  AND   EW_MAP_INDEX.AREA_ABR        =:BLOCK2.AREA_ABR
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM EW_MAP_INDEX
                                  WHERE EW_MAP_INDEX.COMPANY_NAME_ABR=:BLOCK2.COMPANY_NAME_ABR
                                  AND   EW_MAP_INDEX.AREA_ABR        =:BLOCK2.AREA_ABR
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO TODAY
                                  FROM DUAL
                                                        * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO  GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	59	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK1
Table - EW_MAP_INDEX Hide - N Chk for Uniqueness - N Ctrl - N Display/buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) AREA_ABR	1	3	19	Y	CHAR	17/ 17/ 0	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(2) COMPANY_NAME_ABR	1	5	19	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(3) MP_S_LATITUDE	1	7	19	Y	NUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(4) MP_S_LONGITUDE	1	9	19	Y	NUMBER	7/ 7/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(5) MP_B_LATITUDE	1	11	19	Y	CHAR	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(6) MP_B_LONGITUDE	1	13	19	Y	CHAR	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(7) MP_S_X_COOR	1	7	33	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(8) MP_S_Y_COOR	1	9	33	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(9) MP_B_X_COOR	1	11	33	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(10) MP_B_Y_COOR	1	13	33	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(11) MP_DATE	1	7	50	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(12) MEDIA_COND	1	11	46	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(13) MEDIA_TYPE	1	13	46	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(14) MP_SCALE	1	7	66	Y	CHAR	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(15) MP_ROOM	1	9	66	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK1)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(16) MP_ROW	1	11	66	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(17) MP_COLUMN	1	13	66	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(18) MAP_TYPE	1	15	20	Y	CHAR	32/ 32/ 32	Y	N	Y	Y	N	N	N	N	N	N	N
(19) MAP_TYPE_ABR	1	15	59	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(20) FORMATION	1	17	20	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	N	N	N	N	N	N
(21) FORMATION_ABR	1	17	59	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(22) GEOLOGICAL_AGE	1	19	20	Y	CHAR	31/ 31/ 31	Y	N	Y	Y	N	N	N	N	N	N	N
(23) ALIAS	1	19	59	Y	CHAR	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0
 1:  EWDQM                          Map Index
 2:    n-------------------------------------------------------------------q
 3:    |  Area Abr                                                         |
 4:    |                                                                   |
 5:    |  Company Abr                                                      |
 6:    |                            Coordinates                            |
 7:    |  S Latitude          S X-            Date            Scale        |
 8:    |                                                                   |
 9:    |  S Longitude         S Y-             Medium:         Room        |
10:    |                                       Condition                   |
11:    |  B Latitude          B X-                             Row         |
12:    |                                       Type                        |
13:    |  B Longitude         B Y-                             Col         |
14:    |                                                                   |
15:    |      Map type                                 Abr                 |
16:    |                                                                   |
17:    |     Formation                                 Abr                 |
18:    |                                                                   |
19:    |Geological Age                                Alias                v
20:    u-------------------------------------------------------------------d
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM EW_SEISMIC_LINE
                                   WHERE EW_SEISMIC_LINE.SEIS_SURVEY = :BLOCK2.SEIS_SURVEY
                                   AND   EW_SEISMIC_LINE.SL_LINE_NUMBER = :BLOCK2.SL_LINE_NUMBER
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM EW_SEISMIC_LINE
                                   WHERE EW_SEISMIC_LINE.SEIS_SURVEY = :BLOCK2.SEIS_SURVEY
                                   AND EW_SEISMIC_LINE.SL_LINE_NUMBER = :BLOCK2.SL_LINE_NUMBER
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO  GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1

Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	60	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK1
Table - EW_SEISMIC_LINE Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#F-5 ADD NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) SEIS_SURVEY	1	3	21	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(2) SL_LINE_NUMBER	1	5	21	Y	CHAR	14/ 14/ 14	Y	N	Y	Y	N	Y	N	Y	N	N	N
(3) SL_SHOT_FROM	1	8	21	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(4) SL_SHOT_TO	1	10	21	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(5) SL_SHOT_DATE	1	12	21	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(6) AREA_ABR	1	14	21	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(7) COMPANY_NAME_ABR	1	16	21	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(8) SEIS_CON_ABR	1	18	21	Y	CHAR	19/ 19/ 19	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          111111111122222222223333333333444444444455555555556666666666777777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  EWDQL                    Seismic Line
 2:    n-------------------------------------------------------------------q
 3:    |Seismic Survey                                                     |
 4:    |                                                                   |
 5:    |   Line Number                                                     |
 6:    |                                                                   |
 7:    |                                                                   |
 8:    |     Shot From                                                     |
 9:    |                                                                   |
10:    |     Shot To                                                       |
11:    |                                                                   |
12:    |     Shot Date                                                     |
13:    |                                                                   |
14:    |     Area Abr.                                                     |
15:    |                                                                   |
16:    | Comp Name Abr.                                                    |
17:    |                                                                   |
18:    | Seis Con. Abr.                                                    |
19:    |                                                                   v
20:    u-------------------------------------------------------------------d
21:
22:
23:
24:
```

EWDQS
EWMAG
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM EW_SEISMIC_SECT
                                   WHERE EW_SEISMIC_SECT.SEIS_SURVEY=:BLOCK2.SEIS_SURVEY
                                   AND   EW_SEISMIC_SECT.SL_LINE_NUMBER=:BLOCK2.SL_LINE_NUMBER
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   select 'x'
                                   FROM EW_SEISMIC_SECT
                                   WHERE EW_SEISMIC_SECT.SEIS_SURVEY=:BLOCK2.SEIS_SURVEY
                                   AND   EW_SEISMIC_SECT.SL_LINE_NUMBER=:BLOCK2.SL_LINE_NUMBER
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO  GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	58	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK1
Table - EW_SEISMIC_SECT Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) SEIS_SURVEY	1	3	18	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) SL_LINE_NUMBER	1	3	50	Y	CHAR	14/ 14/ 14	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) SS_RECORDER_TYPE	1	5	21	Y	CHAR	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N
(4) MEDIA_COND	1	5	48	Y	CHAR	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(5) SS_FOLD	1	4	65	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(6) SS_LENGTH	1	6	65	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(7) SS_SPREAD_LENGTH	1	8	65	Y	CHAR	11/ 10/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(8) SS_GROUP_INTERVAL	1	10	65	Y	NUMBER	11/ 10/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(9) SS_SP_INTERVAL	1	12	65	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(10) SS_NUMBER_HOLES	1	14	65	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(11) SS_PROCESS_DATE	1	16	65	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(12) SS_PROCESS_FOLD	1	18	65	Y	NUMBER	11/ 10/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(13) SS_INSTRUMENT_CHAN	1	7	20	Y	NUMBER	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(14) SS_DATA_CHANNEL	1	9	20	Y	NUMBER	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(15) SS_SCALE	1	7	40	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK1)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Cry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(16) SS_ROOM	1	9	40	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(17) SS_ROW	1	11	40	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(18) SS_COL	1	13	40	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(19) SS_SAMPLE_RATE	1	15	41	Y	INT	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(20) ENERGY	1	11	15	Y	CHAR	19/ 19/ 19	Y	N	Y	Y	N	N	N	N	N	N	N
(21) SEIS_PRO	1	13	16	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(22) SEIS_CON	1	17	5	Y	CHAR	47/ 47/ 47	Y	N	Y	Y	N	N	N	N	N	N	N
(23) SEIS_CON_ABR	1	19	5	Y	CHAR	19/ 19/ 19	Y	N	Y	Y	N	N	N	N	N	N	N
(24) MEDIA_TYPE	1	19	43	Y	CHAR	15/ 15/ 0	Y	N	Y	Y	N	N	N	N	N	N	N

```
                                Boiler Plate
                                  Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  EWDQS                    Seismic Section
 2:    n-------------------------------------------------------------------o
 3:    | Seis.Survey                  Line Number:
 4:    |                                                        Fold
 5:    | Recorder Type:               Condition:
 6:    |                                                      Length
 7:    | Inst.Channel:            Scale:
 8:    |                                                 Spread Length
 9:    | Data Channel:            Room:
10:    |                                               Group Interval
11:    | Energy                    Row:
12:    |                                              Meter Interval
13:    | Seis.Proc                 Col:
14:    |                                                Number Holes
15:    |                       Sample Rate:
16:    | Contractor                                     Process Date
17:    |
18:    | Contractor Abr                                 Process Fold
19:    |                         Media Type:
20:    u-------------------------------------------------------------------d
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM EW_SEISMIC_SURVEY
                                  WHERE EW_SEISMIC_SURVEY.SEIS_SURVEY=:BLOCK2.SEIS_SURVEY
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM EW_SEISMIC_SURVEY
                                  WHERE EW_SEISMIC_SURVEY.SEIS_SURVEY=:BLOCK2.SEIS_SURVEY
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                    * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO  GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 block1 - block1

Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	2	59	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 block2 - block1

(2 block2 - block1)
Table - EW_SEISMIC_SURVEY Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) SEIS_SURVEY	1	5	24	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) UPPER_LEFT_LONG	1	7	24	Y	CHAR	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(3) LOWER_RIGHT_LONG	1	9	24	Y	CHAR	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(4) UPPER_LEFT_LAT	1	7	57	Y	CHAR	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(5) LOWER_RIGHT_LAT	1	9	57	Y	CHAR	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(6) AREA	1	11	24	Y	CHAR	44/ 44/ 44	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : AREA											
(7) COMPANY_NAME	1	13	24	Y	CHAR	46/ 46/ 46	Y	N	Y	Y	N	N	N	N	N	N	N
(8) SEIS_CON	1	15	24	Y	CHAR	49/ 49/ 49	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777888
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:
 2:   EWDQV                          Seismic Survey
 3:    p-------------------------------------------------------------------q
 4:    |                                                                   |
 5:    | Seis survey                                                       |
 6:    |                                                                   |
 7:    | Upper left Long.                  Upper Left Lat.                 |
 8:    |                                                                   |
 9:    | Lower Right Long.                 Lower Right Lat.                |
10:    |                                                                   |
11:    |                Area                                               |
12:    |                                                                   |
13:    |        Company Name                                               |
14:    |                                                                   |
15:    |     Contractor Name                                               |
16:    |                                                                   |
17:    b-------------------------------------------------------------------d
18:
19:
20:
21:
22:
23:
24:
```

ESDQA
UPDATE SSI AIRMAG DATA
Work Size - 0


```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  1)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  2)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  3)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                  * Abort Trigger when Step Fails
                    Seq#   2  (  4)
                               #EXEMACRO  GOBLK BLOCK2;
                                                  * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	60	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_AIRMAG_DATA Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  5)
                               #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                               #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
```

(1) TITLE	1	3	9	Y	CHAR	71/ 70/ 71	Y	N	Y	Y	N	N	N	N	N	N	N
(2) DATEREC	1	5	23	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(3) DATEPROC	1	5	61	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) CONCESSIONAIRE	1	6	23	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(5) PROC_CONTRACTOR	1	7	23	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(6) REC_CONTRACTOR	1	7	61	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(7) NW_COORD	1	9	16	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(8) SE_COORD	1	9	56	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(9) DATUM	1	11	18	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(10) SCALE	1	11	39	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(11) CONTOUR_INTERVAL	1	11	70	Y	NUMBER	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
(12) FLIGHT_ALTITUDE	1	12	18	Y	RNUMBER	8/ 8/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(13) FLIGHT_INTERVAL	1	12	70	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(14) TIE_LINE_INTERVAL	1	13	70	Y	RNUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(15) PROCTYPE	1	14	18	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(16) MEDIA	1	15	18	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(17) QUALITY	1	15	60	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(18) REGION	1	17	9	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(19) BASIN_HIGH	1	17	[illegible]	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(20) FIELD_NAME	1	18	9	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(21) BUILDING	1	19	28	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(22) BOX_NO	1	19	63	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N

```
                                   Boiler Plate
                                     Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ESDQA                      SSI AirMag Data
 2:  n-------------------------------------------------------------------------q
 3:  |Title                                                                    |
 4:  |                                                                         |
 5:  |Date Recorded                          Date Processed                    v
 6:  |Concession#ire                                                           v
 7:  |Recording Contractor                   Process Contractor                |
 8:  |                                                                         |
 9:  |NW Coordinate                          SE Coordinate                     |
10:  |                                                                         v
11:  |Datum                            Scale            Contour Interval       |
12:  |Flight Altitude                                   Flight Interval        |
13:  |                                                  Tie Line Interval      v
14:  |Processing Type                                                          |
15:  |Media                                             Quality                |
16:  |                                                                         |
17:  |Region                                            Basin/High             |
18:  |Field                                                                    |
19:  |Airmag Loc (Building)                             Box Number             v
20:  u-------------------------------------------------------------------------d
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  ( 1)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  ( 2)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  ( 3)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                 * Abort Trigger when Step Fails
                    Seq#   2  ( 4)
                               #EXEMACRO  GOBLK BLOCK2;
                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - [illegible] - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_GRAVITY_DATA Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  ( 5)
                               #EXEMACRO NULL;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  ( 6)
                               #EXEMACRO NULL;
                                                 * Abort Trigger when Step Fails
```

(1) TITLE	1	3	8	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N
(2) DATEREC	1	4	16	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(3) NW_COORD	1	6	16	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) SE_COORD	1	6	55	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(5) PROC_CONTRACTOR	1	8	21	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(6) REC_CONTRACTOR	1	8	60	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(7) CONCESSIONAIRE	1	10	21	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(8) REGION	1	12	9	Y	CHAR	17/ 16/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(9) BASIN_HIGH	1	12	52	Y	CHAR	13/ 13/ 13	Y	N	Y	Y	N	N	N	N	N	N	N
(10) FIELD_NAME	1	13	9	Y	CHAR	18/ 18/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(11) DATUM	1	13	52	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(12) SCALE	1	13	73	Y	RNUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(13) CONTOUR_INTERVAL	1	15	19	Y	RNUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(14) MEDIA	1	17	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(15) QUALITY	1	17	57	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(16) BUILDING	1	19	22	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(17) BOX_NO	1	19	60	Y	CHAR	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N

```
                                   Boiler Plate
                                     Page 1

            1111111111222222222233333333334444444444555555555566666666667777777777 8
   12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ESDQG                        Update SSI Gravity Data
 2:  n-------------------------------------------------------------------<-------q
 3:  |Title                                                                       |
 4:  |Date Recorded                                                               |
 5:  |                                                                            |
 6:  |NW Coordinate                        SE Coordinate                          |
 7:  |                                                                            |
 8:  |Process Contractor                   Record Contractor                      |
 9:  |                                                                            |
10:  |Concessionaire                                                              |
11:  |                                                                            |
12:  |Region                               Basin/High                             |
13:  |Field                                Datum                     scale        |
14:  |                                                                            |
15:  |Contour Interval                                                            |
16:  |                                                                            |
17:  |Media                                        Quality                        |
18:  |                                                                            |
19:  |Location (Building)                          Box Number                     v
20:  u-----------------------------------------------------------------------------d
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  1)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  2)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu   N

                    Seq#   1  (  3)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                  * Abort Trigger when Step Fails
                    Seq#   2  (  4)
                               #EXEMACRO  GOBLK BLOCK2;
                                                  * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_LAB_ANALYSIS Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  5)
                               #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                               #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
```

(1) TITLE	1	3	9	Y	CHAR	69/ 69/ 69	Y	N	Y	Y	N	N	N	N	N	N	N
(2) TYPE	1	4	9	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(3) DATEREC	1	4	69	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) CONCESSIONAIRE	1	6	18	Y	CHAR	18/ 18/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(5) CONTRACTOR	1	6	60	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(6) PAGES_NO	1	8	14	Y	RNUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(7) INCLUSIONS	1	8	38	Y	RNUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(8) SAMPLES	1	8	61	Y	RNUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(9) TOP_DEPTH	1	10	13	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(10) BTM_DEPTH	1	10	37	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(11) MEASURE_UNITS	1	10	67	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(12) SOURCE	1	12	17	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(13) QUALITY	1	12	57	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(14) REGION	1	14	10	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(15) BASIN_HIGH	1	14	60	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(16) FIELD_NAME	1	16	14	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(17) WELL	1	16	54	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(18) BUILDING	1	18	23	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(19) LAB_NO	1	18	52	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(20) CABINET_NUM	1	18	70	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(21) REMARKS	1	19	10	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
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          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ESDQL                  Update SSI Lab Analysis Data
 2: n-------------------------------------------------------------------<------q
 3:  | Title                                                                    |
 4:  | Type                                                 Date Recorded       |
 5:  |                                                                          |
 6:  | Concession/Fire                                Contractor                v
 7:  |                                                                          |
 8:  | No. Pages            No. Inclusions            No. Samples               |
 9:  |                                                                          |
10:  | Top Depth                Btm Depth             Measurement Units          |
11:  |                                                                          |
12:  | Sample Source                                  Quality                   |
13:  |                                                                          |
14:  | Region                                         Basin/High                |
15:  |                                                                          |
16:  | Field/Area                                     Well                      |
17:  |                                                                          |
18:  | Location (Building)                      Lab No.       Cabinet No.        |
19:  | Remarks                                                                  v
20: u-------------------------------------------------------------------<------d
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  1)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  2)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  3)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                   * Abort Trigger when Step Fails
                    Seq#   2  (  4)
                               #EXEMACRO  GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_MAPS Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  5)
                               #EXEMACRO NULL;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                               #EXEMACRO NULL;
                                                   * Abort Trigger when Step Fails
```

(1) MAP_TITLE	1	3	12	Y	CHAR	68/ 68/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(2) REPORT_TITLE	1	5	12	Y	CHAR	68/ 68/ 68	Y	N	Y	Y	N	N	N	N	N	N	N
(3) TYPE	1	6	12	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) MAP_DATE	1	6	60	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(5) CONCESSIONAIRE	1	8	17	Y	CHAR	19/ 19/ 19	Y	N	Y	Y	N	N	N	N	N	N	N
(6) CONTRACTOR	1	8	58	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(7) AUTHOR	1	9	9	Y	CHAR	71/ 71/ 71	Y	N	Y	Y	N	N	N	N	N	N	N
(8) NW_COORD	1	11	16	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(9) SE_COORD	1	11	54	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(10) HORIZON	1	12	10	Y	CHAR	26/ 26/ 26	Y	N	Y	Y	N	N	N	N	N	N	N
(11) SCALE	1	12	53	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(12) CONTOUR_INTERVAL	1	13	19	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(13) MEASURE_UNITS	1	13	65	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(14) MEDIA	1	14	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(15) QUALITY	1	14	55	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(16) REGION	1	16	13	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(17) BASIN_HIGH	1	16	58	Y	CHAR	15/ 15/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(18) FIELD_NAME	1	17	13	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(19) WELL	1	17	58	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(20) BUILDING	1	19	21	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(21) CABINET_NUM	1	19	59	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(22) MAP_NO	1	19	73	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N

```
                                   Boiler Plate
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   12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ESDQM                          Update SSI Map Data
 2: n-------------------------------------------------------------------<------q
 3: |Map Title                                                                 v
 4: |Report                                                                    |
 5: |Title                                                                     |
 6: |Type                                                 Date                 |
 7: |                                                                          |
 8: |Concession/ire                                 Contractor                 |
 9: |Author                                                                    |
10: |                                                                          |
11: |NW Coordinate                            SE Coordinate                    |
12: |Horizon                                        Scale                      |
13: |Contour Interval                               Measurement Units          |
14: |Medi                                           Quality                    |
15: |                                                                          |
16: |Region                                         Basin/High                 |
17: |Field/Area                                           Well                 |
18: |                                                                          |
19: |Map Loc (Building)                             Cabinet No.      Map No.   v
20: u-------------------------------------------------------------------<------d
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  1)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  2)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  3)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                  * Abort Trigger when Step Fails
                    Seq#   2  (  4)
                               #EXEMACRO CLBLK BLOCK2;
                                                  * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	58	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_REPORTS Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  5)
                               #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                               #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
```

(1) TITLE	1	3	8	Y	CHAR	140/ 60/-116	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : TITLE											
(2) TYPE	1	5	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(3) REPORT_PAPER	1	5	46	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(4) REPORT_DATE	1	5	62	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(5) CONCESSIONAIRE	1	7	17	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(6) CONTRACTOR	1	7	57	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(7) AUTHOR	1	9	6	Y	CHAR	72/ 72/ 72	Y	N	Y	Y	N	N	N	N	N	N	N
(8) PAGES_NO	1	11	12	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(9) INCLUSIONS	1	11	40	Y	CHAR	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(10) QUALITY	1	11	64	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(11) REGION	1	13	9	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(12) BASIN_HIGH	1	13	57	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(13) FIELD_NAME	1	15	13	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(14) WELL	1	15	51	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(15) BUILDING	1	17	24	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(16) CABINET_NUM	1	17	58	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(17) REPORT_NO	1	17	75	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(18) ABSTRACT_REMARKS	1	19	3	Y	CHAR	240/ 60/-16 Help Message - Enter value for : ABSTRACT_REMARKS	Y	N	Y	Y	N	N	N	N	N	N	N
(19) SUB_TYPE	2	3	3	Y	CHAR	100/ 60/100 Help Message - Enter value for : SUB_TYPE	Y	N	Y	Y	N	N	N	N	N	N	N
(20) AREA_GEOG	2	5	3	Y	CHAR	65/ 65/ 65	Y	N	Y	Y	N	N	N	N	N	N	N
(21) AREA_GEOLOG	2	7	3	Y	CHAR	65/ 65/ 65	Y	N	Y	Y	N	N	N	N	N	N	N
(22) SUB_AREA	2	9	3	Y	CHAR	75/ 75/ 75	Y	N	Y	Y	N	N	N	N	N	N	N
(23) CONCESS_BLOCK	2	11	16	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(24) MICROFILM_NO	2	11	53	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(25) ENCLOS_MAP	2	14	7	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(26) ENCLOS_SECT	2	14	19	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(27) ENCLOS_ELOG	2	14	29	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(28) ENCLOS_COMPOSITE	2	14	42	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(29) ENCLOS_VSP	2	14	50	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(30) ENCLOS_MUD_LOG	2	14	62	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(31) ENCLOS_DISK	2	14	71	Y	NUMBER	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(32) CONDITION_VG	2	16	18	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(33) CONDITION_G	2	16	23	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(34) CONDITION_P	2	16	28	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(35) SECURITY_HIGH	2	16	45	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(36) SECURITY_LOW	2	16	51	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(37) CONFIDENTIAL	2	16	72	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(38) ROOM_NO	2	18	12	Y	CHAR	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(39) SHELF_NO	2	18	32	Y	CHAR	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(40) NO_OF_COPIES	2	18	55	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N

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 1:  ESDQR                    Update SSI Reports Data
 2:  n-------------------------------------------------------------------<------q
 3:  |Title                                                                      |
 4:  |                                                                           |
 5:  |Type                    Report/Paper? (R/P)            Date                |
 6:  |                                                                           |
 7:  |Concession/ire                              Contractor                     |
 8:  |Author                                                                     |
 9:  |                                                                           v
10:  |                                                                           |
11:  |No. Pages               No. Inclusions                 Quality             |
12:  |                                                                           |
13:  |Region                                      Basin/High                     |
14:  |                                                                           |
15:  |Field Name                                  Well                           |
16:  |                                                                           |
17:  |Report Loc (Building)                       Cabinet No.       Report No.   |
18:  |Abstract/Remarks                                                           |
19:  |                                                                           v
20:  u-------------------------------------------------------------------<------d
21:  p-----------------------------------------------------------------------q
22:  | Sub.Type                                                                 |
23:  |                                                                          |
24:  | Area_Geog.                                                               |
25:  |                                                                          |
26:  | Area geolog.                                                             |
27:  |                                                                          |
28:  | Sub area                                                                 |
29:  |                                                                          |
30:  |                                                                          |
31:  | Conces.Block                          Microfilm no.                      |
32:  |                                                                          |
33:  | Enclos :                                                                 |
34:  | Map       Sect.     Elog.    Composite    VSP     Mud Log     Disk      |
35:  |                                                                          |
36:  | Condition : VG    G   P    Security: High   Low         Confidential    |
37:  |                                                                          |
38:  | Room no.          Shelf no.          No Of Copies                        |
39:  |                                                                          |
40:  b-----------------------------------------------------------------------d
```

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```
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12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                        ========  BLOCK3  ========
 3:
 4:
 5:
 6:
 7:
 8:
 9:
10:
11:
12:
13:
14:
15:
16:
17:
18:
19:
20:
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  1)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  2)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  3)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                   * Abort Trigger when Step Fails
                    Seq#   2  (  4)
                               #EXEMACRO GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	59	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_SEISMIC_DATA Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  5)
                               #EXEMACRO NULL;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                               #EXEMACRO NULL;
                                                   * Abort Trigger when Step Fails
```

(1) LINE	1	3	7	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(2) DATEREC	1	3	69	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(3) TYPE	1	4	7	Y	CHAR	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) ORIG_REPRO	1	4	48	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(5) DATEPROC	1	4	69	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(6) BEGCOORD	1	5	26	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(7) ENDCOORD	1	5	55	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(8) BEGDIREC	1	6	22	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
(9) ENDDIREC	1	6	75	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
(10) BEGSHOTNO	1	7	22	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(11) ENDSHOTNO	1	7	71	Y	NUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(12) CONCESSIONAIRE	1	8	20	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(13) REC_CONTRACTOR	1	9	20	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(14) PROC_CONTRACTOR	1	9	60	Y	CHAR	18/ 18/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(15) RECORDTYPE	1	10	20	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(16) RECLENGTH	1	10	77	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(17) ENERGY_SOURCE	1	12	16	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(18) STACK	1	12	45	Y	CHAR	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(19) SAMPLERATE	1	12	77	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(20) SHOT_PT_INTERVAL	1	13	19	Y	RNUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(21) GROUP_INTERVAL	1	13	45	Y	RNUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(22) TRACE	1	13	75	Y	NUMBER	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
(23) DATUM	1	14	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(24) HORZSCALE	1	14	68	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(25) MEDIA	1	15	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(26) QUALITY	1	15	40	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(27) VERTSCALE	1	15	68	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(28) REGION	1	17	13	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(29) BASIN_HIGH	1	17	63	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(30) FIELD_NAME	1	18	13	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(31) BOX_NO	1	19	63	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(32) BUILDING	1	19	32	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N

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                                  Boiler Plate
                                    Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ESDQS                  Update SSI Seismic Data
 2: n-------------------------------------------------------------------<------q
 3: |Line                                          Date Recorded                |
 4: |Type                 Orig/Reprocessed? (O/R)  Date Processed               |
 5: |Coordinates - Beginning                       End                          |
 6: |Beginning Direction                           Ending Direction             |
 7: |Beginning Shot No.                            Ending Shot No.              |
 8: |Concession/Lire                                                            |
 9: |Record Contractor                   Process Contractor                     |
10: vRecord Type                                  Recording Length             |
11: |                                                                           |
12: |Energy Source                       Stack     Sample Rate                 |
13: |Shot Pt Interval            Group Interval     Trace                       |
14: |Datum                                          Scale  Horizontal           |
15: |Medi                        Quality                   Vertical            v
16: |                                                                           |
17: |Region                                          Basin/High                 |
18: |Field/Area                                                                 |
19: |Seismic Loc (Building)                             Box_No.                 v
20: u-------------------------------------------------------------------<------d
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  2)
                              #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  3)
                              #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  4)
                              SELECT SYSDATE
                              INTO BLOCK1.TODAY
                              FROM DUAL
                                                 * Abort Trigger when Step Fails
                    Seq#   2  (  5)
                              #EXEMACRO GOBLK PFKEYS_PAG1; EXEQRY; GOBLK BLOCK2;
                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	60	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_SEISMIC_3D Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                              #EXEMACRO NULL;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  (  7)
                              #EXEMACRO NULL;
                                                 * Abort Trigger when Step Fails
```

(1) TITLE	1	3	8	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N
(2) TYPE	1	4	8	Y	CHAR	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(3) ORIG_REPRO	1	4	45	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) DATEREC	1	4	69	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(5) CONCESSIONAIRE	1	6	20	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(6) DATEPROC	1	6	69	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(7) REC_CONTRACTOR	1	7	20	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(8) PROC_CONTRACTOR	1	7	60	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(9) NW_COORD	1	9	16	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(10) SE_COORD	1	9	55	Y	CHAR	23/ 23/ 23	Y	N	Y	Y	N	N	N	N	N	N	N
(11) RECORDTYPE	1	11	17	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(12) RECLENGTH	1	11	77	Y	NUMBER	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(13) ENERGY_SOURCE	1	12	17	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(14) STACK	1	12	47	Y	NUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(15) SAMPLERATE	1	12	77	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(16) DATUM	1	13	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(17) HORZSCALE	1	13	44	Y	CHAR	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(18) VERTSCALE	1	13	71	Y	CHAR	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(19) CONTOUR_INTERVAL	1	14	19	Y	RNUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(20) MEDIA	1	15	19	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(21) QUALITY	1	15	69	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(22) REGION	1	17	17	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(23) BASIN_HIGH	1	17	63	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(24) FIELD_NAME	1	18	17	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(25) SEIS_3D_NO	1	18	74	Y	NUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(26) BUILDING	1	19	17	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(27) BOX_NO	1	19	63	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 PFKEYS_PAG1 - PFKEYS_PAG1
Table - PFKEYS Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 3/3 Base Crt Line - 21 Physical Lines per Record - 1
Where Order By - (1) ORDER BY SEQUENCE_NO

(1) PFKEYS	1	1	3	Y	CHAR	75/ 75/ 75	Y	N	Y	N	N	N	N	N	N	N	N

```
                                   Boiler Plate
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   12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  ESDQ3                    Update SSI 3-D Seismic Data
 2: n-------------------------------------------------------------------------<------q
 3: |Title                                                                            |
 4: |Type                 Orig/Reprocessed? (O/R)          Date Recorded              |
 5: |                                                                                 |
 6: |Concession/Lire                                       Date Processed             |
 7: |Record Contractor                       Process Contractor                       |
 8: |                                                                                 |
 9: |NW Coordinate                           SE Coordinate                            |
10: |                                                                                 |
11: |Recording Type                                                 Recording Length  |
12: |Energy Source                           Stack                  Sample Rate       |
13: |Datum                   Scale - Horizontal                    Vertical          |
14: |Contour Interval                                                                 |
15: |Medial                                                         Quality           |
16: |                                                                                 |
17: |Region                                              Basin/High                   |
18: |Field/Area                                          3D Seismic No.               |
19: |Loc (Building)                                      Box No.                      v
20: u-------------------------------------------------------------------------<------d
21:
22:
23:
24:
```

```
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  2)
                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  3)
                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  4)
                               SELECT SYSDATE
                               INTO BLOCK1.TODAY
                               FROM DUAL
                                                   * Abort Trigger when Step Fails
                    Seq#   2  (  5)
                               #EXEMACRO GOBLK PFKEYS_PAG1; EXEQRY; GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - ES_XSECTION Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  (  6)
                               #EXEMACRO NULL;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-PRVWXTBLK                 F-8 Menu - N

                    Seq#   1  (  7)
                               #EXEMACRO NULL;
                                                   * Abort Trigger when Step Fails
```

(1) XSEC_TITLE	1	4	9	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N
(2) REPORT_TITLE	1	6	9	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N
(3) TYPE	1	7	9	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(4) REPORT_DATE	1	7	70	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(5) CONCESSIONAIRE	1	8	17	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(6) CONTRACTOR	1	8	61	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(7) AUTHOR	1	11	7	Y	CHAR	72/ 72/ 72	Y	N	Y	Y	N	N	N	N	N	N	N
(8) INTERVAL	1	12	11	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(9) MEASURE_UNITS	1	12	77	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(10) DATUM	1	13	8	Y	CHAR	26/ 26/ 26	Y	N	Y	Y	N	N	N	N	N	N	N
(11) HORZSCALE	1	13	55	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(12) VERTSCALE	1	13	72	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(13) BEGDIREC	1	14	22	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
(14) ENDDIREC	1	14	76	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
(15) MEDIA	1	15	8	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(16) QUALITY	1	15	70	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(17) REGION	1	17	17	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(18) BASIN_HIGH	1	17	64	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(19) FIELD_NAME	1	18	17	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(20) WELL	1	18	61	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(21) BUILDING	1	19	17	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
(22) CABINET_NUM	1	19	51	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(23) XSEC_NO	1	19	74	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 PFKEYS_PAG1 - PFKEYS_PAG1
Table - PFKEYS

Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 3/3 Base Crt Line - 21 Physical Lines per Record - 1

(3 PFKEYS_PAG1 - PFKEYS_PAG1)
Where Order By - (1) ORDER BY SEQUENCE_NO

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PFKEYS	1	1	3	Y	CHAR	75/ 75/ 75	Y	N	Y	N	N	N	N	N	N	N	N

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 1:  ESDQX                    Update SSI Cross Section Data
 2: n-------------------------------------------------------------------<------q
 3: |Xsec Title                                                                |
 4:                                                                            |
 5: |Report Title                                                              |
 6:                                                                            |
 7: |Type                                          Date                        |
 8: |Concession+ire                                Contr+ctor                  |
 9:                                                                            |
10: |Author                                                                    |
11:                                                                            |
12: |Interv+l                                        Me+surement Units         v
13: |D+tum                                Sc+le-Horizont+l        Vertic+l
14: |Beginning Direction                             Ending Direction          |
15: |Medi+                                           Cu+lity                   |
16:                                                                            |
17: |Region                                          B+sin/High                |
18: |Field/Are+                                      Well
19: |Loc (Building)                        C+binet No.               Xsec No.  v
20: u-------------------------------------------------------------------<------d
21:
22:
23:
24:
```

PDDQP
UPDATE DRILLING PROGRAMS
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                       * Abort Trigger when Step Fails
                                                       Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  3)
                                   select 'X'
                                   FROM WD_DRILL_PROGRAM
                                   WHERE WD_DRILL_PROGRAM.WELL_ID=:BLOCK2.WELL_ID
                                                       * Abort Trigger when Step Fails
                                                       * Reverse Return Code
                                                       Failure Message - Dupliacte records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  4)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                       * Abort Trigger when Step Fails
                                                       Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  5)
                                   select 'x'
                                   FROM WD_DRILL_PROGRAM
                                   WHERE WD_DRILL_PROGRAM.WELL_ID=:BLOCK2.WELL_ID
                                                       * Abort Trigger when Step Fails
                                                       * Reverse Return Code
                                                       Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  6)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                       * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  7)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                       * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  8)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                       * Abort Trigger when Step Fails
                         Seq#   2  (  9)
```

```
                                    #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	58	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WD_DRILL_PROGRAM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#  1  ( 10)
                              #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                    Seq#  1  ( 11)
                              #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                              WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                              WHEN 'COST_ACTUAL' THEN NXTREC;
                              WHEN OTHERS THEN NXTFLD;
                              END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#  1  ( 12)
                              #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                    Seq#  1  ( 13)
                              SELECT 'X'
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 for a list of valid well IDs
                    Seq#  2  ( 14)
                              SELECT FIELD_NAME
                              INTO :BLOCK2.FIELD_NAME
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
```

(2 BLOCK2 - BLOCK2)

Seq# 3 (15)
#EXEMACRO NXTFLD;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) well_id	1	4	15	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N

Help Message - Press F15 for a list of valid Well IDs

Trigger Type - KEY-LISTVAL

Seq# 1 (16)
#EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY;
* Abort Trigger when Step Fails

(2) field_name	1	4	52	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) current_depth	1	7	21	Y	NUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(4) RIG_DAYS_PLAN	1	9	21	Y	NUMBER	4/ 4/ 4	Y	N	Y	Y	N	N	N	N	N	N	N
(5) cost_plan	1	11	21	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(6) RIG_NAME	1	13	21	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(7) RES_PRESSURE	1	15	21	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(8) CEMENT_GRADE	1	17	21	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(9) TARGET_DEPTH	1	7	58	Y	NUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(10) RIG_ACT_START	1	9	58	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(11) cost_act	1	11	58	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

Seq# 1 (17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
* Abort Trigger when Step Fails

Seq# 2 (18)
#COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
* Abort Trigger when Step Fails

(3 BLOCK3 - BLOCK3)

Seq# 3 (19)
#EXEMACRO GOBLK BLOCK2; GOFLD CURRENT_DEPTH;
* Abort Trigger when Step Fails
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (20)
#EXEMACRO NULL;
* Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (21)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	12	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Select the desired well ID and press F6											
(2) FIELD_NAME	2	1	44	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

```
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 1:  PDDQP                        Drilling Programs
 2:
 3:   p-------------------------------------------------------------------q
 4:   |   Well Id                          Field N|me                     |
 5:   |                                                                   |
 6:   |                                                                   |
 7:   |   Current Depth                          T|rget Depth             |
 8:   |                                                                   |
 9:   |   Rig D|ys Pl|n                 Rig Actu|l St|rt D|te             |
10:   |                                                                   |
11:   |   Cost Pl|n                              Cost Actu|l              |
12:   |                                                                   |
13:   |   Rig N|me                                                        |
14:   |                                                                   |
15:   |   Res.Pressure                                                    |
16:   |                                                                   |
17:   |   Cement Gr|de                                                    |
18:   |                                                                   |
19:   b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

```
                                Boiler Plate
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 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                            Well Master
 3:          p-----------------------------------------------q
 4:          |
 5:          |  Well ID                        Field Name    |
 6:          |
 7:          |
 8:          |
 9:          |
10:          |
11:          |
12:          |
13:          |
14:          |
15:          |
16:          |
17:          |
18:          |
19:          b-----------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                    Seq#   1  (  3)
                              SELECT 'X'
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                 * Abort Trigger when Step Fails
                                                 Failure Message - This Well has not been entered into the Well Master table
                    Seq#   2  (  4)
                              SELECT 'X'
                              FROM WD_DRILL_PRM
                              WHERE WD_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                 * Abort Trigger when Step Fails
                                                 Failure Message - This Parameter Code has not been entered into the Drill Parameter table
                    Seq#   3  (  5)
                              SELECT 'X'
                              FROM WD_DRILL_DAY_DTL
                              WHERE WD_DRILL_DAY_DTL.WELL_ID = :BLOCK2.WELL_ID
                              AND   WD_DRILL_DAY_DTL.OPER_DATE = :BLOCK2.OPER_DATE
                              AND   WD_DRILL_DAY_DTL.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted in the Drilling Daily Detail Table
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                    Seq#   1  (  6)
                              SELECT 'X'
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                 * Abort Trigger when Step Fails
                                                 Failure Message - This Well ID has not been entered into the Well Master Table
                    Seq#   2  (  7)
                              SELECT 'X'
                              FROM WD_DRILL_PRM
                              WHERE WD_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                 * Abort Trigger when Step Fails
                                                 Failure Message - This Parameter Code has not been entered into the Drill Parameter Table
                    Seq#   3  (  8)
                              SELECT 'X'
                              FROM WD_DRILL_DAY_DTL
                              WHERE WD_DRILL_DAY_DTL.WELL_ID = :BLOCK2.WELL_ID
                              AND   WD_DRILL_DAY_DTL.OPER_DATE = :BLOCK2.OPER_DATE
                              AND   WD_DRILL_DAY_DTL.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records may not be entered in the Drilling Daily Detail Table
Trigger Type - KEY-CLRFRM                    F-8 Menu - N
```

```
                                Seq#   1  ( 9)
                                          #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                                 * Abort Trigger when Step Fails
        Trigger Type - KEY-STARTUP                       F-8 Menu - N

                                Seq#   1  ( 10)
                                          #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                                 * Abort Trigger when Step Fails
        Trigger Type - SCREEN_DISPLAY                    F-8 Menu - N

                                Seq#   1  ( 11)
                                          SELECT SYSDATE
                                          INTO BLOCK1.TODAY
                                          FROM DUAL
                                                                 * Abort Trigger when Step Fails
                                Seq#   2  ( 12)
                                          #EXEMACRO GOBLK BLOCK2;
                                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WD_DRILL_DAY_DTL Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 4 Physical Lines per Record - 8

```
        Trigger Type - KEY-NXTBLK                        F-8 Menu - N

                                Seq#   1  ( 13)
                                          #EXEMACRO NULL;
                                                                 * Abort Trigger when Step Fails
        Trigger Type - KEY-NXTFLD                        F-8 Menu - N

                                Seq#   1  ( 14)
                                          #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                          WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                          WHEN 'DRILL_PRM_CODE' THEN EXETRG CHECKPRM;
                                          WHEN 'DRILL_PRM_VALUE' THEN NXTREC;
                                          WHEN OTHERS THEN NXTFLD;
                                          END CASE;
                                                                 * Abort Trigger when Step Fails
        Trigger Type - KEY-PRVBLK                        F-8 Menu - N
```

(2 BLOCK2 - BLOCK2)

```
                                    Seq#   1  ( 15)
                                               #EXEMACRO NULL;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - CHECKPRM                       F-8 Menu - N

                                    Seq#   1  ( 16)
                                               SELECT 'X'
                                               FROM WO_DRILL_PRM
                                               WHERE WO_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                                  * Abort Trigger when Step Fails
                                                                  Failure Message - Press F15 for a list of valid Drill Parameter Codes
                                    Seq#   2  ( 17)
                                               SELECT DRILL_PRM_NAME
                                               INTO BLOCK2.DRILL_PRM_NAME
                                               FROM WO_DRILL_PRM
                                               WHERE WO_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                                  * Abort Trigger when Step Fails
                                    Seq#   3  ( 18)
                                               SELECT DRILL_PRM_UNITS
                                               INTO BLOCK2.DRILL_PRM_UNITS
                                               FROM WO_DRILL_PRM
                                               WHERE WO_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                                                  * Abort Trigger when Step Fails
                                    Seq#   4  ( 19)
                                               #EXEMACRO NXTFLD;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - CHECKWELL                      F-8 Menu - N

                                    Seq#   1  ( 20)
                                               SELECT 'X'
                                               FROM WG_WELL_MSTR
                                               WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                                  * Abort Trigger when Step Fails
                                                                  Failure Message - Press F15 for a list of valid Well IDs
                                    Seq#   2  ( 21)
                                               SELECT FIELD_NAME
                                               INTO BLOCK2.FIELD_NAME
                                               FROM WG_WELL_MSTR
                                               WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                                  * Abort Trigger when Step Fails
                                    Seq#   3  ( 22)
                                               #EXEMACRO NXTFLD;
                                                                  * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	14	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	Y	N

(2 BLOCK2 - BLOCK2)

Help Message - Press PF15 for a list of valid Well IDs

Trigger Type - KEY-LISTVAL

Seq# 1 (23)
#EXEMACRO GOBLK BLOCK4; CLRBLK; EXEQRY;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(2) FIELD_NAME	1	1	33	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) OPER_DATE	1	1	68	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	Y	N	Y	N
						Help Message - Operational Date is a required field											
(4) DRILL_PRM_CODE	1	4	6	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Press PF 9 for a list of valid Drill Parameter Codes											

Trigger Type - KEY-LISTVAL

Seq# 1 (24)
#EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY;
* Abort Trigger when Step Fails

(5) DRILL_PRM_NAME	1	4	12	Y	CHAR	39/ 39/ 39	N	N	N	N	N	N	N	N	N	N	N
(6) DRILL_PRM_UNITS	1	4	52	Y	CHAR	15/ 15/ 15	N	N	N	N	N	N	N	N	N	N	N
(7) DRILL_PRM_VALUE	1	6	6	Y	CHAR	72/ 70/ 0	Y	N	Y	Y	N	N	N	N	N	N	N

Trigger Type - KEY-F1

Seq# 1 (25)
#EXEMACRO NXTREC;
* Abort Trigger when Step Fails

Block Name - Block Description
3 BLOCK3 - BLOCK3

Table - WO_DRILL_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 9/9 Base Crt Line - 5 Physical Lines per Record - 1

Where Order By - (1) ORDER BY DRILL_PRM_CODE

Trigger Type - KEY-F6 F-8 Menu - N

Seq# 1 (26)
#COPY :BLOCK3.DRILL_PRM_CODE :BLOCK2.DRILL_PRM_CODE
* Abort Trigger when Step Fails

Seq# 2 (27)
#COPY :BLOCK3.DRILL_PRM_NAME :BLOCK2.DRILL_PRM_NAME
* Abort Trigger when Step Fails

Seq# 3 (28)

(3 BLOCK3 - BLOCK3)

```
                                    #COPY :BLOCK3.DRILL_PRM_UNITS :BLOCK2.DRILL_PRM_UNITS
                                                          * Abort Trigger when Step Fails
                              Seq#   4  ( 29)
                                    #EXEMACRO GOBLK BLOCK2; GOFLD DRILL_PRM_VALUE;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTBLK                 F-8 Menu - N

                              Seq#   1  ( 30)
                                    #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                 F-8 Menu - N

                              Seq#   1  ( 31)
                                    #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) DRILL_PRM_CODE	2	1	6	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N

```
          Trigger Type - KEY-NXTFLD                 Help Message - Select the cursor on the desired Parameter Code and press PF6

                              Seq#   1  ( 32)
                                    #EXEMACRO NXTREC;
                                                          * Abort Trigger when Step Fails
```

(2) DRILL_PRM_NAME	2	1	17	Y	CHAR	40/ 40/ 40	Y	N	N	N	N	N	N	N	N	N	N
(3) DRILL_PRM_UNITS	2	1	58	Y	CHAR	15/ 15/ 15	Y	N	N	N	N	N	N	N	N	N	N

```
  Block Name - Block Description
4 BLOCK4 - BLOCK4
      Table - WS_WELL_MSTR                Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records   9/9   Base Crt Line - 5   Physical Lines per Record - 1
            Where Order By - (  2) ORDER BY WELL_ID
            Trigger Type - KEY-F6                   F-8 Menu - N

                              Seq#   1  ( 33)
                                    #COPY :BLOCK4.WELL_ID :BLOCK2.WELL_ID
                                                          * Abort Trigger when Step Fails
                              Seq#   2  ( 34)
                                    #COPY :BLOCK4.FIELD_NAME :BLOCK2.FIELD_NAME
                                                          * Abort Trigger when Step Fails
                              Seq#   3  ( 35)
                                    #EXEMACRO GOBLK BLOCK2; GOFLD OPER_DATE;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTBLK                 F-8 Menu - N
```

(4 BLOCK4 - 3LOCK4)

Seq# 1 (36)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (37)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) FIELD_NAME	3	1	38	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N
(2) WELL_ID	3	1	21	Y	CHAR	30/ 10/ 30	Y	N	Y	Y	N	N	N	N	N	Y	N

Help Message - Position the cursor on the desired Well ID and press PF6

```
                                  Boiler Plate
                                    Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:   PDDQD                  Drilling Daily Detail
 2:     p-------------------------------------------------------------------q
 3:     |                                                                   |
 4:     | Well Id                                          Operational      |
 5:     |                                                  Date             |
 6:     | Code  Parameter Name                    Units                     |
 7:     |                                                                   |
 8:     |                                                                   |
 9:     |                                                                   |
10:     |                                                                   |
11:     |                                                                   |
12:     |                                                                   |
13:     |                                                                   |
14:     |                                                                   |
15:     |                                                                   |
16:     |                                                                   |
17:     |                                                                   |
18:     b-------------------------------------------------------------------d
19:
20:
21:
22:
23:
24:
```

Boiler Plate
Page 2

```
          111111111122222222223333333333444444444455555555556666666666777777777778
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:
 2:            Select the Desired Drill Parameter Code
 3:     p-------------------------------------------------------------------q
 4:     | Code        Name                                   Units          |
 5:     |
 6:     |
 7:     |
 8:     |
 9:     |
10:     |
11:     |
12:     |
13:     |
14:     |
15:     |
16:     b-------------------------------------------------------------------d
17:
18:
19:
20:
21:
22:
23:
24:
```

Boiler Plate
Page 3

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                          Well Master
 3:        p-----------------------------------------------------q
 4:        |            Well ID          Field Name              |
 5:        |                                                     |
 6:        |                                                     |
 7:        |                                                     |
 8:        |                                                     |
 9:        |                                                     |
10:        |                                                     |
11:        |                                                     |
12:        |                                                     |
13:        |                                                     |
14:        |                                                     |
15:        |                                                     |
16:        |                                                     |
17:        b-----------------------------------------------------d
18:
19:
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  3)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  4)
                                  SELECT 'X'
                                  FROM WD_DRILL_PRM
                                  WHERE WD_DRILL_PRM.DRILL_PRM_CODE=:BLOCK2.DRILL_PRM_CODE
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This parameter code has not been entered into the drill parameter table
                        Seq#   3  (  5)
                                  select 'x'
                                  FROM WD_FIX_DRILL_DTL
                                  WHERE WD_FIX_DRILL_DTL.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WD_FIX_DRILL_DTL.DRILL_PRM_CODE=:BLOCK2.DRILL_PRM_CODE
                                                  * Abort Trigger when Step Fails
                                                  * Reverse Return Code
                                                  Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  6)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  7)
                                  select 'x'
                                  FROM WD_DRILL_PRM
                                  WHERE WD_DRILL_PRM.DRILL_PRM_CODE=:BLOCK2.DRILL_PRM_CODE
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This parameter code has not been entered into the drill parameter table
                        Seq#   3  (  8)
                                  SELECT 'X'
                                  FROM WD_FIX_DRILL_DTL
                                  WHERE WD_FIX_DRILL_DTL.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WD_FIX_DRILL_DTL.DRILL_PRM_CODE=:BLOCK2.DRILL_PRM_CODE
                                                  * Abort Trigger when Step Fails
                                                  * Reverse Return Code
                                                  Failure Message - Duplicate records are not permitted
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  9)
                                  #EXEMACRO CLFRM; EXETRG SCREEN_DISPLAY;
```

```
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                    F-8 Menu - N

                        Seq#   1  ( 10)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                 F-8 Menu - N

                        Seq#   1  ( 11)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                    * Abort Trigger when Step Fails
                        Seq#   2  ( 12)
                                   #EXEMACRO GOBLK block2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WO_FIX_DRILL_DTL Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 4 Physical Lines per Record - 8

```
Trigger Type - KEY-NXTBLK                     F-8 Menu - N

                        Seq#   1  ( 13)
                                   #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                     F-8 Menu - N

                        Seq#   1  ( 14)
                                   #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                   WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                   WHEN 'DRILL_PRM_CODE' THEN EXETRG CHECKPRM;
                                   WHEN 'DRILL_PRM_VALUE' THEN NXTREC;
                                   WHEN OTHERS THEN NXTFLD;
                                   END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                     F-8 Menu - N

                        Seq#   1  ( 15)
                                   #EXEMACRO NULL;
```

(2 BLOCK2 - BLOCK2)

```
                                        * Abort Trigger when Step Fails
Trigger Type - CHECKPRM                 F-8 Menu - N

                    Seq#  1  ( 16)
                             SELECT 'X'
                             FROM WD_DRILL_PRM
                             WHERE WD_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                        * Abort Trigger when Step Fails
                                        Failure Message - Press F15 for a list of valid Drill Parameter Codes
                    Seq#  2  ( 17)
                             SELECT DRILL_PRM_NAME
                             INTO BLOCK2.DRILL_PRM_NAME
                             FROM WD_DRILL_PRM
                             WHERE WD_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                        * Abort Trigger when Step Fails
                    Seq#  3  ( 18)
                             SELECT DRILL_PRM_UNITS
                             INTO BLOCK2.DRILL_PRM_UNITS
                             FROM WD_DRILL_PRM
                             WHERE WD_DRILL_PRM.DRILL_PRM_CODE = :BLOCK2.DRILL_PRM_CODE
                                        * Abort Trigger when Step Fails
                    Seq#  4  ( 19)
                             #EXEMACRO NXTFLD;
                                        * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                F-8 Menu - N

                    Seq#  1  ( 20)
                             SELECT 'X'
                             FROM WG_WELL_MSTR
                             WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
                                        Failure Message - Press F15 to select a valid Well ID
                    Seq#  2  ( 21)
                             SELECT FIELD_NAME
                             INTO BLOCK2.FIELD_NAME
                             FROM WG_WELL_MSTR
                             WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
                    Seq#  3  ( 22)
                             #EXEMACRO NXTFLD;
                                        * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	15	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	Y	N

Help Message - Press PF15 for a list of valid well IDs

(2 BLOCK2 - BLOCK2)

Trigger Type - KEY-LISTVAL

```
Seq#  1  ( 23)
         #EXEMACRO GOBLK BLOCK4; CLRBLK; EXEQRY;
                                   * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(2) FIELD_NAME	1	1	57	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) DRILL_PRM_CODE	1	4	6	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	Y	N

Help Message - Press PF15 for a list of valid Drill Parameter Codes

Trigger Type - KEY-LISTVAL

```
Seq#  1  ( 24)
         #EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY;
                                   * Abort Trigger when Step Fails
```

(4) DRILL_PRM_NAME	1	4	12	Y	CHAR	39/ 39/ 39	N	N	N	N	N	N	N	N	N	N	N
(5) DRILL_PRM_UNITS	1	4	52	Y	CHAR	15/ 15/ 15	N	N	N	N	N	N	N	N	N	N	N
(6) DRILL_PRM_VALUE	1	6	6	Y	CHAR	72/ 70/ 0	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description

3 BLOCK3 - BLOCK3

Table - WD_DRILL_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 5 Physical Lines per Record - 1

Where Order By - (1) ORDER BY DRILL_PRM_CODE

Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 25)
         #COPY :BLOCK3.DRILL_PRM_CODE :BLOCK2.DRILL_PRM_CODE
                                   * Abort Trigger when Step Fails
Seq#  2  ( 26)
         #COPY :BLOCK3.DRILL_PRM_NAME :BLOCK2.DRILL_PRM_NAME
                                   * Abort Trigger when Step Fails
Seq#  3  ( 27)
         #COPY :BLOCK3.DRILL_PRM_UNITS :BLOCK2.DRILL_PRM_UNITS
                                   * Abort Trigger when Step Fails
Seq#  4  ( 28)
         #EXEMACRO GOBLK BLOCK2; GOFLD DRILL_PRM_VALUE;
                                   * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

```
Seq#  1  ( 29)
         #EXEMACRO NULL;
```

(3 BLOCK3 - BLOCK3)

Trigger Type - KEY-PRVBLK * Abort Trigger when Step Fails
F-8 Menu - N

Seq# 1 (30)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Cry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) DRILL_PRM_CODE	2	1	6	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N

Help Message - Position the cursor on the desired code and press PF6

Trigger Type - KEY-NXTFLD

Seq# 1 (31)
#EXEMACRO NXTREC;
* Abort Trigger when Step Fails

(2) DRILL_PRM_NAME	2	1	17	Y	CHAR	40/ 40/ 40	Y	N	N	N	N	N	N	N	N	N	N
(3) DRILL_PRM_UNITS	2	1	58	Y	CHAR	15/ 15/ 15	Y	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
4 BLOCK4 - BLOCK4
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 5 Physical Lines per Record - 1
Where Order By - (2) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

Seq# 1 (32)
#COPY :BLOCK4.WELL_ID :BLOCK2.WELL_ID
* Abort Trigger when Step Fails
Seq# 2 (33)
#COPY :BLOCK4.FIELD_NAME :BLOCK2.FIELD_NAME
* Abort Trigger when Step Fails
Seq# 3 (34)
#EXEMACRO GOBLK BLOCK2; NXTFLD;
* Abort Trigger when Step Fails

Trigger Type - KEY-nxtblk F-8 Menu - N

Seq# 1 (35)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (36)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

PDDQF
UPDATE FIXED DRILLING DETAIL
Work Size - 0

(4 BLOCK4 - BLOCK4)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	3	1	12	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	Y	N
						Help Message - Select the desired well id and press PF6											
(2) FIELD_NAME	3	1	44	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

 1:  PDDQF                  Fixed Drilling Detail
 2:    p-------------------------------------------------------------------q
 3:    |                                                                   |
 4:    |  Well ID                                Field Name                |
 5:    |                                                                   |
 6:    |  Code  Parameter Name                        Units                |
 7:    |                                                                   |
 8:    |                                                                   |
 9:    |                                                                   |
10:    |                                                                   |
11:    |                                                                   |
12:    |                                                                   |
13:    |                                                                   |
14:    |                                                                   |
15:    |                                                                   |
16:    |                                                                   |
17:    |                                                                   |
18:    |                                                                   |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

Boiler Plate
Page 2

```
          111111111122222222223333333334444444444555555555566666666667777777777 8
 123456789012345678901234567890123456789012345678901234567890123456789012345678 90
 1:
 2:            Select the Desired Drill Parameter Code
 3:     p-------------------------------------------------------------------q
 4:     | Code        Name                                   Units          |
 5:     |                                                                   |
 6:     |                                                                   |
 7:     |                                                                   |
 8:     |                                                                   |
 9:     |                                                                   |
10:     |                                                                   |
11:     |                                                                   |
12:     |                                                                   |
13:     |                                                                   |
14:     |                                                                   |
15:     |                                                                   |
16:     |                                                                   |
17:     |                                                                   |
18:     |                                                                   |
19:     |                                                                   |
20:     b-------------------------------------------------------------------d
21:
22:
23:
24:
```

Boiler Plate
Page 3

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:
 2:                          Well Master
 3:        p-----------------------------------------------------q
 4:        |  Well ID                        Field Name          |
 5:        |                                                     |
 6:        |                                                     |
 7:        |                                                     |
 8:        |                                                     |
 9:        |                                                     |
10:        |                                                     |
11:        |                                                     |
12:        |                                                     |
13:        |                                                     |
14:        |                                                     |
15:        |                                                     |
16:        |                                                     |
17:        |                                                     |
18:        |                                                     |
19:        b-----------------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  3)
                                   select 'x'
                                   FROM WD_DRILL_DAY_SUM
                                   WHERE WD_DRILL_DAY_SUM.WELL_ID=:BLOCK2.WELL_ID
                                   AND   WD_DRILL_DAY_SUM.OPER_DATE=:BLOCK2.OPER_DATE
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  4)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  5)
                                   SELECT 'X'
                                   FROM WD_DRILL_DAY_SUM
                                   WHERE WD_DRILL_DAY_SUM.WELL_ID = :BLOCK2.WELL_ID
                                   AND   WD_DRILL_DAY_SUM.OPER_DATE = :BLOCK2.OPER_DATE
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate Records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  6)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  7)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  8)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
```

```
                                        * Abort Trigger when Step Fails
                    Seq#   2  ( 9)
                               #EXEMACRO GOBLK BLOCK2;
                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	55	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WD_DRILL_DAY_SUM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                F-8 Menu - N

                    Seq#   1  ( 10)
                               #EXEMACRO NULL;
                                        * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                F-8 Menu - N

                    Seq#   1  ( 11)
                               #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                               WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                               WHEN 'REMARKS' THEN NXTREC;
                               WHEN OTHERS THEN NXTFLD;
                               END CASE;
                                        * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                F-8 Menu - N

                    Seq#   1  ( 12)
                               #EXEMACRO NULL;
                                        * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                 F-8 Menu - N

                    Seq#   1  ( 13)
                               SELECT 'X'
                               FROM WG_WELL_MSTR
                               WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
                                        Failure Message - Press F15 to select a valid Well ID
                    Seq#   2  ( 14)
                               SELECT FIELD_NAME
                               INTO BLOCK2.FIELD_NAME
                               FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
                    WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
          Seq#  3  ( 15)
                    #EXEMACRO NXTFLD;
                                        * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	5	15	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press PF15 for a list of valid well IDS																	
Trigger Type - KEY-LISTVAL																	
Seq# 1 (16) #EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY; * Abort Trigger when Step Fails																	
(2) FIELD_NAME	1	5	58	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) OPER_DATE	1	8	31	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	Y	N
Help Message - field must be entered																	
(4) REMARKS	1	11	5	Y	CHAR	73/ 71/ 73	Y	N	Y	Y	N	N	N	N	N	N	N

```
 Block Name - Block Description
3 BLOCK3 - BLOCK3
      Table - WG_WELL_MSTR                Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 6   Physical Lines per Record - 1
            Where Order By - ( 1) ORDER BY WELL_ID
            Trigger Type - KEY-F6                        F-8 Menu - N

                          Seq#  1  ( 17)
                                    #COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                          Seq#  2  ( 18)
                                    #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                                  * Abort Trigger when Step Fails
                          Seq#  3  ( 19)
                                    #EXEMACRO GOBLK BLOCK2; GOFLD OPER_DATE;
                                                  * Abort Trigger when Step Fails
            Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                          Seq#  1  ( 20)
                                    #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
            Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                          Seq#  1  ( 21)
```

(3 BLOCK3 - BLOCK3)

#EXEMACRO NULL;

* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	12	Y	CHAR	27/ 10/ 27	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Select desired well ID and press F6											
(2) FIELD_NAME	2	1	41	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678890
 1:  PDDQS                  Drilling Daily Summary
 2:
 3:    p-------------------------------------------------------------------q
 4:    |                                                                   |
 5:    |   Well ID                                Field Name               |
 6:    |                                                                   |
 7:    |                                                                   |
 8:    |          Operational Date                                         |
 9:    |                                                                   |
10:    |  Remarks                                                          |
11:    |                                                                   |
12:    |                                                                   |
13:    |                                                                   |
14:    |                                                                   |
15:    |                                                                   |
16:    |                                                                   |
17:    |                                                                   |
18:    |                                                                   |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

Boiler Plate
Page 2

```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0
 1:
 2:                          Well Master
 3:        p-------------------------------------------------q
 4:        |
 5:        |  Well ID                     Field N|me          |
 6:        |
 7:        |
 8:        |
 9:        |
10:        |
11:        |
12:        |
13:        |
14:        |
15:        |
16:        |
17:        |
18:        |
19:        b-------------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  3)
                                  SELECT 'X'
                                  FROM WD_DRILL_DIRECT
                                  WHERE WD_DRILL_DIRECT.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WD_DRILL_DIRECT.DEPTH  =:BLOCK2.DEPTH
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM  WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  SELECT 'X'
                                  FROM WD_DRILL_DIRECT
                                  WHERE WD_DRILL_DIRECT.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WD_DRILL_DIRECT.DEPTH  =:BLOCK2.DEPTH
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
```

```
                                    Seq#   2  ( 9)                    * Abort Trigger when Step Fails
                                               #EXEMACRO GOBLK block2;
                                                                       * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	59	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WD_DRILL_DIRECT Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                    Seq#   1  ( 10)
                                               #EXEMACRO NULL;
                                                                       * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                                    Seq#   1  ( 11)
                                               #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                               WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                               WHEN 'OPER_DEPTH' THEN NXTREC;
                                               WHEN  OTHERS THEN NXTFLD;
                                               END CASE;
                                                                       * Abort Trigger when Step Fails
Trigger Type - KEY PRVBLK                    F-8 Menu - N

                                    Seq#   1  ( 12)
                                               #EXEMACRO NULL;
                                                                       * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                                    Seq#   1  ( 13)
                                               SELECT 'X'
                                               FROM WG_WELL_MSTR
                                               WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                                       * Abort Trigger when Step Fails
                                                                       Failure Message - Press F15 to select a valid Well ID
                                    Seq#   2  ( 14)
                                               SELECT FIELD_NAME
                                               INTO BLOCK2.FIELD_NAME
                                               FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	4	21	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press PF15 for a list of valid IDs																	
(2) FIELD_NAME	1	6	21	Y	CHAR	20/ 18/ 20	N	N	N	N	N	N	N	N	N	N	N
(3) DEPTH	1	8	21	Y	RNUMBER	9/ 9 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(4) INCLINATION	1	11	45	Y	CHAR	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(5) AZIMUTH	1	13	45	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(6) ANGLE	1	15	45	Y	INT	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(7) OPER_DEPTH	1	17	45	Y	RNUMBER	9/ 9/ 9	Y	N	Y	N	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 5 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  2  ( 18)
#COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                    * Abort Trigger when Step Fails
Seq#  3  ( 19)
#EXEMACRO GOBLK BLOCK2; GOFLD DEPTH;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

(3 BLOCK3 - BLOCK3)

Seq# 1 (20)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (21)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	14	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired ID and press PF6											
(2) FIELD_NAME	2	1	46	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

```
                                Boiler Plate
                                  Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  PDDQA              Drilling Directional Angle Data
 2:
 3:   p-------------------------------------------------------------------------q
 4:   |          Well ID                                                        |
 5:   |
 6:   |       Field Name                                                        |
 7:   |
 8:   |           Depth                                                         |
 9:   |
10:   |
11:   |                              Inclination                                |
12:   |
13:   |                                  Azimuth                                |
14:   |
15:   |                                    Angle                                |
16:   |
17:   |                        Operational Depth                                |
18:   |
19:   b-------------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

```
                                Boiler Plate
                                  Page 2

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:
 2:                             Well Master
 3:          p-------------------------------------------------------q
 4:           |  Well ID                        Field Name            |
 5:           |                                                       |
 6:           |                                                       |
 7:           |                                                       |
 8:           |                                                       |
 9:           |                                                       |
10:           |                                                       |
11:           |                                                       |
12:           |                                                       |
13:           |                                                       |
14:           |                                                       |
15:           |                                                       |
16:           |                                                       |
17:           |                                                       |
18:           |                                                       |
19:          b-------------------------------------------------------d
20:                                                 ?
21:
22:
23:
24:
```

PDDQT
UPDATE DRILLING PARAMETER TABLE
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WO_DRILL_PRM
                                   WHERE WO_DRILL_PRM.DRILL_PRM_CODE=:BLOCK2.DRILL_PRM_CODE
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Dupliacte records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM WO_DRILL_PRM
                                   WHERE WO_DRILL_PRM.DRILL_PRM_CODE=:BLOCK2.DRILL_PRM_CODE
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                    * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1

Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2

(2 BLOCK2 - BLOCK2)

Table - WD_DRILL_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 7 Physical Lines per Record - 1

Where Order By - (1) ORDER BY DRILL_PRM_CODE

Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (9)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) DRILL_PRM_CODE	1	1	9	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) DRILL_PRM_NAME	1	1	21	Y	CHAR	39/ 39/ 39	Y	N	Y	Y	N	N	N	N	N	N	N
(3) DRILL_PRM_UNITS	1	1	61	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          11111111112222222222333333333344444444445555555555666666666677777777778
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 PDDQT                       Drilling Parameter Table
   p---------------------------------------------------------------------------q
   |                                                                           |
   |    Drill        Drill                                      Drill          |
   |    Parameter    Parameter                                  Parameter      |
   |    Code         Name                                       Units          |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   |                                                                           |
   b---------------------------------------------------------------------------d
```

PGGOM
UPDATE WELL MASTER
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                    * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO  GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qty	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(') TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 block2 - block2

(2 block2 - block2)
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Trigger Type - key-nxtblk F-8 Menu - N

Seq# 1 (7)
#exemacro null;
* Abort Trigger when Step Fails

Trigger Type - key-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) well_id	1	5	12	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) field_name	1	5	50	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
(3) REPR_WELL	1	8	22	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					
(4) WAT_WELL	1	10	22	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					
(5) INJ_WELL	1	12	22	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					
(6) OFFSHORE	1	8	50	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					
(7) onshore	1	10	50	Y	CHAR	1/ 1/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  PGGOM                        Well Master
 2:    p-------------------------------------------------------------------q
 3:    |                                                                   |
 4:    |      Well Id                                Field                 |
 5:    |                                                                   |
 6:    |                                                                   |
 7:    |                                                                   |
 8:    |      Repr.Well                  Offshore                          |
 9:    |                                                                   |
10:    |      W|t Well                  Onshore                           |
11:    |                                                                   |
12:    |      Inj Well                                                     |
13:    |                                                                   |
14:    |                                                                   |
15:    b-------------------------------------------------------------------d
16:
17:
18:
19:
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  select 'x'
                                  from WG_WELL_DEVIC_PRM
                                  WHERE WG_WELL_DEVIC_PRM.DEVICE_CODE=:BLOCK2.DEVICE_CODE
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This code has not been entered into well device parameter table
                        Seq#   3  (  6)
                                  SELECT 'X'
                                  FROM WG_WELL_DEVICE
                                  WHERE WG_WELL_DEVICE.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WG_WELL_DEVICE.TOP_DEPTH=:BLOCK2.TOP_DEPTH
                                  AND   WG_WELL_DEVICE.DEVICE_CODE=:BLOCK2.DEVICE_CODE
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  7)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  8)
                                  select 'x'
                                  from WG_WELL_DEVIC_PRM
                                  WHERE WG_WELL_DEVIC_PRM.DEVICE_CODE=:BLOCK2.DEVICE_CODE
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This code has not been entered into well device parameter table
                        Seq#   3  (  9)
                                  select 'x'
                                  FROM WG_WELL_DEVICE
                                  WHERE WG_WELL_DEVICE.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WG_WELL_DEVICE.TOP_DEPTH=:BLOCK2.TOP_DEPTH
                                  AND   WG_WELL_DEVICE.DEVICE_CODE=:BLOCK2.DEVICE_CODE
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N
```

```
                                    Seq#   1  ( 10)
                                               #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                                    * Abort Trigger when Step Fails
            Trigger Type - KEY-STARTUP                      F-8 Menu - N

                                    Seq#   1  ( 11)
                                               #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                                    * Abort Trigger when Step Fails
            Trigger Type - SCREEN_DISPLAY                   F-8 Menu - N

                                    Seq#   1  ( 12)
                                               SELECT SYSDATE
                                               INTO BLOCK1.TODAY
                                               FROM DUAL
                                                                    * Abort Trigger when Step Fails
                                    Seq#   2  ( 13)
                                               #EXEMACRO GOBLK block2;
                                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WG_WELL_DEVICE Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 4 Physical Lines per Record - 8
Where Order By - (1) ORDER BY WELL_ID, TOP_DEPTH, DEVICE_CODE

```
            Trigger Type - KEY-NXTBLK                       F-8 Menu - N

                                    Seq#   1  ( 14)
                                               #EXEMACRO NULL;
                                                                    * Abort Trigger when Step Fails
            Trigger Type - KEY-NXTFLD                       F-8 Menu - N

                                    Seq#   1  ( 15)
                                               #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                               WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                               WHEN 'DEVICE_CODE' THEN EXETRG CHECKCODE;
                                               WHEN 'COMMENTS' THEN NXTREC;
                                               WHEN OTHERS THEN NXTFLD;
                                               END CASE;
                                                                    * Abort Trigger when Step Fails
            Trigger Type - KEY-PRVBLK                       F-8 Menu - N
```

(2 BLOCK2 - BLOCK2)

```
                    Seq#   1  ( 16)
                              #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
Trigger Type - CHECKCODE                    F-8 Menu - N  Desc - Verify the code

                    Seq#   1  ( 17)
                              SELECT 'X'
                              FROM WG_WELL_DEVIC_PRM
                              WHERE WG_WELL_DEVIC_PRM.DEVICE_CODE = :BLOCK2.DEVICE_CODE
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - Press F15 for a list of valid Well Device Codes
                    Seq#   2  ( 18)
                              SELECT DEVICE_NAME
                              INTO BLOCK2.DEVICE_NAME
                              FROM WG_WELL_DEVIC_PRM
                              WHERE WG_WELL_DEVIC_PRM.DEVICE_CODE = :BLOCK2.DEVICE_CODE
                                                  * Abort Trigger when Step Fails
                    Seq#   3  ( 19)
                              #EXEMACRO NXTFLD;
                                                  * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                    F-8 Menu - N

                    Seq#   1  ( 20)
                              SELECT 'X'
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - Press F15 to select a valid Well ID
                    Seq#   2  ( 21)
                              SELECT FIELD_NAME
                              INTO BLOCK2.FIELD_NAME
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                    Seq#   3  ( 22)
                              #EXEMACRO NXTFLD;
                                                  * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	7	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	Y	N

Help Message - Press F15 For a list of valid well IDs

```
Trigger Type - KEY-LISTVAL

                    Seq#   1  ( 23)
                              #EXEMACRO GOBLK BLOCK4; CLRBLK; EXEQRY;
```

(2 BLOCK2 - BLOCK2)

* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(2) FIELD_NAME	1	1	39	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) TOP_DEPTH	1	1	66	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) DEVICE_CODE	1	4	6	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Press PF15 for a list of valid Drill Parameter Codes											
(5) DEVICE_NAME	1	4	12	Y	CHAR	39/ 30/ 39	N	N	N	N	N	N	N	N	N	N	N
(6) DEVICE_VALUE	1	4	44	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(7) BOT_DEPTH	1	4	67	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(8) COMMENTS	1	7	6	Y	CHAR	72/ 70/ 0	Y	N	Y	Y	N	N	N	N	N	N	N

Trigger Type - KEY-LISTVAL

Seq# 1 (24)
#EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY;
* Abort Trigger when Step Fails

Trigger Type - KEY-F1

Seq# 1 (25)
#EXEMACRO NXTREC;
* Abort Trigger when Step Fails

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_DEVIC_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (2) ORDER BY DEVICE_CODE
Trigger Type - KEY-F6 F-8 Menu - N

Seq# 1 (26)
#COPY :BLOCK3.DEVICE_CODE :BLOCK2.DEVICE_CODE
* Abort Trigger when Step Fails

Seq# 2 (27)
#COPY :BLOCK3.DEVICE_NAME :BLOCK2.DEVICE_NAME
* Abort Trigger when Step Fails

Seq# 3 (28)
#EXEMACRO GOBLK BLOCK2; GOFLD DEVICE_VALUE;
* Abort Trigger when Step Fails

Trigger Type - KEY-NXTBLK F-8 Menu - N

(3 BLOCK3 - BLOCK3)

```
                                Seq#   1  ( 29)
                                          #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTFLD                 F-8 Menu - N

                                Seq#   1  ( 30)
                                          #EXEMACRO NXTREC;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                 F-8 Menu - N

                                Seq#   1  ( 31)
                                          #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) DEVICE_CODE	2	1	20	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N
Help Message - Position the cursor on the desired code and press F6																	
(2) DEVICE_NAME	2	1	31	Y	CHAR	40/ 30/ 0	Y	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description

4 BLOCK4 - BLOCK4

```
Table - WG_WELL_MSTR                Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 5   Physical Lines per Record - 1
          Where Order By - (  3) ORDER BY WELL_ID
          Trigger Type - KEY-F6                     F-8 Menu - N

                                Seq#   1  ( 32)
                                          #COPY :BLOCK4.WELL_ID :BLOCK2.WELL_ID
                                                          * Abort Trigger when Step Fails
                                Seq#   2  ( 33)
                                          #COPY :BLOCK4.FIELD_NAME :BLOCK2.FIELD_NAME
                                                          * Abort Trigger when Step Fails
                                Seq#   3  ( 34)
                                          #EXEMACRO GOBLK BLOCK2; GOFLD TOP_DEPTH;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTBLK                 F-8 Menu - N

                                Seq#   1  ( 35)
                                          #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                 F-8 Menu - N

                                Seq#   1  ( 36)
                                          #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
```

(4 BLOCK4 - BLOCK4)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	3	1	18	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well ID and press F6											
(2) FIELD_NAME	3	1	39	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

```
                                Boiler Plate
                                  Page 1

          111111111122222222223333333333444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  PGGQD                      Well Bore Devices
 2:    p-------------------------------------------------------------------q
 3:    |  Well ID                          Field                     Depth:  |
 4:    |                                                           Top       |
 5:    |                                                                     |
 6:    |  Code  Device Name                     Device Value                 |
 7:    |                                                        Bottom       |
 8:    |                                                                     |
 9:    |  Comments                                                           |
10:    |                                                                     |
11:    |  Well ID                          Field                       Depth:|
12:    |                                                                     |
13:    |                                                                     |
14:    |  Code   Device Name                    Device Value                 |
15:    |                                                           Bottom    |
16:    |                                                                     |
17:    |  Comments                                                           |
18:    |                                                                     |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

Boiler Plate
Page 2

```
          11111111112222222222333333333344444444445555555555666666666677777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:
 2:                Select the Desired Well Device Code
 3:     p-------------------------------------------------------------q
 4:     |                                                             |
 5:     |                Code        Name                             |
 6:     |                                                             |
 7:     |                                                             |
 8:     |                                                             |
 9:     |                                                             |
10:     |                                                             |
11:     |                                                             |
12:     |                                                             |
13:     |                                                             |
14:     |                                                             |
15:     |                                                             |
16:     |                                                             |
17:     |                                                             |
18:     |                                                             |
19:     |                                                             |
20:     b-------------------------------------------------------------d
21:
22:
23:
24:
```

Boiler Plate
Page 3

```
          111111111122222222223333333333444444444455555555556666666666777777777788
12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                          Well Master
 3:        p-----------------------------------------------------q
 4:        |        Well ID              Field                   |
 5:        |                                                     |
 6:        |                                                     |
 7:        |                                                     |
 8:        |                                                     |
 9:        |                                                     |
10:        |                                                     |
11:        |                                                     |
12:        |                                                     |
13:        |                                                     |
14:        |                                                     |
15:        |                                                     |
16:        |                                                     |
17:        |                                                     |
18:        |                                                     |
19:        b-----------------------------------------------------d
20:
21:
22:
23:
24:
```

PGGQT
UPDATE WELL BORE DEVICE PARAMETER TABLE
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_DEVIC_PRM
                                   WHERE WG_WELL_DEVIC_PRM.DEVICE_CODE=:BLOCK2.DEVICE_CODE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM WG_WELL_DEVIC_PRM
                                   WHERE WG_WELL_DEVIC_PRM.DEVICE_CODE=:BLOCK2.DEVICE_CODE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO GOBLK block2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2

(2 BLOCK2 - BLOCK2)

Table - WG_WELL_DEVIC_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 7 Physical Lines per Record - 1

Where Order By - (1) ORDER BY DEVICE_CODE

Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (9)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) DEVICE_CODE	1	1	9	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) DEVICE_NAME	1	1	21	Y	CHAR	30/ 29/ 30	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
         1111111111222222222233333333334444444444555555555566666666667777777777888
1234567890123456789012345678901234567890123456789012345678901234567890123456789012
 1:  PGGOT              Well Bore Device Parameter Table
 2:    p-------------------------------------------------------------------q
 3:    |                                                                   |
 4:    |                                                                   |
 5:    |     Device                                                        |
 6:    |     Code        Device Name                                       |
 7:    |                                                                   |
 8:    |                                                                   |
 9:    |                                                                   |
10:    |                                                                   |
11:    |                                                                   |
12:    |                                                                   |
13:    |                                                                   |
14:    |                                                                   |
15:    |                                                                   |
16:    |                                                                   |
17:    |                                                                   |
18:    |                                                                   |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

Trigger Type - PRE-INSERT F-8 Menu - N

```
Seq#  1  (  4)
         SELECT 'X'
         FROM WG_WELL_MSTR
         WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                   * Abort Trigger when Step Fails
                                   Failure Message - This well has not been entered into the well master table
Seq#  2  (  5)
         select 'x'
         FROM WG_FLUID_PVT_PRM
         WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE=:BLOCK2.PVT_PRM_COD_
                                   * Abort Trigger when Step Fails
                                   Failure Message - This parameter code has not been entered into the parameter code table
Seq#  3  (  6)
         select 'x'
         FROM WG_FLUID_PVT_DATA
         WHERE WG_FLUID_PVT_DATA.WELL_ID=:BLOCK2.WELL_ID
         AND   WG_FLUID_PVT_DATA.SAMPLE_DATE=:BLOCK2.SAMPLE_DATE
         AND   WG_FLUID_PVT_DATA.PVT_PRM_CODE =:BLOCK2.PVT_PRM_CODE
                                   * Abort Trigger when Step Fails
                                   * Reverse Return Code
                                   Failure Message - Duplicate records are not permitted
```

Trigger Type - PRE-UPDATE F-8 Menu - N

```
Seq#  1  (  7)
         SELECT 'X'
         FROM WG_WELL_MSTR
         WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                   * Abort Trigger when Step Fails
                                   Failure Message - This well has not been entered into the well master table
Seq#  2  (  8)
         select 'x'
         from WG_FLUID_PVT_PRM
         WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE=:BLOCK2.PVT_PRM_CODE
                                   * Abort Trigger when Step Fails
                                   Failure Message - This parameter code has not been entered into the parameter code table
Seq#  3  (  9)
         select 'x'
         from WG_FLUID_PVT_DATA
         WHERE WG_FLUID_PVT_DATA.WELL_ID=:BLOCK2.WELL_ID
         AND   WG_FLUID_PVT_DATA.SAMPLE_DATE=:BLOCK2.SAMPLE_DATE
         AND   WG_FLUID_PVT_DATA.PVT_PRM_CODE=:BLOCK2.PVT_PRM_CODE
                                   * Abort Trigger when Step Fails
                                   * Reverse Return Code
                                   Failure Message - Duplicate records may not be entered
```

Trigger Type - KEY-CLRFRM F-8 Menu - N

```
                                Seq#   1  ( 10)
                                          #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-STARTUP                      F-8 Menu   N

                                Seq#   1  ( 11)
                                          #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - SCREEN_DISPLAY                   F-8 Menu - N

                                Seq#   1  ( 12)
                                          SELECT SYSDATE
                                          INTO BLOCK1.TODAY
                                          FROM DUAL
                                                                  * Abort Trigger when Step Fails
                                Seq#   2  ( 13)
                                          #EXEMACRO GOBLK block2;
                                                                  * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WG_FLUID_PVT_DATA Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 4 Physical Lines per Record - 9

```
          Where Order By - (  1) ORDER BY WELL_ID, SAMPLE_DATE, PVT_PRM_CODE
          Trigger Type - KEY-NXTBLK                       F-8 Menu - N

                                Seq#   1  ( 14)
                                          #EXEMACRO NULL;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTFLD                       F-8 Menu - N

                                Seq#   1  ( 15)
                                          #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                          WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                          WHEN 'PVT_PRM_CODE' THEN EXETRG CHECKCODE;
                                          WHEN 'PVT_PRM_VALUE' THEN NXTREC;
                                          WHEN OTHERS THEN NXTFLD;
                                          END CASE;
                                                                  * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                       F-8 Menu - N
```

(2 BLOCK2 - BLOCK2)

```
                                Seq#  1  ( 16)
                                         #EXEMACRO NULL;
                                                          * Abort Trigger when Step Fails
          Trigger Type - CHECKCODE                  F-8 Menu - N  Desc - Verify the code

                                Seq#  1  ( 17)
                                         SELECT 'X'
                                         FROM WG_FLUID_PVT_PRM
                                         WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE = :BLOCK2.PVT_PRM_CODE
                                                          * Abort Trigger when Step Fails
                                                          Failure Message - Press F15 for a list of valid PVT Parameter Codes
                                Seq#  2  ( 18)
                                         SELECT PVT_PRM_NAME
                                         INTO BLOCK2.PVT_PRM_NAME
                                         FROM WG_FLUID_PVT_PRM
                                         WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE = :BLOCK2.PVT_PRM_CODE
                                                          * Abort Trigger when Step Fails
                                Seq#  3  ( 19)
                                         SELECT PVT_PRM_UNITS
                                         INTO BLOCK2.PVT_PRM_UNITS
                                         FROM WG_FLUID_PVT_PRM
                                         WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE = :BLOCK2.PVT_PRM_CODE
                                                          * Abort Trigger when Step Fails
                                Seq#  4  ( 20)
                                         #EXEMACRO NXTFLD;
                                                          * Abort Trigger when Step Fails
          Trigger Type - CHECKWELL                  F-8 Menu - N

                                Seq#  1  ( 21)
                                         SELECT 'X'
                                         FROM WG_WELL_MSTR
                                         WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                          * Abort Trigger when Step Fails
                                                          Failure Message - Press F15 to select a valid Well ID
                                Seq#  2  ( 22)
                                         SELECT FIELD_NAME
                                         INTO BLOCK2.FIELD_NAME
                                         FROM WG_WELL_MSTR
                                         WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                          * Abort Trigger when Step Fails
                                Seq#  3  ( 23)
                                         #EXEMACRO NXTFLD;
                                                          * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	8	Y	CHAR	29/ 10/ 0	Y	N	Y	Y	N	N	N	N	N	Y	N

(2 BLOCK2 - BLOCK2)

Trigger Type - KEY-LISTVAL

Help Message - Press PF15 For a list of valid well IDs

Seq# 1 (24)
#EXEMACRO GOBLK BLOCK4; CLRBLK; EXEQRY;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(2) FIELD_NAME	1	1	40	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) SAMPLE_DATE	1	1	64	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) PVT_PRM_CODE	1	4	8	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Press PF15 for a list of valid Drill Parameter Codes											
(5) PVT_PRM_VALUE	1	7	8	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(6) PVT_PRM_NAME	1	4	15	Y	CHAR	40/ 40/ 40	N	N	N	N	N	N	N	N	N	N	N
(7) PVT_PRM_UNITS	1	4	57	Y	CHAR	15/ 15/ 15	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_FLUID_PVT_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (2) ORDER BY PVT_PRM_CODE
Trigger Type - KEY-F5 F 8 Menu - N

Seq# 1 (26)
#COPY :BLOCK3.PVT_PRM_CODE :BLOCK2.PVT_PRM_CODE
* Abort Trigger when Step Fails

Seq# 2 (27)
#COPY :BLOCK3.PVT_PRM_NAME :BLOCK2.PVT_PRM_NAME
* Abort Trigger when Step Fails

Seq# 3 (28)
#COPY :BLOCK3.PVT_PRM_UNITS :BLOCK2.PVT_PRM_UNITS
* Abort Trigger when Step Fails

Seq# 4 (29)
#EXEMACRO GOBLK BLOCK2; GOFLD PVT_PRM_VALUE;
* Abort Trigger when Step Fails

(3 BLOCK3 - BLOCK3)

Trigger Type - KEY-nxtblk F-8 Menu - N

Seq# 1 (30)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-NXTFLD F-8 Menu - N

Seq# 1 (31)
#EXEMACRO NXTREC;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (32)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PVT_PRM_CODE	2	1	9	Y	CHAR	5/ 5/ 5	Y	N	Y	N	N	N	N	N	N	Y	N
Help Message - Position the cursor on the desired code and press F6																	
(2) PVT_PRM_NAME	2	1	16	Y	CHAR	40/ 40/ 40	Y	N	N	N	N	N	N	N	N	N	N
(3) PVT_PRM_UNITS	2	1	57	Y	CHAR	15/ 15/ 15	Y	N	N	N	N	N	N	N	N	N	N

Block Name - Block Descr ption

4 BLOCK4 - BLOCK4

Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 5 Physical Lines per Record - 1

Where Order By - (3) ORDER BY WELL_ID

Trigger Type KEY-F6 F-8 Menu - N

Seq# 1 (33)
#COPY :BLOCK4.WELL_ID :BLOCK2.WELL_ID
* Abort Trigger when Step Fails

Seq# 2 (34)
#COPY :BLOCK4.FIELD_NAME :BLOCK2.FIELD_NAME
* Abort Trigger when Step Fails

Seq# 3 (35)
#EXEMACRO GOBLK BLOCK2; GOFLD SAMPLE_DATE;
* Abort Trigger when Step Fails

Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (36)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

(4 BLOCK4 - BLOCK4)

Seq# 1 (37)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	3	1	11	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Select the desired well ID and press F6											
(2) FIELD_NAME	3	1	44	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

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```
          111111111122222222223333333333444444444455555555556666666666777777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:  PGGQF                    Well Fluid PVT Data
 2:    p-------------------------------------------------------------------q
 3:    |  Well ID                        Field                 Sample Date |
 4:    |                                                                   |
 5:    |                                                                   |
 6:    |  Code   PVT Parameter Name                      Units             |
 7:    |                                                                   |
 8:    |                                                                   |
 9:    |  Value                                                            |
10:    |                                                                   |
11:    |                                                                   |
12:    |  Well ID                        Field                 Sample Date |
13:    |                                                                   |
14:    |                                                                   |
15:    |  Code   PVT Parameter Name                      Units             |
16:    |                                                                   |
17:    |                                                                   |
18:    |  Value                                                            |
19:    |                                                                   |
20:    b-------------------------------------------------------------------d
21:
22:
23:
24:
```

```
                                Boiler Plate
                                  Page 2

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                Select the Desired Fluid PVT Parameter Code
 3:          p-------------------------------------------------------------q
 4:          |
 5:          |Code   PVT P+r+meter N+me                      Units          |
 6:          |
 7:          |
 8:          |
 9:          |
10:          |
11:          |
12:          |
13:          |
14:          |
15:          |
16:          |
17:          |
18:          b-------------------------------------------------------------d
19:
20:
21:
22:
23:
24:
```

PGGQF
UPDATE WELL FLUID PVT DATA
Work Size - 0

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Page 3

```
          111111111122222222223333333333444444444455555555556666666666777777777788
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:
 2:                          Well Master
 3:        p-----------------------------------------------------q
 4:         | Well ID                          Field              |
 5:         |                                                     |
 6:         |                                                     |
 7:         |                                                     |
 8:         |                                                     |
 9:         |                                                     |
10:         |                                                     |
11:         |                                                     |
12:         |                                                     |
13:         |                                                     |
14:         |                                                     |
15:         |                                                     |
16:         |                                                     |
17:         |                                                     |
18:         |                                                     |
19:        b-----------------------------------------------------d
20:
21:
22:
23:
24:
```

PGGQP
UPDATE WELL FLUID PVT PARAMETERS
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_FLUID_PVT_PRM
                                   WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE=:BLOCK2.PVT_PRM_CODE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM WG_FLUID_PVT_PRM
                                   WHERE WG_FLUID_PVT_PRM.PVT_PRM_CODE=:BLOCK2.PVT_PRM_CODE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG  SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N
						Default Value - $$DATE$$											

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WG_FLUID_PVT_PRM Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 7 Physical Lines per Record - 1
Where Order By - (1) ORDER BY PVT_PRM_CODE
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (9)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) PVT_PRM_CODE	1	1	9	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) PVT_PRM_NAME	1	1	21	Y	CHAR	39/ 39/ 39	Y	N	Y	Y	N	N	N	N	N	N	N
(3) PVT_PRM_UNITS	1	1	61	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N

```
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          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  PGGQP                    Well Fluid PVT Parameters
 2:    p-------------------------------------------------------------------c
 3:    |                                                                   |
 4:    |     PVT          PVT                                   PVT      |
 5:    |     P|r|meter    P|r|meter                              P|r|meter |
 6:    |     Code         N|me                                   Units    |
 7:    |                                                                   |
 8:    |                                                                   |
 9:    |                                                                   |
10:    |                                                                   |
11:    |                                                                   |
12:    |                                                                   |
13:    |                                                                   |
14:    |                                                                   |
15:    |                                                                   |
16:    |                                                                   |
17:    |                                                                   |
18:    |                                                                   |
19:    b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  3)
                                  select 'x'
                                  from wg_workover_hist
                                  WHERE WG_WORKOVER_HIST.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WG_WORKOVER_HIST.WORKOVER_DATE=:BLOCK2.WORKOVER_DATE
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  SELECT 'X'
                                  FROM WG_WORKOVER_HIST
                                  WHERE WG_WORKOVER_HIST.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WG_WORKOVER_HIST.WORKOVER_DATE=:BLOCK2.WORKOVER_DATE
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
```

```
                                        Seq#   2  ( 9)                    * Abort Trigger when Step Fails
                                                  #EXEMACRO GOBLK block2;
                                                                           * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	60	Y	DATE	9/ 9/ 9	N	N	Y	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WG_WORKOVER_HIST Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 5 Physical Lines per Record - 7

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                        Seq#   1  ( 10)
                                                  #EXEMACRO NULL;
                                                                           * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                                        Seq#   1  ( 11)
                                                  #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                                  WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                                  WHEN 'REMARKS' THEN NXTREC;
                                                  WHEN OTHERS THEN NXTFLD;
                                                  END CASE;
                                                                           * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                                        Seq#   1  ( 12)
                                                  #EXEMACRO NULL;
                                                                           * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                                        Seq#   1  ( 13)
                                                  SELECT 'X'
                                                  FROM WG_WELL_MSTR
                                                  WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                                           * Abort Trigger when Step Fails
                                                                           Failure Message - Press F15 to select a valid Well ID
                                        Seq#   2  ( 14)
                                                  SELECT FIELD_NAME
                                                  INTO BLOCK2.FIELD_NAME
                                                  FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#   3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	14	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press F15 for a list of valid well IDs																	
(2) FIELD_NAME	1	1	57	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) WORKOVER_DATE	1	3	35	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(4) REMARKS	1	5	5	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description

3 BLOCK3 - BLOCK3

Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1

Where Order By - (1) ORDER BY WELL_ID

Trigger Type - KEY-f6 F-8 Menu - N

```
Seq#   1  ( 17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#   2  ( 18)
#COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                    * Abort Trigger when Step Fails
Seq#   3  ( 19)
#EXEMACRO GOBLK BLOCK2; GOFLD WORKOVER_DATE;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

```
Seq#   1  ( 20)
#EXEMACRO NULL;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-PRVBLK F-8 Menu - N

```
Seq#   1  ( 21)
```

(3 BLOCK3 - BLOCK3)

#EXEMACRO NULL;

* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	12	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Select the desired well ID and press F6											
(2) FIELD_NAME	2	1	44	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

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```
         1111111111222222222233333333334444444444555555555566666666667777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  PGGQW                    Well Workover History
 2:
 3:   p-------------------------------------------------------------------q
 4:   |
 5:   |  Well ID                                Field N+me
 6:   |
 7:   |                 Workover D+te
 8:   |  Rem+rks
 9:   |
10:   |
11:   |
12:   |  Well ID                                Field N+me
13:   |
14:   |                 Workover D+te
15:   |  Rem+rks
16:   |
17:   |
18:   |
19:   b-------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

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Page 2

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

 1:
 2:                          Well Master
 3:          p-----------------------------------------------q
 4:
 5:           Well ID                        Field Name
 6:
 7:
 8:
 9:
10:
11:
12:
13:
14:
15:
16:
17:
18:
19:          b-----------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  3)
                                  select 'X'
                                  FROM WW_CASING
                                  WHERE WW_CASING.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_CASING.CA_SIZE=:BLOCK2.CA_SIZE
                                  AND   WW_CASING.CA_DEPTH=:BLOCK2.CA_DEPTH
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  select 'X'
                                  FROM WW_CASING
                                  WHERE WW_CASING.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_CASING.CA_SIZE=:BLOCK2.CA_SIZE
                                  AND   WW_CASING.CA_DEPTH=:BLOCK2.CA_DEPTH
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
```

```
                                    .TO BLOCK1.TODAY
                                    ROM DUAL
                                                    * Abort Trigger when Step Fails
                          Seq#   2  ( 9)
                                    #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	67	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_CASING Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 7 Physical Lines per Record - 1

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                          Seq#   1  ( 10)
                                    #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                          Seq#   1  ( 11)
                                    #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                    WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                    WHEN OTHERS THEN NXTFLD;
                                    END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                          Seq#   1  ( 12)
                                    #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                          Seq#   1  ( 13)
                                    SELECT 'X'
                                    FROM WG_WELL_MSTR
                                    WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 to select a valid well ID
                          Seq#   2  ( 14)
                                    select field_name
                                    INTO :BLOCK2.FIELD_NAME
```

(2 BLOCK2 - BLOCK2)

```
FROM WG_WELL_MSTR
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) well_id	1	1	4	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press F15 for a list of valid well IDs																	
(2) FIELD_NAME	1	1	20	Y	CHAR	18/ 18/ 0	N	N	N	N	N	N	N	N	N	N	N
(3) ca_size	1	1	46	Y	NUMBER	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(4) ca_depth	1	1	66	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	

Block Name - Block Description
3 block3 - block3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 5 Physical Lines per Record - 1
Where Order By - (1) order by well_id
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  2  ( 18)
#COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                    * Abort Trigger when Step Fails
Seq#  3  ( 19)
#EXEMACRO GOBLK BLOCK2; GOFLD CA_SIZE;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

```
Seq#  1  ( 20)
#EXEMACRO NULL;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-PRVBLK F-8 Menu - N

(3 block3 - block3)

Seq# 1 (21)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	2	1	43	Y	CHAR	18/ 18/ 18	Y	N	Y	N	N	N	N	N	N	N	N

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```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

 1:  PWWQC                        Update Casing Data
 2:
 3:  p-------------------------------------------------------------------------q
 4:  |                                                                         |
 5:  |                                                                         |
 6:  |  Well ID          Field name                Casing Size       Casing Depth |
 7:  v                                                                         |
 8:  |                                                                         |
 9:  |                                                                         |
10:  |                                                                         |
11:  |                                                                         |
12:  |                                                                         |
13:  |                                                                         |
14:  |                                                                         |
15:  |                                                                         |
16:  |                                                                         |
17:  |                                                                         |
18:  v                                                                         v
19:  b-------------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

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Page 2

```
         1111111111222222222233333333334444444444555555555566666666667777777777888
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
 1:                              WELL MASTER
 2:          p-------------------------------------------------------q
 3:          |
 4:          |        WELL ID                FIELD NAME
 5:          |
 6:          |
 7:          |
 8:          |
 9:          |
10:          |
11:          |
12:          |
13:          |
14:          |
15:          |
16:          |
17:          |
18:          |
19:          b-------------------------------------------------------d
20:
21:
22:
23:
24:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This record has not been entered into the well master table
                        Seq#   2  (  3)
                                  select 'X'
                                  FROM WW_DEVIATION
                                  WHERE WW_DEVIATION.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_DEVIATION.DV_DEPTH=:BLOCK2.DV_DEPTH
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  select 'x'
                                  from WW_DEVIATION
                                  WHERE WW_DEVIATION.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_DEVIATION.DV_DEPTH=:BLOCK2.DV_DEPTH
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
```

```
                                                    * Abort Trigger when Step Fails
                                Seq#   2  ( 9)
                                           #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	66	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_DEVIATION Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 10/10 Base Crt Line - 9 Physical Lines per Record - 1

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                Seq#   1  ( 10)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                                Seq#   1  ( 11)
                                           #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                           WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                           WHEN 'DV_ANGLE' THEN NXTREC;
                                           WHEN OTHERS THEN NXTFLD;
                                           END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                                Seq#   1  ( 12)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                                Seq#   1  ( 13)
                                           SELECT 'X'
                                           FROM WG_WELL_MSTR
                                           WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 for a list of valid well IDs
                                Seq#   2  ( 14)
                                           select field_name
                                           into :block2.field_name
                                           FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	4	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - press F15 for a list of valid well IDs																	
(2) field_name	1	1	16	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) DV_DEPTH	1	1	38	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Field must be entered																	
(4) DV_AZIMUTH	1	1	53	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(5) DV_ANGLE	1	1	65	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  2  ( 18)
#COPY :BLOCK3.FIELD_NAME  :BLOCK2.FIELD_NAME
                                    * Abort Trigger when Step Fails
Seq#  3  ( 19)
#EXEMACRO GOBLK BLOCK2; GOFLD DV_DEPTH;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

```
Seq#  1  ( 20)
#EXEMACRO NULL;
                                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-PRVBLK F-8 Menu - N

(3 BLOCK3 - BLOCK3)

Seq# 1 (21)
#EXEMACRO NULL;

* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	2	1	43	Y	CHAR	18/ 18/ 18	Y	N	Y	N	N	N	N	N	N	N	N
						Help Message - Enter value for : FIELD_NAME											

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```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678890
 1:  PWWOD                  Update Deviation Data
 2:
 3:  p-------------------------------------------------------------------------q
 4:  |                                                                         |
 5:  |                                                                         |
 6:  |  Well ID     Field name            Deviation    Deviation     Deviation  |
 7:  |                                     Depth       Azimuth        Angle     |
 8:  |                                                                         |
 9:  |                                                                         |
10:  |                                                                         |
11:  |                                                                         |
12:  |                                                                         |
13:  |                                                                         |
14:  |                                                                         |
15:  |                                                                         |
16:  |                                                                         |
17:  |                                                                         |
18:  |                                                                         |
19:  b-------------------------------------------------------------------------d
20:
21:
22:
23:
24:
```

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```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

 1:                          WELL MASTER
 2:          p-------------------------------------------------------q
 3:          |                                                       |
 4:          |                                                       |
 5:          |          WELL_ID                  FIELD_NAME          |
 6:          |                                                       |
 7:          |                                                       |
 8:          |                                                       |
 9:          |                                                       |
10:          |                                                       |
11:          |                                                       |
12:          |                                                       |
13:          |                                                       |
14:          |                                                       |
15:          |                                                       |
16:          |                                                       |
17:          |                                                       |
18:          |                                                       |
19:          b-------------------------------------------------------d
20:
21:
22:
23:
24:
```

PWWQG
UPDATE GENERAL WELL DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  3)
                                   select 'X'
                                   FROM WW_GENERAL_WELL
                                   WHERE WW_GENERAL_WELL.WELL_ID=:BLOCK2.WELL_ID
                                   AND   WW_GENERAL_WELL.AREA   =:BLOCK2.AREA
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  4)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  5)
                                   SELECT 'X'
                                   FROM WW_GENERAL_WELL
                                   WHERE WW_GENERAL_WELL.WELL_ID = :BLOCK2.WELL_ID
                                   AND   WW_GENERAL_WELL.AREA = :BLOCK2.AREA
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records are not permitted
Trigger Type - key-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  6)
                                   #EXEMACRO CLRFRM; EXSTRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - key-STARTUP                   F-8 Menu - N

                         Seq#   1  (  7)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  8)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
```

```
                                                    * Abort Trigger when Step Fails
                                Seq#   2  ( 9)
                                           #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	R q'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_GENERAL_WELL Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                Seq#   1  ( 10)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                                Seq#   1  ( 11)
                                           #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                           WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                           WHEN 'GW_B_Y_COOR' THEN NXTREC;
                                           WHEN OTHERS THEN NXTFLD;
                                           END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                                Seq#   1  ( 12)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                                Seq#   1  ( 13)
                                           SELECT 'X'
                                           FROM WG_WELL_MSTR
                                           WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 for a list of valid well IDs
                                Seq#   2  ( 14)
                                           select FIELD_NAME
                                           INTO BLOCK2.FIELD_NAME
                                           FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	4	12	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Trigger Type - KEY-LISTVAL						Help Message - press F15 for a list of valid well IDs											
Seq# 1 (16) #EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY; * Abort Trigger when Step Fails																	
(2) field_name	1	4	35	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) AREA_ABR	1	6	13	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(4) AREA	1	6	32	Y	CHAR	45/ 45/ 0	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(5) COMPANY_NAME_ABR	1	8	16	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(6) COMPANY_NAME	1	8	30	Y	CHAR	47/ 47/ 47	Y	N	Y	Y	N	N	N	N	N	N	N
(7) WELL_STATUS_ABR	1	10	20	Y	CHAR	13/ 13/ 13	Y	N	Y	Y	N	N	N	N	N	N	N
(8) WELL_STATUS	1	10	36	Y	CHAR	41/ 41/ 41	Y	N	Y	Y	N	N	N	N	N	N	N
(9) GW_WELL_ABR	1	12	13	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(10) GW_WELL_NAME	1	12	25	Y	CHAR	21/ 21/ 21	Y	N	Y	Y	N	N	N	N	N	N	N
(11) GW_OLD_WELL_NAME	1	12	56	Y	CHAR	21/ 21/ 21	Y	N	Y	Y	N	N	N	N	N	N	N
(12) GW_EXP_WELL	1	14	28	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					
(13) GW_PLT_WELL	1	14	37	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
(14) GW_DEV_WELL	1	14	51	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N
						Lowest Value - 0						Highest Value - 1					
(15) GW_SIDE_TRK	1	14	64	Y	CHAR	1/ 1/ 1	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(16) GW_DEVIATED	1	15	22	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(17) GW_ELEVATION	1	15	52	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(18) GW_DIG_LOG_ID	1	18	24	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(19) GW_WATER_DEPTH	1	18	52	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(20) GW_ROTARY_TABLE	2	4	28	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(21) GW_FTD	2	6	28	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(22) GW_SPUD_DATE	2	4	54	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(23) GW_DRILLING_DATE	2	6	54	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(24) GW_DEPTH_UNIT	2	8	54	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(25) GW_S_LATITUDE	2	11	23	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(26) GW_S_LONGITUDE	2	13	23	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(27) GW_B_LATITUDE	2	15	23	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(28) GW_B_LONGITUDE	2	17	23	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(29) GW_S_X_COOR	2	11	54	Y	INT	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N
(30) GW_S_Y_COOR	2	13	54	Y	INT	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N
(31) GW_B_X_COOR	2	15	54	Y	INT	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N
(32) GW_B_Y_COOR	2	17	54	Y	INT	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

Seq# 1 (17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
* Abort Trigger when Step Fails

(3 BLOCK3 - BLOCK3)

```
                    Seq#   2  ( 18)
                              #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                                  * Abort Trigger when Step Fails
                    Seq#   3  ( 19)
                              #EXEMACRO GOBLK BLOCK2; GOFLD AREA_ABR;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-NXTBLK                   F-8 Menu - N

                    Seq#   1  ( 20)
                              #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                   F-8 Menu - N

                    Seq#   1  ( 21)
                              #EXEMACRO NULL;
                                                  * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	3	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	3	1	46	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : FIELD_NAME											

```
                                Boiler Plate
                                  Page 1

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  PWWOG                    General Well Data
2:  p-------------------------------------------------------------------------q
3:  |                                                                         |
4:  |  Well ID              Field name                                        |
5:  |                                                                         |
6:  |  Area Abr                                                               |
7:  |                                                                         |
8:  |  Company Abr                                                            |
9:  |                                                                         |
0:  |  Well Status Abr                                                        |
1:  |                                                                         |
2:  |  Well Abr                                   Old Name                    |
3:  |                                                                         |
4:  |  Well Type: Exploratory     Pilot    Development  Side Track            |
5:  |          Deviated                    Elevation                          |
6:  |                                                                         |
7:  |                                                                         |
8:  |          Dig Log ID                 Water Depth                         |
9:  |                                                                         |
0:  b-------------------------------------------------------------------------d
1:
2:
3:
4:
```

PWWOG
UPDATE GENERAL WELL DATA
Work Size - 0

Boiler Plate
Page 2

```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:   PWWOG
2:      p-------------------------------------------------------------q
3:      |                                                             |
4:      |        Rotary Table                 Spud Date               |
5:      |                                                             |
6:      |                FTD                Drilling Date             |
7:      |                                                             |
8:      |                                     Depth Unit              |
9:      |                                                             |
0:      |                                                             |
1:      |    S Latitude                     S X Coordinate            |
2:      |                                                             |
3:      |    S Longitude                    S Y Coordinate            |
4:      |                                                             |
5:      |    B Latitude                     B X Coordinate            |
6:      |                                                             |
7:      |    B Longitude                    B Y Coordinate            |
8:      b-------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

Boiler Plate
Page 3

```
         111111111:222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:
2:                          WELL MASTER
3:      p-------------------------------------------------------q
4:      |
5:      |          Well ID                 Field name            |
6:      |
7:      |
8:      |
9:      |
0:      |
1:      |
2:      |
3:      |
4:      |
5:      |
6:      |
7:      |
8:      |
9:      b-------------------------------------------------------d
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This well id has not been entered into the well mastre table
                         Seq#   2  (  3)
                                   select 'x'
                                   from WW_LOG_RECORD
                                   WHERE WW_LOG_RECORD.WELL_ID =:BLOCK2.WELL_ID
                                   AND   WW_LOG_RECORD.LOG_NAME=:BLOCK2.LOG_NAME
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  4)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                     * Abort Trigger when Step Fails
                                                     Failure Message - This well ID has not been entered into the well master table
                         Seq#   2  (  5)
                                   SELECT 'X'
                                   FROM WW_LOG_RECORD
                                   WHERE WW_LOG_RECORD.WELL_ID=:BLOCK2.WELL_ID
                                   AND   WW_LOG_RECORD.LOG_NAME=:BLOCK2.LOG_NAME
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  6)
                                   #EXEMACRO CLFRM; EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  7)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  8)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
```

```
                                        * Abort Trigger when Step Fails
                    Seq#   2  ( 9)
                               #EXEMACRO GOBLK BLOCK2;
                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	62	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_LOG_RECORD Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                    Seq#   1  ( 10)
                               #EXEAMACRO NULL;
                                        * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                    Seq#   1  ( 11)
                               #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                               WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                               WHEN 'CR_SCALE' THEN NXTREC;
                               WHEN OTHERS THEN NXTFLD;
                               END CASE;
                                        * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                    Seq#   1  ( 12)
                               #EXEMACRO NULL;
                                        * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                    Seq#   1  ( 13)
                               SELECT 'X'
                               FROM WG_WELL_MSTR
                               WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
                                        Failure Message - Press F15 for a valid list of well IDs
                    Seq#   2  ( 14)
                               SELECT FIELD_NAME
                               INTO :BLOCK2.FIELD_NAME
                               FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	4	12	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press F15 for alist of valid well IDs																	
Trigger Type - KEY-LISTVAL																	

```
Seq#  1  ( 16)
#EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY;
                                    * Abort Trigger when Step Fails
```

(2) field_name	1	4	42	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) LOG_NAME	1	6	12	Y	CHAR	51/ 50/ 51	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Field must be entered																	
(4) LOG_NAME_ABR	1	8	24	Y	CHAR	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N
(5) MUD_TYPE	1	8	60	Y	CHAR	19/ 19/ 19	Y	N	Y	Y	N	N	N	N	N	N	N
(6) MEDIA_TYPE	1	10	24	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(7) LG_MUD_WEIGHT	1	10	60	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(8) MEDIA_COND	1	12	24	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(9) LG_MUD_VISCOSITY	1	12	60	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(10) LOG_COMPANY	1	14	24	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(11) LG_MUD_SALINITY	1	14	60	Y	NUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(12) LG_DATE	1	16	24	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(13) LG_B_HOLE_TEMP	1	16	60	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(14) LG_R_MUD_FILTRATE	1	18	60	Y	NUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(15) LG_RMF_TEMP	2	2	22	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(16) LG_TEMPERATURE_U	2	4	22	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(17) CR_TOP_DEPTH	2	8	18	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(18) CR_BOT_DEPTH	2	10	18	Y	NUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(19) CR_DEPTH_UNITS	2	12	18	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(20) LG_ROOM	2	8	65	Y	NUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(21) LG_ROW	2	10	65	Y	NUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(22) LG_COL	2	12	65	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(23) CR_SCALE	2	16	17	Y	NUMBER	17/ 17/ 17	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq# 1 ( 17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                    * Abort Trigger when Step Fails
Seq# 2 ( 18)
#COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                    * Abort Trigger when Step Fails
Seq# 3 ( 19)
#EXEMACRO GOBLK BLOCK2; GOFLD LOG_NAME;
                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

```
Seq# 1 ( 20)
#EXEMACRO NULL;
                    * Abort Trigger when Step Fails
```

Trigger Type - KEY-PRVBLK F-8 Menu - N

```
Seq# 1 ( 21)
#EXEMACRO NULL;
                    * Abort Trigger when Step Fails
```

(1) WELL_ID	3	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	N	N
						Help Message - Enter value for : WELL_ID											
(2) FIELD_NAME	3	1	43	Y	CHAR	18/ 18/ 18	Y	N	Y	N	N	N	N	N	N	N	N

PWLQL
UPDATE LOG RECORD
Work Size - 0

(3 BLOCK3 - BLOCK3)

Help Message - Enter value for : FIELD_NAME

Boiler Plate
Page 1

```
          111111111122222222223333333333444444444455555555556666666666677777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  PWWQL                        Update Log Record Data
2:  p-------------------------------------------------------------------------q
3:  |                                                                         |
4:  |  Well ID                     Field N†me                                 |
5:  |                                                                         |
6:  |  Log N†me                                                               |
7:  |                                                                         |
8:  |  Log N†me Abrivi†tion                        Mud Type                   |
9:  |                                                                         |
0:  |  Medi† Type                                  Mud Weight                 |
1:  |                                                                         |
2:  |  Medi† Condition                             Mud Viscosity              |
3:  |                                                                         |
4:  |  Log Comp†ny                                 Mud S†linity               |
5:  |                                                                         |
6:  |  D†te                                        Hole Temp                  |
7:  |                                                                         |
8:  |                                              Mud Filtr†te               |
9:  b-------------------------------------------------------------------------d
0:
1:
2:
3:
4:
```

```
                                Boiler Plate
                                  Page 2

          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:   p-------------------------------------------------------------------------q
2:    Temperture                                                               |
3:                                                                             |
4:    Temperture Unit                                                          |
5:                                                                             |
6:                                                                             |
7:                                                                             |
8:    Top Depth                                        Room                    |
9:                                                                             |
0:    Bottom Depth                                     Row                     |
1:                                                                             |
2:    Depth Units                                      Column                  |
3:                                                                             |
4:                                                                             |
5:                                                                             |
6:    Scale                                                                    |
7:                                                                             |
8:   b-------------------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

Boiler Plate
Page 3

```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:                          WELL MASTER
2:        p-------------------------------------------------------q
3:        |                                                       |
4:        |                                                       |
5:        |            WELL_ID                FIELD_NAME          |
6:        |                                                       |
7:        |                                                       |
8:        |                                                       |
9:        |                                                       |
0:        |                                                       |
1:        |                                                       |
2:        |                                                       |
3:        |                                                       |
4:        |                                                       |
5:        |                                                       |
6:        |                                                       |
7:        |                                                       |
8:        |                                                       |
9:        b-------------------------------------------------------d
0:
1:
2:
3:
4:
```

PWWQR
UPDATE DRILLING PARAMETER TABLE
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  3)
                                  select 'x'
                                  FROM WW_ROCK_SAMPLE
                                  WHERE WW_ROCK_SAMPLE.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_ROCK_SAMPLE.RS_CORE_NUMBER=:BLOCK2.RS_CORE_NUMBER
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                   * Abort Trigger when Step Fails
                                                   Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  select 'x'
                                  FROM WW_ROCK_SAMPLE
                                  WHERE WW_ROCK_SAMPLE.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_ROCK_SAMPLE.RS_CORE_NUMBER=:BLOCK2.RS_CORE_NUMBER
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
```

```
                                                    * Abort Trigger when Step Fails
                                Seq#   2  ( 9)
                                           #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	68	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_ROCK_SAMPLE Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

```
Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                Seq#   1  ( 10)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                    F-8 Menu - N

                                Seq#   1  ( 11)
                                           #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                           WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                           WHEN 'RS_BOX_NUMBER' THEN NXTREC;
                                           WHEN OTHERS THEN NXTFLD;
                                           END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                                Seq#   1  ( 12)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                     F-8 Menu - N

                                Seq#   1  ( 13)
                                           SELECT 'X'
                                           FROM WG_WELL_MSTR
                                           WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 to select a valid well ID
                                Seq#   2  ( 14)
                                           select FIELD_NAME
                                           INTO BLOCK2.FIELD_NAME
                                           FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	5	10	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - press F15 for a list of valid well IDs																	
Trigger Type - KEY-LISTVAL																	
Seq# 1 (16) #EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY; * Abort Trigger when Step Fails																	
(2) field_name	1	5	32	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) RS_CORE_NUMBER	1	5	63	Y	NUMBER	15/ 15/ 15	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(4) SAMPLE_TYPE	1	7	14	Y	CHAR	19/ 19/ 19	Y	N	Y	Y	N	N	N	N	N	N	N
(5) RS_PERCENT_RECOV	1	7	63	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(6) SA_TOP_DEPTH	1	11	18	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(7) SA_BOT_DEPTH	1	13	18	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(8) RS_DEPTH_UNITS	1	15	18	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(9) SA_NUMBER_OF_SACKS	1	17	18	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(10) RS_ROOM	1	11	67	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(11) RS_ROW	1	13	67	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(12) RS_COLUMN	1	15	67	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(13) RS_BOX_NUMBER	1	17	67	Y	CHAR	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N

```
Block Name - Block Description
3 BLOCK3 - BLOCK3
    Table - WG_WELL_MSTR          Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 6   Physical Lines per Record - 1
            Where Order By - (  1) ORDER BY WELL_ID
            Trigger Type - KEY-F6                    F-8 Menu - N
```

(3 BLOCK3 - BLOCK3)

```
                    Seq#   1  ( 17)
                              #COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                    Seq#   2  ( 18)
                              #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                                    * Abort Trigger when Step Fails
                    Seq#   3  ( 19)
                              #EXEMACRO GOBLK BLOCK2; GOFLD RS_CORE_NUMBER;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTBLK                     F-8 Menu - N

                    Seq#   1  ( 20)
                              #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                     F-8 Menu - N

                    Seq#   1  ( 21)
                              #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	2	1	42	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : FIELD_NAME											

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```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  PWWQR                        Update Rock Sample Data
2:
3:  p-------------------------------------------------------------------------q
4:  |
5:  | Well ID            Field name                    Core number
6:  |
7:  | Sample Type                                   Percent Recovery
8:  |
9:  |
0:  |
1:  | Top Depth                                            Room
2:  |
3:  | Bottom Depth                                         Row
4:  |
5:  | Depth Units                                          Column
6:  |
7:  | Number of Sacks                                      Box Number
8:  |
9:  b-------------------------------------------------------------------------d
0:
1:
2:
3:
4:
```

Boiler Plate
Page 2

```
         1111111111222222222233333333334444444444555555555566666666667777777778
1234567890123456789012345678901234567890123456789012345678901234567890123456789
1:
2:                          WELL MASTER
3:        p-------------------------------------------------------q
4:        |
5:        |        WELL_ID              FIELD_NAME                |
6:        |
7:        |
8:        |
9:        |
0:        |
1:        |
2:        |
3:        |
4:        |
5:        |
6:        |
7:        |
8:        |
9:        b-------------------------------------------------------d
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  3)
                                  select 'x'
                                  FROM WW_SIDEWALL
                                  WHERE WW_SIDEWALL.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_SIDEWALL.SW_DEPTH=:BLOCK2.SW_DEPTH
                                                  * Abort Trigger when Step Fails
                                                  * Reverse Return Code
                                                  Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  select 'x'
                                  from ww_sidewall
                                  where WW_SIDEWALL.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WW_SIDEWALL.SW_DEPTH=:BLOCK2.SW_DEPTH
                                                  * Abort Trigger when Step Fails
                                                  * Reverse Return Code
                                                  Failure Message - Duplicate records may not be entered
Trigger Type - key-clrfrm                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - key-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
```

```
                                        * Abort Trigger when Step Fails
                    Seq#   2  ( 9)
                               #EXEMACRO GOBLK BLOCK2;
                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	69	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_SIDEWALL Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 10/10 Base Crt Line - 6 Physical Lines per Record - 1

```
Trigger Type - KEY-NXTBLK                F-8 Menu - N

                    Seq#   1  ( 10)
                               #EXEMACRO NULL;
                                        * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                F-8 Menu - N

                    Seq#   1  ( 11)
                               #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                               WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                               WHEN 'SW_CORE_NUMBER' THEN NXTREC;
                               WHEN OTHERS THEN NXTFLD;
                               END CASE;
                                        * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                F-8 Menu - N

                    Seq#   1  ( 12)
                               #EXEMACRO NULL;
                                        * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                 F-8 Menu - N

                    Seq#   1  ( 13)
                               SELECT 'X'
                               FROM WG_WELL_MSTR
                               WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
                                        Failure Message - PRESS F15 TO SELECT A VALID WELL ID
                    Seq#   2  ( 14)
                               SELECT FIELD_NAME
                               INTO BLOCK2.FIELD_NAME
                               FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
                                    WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                        * Abort Trigger when Step Fails
                              Seq#  3  ( 15)
                                    #EXEMACRO NXTFLD;
                                                        * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	1	4	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - press F15 for a list of valid well IDs																	
(2) FIELD_NAME	1	1	16	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) SW_DEPTH	1	1	37	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Field must be entered																	
(4) SIDEWALL_TYPE	1	1	48	Y	CHAR	14/ 14/ 14	Y	N	Y	Y	N	N	N	N	N	N	N
(5) SW_CORE_NUMBER	1	1	66	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N

```
  Block Name - Block Description
3 BLOCK3 - BLOCK3
      Table - WG_WELL_MSTR              Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records  12/12  Base Crt Line - 6   Physical Lines per Record - 1
              Where Order By - (  1) order by well_id
              Trigger Type - key-F6                     F-8 Menu - N

                              Seq#  1  ( 17)
                                    #COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                                        * Abort Trigger when Step Fails
                              Seq#  2  ( 18)
                                    #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                                        * Abort Trigger when Step Fails
                              Seq#  3  ( 19)
                                    #EXEMACRO GOBLK BLOCK2; GOFLD SW_DEPTH;
                                                        * Abort Trigger when Step Fails
              Trigger Type - key-NXTBLK                 F-8 Menu - N

                              Seq#  1  ( 20)
                                    #EXEMACRO NULL;
                                                        * Abort Trigger when Step Fails
              Trigger Type - key-PRVBLK                 F-8 Menu - N
```

(3 BLOCK3 - BLOCK3)

Seq# 1 (21)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	2	1	48	Y	CHAR	18/ 18/ 18	Y	N	Y	N	N	N	N	N	N	N	N
						Help Message - Enter value for : FIELD_NAME											

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Page 1

```
          111111111122222222223333333333444444444455555555556666666666777777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1:  PWWOW                        Update Sidewall Data
2:
3:   p-------------------------------------------------------------------------q
4:   |
5:   | Well ID     Field name            Depth     Sidewall Type     Core Number |
6:   |
7:   |
8:   |
9:   |
0:   |
1:   |
2:   |
3:   |
4:   |
5:   |
6:   |
7:   |
8:   b-------------------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

Boiler Plate
Page 2

```
         1111111111222222222233333333334444444444555555555566666666667777777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1:
2:                              WELL MASTER
3:          p-----------------------------------------------------q
4:          |
5:          |     WELL_ID                    FIELD_NAME           |
6:          |
7:          |
8:          |
9:          |
0:          |
1:          |
2:          |
3:          |
4:          |
5:          |
6:          |
7:          |
8:          b-----------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

PWWQS
UPDATE STRAT TOPS DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                    Seq#   1  (  2)
                              SELECT 'X'
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                 * Abort Trigger when Step Fails
                                                 Failure Message - This well has not been entered into the well master table
                    Seq#   2  (  3)
                              select 'x'
                              FROM WW_STRAT_TOPS
                              WHERE WW_STRAT_TOPS.WELL_ID=:BLOCK2.WELL_ID
                              AND   WW_STRAT_TOPS.FORMATION=:BLOCK2.FORMATION
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                    Seq#   1  (  4)
                              SELECT 'X'
                              FROM WG_WELL_MSTR
                              WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                 * Abort Trigger when Step Fails
                                                 Failure Message - This well has not been entered into the well master table
                    Seq#   2  (  5)
                              SELECT 'X'
                              FROM WW_STRAT_TOPS
                              WHERE WW_STRAT_TOPS.WELL_ID = :BLOCK2.WELL_ID
                              AND   WW_STRAT_TOPS.FORMATION = :BLOCK2.FORMATION
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                    Seq#   1  (  6)
                              #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                    Seq#   1  (  7)
                              #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                    Seq#   1  (  8)
                              SELECT SYSDATE
                              INTO BLOCK1.TODAY
                              FROM DUAL
```

```
                                                    * Abort Trigger when Step Fails
                                Seq#   2  ( 9)
                                           #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	66	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_STRAT_TOPS Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

```
Trigger Type - KEY-NXTBLK                   F-8 Menu - N

                                Seq#   1  ( 10)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                   F-8 Menu - N

                                Seq#   1  ( 11)
                                           #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                           WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                           WHEN 'ST_BOT_DEPTH' THEN NXTREC;
                                           WHEN OTHERS THEN NXTFLD;
                                           END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                   F-8 Menu - N

                                Seq#   1  ( 12)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                    F-8 Menu - N

                                Seq#   1  ( 13)
                                           SELECT 'X'
                                           FROM WG_WELL_MSTR
                                           WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 for a list of valid well IDs
                                Seq#   2  ( 14)
                                           select field_name
                                           INTO :BLOCK2.FIELD_NAME
                                           FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	5	15	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press F15 for a list of valid well IDs																	
(2) FORMATION	1	8	15	Y	CHAR	31/ 31/ 31	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(3) FORMATION_ABR	1	10	27	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
(4) GEOLOGICAL_AGE	1	12	20	Y	CHAR	32/ 32/ 32	Y	N	Y	Y	N	N	N	N	N	N	N
(5) ALIAS	1	14	20	Y	CHAR	21/ 21/ 21	Y	N	Y	Y	N	N	N	N	N	N	N
(6) SHOW	1	16	20	Y	CHAR	16/ 16/ 16	Y	N	Y	Y	N	N	N	N	N	N	N
(7) FIELD_NAME	1	5	42	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(8) ST_TOP_DEPTH	1	14	69	Y	RNUMBER	9/ 9/ 0	Y	N	Y	Y	N	N	N	N	N	N	N
(9) ST_BOT_DEPTH	1	16	69	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
#COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  2  ( 18)
#COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                    * Abort Trigger when Step Fails
Seq#  3  ( 19)
```

(3 BLOCK3 - BLOCK3)

```
                                    #EXEMACRO GOBLK BLOCK2; GOFLD FORMATION;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-NXTBLK                       F-8 Menu - N

                        Seq#   1  ( 20)
                                   #EXEMACRO NULL;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                       F-8 Menu - N

                        Seq#   1  ( 21)
                                   #EXEMACRO NULL;
                                                        * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	2	1	46	Y	CHAR	18/ 18/ 18	Y	N	Y	N	N	N	N	N	N	N	N

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```
          111111111122222222223333333333444444444455555555556666666666677777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  PWWQS                        Update Strat Tops Data
2:
3:  p-------------------------------------------------------------------------q
4:  |
5:  |  Well ID                    Field name                                 |
6:  |
7:  |
8:  |  Formation
9:  |
0:  |  Formation Abreviation
1:  |
2:  |  Geological Age
3:  |
4:  |  Alias                                          Top Depth              |
5:  |
6:  |  Show                                           Bottom Depth           |
7:  |
8:  |
9:  b-------------------------------------------------------------------------d
0:
1:
2:
3:
4:
```

Boiler Plate
Page 2

```
         11111111112222222222333333333344444444445555555555666666666677777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:
2:                          WELL MASTER
3:          p-------------------------------------------------q
4:          |                                                 |
5:          |      WELL_ID                FIELD_NAME          |
6:          |                                                 |
7:          |                                                 |
8:          |                                                 |
9:          |                                                 |
0:          |                                                 |
1:          |                                                 |
2:          |                                                 |
3:          |                                                 |
4:          |                                                 |
5:          |                                                 |
6:          |                                                 |
7:          |                                                 |
8:          |                                                 |
9:          b-------------------------------------------------d
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  3)
                                   select 'x'
                                   FROM WW_TEST_DATA
                                   WHERE WW_TEST_DATA.WELL_ID=:BLOCK2.WELL_ID
                                   AND   WW_TEST_DATA.TEST_TYPE=:BLOCK2.TEST_TYPE
                                   AND   WW_TEST_DATA.TS_TEST_NUMBER=:BLOCK2.TS_TEST_NUMBER
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  4)
                                   SELECT 'X'
                                   FROM WG_WELL_MSTR
                                   WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - This well has not been entered into the well master table
                         Seq#   2  (  5)
                                   select 'x'
                                   FROM WW_TEST_DATA
                                   WHERE WW_TEST_DATA.WELL_ID=:BLOCK2.WELL_ID
                                   AND   WW_TEST_DATA.TEST_TYPE=:BLOCK2.TEST_TYPE
                                   AND   WW_TEST_DATA.TS_TEST_NUMBER=:BLOCK2.TS_TEST_NUMBER
                                                    * Abort Trigger when Step Fails
                                                    * Reverse Return Code
                                                    Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  6)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  7)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                    * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  8)
                                   SELECT SYSDATE
```

```
                                    INTO BLOCK1.TODAY
                                    FROM DUAL
                                                    * Abort Trigger when Step Fails
                              Seq#  2  ( 9)
                                    #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	66	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WW_TEST_DATA Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

```
          Trigger Type - KEY-NXTBLK                 F-8 Menu - N

                              Seq#  1  ( 10)
                                    #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
          Trigger Type - KEY-NXTFLD                 F-8 Menu - N

                              Seq#  1  ( 11)
                                    #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                    WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                    WHEN 'TS_DATE' THEN NXTREC;
                                    WHEN OTHERS THEN NXTFLD;
                                    END CASE;
                                                    * Abort Trigger when Step Fails
          Trigger Type - KEY-PRVBLK                 F-8 Menu - N

                              Seq#  1  ( 12)
                                    #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
          Trigger Type - CHECKWELL                  F-8 Menu - N

                              Seq#  1  ( 13)
                                    SELECT 'X'
                                    FROM WG_WELL_MSTR
                                    WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 for a list of valid IDs
                              Seq#  2  ( 14)
                                    select field_name
```

(2 BLOCK2 - BLOCK2)

```
INTO BLOCK2.FIELD_NAME
FROM WG_WELL_MSTR
WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                        * Abort Trigger when Step Fails
Seq#  3  ( 15)
#EXEMACRO NXTFLD;
                                        * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	5	12	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - Press F15 for a list of valid well IDs																	
Trigger Type - KEY-LISTVAL																	

```
Seq#  1  ( 16)
#EXEMACRO GOBLK BLOCK3; CLRBLK; EXEQRY;
                                        * Abort Trigger when Step Fails
```

(2) field_name	1	5	35	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) TEST_TYPE	1	7	13	Y	CHAR	28/ 28/ 28	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(4) TS_TEST_NUMBER	1	7	60	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	Y	N	N	N	Y	N
Help Message - field must be entered																	
(5) TEST_TYPE_ABR	1	7	68	Y	CHAR	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(6) PROD_RATE_UNIT	1	9	24	Y	CHAR	35/ 35/ 35	Y	N	Y	Y	N	N	N	N	N	N	N
(7) PROD_RATE_UNIT_ABR	1	11	36	Y	CHAR	9/ 8/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(8) TS_CHOKE	1	13	14	Y	CHAR	12/ 12/ 12	Y	N	Y	Y	N	N	N	N	N	N	N
(9) TS_RATE	1	15	14	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(10) TS_PRESS_UNITS	1	17	15	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(11) TS_TOP_DEPTH	1	13	71	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(12) TS_BOT_DEPTH	1	15	71	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(13) TS_DEPTH_UNIT	1	17	71	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(14) TS_GOR	2	3	21	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(15) TS_API	2	5	21	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(16) TS_TEMPERATURE	2	7	21	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
(17) TS_TEMPERATURE_U	2	9	21	Y	CHAR	2/ 2/ 2	Y	N	Y	Y	N	N	N	N	N	N	N
(18) TS_BHSIP	2	3	64	Y	NUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N
(19) TS_BS_AND_W	2	5	64	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
(20) TS_DATE	2	7	64	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 6 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
         #COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                   * Abort Trigger when Step Fails
Seq#  2  ( 18)
         #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                   * Abort Trigger when Step Fails
Seq#  3  ( 19)
         #EXEMACRO GOBLK BLOCK2; GOFLD TEST_TYPE;
                                   * Abort Trigger when Step Fails
```

Trigger Type - KEY-NXTBLK F-8 Menu - N

```
Seq#  1  ( 20)
         #EXEMACRO NULL;
                                   * Abort Trigger when Step Fails
```

Trigger Type - KEY-PRVBLK F-8 Menu - N

```
Seq#  1  ( 21)
         #EXEMACRO NULL;
                                   * Abort Trigger when Step Fails
```

(1) WELL_ID	3	1	20	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	3	1	44	Y	CHAR	18/ 18/ 18	Y	N	Y	N	N	N	N	N	N	N	N
						Help Message - Enter value for : FIELD_NAME											

Boiler Plate
Page 1

```
          111111111122222222223333333333444444444455555555556666666666677777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  PWWQT                        Update Test Data
2:
3:  p-------------------------------------------------------------------------q
4:  |
5:  |  Well ID              Field n|me                                Test_Type
6:  |                                                                  (|br)
7:  |  Test Type                                  Test Number
8:  |
9:  |  Production R|te Unit
0:  |
1:  |  Production R|te Unit Abrevi|tion
2:  |
3:  |  Choke                                                Top Depth
4:  |
5:  |  R|te                                                 Bottom Depth
6:  |
7:  |  Press Units                                          Depth Unit
8:  b-------------------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

Boiler Plate
Page 2

```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
1:  p------------------------------------------------------------------------------q
2:  |                                                                              |
3:  | G+s/Oil R+tio                                  BHSIP                         |
4:  |                                                                              |
5:  | API                                            BS +nd W                      |
6:  |                                                                              |
7:  | Temper+ture                                    D+te                          |
8:  |                                                                              |
9:  | Temper+ture Unit                                                             |
0:  |                                                                              |
1:  b------------------------------------------------------------------------------d
2:
3:
4:
5:
6:
7:
8:
9:
0:
1:
2:
3:
4:
```

Boiler Plate
Page 3

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:
2:                          WELL MASTER
3:        p-------------------------------------------------q
4:        |                                                 |
5:        |        WELL_ID              FIELD_NAME          |
6:        |                                                 |
7:        |                                                 |
8:        |                                                 |
9:        |                                                 |
0:        |                                                 |
1:        |                                                 |
2:        |                                                 |
3:        |                                                 |
4:        |                                                 |
5:        |                                                 |
6:        |                                                 |
7:        |                                                 |
8:        |                                                 |
9:        b-------------------------------------------------d
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM WG_WELL_MSTR
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  3)
                                  SELECT 'X'
                                  FROM WP_WELL_MON_PROD
                                  WHERE WP_WELL_MON_PROD.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WP_WELL_MON_PROD.OPER_MON=:BLOCK2.OPER_MON
                                                  * Abort Trigger when Step Fails
                                                  * Reverse Return Code
                                                  Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  4)
                                  SELECT 'X'
                                  FROM Wg_well_mstr
                                  WHERE WG_WELL_MSTR.WELL_ID=:BLOCK2.WELL_ID
                                                  * Abort Trigger when Step Fails
                                                  Failure Message - This well has not been entered into the well master table
                        Seq#   2  (  5)
                                  SELECT 'X'
                                  FROM WP_WELL_MON_PROD
                                  WHERE WP_WELL_MON_PROD.WELL_ID=:BLOCK2.WELL_ID
                                  AND   WP_WELL_MON_PROD.OPER_MON=:BLOCK2.OPER_MON
                                                  * Abort Trigger when Step Fails
                                                  * Reverse Return Code
                                                  Failure Message - Duplicate records may not be entered
Trigger Type - key-clrfrm                    F-8 Menu - N

                        Seq#   1  (  6)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - key-STARTUP                   F-8 Menu - N

                        Seq#   1  (  7)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                  * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  8)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
```

```
                                                    * Abort Trigger when Step Fails
                                Seq#   2  ( 9)
                                           #EXEMACRO GOBLK BLOCK2;
                                                    * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) today	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - WP_WELL_MON_PROD Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

```
Trigger Type - KEY-NXTblk                   F-8 Menu - N

                                Seq#   1  ( 10)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-NXTFLD                   F-8 Menu - N

                                Seq#   1  ( 11)
                                           #EXEMACRO CASE SYSTEM.CURRENT_FIELD IS
                                           WHEN 'WELL_ID' THEN EXETRG CHECKWELL;
                                           WHEN 'REMARKS' THEN NXTREC;
                                           WHEN OTHERS THEN NXTFLD;
                                           END CASE;
                                                    * Abort Trigger when Step Fails
Trigger Type - KEY-PRVBLK                   F-8 Menu - N

                                Seq#   1  ( 12)
                                           #EXEMACRO NULL;
                                                    * Abort Trigger when Step Fails
Trigger Type - CHECKWELL                    F-8 Menu - N

                                Seq#   1  ( 13)
                                           SELECT 'X'
                                           FROM WG_WELL_MSTR
                                           WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                                    * Abort Trigger when Step Fails
                                                    Failure Message - Press F15 to select a valid Well ID
                                Seq#   2  ( 14)
                                           SELECT FIELD_NAME
                                           INTO BLOCK2.FIELD_NAME
                                           FROM WG_WELL_MSTR
```

(2 BLOCK2 - BLOCK2)

```
WHERE WG_WELL_MSTR.WELL_ID = :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  3  ( 15)
         #EXEMACRO NXTFLD;
                                    * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	1	4	5	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	Y	N	N	N	Y	N
Trigger Type - KEY-LISTVAL						Help Message - Press F15 for a list of valid well IDs											
(2) FIELD_NAME	1	4	20	Y	CHAR	18/ 18/ 18	N	N	N	N	N	N	N	N	N	N	N
(3) OPER_MON	1	4	49	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(4) GROSS_BBLS_ACT	1	8	41	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(5) WATER_BBLS_ACT	1	10	41	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(6) OIL_BBLS_ACT	1	12	41	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(7) GAS_MSCF_ACT	1	14	41	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(8) REMARKS	1	17	5	Y	CHAR	70/ 70/ 70	Y	N	Y	Y	N	N	N	N	N	N	N

Block Name - Block Description
3 BLOCK3 - BLOCK3
Table - WG_WELL_MSTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 12/12 Base Crt Line - 4 Physical Lines per Record - 1
Where Order By - (1) ORDER BY WELL_ID
Trigger Type - KEY-F6 F-8 Menu - N

```
Seq#  1  ( 17)
         #COPY :BLOCK3.WELL_ID :BLOCK2.WELL_ID
                                    * Abort Trigger when Step Fails
Seq#  2  ( 18)
         #COPY :BLOCK3.FIELD_NAME :BLOCK2.FIELD_NAME
                                    * Abort Trigger when Step Fails
Seq#  3  ( 19)
         #EXEMACRO GOBLK BLOCK2; GOFLD OPER_MON;
                                    * Abort Trigger when Step Fails
```

(3 BLOCK3 - BLOCK3)

Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (20)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (21)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) WELL_ID	2	1	25	Y	CHAR	10/ 10/ 10	Y	N	Y	N	N	N	N	N	N	Y	N
						Help Message - Position the cursor on the desired well and press F6											
(2) FIELD_NAME	2	1	46	Y	CHAR	18/ 18/ 18	Y	N	N	N	N	N	N	N	N	N	N

```
                                   Boiler Plate
                                     Page 1

           1111111111222222222233333333334444444444555555555566666666667777777777 8
  12345678901234567890123456789012345678901234567890123456789012345673901234567890

1:  PDDQM                   Well Monthly Production
2:  n-------------------------------------------------------------------<------q
3:  |   Well ID        Field  Name              Operational Month               |
4:  |                                                                          |
5:  |                                                                          |
6:  |                                                                          |
7:  |                                                                          |
8:  |        Gross Fluids Produced                                             |
9:  |                                                                          |
0:  |        Actual Water Produced                                             |
1:  |                                                                          |
2:  |        Actual Oil Produced                                               |
3:  |                                                                          |
4:  |        Actual Gas Produced                                               |
5:  |                                                                          |
6:  |                              Remarks                                     |
7:  |                                                                          |
8:  |                                                                          |
9:  |                                                                          |
0:  u-------------------------------------------------------------------<-----d
1:                                  Well Master
2:                n-------------------------------------------------------q
3:                |          Well ID              Field Name                |
4:                |                                                         |
5:                |                                                         |
6:                |                                                         |
7:                |                                                         |
8:                |                                                         |
9:                |                                                         |
0:                |                                                         |
1:                |                                                         |
2:                |                                                         |
3:                |                                                         |
4:                |                                                         |
5:                |                                                         |
6:                |                                                         |
7:                |                                                         |
8:                b-------------------------------------------------<---->--d
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OP_FIELD_DAY_ACT
                                   WHERE OP_FIELD_DAY_ACT.FIELD_NAME=:BLOCK2.FIELD_NAME
                                   AND   OP_FIELD_DAY_ACT.OPER_DATE =:BLOCK2.OPER_DATE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM OP_FIELD_DAY_ACT
                                   WHERE OP_FIELD_DAY_ACT.FIELD_NAME=:BLOCK2.FIELD_NAME
                                   AND   OP_FIELD_DAY_ACT.OPER_DATE =:BLOCK2.OPER_DATE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO  GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Clock Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	62	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OP_FIELD_DAY_ACT Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 5 Physical Lines per Record - 8
Where Order By - (1) ORDER BY FIELD_NAME
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (9)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) FIELD_NAME	1	1	24	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) OPER_DATE	1	1	64	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(3) GROSS_BBLS_ACT	1	3	24	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : GROSS_BBLS_ACT											
(4) WATER_BBLS_ACT	1	3	64	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : WATER_BBLS_ACT											
(5) OIL_BBLS_ACT	1	5	24	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : OIL_BBLS_ACT											
(6) GAS_MSCF_ACT	1	5	64	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : GAS_MSCF_ACT											
(7) REMARKS	1	7	13	Y	CHAR	240/ 60/-16	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : REMARKS											

Boiler Plate
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```
          111111111122222222223333333333444444444455555555556666666666777777777778
 123456789012345678901234567890123456789012345678901234567890123456789012345678901
1:      PPDQD
2:                    UPDATE FIELD DAILY ACTUAL PRODUCTION
3:   p-------------------------------------------------------------------------q
4:   |
5:   |  Field Name                                Operational Date              |
6:   |
7:   |  Gross BBLS Act                              Water BBLS Act              |
8:   |
9:   |  Oil BBLS Act                                  Gas MSCF Act              |
0:   |
1:   |  Remarks                                                                 |
2:   |
3:   |  Field Name                                Operational Date              |
4:   |
5:   |  Gross BBLS Act                              Water BBLS Act              |
6:   |
7:   |  Oil BBLS Act                                  Gas MSCF Act              |
8:   |
9:   |  Remarks                                                                 |
0:   b-------------------------------------------------------------------------d
1:
2:
3:
4:
```

PPDQP
PPDQP UPDATE FIELD MONTHLY PLAN PRODUCTION
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM OP_FIELD_MON_PLAN
                                   WHERE OP_FIELD_MON_PLAN.FIELD_NAME=:BLOCK2.FIELD_NAME
                                   AND   OP_FIELD_MON_PLAN.OPER_MONTH=:BLOCK2.OPER_MONTH
                                   AND   OP_FIELD_MON_PLAN.PLAN_NO=:BLOCK2.PLAN_NO
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OP_FIELD_MON_PLAN
                                   WHERE OP_FIELD_MON_PLAN.FIELD_NAME=:BLOCK2.FIELD_NAME
                                   AND   OP_FIELD_MON_PLAN.OPER_MONTH=:BLOCK2.OPER_MONTH
                                   AND   OP_FIELD_MON_PLAN.PLAN_NO=:BLOCK2.PLAN_NO
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                   * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) today	1	1	62	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OP_FIELD_MON_PLAN Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) FIELD_NAME	1	4	28	Y	CHAR	18/ 18/ 18	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) OPER_MONTH	1	7	32	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) PLAN_NO	1	3	69	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) OIL_BBLS_PLAN	1	10	26	Y	RNUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(5) ADJ_FACTOR_OIL	1	12	26	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(6) OIL_BBLS_ACT	1	10	64	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(7) GAS_MSCF_PLAN	1	15	26	Y	RNUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
(8) ADJ_FACTOR_GAS	1	17	26	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N
(9) GAS_MSCF_ACT	1	15	64	Y	RNUMBER	7/ 7/ 7	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

 PPDQP            Update Field Monthly Production Plan
n-------------------------------------------------------------------<-----q
|                          Field  N+me                 Pl+n No.                |
|                                                                              |
|                        Oper+tion+l  D+te                                     |
|                                                                              |
|                                                                              |
| Pl+nned Oil Production            UNITS    Actu+l Oil Prod.                  |
|                                                                              |
| Oil Adjustment F+ctor                                                        |
|                                                                              |
| Pl+nned G+s Production            UNITS    Actu+l G+s Prod.                  |
|                                                                              |
| G+s Adjustment F+ctor                                                        |
|                                                                              |
u-------------------------------------------------------------------<-----d
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM OS_IMP_EXP_PLAN
                                  WHERE OS_IMP_EXP_PLAN.OPER_MON=:BLOCK2.OPER_MON
                                  AND   OS_IMP_EXP_PLAN.CRUDE_PROD_TYPE=:BLOCK2.CRUDE_PROD_TYPE
                                  AND   OS_IMP_EXP_PLAN.IMP_EXP_TYPE=:BLOCK2.IMP_EXP_TYPE
                                  AND   OS_IMP_EXP_PLAN.PLAN_NO=:BLOCK2.PLAN_NO
                                                * Abort Trigger when Step Fails
                                                * Reverse Return Code
                                                Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM OS_IMP_EXP_PLAN
                                  WHERE OS_IMP_EXP_PLAN.OPER_MON=:BLOCK2.OPER_MON
                                  AND   OS_IMP_EXP_PLAN.CRUDE_PROD_TYPE=:BLOCK2.CRUDE_PROD_TYPE
                                  AND   OS_IMP_EXP_PLAN.IMP_EXP_TYPE=:BLOCK2.IMP_EXP_TYPE
                                  AND   OS_IMP_EXP_PLAN.PLAN_NO=:BLOCK2.PLAN_NO
                                                * Abort Trigger when Step Fails
                                                * Reverse Return Code
                                                Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO  GC3LK BLOCK2;
                                                * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

(1 BLOCK1 - BLOCK1)

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OS_IMP_EXP_PLAN Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - key-nxtblk F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - key-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

(1) OPER_MON	1	5	28	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) CRUDE_PROD_TYPE	1	7	28	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(3) IMP_EXP_TYPE	1	9	28	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(4) PLAN_NO	1	11	28	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(5) QTY_PLAN	1	13	28	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : QTY_PLAN											
(6) QTY_ACT	1	13	61	Y	NUMBER	11/ 11/ 11	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : QTY_ACT											

Boiler Plate
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         111:111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:  OSDQP                SUPPLY & MARITIME IMPORT/EXPORT
2:  p------------------------------------------------------------------q
3:  |                                                                  |
4:  |                                                                  |
5:  |   Operation date                                                 |
6:  |                                                                  |
7:  |   Crude production type                                          |
8:  |                                                                  |
9:  |   Import/Export type                                             |
0:  |                                                                  |
1:  |   Plan Number                                                    |
2:  |                                                                  |
3:  |   Planned Quantity                    Actual Quantity            |
4:  |                                                                  |
5:  |                                                                  |
6:  |                                                                  |
7:  |                                                                  |
8:  b------------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM OS_IMP_EXP_CONTR
                                  WHERE OS_IMP_EXP_CONTR.COMPANY=:BLOCK2.COMPANY
                                  AND   OS_IMP_EXP_CONTR.CONTRACT_SERIALNO=:BLOCK2.CONTRACT_SERIALNO
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM OS_IMP_EXP_CONTR
                                  WHERE OS_IMP_EXP_CONTR.COMPANY=:BLOCK2.COMPANY
                                  AND   OS_IMP_EXP_CONTR.CONTRACT_SERIALNO=:BLOCK2.CONTRACT_SERIALNO
                                                     * Abort Trigger when Step Fails
                                                     * Reverse Return Code
                                                     Failure Message - Dupliacte records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                     * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                     * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO  GOBLK BLOCK2;
                                                     * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OS_IMP_EXP_CONTR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) COMPANY	1	5	24	Y	CHAR	50/ 50/ 50	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) CONTRACT_SERIALNO	1	7	24	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(3) SHIPMENT_PLAN	1	9	24	Y	NUMBER	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : SHIPMENT_PLAN											
(4) CARGO_PLAN_MIN	1	11	24	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CARGO_PLAN_MIN											
(5) CARGO_PLAN_MAX	1	11	62	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CARGO_PLAN_MAX											
(6) CRUDE_PROD_TYPE	1	13	24	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CRUDE_PROD_TYPE											
(7) IMP_EXP_TYPE	1	15	24	Y	CHAR	3/ 3/ 3	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : IMP_EXP_TYPE											
(8) CONTRACT_STOP_MON	1	17	24	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CONTRACT_STOP_MON											
(9) CONTRACT_START_MON	1	17	64	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CONTRACT_START_MON											

Boiler Plate
Page 1

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          111111111122222222223333333333444444444455555555556666666666777777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:   OSDQC                    IMPORT/EXPORT CONTRACTS
2:  p-------------------------------------------------------------------q
3:  |                                                                   |
4:  |                                                                   |
5:  |   Company                                                         |
6:  |                                                                   |
7:  |   Contract Se.No.                                                 |
8:  |                                                                   |
9:  |   Planned Shipment                                                |
0:  |                                                                   |
1:  |   Planned Min Cargo                     Planned Max Cargo         |
2:  |                                                                   |
3:  |   Crude prod.type                                                 |
4:  |                                                                   |
5:  |   Import/Export type                                              |
6:  |                                                                   |
7:  |   Contract Stop date                    Contract Start date       |
8:  |                                                                   |
9:  b-------------------------------------------------------------------d
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM OS_SHIPMENTS
                                  WHERE OS_SHIPMENTS.COMPANY=:BLOCK2.COMPANY
                                  AND   OS_SHIPMENTS.CONTRACT_SERIALNO=:BLOCK2.CONTRACT_SERIALNO
                                  AND   OS_SHIPMENTS.CONTRACT_SHIP_NO =:BLOCK2.CONTRACT_SHIP_NO
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM OS_SHIPMENTS
                                  WHERE OS_SHIPMENTS.COMPANY=:BLOCK2.COMPANY
                                  AND   OS_SHIPMENTS.CONTRACT_SERIALNO=:BLOCK2.CONTRACT_SERIALNO
                                  AND   OS_SHIPMENTS.CONTRACT_SHIP_NO =:BLOCK2.CONTRACT_SHIP_NO
                                                   * Abort Trigger when Step Fails
                                                   * Reverse Return Code
                                                   Failure Message - Duplicate records may not be entered
Trigger Type - key-clrfrm                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - key-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                   * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                   * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO GOBLK BLOCK2;
                                                   * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OS_SHIPMENTS Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - key-nxtblk F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - key-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) COMPANY	1	5	20	Y	CHAR	50/ 50/ 50	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) CONTRACT_SERIALNO	1	7	20	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) CONTRACT_SHIP_NO	1	7	55	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) CRUDE_PROD_TYPE	1	9	20	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CRUDE_PROD_TYPE											
(5) SHIPMENT_TYPE	1	9	55	Y	CHAR	15/ 15/ 15	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : SHIPMENT_TYPE											
(6) LAY_DATE1	1	11	14	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : LAY_DATE1											
(7) LAY_DATE2	1	11	35	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : LAY_DATE2											
(8) CONTRACT_TYPE	1	11	60	Y	CHAR	10/ 10/ 10	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CONTRACT_TYPE											
(9) TANKER	1	13	11	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : TANKER											
(10) TERMINAL	1	13	45	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : TERMINAL											
(11) BERTH	1	15	13	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	N	N	N	N	N	N

(2 BLOCK2 - BLOCK2)

Help Message - Enter value for : BERTH

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(12) QUANTITY	1	15	45	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : QUANTITY											
(13) ETA_DATE	1	17	13	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : ETA_DATE											
(14) ARRIVAL_DATE	1	17	45	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : ARRIVAL_DATE											

Trigger Type - KEY-NXTFLD

Seq# 1 (9)
#EXEMACRO NXTREC;

* Abort Trigger when Step Fails

Boiler Plate
Page 1

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         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:  OSDQS                    IMPORT/EXPORT SHIPMENTS
2:  p-------------------------------------------------------------------q
3:  |                                                                   |
4:  |                                                                   |
5:  |  Company                                                          |
6:  |                                                                   |
7:  |  Contract Se.No                  Contract Ship.No                 |
8:  |                                                                   |
9:  |  Crude Ship.Type                          Ship.Type               |
0:  |                                                                   |
1:  |  Lay Date-             Lay Date,          Contract Type           |
2:  |                                                                   |
3:  |  Tanker                          Terminal                         |
4:  |                                                                   |
5:  |  Berth                          Quantity                          |
6:  |                                                                   |
7:  |  Eta Date                     Arrival Date                        |
8:  |                                                                   |
9:  b-------------------------------------------------------------------d
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OS_TANKER_STAT
                                   WHERE OS_TANKER_STAT.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OS_TANKER_STAT.TANKER_CODE=:BLOCK2.TANKER_CODE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM OS_TANKER_STAT
                                   WHERE OS_TANKER_STAT.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OS_TANKER_STAT.TANKER_CODE=:BLOCK2.TANKER_CODE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be enetered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	63	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

```
(! BLOCK1 - BLOCK1)
  Block Name - Block Description
2 BLOCK2 - BLOCK2
      Table - OS_TANKER_STAT                Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records   2/2   Base Crt Line - 5   Physical Lines per Record - 6
            Where Order By - (  1) order by oper_date
            Trigger Type - KEY-NXTBLK                    F-8 Menu - N

                                  Seq#   1  (  8)
                                           #EXEMACRO NULL;
                                                        * Abort Trigger when Step Fails
            Trigger Type - KEY-PRVBLK                    F-8 Menu - N

                                  Seq#   1  (  9)
                                           #EXEMACRO NULL;
                                                        * Abort Trigger when Step Fails
```

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) OPER_DATE	1	1	23	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) TANKER_CODE	1	1	54	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(3) CRUDE_PROD_TYPE	1	3	23	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CRUDE_PROD_TYPE											
(4) STATUS	1	5	14	Y	CHAR	240/ 60/-16	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : STATUS											

Boiler Plate
Page 1

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         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:   OSDQM                MARITIME TANKER STATUS DATA
2:   p-------------------------------------------------------------------q
3:   |                                                                   |
4:   |                                                                   |
5:   |  Operational Date                    Tanker Code                  |
6:   |                                                                   |
7:   |  Crude Prod Type                                                  |
8:   |                                                                   |
9:   |  Status                                                           |
0:   |                                                                   |
1:   |  Operational Date                    Tanker Code                  |
2:   |                                                                   |
3:   |  Crude Prod Type                                                  |
4:   |                                                                   |
5:   |  Status                                                           |
6:   |                                                                   |
7:   |                                                                   |
8:   |                                                                   |
9:   |                                                                   |
0:   b-------------------------------------------------------------------d
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OS_TERMINAL_STAT
                                   WHERE OS_TERMINAL_STAT.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OS_TERMINAL_STAT.TERMINAL =:BLOCK2.TERMINAL
                                   AND   OS_TERMINAL_STAT.BERTH    =:BLOCK2.BERTH
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  3)
                                   SELECT 'X'
                                   FROM OS_TERMINAL_STAT
                                   WHERE OS_TERMINAL_STAT.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OS_TERMINAL_STAT.TERMINAL =:BLOCK2.TERMINAL
                                   AND   OS_TERMINAL_STAT.BERTH    =:BLOCK2.BERTH
                                                 * Abort Trigger when Step Fails
                                                 * Reverse Return Code
                                                 Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  5)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                 * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  6)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                 * Abort Trigger when Step Fails
                         Seq#   2  (  7)
                                   #EXEMACRO GOBLK BLOCK2;
                                                 * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	61	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OS_TERMINAL_STAT Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 2/2 Base Crt Line - 4 Physical Lines per Record - 8
Where Order By - (1) order by oper_date
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (9)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) OPER_DATE	1	1	17	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) TERMINAL	1	1	36	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) BERTH	1	1	68	Y	CHAR	5/ 5/ 5	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) TANKER_CODE	1	3	19	Y	CHAR	20/ 20/ 20	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : TANKER_CODE											
(5) CRUDE_PROD_TYPE	1	5	23	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : CRUDE_PROD_TYPE											
(6) STATUS	1	7	14	Y	CHAR	240/ 60/-16	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : STATUS											

Boiler Plate
Page 1

```
         1111111111222222222233333333334444444444555555555566666666667777777777 8
1234567890123456789012345678901234567890123456789012345678901234567890123456789 0

1:    OSDQT                    TERMINAL STATUS DATA
2:    p-------------------------------------------------------------------q
3:    |                                                                   |
4:    |  Oper.date          Terminal                        Berth         |
5:    |                                                                   |
6:    |  Tanker Code                                                      |
7:    |                                                                   |
8:    |  Crude Prod Type                                                  |
9:    |                                                                   |
0:    |  Status                                                           |
1:    |                                                                   |
2:    |  Oper Date          Terminal                        Berth         |
3:    |                                                                   |
4:    |  Tanker Code                                                      |
5:    |                                                                   |
6:    |  Crude Prod Type                                                  |
7:    |                                                                   |
8:    |  Status                                                           |
9:    |                                                                   |
0:    b-------------------------------------------------------------------d
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM OR_REF_MON_PLAN
                                   WHERE OR_REF_MON_PLAN.REFINERY=:BLOCK2.REFINERY
                                   AND   OR_REF_MON_PLAN.OPER_MON=:BLOCK2.OPER_MON
                                   AND   OR_REF_MON_PLAN.CRUDE_PROD_TYPE=:BLOCK2.CRUDE_PROD_TYPE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OR_REF_MON_PLAN
                                   WHERE OR_REF_MON_PLAN.REFINERY=:BLOCK2.REFINERY
                                   AND   OR_REF_MON_PLAN.OPER_MON=:BLOCK2.OPER_MON
                                   AND   OR_REF_MON_PLAN.CRUDE_PROD_TYPE=:BLOCK2.CRUDE_PROD_TYPE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	67	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

ORDQP
QUERY/UPDATE REFINERY PRODUCTION PLAN DATE
Work Size - 0

1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OR_REF_MON_PLAN Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12
Trigger Type - key-nxtblk F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - key-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) REFINERY	1	8	36	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) OPER_MON	1	10	36	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) CRUDE_PROD_TYPE	1	12	36	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) QTY_PLAN	1	15	36	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
(5) QTY_ACT	1	17	36	Y	RNUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  ORDPQ        Query/Update Refinery Production Plan Data
2:
3:
4:
5.     p-------------------------------------------------------------q
6:     |                                                             |
7:     |                                                             |
8:     |        Refinery                                             |
9:     |                                                             |
0:     |        Operational Month                                    |
1:     |                                                             |
2:     |        Crude Production Type                                |
3:     |                                                             |
4:     |                                                             |
5:     |        Quantity Plan                                        |
6:     |                                                             |
7:     |        Quantity Actual                                      |
8:     b-------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

ORDQA
QUERY/UPDATE REFINERY DAILY ACTUAL DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM OR_REF_DAY_ACT
                                   WHERE OR_REF_DAY_ACT.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OR_REF_DAY_ACT.REFINERY=:BLOCK2.REFINERY
                                   AND   OR_REF_DAY_ACT.CRUDE_PROD_TYPE=:BLOCK2.CRUDE_PROD_TYPE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OR_REF_DAY_ACT
                                   WHERE OR_REF_DAY_ACT.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OR_REF_DAY_ACT REFINERY=:BLOCK2.REFINERY
                                   AND   OR_REF_DAY_ACT.CRUDE_PROD_TYPE=:BLOCK2.CRUDE_PROD_TYPE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO  GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	65	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

ORDQA
QUERY/L>DATE REFINERY DAILY ACTUAL DATA
Work Size - 0

28-JUN-90

Screen - ORDQA

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OR_REF_DAY_ACT Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) OPER_DATE	1	4	35	Y	DATE	9/ 9/ 0	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) REFINERY	1	6	35	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(3) CRUDE_PROD_TYPE	1	8	35	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) QTY_IN_STORE	1	11	42	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(5) QTY_PROC_PROD	1	13	42	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(6) QTY_REC_BY_TNKR	1	15	42	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N
(7) QTY_REC_BY_PIPE	1	17	42	Y	RNUMBER	8/ 8/ 8	Y	N	Y	Y	N	N	N	N	N	N	N

Boiler Plate
Page 1

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          1111111111222222222233333333334444444444555555555566666666667777777777778
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  ORDQA          Query/Update Refinery Daily Actual Data
2:
3:         p-------------------------------------------------------------q
4:         |   Operitionil Dite                                          |
5:         |                                                             |
6:         |   Refinery                                                  |
7:         |                                                             |
8:         |   Crude Production Type                                     |
9:         |                                                             |
0:         |                                                             |
1:         |   Quintity in Store                                         |
2:         |                                                             |
3:         |   Quintity Proccessed/Produced                              |
4:         |                                                             |
5:         |   Quintity Received by Tinker                               |
6:         |                                                             |
7:         |   Quintity Received by Pipe                                 |
8:         b-------------------- ----------------------------------------d
9:
0:
1:
2:
3:
4:
```

OCDQP
QUERY/UPDATE PRODUCT ROJECTED CONSUMPTION DATA
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM OC_CONSU_MON_PLAN
                                   WHERE OC_CONSU_MON_PLAN.COMPANY_NAME_ABR=:BLOCK2.COMPANY_NAME_ABR
                                   AND   OC_CONSU_MON_PLAN.GOVERNORATE     =:BLOCK2.GOVERNORATE
                                   AND   OC_CONSU_MON_PLAN.CENTRE          =:BLOCK2.CENTRE
                                   AND   OC_CONSU_MON_PLAN.PROD_TYPE       =:BLOCK2.PROD_TYPE
                                   AND   OC_CONSU_MON_PLAN.OPER_MON        =:BLOCK2.OPER_MON
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OC_CONSU_MON_PLAN
                                   WHERE OC_CONSU_MON_PLAN.COMPANY_NAME_ABR=:BLOCK2.COMPANY_NAME_ABR
                                   AND   OC_CONSU_MON_PLAN.GOVERNORATE     =:BLOCK2.GOVERNORATE
                                   AND   OC_CONSU_MON_PLAN.CENTRE          =:BLOCK2.CENTRE
                                   AND   OC_CONSU_MON_PLAN.PROD_TYPE       =:BLOCK2.PROD_TYPE
                                   AND   OC_CONSU_MON_PLAN.OPER_MON        =:BLOCK2.OPER_MON
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Dupliacte records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

```
  Block Name - Block Description
1 BLOCK1 - BLOCK1
```

Screen - OCDQP

OCDQP
QUERY/UPDATE PRODUCT ROJECTED CONSUMPTION DATA
Work Size - 0

28-JUN-90

(1 BLOCK1 - BLOCK1)
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) 1CDAY	1	1	64	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OC_CONSU_MON_PLAN Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

(1) COMPANY_NAME_ABR	1	5	41	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(2) GOVERNORATE	1	7	28	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(3) CENTRE	1	9	28	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(4) PROD_TYPE	1	11	38	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(5) OPER_MON	1	13	38	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - field must be entered											
(6) PROJ_CONSUMPTION	1	15	38	Y	RNUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N

OCDQP
QUERY/UPDATE PRODUCT ROJECTED CONSUMPTION DATA
Work Size - 0

Boiler Plate
Page 1

```
          1111111111222222222233333333344444444445555555555666666666677777777778
12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  OCDPQ       Query/Update Product Projected Consumption Data
2:
3:        p-------------------------------------------------------------q
4:        |                                                             |
5:        |       Company Name Abreviation                              |
6:        |                                                             |
7:        |       Governorate                                           |
8:        |                                                             |
9:        |       Centre                                                |
0:        |                                                             |
1:        |       Product Type                                          |
2:        |                                                             |
3:        |       Operational Month                                     |
4:        |                                                             |
5:        |       Projected consumption                                 |
6:        |                                                             |
7:        b-------------------------------------------------------------d
8:
9:
0:
1:
2:
3:
4:
```

OCDQA
QUERY/UPDATE PRODUCT CONSUMPTION MONTHLY ACTUAL
Work Size - 0


```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                        Seq#   1  (  1)
                                  SELECT 'X'
                                  FROM OC_CONSU_MON_ACT
                                  WHERE OC_CONSU_MON_ACT.COMPANY_NAME_ABR=:BLOCK2.COMPANY_NAME_ABR
                                  AND   OC_CONSU_MON_ACT.GOVERNORATE     =:BLOCK2.GOVERNORATE
                                  AND   OC_CONSU_MON_ACT.CENTRE          =:BLOCK2.CENTRE
                                  AND   OC_CONSU_MON_ACT.PROD_TYPE       =:BLOCK2.PROD_TYPE
                                  AND   OC_CONSU_MON_ACT.OPER_MON        =:BLOCK2.OPER_MON
                                                       * Abort Trigger when Step Fails
                                                       * Reverse Return Code
                                                       Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                        Seq#   1  (  2)
                                  SELECT 'X'
                                  FROM OC_CONSU_MON_ACT
                                  WHERE OC_CONSU_MON_ACT.COMPANY_NAME_ABR = :BLOCK2.COMPANY_NAME_ABR
                                  AND   OC_CONSU_MON_ACT.GOVERNORATE = :BLOCK2.GOVERNORATE
                                  AND   OC_CONSU_MON_ACT.CENTRE = :BLOCK2.CENTRE
                                  AND   OC_CONSU_MON_ACT.PROD_TYPE = :BLOCK2.PROD_TYPE
                                                       * Abort Trigger when Step Fails
                                                       * Reverse Return Code
                                                       Failure Message - Duplicate records are not permitted
Trigger Type - key-CLRFRM                    F-8 Menu - N

                        Seq#   1  (  3)
                                  #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                       * Abort Trigger when Step Fails
Trigger Type - key-STARTUP                   F-8 Menu - N

                        Seq#   1  (  4)
                                  #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                       * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                        Seq#   1  (  5)
                                  SELECT SYSDATE
                                  INTO BLOCK1.TODAY
                                  FROM DUAL
                                                       * Abort Trigger when Step Fails
                        Seq#   2  (  6)
                                  #EXEMACRO GOBLK BLOCK2;
                                                       * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1

Screen - OCDQA

OCDQA
QUERY/UPDATE PRODUCT CONSUMPTION MONTHLY ACTUAL
Work Size - 0

28-JUN-90

(1 BLOCK1 - BLOCK1)
Table - Hide - N Chk for Uniqueness - N Ctrl - Y Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	65	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	Y	N	N	N

Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - OC_CONSU_MON_ACT Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/12

Trigger Type - key-nxtblk F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - key-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

(1) COMPANY_NAME_ABR	1	7	41	Y	CHAR	11/ 11/ 11	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(2) GOVERNORATE	1	9	29	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(3) CENTRE	1	11	29	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(4) PROD_TYPE	1	13	34	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(5) OPER_MON	1	15	34	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	Y	N
						Help Message - Field must be entered											
(6) QTY_CONSUMED	1	17	34	Y	RNUMBER	6/ 6/ 6	Y	N	Y	Y	N	N	N	N	N	N	N

```
                                  Boiler Plate
                                    Page 1

           1111111111222222222233333333334444444444555555555566666666667777777777 8
  12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:  OCDQA        Query/Update Product Consumption Monthly Actual
2:
3:
4:          p-----------------------------------------------q
5:          |                                               |
6:          |                                               |
7:          |    Company Name Abreviation                   |
8:          |                                               |
9:          |    Governorate                                |
0:          |                                               |
1:          |    Centre                                     |
2:          |                                               |
3:          |    Product Type                               |
4:          |                                               |
5:          |    Operational Month                          |
6:          |                                               |
7:          |    Quantity Consumed                          |
8:          o-----------------------------------------------d
9:
0:
1:
2:
3:
4:
```

```
Trigger Type - PRE-INSERT                    F-8 Menu - N

                         Seq#   1  (  1)
                                   SELECT 'X'
                                   FROM OD_PROD_DIST_STOR
                                   WHERE OD_PROD_DIST_STOR.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OD_PROD_DIST_STOR.STORAGE_AREA=:BLOCK2.STORAGE_AREA
                                   AND   OD_PROD_DIST_STOR.PROD_TYPE=:BLOCK2.PROD_TYPE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records are not permitted
Trigger Type - PRE-UPDATE                    F-8 Menu - N

                         Seq#   1  (  2)
                                   SELECT 'X'
                                   FROM OD_PROD_DIST_STOR
                                   WHERE OD_PROD_DIST_STOR.OPER_DATE=:BLOCK2.OPER_DATE
                                   AND   OD_PROD_DIST_STOR.STORAGE_AREA=:BLOCK2.STORAGE_AREA
                                   AND   OD_PROD_DIST_STOR.PROD_TYPE=:BLOCK2.PROD_TYPE
                                                        * Abort Trigger when Step Fails
                                                        * Reverse Return Code
                                                        Failure Message - Duplicate records may not be entered
Trigger Type - KEY-CLRFRM                    F-8 Menu - N

                         Seq#   1  (  3)
                                   #EXEMACRO CLRFRM; EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - KEY-STARTUP                   F-8 Menu - N

                         Seq#   1  (  4)
                                   #EXEMACRO EXETRG SCREEN_DISPLAY;
                                                        * Abort Trigger when Step Fails
Trigger Type - SCREEN_DISPLAY                F-8 Menu - N

                         Seq#   1  (  5)
                                   SELECT SYSDATE
                                   INTO BLOCK1.TODAY
                                   FROM DUAL
                                                        * Abort Trigger when Step Fails
                         Seq#   2  (  6)
                                   #EXEMACRO GOBLK BLOCK2;
                                                        * Abort Trigger when Step Fails
```

Block Name - Block Description
1 BLOCK1 - BLOCK1
Table - BLOCK1 Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) TODAY	1	1	56	Y	CHAR	9/ 9/ 9	N	N	N	N	N	N	N	N	N	N	N

Screen - CDDQS

(1 BLOCK1 - BLOCK1)
Block Name - Block Description
2 BLOCK2 - BLOCK2
Table - CD_PROD_DIST_STCR Hide - N Chk for Uniqueness - N Ctrl - N Display/Buffer # Records 1/0
Trigger Type - KEY-NXTBLK F-8 Menu - N

Seq# 1 (7)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Trigger Type - KEY-PRVBLK F-8 Menu - N

Seq# 1 (8)
#EXEMACRO NULL;
* Abort Trigger when Step Fails

Fieldname	Page	Line	Col	Display Field	Type Field	Len/Disp/Qry	Base Table	Prime Key	Allow Entry	Allow Update	Update if Null	Req'd Field	Fixed Length	Auto Skip	No Echo	Auto Help	Convert to Upper
(1) OPER_DATE	1	5	28	Y	DATE	9/ 9/ 9	Y	N	Y	Y	N	Y	N	N	N	N	N
						Help Message - Enter value for : OPER_DATE											
(2) STORAGE_AREA	1	7	28	Y	CHAR	30/ 30/ 30	Y	N	Y	Y	N	Y	N	N	N	N	N
						Help Message - Enter value for : STORAGE_AREA											
(3) PROD_TYPE	1	9	28	Y	CHAR	25/ 25/ 25	Y	N	Y	Y	N	Y	N	N	N	N	N
						Help Message - Enter value for : PROD_TYPE											
(4) QTY_IN_STORE	1	11	28	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : QTY_IN_STORE											
(5) QTY_IN_PIPELINE	1	13	28	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : QTY_IN_PIPELINE											
(6) QTY_REC_BY_PIPE	1	15	28	Y	NUMBER	9/ 9/ 9	Y	N	Y	Y	N	N	N	N	N	N	N
						Help Message - Enter value for : QTY_REC_BY_PIPE											

Boiler Plate
Page 1

```
          1111111111222222222233333333334444444444555555555566666666667777777777 8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890

1:    ODDQS            PRODUCT DISTRIBUTION STORAGE
2:       p-------------------------------------------------------------q
3:       |                                                             |
4:       |                                                             |
5:       |      Operitionil Dite                                       |
6:       |                                                             |
7:       |          Storige Areit                                      |
8:       |                                                             |
9:       |             Prod.type                                       |
0:       |                                                             |
1:       |          QTY In Store                                       |
2:       |                                                             |
3:       |        QTY In Pipeline                                      |
4:       |                                                             |
5:       |        QTY Rec By Pipe                                      |
6:       |                                                             |
7:       |                                                             |
8:       b-------------------------------------------------------------d
9:
0:
1:
2:
3:
4:
```

TASK 5: DEVELOP USER APPLICATIONS

The purpose of this task is to develop, purchase, and implement application software. The applications were to be in one or several of the application areas, such as exploration, production, or operations. The applications are subject to the concurrence of U.S.A.I.D., and were to be implemented only within the schedule and cost limitations of the contract. This task also has two sub-tasks. A summary of these sub-tasks and an overview of what Bechtel did to satisfy each of these under the scope of work follows:

- Task 5.1 Application Software: There were several options available to Bechtel as far as obtaining application software for the benefit of EGPC. During the functional review meetings held for Task 2, an evaluation of the user areas of EGPC was made, and information regarding the types of software requested by each area was gathered. Upon review of the estimated costs of this software, and given the budgetary limits of this contract, Bechtel believed it to be more beneficial to EGPC to purchase and install a 4GL (Fourth Generation Language). A 4GL is a tool than can be used by the EGPC I/S department for applications development in the future.

  By making this selection, there is a four-fold benefit. First, the I/S department will be able to develop software continuously and for the long term; second, by developing applications themselves, EGPC would be able to make software that is "tailor-made" for the EGPC operation, and they would not be subject to the limitations of proprietary software; third, all of the divisions of EGPC would be able to reap the benefits of future applications done by I/S, and not just the divisions under the scope of this study; and fourth, putting the tools in the hands of I/S provides more incentive for training, and leads to less reliance on outside contractors.

  With the concurrence of EGPC, Bechtel utilized the budgetary limits for application software to purchase application development tools. Using Oracle, the I/S professionals and users at EGPC will be able to develop applications that will access the data bases installed by Bechtel. Oracle RDBMS (Relational Data Base Management System) products were purchase for the following types of computers at EGPC: IBM 3090 Mainframe computer; Digital Equipment Company VAX computer; IBM Personal Computers (4); and MacIntosh IICX personal computers. Installing the Oracle products on virtually every type of computer at EGPC assures that communicaton between the various platforms will be possible. This will enable these different computers to share information, thereby enhancing the level of integration at EGPC.

  Also purchased for EGPC under this contract was CASE (Computer Aided Software Engineering) tools. CASE tools are used by I/S professionals to conduct informations systems planning, analysis, and design. Training was provided in the use of CASE tools to five members of the I/S department at EGPC. Using CASE, the I/S department will be able to conduct systems analysis activities using proven methodologies, in a highly

structured framework. Used properly, this will minimize the number of errors and redundancies in the design of future data bases and applications.

Pilot applications were developed by Bechtel using the data base, and members of EGPC's I/S department were trained during each stage of the application development. The elements of a successful application are the following:

- Application Specification: The specification is a brief narrative that explains how the application fits in to the overall systems plan. It describes what the application is designed to accomplish, who will use the application, and what the key data requirements for the application are.

- System Data Flow Diagram: The system data flow diagram shows how the individual application fits into its parent systems. It shows the organizational group that is responsible for providing information, how the data is obtained from the data base, how the data is manipulated by the application, and what output reports are created by the application.

- Data Structure Diagram: The data structure diagram reflects the data requirements that the application will need to fulfill its function. The first element of the diagram is the data header. This is usually the minimum amount of information that must be entered by an operator in order to bring up the remaining menu screens.

- Input Screens: The actual input screens that will be used to operate the application are shown here in sequential order.

- Report Specifications: The report specifications detail how output reports will be generated by the application, as well as illustrating what the sample output will look like. This particular facet of applications design is usually done with heavy user interface to ensure that a) the user will be comfortable with the output reports, and b) that the reports will contain all of the information that the user requires.

- User Documentation: The user documentation constitutes the "how-to" of the application. The user is led through each step of running the application and generating reports, so that a complete procedure is available for any user who is authorized to operate the application.

For each of the applications developed by Bechtel, a complete documentation package was provided to ensure that EGPC would be able to operate the applications fully after the end of the contract period.

- Task 5.2: Technology Transfer - This sub-task consisted of three parts: on-the-job training, local training, and training and observation visits to the U.S. The following is a summary of how each was conducted under this contract.

- On-the-job Training: Throughout the course of the project, and on a rotational basis, several members of the I/S were rotated into the project to obtain exposure to Bechtel's methodology of completing each task. During the functional analysis phase, two EGPC personnel were assigned to accompany the Bechtel Team for each of the three divisions. The individuals were changed out periodically to maximize the number of I/S employees that received this exposure. In this way, the EGPC personnel were able to ascertain what types of questions were required to ask of the user areas in order to define the data requirements for an area. A side benefit of this process was to set the groundwork for later interviews that can be done solely by EGPC. The setting of future interview is now familiar to both users and I/S, and this should facilitate success in future efforts of this type.

  During the data base design phase of this project, Bechtel worked closely with the EGPC I/S department to impart upon them the techniques that the Bechtel Team uses to analyze the data, define relationships between data elements, and to normalize these relationships. Bechtel also conducted on-the-job training on CASE (Computer-Aided Software Engineering) tools. The CASE tools provide a framework for conducting this type of analysis and allow a systems analyst to keep all of the data elements together in a "working" data base. This provides for a more comprehensive and accurate effort in data analysis than in the manual methods that have been the industry standard in the past.

- Local Training: The Bechtel Team conducted formalized training classes to encompass each of the project phases. The first class was held on the subject of "Planning Methodology" (a copy of the course material that was developed by Bechtel for use in this class is enclosed in this report for information).

  This class stressed an important change in the direction of systems development that has occurred in the industry in the past couple of years. Prior to this time, systems analysts were content to take a request from a user and do the programming required to translate this into an application. Now, however, the importance of planning is stressed throughout the industry. With the advent of relational data bases, it is now critical to do a thorough job of advance planning to allow for the following: different using areas are now asked to share common data bases; data bases to support specific applications cause high levels of data redundancy and can lead to data inconsistencies; data now can be entered once in a relational data base and can be used by many.

  Bechtel presented material in this class to teach the methods of systems planning. This planning can be broken down into three major parts: Overall Design, Detail Design, and Programming. The overall design involves creating the functional analysis of a department to determine which functions are performed; which are automated and which are manual; how the data is created; what the flow of the data is; and how the data is used. The overall design also calls for the creation of a systems architecture that will show what applications will exist, and how they will be grouped into systems and subsystems.

The detail design consists of the creation of detailed data flow diagrams, screen flow diagrams, screen layouts, and data structure diagrams. Also required for the user's benefit are application specifications, report layouts, and samples of future reports.

The final step to create the systems is the programming. The programming is begun according to the priorities set forth by the overall plan.

The next class that was held for EGPC was on the subject of Detailed Design Methodology (a copy of the class material has been enclosed in this report for information). Unlike the first class, this class was held exclusively for members of the I/S department. This was due to the more technical nature of the subject matter. The class began with a review of the design methodology that was covered in the first class. The class then moved to discuss the following aspects of conducting the detailed design: the overall concept of detail design; data collection; defining entities in a data base; identifying primary keys; identifying foreign keys; defining data relationships; establishing key migration; normalizing data relationships (resolution of "many-to-many relationships); and defining non-key attributes.

To illustrate the theories expressed in this class, Bechtel used actual examples of the data base design that was being done under this project. At the end of the second day of classes, EGPC students were given a sample exercise to work on that involved conducting data analysis for a fictional company. Provided for the students was the functional analysis, the data flow, and lists of attributes that are to be used by this sample company. The EGPC students were then to analyze the attributes and define which were to be primary keys and foreign keys. Then, the exercise continued to the building of a data relationship diagram for the sample company.

To conduct training in applications development, Bechtel chose to do this on an "on-the-job" basis. The purpose of this is two-fold: first, the students were able to become more familiar with the data base structure that had been provided by Bechtel. Second, this method was instrumental in getting the I/S department familiar with the Oracle application building tools that had been purchased by the project. The Bechtel Team decided that this method would be very important to ensure that the data base and application tools would be utilized after Bechtel's role on the project was complete.

Rather than conduct a two to three course like was the case in the other tasks, this course was conducted for a two week period at the offices of Bechtel-Egypt in Cairo. This provided a positive atmosphere for providing intensive training without interruptions. Again, this also provided the twelve EGPC people who participated with more familiarity with the data bases completed by Bechtel.

This training centered on using the Oracle development tools that had been purchased by the project. The training began with data input techniques, data validation, and important definitions of terms that are used by the development products. Then,

using the actual data bases created by Bechtel, the EGPC employees were led through the more complex operations of the data base such as: creating SQL*Forms, creating views, running forms, modifying forms, and creating triggers within Oracle to make common processes run more efficiently. A copy of the written instructions that were followed during the classses are enclosed in this report.

SPECIAL NOTES:

After this two-week training course with EGPC, Bechtel also held two one-day forums to answer any questions that the I/S department still had. Both the length of training for the final ssegment, and the forums held at EGPC went beyond the training scope that was required under this contract. However, having the data bases and applications used by EGPC after Bechtel's involvement with the project is a high priority to the Bechtel Team. For this reason, Bechtel felt it was important to provide extra training to allow the I/S department to feel comfortable with all aspects of using the both data bases and the Oracle tools.

INTRODUCTION TO SQL

ORACLE®

The Relational Database Management System

Introduction to SQL

Version 1.0

Part No. 19464-0489

Author: Lawrence Ellison

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PREFACE

This booklet describes SQL, the industry standard language for database access and data manipulation. *Introduction to SQL* begins with an overview of relational database management systems, and then gives a series of examples that demonstrate the simplicity and power of SQL.

About Oracle

For more than a decade, Oracle Corporation has been the market and technology leader in relational database management software. Oracle has doubled its business in ten of its eleven years by offering compatible, portable and connectable solutions for enterprise-wide information management.

Compatibility

Oracle products use SQL, the industry standard relational database language. This allows you to design applications that exploit the power of SQL while remaining assured of 100% compatibility across different database systems including IBM's DB2 and SQL/DS.

Portability

ORACLE runs on an impressive range of computers, from PCs to minis to mainframes. All versions of ORACLE are identical; as your computing demands change, you can move ORACLE applications across hardware and software boundaries with virtually no modifications.

Connectability

ORACLE's distributed architecture lets your ORACLE data and applications reside on multiple computers and still communicate transparently. This helps you make optimal use of your computing resources.

Capability

ORACLE's advanced architecture maximizes throughput, facilitates multi-user transactions, and protects your data from unauthorized access and system failure. Complementing ORACLE are families of tools that give you the power to build robust applications and meet your most demanding information needs. Compatibility, Portability, Connectability, Capability; these are the foundation of ORACLE—your information management solution.

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CHAPTER

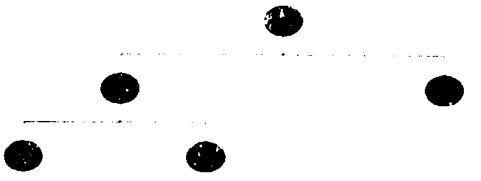
1

OVERVIEW OF DATABASE MANAGEMENT SYSTEMS

A database management system allows you to store, retrieve, and manipulate information. There are three types of database management systems: Hierarchical, Network, and Relational.

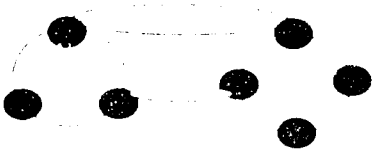
Hierarchical Model

A hierarchical database management system represents data as tree structures, composed of a hierarchy of data records.



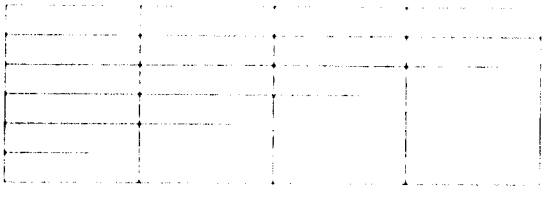
Network Model

A network database management system represents data as records linked together, forming intersecting sets of data.



Relational Model

But even the most complex hierarchical and network databases can be represented as a simple collection of two-dimensional tables, otherwise known as a relational database management system.



Set-at-a-Time, Non-Procedural Data Language

In a relational system, only one type of data structure exists—the table. This uniformity gave rise to a new type of high-level database language. A relational language produces new tables by subsetting and/or combining existing tables. By issuing a single language command, you can retrieve an entire set of records (called rows) from one or more existing tables into a new table (called a result table) that you can, in turn, operate on again. This *set-at-a-time* approach means that a single relational command can retrieve, update, or delete multiple records stored in the database. And, you specify operations in terms of *what* is to be done, *not how* to do it. In other words, a relational language is *non-procedural* as well as set-at-a-time.

Automatic Navigation

The languages of hierarchical and network database management systems, on the other hand, are both procedural and record-at-a-time. To retrieve data with these systems you must navigate, or find a path, to the record you want, and issue multiple procedural language statements directing the system to walk down that path, step-by-step. So hierarchical and network database management systems require not only that you make multiple requests of the data manager for each retrieval, but also that you have a detailed understanding of how the data is stored. In contrast, a relational system provides *automatic navigation* to the data you want. This means that you do not have to know how data is represented in storage to get information in and out of a relational database. More than any other feature, it is automatic navigation that makes data readily accessible to end users.

Flexibility via Dynamic Changes in Database Description

ORACLE supports SQL commands which add new tables to a database, add new columns to existing tables, and make existing columns wider. You can perform any of these operations with a single command. The change takes place immediately because no database reorganization is required. No other system—conventional or relational—can perform all of these operations dynamically.

Data Independence via Multiple User Views

As you revise the structure of your database, it is important that your existing programs not become obsolete. To prevent this, ORACLE allows old and new "views" of the same data to exist simultaneously. *Multiple views of the same data* let your existing programs continue to run without modification by using the old views of your data, while your new applications take advantage of the new view of the data. This insulation between what you see and how your data is stored is known as *data independence*. Data independence has always been a key objective of database management systems but was never fully attained until relational DBMS's became available.

SQL: The Industry Standard that's Powerful and Easy to Use

The ORACLE relational database management system allows you to use the industry standard language SQL to define and manipulate data. SQL was defined by IBM Research but was introduced to the commercial market first by Oracle Corporation, in 1979. A committee at the American National Standards Institute—ANSI—has now endorsed SQL as the standard language for relational database management systems.

A Language for DP Professionals and End Users

SQL, pronounced "sequel," is an English-like language consisting of several "layers" of increasing complexity and capability. End users with little or no experience in data processing can learn SQL's basic features very quickly, yet SQL provides DP professionals with the powerful and complete set of facilities they require. SQL therefore, becomes the common language between end users and DP professionals, used for both communicating application requirements and implementing solutions.

One Language for All Functions

SQL offers a complete set of data definition and manipulation functions. It is the only language you need to learn. With SQL, you can:

- create tables in the database
- store information in tables
- select exactly the information you need from your database
- make changes to your data and the structure of underlying tables, and
- combine and calculate data to generate the information you need.

You Specify What Is to Be Done, Not How to Do It

The key difference between SQL and other data manipulation languages is that SQL is non-procedural. This allows you to specify operations in terms of *what* is to be done, as opposed to *how* to do it. For example, with a single command you can update multiple rows in your database, without worrying about their location, storage format, and access path. SQL-based relational database systems take care of these system-level details and allow you to concentrate on your data.

Put SQL to Work in Several Different Ways

You can use all SQL facilities interactively, embedded in standard programming languages such as COBOL, FORTRAN, PL/I, Pascal, C, and Ada, as well as through a variety of Oracle tools, including report writers, application generators, spreadsheets, graphics packages and a CASE environment

CHAPTER

2 USING SQL

What follows is a further explanation of relational concepts and a series of examples demonstrating the power of the SQL relational data language. In the next few sections, you will learn how you can use SQL to:

- SELECT rows from a table
- CREATE a table
- INSERT rows into a table.

First, let's take a closer look at the structure of a database and define some terms.

Database and Tables

An ORACLE *database* is made up of *tables*. Most of the examples in this booklet will use DEPT, a sample table containing information about the departments of a company, and EMP, a sample table containing information about employees who work for that company.

DEPT Table

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

EMP Table

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800.00		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1,600.00	300.00	30
7521	WARD	SALESMAN	7698	22-FEB-81	1,250.00	500.00	30
7566	JONES	MANAGER	7839	02-APR-81	2,975.00		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1,250.00	1,400.00	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2,850.00		30
7782	CLARK	MANAGER	7839	09-JUN-81	2,450.00		10
7788	SCOTT	ANALYST	7566	19-APR-87	3,000.00		20
7839	KING	PRESIDENT		17-NOV-81	5,000.00		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1,500.00	0.00	30
7876	ADAMS	CLERK	7788	23-SEP-87	1,100.00		20
7900	JAMES	CLERK	7698	03-DEC-81	950.00		30
7902	FORD	ANALYST	7566	03-DEC-81	3,000.00		20
7934	MILLER	CLERK	7782	23-JAN-82	1,300.00		10

Columns and Rows

Each table is made up of *columns* (vertical) and *rows* (horizontal). The DEPT table has three columns (named DEPTNO, DNAME, and LOC) and four rows (one each for departments 10, 20, 30, and 40).

Fields and Values

A row is made up of *fields*. Each field contains a data *value* at the intersection of a row and a column. For example, in the first row of the DEPT table the value 10 is stored in its DEPTNO field, the value ACCOUNTING stored in its DNAME field, and the value NEW YORK stored in its LOC field.

SELECT Command

Retrieving data from the database is the most common SQL operation. A database retrieval is called a *query* and to issue a query you use the SELECT command. The basic SELECT command has two parts, called *clauses*:

SELECT some data (column name(s))
FROM a table or some tables (table name(s))

The SELECT clause is always immediately followed by the FROM clause.

Now let's look at the data in the DEPT and EMP tables by issuing some simple SQL queries. First, we'll list all the columns and all the rows in the DEPT table:

User Enters

Display Output

Result Table

```
SELECT   DEPTNO, DNAME, LOC
FROM     DEPT;

DEPTNO DNAME       LOC
------ ---------- ----------
    10 ACCOUNTING NEW YORK
    20 RESEARCH   DALLAS
    30 SALES      CHICAGO
    40 OPERATIONS BOSTON
```

SELECT *

In this query example, we listed the name of every column of the DEPT table—DEPTNO, DNAME, LOC—in our SELECT clause. When you want to select *all* the columns of a table use an asterisk (SELECT *) as shorthand in place of the list of column names, as in the next example.

```
SELECT    *
FROM      EMP;

EMPNO ENAME  JOB         MGR  HIREDATE      SAL     COMM DEPTNO
----- ------ --------- ---- --------- -------- -------- ------
 7369 SMITH  CLERK     7902 17-DEC-80   800.00              20
 7499 ALLEN  SALESMAN  7698 20-FEB-81 1,600.00   300.00     30
 7521 WARD   SALESMAN  7698 22-FEB-81 1,250.00   500.00     30
 7566 JONES  MANAGER   7839 02-APR-81 2,975.00              20
 7654 MARTIN SALESMAN  7698 28-SEP-81 1,250.00 1,400.00     30
 7698 BLAKE  MANAGER   7839 01-MAY-81 2,850.00              30
 7782 CLARK  MANAGER   7839 09-JUN-81 2,450.00              10
 7788 SCOTT  ANALYST   7566 09-NOV-81 3,000.00              20
 7839 KING   PRESIDENT       17-NOV-81 5,000.00              10
 7844 TURNER SALESMAN  7698 08-SEP-81 1,500.00     0.00     30
 7876 ADAMS  CLERK     7788 23-SEP-81 1,100.00              20
 7900 JAMES  CLERK     7698 03-DEC-81   950.00              30
 7902 FORD   ANALYST   7566 03-DEC-81 3,000.00              20
 7934 MILLER CLERK     7782 23-JAN-82 1,300.00              10
```

For the examples in this booklet we have divided most of our SQL commands onto multiple lines and printed them in upper case to make them easier to read. But if you prefer, you can enter entire SQL commands on one line, and type them in upper or lower case.

Note: To more easily follow the rest of our ORACLE examples, please refer to the DEPT and EMP tables on the foldout attached to the back cover of this booklet. Please note that the exact output format you see may vary slightly depending on which Oracle product you are using.

CREATE TABLE Command

Before you can select data from your database you must insert data into your database, and before you can insert data into your database you must create a table in which to store that data. We issued the following SQL command to create the DEPT table:

Table Name →
Column Name →
Data Type and Length →

Display Output

```
CREATE TABLE DEPT (DEPTNO  NUMBER(2),
                   DNAME   CHAR(14),
                   LOC     CHAR(13));

Table created.
```

In the CREATE TABLE command, first you tell ORACLE what you want to name your table (DEPT). Next, you specify the names of the columns of your table (DEPTNO, DNAME, LOC) and the type of data that each column is to contain. In creating the DEPT table, for example, we specified that the DEPTNO column contain just numeric data (NUMBER), and the DNAME and LOC columns any character data (CHAR)—letters, numbers or punctuation marks, etc. Finally, you specify the maximum length of any value that can be stored in your columns. For example, in our CREATE TABLE command above, we specified that no location name (LOC) be longer than 13 characters—LOC CHAR(13).

We created the EMP table with this command:

Nulls Not Allowed →

Date Data Type →

Decimal Digits →

```
CREATE TABLE EMP      (EMPTO       NUMBER(4) NOT NULL,
                       ENAME       CHAR(10),
                       JOB         CHAR(9),
                       MGR         NUMBER(4),
                       HIREDATE    DATE,
                       SAL         NUMBER(7,2),
                       COMM        NUMBER(7,2),
                       DEPTNP      NUMBER(2));
```

Nulls Not Allowed

In this CREATE TABLE command we defined the EMPNO column of the EMP table to be NOT NULL. NOT NULL means that every row of the EMP table must contain a value in its EMPNO field (ORACLE will not allow you to insert the row without one). In other words, absent values—called NULLs—are NOT allowed for this column.

Automatic Data Validation

SQL's NOT NULL specification is just one example of how ORACLE will check your data values as you enter them into your database to ensure that they conform to the data *integrity assertions* that you have specified. Later in this chapter you will see how to specify that the values in a column be UNIQUE. The UNIQUE specification will cause ORACLE to automatically prevent two rows from having the same value in the same column.

Date Data Type

The column named HIREDATE is defined to contain DATE data values.

Decimal Digits

The salary (SAL) and commission (COMM) columns are defined to be numeric (NUMBER) with a maximum length of 7 digits, 2 of which are to the right of the decimal point—NUMBER (7,2).

High-Level Data Types

While maintaining compatibility with IBM's SQL/DS and DB2, ORACLE has extended SQL to make it even more functional and user friendly. One such extension is in the area of high-level column data types. ORACLE lets you define data as it appears to you *externally*—as CHARACTER, NUMBER, DATE or TIME. In contrast, IBM's SQL requires that you specify data as it is stored internally in the computer—as INTEGER, FLOATING POINT, DECIMAL, etc. With ORACLE you need not concern yourself with the way data is represented internally in storage.

Data Compression

ORACLE will not waste your storage by reserving space for the maximum number of characters you have allowed for each field. For example, even though the maximum length of a value in the ENAME column of the EMP table is 14, ORACLE will use only 4 characters of storage space for an ENAME of WARD. NULL values—the COMM field of employees who do not receive a commission, for example—occupy no storage space at all.

INSERT Command

As soon as you have created a table you may begin entering rows of data into it by issuing the INSERT command. We issued the following command to enter the first row of data into the DEPT table:

Table Name →
List of Values →

```
INSERT INTO DEPT
VALUES (30,'SALES','CHICAGO');
```

Display Output

```
1 record created.
```

In the INSERT command you name the table (DEPT) into which your row of data is to be inserted and then list the data values that to go into each column (30,'SALES','CHICAGO'). Later in this bookle e will see that there are other ways of inserting single and multiple rows in a table.

Now let's return to queries and the SELECT command.

Selecting Specific Columns

In the first couple of query examples we selected all the columns and all the rows of a table. If you don't want to see all the table's columns, however, then in your SELECT clause list only the names of those columns you do want to see.

```
SELECT   DNAME,DEPTNO
FROM     DEPT;

DNAME          DEPTNO
----------     ------
ACCOUNTING     10
RESEARCH       20
SALES          30
OPERATIONS     40
```

Controlling Column Sequence

As you have seen, the result of any query is itself a table, made up of columns and rows. The order in which you list your columns in your SELECT clause controls the left-to-right sequence of the columns in your result table. When you specify SELECT *, the left-to-right sequence of your query result is determined by the order in which you defined your columns in your CREATE TABLE command.

Selecting Specific Rows

In the last example you saw how the SELECT clause lets you retrieve specific *columns* from your table. But what if you want to retrieve specific *rows* from your table? To do this, you need to add a WHERE clause to your SELECT command.

WHERE Clause →

```
SELECT   *
FROM     EMP
WHERE    DEPTNO = 30;

EMPNO ENAME  JOB      MGR HIREDATE      SAL     COMM DEPTNO
----- ------ -------- ---- --------- -------- -------- ------
 7499 ALLEN  SALESMAN 7698 20-FEB-81 1,600.00   300.00     30
 7521 WARD   SALESMAN 7698 22-FEB-81 1,250.00   500.00     30
 7654 MARTIN SALESMAN 7698 28-SEP-81 1,250.00 1,400.00     30
 7698 BLAKE  MANAGER  7839 01-MAY-81 2,850.00            30
 7844 TURNER SALESMAN 7698 08-SEP-81 1,500.00     0.00     30
 7900 JAMES  CLERK    7698 03-DEC-81   950.00            30
```

A WHERE clause causes ORACLE to search the data in your table and retrieve only those rows that meet your *search-condition*. In the example above, ORACLE returned only those rows WHERE the employee's department number was equal to 30 (WHERE DEPTNO = 30).

Multiple Search-Conditions

Sometimes you will need to specify more than one search-condition in a WHERE clause. Suppose, for example, that you want a list of the managers in your company who earn more than $2,800.

AND Connector →

```
SELECT   ENAME, JOB, SAL
FROM     EMP
WHERE    JOB = 'MANAGER'
  AND    SAL > 2800;

ENAME  JOB        SAL
-----  --------   -------
JONES  MANAGER    2,975.00
BLAKE  MANAGER    2,850.00
```

Multiple search-conditions are connected with the word AND (JOB = MANAGER AND SAL > 2800). AND means that your data must meet *all* your search-conditions before ORACLE will retrieve a row. You may AND any number of search-conditions to a WHERE clause.

Alternate Search-Conditions

In addition to being able to select rows that meet *all* of several search-conditions, you can select rows that meet *any* of several search-conditions.

OR Connector →

```
SELECT   ENAME, JOB, SAL
FROM     EMP
WHERE    JOB = 'MANAGER'
  OR     SAL > 2800;

ENAME  JOB        SAL
-----  --------   -------
JONES  MANAGER    2,975.00
BLAKE  MANAGER    2,850.00
CLARK  MANAGER    2,450.00
SCOTT  ANALYST    3,000.00
KING   PRESIDENT  5,000.00
FORD   ANALYST    3,000.00
```

In this example we connected our search-conditions with the word OR (JOB = MANAGER OR SAL > 2800). OR means that if your data meets *any* of your search-conditions then ORACLE will retrieve the row.

Negative Search-Conditions

You can also select rows that do *not* meet search-conditions. For example, let's list all the managers who are not in department 30.

!= Means Not Equal →

```
SELECT   ENAME, JOB, DEPTNO
FROM     EMP
WHERE    JOB = 'MANAGER'
  AND    DEPTNO != 30;

ENAME  JOB        DEPTNO
-----  --------   ------
JONES  MANAGER    20
CLARK  MANAGER    10
```

You may combine AND, OR and NOT in the same query to connect as many search-conditions as are necessary to retrieve the rows you want.

Searching for a Range

The BETWEEN operator lets you select rows that contain values within a range that you specify. Let's list all the employees whose salary is between 1200 and 1400.

BETWEEN Operator

```
SELECT   ENAME,SAL
FROM     EMP
WHERE    SAL BETWEEN 1200 AND 1400;

ENAME       SAL
----- ---------
WARD    1,250.00
MARTIN  1,250.00
MILLER  1,300.00
```

IN a List

The IN operator lets you select rows that contain a value that matches *one* of the values in a list of values that you supply. Let's list all the departments whose number is either 10 or 30.

IN Operator

```
SELECT   *
FROM     DEPT
WHERE    DEPTNO IN (10,30);

 DEPTNO DNAME       LOC
------- ---------- --------
     10 ACCOUNTING NEW YORK
     30 SALES      CHICAGO
```

Note that we enclosed our list of values in parentheses—(10, 30). For this query we could just as easily have used an OR connector—WHERE DEPTNO = 10 OR DEPTNO = 30—to achieve the same query result.

Matching Character Patterns

You can also select rows that match a *pattern* of characters or numbers that you specify. Let's list all the employees who have R as the third letter of their name.

LIKE Operator

```
SELECT   ENAME
FROM     EMP
WHERE    ENAME LIKE '__R%';

ENAME
------
WARD
MARTIN
TURNER
FORD
```

In this example, we used the SQL operator LIKE to direct ORACLE to retrieve all those rows from the EMP table whose ENAME field contains a value that matches (or is LIKE) a pattern that we specified ('__R%'). The underscore character (_) signifies one character position, and the percent sign (%) signifies any string of zero or more characters.

The BETWEEN, IN and LIKE comparison operators can all be preceded with the word NOT and connected with AND and OR to form as complex a WHERE clause as you require to retrieve the rows you want.

Ordering Rows

In all our examples so far, the rows of our query result have been displayed in an order determined by ORACLE. You can control the order in which your selected rows are displayed by adding an ORDER BY clause to the end of your SELECT command. Suppose you want a list of the employees in department 30, and you want the rows displayed in salary order.

ORDER BY Clause →

```
SELECT   SAL,JOB,ENAME
FROM     EMP
WHERE    DEPTNO = 30
ORDER BY SAL;

     SAL JOB        ENAME
-------- --------- ------
  950.00 CLERK     JAMES
1,250.00 SALESMAN  WARD
1,250.00 SALESMAN  MARTIN
1,500.00 SALESMAN  TURNER
1,600.00 SALESMAN  ALLEN
2,850.00 MANAGER   BLAKE
```

The ORDER BY clause caused a sort of the rows into *ascending* (smallest salary first) sequence. But ordering is not limited to ascending sequence or a single column. For example, we can list all employees in job order, and within the job order, in descending salary order.

DESCending Order →

```
SELECT   JOB,SAL,ENAME
FROM     EMP
ORDER BY JOB, SAL DESC;

JOB              SAL ENAME
--------- --------- ------
ANALYST      3,000.00 SCOTT
ANALYST      3,000.00 FORD
CLERK        1,300.00 MILLER
CLERK        1,100.00 ADAMS
CLERK          950.00 JAMES
CLERK          800.00 SMITH
MANAGER      2,975.00 JONES
MANAGER      2,850.00 BLAKE
MANAGER      2,450.00 CLARK
PRESIDENT    5,000.00 KING
SALESMAN     1,600.00 ALLEN
SALESMAN     1,500.00 TURNER
SALESMAN     1,250.00 WARD
SALESMAN     1,250.00 MARTIN
```

The data in the JOB column of our result table is in alphabetical order (the default order for CHAR columns you wish to ORDER BY) and the employees within each job group are listed in descending salary order (SAL DESC).

Suppose you want a list of the different jobs in the EMP table.

```
SELECT  JOB
FROM    EMP;

JOB
---------
CLERK
SALESMAN
SALESMAN
MANAGER
SALESMAN
MANAGER
MANAGER
ANALYST
PRESIDENT
SALESMAN
CLERK
CLERK
ANALYST
CLERK
```

Because there was no WHERE clause in our query, ORACLE returned *all* the values in the JOB column of the EMP table. As you can see, there are many duplicate values in the column (that is, many employees have the same job). You can eliminate these duplicate values by specifying DISTINCT in your SELECT clause. The keyword DISTINCT as we'll use it in the following query means, "Show me all the different (DISTINCT) kinds of jobs in the EMP table."

DISTINCT Keyword ——

```
SELECT  DISTINCT JOB
FROM    EMP;

JOB
---------
CLERK
SALESMAN
MANAGER
ANALYST
PRESIDENT
```

So although there are fourteen jobs in the EMP table—one for each of fourteen employees—there are only five DISTINCT jobs.

JOIN Query

So far, in all of our examples we have queried just one table (either EMP or DEPT). But what if the information that you want to list is not all stored in the same table? ORACLE's *join* feature lets you select data from two or more tables and combine the selected data in a single result table.

Suppose you want to know where the employee named ALLEN works. By looking at both of the tables in our database you can see that the EMP table does not contain a location (LOC) column, but that the DEPT table does. Both the EMP and DEPT tables, however, have a column that contains department numbers (DEPTNO). It is the department numbers stored in both of these tables that allow you to relate rows in the EMP table to rows in the DEPT table. By querying the EMP table you can find ALLEN's department number.

```
SELECT  ENAME,DEPTNO
FROM    EMP
WHERE   ENAME = 'ALLEN';

ENAME DEPTNO
----- ------
ALLEN     30
```

And by querying the DEPT table you can find the location of department 30.

```
SELECT  LOC
FROM    DEPT
WHERE   DEPTNO = 30;

LOC
-------
CHICAGO
```

As a result of issuing these two queries we can see that ALLEN works in CHICAGO.

But you can arrive at the same result that required the two previous queries by issuing a single JOIN query. In a JOIN query you list the names of the tables you're querying in your FROM clause, and the names of the columns to be matched in the JOIN (that is, the columns that the tables have in common) in your WHERE clause.

Multiple Tables →
Join-Condition →

```
SELECT   ENAME,LOC
FROM     EMP,DEPT
WHERE    ENAME = 'ALLEN'
AND      EMP.DEPTNO = DEPT.DEPTNO;

ENAME  LOC
------ ---------
ALLEN  CHICAGO
```

JOIN Condition

The *join-condition* in our WHERE clause defines the relationship between the EMP table and the DEPT table. In the example above, for instance, if a DEPTNO in a row of the EMP table *matches* a DEPTNO in a row of the DEPT table (EMP.DEPTNO = DEPT.DEPTNO), then the rows should be joined together.

JOIN Data

EMP Table

EMPNO	ENAME	JOB	MGR	HIREDATE	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	21-FEB-8	300.00	30

DEPT Table

DEPTNO	DNAME	LOC
30	SALES	CHICAGO

In addition to the join-condition, the WHERE clause contains the search-condition ENAME = 'ALLEN', which tells ORACLE to retrieve only the row for the employee named ALLEN. So ORACLE joins just the ALLEN row from the EMP table, which contains the value 30 in its DEPTNO field, to the row from the DEPT table which also contains the value 30 in its DEPTNO field. The columns we listed in our SELECT clause indicate that only the ENAME field from the EMP table and only the LOC field from the DEPT table are to be retrieved from the joined row to form our query result.

You can join individual rows (as in the last example), parts of tables, or entire tables. To list department names—which is information stored only in the DEPT table—beside additional data about each employee, let's join all the rows of the EMP table to the DEPT table and order the result.

```
SELECT DNAME,ENAME,JOB,SAL
FROM EMP,DEPT
WHERE EMP.DEPTNO=DEPT.DEPTNO
ORDER BY DNAME,SAL DESC;

DNAME          ENAME  JOB       SAL
-------------  ------ --------- -----
ACCOUNTING     KING   PRESIDENT 5,000.00
ACCOUNTING     CLARK  MANAGER   2,450.00
ACCOUNTING     MILLER CLERK     1,300.00
RESEARCH       SCOTT  ANALYST   3,000.00
RESEARCH       FORD   ANALYST   3,000.00
RESEARCH       JONES  MANAGER   2,975.00
RESEARCH       ADAMS  CLERK     1,100.00
RESEARCH       SMITH  CLERK       800.00
SALES          BLAKE  MANAGER   2,850.00
SALES          ALLEN  SALESMAN  1,600.00
SALES          TURNER SALESMAN  1,500.00
SALES          WARD   SALESMAN  1,250.00
SALES          MARTIN SALESMAN  1,250.00
SALES          JAMES  CLERK       950.00
```

Non-Procedural, Set-at-a-Time vs. Procedural, Record-at-a-Time

Even this simple example demonstrates the power of SQL. Consider, from a procedural programming, record-at-a-time point of view, the work that would be required to join two tables while selecting specific fields from specific joined rows, and sort the results. The required program becomes even more complicated as the number of tables you're joining increases. This is not the case with ORACLE, because SQL works a *set-at-a-time* and *non-procedurally*. You tell ORACLE WHAT data you want, *not* HOW to get it.

Static, Pointer-Based DBMSs vs. Dynamic, Value-Based DBMSs

Hierarchical and network database management systems store some information as *values* and other information as *pointers*. In a network system, for instance, the information that employee SMITH has a job title of CLERK would be stored as a value in a field. The information that SMITH works for department 20 would be stored as a *pointer* from SMITH's record to the department 20 record. Only the information that is stored as pointers can be used to associate one record to another record in a network or hierarchical database. Moreover, the decision whether to store information as a pointer or a value must be made when the database is defined. Thus, network and hierarchical systems have relationships that are *pointer-based* and predefined or *static*.

In contrast, a relational DBMS stores all database information in a uniform way—as values stored in fields. You can use any value to associate—or join—one table to another, and you define relationships between values when you enter your query—NOT when you create your tables. In short, relationships in a relational database are *value-based* and *dynamic*, which means that ORACLE gives you maximum flexibility in responding to your spontaneous queries.

ORACLE supports a full set of arithmetic and string manipulation functions.

Arithmetic Expressions

To make an arithmetic expression you connect column names and constant numeric values with an arithmetic operator. List the name, salary, commission and the sum of salary *plus* commission of all salesmen.

Expression SAL + COMM

```
SELECT   ENAME, SAL, COMM, SAL + COMM
FROM     EMP
WHERE    JOB = 'SALESMAN';

ENAME          SAL       COMM     SAL+COMM
------ ---------- ---------- ----------
ALLEN     1,600.00     300.00    1,900.00
WARD      1,250.00     500.00    1,750.00
MARTIN    1,250.00   1,400.00    2,650.00
TURNER    1,500.00       0.00    1,500.00
```

Note that our arithmetic expression (SAL + COMM) is displayed as a new column in our result table. Although a column such as SAL + COMM is not a real column—that is, it is not stored in the database but, rather, materializes as a result of a query—you can do anything to it that you can do to a real column. Examples of additional aperators supported by ORACLE are listed below.

Character String Functions

Arithmetic functions let you manipulate numeric data; similarly, character string functions such as those described below make it easy to manipulate character data. For example, you can use the SOUNDEX function to find names that sound alike but are spelled differently. Let's find all employees who have names that sound like SCHMIDT.

SOUNDEX Function

```
SELECT   ENAME
FROM     EMP
WHERE    SOUNDEX(ENAME) = SOUNDEX('SCHMIDT');

ENAME
------
SMITH
```

ORACLE supports the following operators and functions:

Arithmetic Operators		*String*	*Functions*
+	Add	||	Concatenation
-	Subtract	DECODE	Translate
*	Multiply	LENGTH	String Length
/	Divide	SUBSTR	Substring
POWER	Exponentiation	INSTR	Instring
ROUND	Rounding	UPPER	Upper Case
TRUNC	Truncation	LOWER	Lower Case
ABS	Absolute Value	SOUNDEX	Sound Matching

This is just a partial list of ORACLE's comprehensive set of arithmetic and string functions. (See the section on GROUP BY for a discussion of ORACLE's *group functions* AVG, SUM, COUNT, MIN and MAX.)

Date Formatting

Recall that when we created the EMP table we defined the HIREDATE column as being a *date data type*. When you select the HIREDATE column—or any column that is a date data type—it is displayed in t[illegible] standard format of DD-MON-YY (e.g., 03-SEP-88). You can display d[illegible] fields in different formats by invoking ORACLE's formatting function, TO_C[illegible]AR (column name, 'picture').

Let's take a look at the name, job and hiredate of all the employees in department 20 and display the hiredate in the form: *DY DD MON YYYY*.

Format: DY DD MON YYYY ---→

```
SELECT  ENAME,JOB,TO_CHAR(HIREDATE,'DY DD MON YYYY') HIREDATE
FROM    EMP
WHERE   DEPTNO = 20

ENAME JOB       HIREDATE
------------------------
SMITH CLERK     WED 17 DEC 1980
JONES MANAGER   THU 02 APR 1981
SCOTT ANALYST   THU 09 DEC 1982
ADAMS CLERK     WED 12 JAN 1983
FORD  ANALYST   THU 03 DEC 1981
```

In invoking the TO_CHAR function so that we could change the display appearance of our HIREDATE data—TO_CHAR(HIREDATE...)—[illegible]e described the fo[illegible]at picture we wanted—(...'DY DD MON YYYY')—and followed the entire expression with what we wanted the heading on this new column to be (HIREDATE).

ORACLE's date function allows a wi[illegible] variety o[illegible]rmatting. Here are just a few examples:

Format Picture	*Formatted Date*
- Standard Default Format -	17-DEC-80
DAY MONTH DD, YYYY	WEDNESDAY DECEMBER 17, 1980
Day DD Mon YYYY	Wed 17 Dec 1980
DY "the" ddth "of" Month YYYY	Wednesday the 17th of December1980
"The" DdSPTH "of" Month YyyySP	The Seventeenth of December One Thousand Nine Hundred Eighty
MM/DD/YY HH:MIPM	12/17/80 12:00AM

Note the *time* component in the last formatted date example. A column that you define as a date datatype actually stores year, month, day *and* time values.

Date Arithmetic

In addition to being able to format date fields as you like, you can perform arithmetic operations on date fields.

Suppose you review all new employees 90 days after they are hired. You can use ORACLE's date arithmetic to calculate the review dates for the employees in department 20.

Add 90 Days to Date

SYSDATE = Today's Date

```
SELECT   ENAME,HIREDATE,SYSDATE,HIREDATE + 90
FROM     EMP
WHERE    HIREDATE + 90 > SYSDATE
AND      DEPTNO = 20;

ENAME   HIREDATE  SYSDATE   HIREDATE+90
------- --------- --------- -----------
SCOTT   09-DEC-82 04-MAR-83 09-MAR-83
ADAMS   12-JAN-83 04-MAR-83 12-APR-83
```

The keyword SYSDATE always returns today's date. The expression HIREDATE + 90 in our SELECT clause calculates the review date, and the expression HIREDATE + 90 > SYSDATE in our WHERE clause causes ORACLE to return the rows for only those employees whose review dates are greater than—or after—today's date.

ORACLE can perform the following date arithmetic operations:

Function	*Purpose*
ADD_MONTHS	Adds to or subtracts from a date in months
LAST_DAY	Moves a date forward to the last day of the month
MONTHS_BETWEEN	Subtracts two dates to yield the difference in months
NEXT_DAY	Moves a date forward to the specified day of the week
ROUND	Rounds a date to the specified precision
TRUNC	Truncates a date to the specified precision
TO_DATE	Allows entry of dates in other than default format

You can use a date field in any SQL clause—SELECT, WHERE, ORDER BY, etc.,—in which you can use a numeric or character column.

Group Functions

Group functions are another example of the power of SQL. Group functions let you select summary information from groups of rows. Suppose, for instance, that you want to put all the employees with the same department number together in one group and then find the maximum salary in each department group.

MAX Function →

GROUP BY Clause →

```
SELECT   DEPTNO,MAX(SAL)
FROM     EMP
GROUP BY DEPTNO;

DEPTNO   MAX(SAL)
------   --------
    10   5,000.00
    20   3,000.00
    30   2,850.00
```

GROUP BY Clause

In a GROUP BY query, each row of the query result represents a group of rows stored in your table. The column you name in your GROUP BY clause (DEPTNO in this example) is the one by which you want to group—or categorize—the rows in your tables. In the example above, each row of the EMP table was put into one of three groups—one group for each different DEPTNO in the EMP table—depending on the value stored in its DEPTNO field, so that after all the rows in EMP had been processed, all the rows in each group had the same DEPTNO. At that point ORACLE performed the group function we asked for in our SELECT clause—MAX(SAL)—on each group of rows and returned the calculated results in our display output.

As with ORDER BYs, you may GROUP BY any number of columns in a single query.

Let's combine the use of group functions and a JOIN query. This time we will group by two columns (GROUP BY DNAME, JOB) and use three new functions: SUM, to add the values of specified fields that fall into the groups we define in our GROUP BY clause; COUNT(*), to count the number of rows that fall in each of those groups; and AVG, to find the average of the values of specified fields in each group.

Our goal in issuing this query is to find out how many employees are working at each job in each department—how many CLERKs are in RESEARCH, for example—and in those groups, what the sums and averages of those employees salaries are.

SUM Function
COUNT (*) Function
AVG Function
GROUP BY 2 Columns

```
SELECT DNAME, JOB, SUM(SAL), COUNT(*), AVG(SAL)
FROM   EMP, DEPT
WHERE  EMP.DEPTNO = DEPT.DEPTNO
GROUP BY DNAME, JOB;

DNAME          JOB        SUM(SAL)  COUNT(*)  AVG(SAL)
-------------  ---------  --------  --------  --------
ACCOUNTING     CLERK      1,300.00         1  1,300.00
ACCOUNTING     MANAGER    2,450.00         1  2,450.00
ACCOUNTING     PRESIDENT  5,000.00         1  5,000.00
RESEARCH       ANALYST    6,000.00         2  3,000.00
RESEARCH       CLERK      1,900.00         2    950.00
RESEARCH       MANAGER    2,975.00         1  2,975.00
SALES          CLERK        950.00         1    950.00
SALES          MANAGER    2,850.00         1  2,850.00
SALES          SALESMAN   5,600.00         4  1,400.00
```

We see from our display output that there are, for example, two CLERKs in the RESEARCH department, that the sum of their salaries is 1,900.00 and that their average salary is 950.00.

Procedural vs. Non-Procedural

Consider the work that a programmer has to do to create the same output if he uses a procedural, record-at-a-time DBMS or standard file system: first, a list of employees has to be obtained and sorted by department number and job. Next, the sum, count and average salary has to be computed by department number and job. Finally, department name must be substituted for department number in the output. Every one of these operations requires that the programmer read records, save intermediate results, check errors, etc.

SQL's set-at-a-time, non-procedural approach lets you create reports such as this one, specifying only WHAT data you want: ORACLE automatically generates a procedure defining HOW the data is to be extracted from the database. Other systems require that you build the procedure into your program.

HAVING Clause

Just as we specified search-conditions for individual rows using the WHERE clause, we can use SQL's HAVING clause to specify search-conditions for groups of rows. Suppose you are interested in a query result similar to the previous one except this time you want to see only those groups containing at least two employees.

HAVING Clause

```
SELECT DNAME, JOB, SUM(SAL), COUNT(*), AVG(SAL)
FROM   EMP, DEPT
WHERE  EMP.DEPTNO = DEPT.DEPTNO
GROUP BY DNAME, JOB
HAVING COUNT(*) >= 2;

DNAME          JOB        SUM(SAL)  COUNT(*)  AVG(SAL)
-------------  ---------  --------  --------  --------
RESEARCH       ANALYST    6,000.00         2  3,000.00
RESEARCH       CLERK      1,900.00         2    950.00
SALES          SALESMAN   5,600.00         4  1,400.00
```

The search-condition in our HAVING clause excluded from our query result all groups not containing at least two rows in that group—COUNT(*) >= 2.

Subqueries

One of the reasons SQL is so powerful is that you can build complex queries out of several simple queries. A WHERE clause of one query may contain another query, called a *subquery*. You use the subquery to dynamically build a search-condition for your main query.

Suppose you want to make a list of all the employees with the same job as JONES.

Main Query

Subquery

```
SELECT   ENAME,JOB
FROM     EMP
WHERE    JOB =
         (SELECT  JOB
          FROM    EMP
          WHERE   ENAME = 'JONES');

ENAME  JOB
------ ------------
JONES  MANAGER
BLAKE  MANAGER
CLARK  MANAGER
```

ORACLE processes subqueries before main queries because it needs the result of the subquery to find the result of the main query. The second SELECT command in this example—the subquery—retrieved the value MANAGER, as you can see if you look for JONES' job in the EMP table. ORACLE uses this value to dynamically build the search-condition WHERE JOB = 'MANAGER' that is used by the first SELECT command to retrieve the rows we wanted.

Next, let's list each employee who earns more than the average of all the employees' salaries.

```
SELECT   ENAME,SAL
FROM     EMP
WHERE    SAL >
         (SELECT AVG(SAL)
          FROM   EMP);

ENAME        SAL
------ ----------
JONES     2,975.00
BLAKE     2,850.00
CLARK     2,450.00
SCOTT     3,000.00
KING      5,000.00
FORD      3,000.00
```

A single ORACLE query may be made up of multiple subqueries. Subqueries may be just as complex as main queries—they may contain search-conditions and JOIN queries of their own, for example—and you may use them in INSERT, UPDATE and DELETE commands (to be discussed in the next section) as well as SELECT commands.

Highlights

As we have seen, a single SELECT lets you retrieve a set of rows from one table or multiple tables. SQL lets you add or modify rows, a set-at-a-time, just as easily, with the following three commands:

- UPDATE Command — changes values stored in fields
- INSERT Command — adds rows to a table
- DELETE Command — removes rows from a table

UPDATE Command

Using our sample database, giving all CLERKs a $100 raise requires that we update or change the value of some of the data (the SAL fields) in some of the rows (those in which the value for JOB is CLERK) in the EMP table. The UPDATE command consists of an UPDATE clause, followed by a SET clause and an optional WHERE clause.

Update Clause →
SET Clause →

```
UPDATE   EMP
SET      SAL = SAL + 100
WHERE    JOB = 'CLERK';

4 records updated.
```

The UPDATE clause names the table you want to modify (UPDATE EMP). The SET clause "sets" the field you name equal to some value (SET SAL = SAL + 100). In the WHERE clause you specify the set of rows to be updated (WHERE JOB = 'CLERK').

A query will confirm that our update has taken place.

```
SELECT   ENAME, JOB, SAL
FROM     EMP
WHERE    JOB = 'CLERK';

ENAME  JOB      SAL
------ -------  --------
SMITH  CLERK    1,900.00
ADAMS  CLERK    1,200.00
JAMES  CLERK    1,050.00
MILLER CLERK    1,400.00
```

INSERT Command

Earlier in this chapter you saw how to use the INSERT command to add rows to a table one-at-a-time. You can also use the INSERT command to add a set of rows to a table: to copy rows from one table to another. You do this by using a query to define the set of rows to be inserted into the table.

Suppose that in our sample database we have a third table, called PROMOTION. PROMOTION contains many of the same columns as EMP: ENAME, JOB, SAL, and COMM. We want to insert into our PROMOTION table the data for all the salesmen who had a commission that was greater than 25% of their salary by copying the information from the EMP table.

```
INSERT   INTO PROMOTION (ENAME,JOB,SAL,COMM)
         SELECT  ENAME,JOB,SAL,COMM
         FROM    EMP
         WHERE   COMM > 0.25 * SAL;

2 records created.
```

The INSERT command in this example used a subquery in place of the list of data values you are accustomed to seeing in an INSERT command. ORACLE inserted into our PROMOTION table only the columns and rows selected from EMP in our subquery.

DELETE Command

Since there are no employees in department 40, let's remove it from the DEPT table with SQL's DELETE command.

User Enters

```
DELETE   FROM DEPT
WHERE    DEPTNO = 40;
```

Display Output

```
1 record deleted.
```

Again, we can issue a query to confirm that our delete has taken place.

```
SELECT   *
FROM     DEPT;

DEPTNO DNAME       LOC
------ ---------- ----------
    10 ACCOUNTING NEW YORK
    20 RESEARCH   DALLAS
    30 SALES      CHICAGO
```

The DELETE FROM clause names the table from which you want to remove a row or set of rows (in this case, DELETE FROM DEPT). The WHERE clause is optional (a DELETE FROM clause without a WHERE clause would mean that you wanted to remove ALL the rows from a table) and specifies the conditions under which your rows are to be deleted. In this example we used the WHERE clause to tell ORACLE to DELETE FROM the DEPT table those rows in which the value in the DEPTNO field was 40.

SQL: A Language for All Functions

The WHERE clauses in all of these commands demonstrate how SQL uses the same syntax for data manipulation as it uses for queries. In the SELECT, UPDATE, INSERT and DELETE commands the function of the WHERE clause is identical: the WHERE clause is always optional, and you use it to specify conditions under which something is to be done to your data, whether it is modification or retrieval. Later, you will see how SQL employs the same query syntax for data definition.

ORACLE supports the SQL commands you need to dynamically alter the structure of your database. In this section you will see how you can use SQL to:

- ALTER TABLE ADD — add a new column to an existing table
- ALTER TABLE MODIFY — make an existing column larger

Let's expand our sample database so that we can assign employees to projects in the same way that we assign employees to departments. This change to the database structure requires several steps. First, using the CREATE TABLE command, we have to add a projects table to our database.

Create a PROJ Table

```
CREATE TABLE PROJ  (PROJNO  NUMBER(3) NOT NULL,
                    PNAME   CHAR(5),
                    BUDGET  NUMBER(7,2));
```

Second, we'll issue the INSERT command to put some data into our PROJ table.

Insert Rows into PROJ Table

```
INSERT    INTO PROJ VALUES (101,'ALPHA',96000);
INSERT    INTO PROJ VALUES (102,'BETA',82000);
INSERT    INTO PROJ VALUES (103,'GAMMA',15000);
```

Let's list the PROJ table now to see what we've got.

```
SELECT * FROM PROJ;

PROJNO PNAME  BUDGET
------ ------ -------
101    ALPHA   96,000
102    BETA    82,000
103    GAMMA   15,000
```

Third, so that we can eventually join the EMP and PROJ tables, let's add a project number column to the EMP table so that the two tables share a common column. We'll issue the ALTER TABLE command to add a new column to our existing table.

Add a PROJ Column to EMP Table

```
ALTER TABLE EMP ADD (PROJNO NUMBER(3));

Table altered.
```

In this command we named the table we wanted to alter (in this case EMP), the column we wanted to add to it (PROJNO), the new column's data type, and the maximum length of a field in the new column—NUMBER (3).

We can now list the EMP table and see that added to each row is a new PROJNO field, with an initial value of null.

```
SELECT *
FROM EMP;

EMPNO ENAME  JOB       MGR HIREDATE        SAL       COMM DEPTNO PROJNO
----- ------ --------- ---- --------- ---------- ---------- ------ ------
 7369 SMITH  CLERK     7902 17-DEC-80     900.00                 20
 7499 ALLEN  SALESMAN  7698 20-FEB-81   1,600.00     300.00     30
 7521 WARD   SALESMAN  7698 22-FEB-81   1,250.00     500.00     30
 7566 JONES  MANAGER   7839 02-APR-81   2,975.00                20
 7654 MARTIN SALESMAN  7698 28-SEP-81   1,250.00   1,400.00     30
 7698 BLAKE  MANAGER   7839 01-MAY-81   2,850.00                30
 7782 CLARK  MANAGER   7839 09-JUN-81   2,450.00                10
 7788 SCOTT  ANALYST   7566 18-JUN-83   3,000.00                20
 7839 KING   PRESIDENT      17-NOV-81   5,000.00                10
 7844 TURNER SALESMAN  7698 08-SEP-81   1,500.00        0.00    30
 7876 ADAMS  CLERK     7788 22-JUL-83   1,200.00                20
 7900 JAMES  CLERK     7698 03-DEC-81   1,050.00                30
 7902 FORD   ANALYST   7566 03-DEC-81   3,000.00                20
 7934 MILLER CLERK     7782 23-JAN-82   1,400.00                10
```

Now that we've added our new column to the EMP table we can issue the UPDATE command to assign our employees to projects. Let's assign everyone in department 20 and all salesmen to project 101.

Assign Some Employees to Project 101

```
UPDATE    EMP
SET       PROJNO = 101
WHERE     DEPTNO = 20
OR        JOB = 'SALESMAN';

9 records updated.
```

Let's display the EMP table to confirm our updates.

```
SELECT *
FROM EMP;

EMPNO ENAME  JOB       MGR HIREDATE        SAL       COMM DEPTNO PROJNO
----- ------ --------- ---- --------- ---------- ---------- ------ ------
 7369 SMITH  CLERK     7902 17-DEC-80     900.00                 20    101
 7499 ALLEN  SALESMAN  7698 20-FEB-81   1,600.00     300.00     30    101
 7521 WARD   SALESMAN  7698 22-FEB-81   1,250.00     500.00     30    101
 7566 JONES  MANAGER   7839 02-APR-81   2,975.00                20    101
 7654 MARTIN SALESMAN  7698 28-SEP-81   1,250.00   1,400.00     30    101
 7698 BLAKE  MANAGER   7839 01-MAY-81   2,850.00                30
 7782 CLARK  MANAGER   7839 09-JUN-81   2,450.00                10
 7788 SCOTT  ANALYST   7566 18-JUN-83   3,000.00                20    101
 7839 KING   PRESIDENT      17-NOV-81   5,000.00                10
 7844 TURNER SALESMAN  7698 08-SEP-81   1,500.00        0.00    30    101
 7876 ADAMS  CLERK     7788 22-JUL-83   1,200.00                20    101
 7900 JAMES  CLERK     7698 03-DEC-81   1,050.00                30
 7902 FORD   ANALYST   7566 03-DEC-81   3,000.00                20    101
 7934 MILLER CLERK     7782 23-JAN-82   1,400.00                10
```

Now let's put everyone who is not assigned to a project (that is, WHERE PROJNO IS NULL) into project 102.

Assign Other Employees to Project 102

```
UPDATE    EMP
SET       PROJNO = 102
WHERE     PROJNO IS NULL;

14 records updated.
```

Another query of the EMP table shows us that all employees now have a value in their PROJNO field.

```
SELECT *
FROM EMP;

EMPNO ENAME  JOB       MGR HIREDATE        SAL       COMM DEPTNO PROJNO
----- ------ --------- ---- --------- ---------- ---------- ------ ------
7369  SMITH  CLERK     7902 17-DEC-80     900.00                 20    101
7499  ALLEN  SALESMAN  7698 20-FEB-81   1,600.00     300.00    30    101
7521  WARD   SALESMAN  7698 22-FEB-81   1,250.00     500.00    30    101
7566  JONES  MANAGER   7839 02-APR-81   2,975.00                 20    101
7654  MARTIN SALESMAN  7698 28-SEP-81   1,250.00   1,400.00    30    101
7698  BLAKE  MANAGER   7839 01-MAY-81   2,850.00                 30    102
7782  CLARK  MANAGER   7839 09-JUN-81   2,450.00                 10    102
7788  SCOTT  ANALYST   7566 18-JUN-83   3,000.00                 20    101
7839  KING   PRESIDENT      17-NOV-81   5,000.00                 10    102
7844  TURNER SALESMAN  7698 08-SEP-81   1,500.00       0.00      30    101
7876  ADAMS  CLERK     7788 22-JUL-83   1,200.00                 20    101
7900  JAMES  CLERK     7698 03-DEC-81   1,050.00                 30    102
7902  FORD   ANALYST   7566 03-DEC-81   3,000.00                 20    101
7934  MILLER CLERK     7782 23-JAN-82   1,400.00                 10    102
```

The updating of employee rows with project numbers completes the modification of our database and allows us to relate employees to projects in the same way that we can relate employees to departments.

Join EMP Table to PROJ Table

```
SELECT    ENAME, JOB, DEPTNO, PNAME
FROM      EMP, PROJ
WHERE     EMP.PROJNO = PROJ.PROJNO;

ENAME  JOB       DEPTNO PNAME
------ --------- ------ -----
SMITH  CLERK      20    ALPHA
ALLEN  SALESMAN   30    ALPHA
WARD   SALESMAN   30    ALPHA
JONES  MANAGER    20    ALPHA
MARTIN SALESMAN   30    ALPHA
SCOTT  ANALYST    20    ALPHA
TURNER SALESMAN   30    ALPHA
ADAMS  CLERK      20    ALPHA
FORD   ANALYST    20    ALPHA
BLAKE  MANAGER    30    BETA
CLARK  MANAGER    10    BETA
KING   PRESIDENT  10    BETA
JAMES  CLERK      30    BETA
MILLER CLERK      10    BETA
```

ORACLE Flexibility via Dynamic Changes to Database Structure

With this series of examples we have demonstrated how easy it is to dynamically expand and restructure an ORACLE database. First, we created a new table. Second, we added a new column to an existing table. Third, we put data in the new column. Fourth, we joined our new table and our existing

table. We performed all four operations with simple SQL commands without interrupting the system to unload and reload data or reorganizing any part of our database.

ALTER TABLE MODIFY Command

In addition to being able to add new columns to existing tables, you can make existing columns larger. Notice, for example, that we inserted a value of 15000 for the budget of project 103. Suppose this was an error, and the correct value is actually 105000. We should be able to update the project 103 row with the correct budget value. Let's try.

User Enters

```
UPDATE    PROJ
SET       BUDGET = 105000
WHERE     PROJNO = 103;
```

Display Output

```
ERROR: value larger than specified precision allows for this column
```

We received an error message because the new budget amount we tried to enter was too large to fit into the BUDGET column, which we defined in our CREATE TABLE command to be NUMBER (7,2). Our definition means that the largest number allowed in our BUDGET column is 99,999.99 (seven digits, two of which are to the right of the decimal point). We can easily solve our problem by issuing the ALTER TABLE MODIFY command to make the column larger.

Make a Column Larger

```
ALTER TABLE PROJ MODIFY BUDGET NUMBER(8,2);

Table altered.
```

Just as in our ALTER TABLE ADD command, we named the table we wanted to change (PROJ) and then described the change we wanted to make. In this example we needed to modify our definition of the BUDGET column, so we restated the column's data type (NUMBER) and gave it a new, greater width (8,2 instead of 7,2). Now let's try our UPDATE again.

```
UPDATE    PROJ
SET       BUDGET = 105000
WHERE     PROJNO = 103;

1 record updated.
```

Let's issue a query to confirm that our UPDATE has taken place.

```
SELECT    *
FROM      PROJ;

PROJNO PNAME  BUDGET
------ ------ ---------
   101 ALPHA  95,000.00
   102 BETA   88,000.00
   103 GAMMA  105,000.00
```

No other database management system—conventional or relational—allows you to add new columns to existing tables and make existing columns larger without reorganizing any part of the database.

Alternate Views of Data

ORACLE allows you to design and store alternative views of the same data in your database. Views are virtual tables, like windows, through which you see data stored in your real tables. Views contain no data of their own, but in general, look like and can be operated on just as if they were real tables. Views provide three primary benefits:

- Simplified Data Access
- Data Independence
- Data Privacy

First, let's look at how we create views and how we can use them to simplify data access. Data independence and data privacy will be discussed in the following sections.

Create a view of the EMP table that will be a subset of the whole table: one which will display only the employee numbers, names, and jobs of those working in department 10.

CREATE VIEW Command →

```
CREATE  VIEW  EMP10 AS  SELECT EMPNO, ENAME, JOB
                        FROM   EMP
                        WHERE  DEPTNO = 10
WITH  CHECK  OPTION;

View created.
```

Because the result of any query is itself a table, a query is used to define a virtual table or view. This is how SQL uses the same syntax for data definition—view definition, to be specific—as data manipulation and query. In the CREATE VIEW command, name your view and then describe, in the form of a SQL query statement, what the view is to contain. You can also query a view just as if it were a real table. Let's take a look at our view.

Query a View

```
SELECT    *
FROM      EMP10

EMPNO ENAME    JOB
----- -------- ---------
7782  CLARK    MANAGER
7839  KING     PRESIDENT
7934  MILLER   CLERK
```

Insure Data Integrity

Views can assure the integrity of your data by enforcing the constraints you set. The WITH CHECK OPTION in the definition of the EMP10 view ensures that all inserts and updates satisfy the WHERE clause condition.

For example, let's try to add BAILEY, a new manager in department 20, to the database:

```
INSERT INTO EMP10
VALUES (9999, 'BAILEY', 'MANAGER', 20)

ERROR: view WITH CHECK OPTION where-clause violation
```

ORACLE helps you to maintain the integrity of your database by preventing insertion of improper data.

It may be easier for some people who use the database to work with a single table rather than multiple tables. ORACLE will let you create a single table view of two or more tables. That is, you can define your view to be a JOIN of multiple tables so that you can query a ready-made JOIN (your view) instead of entering the whole JOIN query everytime you need it.

Let's create a single table view called PERSONNEL of the ENAME, JOB and PNAME columns of the EMP and PROJ tables and then take a look at it.

Create a Join View

```
CREATE VIEW PERSONNEL AS  SELECT ENAME,JOB,PNAME
                          FROM   EMP,PROJ
                          WHERE  EMP.PROJNO = PROJ.PROJNO;

View created.

SELECT    *
FROM      PERSONNEL;

ENAME  JOB       PNAME
------ --------- -----
SMITH  CLERK     ALPHA
ALLEN  SALESMAN  ALPHA
WARD   SALESMAN  ALPHA
JONES  MANAGER   ALPHA
MARTIN SALESMAN  ALPHA
SCOTT  ANALYST   ALPHA
TURNER SALESMAN  ALPHA
ADAMS  CLERK     ALPHA
FORD   ANALYST   ALPHA
BLAKE  MANAGER   BETA
CLARK  MANAGER   BETA
KING   PRESIDENT BETA
JAMES  CLERK     BETA
MILLER CLERK     BETA
```

Once your view is created, the people who use it need never know that the data they're looking at and working with is really stored in two tables. Indeed, you can think of your data as if it *were* stored in a single table. This is how you can use views to simplify data access, reducing keystrokes and errors.

Using the PERSONNEL view, let's list the names of managers and their projects.

```
SELECT    ENAME,PNAME
FROM      PERSONNEL
WHERE     JOB = 'MANAGER';

ENAME  PNAME
------ -----
JONES  ALPHA
BLAKE  BETA
CLARK  BETA
```

Views Simplify Data Access

Note how simple this query of the PERSONNEL view is, compared to the JOIN query that would have been required to generate the same list from the underlying EMP and PROJ tables.

Views insulate users from knowing in which tables the data they're working with is actually stored. This insulation between what users see and how data is stored has come to be known as *data independence*. We have just seen how this insulation simplifies access to the data in the database. But you can also use views to keep your existing queries, programs, etc. from becoming obsolete as the structure of your database changes.

Our current database structure permits a project to have many employees assigned to it, but each employee can be assigned to only one project—a many-to-one relationship. Suppose our personnel procedures change and now we want to assign employees to more than one project. To allow this we have to revise the structure of our database again, with a two-fold goal. The first goal is to preserve the old view of our data so that we can continue to work with all the applications, reports and programs that depend on the original structure of the database. The second goal, of course, is to be able to use our new data—the additional projects—to build new applications. Here's how we build the foundation which will allow these two versions of our data to coexist:

First we create a new table, which will relate employees to projects and contain information specific to an employee's work on a particular project—work hours, in the example below.

New Database Structure Allows Many-to-Many Relationships

```
CREATE    TABLE PE (EMPNO    NUMBER(4),
                    PROJNO   NUMBER(3),
                    WORKHRS  NUMBER(4));

Table created.
```

Next, we assign employees to projects by inserting rows into the PE table. Note that employee number 7369 has two rows in the PE table: one for project 101 and another for project 102.

Assign Employees to Projects

```
INSERT    INTO PE VALUES (7369,101,0);
INSERT    INTO PE VALUES (7369,102,0);
INSERT    INTO PE VALUES (7499,101,0);
INSERT    INTO PE VALUES (7521,101,0);
INSERT    INTO PE VALUES (7566,101,0);
INSERT    INTO PE VALUES (7654,101,0);
INSERT    INTO PE VALUES (7698,102,0);
INSERT    INTO PE VALUES (7782,102,0);
INSERT    INTO PE VALUES (7788,101,0);
INSERT    INTO PE VALUES (7839,102,0);
INSERT    INTO PE VALUES (7844,101,0);
INSERT    INTO PE VALUES (7876,101,0);
INSERT    INTO PE VALUES (7900,102,0);
INSERT    INTO PE VALUES (7902,101,0);
INSERT    INTO PE VALUES (7934,102,0);
```

In the future, if an employee is to be assigned to a second or third project we can simply insert an additional row for the same employee into the PE table.

Since we now use the PE table to relate employees to their projects we no longer need the information stored in the PROJNO column of the EMP table We can delete this data by updating the PROJNO column to contain NULL values.

```
UPDATE    EMP
SET       PROJNO = NULL;

14 records updated.
```

(Recall that the absence of a WHERE clause directs ORACLE to update every row in the table.)

Since we have just set all the PROJNOs in the EMP table to be null, we can no longer use the PERSONNEL view, which uses the PROJNO column in the EMP table to join the EMP table to the PROJ table. Without PROJNOs in the EMP table we can no longer join the EMP table directly to the PROJ table. To be able to generate the same information again we need to join the EMP table to our new PE table, and the PE table to our PROJ table. But we can hide this change from the people who use the PERSONNEL view by simply changing the definition of the view. The first step in changing the definition of the PERSONNEL view is to drop the old definition:

Drop Obsolete PERSONNEL View

```
DROP  VIEW PERSONNEL;

View dropped.
```

Now we can create a new PERSONNEL view that joins the EMP table to the PROJ table via the PE table.

Create a New PERSONNEL View

```
CREATE VIEW PERSONNEL AS  SELECT ENAME,JOB,PNAME
                          FROM  EMP,PROJ,PE
                          WHERE  EMP.EMPNO = PE.EMPNO
                          AND   PE.PROJNO = PROJ.PROJNO;

View created.
```

Now, programs that used the old PERSONNEL view can continue to run without modification, and users can continue to work with their old data, generally unaware of the change in the database. By querying the new PERSONNEL view, that is, we see the same output as with the old PERSONNEL view *plus* the second project for employee SMITH:

SMITH Works for Two Projects

```
SELECT *
FROM   PERSONNEL
ORDER BY ENAME;

ENAME  JOB       PNAME
------ --------- -----
ADAMS  CLERK     ALPHA
ALLEN  SALESMAN  ALPHA
BLAKE  MANAGER   BETA
CLARK  MANAGER   BETA
FORD   ANALYST   ALPHA
JAMES  CLERK     BETA
JONES  MANAGER   ALPHA
KING   PRESIDENT BETA
MARTIN SALESMAN  ALPHA
MILLER CLERK     BETA
SCOTT  ANALYST   ALPHA
SMITH  CLERK     ALPHA
SMITH  CLERK     BETA
TURNER SALESMAN  ALPHA
WARD   SALESMAN  ALPHA
```

ORACLE's Data Independence Preserves Your Investment in Programs and Data and Reduces Maintenance Costs

We have just seen another example of how easy it is to change the structure of an ORACLE database without rendering your existing programs, stored queries, etc. obsolete. This is possible because SQL is a non-procedural language and because ORACLE allows alternate "views" of the same data to coexist. Because SQL is non-procedural, your programs do not navigate through the structures of your database. So if those data structures change you need not modify your programs. Instead, all you have to do is create views that "hide" the change from your old programs so that they can continue to run without modification, at the same time taking advantage of the expanded structure of the database for your new applications.

ORACLE allows multiple users to share access to the same database. This allows you to share your data with other users if you want to, but unless you explicitly give other users access to it, ORACLE will automatically keep your data private.

In this section you will learn how you can use SQL to:

- GRANT privileges on your tables and views to other users
- REVOKE privileges that you granted to other users

You are the *owner* of any table you create. Only you, the owner, can use the table unless you grant access to your table to other users.

The GRANT command is made up of three basic clauses:

GRANT — a privilege
ON — a table or view
TO — a user or group of users.

Suppose you are the creator of the EMP table and you want to give a user named ADAMS the authority to query it. You would say

GRANT Command

```
GRANT    SELECT
ON       EMP
TO       ADAMS;

Grant succeeded.
```

You can grant any combination of functional privileges on your tables and views, including:

Privileges on Tables	*Privileges on Views*
SELECT	SELECT
INSERT	INSERT
UPDATE	UPDATE
DELETE	DELETE
ALTER	
INDEX	

In the previous example we granted the user ADAMS the select privilege on the entire EMP table. But what if you wanted to give all users access to the EMP table, except for the SAL and COMM columns? By granting privileges on views rather than tables, you can restrict access to specific rows and columns of a table. First, let's define a view of EMP that does not contain the SAL or COMM columns.

Create a View for Data Privacy

```
CREATE VIEW EMP3
AS SELECT EMPNO, ENAME, JOB, MGR, HIREDATE, DEPTNO
   FROM EMP;
```

Now we can grant the select privilege on the EMPS view to everyone, using the SQL keyword PUBLIC.

PUBLIC Keyword

```
GRANT SELECT
ON    EMPS
TO    PUBLIC;

Grant succeeded.
```

SQL even lets you create views that return different results to different users. Let's create a view of the EMP table that returns data about only those employees with the same department number as the person using the view.

USER Keyword

```
CREATE   VIEW MYEMPS
AS       SELECT    *
         FROM      EMP
         WHERE     DEPTNO IN
                   (SELECT DEPTNO
                   FROM    EMP
                   WHERE   ENAME = USER);

View created.
```

The USER keyword (WHERE ENAME = USER in the example above) returns the name of the currently logged on user. So if JONES, who is in department 10, is accessing the MYEMPS view then MYEMPS is a view of the employees in department 10. If BLAKE, who is in department 30, on the other hand, accesses the MYEMPS view, he will see data about the employees in department 30. In other words, the view is sensitive to who is using it.

Now we can grant both select and update privileges on the MYEMPS view to all three department managers to allow them to read and/or change any of the data about any employee in their department

Content Sensitive Security via Views

```
GRANT SELECT,UPDATE
ON    MYEMPS
TO    JONES,BLAKE,CLARK;

Grant succeeded.
```

So if an employee is transferred to another department (i.e., the value in his DEPTNO field changes) a new manager automatically gains access to his salary information and the old manager loses access. It is a combination of the SQL VIEW and GRANT facilities and the USER keyword that gives ORACLE its *content sensitive security*.

REVOKE Command

Once you have granted a privilege you may withdraw it at any time by issuing the REVOKE command. Let's withdraw ADAMS' privilege to insert values into the DEPT table.

```
REVOKE INSERT
```

DEPT Table

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

EMP Table

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800.00		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1,600.00	300.00	30
7521	WARD	SALESMAN	7698	22-FEB-81	1,250.00	500.00	30
7566	JONES	MANAGER	7839	02-APR-81	2,975.00		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1,250.00	1,400.00	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2,850.00		30
7782	CLARK	MANAGER	7839	09-JUN-81	2,450.00		10
7788	SCOTT	ANALYST	7566	09-NOV-81	3,000.00		20
7839	KING	PRESIDENT		17-NOV-81	5,000.00		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1,500.00	0.00	30
7876	ADAMS	CLERK	7788	23-SEP-81	1,100.00		20
7900	JAMES	CLERK	7698	03-DEC-81	950.00		30
7902	FORD	ANALYST	7566	03-DEC-81	3,000.00		20
7934	MILLER	CLERK	7782	23-JAN-82	1,300.00		10

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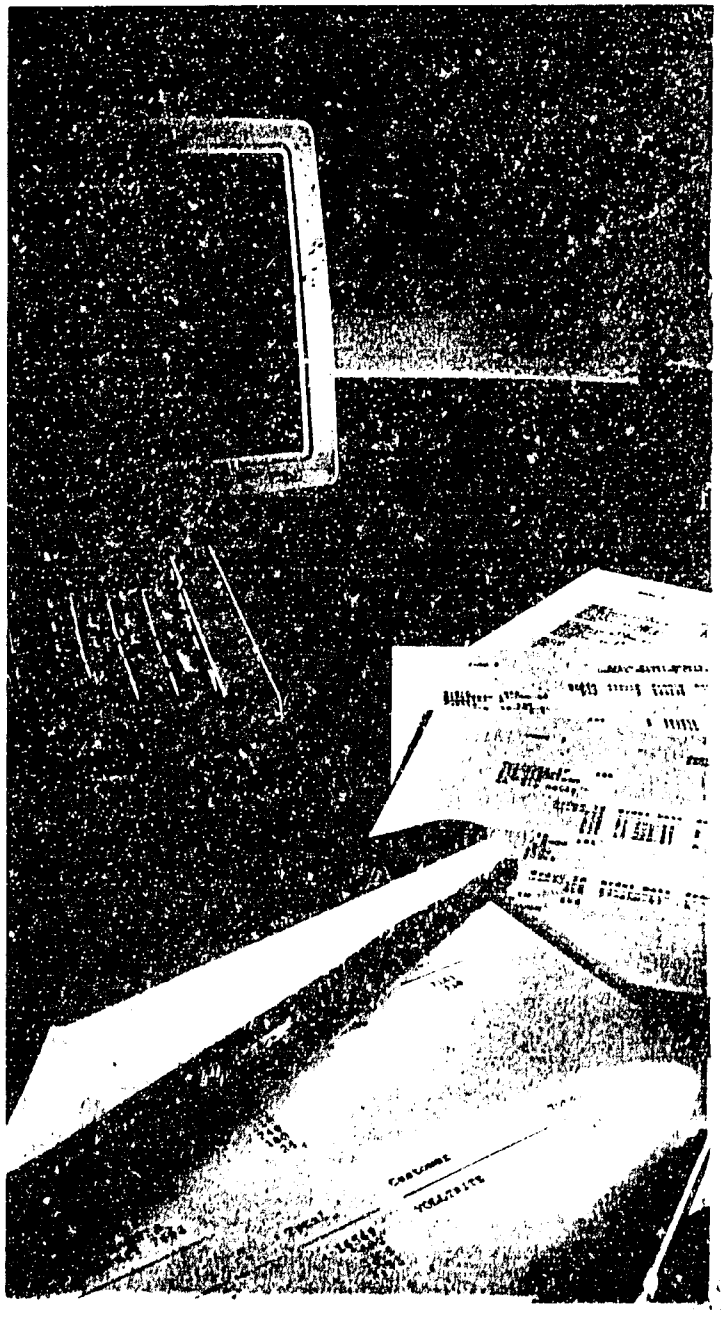
Introduction to SQL*ReportWriter™ V1.1



ORACLE

INTRODUCTION TO SQL*REPORTWRITER™ V1.1

ORACLE

The Relational Database Management System

Introduction to SQL*ReportWriter V1.1

Part No. 19677-0689

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PREFACE

SQL*ReportWriter is Oracle Corporation's flagship reporting product. Designed for the application developer who is familiar with SQL, SQL*ReportWriter enables users to develop a wide variety of reports quickly and easily.

Since 1977, Oracle Corporation has served the database needs of businesses and government agencies worldwide. In 1979, Oracle produced its primary product: the ORACLE Relational Database Management System. ORACLE was the first product based on IBM's SQL database language, and it remains the most powerful relational database available today.

Oracle Corporation offers an integrated family of CASE Tools that includes tools for reports, forms, menus, graphics, and database design. SQL*ReportWriter is the reporting component of Oracle's CASE Tools.

The purpose of this Introduction is to give you a basic understanding of SQL*ReportWriter's capabilities. You'll also see what it is like to build and maintain reports yourself. If you would like to have further information about SQL*ReportWriter, the *SQL*ReportWriter Reference Manual*, Part No. 641-V1.1, is also available in addition to this Introduction. It contains more details about SQL*ReportWriter concepts, a tutorial to help you get started using SQL*ReportWriter, and a reference section organized around each of the SQL*ReportWriter screens.

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CHAPTER

1

WELCOME TO SQL*REPORTWRITER

The *Introduction to SQL*ReportWriter* illustrates how SQL*ReportWriter can help you create any kind of report, quickly and easily. You will see the power of SQL*ReportWriter through the development of a series of reports. We will start with a simple example and build up to more complex reports.

In Chapter 1, we introduce you to SQL*ReportWriter's features and to the application used in this manual.

In Chapter 2, we design a tabular report using only SQL*ReportWriter's default settings. We then modify this report by adding a page heading and a summary. After reading this chapter, you will have a basic understanding of the important SQL*ReportWriter concepts.

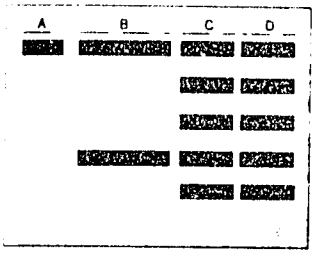
In Chapter 3, you learn how to make major changes to a report with just a few keystrokes. We modify the tabular report created in Chapter 2 by creating a new group, adding new data, modifying fields, positioning text, and more.

Finally, in Chapter 4, we demonstrate a few of the additional kinds of reports that you can create using SQL*ReportWriter. We build a matrix report, a form letter report, a mailing label report, and a complex multi-part report.

About SQL*ReportWriter

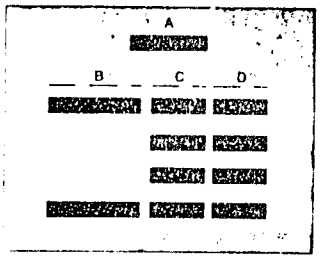
With SQL*ReportWriter, you can develop a wide variety of reports with precise control over their layout. Below are a few sample report layouts to illustrate SQL*ReportWriter's flexibility.

Control Break



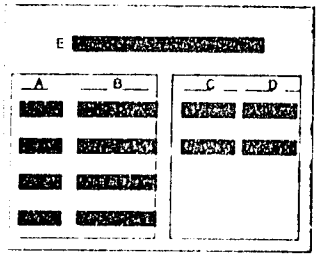
Display an unlimited number of breaks with totals and subtotals at each level.

Master/Detail



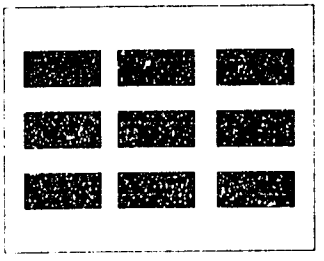
With only a few keystrokes, move data to change a control break report into a master/detail report.

Master /Detail /Detail



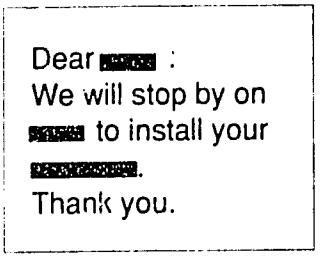
Produce multi-part reports to show multiple sets of information on one page.

Mailing Labels



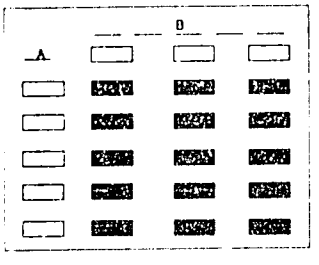
Print labels in multiple columns.

Letter



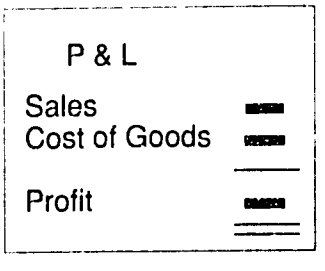
Mix text and data to create personalized form letters.

Crosstab, Matrix, Across



Create a matrix report simply by specifying the columns, the rows, and the information that goes in the cells.

Financial



Format data and boilerplate text with absolute precision.

The Application

The data used in the following examples comes from a fictitious sporting goods manufacturer named Summit Sporting Goods. Four tables from Summit's database are used: the ORD, ITEM, PRODUCT, and CUSTOMER tables.

We use the ORD table in the first example report to list information about Summit's orders. In the second example, we add the ITEM table to list data about the items within each order. The PRODUCT and CUSTOMER tables are used in Chapter 4 to create reports about the products and customers at Summit.

The ORD Table

Ordid	Orderdate	Commplan	Custid	Shipdate	Total
610	07-JAN-87	A	101	08-JAN-87	101.40
611	11-JAN-87	B	102	11-JAN-87	45.00
612	15-JAN-87	C	104	20-JAN-87	5310.00
601	01-MAY-86	A	106	30-MAY-86	2.40
602	05-JUN-86	B	102	20-JUN-86	56.00
604	15-JUN-86	A	106	30-JUN-86	693.00
605	14-JUL-86	A	106	30-JUL-86	8674.00
606	14-JUL-86	A	100	30-JUL-86	3.40
609	01-AUG-86	B	100	15-AUG-86	97.50
607	18-JUL-86	C	104	18-JUL-86	5.60
608	25-JUL-86	C	104	25-JUL-86	35.20
603	05-JUN-86		102	05-JUN-86	224.00
620	12-MAR-87		100	12-MAR-87	4450.00
613	01-FEB-87		108	01-FEB-87	10760.00
614	01-FEB-87		102	05-FEB-87	23940.00
616	03-FEB-87		103	10-FEB-87	764.60
619	22-FEB-87		104	04-FEB-87	980.00
617	05-FEB-87		105	03-MAR-87	46370.00
615	01-FEB-87		107	06-FEB-87	710.06
618	15-FEB-87	A	102	06-MAR-87	3555.50

The column definitions are:

ORDID	order identification number
ORDERDATE	date the order was issued
COMMPLAN	commission plan used
CUSTID	customer identification number
SHIPDATE	date the order was shipped
TOTAL	total price of all the items in the order

The ITEM Table

Ordid	Itemid	Prodid	Actualprice	Qty	Itemtot
610	3	100890	58	1	58.00
611	1	109361	45	1	45.00
612	1	100860	30	100	3000.00
601	1	200376	2.4	1	2.40
602	1	100870	2.8	20	56.00
604	1	100890	58	3	174.00
604	2	100861	42	2	84.00
604	3	100860	44	10	440.00
603	2	100060	56	4	224.00
610	1	100860	35	1	35.00
610	2	100870	2.8	3	8.40
613	4	200376	2.2	200	440.00
614	1	100860	35	444	15540.00
614	2	100879	2.8	1000	2800.00
612	2	100861	40.5	20	810.00
612	3	101863	10	150	1500.00
620	1	100860	35	10	350.00
620	2	200376	2.4	1000	2400.00
620	3	102130	3.4	500	1700.00
613	1	100871	5.6	100	560.00

ORDID	order identification number for this item
ITEMID	identification number of the line item in the order
PRODID	product identification number
ACTUALPRICE	price per item charged to the customer
QTY	quantity of the line item ordered
ITEMTOT	total cost of the item

Prodid	Descrip
100860	ACE TENNIS RACKET I
100861	ACE TENNIS RACKET II
100870	ACE TENNIS BALLS-3 PACK
100871	ACE TENNIS BALLS-6 PACK
100890	ACE TENNIS NET
101860	SP TENNIS RACKET
101863	SP JUNIOR RACKET
102130	RH: "GUIDE TO TENNIS"
200376	SB ENERGY BAR-6 PACK
200380	SB VITA SNACK-6 PACK

PRODID	product identification number
DESCRIP	description of the product

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The CUSTOMER Table

Custid	Name	Address	City	State	Zip
100	JOCKSPORTS	345 VIEWRIDGE	BELMONT	CA	96711
101	TKB SPORT SHOP	490 BOLI RD.	REDWOOD CITY	CA	94061
102	VOLLYRITE	9722 HAMILTON	BURLINGAME	CA	95133
103	JUST TENNIS	HILLVIEW MALL	BURLINGAME	CA	97544
104	EVERY MOUNTAIN	574 SURRY RD.	CUPERTINO	CA	93301
105	K + T SPORTS	3476 EL PASEO	SANTA CLARA	CA	91003
106	SHAPE UP	908 SEQUOIA	PALO ALTO	CA	94301
107	WOMENS SPORTS	VALCO VILLAGE	SUNNYVALE	CA	93301
108	NORTH WOODS HE	98 LONE PINE	HIBBING	MN	55649

. . .	Area	Phone	Repid	Creditlimit	Comments
	415	598-6609	7844	5000	Very friendly people to work w
	415	368-1223	7521	10000	Rep called 5/8 about change in
	415	644-3341	7654	7000	Company doing heavy promotion
	415	677-9312	7521	3000	Contact rep about new line of
	408	996-2323	7499	10000	Customer with high market shar
	408	376-9966	7844	5000	Tends to order large amounts o
	415	364-9777	7521	6000	Support intensive. Orders smal
	408	967-4398	7499	10000	First sporting goods store gea
	612	566-9123	7844	8000	

CUSTID	customer identification number
NAME	customer's name
ADDRESS	customer's street address
CITY	city in which the customer lives
STATE	state in which the customer is located
ZIP	customer's zip code
AREA	area code in which the customer is located
PHONE	customer's phone number
REPID	identification number of the customer's representative
CREDITLIMIT	customer's credit limit
COMMENTS	remarks about the customer

CHAPTER

2 DESIGNING A REPORT

In this chapter, we develop a simple tabular report to introduce you to SQL*ReportWriter. We will use each major area of SQL*ReportWriter in building this report to give you an understanding of SQL*ReportWriter concepts and capabilities.

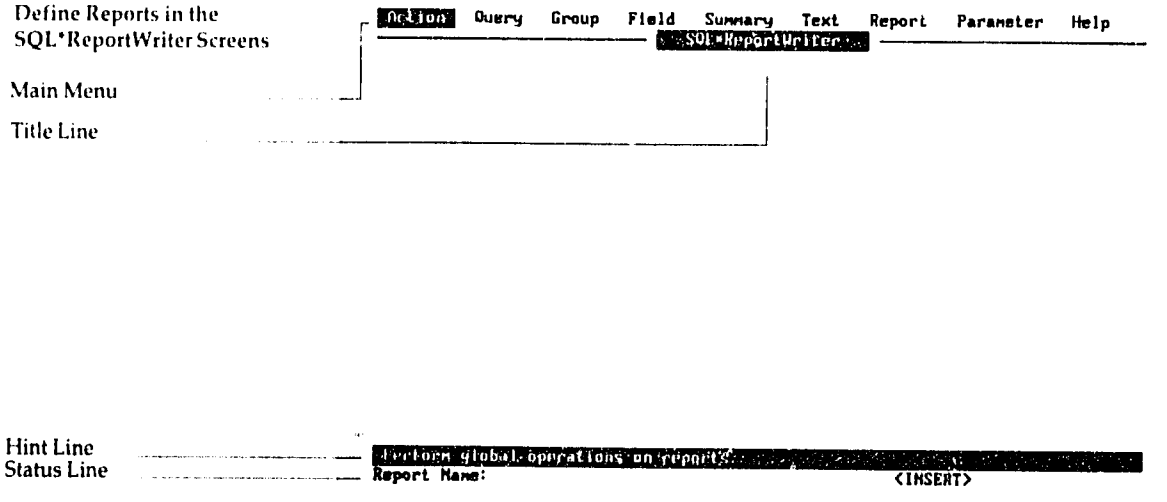
You will see that SQL*ReportWriter's default settings for column width, headings, display formats, and more, let you design a report with just a few keystrokes. SQL*ReportWriter's sophisticated fill-in-the-form interface, with instant validation and hints, guides you through every step. And, by directly entering SQL, the language you already know, you have unrestricted access to your data.

You will also get a brief introduction to SQL*ReportWriter's comprehensive online help system, which has an answer to just about every question. At the end of Chapter 2, you will have been introduced to the concepts needed to build virtually any report.

SQL*ReportWriter Screens

Easy-to-Use Interface

When you enter SQL*ReportWriter, a screen appears with the main menu. The main menu has a set of options that take you to other screens in which you create and manipulate your report.



In addition, SQL*ReportWriter screens contain a title line, hint line, and status line to make defining your reports as simple as possible. All screens except this first screen also provide a work area consisting of a form or spreadsheet.

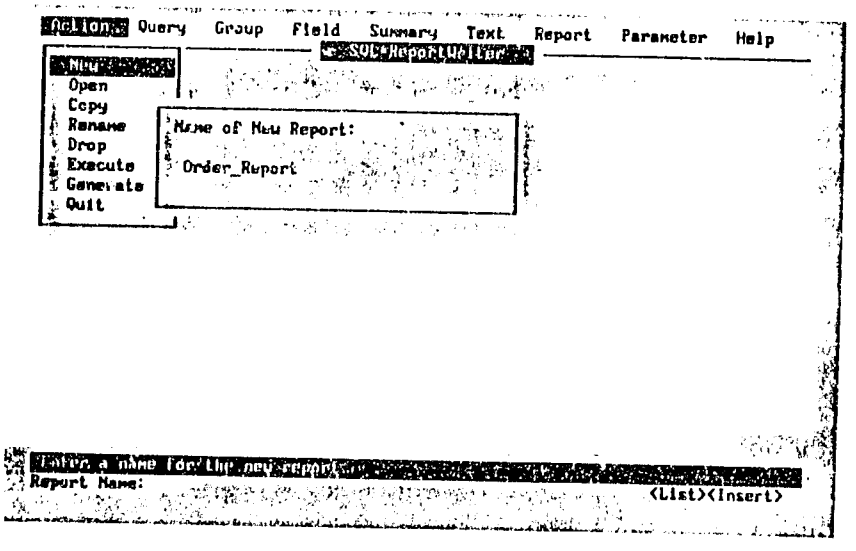
Report Building Process

Building reports in SQL*ReportWriter involves defining seven different types of objects, each accessed from the main menu. Use the Query choice to select, aggregate, and sort data from the database. The Group choice lets you break your report into sections for layout and subtotalling purposes. Select the Field option to adjust attributes, such as the width and display format of each data item in the report. The Summary option lets you define subtotals and other calculations. Finally, use the Text choice to "fine-tune" the position of the text and parameters in your report. The Report choice accesses the report height, width, and other specifications. The Parameter choice allows you to control your report with data selection and other parameters.

Naming a Report

The first step in building a report is to specify the name of the report. To name a new report, choose the **New** option from the **Action** menu. We've named our report Order_Report.

Choose a Report with the Action Menu



The Action menu contains a list of report definition operations, such as opening, executing, or deleting a report. This is the only main menu choice that contains a pull-down menu of different operations. All the other main menu choices take you directly to screens to define the data and layout of your report. Use the **Help** option to access SQL*ReportWriter's help system. At all times, only valid choices are accessible.

Selecting Data

After naming a report, select the data you need in the Query Screen. When you choose **Query** from the main menu, the following screen appears:

Specify Report Data in the Query Screen

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Query Settings
Query Name:                                                   Query  1 of 1
                          SELECT Statement
^
v
                        Parent-Child Relationships
Parent Query 1:                        Parent Query 2:
  Child Columns        Parent 1 Columns        Parent 2 Columns
^
v
Enter a name for this query.
Report Name: Order_Report                                        <Replace>
```

The Query Screen lets you specify data using SQL SELECT statements. First, name the query so you can reference it later, then enter the SELECT statement. The area in which you enter the query is a multi-line, scrollable field, so you can format your SELECT statement any way you choose.

Full Support of SQL

SQL*ReportWriter lets you take *full* advantage of ORACLE's SQL support. Not only can you create queries using standard ANSI SQL, but you can take advantage of the additional power of unique ORACLE extensions as well: date, numeric, and string functions; outer joins and CONNECT BY clauses; and set operators such as UNION, INTERSECT, and MINUS.

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Pick from a List of Values

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Query Settings
Query Name: Q_ORD                                          Tables
                    SELECT Statement
^                                                          CUSTOMER
                                                           DEPT
                                                           EMP
                                                           ITEM
                                                           ORD
                                                           PRICE
v                                                          PRODUCT
                                                           SALES
                    Parent-Child Relationships
Parent Query 1:                    Parent Query 2:
  Child Columns        Parent 1 Columns        Pa
^
v
Choose a value from the list
Report Name: Order_Report                                  <List><Replace>
```

List of Values

SQL*ReportWriter lets you pick table and column names from a pop-up *List of values*. Many other attribute settings also have a List of values containing all valid options for that setting. Whenever you see <List> at the bottom of a screen, you can press the [List of values] key to see the list. When you choose a value from the list for an attribute, it will automatically appear in the setting.

Enter Any SELECT Statement Directly

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Query Settings

Query Name: Q_ORD                                          Query  1 of 1
                              SELECT Statement
^ SELECT ORDID, SHIPDATE, CUSTID, TOTAL
  FROM ORD
  WHERE SHIPDATE > '31-DEC-86'
  ORDER BY ORDID
v
                          Parent-Child Relationships
Parent Query 1:                          Parent Query 2:
  Child Columns          Parent 1 Columns          Parent 2 Columns
^
v
Enter a SQL SELECT statement defining data for this report
Report Name: Order_Report                                  <List><Replace>
```

The query above specifies information about customer orders from the ORD table. This is the only query needed for Order Report. In Chapter 4, you will see how you can use multiple queries to create more complex reports.

Instant Validation Checks

SQL*ReportWriter immediately checks the SQL statement, looking up appropriate table and column definitions in the data dictionary, and validating the syntax. If there is an error, you will get a message indicating the type of problem. To clarify the message, just press the [Help] key to see a help screen for that message. Every SQL*ReportWriter screen contains validation checks to save you time while you build reports.

Sophisticated Defaults

Three simple steps are all you need to create a default report with SQL*ReportWriter: name the report, name the query, and enter the SQL statement. With SQL*ReportWriter's default settings, most of the work is done for you. The column headings, column widths, and display formats are all automatically entered in your report definition, and your report is ready to run.

Executing the Report

Easy Prototyping

SQL*ReportWriter lets you check your progress at any time via its integrated report browser. Thus, you can see the effect of each change, which allows quick testing and easy prototyping. To see what Order_Report looks like with just the default settings, simply choose **Execute** from the **Action** Menu:

Create a Report in One Minute

Ordid	Shipdate	Custid	Total
610	08-JAN-87	101	101.4
611	11-JAN-87	102	45
612	20-JAN-87	104	5860
613	01-FEB-87	108	6480
614	05-FEB-87	102	23940
615	06-FEB-87	107	710
616	10-FEB-87	103	764
617	03-MAR-87	105	46370
618	06-MAR-87	102	3510.5
619	04-FEB-87	104	1260
620	12-MAR-87	100	4450
621	01-JAN-87	108	730

Using the Help System

SQL*ReportWriter contains a comprehensive online help system that you can access at any time during the development and maintenance of a report by pressing the [Help] key. Every menu choice, attribute setting, and error message has a help screen. The following screen is the help for the Query Screen.

Use the Help System for Complete Online Help

Help Menu

Highlighted Term

Bolded Term

```
Previous    Next    MainTopic    Index    Contents    Example    Quit
------------------------------ The Query Screen ------------------------------ 1 of 1

The Query Screen lets you specify the SQL SELECT statement, a query
name, and relationships for each query in the report.  Most reports
require only a single query; more than one query is required for reports
containing information that is partially or completely disjoint.  On
this screen you specify:

        -   the SQL SELECT statement
        -   the query name
        -   parent query 1 and parent query 2, which are
            used to create master/detail relationships, and matrix
            reports
        -   child query columns, parent 1 columns, and
            parent 2 columns, which are used to define the
            related data in a multi-query report.

For more information, see Managing Queries and Query Rules.

Go to the topic describing this concept/or keyword:
Report Name: Order_Report                                        <INSERT>
```

Easy Access

This context-sensitive help system provides multiple ways to access each piece of information, including an alphabetical index, a table of contents, and numerous cross-references. Notice in the screen above the highlighted term, "SELECT Statement", and the several bolded terms (indicated here by underscores.) You can learn more about any bolded term on a Help screen by simply placing the cursor on it so that it is highlighted and pressing the [Select] key. Another screen will appear displaying a definition of that term.

Each help screen also contains a menu line with a set of options that enable you to move through the help screens or go to another section in the help system.

Helpful Example Reports

In addition to the reference material, the help system also contains instructions for creating many reports, from a simple tabular report to a more complex master/detail/summary report. The sample reports are a useful guide for the beginning user, as well as effective templates for any user to copy.

Modifying the Default Report

While the SQL*ReportWriter default settings give you an excellent start, you can change any default to build just the report you need. In this section, you will see how to enhance the default tabular report by using the Group, Field, Summary, and Text Screens.

We will edit the column headings, change the format of the TOTAL column, summarize data in the TOTAL column, add a page header, and alter the spacing. After these modifications, Order_Report will look like this:

Modify a Report in a Few Easy Steps

❶ New Field Labels

❷ Display Formats

❸ Summary

❹ Page Header

❺ Spacing

❹ - ORDER SUMMARY - ❺

❶ Order ID	Shipdate	Customer	Total	
610	08-JAN-87	101	$101.40	❷
611	11-JAN-87	102	$45.00	
612	20-JAN-87	104	$5860.00	
613	01-FEB-87	100	$6400.00	
614	05-FEB-87	102	$23940.00	
615	06-FEB-87	107	$710.00	
616	10-FEB-87	103	$764.00	
617	03-MAR-87	105	$46370.00	
618	06-MAR-87	102	$3510.50	
619	04-FEB-87	104	$1260.00	
620	12-MAR-87	100	$4450.00	
621	01-JAN-87	100	$730.00	
Sum ❸			$94140.90	

Step 1
Changing Data Appearance: Field Labels

First, to make the information in Summit's Order_Report more readable, we will override the default field labels.

In SQL*ReportWriter, each database column or expression from a query is referenced in the report as one *field*. By default, each field acquires all the attributes of its source column, including the width, datatype, and column headings. This report contains four fields: ORDID, SHIPDATE, CUSTID, and TOTAL.

You can easily override the defaults for these fields in the Field Screens. Just choose **Field** from the main menu and alter the default settings.

Change Field Display in the Field Screens

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Source	Group	Label
ORDID	ORDID	G_ORD	Ordid
SHIPDATE	SHIPDATE	G_ORD	Shipdate
CUSTID	CUSTID	G_ORD	Custid
TOTAL	TOTAL	G_ORD	Total

Report Name: Order_Report

<Replace>

Spreadsheet-Style Layout

Notice that the spreadsheet-style layout makes it easy to see a large amount of information at once, so you can quickly find the setting you're looking for. All SQL*ReportWriter screens scroll both horizontally, to allow you to see more settings; and vertically, to display additional records. The Field Settings span three screens, as indicated by the size and position of the horizontal *elevator* towards the bottom of the screen.

The default fields are already in place in Field Screen One. The default field label comes from the corresponding column or expression in the query. To change the default, simply enter a new value.

Enter a New Value to Change Any Layout Attribute

❶ New Field Labels

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Source	Group	Label
ORDID	ORDID	G_ORD	Order ID ❶
SHIPDATE	SHIPDATE	G_ORD	Shipdate
CUSTID	CUSTID	G_ORD	Customer ❶
TOTAL	TOTAL	G_ORD	Total

Enter the Field Label for this Field.

Report Name: Order_Report

<Replace>

Step 2 Changing Data Appearance: Display Formats

SQL*ReportWriter supports many different types of display formats for both numbers and dates. For example, you can control the number of decimal places and the presence of a currency notation.

You can find the Display Format attribute in Field Screen Two. To cause the TOTAL field to appear with a dollar sign and two decimal places, changing all but one leading zero to blanks, enter $ZZZZ9.99. To see a list of all the Display Formats supported, press [Help].

Scroll through Layout Attributes

Display Format

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Data Type	Field Width	Display Format	Relative Position	Lines Before	Spaces Before
ORDID	NUM	4				
SHIPDATE	DATE	9				
CUSTID	NUM	6				
TOTAL	NUM	10	$ZZZZZ9.			

Enter the Format mask (e.g. $999.99).

Report Name: Order_Report

<Insert>

National Language Support

SQL*ReportWriter provides you with National Language Support, which makes it very easy for you to generate reports in the native language of your users. For example, you can run a report, specifiying the language as French, and SQL*ReportWriter will automatically change the dates and currency notations appropriately. Furthermore, SQL*ReportWriter supports 8-bit characters, enabling you to take full advantage of your terminal and printer's capabilities to print a variety of national language characters.

Non-Procedural Interface

As you can see, SQL*ReportWriter does not require you to learn a new language. The logical user-interface lets you specify everything you need by typing into a form. You can spend your time designing reports instead of writing pages and pages of code.

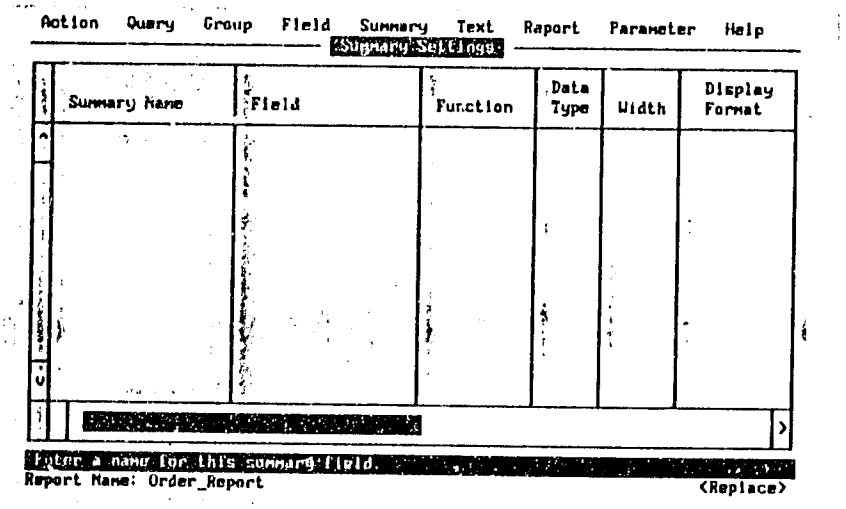
You can use the Field Screens to specify how fields are displayed, such as changing the size and spacing of a field, altering its position, and adding a new field. In Chapters 3 and 4 we will demonstrate more uses of the Field Screens.

Step 3
Summarizing Data

We want to accumulate the total sales from all the orders into a grand total. To perform this calculation, we simply define a summary field in the Summary Screens.

After choosing **Summary** from the SQL*ReportWriter main menu, you will see the following screen:

Create Summary Fields Here

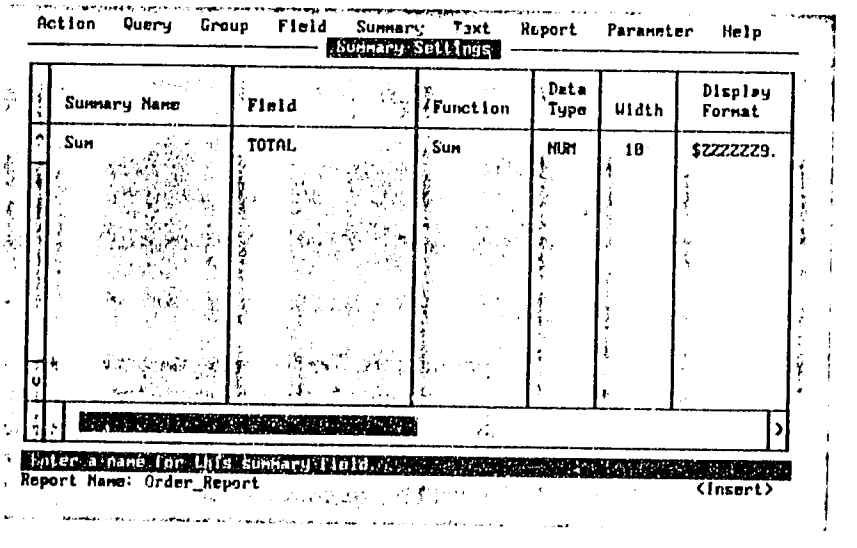


The screen is empty because summaries are not created by default. To summarize data in a field, just give the summary any meaningful name (SUM in this example), enter the field to be summarized (TOTAL), and specify the function SQL*ReportWriter should use. We will use the **Sum** function to add all values in the TOTAL field. This is all you need to create a summary field.

You can use the Summary Screens for more than simply adding values. There are fourteen different functions in these screens, including minimum, maximum, first, last, percent of total, count, and average. The **First** and **Last** functions enable you to print the first or last field value fetched from the database. Most of these functions also have a corresponding "running" function that shows cumulative results. These functions are provided *in addition* to over forty functions available as part of ORACLE's extended SQL.

Summaries are very flexible in SQL*ReportWriter in that you can perform calculations on summary fields, and print totals for each page. You can also allow a summary field to be presented differently than the source field it summarizes by specifying a particular display format in the Summary Screens.

Change Summary Format



Step 4
Adding Text

We have now specified the primary elements of Order Report. However, adding a page header will give the report a more finished look. Page headers in SQL*ReportWriter are one of many kinds of *text objects*. Text objects are physical areas in a report filled with boilerplate text and references to fields, summaries, system variables, and

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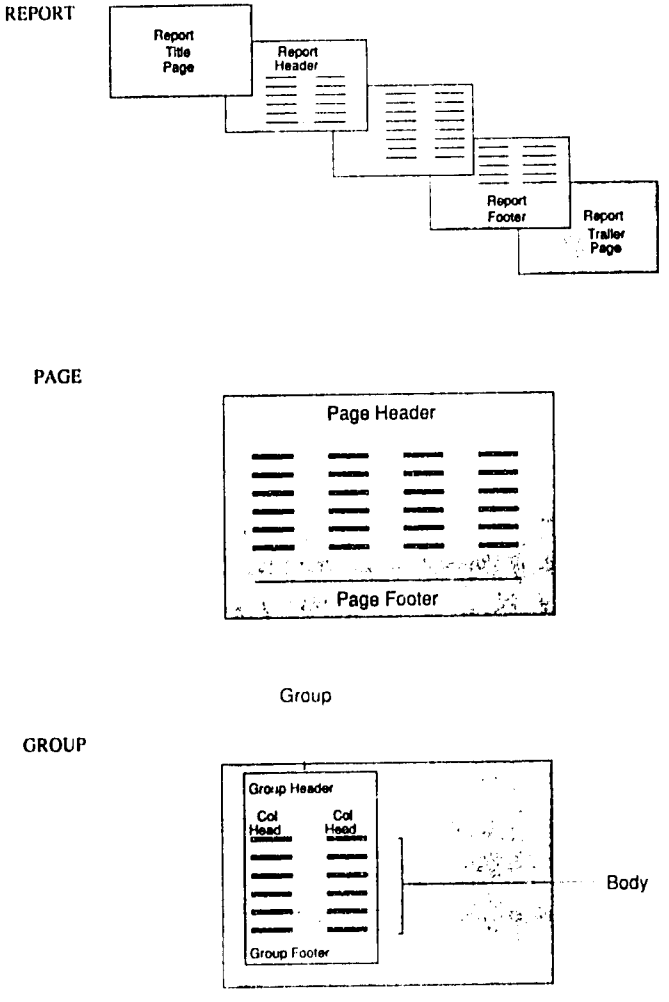


parameters. Text objects give you control over common repeated components such as headers, footers, and column headings, as well as title pages, trailer pages, and body text. Defaalt versions of some text objects are generated by SQL*ReportWriter, while other text objects must be created manually.

The figure above illustrates the flow of text objects in a report. Notice that you can manipulate text objects at many different levels. At the report level, you have text objects that appear at the beginning and/or end of a report, such as a report title page and header. Text objects at the page level appear on every page, and group text objects repeat for each specified group of fields. (We'll learn more about groups later.)

Edit Text Objects in the Text Screen

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Text Settings

Object:  REPORT                 Type:  Title Page          Status:  Default

Relative Position:              Repeat On Page Overflow:
     Lines Before:                   Justification:  Left
    Spaces Before:                       Frequency:
            Width:

                                Text
Panel Number:                                          Panels Defined: 0
^
:
v
Choose the position of this text in relation to the previous text.
Report Name: Order_Report                 <Normal>          <List><Replace>
```

You define and edit text objects in SQL*ReportWriter's Text Screen. Editing text objects gives you the ultimate control needed for highly formatted reports. You can override all other positioning controls, add additional text, and edit default text and data to create free format reports that meet your needs exactly. You're never restricted to hyphens in your column headings or asterisks in your subtotals; you can even insert external text files into any text object.

To manipulate a text object, just locate the desired object in the Text Screens and then alter it to achieve the desired result.

Add a Page Header

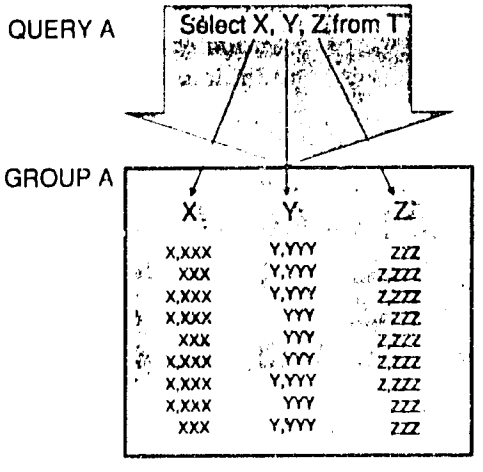
```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Text Settings

Object:  PAGE                   Type:  Header              Status:  Edited

Relative Position:              Repeat On Page Overflow:
     Lines Before:                   Justification:  Center
    Spaces Before:                       Frequency:
            Width:

                                Text
Panel Number:  1                                       Panels Defined: 1
^
:  - ORDER SUMMARY -
v
Choose the position of this text in relation to the previous text.
Report Name: Order_Report                 <Normal>          <List><Replace>
```

Scroll through the Text Settings screens until the text object displayed is "Page Header." To add a centered header to each page, set the Justification to "Center," and type in the text you want, beginning from the left side of the text area. The *SQL*ReportWriter Reference Manual* contains full information on various text objects available as well as their settings.

Step 5
Controlling Report Layout: Group Spacing

We have now specified all the primary components of Summit's Order_Report: the data, summary, and header. However, additional spacing around the fields and the header will make the report more readable.

One way to control the spacing around and between text and data is by manipulating *groups*. A group is a distinct set of fields. When you add a query to a report, SQL*ReportWriter creates one group and assigns all the fields from the query to it.



Groups are one of SQL*ReportWriter's most unique and powerful tools because they give you complete control over the layout of your data. In this report, we use groups for spacing. However, you can also use groups to position data, define control breaks, specify the direction in which data should print on the page, and for many other tasks. In the next chapter, you will see how to use groups to perform some of these other functions.

Group specifications span three Group Screens. After choosing **Group** from the main menu, you will see in Group Screen One that SQL*ReportWriter has automatically created the G_ORD group from the Q_ORD query.

Manipulate Groups of Fields in the Group Screens

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         <Group Settings>

| Group Name | Query | Print Direction | Matrix Group | Page Break |
| G_ORD      | Q_ORD | Down            |              |            |

Report Name: Order_Report                                    <Replace>
```

To add an extra line between the page header and column headings, move to Group Screen Two and enter a "1" in Lines Before. Many other layout attributes also appear on this screen.

Add Spacing in Group Screen Two

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         <Group Settings>

| Group Name | Relative Position | Lines Before | Spaces Before | Spacing Record | Spacing Field | Fields Across |
| G_ORD      |                   | 1            |               |                |               |               |

Report Name: Order_Report                                    <Replace>
```

After making these quick changes in the Field, Summary, Text, and Group Screens, the tabular Order_Report looks very different:

The Modified Order_Report

- ORDER SUMMARY

Order ID	Shipdate	Customer	Total
610	08-JAN-87	101	$101.40
611	11-JAN-87	102	$45.00
612	20-JAN-87	104	$5860.00
613	01-FEB-87	108	$6430.00
614	05-FEB-87	102	$23940.00
615	06-FEB-87	107	$710.00
616	10-FEB-87	103	$764.00
617	03-MAR-87	105	$46370.00
618	06-MAR-87	102	$3510.50
619	04-FEB-87	104	$1260.00
620	12-MAR-87	100	$4450.00
621	01-JAN-87	100	$730.00
Sum			$94140.90

Chapter Summary

With the development of Order_Report, you have seen how to create reports with SQL*ReportWriter. While this report is still relatively simple, it contains elements of a much more useful report. The steps that we took to produce it are very much like those you would take to produce any kind of report—query the data, manipulate fields, perform calculations, add text, and position groups.

Easy-to-Use Interface

Report development is simplified using SQL*ReportWriter's fill-in-the-form interface, which has:

List of Values: SQL*ReportWriter saves you time by providing you with a List of values for tables and columns, as well as for many attribute settings.

Instant Validation Checks: SQL*ReportWriter minimizes errors by automatically checking table and column definitions, and validating each entry you make.

Fully Integrated Browser: With the integrated browser, you can immediately see the effect of each change on your report, allowing for easy prototyping and testing.

Productivity-Enhancing Features

SQL*ReportWriter helps you get your reports started quickly, and allows you to make major changes easily by giving you:

Spreadsheet-Style Layout Forms: The spreadsheet-style layout scrolls both horizontally and vertically to give you access to large amounts of information at once.

Intelligent Defaults: With SQL*ReportWriter's automatic defaulting capability, you can build a report in one minute with three easy steps: name the report, name the query, and enter a SELECT statement. SQL*ReportWriter automatically enters default column headings, column widths, display formats, and more.

No Fixed Text: The default settings help you get started, but all parts of a report can be edited. You can easily override any default, such as field labels and display formats, by replacing it with your own.

Online Help System

Just like a complete reference manual, but context-sensitive to your particular screen, SQL*ReportWriter's help system dramatically reduces learning time by providing you with:

Easy Access: The answer to any question you may have while learning SQL*ReportWriter is just one keystroke away in the context-sensitive help system. You can also locate all information, via the alphabetical index, table of contents, and numerous cross-references.

Example Reports: In addition to reference material, the help system includes a set of example reports for you to learn from or to copy.

Full Support of ORACLE's SQL

SQL*ReportWriter lets you take full advantage of ORACLE's SQL language, and is also compatible with the ANSI standard SQL and IBM's DB2. SQL gives you the benefits of being a:

Industry Standard Language: You will not need to learn a whole new language in order to use SQL*ReportWriter; SQL is the *only* language you need to know. Furthermore, you will be able to communicate with a variety of databases through ORACLE's distributed architecture.

Set-at-a-Time, Non-Procedural Language: Retrieving information from the database is easy: all you need to do is to specify what data you want, not how to get it. SQL's set-at-a-time approach means that a single relational command can retrieve, update, or delete multiple records stored in the database.

CHAPTER

3 FLEXIBLE REPORTING

In Chapter 2, you saw the few easy steps necessary to build a report with SQL*ReportWriter. In this chapter, we will dramatically change Order Report to illustrate the flexibility and maintenance productivity of SQL*ReportWriter.

For each order, we will add the associated line item detail, creating a "master/detail" report. We will then rearrange the field labels, add a field showing each line item as a percent of the total order, and vertically align the fields from the master group.

We will also show you how to change the relative position of groups in a report, and introduce you to SQL*ReportWriter's powerful production reporting capabilities.

The Master/Detail Report

Our revised report will look like this:

The New Order_Report

```
                              - ORDER SUMMARY -
                        Created Friday, the twelfth of May

                          Item    Product  Price        Qty   Amount    Percent
                          ------  -------  -----------  ---  --------  ---------
Order ID:   610             1     100860       35.00    1     35.00      34.52%
Shipped:    08-JAN-87       2     100870        2.00    3      8.40       8.28%
Customer:   101             3     100890       58.00    1     58.00      57.20%
Total:      $101.40

Order ID:   611             1     100861       45.00    1     45.00     100.00%
Shipped:    11-JAN-87
Customer:   102
Total:      $45.00

Order ID:   612             1     100860       30.00  100   3000.00      51.19%
Shipped:    20-JAN-87       2     100861       40.50   20    810.00      13.82%
Customer:   104             3     101863       10.00  150   1500.00      25.60%
Total:      $5860.00        4     100871        5.50  100    550.00       9.39%
```

While in most report writers these changes could take hours, in SQL*ReportWriter they take only minutes. You will now see how to produce a report like this starting with the version of Order_Report shown on page 2-18.

Queries With JOINs

The first version of Order_Report lists all the orders taken by Summit after 1986. To add data reflecting the products ("line items") sold with each order, we will alter the query to include data from the ITEM table by specifying a JOIN condition. Note that a JOIN is necessary only because the data in our report is stored in two tables instead of one. Another way to build this report would be to add a second query and let SQL*ReportWriter combine the data in the two tables. SQL*ReportWriter's ability to incorporate multiple queries in a report is very powerful because many reports require data that cannot be accessed with just one query — even if you specify JOIN conditions. We will see examples of multi-query reports in Chapter 4.

Recall that the first query looks like the following:

Original Query For Order_Report

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                 Query Settings
Query Name: Q_ORD                                                Query  1 of 1
                              SELECT Statement
^ SELECT ORDID, SHIPDATE, CUSTID, TOTAL
  FROM ORD
  WHERE SHIPDATE > '31-DEC-86'
  ORDER BY ORDID
v
                          Parent-Child Relationships
Parent Query 1:                          Parent Query 2:
  Child Columns          Parent 1 Columns          Parent 2 Columns
^
v
Enter a SQL SELECT statement defining data for this report
Report Name: Order_Report                                  <List><Replace>
```

We will change the query to select columns from the ITEM table as well. Notice that we JOIN the data from these two tables by specifying that ORDID in the ORD table match ORDID in the ITEM table.

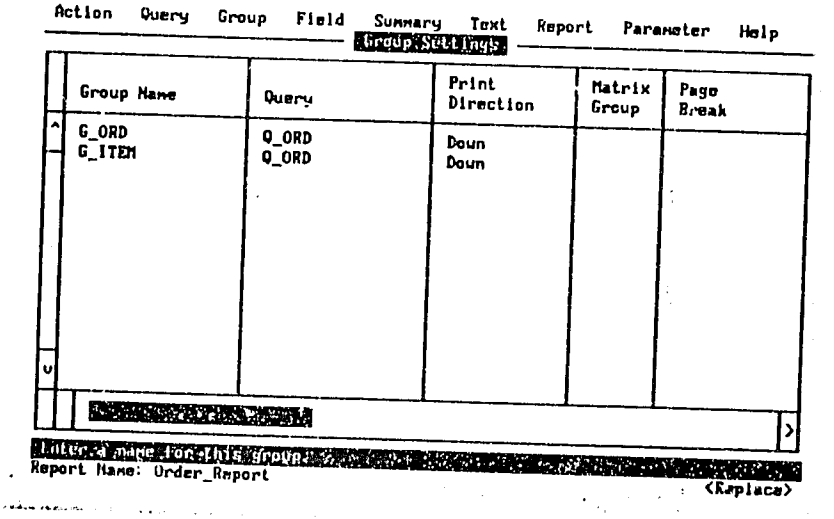
Alter Query to Select Data From Item Table

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                 Query Settings
Query Name: Q_ORD                                                Query  1 of 1
                              SELECT Statement
^ SELECT ORD.ORDID, SHIPDATE, CUSTID, TOTAL,
    ITEMID, PRODID, ACTUALPRICE, QTY, ITEMTOT
  FROM ORD, ITEM
  WHERE ORD.ORDID = ITEM.ORDID
    AND SHIPDATE > '31-DEC-86'
  ORDER BY ORD.ORDID, ITEMID
v
                          Parent-Child Relationships
Parent Query 1:                          Parent Query 2:
  Child Columns          Parent 1 Columns          Parent 2 Columns
^
v
Enter a SQL SELECT statement defining data for this report
Report Name: Order_Report                                  <List><Replace>
```

Section-at-a-Time Layout

SQL*ReportWriter creates a group called G_ORD for this query. Next, we create a separate section of the report to display the item-level information by creating another group called G_ITEM. Go to Group Screen One and insert G_ITEM below G_ORD.

Create a New Group



Each group represents a section or subsection of a report. Using the group positioning controls, you can place groups anywhere on the page, moving all the fields in the group together. You can put one group below another, or place them side-by-side.

We want to insert two blank lines between the data for each order. This can be accomplished by changing the default value for Record Spacing on Group Screen Two.

Add Spacing Between Each Record

Two Lines between each G_ORD Record

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Group Settings

| Group Name | Relative Position | Lines Before | Spaces Before | Spacing Record | Spacing Field | Fields Across |
| G_ORD      |                   |      1       |               |       2        |               |               |
| G_ITEM     |                   |              |               |                |               |               |

Choose the position of this group in relation to the previous group.
Report Name: Order_Report                                   <List><Replace>
```

We also need to move the field labels in G_ORD from their default position as column headings, positioning them next to each field valu We do this by changing the Label Position from "Above" (default) to "Left".

Change Label Positioning

G_ORD's New Label Position

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Group Settings

| Group Name | Multi-Panel | Label Position | Highlight Field | Highlight Label |
| G_ORD      |             |     Left       |                 |                 |
| G_ITEM     |             |                |                 |                 |

Keep all fields in a record on the same panel
Report Name: Order_Report                                   <Replace>
```

More Calculations

In this section, you will see how to expand the information about Summit's orders and items using SQL*ReportWriter's ability to calculate values from the retrieved data.

SQL*ReportWriter's calculation capabilities extend beyond the simple grand total you saw in Chapter 2. In this chapter, we will create a computed field that shows each item as a percent of the total order to illustrate some of the powerful calculations possible with SQL*ReportWriter.

A *computed field* is a completely new field created by performing a calculation on an existing field. It behaves like any other field except that it is not created by default.

You can create a computed field in the Field Screens by inserting a new record and entering the appropriate information. Note that fields appear in your report in the order they appear on this screen. You can rearrange fields by first deleting the field, moving the cursor, then undeleting the field.

Create a Computed Field

```
Action  Query  Group  Field  Summary  Text  Report  Parameter  Help
                          Field Settings

| Field Name | Source | Group | Label |
|---|---|---|---|
| ORDID | Q_ORD.ORDID | G_ORD | Order ID |
| SHIPDATE | SHIPDATE | G_ORD | Shipped |
| CUSTID | CUSTID | G_ORD | Customer |
| TOTAL | TOTAL | G_ORD | Total |
| ORDID2 | Q_ITEM.ORDID | G_ITEM | Ordid |
| ITEMID | ITEMID | G_ITEM | Item |
| PRODID | PRODID | G_ITEM | Product |
| ACTUALPRICE | ACTUALPRICE | G_ITEM | Price |
| QTY | QTY | G_ITEM | Quantity |
| ITEMTOT | ITEMTOT | G_ITEM | Amount |
| PCT_TOTAL | ITEMTOT | G_ITEM | Percent |

Enter a name for this field
Report Name: Order_Report                <Replace>
```

First, name the new field and then identify the column it is based on. We will name it "PCT_TOTAL", and the column from which PCT_TOTAL will be calculated is ITEMTOT.

Next, assign the new field to a group, and specify its field label. Because we want to calculate a value for each line item, we enter "G_ITEM" as PCT_TOTAL's group, and enter "PERCENT" as its field label.

The only other essential information for a computed field is on Field Screen Three. On this screen, indicate the function to use and the reset group. The reset group tells SQL*ReportWriter how frequently the new field should be reset to zero. The field will be reset every time SQL*ReportWriter encounters the end of the specified group.

The function to calculate the proper value of PCT_TOTAL from ITEMTOT is **%Total**, which computes the percent of the total contributed by each item. We choose a Reset Group of G_ORD to cause the percentage to be based on each order rather than the report as a whole.

Specify the Function and Reset Level

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         FIELD SELECTION

                                                  Computed Value
  Field Name        Align   Skip   Repeat   Function        Reset Group
^ ORDID
  SHIPDATE
  CUSTID
  TOTAL
  ORDIDZ
  ITEMID
  PRODID
  ACTUALPRICE
  QTY
  ITEMTOT
  PCT_TOTAL                                 %Total          G_ORD
v
< [                                                                    ]
Choose Line Modification for this Field
Report Name: Order_Report                                   <List><Replace>
```

The same function/preset group concepts apply to summaries. In fact, the only difference between computed fields and summaries is that summaries appear after the data being summarized, while computed fields appear as one of the fields in the group.

Fine-Tuning the Report: Fields

To make Order_Report more readable, change the field labels, add display formats, realign the G_ORD fields, and edit text in the G_ORD group.

Just as we changed the field labels in the G_ORD group in Chapter 2, we will now edit the field labels in the G_ITEM group for clarity, as shown. Notice that we have also changed the Group of all fields selected from the ITEM table from G_ORD to G_ITEM.

Change Field Labels on Field Screen One

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Source	Group	Label
ORDID	ORDID	G_ORD	Order ID
SHIPDATE	SHIPDATE	G_ORD	Shipped
CUSTID	CUSTID	G_ORD	Customer
TOTAL	TOTAL	G_ORD	Total
ITEMID	ITEMID	G_ITEM	Item
PRODID	PRODID	G_ITEM	Product
ACTUALPRICE	ACTUALPRICE	G_ITEM	Price
QTY	QTY	G_ITEM	Qty
ITEMTOT	ITEMTOT	G_ITEM	Amount
PCT_TOTAL	ITEMTOT	G_ITEM	Percent
CURRDATE	&DATE	REPORT	Currdate

Report Name: Order_Report <Replace>

We will also add some display formats. In addition to the formatting shown in this example, SQL*ReportWriter supports formats such as parentheses, debit/credit notation, phone numbers, social security numbers, fixed and floating currency symbols, and a wide variety of date formats.

System Variables

SQL*ReportWriter provides you with the &DATE, &PAGE, and &NUM_PAGES system variables for convenience in printing dates, numbering the pages, and printing the total number of pages in your report. You can date your report with the current date, for example, simply by placing the system variable &DATE wherever you wish in the Text Screens. However, we want a different format than the default DD-MON-YY, so we will create a new field, CURRDATE, as shown in the Field Screen above. CURRDATE has the &DATE system variable as its source, REPORT as its group, and a format of: fmDay, "the" ddspth "of" fmMonth. This will spell out the current date without leading blanks, like "Monday, the twelfth of June".

Change Display Formats

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Data Type	Field Width	Display Format	Relative Position	Lines Before	Spaces Before
ORDID	NUM	4				
SHIPDATE	DATE	9				
CUSTID	NUM	6				
TOTAL	NUM	8	$ZZZZ9.99			
ITEMID	NUM	3				
PRODID	NUM	6				
ACTUALPRICE	NUM	8	ZZZZ9.99			
QTY	NUM	3				
ITEMTOT	NUM	8	ZZZZ9.99			
PCT_TOTAL	NUM	18	ZZ9.99%			
CURRDATE	DATE	35	fmDay, "t			

Enter the Display Format for this field to change it.

Report Name: Order_Report <Replace>

Finally, in the Field Screens, we will align the numeric fields in G_ORD to the left (by default, they are aligned to the right), and skip the unnecessary field, ORDID2, which already appears in G_ORD.

Align G_ORD Fields

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Align	Skip	Repeat	Computed Value Function	Computed Value Reset Group
ORDID	Left				
SHIPDATE					
CUSTID	Left				
TOTAL	Left				
ORDID2		X			
ITEMID					
PRODID					
ACTUALPRICE					
QTY					
ITEMTOT					
PCT_TOTAL				%Total	G_ORD
CURRDATE					

Choose the justification for this field.

Report Name: Order_Report <List><Insert>

These changes take only seconds of your time and will make the data fit perfectly into your report specifications.

After grouping the data, calculating percentages, and altering the fields, the last step is "fine-tuning" the appearance of the text in the Text Screen. With SQL*ReportWriter's full-featured text editor, you can easily change the text to look just the way you want.

The body text of a group appears once for each record in the group; thus, the body of G_ORD appears once for each order. The body text of a group usually consists of all the fields in that group.

Zooming

SQL*ReportWriter gives you the ability to enlarge a portion of the screen by using the [Zoom] key. Zoom allows you to edit your text without the distraction of other fields and lines on the screen, while it provides you with a larger workspace as well. Zoom is also useful in the Query Screen when entering a query with many lines.

The following screen displays the default body text using the Zoom feature:

Use the Zoom Function for Editing

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                 [Text Editor]
Order ID &ORDID  Shipped &SHIPDATE  Customer &CUSTID  Total &TOTAL
```

```
Edit the text
Report Name: Order_Report                    <Normal>                    <Replace>
```

Notice that C_ITEM does not get in the way of formatting G_ORD. SQL*ReportWriter separates the groups for easy text editing, then combines the edited versions automatically in the executed report. By letting you focus on one part of the report at a time, SQL*ReportWriter simplifies your work and lets you get the result you want more quickly.

First, we will add "Created: &CURRDATE" to the Page Header of Order Report. Then, we will restructure the body text of G_ORD to make all the data better fit on one page. Move to the Text Screens and scroll through the text objects until you get to "G_ORD Body". Note that the fields are referenced in text objects by placing an ampersand (&) before the field name.

Edit G_ORD's Default Body Text

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                 Text Screens
Order ID:   &ORDID
Shipped:    &SHIPDATE
Customer:   &CUSTID
Total:      &TOTAL

Edit Line Text
Report Name: Order_Report                <Normal>                <Insert>
```

We will stack the fields in G_ORD on top of each other by inserting carriage returns before each field, and line them up to leave more space on the page.

After making these changes to the first version of Order_Report, it now looks very different:

The Final Order_Report

- ORDER SUMMARY -
Created Friday, the twelfth of May

		Item	Product	Price	Qty	Amount	Percent
Order ID:	610	1	100860	35.00	1	35.00	34.52%
Shipped:	08-JAN-87	2	100870	2.80	3	8.40	8.28%
Customer:	101	3	100890	58.00	1	58.00	57.20%
Total:	$101.40						
Order ID:	611	1	100861	45.00	1	45.00	100.00%
Shipped:	11-JAN-87						
Customer:	102						
Total:	$45.00						
Order ID:	612	1	100060	30.00	100	3000.00	51.19%
Shipped:	20-JAN-87	2	100861	40.50	20	810.00	13.82%
Customer:	104	3	101063	10.00	150	1500.00	25.60%
Total:	$5860.00	4	100871	5.50	100	550.00	9.39%

Using SQL*ReportWriter, you can make major changes very quickly, and you have total control over every aspect of your report. It would take you hours of work and pages of programming to create this report with a traditional reporting tool. With SQL*ReportWriter you get improved productivity without sacrificing any report formatting power.

Production Reporting

Once your report is defined, you can run the report to run as often as you wish for different sets of data. SQL*ReportWriter provides several features to give you the control necessary for "production reporting", including a dedicated runtime, or "batch", engine; printer drivers; an interactive browser; the ability to embed parameters in your reports; and a Run-time Parameter Form.

Batch Reporting

SQL*ReportWriter has a command line interface, which enables you to execute reports from the operating system command line. Using the RUNREP command, you can specify what report to run, how many copies, parameter values, and when and where to print without any other interaction.

Printer Drivers

SQL*ReportWriter provides drivers for several common printers. In addition, you can create drivers for other printers with a simple utility. SQL*ReportWriter supports several highlighting modes, such as bold and underline. Furthermore, you can define and use up to 32,000 general purpose printer codes to take advantage of special functions on your printer, or to specify graphic characters.

Interactive Browser

If your report output is longer than one page, you can use SQL*ReportWriter's interactive browser to examine it page by page. You can view your entire report by scrolling forwards, backwards, and side-to-side

Embedded Parameters

SQL*ReportWriter lets you embed parameters in your report to specify boilerplate text and data selection criteria. Parameters can be referenced in text objects and in queries.

You can specify parameter values as arguments directly on the command line or enter them into the Run-time Parameter Form.

We will specify a parameter that tells SQL*ReportWriter how to sort the items in each customer order. First enter the new parameter, ORD_CRITERIA, in the Parameter Settings screen. We will specify a default value of ITEMID.

Enter New Parameter in Parameter Settings Screen

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Parameter Settings

| Parameter Name | Data Type | Width | Default Value | Label                |
|---------------|---|---|---|---|
| DESTYPE        | CHAR | 80 | Screen | Destination Type |
| DESNAME        | CHAR | 80 |  | File Name / Spool Dev |
| DESFORMAT      | CHAR | 80 | dflt | Printer Description F |
| COPIES         | NUM  | 2  | 1 | Number of Copies |
| CURRENCY       | CHAR | 4  |  | Currency Symbol |
| THOUSANDS      | CHAR | 1  |  | Thousands Separator |
| DECIMAL        | CHAR | 1  |  | Decimal Indicator |
| ORD_CRITERIA   | CHAR | 40 | ITEMID | Ord Criteria |

Enter a name for this parameter
Report Name: Order Report
```

Then we go to the Query Settings screen, and insert ORD_CRITERIA in place of ITEMID in the query Q_ORD.

Enter New Parameter in Query

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Query Settings

Query Name: Q_ORD                                          Query 1 of 1
SELECT Statement
SELECT ORD.ORDID, SHIPDATE, CUSTID, TOTAL,
    ITEMID, PRODID, ACTUALPRICE, QTY, ITEMTOT
FROM ORD, ITEM
WHERE ORD.ORDID = ITEM.ORDID
    AND SHIPDATE > '31-DEC-86'
ORDER BY ORD.ORDID, :ORD_CRITERIA

Parent-Child Relationships
Parent Query 1:                    Parent Query 2:

| Child Columns | Parent 1 Columns | Parent 2 Columns |
|---|---|---|
| | | |

Enter a SQL SELECT statement defining data for this report
Report Name: Order_Report
<List><Replace>
```

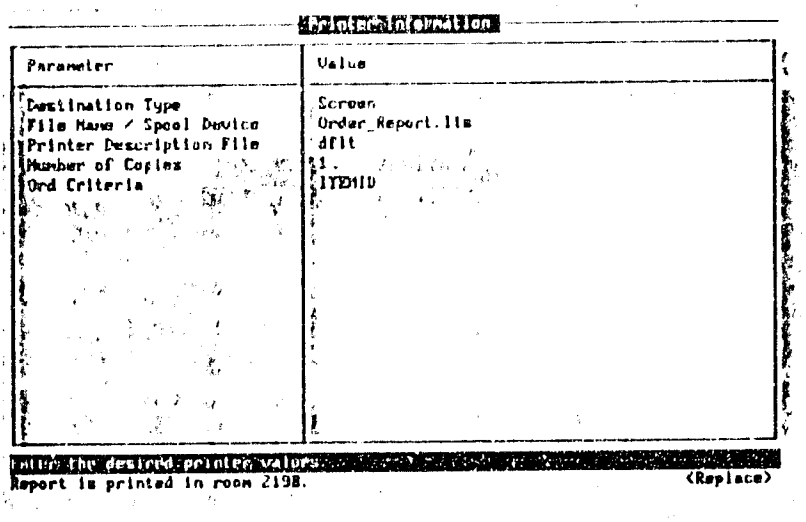
Run-time Parameter Form

This form allows you to override Print options and parameter values just before you run your report. Furthermore, if you do not want the Run-time Parameter Form to appear at all, you can easily suppress the display by indicating this when starting SQL*ReportWriter. Parameter values can be supplied on the command line when you invoke SQL*ReportWriter from your operating system.

The Run-time Parameter form can be customized according to your needs. For instance, you can give it a more descriptive title than the default value of "Parameter Values" such as "Printer Information". The hint line and status lines may also be changed to give the user more information about the parameters than the defaults allow. These changes are made in the Report Settings Screen. The following screen is an example of a customized Run-time Parameter Form, and it includes the sort condition we entered for our report.

Now, the data sort criteria can be specified each time you run the report.

Default Sort Criteria in Run-time Parameter Form



We will change the sort criteria in the report by just typing in one or more values on the Run-time Parameter Form; for example, we can sort by QTY and ACTUALPRICE instead.

Enter New Parameter in Run-time Parameter Form

Printer Information

Parameter	Value
Destination Type	Screen
File Name / Spool Device	Order_Report.lis
Printer Description File	dflt
Number of Copies	1
Ord Criteria	QTY, ACTUALPRICE

Enter the desired printer values:
Report is printed in room 2198.
<Replace>

And here is Order_Report with the data sorted by QTY and ACTUALPRICE instead of by ITEMID.

Order_Report Sorted by QTY and ACTUALPRICE

- ORDER SUMMARY -
Created Friday, the twelfth of May

		Item	Product	Price	Qty	Amount	Percent
Order ID:	610	1	100860	35.00	1	35.00	34.52%
Shipped:	08-JAN-87	3	100890	58.00	1	58.00	57.20%
Customer:	101	2	100870	2.00	3	8.40	8.28%
Total:	$101.40						
Order ID:	611	1	100861	45.00	1	45.00	100.00%
Shipped:	11-JAN-87						
Customer:	102						
Total:	$45.00						
Order ID:	612	2	100861	40.50	20	810.00	13.82%
Shipped:	20-JAN-87	4	100871	5.50	100	550.00	9.39%
Customer:	104	1	100860	30.00	100	3000.00	51.19%
Total:	$5860.00	3	101863	10.00	150	1500.00	25.60%

Chapter Summary

By observing a relatively simple default report transform into a complete master/detail report, you have seen how quickly you can make major changes using SQL*ReportWriter. In this chapter, we created a new group, G_ITEM, and assigned the "detail" fields to it to break our default report into a master/detail report. We also demonstrated more advanced uses of the SQL*ReportWriter screens to illustrate powerful capabilities, such as:

Section-at-a-Time Layout

You can set up your report layout section by section. In Order_Report, we retained the default placement for groups, which placed G_ITEM to the right of G_ORD. We also added two lines between the records within the group G_ORD, and changed G_ORD's label positioning.

Powerful Calculation Capabilities

You can quickly perform useful calculations with your data. Fourteen functions — including running functions — are available to create new fields (and summaries.) We created a computed field in Order_Report to show each item as a percent of the total order for each customer.

Fine-Tuning Your Report

In addition to defining the data and overall appearance of your report, you can "fine-tune" it. In this chapter, we used the field screens to change field labels, add display formats including a new date format, and align G_ORD's numeric fields to the left. We also edited G_ORD's body text to flow vertically instead of horizontally.

Production Reporting

SQL*ReportWriter lets you control report production with batch reporting, printer drivers, embedded parameters, and a customizable Run-time Parameter Form.

CHAPTER

4

POWERFUL REPORTING

You have now seen how to use SQL*ReportWriter to develop and maintain a default and a master/detail report. In this chapter, we will show you additional ways to tap the power of SQL*ReportWriter with examples of a variety of commonly used reports. Of course, there are no rigid report types; you can build *any* type of report you want.

The examples in this chapter include a matrix report, a form letter, mailing labels, and a more complex master/detail/summary report. Because these are relatively detailed examples, we suggest that you either spend some time studying each example thoroughly, or simply glance through them to see the power of SQL*ReportWriter.

The Matrix Report

TOTAL ORDERS BY CUSTOMER

Custid	86/05	86/06	86/07	86/08	87/01	87/02
100			$3	$98	$720	
101					$101	
102		$200			$45	$23940
103						$764
104			$41		$5860	$1260
105						
106	$2	$698	$8324			
107						$710
108						$6400

This matrix report contains the total orders for each customer with one column for each month. The following screens show the necessary settings for this matrix report.

The Queries

A matrix report contains a cross-tabulation of information created with three queries. The following screens show the queries in the order they should be created. Notice the parent/child relationships and matching columns among the three queries.

Define the Rows

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Query Settings
Query Name: Q_CUST                                          Query  1 of 3
                          SELECT Statement
SELECT DISTINCT CUSTID
FROM ORD

                        Parent-Child Relationships
Parent Query 1:                          Parent Query 2:
   Child Columns        Parent 1 Columns        Parent 2 Columns

Enter a name for this query
Report Name: Matrix_Report                                  <Replace>
```

Q_CUST retrieves the customer information, which define the matrix rows. The second query, Q_MONTH, retrieves the months, which define the columns of the matrix.

Define the Columns

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Query Settings
Query Name: Q_MONTH                                         Query  2 of 3
                          SELECT Statement
SELECT DISTINCT TO_CHAR(SHIPDATE, 'YY/MM') MONTH
FROM ORD

                        Parent-Child Relationships
Parent Query 1:                          Parent Query 2:
   Child Columns        Parent 1 Columns        Parent 2 Columns

Enter a name for this query
Report Name: Matrix_Report                                  <Replace>
```

Define the Cells

❶ Two Parent Queries

❷ Matching Columns

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Query Settings

Query Name: Q_CELL                                          Query  3 of 3
                         SELECT Statement
SELECT TO_CHAR(SHIPDATE, 'YY/MM') MONTH, CUSTID, SUM(TOTAL) TOTAL
FROM ORD
GROUP BY TO_CHAR(SHIPDATE, 'YY/MM'), CUSTID
ORDER BY TO_CHAR(SHIPDATE, 'YY/MM'), CUSTID

                         Parent-Child Relationships
❶ Parent Query 1: Q_CUST                ❶ Parent Query 2: Q_MONTH

| Child Columns | Parent 1 Columns | Parent 2 Columns |
|---|---|---|
| CUSTID ❷ | CUSTID | |
| MONTH ❷ | | MONTH |

Enter a name for this query
Report Name: Matrix_Report                                  <Replace>
```

Finally, Q_CELL retrieves the total orders aggregated by customer and month.

Group Settings

SQL*ReportWriter creates one group for each query. You need to override the defaults for Print Direction and Matrix Group, as shown. Specify the Print Direction for G_CUST as Down and G_MONTH as Across, so the months print in a row, and the customers print in a column. G_CELL has a Crosstab Print Direction so that it will fill in the cells of the matrix. The Matrix Group setting defines the groups as part of a matrix.

Define Three Matrix Groups

Print Directions

Matrix Groups

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Group Settings

| Group Name | Query | Print Direction | Matrix Group | Page Break |
|---|---|---|---|---|
| G_CUST | Q_CUST | Down | X* | |
| G_MONTH | Q_MONTH | Across | X* | |
| G_CELL | Q_CELL | Crosstab | X* | |

Enter a name for this group
Report Name: Matrix_Report                                  <Replace>
```

Next, move to Field Screen Two to change the field widths of MONTH and TOTAL to 6, and to add the display format, $ZZZZZ9, to TOTAL. In Field Screen Three, place an "X" in the Skip column for the redundant MONTH2 and CUSTID2 fields to prevent them from printing.

Suppress Identical Fields

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Field Settings

| Field Name | Align | Skip | Repeat | Computed Value Function | Reset Group |
|---|---|---|---|---|---|
| CUSTID | | | | | |
| MONTH | | | | | |
| MONTH2 | | X | | | |
| CUSTID2 | | X | | | |
| TOTAL | | | | | |

Choose the justification for this field
Report Name: Matrix_Report                                  <List><Replace>
```

Finally, we will make a few changes in the Text Screens to make the report more readable. Delete the column headings for G_MONTH and G_CELL, and add dashes beneath &MONTH in the body of G_MONTH. Then, add a couple of spaces before &MONTH and &TOTAL in the body of G_MONTH and the body of G_CELL. This is all that's required to create a matrix report with SQL*ReportWriter.

The Form Letter Report

```
Name:  NORTH WOODS HEALTH AND FITNESS SUPPLY CENTER
Account:  108
Address:  98 LONE PINE WAY
          HIBBING, MN  55649

Credit Limit:  $8000.00


Dear Sir:

In compliance with company policy, we are confirming that your
current credit limit as $8000.00.  If this conflicts with your
records, or if your company is no longer located at 98 LONE PINE
WAY, HIBBING, MN  55649, please notify Customer Service as soon as
possible.

Sincerely,


John J. Smith
```

In a form letter report, you can mix your own text with data retrieved from the database. SQL*ReportWriter will automatically wrap each copy of the letter on word boundaries after it retrieves the data. In this report, the data has been placed in a form that verifies the credit limit and address of customers.

The following screens show the settings necessary to build this report.

The Query

The query for this report retrieves all the data needed for the form letter: the name, customer identification number, address, city, state, zip code, and credit limit.

Query the Customer Table

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Query Settings

Query Name: Q_CUST                                          Query 1 of 1
                          SELECT Statement
^ SELECT NAME, CUSTID, ADDRESS, CITY, STATE, ZIP, CREDITLIMIT
  FROM CUSTOMER
  ORDER BY ZIP
v
                        Parent-Child Relationships
Parent Query 1:                        Parent Query 2:
  Child Columns        Parent 1 Columns        Parent 2 Columns
^
v
Enter a name for this query
Report Name: Form_Letter                                    <Replace>
```

Group Settings

After specifying the query, go to Group Screen One and enter "Always" as the Page Break attribute. This setting forces a page break after each record, so the data for only a single customer appears on each page. This causes SQL*ReportWriter to print one letter per page.

Limit to One Customer Per Page

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Group Settings

  Group Name     Query     Print Direction   Matrix Group   Page Break
^ G_CUST         Q_CUST    Down                             Always
v
Enter a name for this group
Report Name: Form_Letter                                    <Replace>
```

Field Settings

Next, use Field Screen Two to adjust the field widths to fit the form letter specifications, and set the display format of CREDITLIMIT to $ZZZZZ9.99

Adjust Field Widths

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Field Settings

| Field Name | Data Type | Field Width | Display Format | Relative Position | Lines Before | Spaces Before |
|---|---|---|---|---|---|---|
| NAME | CHAR | 45 | | | | |
| CUSTID | NUM | 3 | | | | |
| ADDRESS | CHAR | 30 | | | | |
| CITY | CHAR | 12 | | | | |
| STATE | CHAR | 2 | | | | |
| ZIP | CHAR | 5 | | | | |
| CREDITLIMIT | NUM | 9 | $ZZZZZ9.9 | | | |

Enter the width of this field in spaces.
Report Name: Form_Letter                                  <Replace>
```

We will set the alignment of ADDRESS, CITY, and CREDITLIMIT to Variable in Field Screen Three so that there will be no unnecessary blank spaces when printing these values. This setting also causes SQL*ReportWriter to wrap the contents of each letter on word boundaries just before it is printed. Field alignment allows you to center, right-, and left-justify fields as well.

Text Edits

The last step is to clear unnecessary column headings and to edit the body text in the Text Screen. Using the Zoom function if needed, edit the text as shown, referencing fields with an ampersand (&). Because we have fields which are specified to be Variable, SQL*ReportWriter will try to word-wrap all of the text in G_CUST into a single paragraph. Therefore, we must place "hard returns", indicated by &CRs, in the text wherever we want to force a carriage return. Your body text can be as much as ten pages wide, and as long as needed.

Edit the Text

```
 Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
Name:  &NAME &CR
Account:  &CUSTID &CR
Address:  &ADDRESS  &CR
          &CITY, &STATE  &ZIP &CR

Credit Limit:  &CREDITLIMIT &CR


Dear Sir: &CR

In compliance with company policy, we are
confirming that your current credit limit
as &CREDITLIMIT.  If this conflicts with
your records, or if your company is no longer
located at &ADDRESS, &CITY, &STATE  &ZIP,
please notify Customer Service as soon as possible.  &CR

Sincerely,  &CR


John J. Smith
Edit the Text
Report Name: Form_Letter                    <Normal>                    <Replace>
```

The Mailing Label Report

```
NORTH WOODS HEALTH AND FITNESS
98 LONE PINE WAY
HIBBING, MN  55649

K + T SPORTS
3476 EL PASEO
SANTA CLARA, CA  91003

EVERY MOUNTAIN
574 SUNNY RD.
CUPERTINO, CA  93301

WOMENS SPORTS
VALCO VILLAGE
SUNNYVALE, CA  93301

TKB SPORT SHOP
498 BOLI RD.
REDWOOD CITY, CA  94061

SHAPE UP
988 SEQUOIA
PALO ALTO, CA  94301

VOLLYRITE
9722 HAMILTON
BURLINGAME, CA  95133

JOCKSPORTS
345 VIEWRIDGE
BELMONT, CA  96711

JUST TENNIS
HILLVIEW MALL
BURLINGAME, CA  97544
```

The Query

With SQL*ReportWriter, you can easily print mailing labels in multiple columns on each page. After entering the query, just make some simple positioning adjustments. First, retrieve the data with a SELECT statement:

Select the Name and Address

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                 Query Settings

Query Name: Q_CUST                                          Query  1 of 1
                          SELECT Statement
SELECT NAME, ADDRESS, CITY, STATE, ZIP
FROM CUSTOMER
ORDER BY ZIP

                      Parent-Child Relationships
Parent Query 1:                          Parent Query 2:
   Child Columns        Parent 1 Columns        Parent 2 Columns

Enter a name for this query
Report Name: Mailing_Label                                  <Replace>
```

Group Settings

Set the Print Direction to Down/Across to allow the mailing labels to print down the length of the page until the bottom is reached. Then, SQL*ReportWriter will begin print the labels to the right of the topmost label if there is enough room on the page. We have changed the length of the report to 25 in the Report Screen to demonstrate Down/Across printing properly on your terminal display.

Set Print Direction

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Group Settings
| Group Name | Query | Print Direction | Matrix Group | Page Break |
| G_CUST     | Q_CUST | Down/Across    |              |            |

Enter a name for this group
Report Name: Mailing_Label                                    (Replace)
```

Field Settings

Next, modify the field widths in Field Screen Two to fit the exact dimensions of the labels. To make this report, you should specify field widths as 30, 30, 12, 2, and 5 for NAME, ADDRESS, CITY, STATE, and ZIP, respectively. Make the alignment of CITY in Field Screen Three Variable to avoid printing extra blank spaces.

Text Edits

The last step in building a mailing label report is to clear the column headings and edit the body text to fit your specifications. In order to get a line between each record, you must insert two blank lines in the text screen above the edited body text. Also insert 5 blank spaces before the body text for readability. Again, remember that because we have a variable field, we must place &CRs in the text wherever we want carriage returns.

The Master/Detail/Summary Report

An example of a more complex report that can be created with SQL*ReportWriter is the master/detail/summary report:

```
Customer                 Product                      Date        Cost
-------------------      -------------------------    ---------   ----------
WOMENS SPORTS            ACE TENNIS BALLS-3 PACK      06-FEB-87     200.00
                         ACE TENNIS BALLS-6 PACK      06-FEB-87     250.00
                         ACE TENNIS RACKET II         06-FEB-87     100.00

                               Customer Product Totals
                         -------------------------------------
                         ACE TENNIS BALLS-3 PACK        200.00
                         ACE TENNIS BALLS 6 PACK        250.00
                         ACE TENNIS RACKET II           100.00

                         First sporting goods store geared exclusively
                         towards women. Unusual promotion
                         al style and very willing to take chances towards
                         new products!

NORTH WOODS HEALTH       ACE TENNIS BALLS 6 PACK      01-FEB-87     560.00
AND FITNESS SUPPLY       SB ENERGY BAR 6 PACK         01-FEB-87     440.00
CENTER                   SB VITA SNACK 6 PACK         01-FEB-87     600.00
                         SP TENNIS RACKET             01-FEB-87   4,000.00
```

This report shows shipments to each customer, sorted by product and shipment date. The totals by product are listed below each customer record. Notice that the product totals are very different from a simple subtotal and they are shown as a separate sub-section of the report.

To create this type of report, you must use three queries that specify data from four tables: ORD, ITEM, CUSTOMER, and PRODUCT. Within the SELECT statements, you must query the columns needed for the report as well as the columns that join the tables together.

Four groups are built from the data in the three queries. One group has customer information, another has shipment information, a third has product summary information, and the last contains product information. Each group has been automatically created by SQL*ReportWriter as the result of a query except for the last (G_PROD), which is manually created.

The following screens illustrate how to build this master/detail/summary report.

The Queries

This report requires three SELECT statements:

The Master Query

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Query Settings
Query Name: Q_CUST                                          Query  1 of 3
                                SELECT Statement
^ SELECT CUSTID, NAME, COMMENTS
  FROM CUSTOMER
  WHERE CUSTID IN (107, 108)
  ORDER BY CUSTID
v
                              Parent-Child Relationships
Parent Query 1:                                  Parent Query 2:
  | Child Columns | Parent 1 Columns | Parent 2 Columns |
^ |               |                  |                  |
v
Enter a name for this query
Report Name: Master_Detail_Summary_Report                    <Replace>
```

The Detail Query

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Query Settings
Query Name: Q_SHIPMENT                                      Query  2 of 3
                                SELECT Statement
^ SELECT CUSTID, SHIPDATE, DESCRIP, ITEMTOT
  FROM ORD, PRODUCT, ITEM
  WHERE ITEM.ORDID = ORD.ORDID
     AND ITEM.PRODID = PRODUCT.PRODID
  ORDER BY CUSTID, DESCRIP, ORDERDATE
v
                              Parent-Child Relationships
Parent Query 1: Q_CUST                           Parent Query 2:
  | Child Columns | Parent 1 Columns | Parent 2 Columns |
^ | CUSTID        | CUSTID           |                  |
v
Enter a name for this query
Report Name: Master_Detail_Summary_Report                    <Replace>
```

The Summary Query

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Query Settings

Query Name: Q_SUMMARY                                   Query  3 of 3
                          SELECT Statement
SELECT CUSTID, DESCRIP, SUM(ITEMTOT) TOTAL
FROM ORD, PRODUCT, ITEM
WHERE ITEM.ORDID = ORD.ORDID
   AND ITEM.PRODID = PRODUCT.PRODID
GROUP BY CUSTID, DESCRIP
ORDER BY CUSTID, DESCRIP

                       Parent-Child Relationships
Parent Query 1: Q_CUST                  Parent Query 2:

| Child Columns | Parent 1 Columns | Parent 2 Columns |
|---|---|---|
| CUSTID | CUSTID | |

Report Name: Master_Detail_Summary_Report                    <Replace>
```

Group Settings

Next, establish control breaks for each product within each customer. Instead of adding a fourth query, do this by creating a new group based on Q_SHIPMENT. Name the new group G_PROD, and assign it to Q_SHIPMENT in Group Screen One.

Create a New Group

The New Group: G_PROD

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Group Settings

| Group Name | Query | Print Direction | Matrix Group | Page Break |
|---|---|---|---|---|
| G_CUST | Q_CUST | Down | | Conditional |
| G_PROD | Q_SHIPMENT | Down | | |
| G_SHIPMENT | Q_SHIPMENT | Down | | |
| G_SUMMARY | Q_SUMMARY | Down | | |

Report Name: Master_Detail_Summary_Report                    <Replace>
```

Then, on Group Screen Two, set the spacing as follows. This will put two blank lines between customers, as well as extra spaces between groups. Also, place the product summary group below the shipment data group and add a blank line before the summary group for readability. The master/detail portion of the master/detail/summary report has now been established with one query and two groups.

Add Group Spacing

Action Query Group Field Summary Text Report Parameter Help

Group Settings

Group Name	Relative Position	Lines Before	Spaces Before	Spacing Record	Spacing Field	Fields Across
G_CUST			2	2		
G_PROD			2			
G_SHIPMENT			2			
G_SUMMARY	Below	1	0			

Choose the position of this group relative to the previous group

Report Name: Master_Detail_Summary_Report <List><Replace>

Field Settings

To complete the definition of G_PROD, assign the DESCRIP field to it in Field Screen One. A single G_PROD record will now appear each time a new product is found. Notice that you can edit field labels.

Assign a Field to G_PROD

Action Query Group Field Summary Text Report Parameter Help

Field Settings

Field Name	Source	Group	Label
CUSTID	Q_CUST.CUSTID	G_CUST	Custid
NAME	NAME	G_CUST	Customer
COMMENTS	COMMENTS	G_CUST	Comments
DESCRIP	Q_SHIPMENT.DESCR	G_PROD	Product
CUSTID2	Q_SHIPMENT.CUSTI	G_SHIPMENT	Custid
SHIPDATE	SHIPDATE	G_SHIPMENT	Date
ITEMTOT	ITEMTOT	G_SHIPMENT	Cost
CUSTID3	Q_SUMMARY.CUSTID	G_SUMMARY	Custid
DESCRIP2	Q_SUMMARY.DESCRI	G_SUMMARY	Product
TOTAL	TOTAL	G_SUMMARY	Total

Enter a name for this field

Report Name: Master_Detail_Summary_Report <Replace>

Field in G_PROD

Next, format the fields using the Field Width and Display Format attributes in Field Screen Two:

Specify Field Attributes

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                         Field Settings

| Field Name | Data Type | Field Width | Display Format | Relative Position | Lines Before | Spaces Before |
|---|---|---|---|---|---|---|
| CUSTID | NUM | 6 | | | | |
| NAME | CHAR | 20 | | | | |
| COMMENTS | CHAR | 50 | | | | |
| DESCRIP | CHAR | 25 | | | | |
| CUSTID2 | NUM | 6 | | | | |
| SHIPDATE | DATE | 9 | | | | |
| ITEMTOT | NUM | 10 | ZZ,ZZ9.99 | | | |
| CUSTID3 | NUM | 6 | | | | |
| DESCRIP2 | CHAR | 25 | | | | |
| TOTAL | NUM | 10 | ZZ,ZZ9.99 | | | |

Enter the width of this field in spaces.
Report Name: Master_Detail_Summary_Report                    <Replace>
```

In Field Screen Three, suppress printing of the identical fields used to join the queries: CUSTID, CUSTID2, and CUSTID3. Also, make the customer name a Wrap field so that longer names will wrap onto the next line. Similarly, make COMMENTS a Wrap field of width 50.

Text Edits

The last step in the Master/Detail/Summary Report is to make a few adjustments in the Text Screens. Delete the column header for the COMMENTS field, and remove the COMMENTS field itself from G_CUST body and place it in the footer of G_SUMMARY instead, so that the remarks will appear after all of the other information about each customer. Then adjust the column headings for G_SUMMARY in the Text Screen.

Edit the Column Heading

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                 Text Settings

Object:  G_SUMMARY                Type:  Column Heading        Status:  Edited

Relative Position:                Repeat On Page Overflow:  X
     Lines Before:                         Justification:  Left
    Spaces Before:                             Frequency:
             Width:

                                   Text
Panel Number:  1                                          Panels Defined:  1

^      Customer Product Totals
       ----------------------------------
v
Choose the position of this text in relation to the previous text
Report Name: Master_Detail_Summary_Report   <Normal>          <List><Replace>
```

This Master/Detail/Summary report has demonstrated how to combine queries to create a sophisticated multi-part report with many levels of detail.

Product Integration

The power of SQL*ReportWriter does not lie solely in its ability to create a variety of different reports. SQL*ReportWriter has a standardized call interface to other Oracle Tools such as SQL*Forms and SQL*Menu, as well as access to your own 3GL-based programs, giving you significant flexibility in creating fully functional application systems. SQL*ReportWriter even gives you the power to send your reports to other users through Oracle*Mail. The tight product integration between SQL*ReportWriter and other Oracle Application Tools will enable you to successfully build and maintain enterprise-wide applications across heterogeneous computing environments.

CHAPTER

5 SUMMARY

Variety of Reports with Precise Control

SQL*ReportWriter, Oracle's premiere reporting tool for application developers, gives you the power to develop a wide range of production-quality reports with complete formatting control.

You can build anything — from a one-minute tabular report, to a sophisticated multi-query report with many subsections. SQL*ReportWriter enables you build the reports you need — quickly and easily.

You always retain complete control over every aspect of your report. While you get default settings for many basic layout attributes, you can override any default to create exactly the desired effect.

And SQL*ReportWriter lets you format at many different levels — using multiple SELECT statements, manipulating fields of data, positioning groups of fields, and even fine-tuning with boilerplate text and detailed editing.

Increased Productivity with Non-Procedural Interface

SQL*ReportWriter lets you build reports quickly and maintain them easily.

You define your report through the sophisticated fill-in-the-form interface, which includes instant validation checks to catch errors immediately. Your productivity is further enhanced by SQL*ReportWriter's comprehensive online help system -- with easy access to context-sensitive help directly from report definition screen the table of contents, or the index. A List of values is provided for many fields, including a list of available tables and their associated columns for defining queries.

Power of ORACLE's SQL Language

SQL*ReportWriter fully supports the industry standard SQL language for data access. You can specify your report by combining data from multiple databases, including IBM's DB2 and SQL/DS. ORACLE increases the power of SQL even further with more than fifty SQL extensions for calculations, flexible joins, and set operators.

Backed by the power of ORACLE and its family of application development products, SQL*ReportWriter is the reporting tool that's setting the standard for all others.

INTRODUCTION TO SQL*FORMS™

ORACLE®

The Relational Database Management System

Introduction to SQL*Forms

Version 2.3

Part No. 19192-0288

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PREFACE

About SQL*Forms

SQL*Forms lets you quickly develop forms-based applications for entering, querying, updating, and deleting data. You specify your application needs using simple menus and a powerful screen painter—instead of writing programs. SQL*Forms then combines your instructions with information from ORACLE's data dictionary to generate your application.

Effective Prototyping

SQL*Forms' unique *non-procedural* approach allows you to prototype applications effectively. Prototyping gives you and your users the opportunity to refine an application as you build it. As you improve a design, simply specify your changes and SQL*Forms incorporates them automatically. With SQL*Forms, you concentrate on design improvements instead of tedious programming. When your design works just right, your application is done, because *your prototype is your application.*

Unlimited Power

SQL*Forms solves the complex problems that cause other 4th-generation products to falter. You can readily create a custom application by building onto SQL*Forms' automatically generated foundation of logic. It's much faster than programming.

Open Architecture

SQL*Forms guarantees you power through an open architecture that lets you incorporate existing routines written in COBOL, C, and most other programming languages. So you'll always be able to process information any way you want.

Flexibility for Your Changing Requirements

With SQL*Forms, you can respond easily to shifting business needs. Adjust your SQL*Forms applications—it takes minutes instead of months. SQL*Forms' non-procedural structure and the flexibility of the ORACLE Relational Database Management System ensure your success.

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INTRODUCTION

An Example Application

This *Introduction to SQL*Forms* illustrates how SQL*Forms solves your application development needs by showing you how to build a real application from start to finish. For more detailed technical information, consult the *SQL*Forms Operator's Guide* and *Designer's Reference*. As you proceed through the sample project, you will see how SQL*Forms lets you work efficiently:

1. SQL*Forms does the bulk of your development work for you by automatically preparing a fully functional form.
2. You can then adjust both the function and the appearance of the form using SQL*Forms' simple menus and a screen painter.
3. Finally, if you need to customize a form further, you can take advantage of SQL*Forms' open architecture to build extra features onto the default foundation. Because SQL*Forms takes care of the foundation, you only need to specify the enhancements—your workload is reduced so that you can finish even the most complex applications quickly.

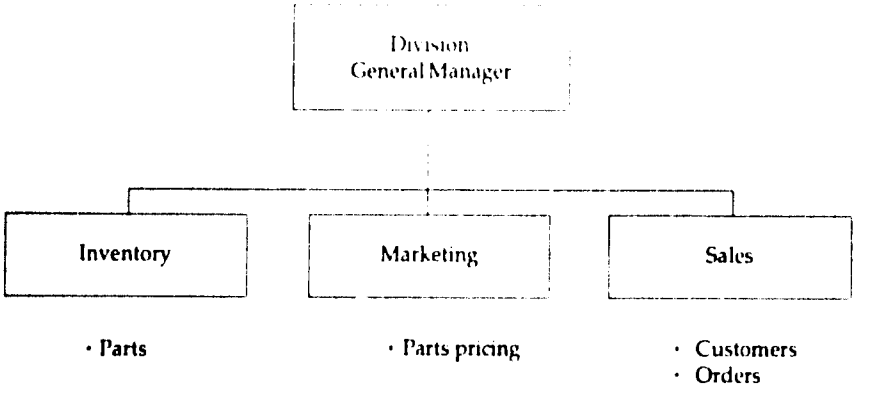
This progressive development process helps you work effectively. Since making changes at any point in the process is easy, you can adopt a flexible development style that lets you respond quickly to users' suggestions. You can develop the applications your company really needs—not just something close.

The Application

While reading this booklet, assume that you are an applications designer working for a sporting goods manufacturer. You have been asked to develop an order entry system for a new division in your company.

Several groups within this division will use the system. The Inventory Department will enter and maintain information about parts. The Marketing staff will review and update pricing policy. The Sales Department will enter both customer information and the actual orders.

Many people in several departments will use your application concurrently



Because many people in the various departments will use the order entry system at the same time, the system will have to accommodate multiple users without causing conflicts or excessive delays.

Your first step is to interview the Sales, Inventory, and Marketing Managers to determine the preliminary requirements of the order entry system. After analyzing their requirements, you define the basic structure of your database:

Your order entry database will contain four main tables

Customer

Customer Number	Name	Address	City	State	Zip	Area	Phone	Credit Limit

Order (Header Information)

Order Number	Customer Number	Order Total	Sales Code	Order Date	Commissions Plan	Status

Line Item

Order Number	Item Number	Part Number	Price	Quantity	Item Total

Part

Part Number	Description	List Price	Effective Date

The bulk of your work will now be to develop three forms for entering, maintaining, and querying this database:

Form	*Tables Accessed*	*Primary Users*
Part	PART	Inventory and Marketing
Customer	CUSTOMER	Sales
Order Entry	ORDER, LINEITEM	Sales

The following sections will guide you through the process of developing each of these forms.

Creating a Default Form

Developing a Fully Functional Form for Parts in Just a Few Keystrokes

Your first step in building the order entry system is to create the form for parts, based on the Inventory Manager's assessment:

> "Every part has a part number, a description, a price, and a date when that price became effective. All I need is a quick way for my people to enter the information."

You can quickly build your first prototype based on the Inventory Manager's comments. Define the PART table with one simple SQL statement:

```
CREATE TABLE Part
        (part_num           NUMBER,
        description         CHAR (25),
        list_price          NUMBER,
        effective_date      DATE);
```

Part Number	Description	List Price	Effective Date
9999999	AAAAAAAAAAAAAAAAAAAAA	999.99	DD-MON-YY

When you create the table, ORACLE puts the table definition into the data dictionary. SQL*Forms will use that information to help build your application.

Now that you have defined your PART table, you can create a fully functioning form in just a few keystrokes using SQL*Forms' pop-up menus.

The first SQL*Forms menu lets you specify the name of the form you want to work with. You want your form to be called Partform, so type `Partform` and select the CREATE action.

Step 1:
Type a form name →

```
CHOOSE FORM
Name
PARTFORM
Actions:
 CREATE     MODIFY     LIST
 RUN        DEFINE     LOAD
 FILE       GENERATE
```

SQL*Forms lets you work with as many tables as you like in one form, so the next menu lets you specify which ones you want.* Choose the table name, PART, and select the DEFAULT action to have SQL*Forms automatically define the form.

Step 2:
Type a table name →

```
CHOOSE FORM
Name
PARTFORM

CHOOSE BLOCK
Name
PART
Page Number 1
Actions:
 CREATE     MODIFY     DROP
 LIST       FIELDS     DEFAULT
 PREVIOUS   NEXT
```

* SQL*Forms actually lets you name a "block" because you can create a form not only for a simple table but also for a block—a powerful extension of a table that may contain calculated fields and non-database fields.

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The last step in creating your form is to tell SQL*Forms how many rows of parts data you want on the screen at the same time. To specify 7 rows, just type 7 in the next pop-up window.

Step 3:
Choose how many rows of data you want displayed at once →

```
CHOOSE FORM
Name
PARTFORM

CHOOSE BLOCK
Name
PART
Page Number 1

DEFAULT BLOCK
Table Name:
PART

Rows Displayed: 7
     Base Line: 1
Actions:
     COLUMNS     TABLES
```

Summary

You have created a fully functional form for parts

1 minute

Now you are finished. You have just specified your Part form by:

1. Typing the form name.
2. Typing the table name.
3. Choosing the number of rows of data to be displayed at once.

You don't have to specify information about each field, because SQL*Forms now takes all needed information about the PART table from the ORACLE data dictionary and creates the form for you. SQL*Forms automatically lays out the form with proper column sizes and headings, and with your specified number of displayed rows.

```
                                  PART
PART_NUM     DESCRIPTION                 LIST_PRICE   EFFECTIVE
```

The first screen you see is the password screen. SQL*Forms offers complete security—all form users must have valid ORACLE user IDs and passwords. Users can be authorized to perform all functions on specified data, or only selected entry, query, update, or delete functions.

You must enter a valid password to use SQL*Forms

```
SQL*Forms (Design): Version 2.3                    Thu Jan  7 10:24:14 1988
Copyright (c) 1987, Oracle Corporation, California, USA.  All rights reserved.

                    Username MARSHALL
                    Password
```

Easy Data Entry

Once you have entered a valid userid and password, begin entering some data by typing it into the form.

Enter data simply by typing, even enter several records at a time

```
                                  PART

PART_NUM     DESCRIPTION                  LIST_PRICE   EFFECTIVE
100860       ACE TENNIS RACKET I          35           01-JAN-88
100861       ACE TENNIS RACKET II
```

RUNNING A FORM

Using the Functionality that SQL*Forms Builds into Your Part Form

The Part form you have just created gives you complete data entry, query, update, and delete facilities, not only for one user, but for multiple concurrent users. You'll see how fast and powerful SQL*Forms is as you train Dave Marshall, the inventory administrator, to run the new parts application.

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Move around the form with arrow or function keys

Enter several records at a time. You can move back and forth within rows, or up and down between rows. To quickly correct a mistake you made earlier, use the arrow keys that you are already familiar with. If you are entering more rows than fit on the screen, you can scroll up or down to see rows that have passed out of view.

SQL*Forms automatically checks your input at the time of data entry. It reads the ORACLE data dictionary to find out which fields are character, numeric, or date, so it can automatically enforce the appropriate restrictions on all data inputs.

Try entering a letter into a numeric field, for example. SQL*Forms doesn't let you, and warns you immediately with a helpful message.

```
                                  PART

PART_NUM      DESCRIPTION                 LIST_PRICE   EFFECTIVE
100860        ACE TENNIS RACKET I         35           01-JAN-88
100861        ACE TENNIS RACKET II        45k
```

SQL*Forms makes sure you only put numbers in numeric fields →

```
Legal characters are 0-9.
```

Try entering information into a date field. SQL*Forms will make sure the date you enter is valid. It has a built-in calendar that checks all dates--including leap years.

51

```
                                  PART

PART_NUM     DESCRIPTION                LIST_PRICE   EFFECTIVE
100860       ACE TENNIS RACKET I        35           01-JAN-88
100861       ACE TENNIS RACKET II       45           31-FEB-88
```

SQL*Forms won't let you enter invalid dates →

```
Day must be between 1 and last of month.
```

Powerful Querying

So far you have seen how easily SQL*Forms lets you enter information into the database. The next step is getting some of the information back out by querying the database.

SQL*Forms offers a Query-By-Example approach, so novice users don't have to learn a formal query language to retrieve data. To enter a query, press the [ENTER QUERY] function key and type your selection criteria into the appropriate columns. For example, to see the list of all parts that cost more than $30, all you need to do is type >30 into the price column.

Enter queries easily using the Query-by-Example approach

```
                                  PART

PART_NUM     DESCRIPTION                LIST_PRICE   EFFECTIVE
                                        >30

                                  ENTER QUERY
```

SQL*Forms shows you the list of all parts that meet your query specification:

PART

PART_NUM	DESCRIPTION	LIST_PRICE	EFFECTIVE
100860	ACE TENNIS RACKET I	35	01-JAN-88
100861	ACE TENNIS RACKET II	45	01-JAN-89
100890	ACE TENNIS NET	58	15-MAR-88

You can easily combine selection criteria by typing the appropriate condition into each column. For example, to see all parts made by ACE TENNIS that have a price greater than $40, enter `ACE TENNIS%` into the description column and `>40` into the price column. The percent sign is a wildcard that signifies any character or group of characters.

Combine multiple criteria easily

PART

PART_NUM	DESCRIPTION	LIST_PRICE	EFFECTIVE
	ACE TENNIS%	>40	

SQL*Forms extends your query capabilities for those situations in which you have sophisticated query specifications. You can type in queries of any complexity using the full power of the SQL language.

```
                                   PART
PART_NUM     DESCRIPTION                    LIST_PRICE   EFFECTIVE
0
```

Use standard SQL syntax to harness unlimited query power →

```
WHERE list price BETWEEN 35 and 45 AND effective_date IS NULL ORDER BY part_num
                                   ENTER QUERY
```

Quick Data Update

SQL*Forms' query capabilities let you quickly retrieve the data you want to see. Once you have that data on the screen, you can easily update or modify it. Simply move the cursor to the field whose value you want to change and type the new information over the old. If you are working with more rows than fit on the screen, just scroll up or down until you see the row you want.

Update information by typing new values in the right spot

```
                                   PART
PART_NUM     DESCRIPTION                    LIST_PRICE   EFFECTIVE
100860       ACE TENNIS RACKET I            35           01-JAN-88
100861       ACE TENNIS RACKET II           45           01-JAN-88
100870       ACE TENNIS BALLS-3 PACK        2.8          01-JAN-88
100871       ACE TENNIS BALLS-6 PACK        5.6          15-MAR-88
100890       ACE TENNIS NET                 58           15-MAR-88
101060       SP TENNIS RACKET               24           01-APR-88
101063       SP JUNIOR RACKET               12.5         01-APR-88
```

Single-Key Deletion

If you want to delete a row of data, put the cursor anywhere in the row and press the [DELETE] key.

If you are working so fast that you make a mistake and change or delete the wrong information, SQL*Forms lets you recover easily—you can confirm or reject your changes before SQL*Forms makes them permanent.

PART

PART_NUM	DESCRIPTION	LIST_PRICE	EFFECTIVE
100860	ACE TENNIS RACKET I	35	01-JAN-88
100861	ACE TENNIS RACKET II	45	01-JAN-88
100870	ACE TENNIS BALLS-3 PACK	2.8	01-JAN-88
100871	ACE TENNIS BALLS-6 PACK	5.6	15-MAR-88
100890	ACE TENNIS NET	50	15-MAR-88
101863	SP JUNIOR RACKET	12.5	01-APR-88
102130	RH: GUIDE TO TENNIS	3.4	01-APR-88

Don't worry if you delete something unintentionally, SQL*Forms asks you to confirm your changes →

```
Do you want to commit the changes you have made? Y
```

High Multi-User Performance

After just a few minutes of training, Marshall is using the Part form on his own. He is not only ready to begin some routine work, but is also prepared to teach other members of the Inventory Department how to use the form without further assistance from you.

Even when the whole Inventory staff uses the Part form, SQL*Forms maintains its high performance. SQL*Forms takes advantage of ORACLE's ability to lock individual rows of data, so that form users can access and update rows of the same table without waiting for others to finish. The only time anyone will have to wait is if two users are trying to update the same row simultaneously.

SQL*Forms lets one user change prices for tennis rackets, while another enters new prices for balls, and yet another is querying all parts

PART TABLE

PART_NUM	DESCRIPTION	LIST_PRICE	EFFECTIVE
100860	ACE TENNIS RACKET I	35	01-JAN-88
100890	ACE TENNIS NET	50	15-MAR-88
100870	ACE TENNIS BALLS-3 PACK	2.8	01-JAN-88
100871	ACE TENNIS BALLS-6 PACK	5.6	15-MAR-88
101863	SP JUNIOR RACKET	12.5	01-APR-88
102130	RH: "GUIDE TO TENNIS"	3.4	01-APR-88
100861	ACE TENNIS RACKET II	45	01-JAN-88
101860	SP TENNIS RACKET	24	15-MAR-88

Summary

As you have trained Marshall to use the Part form, you have seen how well SQL*Forms meets users' needs:

Total Security	SQL*Forms checks each user's password and verifies his authorization to enter, query, update, and delete specified data.
Complete Full-Screen Functionality	SQL*Forms automatically provides full-screen facilities for: • Data entry • Query • Update • Delete.
Ease of Learning	SQL*Forms is easy to learn, allowing users to become proficient after only a few minutes of instruction.
High User Productivity	Data entry personnel work quickly with SQL*Forms because they insert, query, and update data by simply typing into the form. Other products waste your time by forcing you to weave through menus or switch between insert and update modes.
Extended Power	Users can perform even the most complex queries and updates easily.
Automatic Error-Checking	SQL*Forms automatically checks field types and dates, giving users the opportunity to correct mistakes before committing data to the database.
High Performance with Many Users	Many users can run the same SQL*Forms application concurrently. SQL*Forms takes advantage of ORACLE's ability to lock individual rows of data, so form users can access and update rows in the same table without waiting for others to finish. SQL*Forms also provides efficient buffering to maintain fast query response and quick forward and backward scrolling through retrieved data.

CHANGING A FORM'S FUNCTION

Customizing Your Part Form Easily

In prior chapters you saw how SQL*Forms generated a fully functional form for parts in just a few keystrokes. Now you will see how you can modify your Part form in a few minutes to meet requests for changes—without any programming.

After working with the prototype Part form, the members of the Inventory staff better understand their needs and suggest adding some features to the form. To reduce input errors, they want to:

1. Make the price column appear in standard currency format with two decimal places. Department members are used to this format, and find it much easier to read.
2. Ensure that a part number is always entered for new parts and that once a part number is entered it can't be updated accidentally.
3. Make sure the part description is always entered in upper case. This consistency will make searching for key words easier.
4. Set a default value for the date as the current date. This will save many keystrokes, since almost all new entries and price changes take effect on the date of entry.
5. Provide a help message for the date field, since entering dates often confuses the temporary data entry clerks who come in quarterly to update the information. The Inventory Manager's goal is to virtually eliminate training by making the form self-explanatory.

With the control that SQL*Forms gives you, you can make all these changes in no more than 15 minutes.

Inventory personnel suggest changes after working with the prototype form

① Currency format
② Mandatory, Non-updatable
③ Uppercase
④ Default
⑤ Help Message

Begin your changes by selecting the MODIFY action.

```
CHOOSE FORM
Name
PARTFORM

CHOOSE BLOCK
Name
PART
Page Number 1
Actions:
 CREATE      MODIFY      DROP
 LIST        FIELDS      DEFAULT
 PREVIOUS    NEXT
```

The SQL*Forms screen painter automatically shows you all the fields in their proper layout.

```
                    PART

PART_NUM    DESCRIPTION          LIST_PRICE   EFFECTIVE
```

Associated with each field is a set of characteristics that controls how SQL*Forms manages the field. You can modify these characteristics through pop-up menus that you access by pointing to the field in the screen painter.

Change 1
Altering the Format of the Price Field

The first pop-up allows you to change the default data type and format. You can choose among a variety of character, numeric, and date types just by selecting with the cursor. To make the price column appear in a right-justified currency format, for example, use the cursor keys to change the Data Type from NUMBER to RMONEY.

Change character, numeric and date types and formats through menu choices

```
                                   PART
        DEFINE FIELD          Seq #3        LIST_PRICE   EFFECTIVE
Name LIST_PRICE
Data Type:
 CHAR     NUMBER    RNUMBER    DATE
 ALPHA    INT       RINT       JDATE
 TIME     MONEY     *RMONEY    EDATE
Actions:
 TRIGGER     ATTRIBUTES    VALIDATION
 COMMENT     COLUMNS
```

Change 2
Making Entry of the Part Number Mandatory

A second pop-up gives you broad control over field attributes. You can specify, for example, whether updates are permitted, whether null entries are allowed, whether fixed length entries are required, or a host of other attributes.

Change a field's attributes just by toggling menu choices on or off. To require entry of the part number and to make existing values non-updatable, all you need to do is turn on the *Mandatory* switch and turn off the *Update allowed* switch.

Control a field's attribute easily

```
                                   PART
        DEFINE FIELD        Seq # 3      LIST_PRICE    EFFECTIVE
Name LIST_PRICE
Data Type:
 CHAR     NUMBER     SPECIFY ATTRIBUTES
 ALPHA    INT        *Database Field
 TIME     MONEY       Primary Key
Actions:
 TRIGGER     ATTR    *Displayed
 COMMENT     COLU    *Input allowed
                     *Query allowed
                      Update allowed
                      Update if NULL
                      Fixed Length
                     *Mandatory
                      Uppercase
                      Autoskip
                      Automatic help
                      No echo
```

Change 3
Making Description Uppercase

Next, you want to make sure that the part description is always entered in uppercase. To do this, turn on the *Uppercase* attribute. SQL*Forms will now automatically convert all lowercase entries to uppercase.

Change 4
Setting the Default Value for the Date

SQL*Forms gives you complete control over field validation. In the validation pop-up window, you can specify default values, upper and lower range limits, and other validation criteria. To give the date a default value of the current system date, enter the system variable `$$DATE$$`.

Set defaults and flexible field validations

```
                                   PART
        DEFINE FIELD        Seq # 4     LIST_PRICE   EFFECTIVE
Name EFFECTIVE_DATE
            SPECIFY VALIDATION
 Field Length 9            Query Length 9
 Copy Field Value from:
     Block
     Field
   Default $$DATE$$
 Range Low
      High
 List of Values:
     Table
    Column
 Help:
```

Change 5
Writing a Help Message for the Date

The same pop-up window lets you write a help message for each field. You can use this message to explain the purpose of a field, or show the required entry format. You can also tell SQL*Forms when to display the help message—whenever users move into the field, or only when they press the help key.

```
                                        PART
        DEFINE FIELD        Seq # 4     LIST_PRICE    EFFECTIVE
Name EFFECTIVE_DATE
                 SPECIFY VALIDATION
 Field Length 9            Query Length 9
 Copy Field Value from:
     Block
     Field
   Default $$DATE$$
 Range Low
      High
 List of Values:
     Table
    Column
 Help:
 Enter the date on which this price
 becomes valid.
```

Write helpful messages ⟶

Another Change: Adding a New Field

You have now implemented all of the Inventory staff's change requests, and have seen how easy it is to control the characteristics of existing fields.

Adding a new field is no more difficult. After showing the form to the Marketing Manager, you realize that the Inventory Manager forgot to tell you about the policy that limits discounts. You have to add a new column for the minimum price below which the company will not discount a particular part.

The first step is to add the new field to the existing database definition. ORACLE lets you do this with just one SQL statement:

```
ALTER TABLE part ADD (minprice NUMBER);
```

Now, using the SQL*Forms screen painter, mark the spot on the screen where you want the new field, and press the [CREATE FIELD] key. SQL*Forms prompts you for the name and type of the new field.

Add a new field by marking its screen location ① and noting its name and data type ②

```
                                        PART
①        DEFINE FIELD          Seq = 5      LIST_PRICE   EFFECTIVE  MIN_PRICE
Name MIN_PRICE
Data Type:
 CHAR     NUMBER    RNUMBER    DATE
 ALPHA    INT       RINT       JDATE
 TIME     MONEY ② *RMONEY      EDATE
Actions:
 TRIGGER     ATTRIBUTES    VALIDATION
 COMMENT     COLUMNS
```

That's all it takes to add a field to a form. Traditional programming languages require that you manually change all code references to the new field—screen drivers, validation checks, and insert, query, update, and delete subroutines. SQL*Forms handles all this for you automatically.

Summary

Now you have finished the parts form. In just a few minutes, you've incorporated all the Inventory staff's requests for changes, as well as the Marketing Manager's unexpected request to add a new field. The Part form is now ready for the Inventory staff to begin entering production data.

15 minutes

PART

PART_NUM	DESCRIPTION	LIST_PRICE	EFFECTIVE	MIN_PRICE
100860	ACE TENNIS RACKET I	35.00	01-JAN-88	30.00
100861	ACE TENNIS RACKET II	45.00	01-JAN-88	40.00
100870	ACE TENNIS BALLS-3 PACK	2.00	01-JAN-88	2.25
100871	ACE TENNIS BALLS-6 PACK	5.60	15-MAR-88	4.50
100890	ACE TENNIS NET	50.00	15-MAR-88	51.50
101860	SP TENNIS RACKET	24.00	15-MAR-88	22.00
101863	SP JUNIOR RACKET	12.50	01-APR-88	10.00

SQL*Forms gives you easy control over form behavior

You have seen how SQL*Forms gives you control over form attributes. You can make substantial changes to a form without programming. Using only menu choices and pop-up windows, you can:

- Change character, numeric, and date data types and formats through menu choices
- Set default values and field validations
- Write field-specific help messages that make a form self-explanatory
- Add new fields.

The ease of making these changes allows you to respond readily to necessary changes. Because these changes are no longer onerous, you can value them as helpful feedback in attaining the most effective application solutions.

Painting the Screen

Making the Customer Form Look the Way You Want

Now that your Part form is finished, you're ready to build the next part of your order entry system, the Customer form.

You will work directly with Chris Andrews, the Sales Manager. Andrews is quite particular about form appearance and functionality, but he has a hard time specifying exactly what he wants ahead of time.

Andrews is right in saying that appearance is critical to building a successful application. Forms need to be more than functional—they need to be clear and visually pleasing.

SQL*Forms lets you change both form functionality and screen appearance quickly. The speed of application development with SQL*Forms allows you to work with end-users to create forms that function and look exactly right.

Prototype Forms with the Sales Manager

Your first steps are to agree on column definitions and then to create the CUSTOMER table:

```
CREATE TABLE customer
        (customerid                     NUMBER,
        name                            CHAR(25),
        address                         CHAR(25),
        city                            CHAR(20),
        state                           CHAR(2),
        area                            NUMBER(3),
        phone                           NUMBER(7),
        creditlmt                       NUMBER(7,2));
```

You and Andrews are now ready to create a default form as a foundation, paint the screen to create an effective appearance, and then adjust the form's functionality.

Step 1
Using the Default Form as Your Starting Point

Begin by telling SQL*Forms to automatically create a default form for the CUSTOMER table. It takes only a minute to specify the form name and the table upon which the form is based.

Specify a default form

1 minute

```
CHOOSE FORM
Name
CUSTFORM

CHOOSE BLOCK
Name
CUSTOMER
Page Number 1

DEFAULT BLOCK
Table Name:
CUSTOMER

Rows Displayed: 1
     Base Line: 1
Actions:
     COLUMNS      TABLES
```

SQL*Forms generates a default form that you can use as the starting point for the customizing work that you and Andrews will be doing.

SQL*Forms generates the default form for you

```
                    CUSTOMER
CUSTID
  NAME
ADDRESS
  CITY
 STATE                                  ZIP
  AREA                                PHONE
 REPID                          CREDITLIMIT
```

Step 2
Painting the Screen to Create an Effective Appearance

Now use the SQL*Forms screen painter to improve your form's appearance. It's so fast that you can effectively work with Andrews at your side, executing changes to make the form most useful to the Sales group.

Andrews's first suggestion is to change the default prompts "Customerid" to "Code" and "Creditlmt" to "Credit limit", and all other prompts to mixed upper and lower case. SQL*Forms lets you change text easily—all you have to do is use the cursor keys to move around the screen and type whatever you want, wherever you want it.

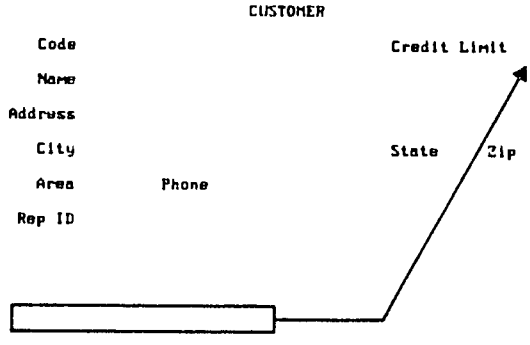
Add or change description text by simply typing on the screen

10 minutes

```
                    CUSTOMER
        Code
        Name
     Address
        City
       State                          Zip
        Area                        Phone
      Rep ID                 Credit Limit
```

Andrews next requests that you move credit limit to the top line alongside code, state and zip code to the same line as city, and area code and phone number closer together.

Move any part of the screen by pointing and using CUT and PASTE functions



SQL*Forms lets you move these fields around the screen with remarkable ease. Just mark what you want to move—a field or any larger screen area—and use simple [CUT] and [PASTE] functions to move it. It takes only seconds to make changes, and if you make a mistake or don't like the result, you can always put things back the way they were with the [UNDO] key. With SQL*Forms you make the screen look exactly as you want, and waste none of your time aligning spaces and tabs in lengthy programs.

Andrews's final request is that you draw boxes on the screen to visually distinguish the different parts of the form. Once again, SQL*Forms lets you accomplish this easily. Just point to the two corners of the box and press the [DRAW BOX/LINE] key.

To draw a box, point to the corners and press a function key

```
                          CUSTOMER
   Code                                   Credit Limit
▼
   Name
 Address
   City                                   State     Zip
   Area          Phone
 Rep ID                                                ◀
```

Step 3
Finishing the Customer Form by Changing Field Attributes

Now that you and Andrews are pleased with the form's appearance, you're ready to work on its functionality. Andrews, who like many users only gives cursory review to specification documents, can give effective feedback after seeing the form in action.

15 minutes

As you and Andrews work with the form, you find several ways to improve it. The changes are similar to those you made on the Part form in the previous chapter:

- To make the customer lists consistent, SQL*Forms will insure that customer names are always entered in upper case. Just turn on the Uppercase switch in the Attributes pop-up window.
- Since most customers are in the Denver area, the state field should default to CO and the area code to 303. Type the defaults in the Validation pop-up window.
- Credit limit should display as currency. Change the type from NUMBER to RMONEY.
- To minimize user training, each field should have its own help message. Just type an appropriate help message into each field's pop-up window.

Summary

After making these changes, you and Andrews decide the form works well. Your Customer form is now finished, and ready for the Sales staff to use.

Designing the form with Andrews worked well, because he articulated his needs much more clearly than he could have done by writing or reviewing requirement documents. And because he participated in the design process, he likes the result, which is just what he wanted.

Creating Effective Forms in Minutes

With SQL*Forms, the prototyping process works effectively because you can make the changes you want so quickly.

1 minute

1. You start with a default form, which SQL*Forms automatically creates in one minute.

10 minutes

2. You then make the form look exactly the way you want with the SQL*Forms screen painter.
   - Add or change descriptive text by simply typing on the screen.
   - Move any part of the screen by pointing and using SQL*Forms' [CUT] and [PASTE] functions.
   - Draw graphics lines and boxes to visually divide the screen.

15 minutes

3. Finally, you make the form work exactly the way you want by modifying functionality via pop-up menus and windows.

Once you're finished making changes, your application is finished, because your SQL*Forms prototype is your final application. SQL*Forms works ideally for both prototyping and production use. It combines the flexibility of prototyping packages with the powerful capabilities for which you usually need custom programs.

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WIELDING THE POWER OF SQL*FORMS

Building the Complex Order Entry Form

In the process of building the Part and Customer forms, you've seen many benefits of the SQL*Forms approach. You can design complete applications, exert full control over field attributes, and create visually appealing screens, all without programming. And because modifying a form is so easy, you can adopt a flexible development style that includes prototyping and lets you respond to users' needs.

In this chapter you'll develop the most complex part of your application: the Order Entry form. You will see how SQL*Forms not only offers development productivity and flexibility, but also gives you the power usually provided only by traditional programming.

To give you forms capability without programming, SQL*Forms uses a default set of rules for performing all standard form functions. For instance, SQL*Forms follows default rules when you enter data into a field. It checks to make sure the data matches the specified data type and does not exceed the field's maximum length. It then moves the cursor to the next field. When you finish entering all data, SQL*Forms automatically executes the appropriate insert or update transaction in the ORACLE database.

Pop-up windows help you set the rules SQL*Forms follows. Using pop-ups you can, for instance, instruct SQL*Forms to make sure that a field is not left null, or to verify that a particular entry is within a specified range.

For the Part and Customer forms, as well as for most other applications, the SQL*Forms pop-up windows give you the control you need. You can make the forms work just the way you want through menu choices.

But what if you have a complex application that requires more control than the pop-ups provide? What if, for example, you want your application to skip a field if a user inputs a particular value in a prior field? Or what if you want to re-define a function key? Or specify complex transaction logic to coordinate multi-step database transactions involving numerous tables?

Open architecture guarantees your success

SQL*Forms features an open architecture that lets you make these changes and more. You'll have the power you need to do the job, no matter how complex.

SQL*Forms lets you do what you want by giving you the ability to specify exceptions to the default rules. Whenever you want something special to happen in your application, you can override the rules. If, for example, you want to perform a particular field validation whenever a user changes a field, SQL*Forms lets you attach appropriate commands.

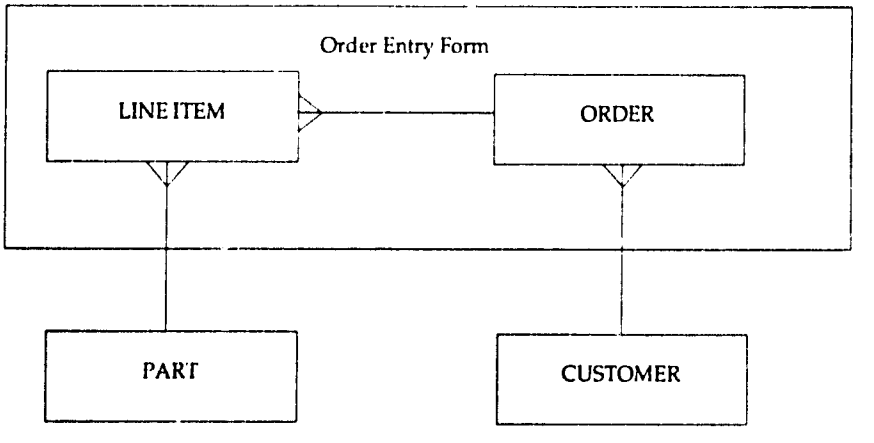
- You can define procedural macros that control the behavior of the form. So you can conditionally skip fields, coordinate complex transactions, branch to a new form, or even execute operating system commands.
- You can use SQL statements to insert, query, update or delete rows in any database table, not just the one on the screen. You can also sort and summarize data, or perform complex calculations on character, numeric, or date fields.
- Finally, if you want to incorporate any of your existing programs, you can branch to a subroutine in COBOL, C, Fortran, or other major programming languages.

SQL*Forms' open architecture lets you add features to your application that would be impossible with most other non-procedural application development aids. And, if you tried to build the whole application in a programming language—even a 4th-generation language—you would spend a long time coding the basic functional framework before you could even begin adding any special features.

The SQL*Forms approach is unique in that you can start with the fully functional framework of rules that SQL*Forms automatically provides, and then customize your form as you wish. And because you are specifying only the exceptions and not the whole set of rules, you perform only a fraction of the work required to develop the whole application by programming.

Designing a Complex Order Entry Form

See how you can exploit SQL*Forms' power to design the order entry form, the last part of your application. This form involves two main tables: ORDER and LINEITEM. It also includes references to the CUSTOMER and PART tables.



In discussions with Andrews, the Sales Manager, you agree that the form needs several features in addition to the validations and attributes that you've specified in prior chapters.

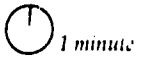
```
                              ORDER
Order No.   615                          Date        01-FEB-87
Cust Code   107                          Name   WOMENS SPORTS
Order Total         710                  Sales Code 13
Check Total         710                  Commission 5
Status Msg  Shipped on time              Shipdate    06-FEB-87
```

```
                         ORDER LINE ITEMS
Item Product Product                    STD       Actual          Item
No.  Code    Description                Price     Price     Qty   Total
1    100061  ACE TENNIS RACKET II        50.00     45.00     10    450.00
2    100070  ACE TENNIS BALLS-3 PACK      3.40      2.00    100    200.00
3    100071  ACE TENNIS BALLS-6 PACK      5.00      5.00     50    250.00
```

The form should:

1. Verify the existence of the customer code in the CUSTOMER table. The form should also look up and display the customer name whenever a user inputs a customer code.
2. Verify the existence of the part number in the PART table, and display the part description and price whenever the user inputs a part number.
3. Verify that users enter appropriate values for the commission.
4. Calculate item totals from price and quantity, and calculate a checksum to make sure that the order total matches the sum of item totals.
5. Automatically generate a sequential order number for each new order, and a line item number for each new line item.
6. Allow the operator to call the Customer form directly from the Order Entry form so that a new customer's background information can be entered at the same time as his first order.
7. Synchronize screen display of orders with the associated line items.

Start with the SQL*Forms default form


1 minute

The first step in building the form is to use SQL*Forms' DEFAULT command to generate both the order header and the line item detail sections of the form. SQL*Forms lets you include as many tables as you want in one form. You can even span multiple screen pages if you run out of room on the first page of your form.

Then paint the screen and adjust all field attributes

20 minutes

Then, just as in the prior chapters, use the SQL*Forms screen painter to adjust the appearance of the form, and use pop-up windows to set field attributes appropriately. The functional changes you make are simple:

- Changing the display formats of several fields.
- Displaying the current date as a default value for the date field.
- Shortening the displayed length of the status message field, so that field doesn't take so much space on the form. SQL*Forms still lets a user enter a full-length value by horizontally scrolling the field as the user enters data

Now you have the base upon which you can build more complex features into your form.

```
                              ORDER
Order No.                          Date        08-JAN-88
Cust Code                          Name
Order Total                        Sales Code
Check Total                        Commission
Status Msg                         Shipdate
                         ORDER LINE ITEMS
Item Product Product               STD      Actual          Item
No.  Code    Description           Price    Price    Qty    Total
```

Now add the special features

1 hour

SQL*Forms has prepared the framework of the order entry form. It has done the bulk of the work for you, so adding the features Andrews has requested won't take much time.

Feature 1
Verifying Customer Codes and Displaying Customer Names

SQL*Forms lets you ensure the integrity of your data by checking references in any database table. To meet Andrews' first request—to make the application verify that a user has input a valid customer code—you have to write only one SQL statement. This statement queries the CUSTOMER table to see if the customer code entered by the user exists:

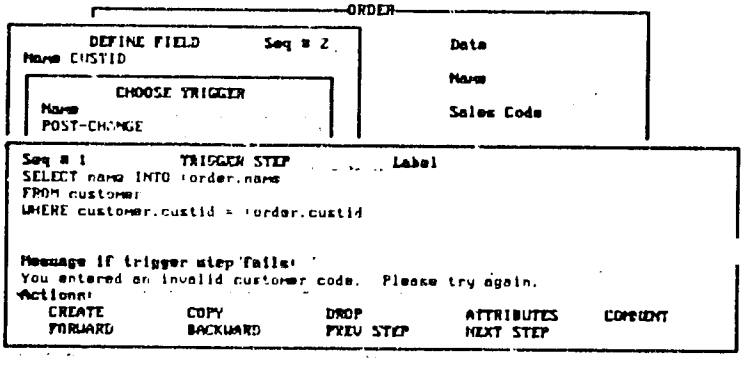
```
SELECT *
FROM customer
WHERE customer.customerid = :orders.customerid
```

Andrews also wants SQL*Forms to automatically display the correct customer name whenever a user enters the customer code. This lookup requires only a small addition to the SQL statement:

```
SELECT name
INTO orders.name
FROM customer
WHERE customer.customerid = :orders.customerid
```

Andrews wants SQL*Forms to check the field validity and perform the lookup whenever a user enters or changes the customer code. You therefore need to instruct SQL*Forms to trigger the SQL statement you've just written whenever the field changes. This takes just a few seconds in the Trigger pop-up window.

Use SQL to enforce validations and lookups



Now, whenever the user enters a customer code, SQL*Forms will immediately check its validity. If it is a valid code, SQL*Forms will display the customer's name. If it is not, SQL*Forms will warn the user and require him to correct the entry. Note that you can write the message that explains the error to users.

Feature 2
Verifying Part Numbers

The validation you specify for part number, which verifies that the part number entered by the user exists and then automatically displays the part description and standard price, is quite similar:

```
ORDER
DEFINE FIELD        Seq # 2          Date
Name PART_NUM
                                     Name
CHOOSE TRIGGER
Name                                 Sales Code
POST-CHANGE

Seq # 1          TRIGGER STEP          Label
SELECT description, list_price
INTO :lineitems.description, :lineitems.list_price
FROM part.part_num = :lineitems.partnum

Message if trigger step fails:
You entered an incorrect product number.  Please try again
Actions:
   CREATE        COPY          DROP          ATTRIBUTES     COMMENT
   FORWARD       BACKWARD      PREV STEP     NEXT STEP
```

Feature 3
Testing the Commission Field

You can use SQL not only to perform lookups on database tables, but also to conduct any kind of conditional testing. For your next feature, for example, you must make sure that users enter appropriate values for the commission schedule—either an S for sale items or an R for regular price items. You can use SQL's WHERE clause to perform the conditional testing you want:

Use any SQL function for conditional setting

```
WHERE :commplan IN ('S','R')
```

Of course, testing need not be restricted to such simple cases. At your disposal is the full power of SQL, with its string, date, arithmetic, and logic functions.

Feature 4
Performing Calculations on Screen Fields

You can also use SQL to perform calculations on screen or database fields. To compute the total price for each line item as the product of quantity * price, all you need to do is write one calculation statement that SQL*Forms will execute whenever quantity or price changes.

```
SELECT :quantity * :price INTO totalprice
```

SQL*Forms lets you perform even more complex calculations. For example, to make sure the operator has not made an entry error, compare the order total to the sum of the line item totals. If the two don't match, alert the operator to the error with a warning message.

Feature 5
Generating Sequential Order Numbers

Just as you can calculate numbers, you can use the ORACLE database to keep track of order number assignments, and to automatically assign a new number for each new order an operator inputs. Two linked SQL statements do the job:

```
UPDATE order_sequence
SET order_num = order_num + 1

SELECT order_num INTO orders.orderid
```

Feature 6
Calling the Customer Form from the Order Form

To take advantage of some form features, you may want to control the heart of SQL*Forms operations. Calling one form from another is just such a case. When a new customer places his first order, the Sales staff would like to enter the order before entering the basic customer information. This causes a problem because new customers need customer code assignments before their orders can be processed.

SQL*Forms solves the problem by letting you call the Customer form from the Order Entry form. If the operator needs to enter a new customer's basic information while processing orders, he can just branch to the customer form by pressing one key. When he finishes entering the customer data, he automatically returns to the Order Entry form. A simple three-word macro implements the branching feature:

```
#exemacro call custform;
```

Feature 7
Automatically Linking Order Header Information with Line Item Details

Macros are also useful for coordinating the ORDER and LINEITEM tables. Information in the two parts of the Order Entry form should be synchronized; the line items shown in the bottom part of the form should always belong to the order header information shown on top.

SQL*Forms macros let you synchronize the ORDER and LINEITEM tables to fit your exact needs. Do you want associated line items to be erased if an order header record is deleted? Do you want to allow the querying of line items independent of the order headers? With SQL*Forms, you have the choice.

Summary

1 hour

You've now finished your Order Entry form, the last part of your application. You've seen how you can efficiently build even a very complex application with SQL*Forms.

You built the Order Entry form quickly, because SQL*Forms did the bulk of your work when it generated the default form. All you needed to do to create extra features was build special handling instructions on top of the SQL*Forms base. Instead of programming all functions of the form, you had to specify only those areas in which you wanted exceptions from SQL*Forms' default rules of action.

Your completed order entry form exactly fits your needs

```
                                   ORDER
① Order No.    615                      ⑥ Date        01-FEB-87
② Cust Code    107                      ⑦ Name   WOMENS SPORTS
③ Order Total        710                  Sales Code 13
  Check Total        710                  ⑧ Commission 5
④ Status Msg   Backorder - Store wi        Shipdate    06-FEB-87
                                   ORDER LINE ITEMS
Item Product Product                    STD      Actual          Item
No. ⑤Code    Description                Price    Price     Qty   Total
1    109861  ACE TENNIS RACKET II       50.00    45.00     10    450.00 ⑨
2    100070  ACE TENNIS BALLS-3 PACK     3.40     2.00    100    200.00
3    100071  ACE TENNIS BALLS-6 PACK     5.00     5.00     50    250.00
```

① Generates sequential order number.
② Verifies customer code.
③ Checks that order total matches the sum of item below.
④ Scrolls the long status message field horizonally.
⑤ Validates product code, and looks up product description and price.
⑥ Sets default date and validates date entry.
⑦ Automatically looks up and displays customer name.
⑧ Makes sure that commission schedule is valid.
⑨ Links display of order header information with the associated line items.
⑩ Calculates item total.

SUMMARY

SQL*Forms, Oracle's 4th-generation application development tool, automatically provides complete form capabilities for:

- Data entry
- Query
- Update
- Delete.

Complete Applications

- The interface is easy to learn and makes form users more productive. You input and update data just by typing. SQL*Forms has neither arcane commands to learn, nor tedious menus to slow you down.
- Novice users can retrieve database information easily with the Query-By-Example method. More experienced users have the option of writing SQL queries directly to specify even the most intricate of selection criteria.
- SQL*Forms provides full security measures in multi-user systems. And SQL*Forms takes advantage of ORACLE's row-level locking features to provide high performance even when many people use the same application.

Forms Development without Programming

SQL*Forms' revolutionary 4th-generation structure lets you write applications without programming.

- SQL*Forms performs the bulk of your work for you. You start your applications with fully functional default forms that SQL*Forms automatically generates with information from ORACLE's data dictionary. Your forms may include:
  - As many rows and columns displayed as you wish
  - Any number of tables
  - Any number of screen pages
- You can modify forms easily using SQL*Forms' pop-up windows. Specifying field attributes, setting default values or writing help messages takes only a few keystrokes.
- Adding new fields is equally easy. Just mark the field's location on the screen and specify the field name and datatype.

Make your applications come alive with visually effective screens. Using the SQL*Forms screen painter, you can edit field prompts and other text by simply typing on the screen. You can draw graphics lines and boxes anywhere. And SQL*Forms' ability to cut and paste any screen region lets you rearrange screen layouts quickly.

Extended Power through Open Architecture

SQL*Forms open architecture lets you develop even the most complex applications.

- SQL*Forms lets you change your application framework by incorporating SQL, macros, or even your existing subroutines in COBOL, C or other common programming languages. Whether it's complex field validations or intricate transaction processing you want, SQL*Forms gives you the power you need.
- What differentiates SQL*Forms from other products is your ability to incrementally customize a form.

  1. Start with SQL*Forms' automatically-generated defaults.
  2. Then progressively enhance your form to meet your needs.

  You can easily change your application at any point, because SQL*Forms manages the framework of the default framework of your application, while you specify only the exceptions.

The SQL*Forms Benefits: Effective Prototyping

SQL*Forms' quick development process not only makes you more efficient, but also allows you to take advantage of a more flexible development style and involve end-users in the valuable prototyping process. With SQL*Forms, you can meet users' needs effectively because change is so easy, and because you never have to re-write your prototype in code—your SQL*Forms prototype is your finished application.

Flexibility for Your Changing Requirements

SQL*Forms' flexibility also lets you respond quickly to shifting business needs. When your requirements change, you can adjust your SQL*Forms applications easily. Whether you need to add new fields or change transaction structures, you can modify your applications quickly, with virtually no re-coding.

Whatever your application requirements, ORACLE and SQL*Forms give you the power and flexibility you need, both now and in the future.

System Definition

The S0 Systems Data Flow Diagram shows the high level interaction of all the systems within the EGPC Information Systems Planning & Implementation Project. The diagram contains

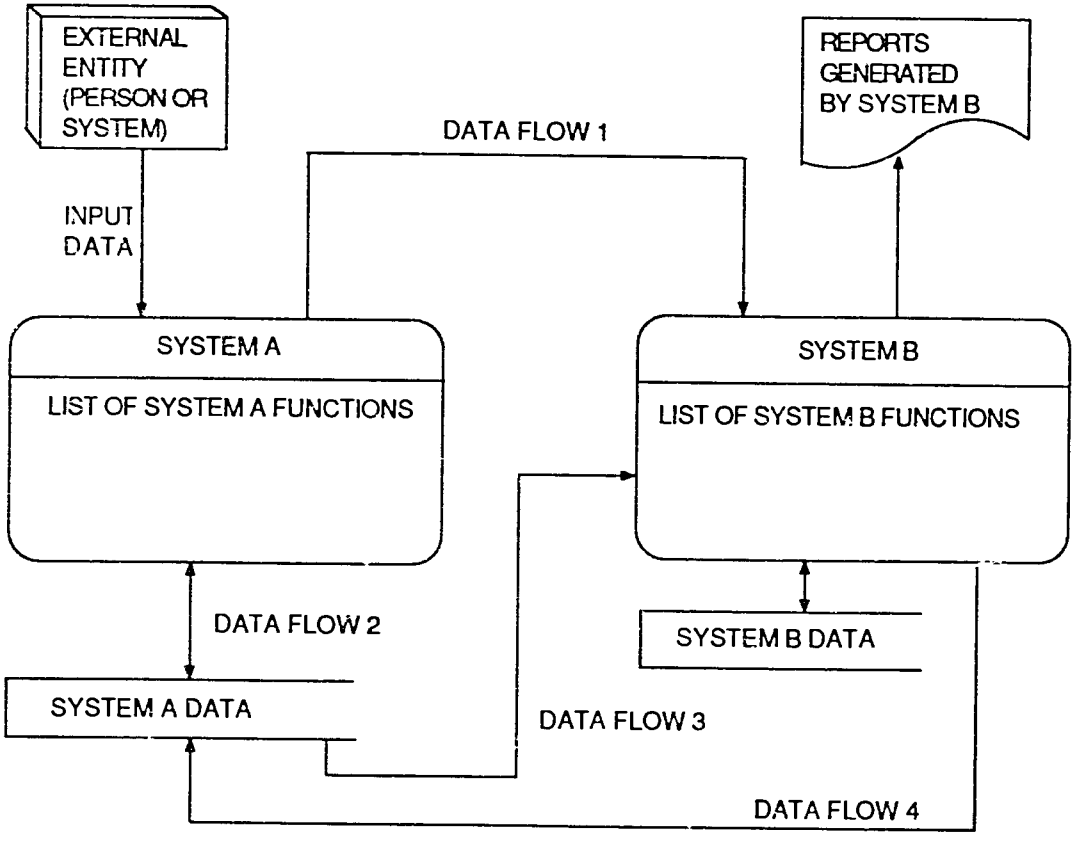
1) the major system categories (depicted by round cornered rectangles),
2) the subsystems within the major systems (listed by title within the major system rectangles),
3) the database used by each major system (depicted by open rectangles),
4) the users of the systems (depicted by boxes),
5) outputs of the systems (depicted by report symbols), and
6) arrows showing the data flow and interaction between the systems, databases, users, and reports.

The diagram provides

1) a reference for the extent of the overall system or project,
2) an overview of the data sharing required between the major databases and applications,
3) the upper level hierarchy from which more detailed decompositions can be designed showing data requirements for each application, and
4) a focal point for future users to determine references to the major system components.

A detailed description of the pilot subsystems is in the application specifications provided later in this section. The overview diagram used in conjunction with the more detailed application specifications provides the user with both the big picture and the specifics of the overall system functionality.

Following the S0 Systems Data Flow Diagram is the EGPC Application Systems Hierarchy. The systems hierarchy shows the application naming convention and provides the structure for including future systems and subsystems into the overall hierarchy. The naming convention is a part of a project's overall configuration management program. For example, the application ESDQR is identifiable as part of the ES system and there is a both an ESDQR.FRM (called from the menu application) and an ESDQR.INP (for future modifications) file in the system database. Also, the menu program displays ESDQR along with the application's descriptive name.



SYMBOLS

SYSTEMS WHICH PERFORM AUTOMATED FUNCTIONS

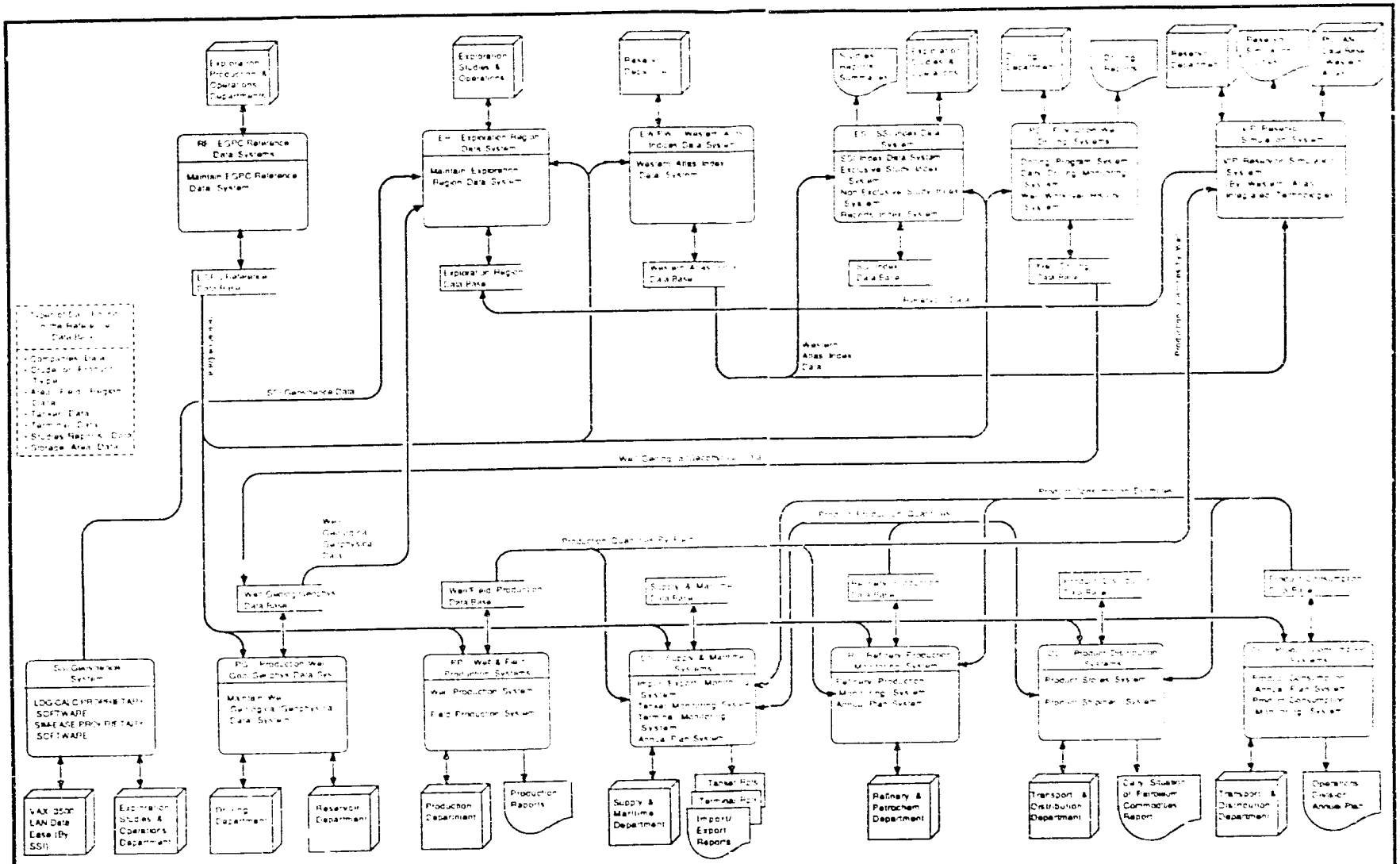
DATA THAT IS STORED

DATA THAT IS TRANSFERED

TYPES OF DATA FLOW:

DATA FLOW 1	SYSTEM A SENDS DATA TO SYSTEM B
DATA FLOW 2	SYSTEM A MAINTAINS DATA SPECIFIC TO ITS FUNCTION(S). PERFORMS READS, ADDS, DELETES, AND UPDATES.
DATA FLOW 3	SYSTEM B REQUIRES DATA MAINTAINED BY SYSTEM A AND READS IT FROM 'SYSTEM A DATA' DIRECTLY
DATA FLOW 4	SYSTEM B GENERATES DATA MAINTAINED BY SYSTEM A, AND WRITES IT DIRECTLY TO 'SYSTEM A DATA'

SYSTEM DATA FLOW DIAGRAM LEGEND



EGPC INFORMATION SYSTEMS PLANNING & IMPLEMENTATION PROJECT

S0 SYSTEMS DATA FLOW DIAGRAM

EGPC APPLICATION SYSTEMS HIERARCHY

R - EGPC Reference Data Systems
- **RF** - EGPC Reference Systems
  - **RFD** - EGPC Reference Data Base
    - **RFDQ** - EGPC Reference Data Base Query/Update
      - **RFDQD** - Update EGPC Reference Details Data (RF_REF_DTL)
      - **RFDQM** - Update EGPC Reference Master Data (RF_REF_MSTR)
      - **RFDQP** - Update EGPC Reference Parameters Data (RF_REF_PRM)
      - **RFDQT** - Update EGOC Reference Type Master Data (RF_REF_TYPE_MSTR)
    - **RFDR** - EGPC Reference Data Base Reports
      - *EGPC Reference Data Base*

E - Exploration Systems
- **ER** - Exploration Region Systems
  - **ERD** - Region Data Base
    - **ERDQ** - Region Data Base Query/Update
      - **ERDQF** - Update Fault Block Data (ER_FAULT_BLOCK)
      - **ERDQS** - Update Grid Simulation Data (ER_GRID_SIM_DATA)
      - **ERDQP** - Update Grid Simulation Parameters (ER_GRID_SIM_PRM)
      - **ERDQR** - Update Reservoir Data (ER_RESERVOIR)
    - **ERDR** - Regional Data Base Reports
      - *Region Data Base*
- **EW** - Western Atlas Indices Data Systems
  - **EWD** - Western Atlas Indices Data Base
    - **EWDQ** - Western Atlas Indices Data Base Query/Update
      - **EWDQG** - Update Magnetic Tape Data (EW_MAG_TAPE)
      - **EWDQM** - Update Map Data (EW_MAP_INDEX)
      - **EWDQL** - Update Seismic Line Data (EW_SEISMIC_LINE)
      - **EWDQS** - Update Seismic Section Data (EW_SEISMIC_SECT)
      - **EWDQV** - Update Seismic Survey Data (EW_SEISMIC_SURVEY)
    - **EWDR** - Western Atlas Indices Data Base Reports
      - *Western Atlas Index Data Base*
- **ES** - SSI Indices Data Systems
  - **ESD** - SSI Indices Data Base

ESDQ - SSI Indices Data Base Query/Update
- **ESDQA** - Update SSI Airmag Data (ES_AIRMAG_DATA)
- **ESDQG** - Update SSI Gravity Data (ES_GRAVITY_DATA)
- **ESDQL** - Update SSI Lab Analysis Data (ES_LAB_ANALYSIS)
- **ESDQM** - Update SSI Map Data (ES_MAPS)
- **ESDQR** - Update SSI Reports Data (ES_REPORTS)
- **ESDQS** - Update SSI Seismic Data (ES_SEISMIC_DATA)
- **ESDQ3** - Update SSI 3-D Seismic Data (ES_SEISMIC_3D)
- **ESDQX** - Update SSI Cross-section Data (ES_XSECTION)

ESDR - Regional Data Base Reports

SSI Index Data Base

P - Production Systems

PD - Production Well Drilling Systems

PDD - Well Drilling Activity Systems Data Base

PDDQ - Well Drilling Systems Data Base Query/Update
- **PDDQP** - Update Drilling Programs (WD_DRILL_PROGRAM)
- **PDDQD** - Update Drilling Daily Detail (WD_DRILL_DAY_DTL)
- **PDDQF** - Update Fixed Drilling Detail (WD_FIX_DRILL_DTL)
- **PDDQS** - Update Drilling Daily Summary (WD_DRILL_DAY_SUM)
- **PDDQA** - Update Drilling Directional Angle Data (WD_DRILL_DIRECT)
- **PDDQT** - Update Drilling Parameter Table (WD_DRILL_PRM)

PDR - Well Drilling Activity Reports

PG - Production Well Geological/Geophysical Data Systems

PGGQ - Well Geological/Geophysical Data Base Query/Update
- **PGGQM** - Update Well Master (WG_WELL_MSTR)
- **PGGQD** - Update Well Bore Devices (WG_WELL_DEVICE)
- **PGGQT** - Update Well Bore Device Parameter Table (WG_WELL_DEVIC_PRM)
- **PGGQF** - Update Well Fluid PVT Data (WG_FLUID_PVT_DATA)
- **PGGQP** - Update Well Fluid PVT Parameters (WG_FLUID_PVT_PRM)
- **PGGQW** - Update Well Workover History (WG_WORKOVER_HIST)

PGR - Well Geological/Geophysical Data Base Reports

Well Geological & Geophysical Data Base Maintanance

EGPC APPLICATION SYSTEMS HIERARCHY

PW - Well Data Systems (Production Department)
- **PWW** - Western Atlas Well Index Data Base
  - **PWWQ** - Western Atlas Well Index Data Base Query/Update
    - **PWWQC** - Update Casing Data (WW_CASING)
    - **PWWQD** - Update Deviation Data (WW_DEVIATION)
    - **PWWQG** - Update General Well Data (WW_GENERAL_WELL)
    - **PWWQL** - Update General Log Record Data (WW_LOG_RECORD)
    - **PWWQR** - Update Rock Sample Data (WW_ROCK_SAMPLE)
    - **PWWQW** - Update Sidewall Data (WW_SIDEWALL)
    - **PWWQS** - Update Strat Tops Data (WW_STRAT_TOPS)
    - **PWWQT** - Update Test Data (WW_TEST_DATA)
  - **PWWR** - Western Atlas Well Index Data Base Reports
    - *Western Atlas Well Index Data Base*

PP - Well & Field Production Monitoring Systems
- **PPD** - Well & Field Production Monitoring Systems Data Base
  - **PPDQ** - Well & Field Production Monitoring Systems Data Base Query/Update
    - **PPDQM** - Update Well Monthly Production (WP_WELL_MON_PROD)
    - **PPDQD** - Update Field Daily Actual Production (OP_FIELD_DAY_ACT)
    - **PPDQP** - Update Field Monthly Plan Production (OP_FIELD_MON_PLAN)

O - Operations Systems
- **OS** - Supply & Maritime Systems
  - **OSD** - Supply & Maritime Data Base
    - **OSDQ** - Supply & Maritime Import/Export Query/Update
      - **OSDQP** - Query/Update Import/Export Plans (OS_IMP_EXP_PLAN)
      - **OSDQC** - Query/Update Import/Export Contracts (OS_IMP_EXP_CONTR)
      - **OSDQS** - Query/Update Import/Export Shipments Data Base (OS_SHIPMENTS)
    - **OSDM** - Maritime Tanker Status Data

OSDQM - Query/Update Maritime Tanker Status Data (OS_TANKER_STAT)

OSDT - Terminal Status Data

OSDQT - Query/Update Terminal Status Data (OS_TERMINAL_STAT)

OSDR - Supply & Maritime Reports

Supply & Maritime Data Base

OR - Refinery Production Monitoring Systems

ORD - Refinery Production Monitoring Data Base

ORDQ - Refinery Production Query/Update

ORDQP - Query/Update Refinery Production Plan Data (OR_REF_MON_PLAN)

ORDU - Refinery Production Upload

ORDQA - Query/Update Refinery Daily Actual Data (OR_REF_DAY_ACT)

ORDR - Refinery Production Reports

Refinery Data Base

OD - Product Distribution Systems

ODD - Product Distribution Data Base

ODDQ - Product Distribution Query/Update

ODDQS - Query/Update Product Distribution Storage Data (OD_PROD_DIST_STOR)

ODDR - Product Distribution Reports

Distribution Data Base

OC - Product Consumption Systems

OCD - Product Consumption Data Base

OCDQ - Product Consumption Monthly Plan Data Base

OCDQP - Query/Update Product Plan Consumption Data (OC_CONSU_MON_PLAN)

OCDU - Product Consumption Monthly Actual Data Base

OCDQA - Query/Update Product Consumption Monthly Actual Data (OC_CONSU_MON_ACT)

OCDR - Product Consumption Reports

Distribution Data Base

EGPC INFORMATION SYSTEMS PLANNING
AND IMPLEMENTATION PROJECT

APPLICATION SPECIFICATION FOR

EXPLORATION STUDIES/REPORTS INDICES SYSTEM
REPORTS INDEX SUBSYSTEM

1.1 EXPLORATION STUDIES/REPORTS INDICES SYSTEM:

This system consists of three subsystems. The first subsystem is the EXCLUSIVE STUDY INDEX SUBSYSTEM. This subsystem is used to assist the Exploration Department in reviewing Exclusive Studies that have been prepared for the benefit of EGPC. Exclusive Studies are speculative studies initiated by EGPC to promote and encourage activities in the different regions of Egypt. They are intended for internal use by EGPC to gain a better understanding of an area, and to present to foreign companies for exploration and to promote investment.

The second subsystem is the NON-EXCLUSIVE STUDIES SUBSYSTEM. This subsystem is used by the Exploration Department to assist in the review of Non-Exclusive Studies. Non-Exclusive Studies are made by consulting firms or service companies under the direction of EGPC. These are multi-client studies that are available for sale to companies that are interested in bidding on a concession. The studies also highlight new potentials for exploration areas.

The third subsystem is the REPORTS INDEX SUBSYSTEM. This subsystem is used to provide the Exploration Department with current information regarding the types of reports that have been generated for a particular exploration area. It is also intended to offer the EGPC professionals with a brief synopsis of the report results.

1.1.1 EXCLUSIVE STUDY INDEX SUBSYSTEM:

This subsystem will be specified and completed by the EGPC I/S department.

1.1.2 NON-EXCLUSIVE STUDIES SUBSYSTEM:

This subsystem will be specified and completed by the EGPC I/S department.

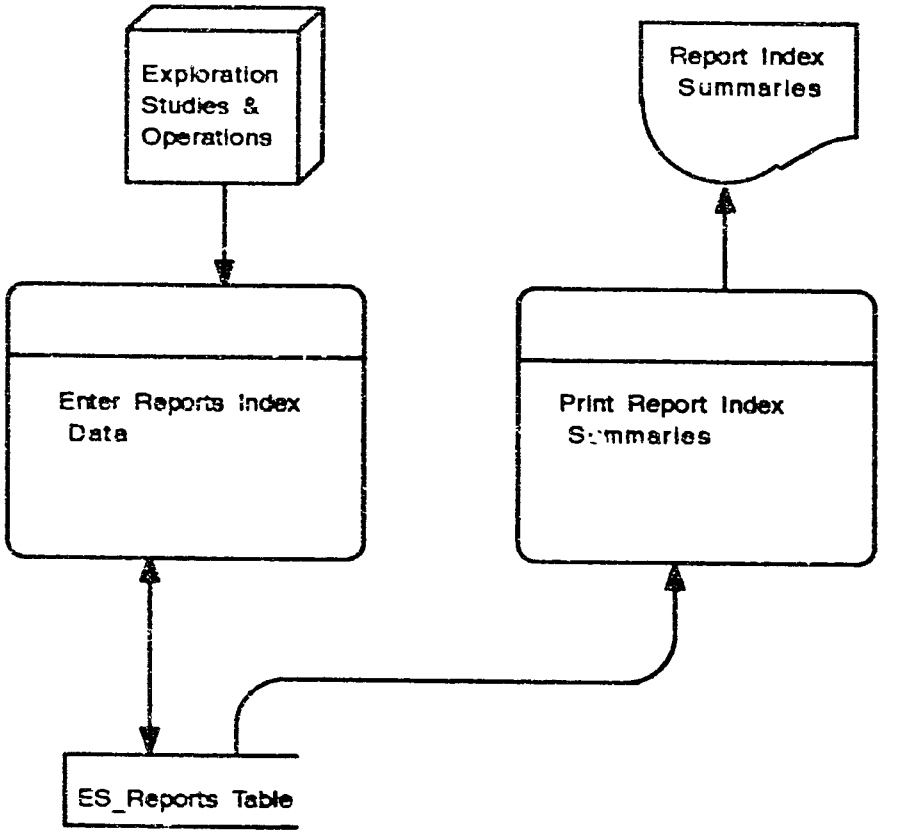
1.1.3 REPORTS INDEX SUBSYSTEM:

This subsystem will provide the Exploration Department with on-line query ability of the reports data base. The department will be able to obtain summaries of the number and types of reports for an exploration area. Reports can be output from this subsystem that will list the reports, and will summarize the key findings of each report in paragraph form.

All of the data necessary to formulate the reports will be located in the ES_REPORTS dataset. Examples of types of data that will be input to this dataset include: report title; type; date; contractor; region; report number; and a brief narrative summarizing the key findings of the report.

The reports will be generated on an ad-hoc basis. That is, they will be generated at any time by user request.

REPORTS INDEX SUBSYSTEM
LEVEL 2 DATA FLOW DIAGRAM



BECHTEL CORPORATION		
Reports Index Subsystem-Level 2 DFD		
Rev. 1	Date: 25 Jun 90	Page 1 of 1

REPORTS INDEX SUBSYSTEM
DATA STRUCTURE DIAGRAM

ES_REPORTS

REPORT_NO	PAGES_NO
TYPE	MICROFILM_NO
SUB-TYPE	CONDITION_VG
TITLE	CONDITION_G
CONTRACTOR	CONDITION_P
CONCESSIONAIRE	SECURITY_HIGH
AUTHOR	SECURITY_LOW
REGION	CONFIDENTIAL
AREA (GEOG)	BUILDING
AREA (GEOLOG)	CABINET_NUM
SUB_AREA	ROOM_NO
FIELD_NAME	SHELF_NO
BASIN_HIGH	NO_OF_COPIES
CONCESS_BLOCK	ABSTRACT_REMARKS
WELL	CONTRACTOR
REPORT_DATE	INCLUSIONS
REPORT_PAPER	QUALITY
ENCLOS_MAP	
ENCLOS_SECT	
ENCLOS_ELOG	
ENCLOS_COMPOSITE	
ENCLOS_VSP	
ENCLOS_MUD_LOG	

BECHTEL CORPORATION		
Reports Index Subsystem-Level 2 DSD		
Rev. 1	Date: 20 Jun 90	Page 1 of 1

EGYPTIAN GENERAL PETROLEUM CORPORATION

EXPLORATION REPORTS SUMMARY
EXPLORATION STUDIES DEPARTMENT

REPORT NO.: _____

TITLE: _____ AUTHOR: _____

TYPE: _____ SUBTYPE: _____ DATE: _____

CONCESSIONAIRE: _____ CONTRACTOR: _____

NO PAGES: _____ QUALITY: _____

REGION: _____ CONCESSION BLOCK: _____

AREA (GEOG): _____ BASIN/HIGH: _____

AREA (GEOLOG): _____ WELL: _____

REPORT LOC (BUILDING): _____ ROOM NO.: _____ CABINET NO.: _____

ABSTRACT REMARKS

_____

REPORT SPECIFICATION - EXPLORATION REPORTS SUMMARY

BECHTEL

EXPLORATION REPORTS INDEX SUBSYSTEM
APPLICATION DOCUMENTATION

GETTING INTO THE SYSTEM:

This application is run under the Oracle tool SQL*Forms. To access SQL*Forms, the user must type in SQLFORMS, insert a space, and then type in a valid user ID and password.

Having done this, the screen on the following page will appear. This is the "CHOOSE FORM" screen. To list the all of the forms in the data base, the user positions the cursor on "LIST" and presses the F2 key.

LISTING FORMS:

The next page shows the list of all of the forms for in the data bases. To choose a specific one, the user will position the cursor on the desired form and press the "F2" key.

To move up and down the list of forms, the user can select the "PREVIOUS" and "NEXT" keys. These keys work essentially the same as page up and page down. Selecting "PREVIOUS" allows the user to see the previous page. Selecting "NEXT" allows the user to see the next page.

Whenever the user is ready to select a specific form, the user will position the cursor on the desired form and press the "F2" key.

```
            CHOOSE FORM
Name
ESDQR
Actions:
 CREATE      MODIFY      LIST
 RUN         DEFINE      LOAD
 FILE        GENERATE
```

Form: Block: Page: SELECT: Char Mode: Replac

SQL*FORMS FOR THIS APPLICATION:

To use this application, the user will access the Oracle Tool SQL*Forms. There is one form that is required in order to input data into the data base tables.

Any form can be accessed by going to the "Choose Form" menu and typing in the name of the form. The name of this form in Oracle is ESDQR, and the form accesses the ES_REPORTS Table.

To work within any form, the user needs to go to the "CHOOSE FORM" screen. On this screen, the user can type in the name of the form, position the cursor on the word "RUN", and press the F2 key. This will activate the form desired, and the user will be ready to access the desired table, and begin entering information.

USING Form ESDQR:

Using the ESDQR form, the user can perform the following functions: add records, delete records, update records, or display records. This form consists of 2 pages and is made up of the different fields in the ES_REPORTS Table.

To display the records on this form, the user will press F8. The user can go to next records and previous records by pressing the PAGE UP or PAGE DOWN keys. Records can be updated by overwriting them, moving through the fields on the form by pressing the TAB key. To commit the change to the data base, the user will press the F10 or "COMMIT" key. To delete a record, the user will press both the SHIFT and F4 keys at the same time. To commit this change, the user will again press F10.

The user can also copy records on this form. By pressing F8, the user can retrieve records in the data base. The user can then use the PAGE UP or PAGE DOWN keys to move through the records. Finding the desired record, the user will press the F4 key to create a blank field where the duplicate record will be placed. Then, the user will press F5 (the DUPREC key) which will copy the previous record. The user can then press F10 to commit this duplication, or the user can modify the information first, and then press F10.

There are some mandatory entry records. If the user attempts to commit the data without having entered data in these mandatory fields, a message will appear stating "FIELD MUST BE ENTERED". The user must then go to the mandatory field that has been left blank and enter the data.

ESDQR Update SSI Reports Data 25-JUN-90

tle

Type Report/Paper? (R/P) Date

Concessionaire Contractor
Author

No. Pages No. Inclusions Quality

Region Basin/High

Field Name Well

Report Loc (Building) Cabinet No. Report No.
Abstract/Remarks

	PF1	PF2	PF3	PF4	PF5	PF8	PF9	PF10
	Help	ClrRec	ClrBlk	CreRec	DupRec	ExeQry	LstFldVal	Commit
Shift	ShowKeys	Print	RollBk	DelRec		EntQry	DspErr	Exit

Char Mode: Replace Page 1 Count: *0

Sub.Type

Area_Geog.

Area geolog.

Sub area

Conces.Block Microfilm no.

Enclos :
Map Sect. Elog. Composite VSP Mud Log Disk

Condition : VG G P Security: High Low Confidential

Room no. Shelf no. No Of Copies

	PF1	PF2	PF3	PF4	PF5	PF8	PF9	PF10
	Help	ClrRec	ClrBlk	CreRec	DupRec	ExeQry	LstFldVal	Commit
Shift	ShowKeys	Print	RollBk	DelRec		EntQry	DspErr	Exit

Char Mode: Replace Page 2 Count: *0

USING SQL*ReportWriter
TO GENERATE THE
EXPLORATION REPORTS INDEX REPORT

The Exploration Reports Index Subsystem obtains its information from only one table in the data base. The table name is ES_REPORTS.

The user must enter SQL*ReportWriter to generate a report. To get into SQL*ReportWriter, the user will type in the word SQLREP, leave a space, and then type in his or her USERID and PASSWORD and hit ENTER.

When entering SQL*ReportWriter, a general menu will be displayed (see next page). To select one of the options that are displayed at the top of the menu, use the TAB keys to locate it, and the F2 key to select it.

Action Query Group Field Summary Text Report Parameter Help

SQL*ReportWriter

Perform global operations on reports.

The first selection that can be made by a user is ACTION. Once ACTION has been selected, a sub-menu appears that allows the user to CREATE a new report, OPEN an existing report, RENAME an existing report, or DROP a report.

To enter the Exploration Application, select OPEN. Move the arrow key down to EXP_1, and press F2 to select it.

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                SQL*ReportWriter

 New
 Open
 Copy
 Rename      Report to Open:
 Drop
 Execute      EXP_1
 Generate
 Quit

Enter the name of the report you wish to modify.
                                                <INSERT>          <LOV
```

The next selection that a user can make in the report menu is QUERY. The user can access this by pressing the tab key until the word QUERY is highlighted, and pressing F2. The QUERY is the basis of the report. It uses a SQL*Plus select statement to select all fields to be displayed. It also assigns the different relationships, restrictions, the order in which fields will be displayed, and the groupings.

The query shown on the next page is used to create an Exploration Reports Summary.

Action Query Group Field Summary Text Report Parameter Help

Query Settings

Query Name: Q_MASTER

Query 1 of 1

SELECT Statement

```
SELECT REPORT_NO, TITLE, AUTHOR, TYPE, SUB_TYPE, REPORT_DATE,
       CONCESSIONAIRE, CONTRACTOR, PAGES_NO, QUALITY, REGION,
       CONCESS_BLOCK, AREA_GEOG, BASIN_HIGH, AREA_GEOLOG,
       WELL, BUILDING, ROOM_NO, CABINET_NUM, ABSTRACT_REMARKS
FROM ES_REPORTS
WHERE REPORT_DATE=:DT
AND   WELL        =:WL
```

Parent-Child Relationships

Parent Query 1: Parent Query 2:

Child Columns	Parent 1 Columns	Parent 2 Columns

Enter a name for this query.

EXP_1

<INSERT> <LOV.

GROUP SETTINGS:

A field or number of fields can be selected for including in a GROUP. These fields can be selected regardless of whether they appear in the same query or different queries. The criteria for selecting the groupings is how the data will appear on the report. These settings are used to assign breaks or summaries based on a group of data.

Groups are set up by default when queries are created. They can also be created to assign PRINT DIRECTION, MATRIX GROUPS, or PAGE BREAKS. Groups can be used to set up the general appearance of a report. Fields in the data base can be placed in groups in the order that they will be printed in the report. Spacing characteristics for both records and fields can also be assigned on the group screen.

Panel settings can also be set on the group screen. The default of panel settings allows fields of the same group to remain together. However, this can be changed.

The label position selection allows the user to specify the position of the label in relation to the field.

The highlight field/label option allows the user to specify a special font for a field or a group of fields. If no entry is made here, the font will default to normal.

Action Query Group Field Summary Text Report Parameter Help

Group Settings 1 of

	Group Name	Query	Print Direction	Matrix Group	Page Break
↑	G_MASTER	Q_MASTER	Down		
	G_REM	Q_MASTER	Down		
↓					

Enter a name for this group.

EXP_1

<INSERT> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Group Settings 2 of

	Group Name	Relative Position	Lines Before	Spaces Before	Spacing Record	Spacing Field	Fields Across
↑	G_MASTER						
	G_REM	Below	0	0			
↓							

Choose the position of this group in relation to the previous group.

EXP_1 <INSERT> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Group Settings 3 of

	Group Name	Multi-Panel	Label Position	Highlight Field	Highlight Label
↑	G_MASTER		Left		
	G_REM		Above		
↓					

Choose the position of field labels relative to the fields.

EXP_1 <INSERT> <LOV>

This is the FIELD SCREEN. By default, the user will find the field name, source column, and group as well as the label already filled in. The user may change some values in the group column to associate fields to corresponding groups. For label, the user may type in the label he or she would like to see on the report.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 1 of

	Field Name	Source Column	Group	Label
↑	REPORT_NO	REPORT_NO	G_MASTER	Report No:
	TITLE	TITLE	G_MASTER	Title:
	AUTHOR	AUTHOR	G_MASTER	Author:
	TYPE	TYPE	G_MASTER	Type:
	SUB_TYPE	SUB_TYPE	G_MASTER	Sub.Type:
	REPORT_DATE	REPORT_DATE	G_MASTER	Report Date:
	CONCESSIONAIRE	CONCESSIONAIRE	G_MASTER	Concessionaire:
	CONTRACTOR	CONTRACTOR	G_MASTER	Contractor:
	PAGES_NO	PAGES_NO	G_MASTER	Nb Of Pages:
	REGION	REGION	G_MASTER	Region:
	WELL	WELL	G_MASTER	Well:
	QUALITY	QUALITY	G_MASTER	Quality:
↓	CONCESS_BLOCK	CONCESS_BLOCK	G_MASTER	Concess.Block:

Enter a name for this field.

EXP_1 <INSERT> <LOV

Action Query Group Field Summary Text Report Parameter Help

Field Settings 1 of

	Field Name	Source Column	Group	Label
↑	PAGES_NO	PAGES_NO	G_MASTER	Nb Of Pages:
	REGION	REGION	G_MASTER	Region:
	WELL	WELL	G_MASTER	Well:
	QUALITY	QUALITY	G_MASTER	Quality:
	CONCESS_BLOCK	CONCESS_BLOCK	G_MASTER	Concess.Block:
	AREA_GEOG	AREA_GEOG	G_MASTER	Area Geog:
	BASIN_HIGH	BASIN_HIGH	G_MASTER	Basin High:
	AREA_GEOLOG	AREA_GEOLOG	G_MASTER	Area Geolog:
	BUILDING	BUILDING	G_MASTER	Building:
	ROOM_NO	ROOM_NO	G_MASTER	Room No:
	CABINET_NUM	CABINET_NUM	G_MASTER	Cabinet Num:
	ABSTRACT_REMARKS	ABSTRACT_REMARKS	G_REM	Abstract Remarks
↓				

Enter a name for this field.

EXP_1 <INSERT> <LOV>

This is page 2 of the field screen. The fields in this screen are usually assigned by default, the Data type and field width are normally left unchanged . The user may change the field width but this must be done very carefully so as not to affect the display of data in the database. The display format may be changed by entering the desired one. The relative position is the position of each field relative to the previous one.

Lines before are lines to be left blank before printing the field. Spaces before are spaces to be left before field it may be used as margin for each first field in a line.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 2 of

	Field Name	Data Type	Field Width	Display Format	Relative Position	Lines Before	Spaces Before
↑	REPORT_NO	CHAR	5		Below	2	4
	TITLE	CHAR	60		Below	2	4
	AUTHOR	CHAR	60		Below	2	4
	TYPE	CHAR	10		Below	2	4
	SUB_TYPE	CHAR	60		Below	2	4
	REPORT_DATE	DATE	9		Below	2	4
	CONCESSIONAIRE	CHAR	18		Below	2	4
	CONTRACTOR	CHAR	18		Below	2	4
	PAGES_NO	NUM	5		Below	2	4
	REGION	CHAR	16		Below	2	4
	WELL	CHAR	18		Right		
	QUALITY	CHAR	9		Right		
↓	CONCESS_BLOCK	CHAR	20		Below	2	4

Enter the number of lines to leave blank before printing this field.

EXP_1 <INSERT>

Action Query Group Field Summary Text Report Parameter Help

Field Settings 2 of

Field Name	Data Type	Field Width	Display Format	Relative Position	Lines Before	Spaces Before
PAGES_NO	NUM	5		Below	2	4
REGION	CHAR	16		Below	2	4
WELL	CHAR	18		Right		
QUALITY	CHAR	9		Right		
CONCESS_BLOCK	CHAR	20		Below	2	4
AREA_GEOG	CHAR	60		Below	2	4
BASIN_HIGH	CHAR	15		Below	2	4
AREA_GEOLOG	CHAR	60		Below	2	4
BUILDING	CHAR	20		Below	2	4
ROOM_NO	CHAR	8		Right		
CABINET_NUM	CHAR	5		Right		
ABSTRACT_REMARKS	CHAR	60		Below	3	4

Enter the width of this field in spaces.

EXP_1 <INSERT>

Action Query Group Field Summary Text Report Parameter Help

Field Settings 3 of

	Field Name	Align	Skip	Repeat	Computed Value Function	Reset Group
↑	REPORT_NO					
	TITLE					
	AUTHOR					
	TYPE					
	SUB_TYPE					
	REPORT_DATE					
	CONCESSIONAIRE					
	CONTRACTOR					
	PAGES_NO					
	REGION					
	WELL					
	QUALITY					
↓	CONCESS_BLOCK					

Choose the justification for this field.

EXP_1 <INSERT> <LOV:

Align allows the user to choose if the data will be left, right or center justified. Within the length of the field, the user will press F9 to get a list and then position the cursor on the desired option then press F2 to select it. We usually leave it blank which corresponds to the default value. Skip to hide a field from being displayed on the report 'X' means we select to hide it if blank then show it. Repeat to display a field on each panel Computer Value (function-reset group) not our case here.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 3 of

	Field Name	Align	Skip	Repeat	Computed Value Function	Reset Group
↑	PAGES_NO					
	REGION					
	WELL					
	QUALITY					
	CONCESS_BLOCK					
	AREA_GEOG					
	BASIN_HIGH					
	AREA_GEOLOG					
	BUILDING					
	ROOM_NO					
	CABINET_NUM					
	ABSTRACT_REMARKS					
↓						

Choose the justification for this field.

EXP_1 <INSERT> <LOV

The next page shows the Parameter Screen.

By default, the user will find the entries for Parameter Name, Data Type, Width and Label filled up. The default Width is always 40 by default in the Label option. In this case, a date is being displayed as a label. The date field will not require the default limit of 40 characters. Therefore, the user will use this screen to change the field length to 9 characters, as well as changing the WELL field that has been changed to 10 characters. After the change, the label can be shown on this screen before printing or viewing the report.

Action Query Group Field Summary Text Report Parameter Help

Parameter Settings

	Parameter Name	Data Type	Width	Default Value	Label
↑	DT	CHAR	9		ENTER REP DATE(DD-MO
	WL	CHAR	10		ENTER WELL:
↓					

Enter the label of this parameter.

Report Name: EXP_1 <INSERT>

Report Screen

The Report Screen offers several print options. Among them are: report type, name, format, margins, page, and comments. These are selected from a list by pressing F9.

Type: This is the type of report that will be printed. In this case, a screen print has been ordered.

Name is the device name.

Format is a format file that has the different set up's for different report layouts. The user can choose dflt (default) or wide for wide reports on wide printers.

Margins: The margins can be set or the default can be used. In this case, the default value is being used.

Page: The user can change it according to the paper used or according to the screen if the user only wants to display the report.

Comments: The comments can be used to provide documentation for the user.

Action Query Group Field Summary Text Report Parameter Help

Report Settings

Print Options	Margins	Page
Type: Screen	Top: 2	Height: 58
Name:	Bottom: 2	Width: 80
Format: dflt	Left: 0	
	Right: 0	

Comments

Enter the type of device to receive the report output.

EXP_1 <INSERT> <LOV>

The text screen is divided into three parts. They are: the REPORT, the PAGE, and the GROUP. The next screen shows the PAGE HEADER. In this case, the page header was left unchanged.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: PAGE	Type: Header	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV

On each report, the page number will appear on the bottom right hand corner of each page. To do this, the user goes to the FOOTER screen. The user chooses an object PAGE, chooses type PAGE, and enters the information shown under PANEL 1. This will print the page number as desired.

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Text Settings

Object:  PAGE                    Type:  Footer                Status:  Edited

Relative Position:               Repeat On Page Overflow:
     Lines Before:                     Justification:  Left
    Spaces Before:                         Frequency:

                                   Text
Panel Number:  1                                        Panels Defined: 1
↑                                                          Page &PAGE
↓
Choose the position of this text in relation to the previous text.
          EXP_1                                   <INSERT>        <LOV>
```

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Title Page	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV>

The ~~Text~~ ~~Text~~ ~~follows~~ ~~the~~ ~~Report~~

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Trailer Page	Status: Default
Relative Position:	Repeat On Page Overflow:	
Lines Before:	Justification:	Left
Spaces Before:	Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV>

On the first page of the report (and not on every page) the following header will appear:

EGYPTIAN GENERAL PETROLEUM CORPORATION
EXPLORATION REPORTS SUMMARY
EXPLORATION STUDIES DEPARTMENT

To do this, the user uses the same screen, selects OBJECT Report, TYPE header, and enters the information into PANEL 1 as is done here. This will cause this header to appear at the end of the report only.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Header	Status: Edited
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

&DATE

EGYPTIAN GENERAL PETROLEUM CORPORATION
EXPLORATION REPORTS SUMMARY
EXPLORATION STUDIES DEPARTMENT

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV>

the next screen is shows the Report header Because the name of " Egyptian general Petroleum Corporation., Exploration report Summary. Exploration Studies Department " is going to appear only once in the beginning of the report (as well as Date).

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Footer	Status: Default
Relative Position:	Repeat On Page Overflow:	
Lines Before:	Justification:	Left
Spaces Before:	Frequency:	

Text

Panel Number: Panels Defined: 0

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_MASTER	Type: Header	Status: Default
Relative Position:	Repeat On Page Overflow:	
Lines Before:	Justification:	Left
Spaces Before:	Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Text Settings

Object:  G_MASTER                Type:  Footer                Status:  Default

Relative Position:               Repeat On Page Overflow:
     Lines Before:                         Justification:  Left
    Spaces Before:                             Frequency:

                                   Text
Panel Number:                                          Panels Defined: 0
↑
↓

Choose the position of this text in relation to the previous text.
          EXP_1                                   <INSERT>        <LOV
```

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_MASTER	Type: Column Heading	Status: Default
Relative Position:	Repeat On Page Overflow:	X
Lines Before:	Justification:	Left
Spaces Before:	Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV

The following pages illustrate the BODY of the report. Using the OBJECT G_MASTER, the fields that will be displayed in the report are shown. The appearance of each field in this case represent the default values. However, if the user would like to change any of these default values, it can be done so by inserting spaces or lines as desired.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_MASTER	Type: Body	Status: Default
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

```
↑
Report No: &REPORT_NO

Title: &TITLE

↓ Author: &AUTHOR
```

Choose the position of this text in relation to the previous text.

EXP_1 <INSERT> <LOV

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Text Settings

Object:  G_MASTER                Type:  Body                Status:  Default

Relative Position:               Repeat On Page Overflow:  X
     Lines Before:  0                      Justification:  Left
    Spaces Before:  0                          Frequency:

                                   Text
Panel Number:  1                                          Panels Defined: 1
↑
     Author: &AUTHOR

     Type: &TYPE

     Sub.Type: &SUB_TYPE
↓

Edit the text.
            EXP_1                                          <INSERT>
```

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_MASTER	Type: Body	Status: Default
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

Sub.Type: &SUB_TYPE

Report Date: &REPORT_DATE

Concessionaire: &CONCESSIONAIRE

Edit the text.

EXP_1 <INSERT>

Action Query Group Field Summary Text Report Parameter He

Text Settings

Object: G_MASTER	Type: Body	Status: Defaul
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

Concessionaire: &CONCESSIONAIRE

Contractor: &CONTRACTOR

Nb Of Pages: &PAGES_NO

Edit the text.

EXP_1 <INSERT>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_MASTER	Type: Body	Status: Default
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

```
Nb Of Pages: &PAGES_NO

Region: &REGION  Well: &WELL  Quality: &QUALITY

Concess.Block: &CONCESS_BLOCK
```

Edit the text.

EXP_1 <INSERT>

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                Text Settings

Object:  G_MASTER                Type:  Body                Status:  Default

Relative Position:               Repeat On Page Overflow:  X
     Lines Before:  0                      Justification:  Left
    Spaces Before:  0                          Frequency:

                                   Text
Panel Number:  1                                          Panels Defined: 1
↑
     Concess.Block: &CONCESS_BLOCK

     Area Geog: &AREA_GEOG

     Basin High: &BASIN_HIGH
↓
Edit the text.
            EXP_1                                        <INSERT>
```

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_MASTER	Type: Body	Status: Edited
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

Area Geog: &AREA_GEOG

Basin High: &BASIN_HIGH

Area Geolog: &AREA_GEOLOG

Building: &BUILDING Room No: &ROOM_NO Cabinet Num: &CABINET_NUM

Edit the text.

EXP_1 <INSERT>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_REM	Type: Column Heading	Status: Edited
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

↑

Abstract Remarks

↓

Edit the text.

EXP_1 <INSERT>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_REM	Type: Body	Status: Edited
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

```
&ABSTRACT_REMARKS
```

Edit the text.

EXP_1 <INSERT>

EGPC INFORMATION SYSTEMS PLANNING
AND IMPLEMENTATION PROJECT

APPLICATION SPECIFICATION FOR

PRODUCTION WELL DRILLING SYSTEMS
DAILY WELL DRILLING MONITORING SUBSYSTEM

2.1 PRODUCTION WELL DRILLING SYSTEMS:

This system consists of three subsystems. The first subsystem is the DRILLING PROGRAM SYSTEM. This subsystem is used to assist the EGPC professionals in reviewing drilling programs submitted by either Concession Companies or the Joint Venture Operators. The second subsystem is the DAILY DRILLING MONITORING SYSTEM. This subsystem is used to monitor and follow up on the actual drilling progress of drilling activities while these activities are in process. The third subsystem is the WELL WORKOVER HISTORY SYSTEM. This subsystem is used to provide the EGPC engineers with historical information regarding the workover activities that have been conducted on a particular well.

2.1.1 DRILLING PROGRAM SYSTEM:

This subsystem will be specified and completed by the EGPC I/S department.

2.1.2 DAILY DRILLING MONITORING SYSTEM:

This subsystem will compare actual drilling progress against the schedule for the major activities included in a drilling program. The important data will be input to the following data tables:

- WD_DRILL_DAY_SUM (Drilling Daily Summary)
- WD_DRILL_PROGRAM (Drilling Program)
- WW_GENERAL_WELL (General Well)
- WG_WELL_MSTR (Well Master Table)
- WW_STRAT_TOPS (Stratigraphic Tops)

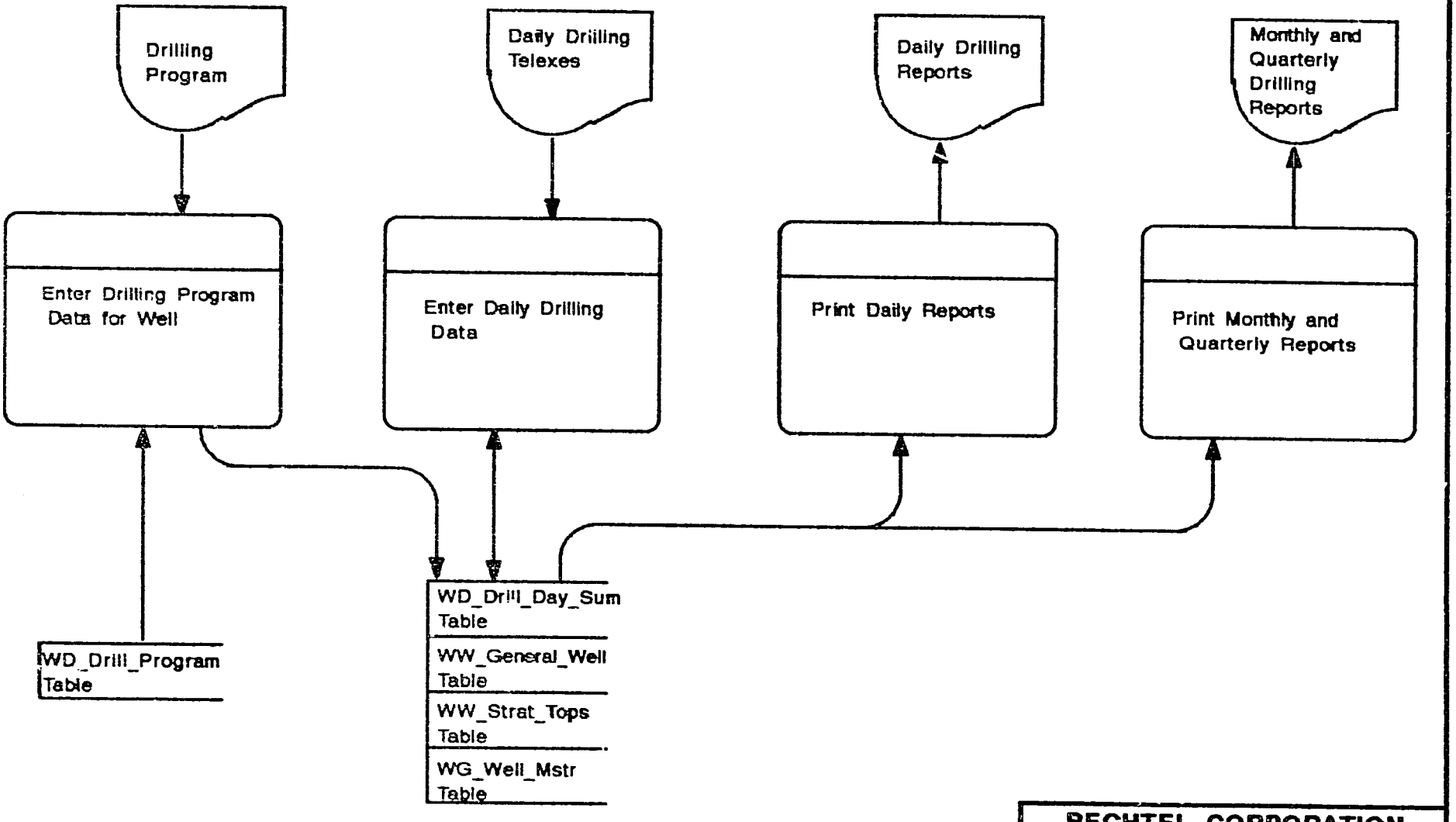
Examples of types of data that will be input to this dataset include: operational date; type of well (exploratory or production/offshore or onshore); the company operating the well; spud date; rig name; number of rig days; geological formations that are encountered during the drilling process; subcontractors that are present on the drilling site; and a brief narrative describing the actual activities/problems that are encountered during the day.

This application provides for reports that will allow the EGPC drilling department to monitor the actual drilling progress against the plan as well as highlight areas that require corrective action. On a daily basis, the drilling department will receive a report based on input received from the field the previous day. On a monthly basis, a report can be generated that will summarize for EGPC management the drilling activity that has taken place for the prior month. Examples of data that will be included in these reports includes: types of wells being drilled; the actual number of wells drilled during the month; number of wells planned to be drilled for the month; percent of actual versus planned that were accomplished; the number of rigs being utilized in Egypt; the number of repairs that were undertaken by rigs; the total number of wells drilled by each company versus the plan.

The data on each of these reports can also be retained for use in the drilling quarterly report. This report will follow the same format as the monthly report, but will encompass all of the activity for the quarter.

2.1.3 WELL WORKOVER HISTORY SYSTEM:

This application will be specified and completed by the EGPC I/S department.



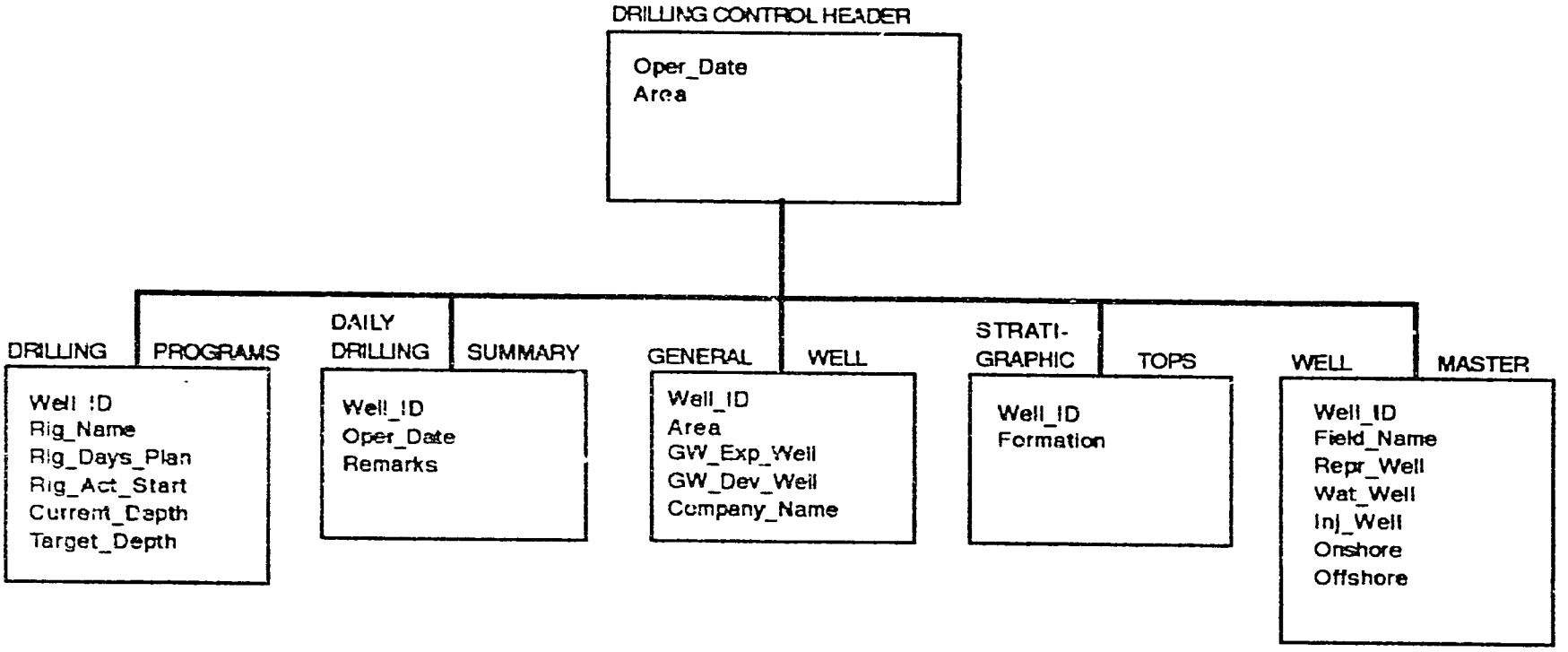
BECHTEL CORPORATION

Daily Well Drilling Monitoring Subsystem

Level 2 Data Flow Diagram (DFD)

Rev. Ø	Date: 07 Jun 90	Page 1 of 1

DAILY DRILLING MONITORING SUBSYSTEM
DATA STRUCTURE DIAGRAM



BECHTEL CORPORATION		
Daily Well Drilling Monitoring DSD		
Rev. Ø	Date: 07 Jun 90	Page 1 of 1

EGYPTIAN GENERAL PETROLEUM CORPORATION

DAILY DRILLING OPERATIONS REPORT

GENERAL DRILLING ADMINISTRATION

OPERATIONAL DATE: _____

NUMBER OF RIGS:

ONSHORE	OFFSHORE
____	____

NUMBER OF WELLS:

EXPLORATORY	DEVELOPMENT	REPAIR	WATER WELL	INJECTION WELL
____	____	____	____	____

AREA: _____

COMPANY: _____

WELL ID	RIG NAME	RIG DAYS	DEPTH (FEET) CURRENT	DEPTH (FEET) TARGET	FORMATION LAYERS:
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

REMARKS: _____

REMARKS: _____

COMPANY: _____

WELL ID	RIG NAME	RIG DAYS	DEPTH (FEET) CURRENT	DEPTH (FEET) TARGET	FORMATION LAYERS:
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

REMARKS: _____

REMARKS: _____

REPORT SPECIFICATION - DAILY DRILLING REPORT

USING SQL*ReportWriter
TO GENERATE THE
DAILY DRILLING MONITORING REPORT

The Daily Drilling Monitoring Subsystem obtains its information from five tables in the data base. They are as follows:

1. WD_DRILL_PROGRAM
2. WG_WELL_MSTR
3. WW_STRAT_TOPS
4. WW_GENERAL_WELL
5. WD_DRILL_DAY_SUM

The data entry to the SQL*Forms must be in the above sequence.

To get into SQL*ReportWriter, the user will type in the word SQLREP, leave a space, and then type in his or her USERID and PASSWORD and hit ENTER.

When entering SQL*ReportWriter, a general menu will be displayed (see next page). To select one of the options that are displayed at the top of the menu, use the TAB keys to locate it, and the F2 key to select it.

Action Query Group Field Summary Text Report Parameter Help

SQL*ReportWriter

Perform global operations on reports.

Report Name: DRILLING <INSERT>

The first selection that can be made by a user is ACTION. Once ACTION has been selected, a sub-menu appears that allows the user to CREATE a new report, OPEN an existing report, RENAME an existing report, or DROP a report.

To enter the Drilling Appllication, select OPEN. Move the arrow key down to DRILLING, and press F2 to select it.

```
Action   Query   Group   Field   S.mmary   Text   Report   Parameter   Help
                                SQL·ReportWriter

 New
 Open
 Copy
 Rename      Report to Open:
 Drop
 Execute      DRILLING
 Generate
 Quit

 Enter the name of the report you wish to modify.
Report Name: DRILLING                                <INSERT>        <LOV>
```

The next selection that a user can make in the report menu is QUERY. The user can access this by pressing the tab key until the word QUERY is highlighted, and pressing F2. The QUERY is the basis of the report. It uses a SQL*Plus select statement to select all fields to be displayed. It also assigns the different relationships, restrictions, the order in which fields will be displayed, and the groupings.

The query shown on the next page is used to create a summary listing of the number of rigs in operation each day, and the types of rigs in operation.

Action Query Group Field Summary Text Report Parameter Help

Query Settings

Query Name: Q_MASTER Query 1 of 3

SELECT Statement

```
SELECT OPER_DATE, SUM(OFFSHORE) OFFSHORE, SUM(WM.ONSHORE) ONSHORE,
       SUM(GW_EXP_WELL) EXP, SUM(GW_DEV_WELL) DEV, SUM(REPR_WELL) REPAIR,
       SUM(WAT_WELL) WATER, SUM(INJ_WELL) INJ
FROM WD_DRILL_DAY_SUM DDS, WG_WELL_MSTR WM, WW_GENERAL_WELL GW
WHERE GW.WELL_ID=WM.WELL_ID
AND   GW.WELL_ID=DDS.WELL_ID
AND   OPER_DATE=:DT
GROUP BY OPER_DATE
```

Parent-Child Relationships

Parent Query 1: Parent Query 2:

Child Columns	Parent 1 Columns	Parent 2 Columns

Enter a name for this query.

Report Name: DRILLING <INSERT> <LOV>

The next two queries enclosed in this documentation have a "parent-child" relationship. These are essentially two queries related together by a common parent "AREA". The intent is to group information together according to what geographical area the data is concerned with. Underneath AREA is another parent field, COMPANY. The hierarchy of the queries is as follows:

AREA (example, Gulf of Suez)
    COMPANY (example, Gulf of Suez Petroleum Co.)
        WELL ID (example, Morgan1)

In other words, there are two separate queries generated for this report, and the first query run must display information that is obtained from the second query.

Action Query Group Field Summary Text Report Parameter Help

Query Settings

Query Name: Q_P Query 2 of 3

SELECT Statement

```
SELECT DISTINCT GW.AREA, GW.COMPANY_NAME
FROM WW_GENERAL_WELL GW, WD_DRILL_DAY_SUM DDS, WD_DRILL_PROGRAM WP,
WG_WELL_MSTR WM, WW_STRAT_TOPS ST
WHERE OPER_DATE=:DT
AND   WM.WELL_ID=GW.WELL_ID
AND   WM.WELL_ID=DDS.WELL_ID
AND   WM.WELL_ID=WP.WELL_ID
AND   WM.WELL_ID=ST.WELL_ID
```

Parent-Child Relationships

Parent Query 1: Parent Query 2:

Child Columns	Parent 1 Columns	Parent 2 Columns

Enter a name for this query.

Report Name: DRILLING <INSERT> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Query Settings

Query Name: Q_M Query 3 of 3

SELECT Statement

```
SELECT GW.AREA,GW.COMPANY_NAME,WM.WELL_ID, WP.RIG_NAME,WP.RIG_DAYS_PLAN,
ROUND(SYSDATE - RIG_ACT_START) ACTUAL,ST.FORMATION ,WP.TARGET_DEPTH,
DDS.REMARKS,  DDS.OPER_DATE, WP.CURRENT_DEPTH
FROM WG_WELL_MSTR WM, WW_GENERAL_WELL GW, WD_DRILL_DAY_SUM DDS,
WW_STRAT_TOPS ST, WD_DRILL_PROGRAM WP
WHERE WM.WELL_ID= GW.WELL_ID
AND   WM.WELL_ID= ST.WELL_ID
AND   WM.WELL_ID= WP.WELL_ID
```

Parent-Child Relationships

Parent Query 1: Q_P Parent Query 2:

Child Columns	Parent 1 Columns	Parent 2 Columns
AREA	AREA	

Enter a name for this query.

Report Name: DRILLING <INSERT> <LOV>

GROUP SETTINGS:

A field or number of fields can be selected for including in a GROUP. These fields can be selected regardless of whether they appear in the same query or different queries. The criteria for selecting the groupings is how the data will appear on the report. These settings are used to assign breaks or summaries based on a group of data.

Groups are set up by default when queries are created. They can also be created to assign PRINT DIRECTION, MARTIX GROUPS, or PAGE BREAKS. Groups can be used to set up the general appearance of a report. Fields in the data base can be placed in groups in the order that they will be printed in the report. Spacing characteristics for both records and fields can also be assigned on the group screen.

Panel settings can also be set on the group screen. The default of panel settings allows fields of the same group to remain together. However, this can be changed.

The label position selection allows the user to specify the position of the label in relation to the field.

The highlight field/label option allows the user to specify a special font for a field or a group of fields. If no entry is made here, the font will default to normal.

Action Query Group Field Summary Text Report Parameter Help

Group Settings 1 of

	Group Name	Query	Print Direction	Matrix Group	Page Break
↑	G_~~DETAIL~~ MASTER	Q_MASTER	Down		
	G_P	Q_P	Down		
	G_M1	Q_M	Down		
	G_M	Q_M	Down		
	G_M2	Q_M	Down		
↓					

Enter a name for this group.

Report Name: DRILLING <INSERT> <LOV

Action Query Group Field Summary Text Report Parameter Help

Group Settings 2 of

	Group Name	Relative Position	Lines Before	Spaces Before	Spacing Record	Spacing Field	Fields Across
↑	G_DETAIL		0	0			
	G_P	Below	0	0			
	G_M1	Below	0	0			
	G_M	Below	0	0			
	G_M2	Below	0	0			
↓							

Choose the position of this group in relation to the previous group.

Report Name: DRILLING <INSERT> <LOV

Action Query Group Field Summary Text Report Parameter Help

Group Settings 3 of

	Group Name	Multi-Panel	Label Position	Highlight Field	Highlight Label
↑	G_DETAIL		Above		
	G_P		Left		
	G_M1		Left		
	G_M		Above		
	G_M2		Left		
↓					

Keep all fields in a record on the same panel.

Report Name: DRILLING <INSERT>

This is the FIELD SCREEN. By default, the user will find the field-name, source column, and group as well as label filled up. The user may change some values in the group column to associate fields to corresponding groups. For label, the user may type again the label he or she would like to see on the report.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 1 of

	Field Name	Source Column	Group	Label
↑	OFFSHORE	OFFSHORE	G_~~DETAIL~~ MASTER	Offshore
	ONSHORE	ONSHORE	G_~~DETAIL~~	Onshore
	EXP	EXP	G_~~DETAIL~~	Exploratory
	DEV	DEV	G_~~DETAIL~~	Development
	REPAIR	REPAIR	G_~~DETAIL~~	Repair
	WATER	WATER	G_~~DETAIL~~	Water well
	INJ	INJ	G_~~DETAIL~~ MASTER	Inj.well
	AREA2	Q_P.AREA	G_P	* Area :
	COMPANY_NAME2	Q_P.COMPANY_NAME	G_P	Company Name
	COMPANY_NAME	Q_M.COMPANY_NAME	G_M1	Company :
	AREA	Q_M.AREA	G_M	Area
	WELL_ID	WELL_ID	G_M	Well Id
↓	RIG_NAME	RIG_NAME	G_M	Rig Name

Enter a name for this field.

Report Name: DRILLING <INSERT> <LOV>

The rest of fields which are not displayed on the previous page are shown on the following page. To access these headers, the user will use the down-arrow key.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 1 of

	Field Name	Source Column	Group	Label
↑	COMPANY_NAME2	Q_P.COMPANY_NAME	G_P	Company Name
	COMPANY_NAME	Q_M.COMPANY_NAME	G_M1	Company :
	AREA	Q_M.AREA	G_M	Area
	WELL_ID	WELL_ID	G_M	Well Id
	RIG_NAME	RIG_NAME	G_M	Rig Name
	RIG_DAYS_PLAN	RIG_DAYS_PLAN	G_M	Plan
	ACTUAL	ACTUAL	G_M	Days
	CURRENT_DEPTH	CURRENT_DEPTH	G_M	Current
	TARGET_DEPTH	TARGET_DEPTH	G_M	Target
	FORMATION	FORMATION	G_M	Target Name
	OPER_DATE2	Q_M.OPER_DATE	G_M	Oper Date
	REMARKS	REMARKS	G_M2	
↓				

Enter a name for this field.

Report Name: DRILLING <INSERT> <LOV>

This is page 2 of the field screen. The fields in this screen are usually assigned by default, the Data type and field width are normally left unchanged . The user may change the field width but this must be done very carefully so as not to affect the display of data in the database. The display format may be changed by entering the desired one. The relative position is the position of each field relative to the previous one.

Lines before are lines to be left blank before printing the field. Spaces before are spaces to be left before field it may be used as margin for each first field in a line.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 2 of

	Field Name	Data Type	Field Width	Display Format	Relative Position	Lines Before	Spaces Before
↑	OFFSHORE	NUM	10		Below	1	
	ONSHORE	NUM	10		Right		
	EXP	NUM	2		Right		
	DEV	NUM	2		Right		
	REPAIR	NUM	2		Right		
	WATER	NUM	2		Right		
	INJ	NUM	2		Right		
	AREA2	CHAR	44		Below	2	
	COMPANY_NAME2	CHAR	46		Below		4
	COMPANY_NAME	CHAR	46		Below	1	4
	AREA	CHAR	44		Below		
	WELL_ID	CHAR	10		Below	1	4
↓	RIG_NAME	CHAR	16		Right		

Enter the width of this field in spaces.

Report Name: DRILLING <REPLACE>

Action Query Group ield Summary Text Report Parameter Help

Field Settings 2 of

Field Name	Data Type	Field Width	Display Format	Relative Position	Lines Before	Spaces Before
COMPANY_NAME2	CHAR	46		Below		4
COMPANY_NAME	CHAR	46		Below	1	4
AREA	CHAR	44		Below		
WELL_ID	CHAR	10		Below	1	4
RIG_NAME	CHAR	16		Right		
RIG_DAYS_PLAN	NUM	4		Right		
ACTUAL	NUM	3		Right		
CURRENT_DEPTH	NUM	5		Right		4
TARGET_DEPTH	NUM	5		Right		
FORMATION	CHAR	10		Right		
OPER_DATE2	DATE	9		Below		
REMARKS	CHAR	73		Below	0	4

Choose the position of this field in relation to the previous field.

Report Name: DRILLING <REPLACE> <LOV>

Field Screen Page 3

Align allows the user to choose if the data will be left, right or center justified. Within the length of the field, the user will press F9 to get a list and then position the cursor on the desired option then press F2 to select it. We usually leave it blank which corresponds to the default value. Skip to hide a field from being displayed on the report 'X' means we select to hide it if blank then show it. Repeat to display a field on each panel Computer Value (function-reset group) not our case here.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 3 of

	Field Name	Align	Skip	Repeat	Computed Value Function	Reset Group
↑	OFFSHORE					
	ONSHORE					
	EXP					
	DEV					
	REPAIR					
	WATER					
	INJ					
	AREA2					
	COMPANY_NAME2		X			
	COMPANY_NAME					
	AREA		X			
	WELL_ID					
↓	RIG_NAME					

Do not print this field in the output.

Report Name: DRILLING <REPLACE>

The next page shows the rest of the fields that were not displayed on previous page. The user can access these fields by using the UP and DOWN arrow keys.

Action Query Group Field Summary Text Report Parameter Help

Field Settings 3 of

	Field Name	Align	Skip	Repeat	Computed Value Function	Reset Group
↑	COMPANY_NAME2		X			
	COMPANY_NAME					
	AREA		X			
	WELL_ID					
	RIG_NAME					
	RIG_DAYS_PLAN		X			
	ACTUAL					
	CURRENT_DEPTH					
	TARGET_DEPTH					
	FORMATION					
	OPER_DATE2		X			
	REMARKS					
↓						

Enter the name of the group where the computed value is reset to zero.

Report Name: DRILLING <REPLACE> <LOV>

The next page shows the Parameter Screen.

By default, the user will find the entries for Parameter Name, Data Type, Width and Lable filled up. The default Width is always 40 by default in the Label option. In this case, a date is being displayed as a label. The date field will not require the default limit of 40 characters. Therefore, the user will use this screen to change the field length to 9 characters. After the change, the label can be shown on this screen before printing or viewing the report.

Action Query Group Field Summary Text Report Parameter Help

Parameter Settings

	Parameter Name	Data Type	Width	Default Value	Label
↑	DT	CHAR	9		ENTER OPER_DATE(DD-M
↓					

Enter a name for this parameter.

Report Name: DRILLING <REPLACE> <LOV>

Report Screen

The Report Screen offers several print options. Among them are: report type, name, format, margins, page, and comments. These are selected from a list by pressing F9.

Type: This is the type of report that will be printed. In this case, a screen print has been ordered.

Name is the device name.

Format is a format file that has the different set up's for different report layouts. The user can choose dflt (default) or wide for wide reports on wide printers.

Margins: The margins can be set or the default can be used. In this case, the default value is being used.

Page: The user can change it according to the paper used or according to the screen if the user only wants to display the report.

Comments: The comments can be used to provide documentation for the user.

Action Query Group Field Summary Text Report Parameter Help

Report Settings

Print Options	Margins	Page
Type: Screen	Top: 2	Height: 58
Name:	Bottom: 2	Width: 80
Format: DFLT	Left: 0	
	Right: 0	

Comments

Enter the type of device to receive the report output.

Report Name: DRILLING <REPLACE> <LOV>

The text screen is divided into three parts. They are: the REPORT, the PAGE, and the GROUP. The next screen shows the PAGE HEADER. Because the name Egyptian General Petroleum Corp., General Drilling Department, is going to appear as a header on each page, the user will access this screen to type the header in.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: PAGE	Type: Header	Status: Edited
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

```
EGYPTIAN GENERAL PETROLEUM CORP.                                  &DATE
GENERAL DRILLING DEPT.
                    DAILY DRILLING OPERATIONS (&DT)
```

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: PAGE	Type: Footer	Status: Edited
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

Page &PAGE

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

On each report, the page number will appear on the bottom right hand corner of each page. To do this, the user goes to the FOOTER screen. The user chooses an object PAGE, chooses type PAGE, and enters the information shown under PANEL 1. This will print the page number as desired.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Header	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Title Page	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Trailer Page	Status: Default
Relative Position:	Repeat On Page Overflow:	
Lines Before:	Justification:	Left
Spaces Before:	Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

At the end of each report (and not on each page) the name of the department general manager will appear. To do this, the user uses the same screen, selects OBJECT Report, TYPE Footer, and enters the information into PANEL 1 as is done here. This will cause this footer to appear at the end of the report only.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: REPORT	Type: Footer	Status: Edited
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

Drilling General Manager
Eng. Ahmed Ammar

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Now the user can adjust the layout of the report by adding titles or text and also adjusting what is already there. According to what is shown on the previous sheets, the user will use this screen exactly as it is except for the two blocks that have been added here to make them appear on the report.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_DETAIL	Type: Column Heading	Status: Edited
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

```
OPERATIONS SUMMARY :
Number Of Rigs                          Number Of Wells
Offshore     Onshore  Exploratory  Development  Repair  Water well  Inj.
--------     -------  -----------  -----------  ------  ----------  ----
```

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

This is the Body (for G + detail group) where the field themselves are displayed by default. The user can change these default values by inserting spaces or lines as desired.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_DETAIL	Type: Body	Status: Default
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

&OFFSHORE &ONSHORE &EXP &DEV &REPAIR &W

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

The same G-M group Column Heading is shown on the next page. This screen was used to add a column heading to the report. The column heading that was added in this case was DEPTH.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_M	Type: Column Heading	Status: Edited

Relative Position:	Repeat On Page Overflow: X
Lines Before: 0	Justification: Left
Spaces Before: 0	Frequency:

Text

Panel Number: 1 Panels Defined: 1

Well Id	Rig Name	Days	Depth : Current	Target	Target Name
---	---	---	---	---	---

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

The body of the report was set up using the Text Settings screen, and selecting OBJECT G_M. A panel was opened under this screen, and the desired columns were typed into this panel.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_M	Type: Body	Status: Edited
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

&WELL_ID &RIG_NAME &ACTUAL &CURRENT_DEPTH &TARGET_DEPTH &FO

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_M	Type: Header	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_M	Type: Footer	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

To define the header AREA, the OBJECT G_P was selected, the TYPE Body was selected, and another panel opened up. In this case, the default settings for repeating on page overflow and left justification were used as is.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_P	Type: Header	Status: Default
Relative Position:	Repeat On Page Overflow:	
Lines Before:	Justification:	Left
Spaces Before:	Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_P	Type: Footer	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_P	Type: Column Heading	Status: Default
Relative Position: Lines Before: Spaces Before:	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: Panels Defined: 0

↑

↓

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_P	Type: Body	Status: Default
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

```
* Area : &AREA2
```

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

The user can specify a REMARKS field by choosing the OBJECT G_M2 and specifying TYPE Body. This time, the PANEL 1 is opened up and the desired remarks field is entered here. Shown as examples are two types of labels.

The first type is the "REMARKS" label without a header.

The second example "COMPANY" is put in as a header, with the label following.

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_M2	Type: Body	Status: Edited
Relative Position: Lines Before: 0 Spaces Before: 0	Repeat On Page Overflow: X Justification: Left Frequency:	

Text

Panel Number: 1 Panels Defined: 1

&REMARKS

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Action Query Group Field Summary Text Report Parameter Help

Text Settings

Object: G_M1	Type: Body	Status: Default

Relative Position:	Repeat On Page Overflow: X
Lines Before: 0	Justification: Left
Spaces Before: 0	Frequency:

Text

Panel Number: 1 Panels Defined: 1

```
↑
     Company : &COMPANY_NAME
↓
```

Choose the position of this text in relation to the previous text.

Report Name: DRILLING <REPLACE> <LOV>

Now that the report has been set up completely, the user must GENERATE the report before EXECUTING (running) it. If something is wrong in the report steps, an error message will be displayed on the screen, postponing the generation until the error is corrected.

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                SQL*ReportWriter
 New
 Open
 Copy
 Rename     Directory:
 Drop
 Execute     D:\ORACLE5\EGPCDEV\ATEF
 Generate
 Quit       Report to Generate:

             DRILLING

 Enter the name of the report you wish to generate.
Report Name: DRILLING                                <REPLACE>        <LOV>
```

The user can EXECUTE the report by selecting ACTION on the ReportWriter menu and choosing EXECUTE. ReportWriter will show a sub-menu that provides the user with the report name that is going to be executed.

```
Action   Query   Group   Field   Summary   Text   Report   Parameter   Help
                                SQL*ReportWriter
 New
 Open
 Copy
 Rename
 Drop
 Execute
 Generate
 Quit

Directory:

 D:\ORACLE5\EGPCDEV\ATEF

Report to Execute:

 DRILLING

 Enter the name of the report you wish to execute.
Report Name: DRILLING                                <REPLACE>        <LOV>
```

The user will see the PARAMETER screen when he or she wants to execute a report. The parameter screen will be filled with default values, whaich can be edited by the user. The following is a list of the parameters and values that can be edited by the user:

PARAMETERS:	VALUES:
Destination Type	screen, printer, or file
File Name/Spool device:	in this example DRILLING.lis
Printer Description File:	dflt (default) or wide
Number of Copies:	a number, in this example, 1
Enter Oper. Date:	operational date for the data desired

It is important to note that all of these options could be set up by using the Report Screen but changes can be made here on a temporary basis before running the report.

Parameter Values

Parameter	Value
Destination Type	Screen
File Name / Spool Device	DRILLING.lis
Printer Description File	DFLT
Number of Copies	1
ENTER OPER_DATE(DD-MON-YY)	

Enter the desired value for each parameter.

Report Name: DRILLING <REPLACE>

For this report, the user wanted to display information that occurred on the operational date 06-JUN-90. This information was placed in the ENTER_OPER_DATE field, and the report was generated.

A copy of the actual report that was generated is enclosed for information.

Parameter Values

Parameter	Value
Destination Type	PRINTER
File Name / Spool Device	DRILLING.lis
Printer Description File	DFLT
Number of Copies	1
ENTER OPER_DATE(DD-MON-YY)	06-JUN-90

Enter the desired value for each parameter.

Report Name: DRILLING <REPLACE>

EGYPTIAN GENERAL PETROLEUM CORP. 22-JUN-90
GENERAL DRILLING DEPT.

DAILY DRILLING OPERATIONS (06-JUN-90)

OPERATIONS SUMMARY :

Number Of Rigs		Number Of Wells				
Offshore	Onshore	Exploratory	Development	Repair	Water well	Inj.well
	1		1			

* Area : WESTERN DESERT

Company : WESTERN DESERT PETROLEUM COMPANY

Well Id	Rig Name	Days	Depth : Current	Target	Target Name
ALAMEIN1	FORAMER	19	8000	10000	NUBIA C

FORMATION IS NUBIA B, RESUME DRILLING

Drilling General Manager
Eng. Ahmed Ammar

EGPC INFORMATION SYSTEMS PLANNING
AND IMPLEMENTATION PROJECT

APPLICATION SPECIFICATION FOR
EGPC REFERENCE DATA SYSTEMS

4.1 EGPC REFERENCE DATA SYSTEMS

The EGPC Reference Data subject database contains static data about the "things" EGPC deals with and for which data characterizing these "things" must be kept. Examples of the types of data stored in this database include Concession Companies, Contracts and Crude Types. Each of these types have a name and a set of parameters which characterize it. For example, the reference type, Crude Type, might have the parameters Company and Field. All occurrences of Crude Type will be characterized with Company and Field parameter data. An instance of Crude Type, such as Western Desert, will be identified with values for the parameters Company and Field. This data is available for access by the Exploration, Well and Operations subject databases. The Reference data is related to data in the other categories by the Reference ID.

The Reference Data System simplifies the recording of referenced details by creating a set of detail records for a reference ID. The set of detail records created is dependent on the parameter type. Once the detail records have been created, the user simply enters the appropriate value for each parameter. Another advantage of this approach is that once the programming is complete for accessing a table, a reprogramming effort is not required whenever a new parameter is required. The programming is done only once, and parameters and details can be updated as changes occur. This will simplfy the task of changing parameters, and will allow the Information Systems department to use its available programming talent for making applications, and not for simple maintenance of the existing data bases.

The subject database involves the following four tables:

RF_REF_TYPE_MSTR	Reference Type Master
RF_REF_MSTR	Reference Master
RF_REF_PRM	Reference Parameters
RF_REF_DTL	Reference Data Details

Table: Reference Type Master

Data is entered into the Reference Type Master with SQL INSERT statements that have been placed in a SQL Script file upon table creation. Updates to this table must be entered through SQL*Plus, rather than through a form. The data values in this table are very static.

In addition to reference type descriptive information, the Reference Type Master table contains fields to be used by the Reference Data System (form RFDQD), to restrict access to the various reference types. The fields UPDATE_MASTER and OTHER_PROGRAM_UPD will control access to form RFDQD.

Table: Reference Master

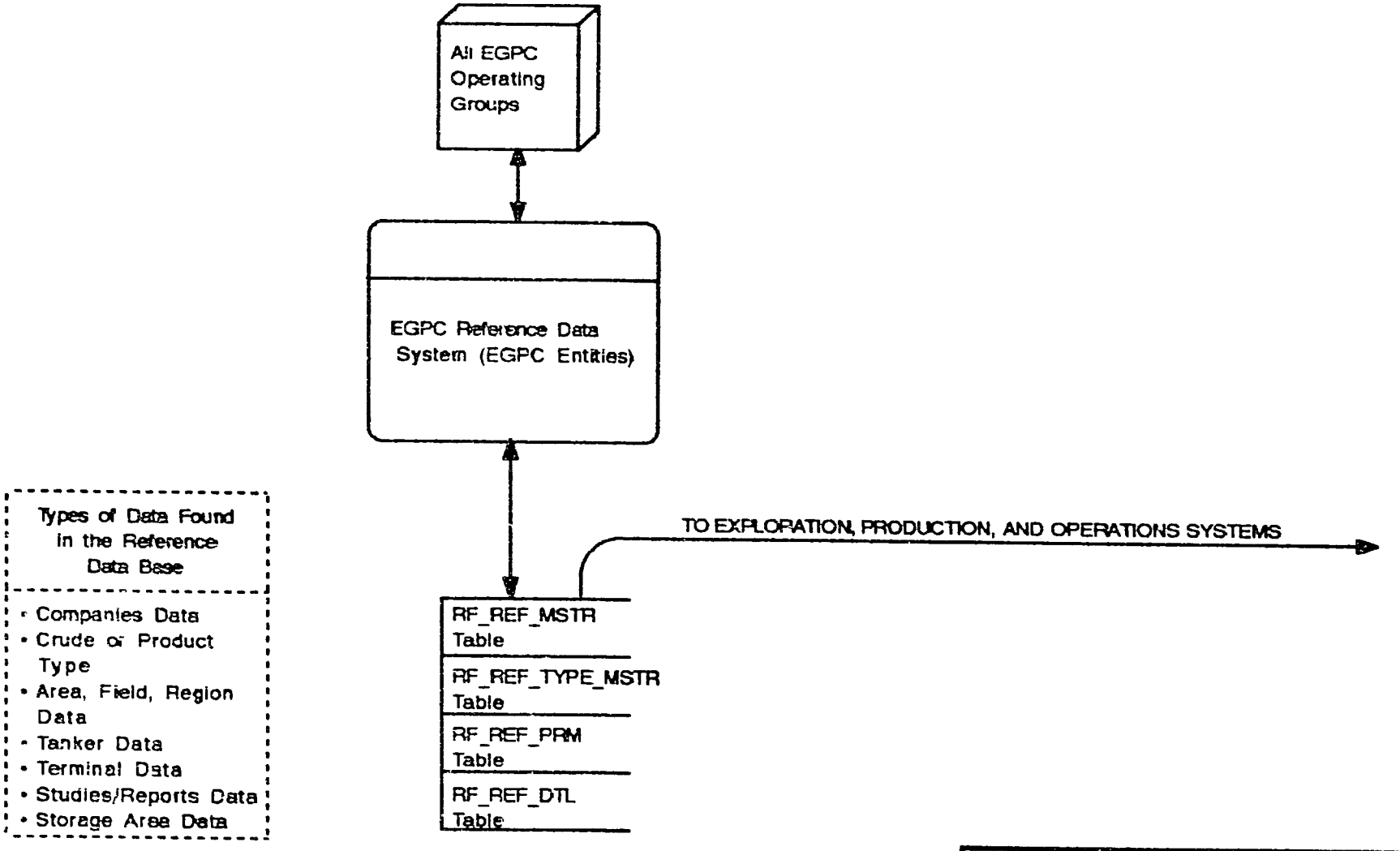
The Reference Master table maintains a list of all reference IDs for each reference type listed in the Reference Type Master table. Each time a set of reference parameters are created in the Reference Detail table for a new reference ID, the reference ID will be added to the Reference Master table.

Table: Reference Parameters

The Reference Parameters table serves as a parameter template table. This table contains a list of all parameters for each reference type. Parameters are characteristics about the reference type. The list of parameters for each reference type is constant among all reference ID's of a given parameter type. Each new reference ID will inherit a set of reference parameters based on its reference type. The reference parameters will be copied from the Reference Parameters table into the Reference Data Details table.

Table: Reference Data Details

The Reference Data Details Table contains the set of parameters and the associated parameter values for each reference ID. Each reference ID is an instance of its associated parameter type. Therefore, each unique parameter ID will have the same set of parameters. Only the values of these parameters will vary across parameter IDs within a reference type.



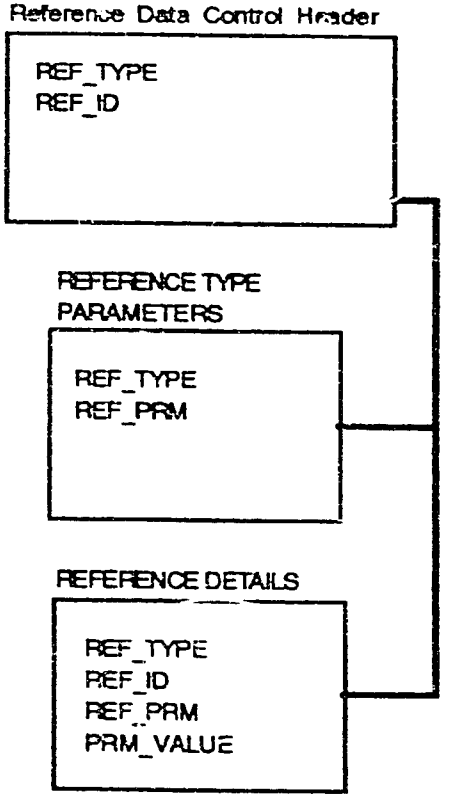
BECHTEL CORPORATION

Reference Data Base System

Level 1 Data Flow Diagram (DFD)

Rev. Ø	Date: 21 Jun 90	Page 1 of 1

REFERENCE DATA BASE APPLICATION
DATA STRUCTURE DIAGRAM



BECHTEL CORPORATION		
Reference Data Base Application DSD		
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REFERENCE DATA TABLE

Type	Reference Type Description	Reference ID Header
EC	EXPLORATION COMPANIES	EXPLORATION COMPANIES
JV	JOINT VENTURE COMPANIES	JOINT VENTURE COMPANIES
CC	CONCESSION COMPANIES	CONCESSION COMPANIES
RC	REFINING COMPANIES	REFINING COMPANIES
MC	MARKETING COMPANIES	MARKETING COMPANIES
CT	CONTRACTS	CONTRACTS
FL	FIELDS	FIELDS
RG	REGIONS	REGIONS
CS	CONCESSIONS	CONCESSIONS
CR	CRUDE TYPES	CRUDE TYPES
PT	PRODUCT TYPES	PRODUCT TYPES
TK	TANKERS	TANKERS
TM	TERMINALS	TERMINALS
PS	PRODUCT STORAGE AREAS	PRODUCT STORAGE AREAS
GV	GOVERNORATES	GOVERNORATES
CN	CENTERS	CENTERS
ES	EXCLUSIVE STUDIES	EXCLUSIVE STUDIES
NS	NON-EXCLUSIVE STUDIES	NON-EXCLUSIVE STUDIES
RP	REPORTS	REPORTS
V_AL	VALIDATES GEOLOGICAL FORMATION ALIASES	ALIAS
V_AR	VALIDATES EGYPT GEOGRAPHICAL AREAS	AREA
V_EN	VALIDATES TYPE OF ENERGY USED IN SEISMIC TESTS	ENERGY
V_GA	VALIDATES TERMS USED FOR GEOLOGICAL AGES	GEOLOGICAL AGE
V_FO	VALIDATES TERMS USED FOR FORMATIONS	FORMATION
V_LN	VALIDATES TERMS USED FOR LOG NAMES	LOG_NAME
V_MP	VALIDATES MAP TYPES	MAP_TYPE
V_MC	VALIDATES TERMS USED FOR MEDIA CONDITION	MEDIA_COND
V_MD	VALIDATES TERMS USED FOR MUD TYPES	MUD_TYPE
V_PR	VALIDATES PRODUCTION RATE UNITS	PROD_RATE_UNIT
V_ST	VALIDATES TERMS USED FOR SAMPLE TYPES	SAMPLE_TYPE
V_SW	VALIDATES SIDEWALL TYPES	SIDEWALL_TYPE
CSEI	VALIDATES SEISMIC CONTRACTORS	SEIS_CON
V_SP	VALIDATES SEISMIC PROCESSING METHODS	SEIS_PRO
V_SH	VALIDATES TERMS USED FOR SHOW TYPES	SHOW
V_TA	VALIDATES TYPES OF MAGNETIC TAPE	TAPE_TYPE
V_TT	VALIDATES TYPES OF WELL TESTS	TEST_TYPE
V_WS	VALIDATES TERMS USED FOR WELL STATUS	WELL_STATUS
CLOG	VALIDATES COMPANIES WHICH DO WELL LOGS	LOG_COMPANY

CC	CONCESSION COMPANIES
CLOG	VALIDATES COMPANIES WHICH DO WELL LOGS
CN	CENTERS
CR	CRUDE TYPES
CS	CONCESSIONS
CSEI	VALIDATES SEISMIC CONTRACTORS
CT	CONTRACTS
EC	EXPLORATION COMPANIES
ES	EXCLUSIVE STUDIES
FL	FIELDS
GV	GOVERNORATES
JV	JOINT VENTURE COMPANIES

	PF1	PF2	PF3	PF4	PF5	PF8	PF9	PF10
	Help	ClrRec	ClrBlk	CreRec	DupRec	ExeQry	LstFldVal	Commit
Shift	ShowKeys	Print	RollBk	DelRec		EntQry	DspErr	Exit

Ref ID Header

USING THE ORACLE CRT UTILITY:

Oracle's CRT utility was used to modify the terminal function key assignments for the SQL*Forms operator. The rationale for doing this was to establish a standard set of keys for forms execution, regardless of the type of computer. Oracle's default CRT definitions differ by hardware platform. We attempted to simplify the task of the application user by standardizing on the operator's function keys.

When assigning the key definitions, we attempted to place similar functions logically close together. We isolated functions with a high risk by placing such functions where they are the most difficult to reach. In addition, we defined two additional function keys PF6 and PF7, which are available to the programmer for form-specific assignment.

We did not alter the Oracle SQL*Forms commands for the forms designer. This could result in unnecessary aggravation and confusion for the experienced application developer.

The DBA will perform the function key assignment by loading the appropriate CRT definition tables, and then making the desired alterations. The SQL commands necessary to complete both of these tasks are submitted through SQL script files. The final step in this alteration process is to make the newly defined terminal definitions the default CRT file.

Load the CRT Tables:

The CRT definition tables must be loaded if they were not loaded at installation. The SQL commands to create the CRT tables are stored in the script file CRT. The commands in this file create the appropriate tables.

> To execute the CRT tables, submit the following command from within SQL*Plus:
>
> START CRT

Review the listing CRT.LIS to verify that all operations were successfully executed.

Altering the Default Terminal Definitions:

The SQL script file used to insert the default terminal definitions must be altered to reflect the desired terminal function key definitions. First, the DBA should make a copy of the script file which defines the terminal definitions. This way the default CRT script file remains unaltered. The file containing the terminal definitons for the IBM/PC is "BIOS.SQL". The file containing the terminal definitons for the IBM/VM is "3270 SQL".

For the EGPC Information Systems and Planning Project, we assigned the name EGPCKEYS.SQL to the script file which we copied from the default CRT script file ("BIOS.SQL"), and tailored to our desired specifications. The modifications to be made to EGPCKEYS.SQL are as follows:

1) Change all occurrences of "BIOS" to "EGPCKEYS"
2) Define PF6 and PF7 by inserting records into table ESC
3) Redefine existing function key operations with the UPDATE command
4) Prevent the user from executing a function whose key has been redefined using the DELETE command

After all changes have been made, execute the CRT tables by submitting the following command from within SQL*Plus:

START EGPCKEYS

Review the listing EGPCKEYS.LIS to verify that all operations were successfully executed.

The final step of the process of redefining fucntion keys is to make EGPCKEYS the default CRT key definition. To execute this task, run CRT from the operating system prompt, as follows:

CRT EGPCKEYS USERNAME/PASSWORD -d

The "-d" option makes this the default CRT definition. The terminal definition outlined in DEFAULT.CRT will now contain the standards specified in EGPCKEYS.

FUNCTION KEY STANDARD

Show Keys	PRINT	ROLL BACK	DEL REC				ENT QRY	DSP ERROR	EXIT
Shift F1	Shift F2	Shift F3	Shift F4	Shift F5	Shift F6	Shift F7	Shift F8	Shift F9	Shift F10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
Help	CLR REC	CLR BLK	CRE REC	DUP REC			EXE QRY	LST FLD V	COM-MIT

PRINT SCREEN prints the current screen or the entire form.

ROLLBACK will erase all changes that have been made to a form since the last COMMIT. It could be frustrating if pressed by mistake. Therefore the user must press two keys to get result.

DELETE RECORD will delete the select record without a warning message. (DELETE does not affect the database until there is a COMMIT). Therefore, the user must press two keys to get result.

ENTER QUERY places the user in a query mode which is different from input mode. This could be confusing to a user if pressed by mistake. Therefore, the user must press two keys to get the result.

DISPLAY ERROR displays error information and/or advanced help for the field where the last error occured

Show Keys is similar to the HELP function. In addition, the ORACLE standard uses F1 for show keys.

EXIT is similar to COMMIT. The ORACLE standard places them together.

Many systems use the F1 key for the HELP function.

F10 is the ORACLE standard for the PC. Seemed a logical ocation. It will be a frequently used function.

CLEAR RECORD is a commonly used function during data entry.

CLEAR BLOCK will most likely be used more than CLEAR FIELD and it is logically similar to CLEAR RECORD

CREATE RECORD is useful after a query has been made of many records. The function inserts a blank record at the cursor and is ready for a new record to be entered.

DUPLICATE RECORD works well with CRE REC. This function will copy the previous displayed record into the blank record that is created with CRE REC.

F6 and F7 are for form specific triggers.

EXECUTE QUERY will be a frequently used function. Therefore, it is a one key function.

F9 is the ORACLE standard for the PC. It will be a frequently used function.

FUNCTION	KEYSTROKE(S)	FUNCTION	KEYSTROKE(S)
Right	-> Arrow	Clear Block	F3
Scroll Right	Ctrl ->	Clear Form/Rollback	Shift F3
Next Field	Tab	Delete Record	Shift F4
	Enter	Create Record	F4
Next Record	PgDn	Duplicate Record	F5
Down	Down Arrow	Enter Query	Shift F8
Scroll Down	Ctrl-Enter	Execute Query	F8
Next Set of Records	Ctrl-N	Commit Transaction	F10
Next Block	Ctrl-PgDn	Exit/Cancel	Shift-F10
Left	<- Arrow		Esc
Scroll Left	Ctrl <-	Print	Shift F2
Previous Field	Back Tab	Help	F1
Previous Record	PgUp	List Field Values	F9
Up	Up Arrow	Display Error	Shift F9
Scroll Up	Ctrl-Backspace	Show Function Keys	Shift F1
Previous Block	Ctrl-PgUp		
Insert/Replace	Ins		
Delete Character	Del		
Delete Backward	Backspace		
Clear Field	Ctrl-End		
Clear Record	F2		

Press any function key to return to form.

```
SYSTEM
set echo off
prompt
prompt EGPCKEYS.SQL will take about 3 minutes to run.  Please wait...
set termout off
SET SCAN OFF
spool egpckeys.lis

rem This script enters data for CRT files for products running on color
rem PC's using EGPCKEYS screen control.  Run CRT as follows:
rem
rem       crt egpckeys username/password [-d]
rem
rem Include the "-d" if you want to make this the default CRT definition,
rem in which case the CRT file will be called "DEFAULT.CRT".  Otherwise,
rem the terminal definition file will be "EGPCKEYS.CRT", and you must indicate
rem to each utility that you wish to use a non-default CRT file (usually,
rem with a "-c" switch:  -c egpckeys).
rem
rem Note:  the necessary tables must already be part of the database
rem on which this script is to be run.  CRT.SQL is a file that creates
rem these tables.

rem
rem     Attribute byte format for Color and Monochrome adaptors
rem
rem       7   6   5   4   3   2   1   0
rem     ___________________________________
rem     | B | R   G   B | I | R   G   B |
rem     -----------------------------------
rem       |       |       |       |
rem       |       |       |       +---------- Foreground color
rem       |       |       +------------------ Intensity  (Foreground)
rem       |       +-------------------------- Background color
rem       +---------------------------------- Blinking   (Foreground)
rem
rem         Color Graphics Adapter
rem         Color Alpahanumeric Correspondence
rem
rem         NOTE not all color monitors recognize the Intensity bit
rem
rem       I  R  G  B    Description
rem       0  0  0  0    Black
rem       0  0  0  1    Blue
rem       0  0  1  0    Green
rem       0  0  1  1    Cyan
rem       0  1  0  0    Red
rem       0  1  0  1    Magenta
rem       0  1  1  0    Brown
rem       0  1  1  1    White
rem       1  0  0  0    Gray
rem       1  0  0  1    Light Blue
rem       1  0  1  0    Light Green
rem       1  0  1  1    Light Cyan
rem       1  1  0  0    Light Red
rem       1  1  0  1    Light Magenta
rem       1  1  1  0    Yellow
rem       1  1  1  1    High Intensity White
rem
rem         Color Graphics Adapter
```

```
rem         Black and White Alpahanumeric Correspondence
rem
rem       B  R  G  B  I  R  G  B    Description
rem       0  0  0  0  0  0  0  0    Nondisplay Black
rem       0  0  0  0  1  0  0  0    Nondisplay Black
rem       1  0  0  0  0  0  0  0    Nondisplay Black
rem       1  0  0  0  1  0  0  0    Nondisplay Black
rem       0  1  1  1  0  1  1  1    Nondisplay White
rem       0  1  1  1  1  1  1  1    Nondisplay White
rem       1  1  1  1  0  1  1  1    Nondisplay White
rem       1  1  1  1  1  1  1  1    Nondisplay White
rem       0  0  0  0  0  1  1  1    Normal (White Character/Black background)
rem       0  0  0  0  1  1  1  1    Normal Highlighted
rem       1  0  0  0  0  1  1  1    Normal Blinking
rem       1  0  0  0  1  1  1  1    Normal Highlighted and Blinking
rem       0  1  1  1  0  0  0  0    Reverse Video
rem       0  1  1  1  1  0  0  0    Reverse Video Highlighted
rem       1  1  1  1  0  0  0  0    Reverse Video Blinking
rem       1  1  1  1  1  0  0  0    Reverse Video Highlighted and Blinking
rem
rem     All other combinations gives you Normal
rem
rem         Monochrome Adapter
rem
rem       B  R  G  B  I  R  G  B    Description
rem       0  0  0  0  0  0  0  0    Nondisplay
rem       0  0  0  0  1  0  0  0    Nondisplay
rem       1  0  0  0  0  0  0  0    Nondisplay
rem       1  0  0  0  1  0  0  0    Nondisplay
rem       0  0  0  0  0  0  0  1    Underline
rem       0  0  0  0  1  0  0  1    Underline Highlighted character
rem       1  0  0  0  0  0  0  1    Underline Blinking character
rem       1  0  0  0  1  0  0  1    Underline Highlighted & Blinking character
rem       0  0  0  0  0  1  1  1    Normal (White Character/Black background)
rem       0  0  0  0  1  1  1  1    Normal Highlighted
rem       1  0  0  0  0  1  1  1    Normal Blinking
rem       1  0  0  0  1  1  1  1    Normal Highlighted and Blinking
rem       0  1  1  1  0  0  0  0    Reverse Video
rem       0  1  1  1  1  0  0  0    Reverse Video Highlighted
rem       1  1  1  1  0  0  0  0    Reverse Video Blinking
rem       1  1  1  1  1  0  0  0    Reverse Video Highlighted and Blinking
rem
rem     All other combinations gives you Normal
rem

rem ***************************************************************
rem Enter the master record for the CRT definition
rem ***************************************************************

delete from crt where name='EGPCKEYS';
insert into crt
    (name, type, base, lines, columns, msgl, modl,
    clearscreen, cleareol, clearline,
    backspace, forespace, goto_cl,
    attoff, att1, att2, att3,
    att1_2, att1_3, att2_3, att1_2_3,
    offset, graphon, graphoff,
    cursorup, cursordown, scrup, scrdn)
values
    ('EGPCKEYS', 'CHAR', 1, 25, 80, 24, 25,
```

```
      '\eC\eL\002', '\eE', '\eE\eF',
      '\eB', '\eA', '\eK\y\x',
      '\eL\002', '\eL\160', '\eL\013', '\eL\060',
      '\eL\037', '\eL\117', '\eL\060', '\eL\120',
      0, NULL, NULL,
      '\eU', '\eT', '\eG', '\eH');

 rem ******************************************************************
 rem Define the box-graphic characters
 rem ******************************************************************

 delete from crtbox where crtname='EGPCKEYS';
 insert into crtbox values ('EGPCKEYS', 'Y', '°', 'ä', 'ö', 'ü', 'ä', '\',
     'ü', 'Ç', 'ò', 'ê', 'é', '|', '-', '+', '+', '+', '+', '+', '+', '+',
     '+', '+');

 rem ******************************************************************
 rem Define the function keys
 rem ******************************************************************

 delete from esc where name='EGPCKEYS';
 insert into esc select prod_code, 'EGPCKEYS', func, escseq, comments
                 from esc
                 where name='WEWKEYS';
 insert into esc values ('IAP', 'EGPCKEYS','K6','\e\100', 'Special Feature');
 insert into esc values ('IAP', 'EGPCKEYS','K7','\e\101',  'Special Feature');
 update esc set escseq          = '\e\073', comments = 'F1'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'H';

 update esc set escseq          = '\e\124', comments = 'Shift F1'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'DK';

 update esc set escseq = '\e\074', comments = 'F2'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'RR';

 update esc set escseq = '\e\075', comments = 'F3'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'CB';

 update esc set escseq = '\e\126', comments = 'Shift F3'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'CA';

 update esc set escseq = '\e\076', comments = 'F4'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'CR';

 update esc set escseq = '\e\127', comments = 'Shift F4'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'D';
```

```
update esc set escseq = '\e\077', comments = 'F5'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'DR';

update esc set escseq = '\e\133', comments = 'Shift F8'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'EQ';

update esc set escseq = '\e\134', comments = 'Shift F9'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'DE';

update esc set escseq = '\e\125', comments = 'Shift F2'
        where prod_code = 'IAP'
        and name = 'EGPCKEYS'
        and func = 'P';


delete from esc where func = 'BM' and name = 'EGPCKEYS';
delete from esc where func = 'CQ' and name = 'EGPCKEYS';
delete from esc where func = 'DF' and name = 'EGPCKEYS';
delete from esc where func = 'NK' and name = 'EGPCKEYS';
delete from esc where func = 'R' and name = 'EGPCKEYS';
commit

set termout on
prompt
prompt EGPCKEYS.SQL is finished running.
prompt
prompt Output has been spooled to EGPCKEYS.LIS.
prompt
prompt
exit
```

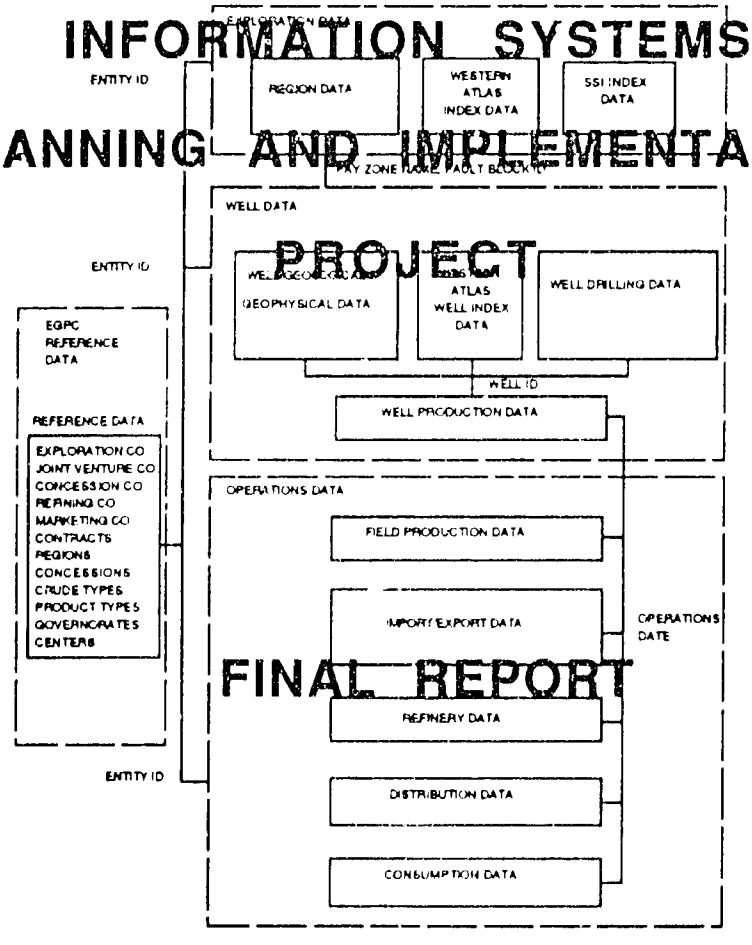
V.3

A Report of the
Office of Energy
Bureau For Science and Technology
United States Agency for International Development

VOLUME III

EGYPTIAN GENERAL PETROLEUM CORPORATION

INFORMATION SYSTEMS PLANNING AND IMPLEMENTATION PROJECT



FINAL REPORT

Cairo, Egypt
June 1990

Sponsored by:

USAID/Cairo
Office of Science and Technology
A.I.D. Office of Energy

Prepared by:

Bechtel Corporation
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50 Beale Street
San Francisco, California 94119

Conventional Energy Technical Assistance Project
Contract No. LAC-5724-C-00-5126-00

TASK 6: LIBRARY UPGRADE

Task 6: Library Upgrade - Utilizing the budget under this contract, Bechtel hired a library consultant to conduct the library study. The purpose of this study was as follows: 1) to evaluate the current library and make recommendations; 2) to prepare a revised layout for the EGPC library; 3) to prepare organization, documentary, and retrieval data and evaluate potential software; and 4) list the tools, periodicals, and references that the EGPC library would require to bring the library to its upgraded status.

A copy of the completed library report is attached for reference.

Egyptian General Petroleum Corporation
Library Upgrading Project Report

Submitted to Bechtel National Inc.

Submitted by CORE International, Inc. and
Access Information Associates, Inc.

November 1989

REPORT FOR EGPC LIBRARY UPGRADING PROJECT
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1.0 Introduction and Executive Summary

On August 4, 1989, Access Information Associates, Inc. was contracted by CORE International, Inc. to provide library consulting services as part of a Bechtel National, Inc. multi-disciplinary team, performing work under contract to the U.S. Agency for International Development (U.S.A.I.D.). Work under project number PIO/T 263-0105-5-00710 is performed in Cairo, Egypt for the Egyptian General Petroleum Corporation (EGPC) and involves an "information systems planning and implementation study".

Task 6 of the Scope of Work (Appendix A) requires a Library Upgrading of the EGPC General Library. As part of the scope, Janice C. Anderson arrived in Cairo on August 11, 1989, and began the necessary data gathering efforts.

The EGPC library resources, including physical and environmental, media, human, and systems and services, were reviewed, studied, and analyzed by Anderson. Details of the findings are included in Section 2 of the report. In general, the library space suffered from inappropriate equipment and awkward layout; the collection was found to be lacking in organization, content, and currency. The library staff and user groups, although anxious to implement and benefit from improved information systems and services, lacked the training, financial resources, and time to do so effectively.

Observations and recommendations are detailed in Section 3 and summarized on pages 3 through 5 of this section, alongside a suggested schedule for implementation. A summary of estimated costs for implementation and procurement based on three levels are included on page 6 of this section.

Structured as a series of development plans, the basic, intermediate, and exemplary levels can serve as an integrated strategic plan for the EGPC library. Each plan seeks to provide for the human factors involved and to minimize the disruption and stress associated with major changes in the workplace. In all cases, the current needs, expertise, and abilities of library staff, users, and management were viewed alongside available information technology and resources in order to identify a program which will be both appropriate and attainable.

The library space plan and requirements for furniture and equipment provide for utilizing the existing library location as well as some existing shelving and workstations in a totally new configuration. Recommended purchases of books, journals, and other materials concentrate in the technical, especially petroleum-related disciplines, and the library science area. New systems and services are suggested to serve the identified needs of users. Recommendations are structured for measured implementation over time, so as to allow both library staff and user groups time to prepare for and adapt to the significant changes which will occur.

In addition, all recommendations are based upon one assumption which is critical to the success of any implementation plan:

> *That the EGPC library staff, library management, departmental management, corporate management, and representatives from the various library user groups, join together to identify, define and support the objectives of the library and information management function.*

With the perspectives and commitments of these groups, the EGPC library has a unique opportunity to play an important role in the future of EGPC and Egypt's petroleum sector. Information is becoming more critical in the worldwide economy; those organizations who organize and access it effectively will enjoy a competitive advantage.

Summary of Observations, Recommendations, and Schedule for Implementation

	Report Section	Observation(s)	Recommended Action(s)	Pre-requisite Action(s)	Timing Begin	Timing Complete
SPACE (Physical resources)	3.1					
Quantity	3.11	Adequate, if reconfigured	Implement new space plan		1Q 1990	1Q 1990
Location	3.12	No signage to indicate library Remote from primary users	Install door and hallway signs Consider future relocation		4Q 1989 4Q 1989	4Q 1989 4Q 1989
Lighting & sound	3.13	Dimly lighted Low equipment noise disruptive	Increase lighting wattage Identify source of equipment noise		4Q 1989 4Q 1989	4Q 1989 4Q 1989
Shelving	3.14	Dusty & some sections in disarray Awkward configuration	Dust & straighten shelves Reconfigure per space plan	 Purchase shelving	4Q 1989 1Q 1990	1Q 1990 1Q 1990
Furniture	3.15	Inadequate to meet user needs	Add user tables & carrels	Reconfigure space	1Q 1990	1Q 1990
Equipment	3.16	Nonexistent	Purchase recommended items	Reconfigure space	1Q 1990	1Q 1990
User & staff space	3.17	Poor traffic flow User areas not visibile to staff	Reconfigure per space plan Reconfigure per space plan	Purchase shelving Reconfigure space	1Q 1990 1Q 1990	1Q 1990 1Q 1990
Storage space	3.18	Limited near work areas Storage closet poorly utilized	Reconfigure per space plan Build shelves in storage closet	 Relocate journal issues	1Q 1990 4Q 1989	1Q 1990 2Q 1990
STAFFING (Human resources)	3.2					
Location & Number	3.21	Work stations too close together Number of staff currently adequate	Reconfigure per space plan Maintain existing staff		1Q 1990 N/A	1Q 1990 N/A
Educational preparation	3.22	Undergraduate degree, library science	Consider graduate study		4Q 1990	Ongoing
Level of experience	3.23	Limited to EGPC library Limited subject knowledge	Identify & visit corporate libraries Utilize basic subject texts		4Q 1989 4Q 1989	3Q 1990 Ongoing
Organizational structure	3.24	Not clearly defined Limited management & user input	Develop job descriptions for staff Establish library advisory committee		4Q 1989 4Q 1989	4Q 1989 4Q 1989
Group dynamics, communication and morale	3.25	Inconsistent communication patterns Limited awareness of library's role	Hold regular library staff meetings Involve staff in planning process		4Q 1989 4Q 1989	Ongoing Ongoing
Training needs	3.26	No training in reference services Limited English language ability No familiarity with online databases	Schedule sessions-Amer Cultural Ctr Lib Schedule sessions at GPC Schedule visits at ENSTINET info nodes	Contact Louis Famous, Director Contact GPC Training Dept Contact ENSTINET Hdqtrs	4Q 1989 1Q 1990 1Q 1990	2Q 1990 4Q 1990 2Q 1990

	Report Section	Observation(s)	Recommended Action(s)	Pre-requisite Action(s)	Timing Begin	Timing Complete
COLLECTION (Media resources)	3.3					
Collection development policy	3.31	No library mission statement No guidelines for collection scope	Develop library mission statement Outline collection development policy	Establish advisory committee Establish advisory committee	4Q 1989 1Q 1990	4Q 1989 1Q 1990
Justification	3.32	No inventory or usage statistics Users' information needs change	Perform detailed collection inventory Review policy on regular schedule	 Establish advisory committee	4Q 1989 2Q 1990	1Q 1990 Ongoing
Implementation plans Basic Intermediate Exemplary	3.33 3.33.1 3.33.2 3.33.3	 Technical materials limited and dated Few journals and indexing tools Scattered historical journals; few standards	 Purchase recommended titles Purchase recommended titles Purchase recommended titles	 Inventory collection & discard Implement Basic plan Implement Intermediate plan	 1Q 1990 3Q 1990 4Q 1990	 1Q 1990 3Q 1990 4Q 1990
SYSTEMS & SERVICES (Organizational, maintenance and retrieval resources)	3.4					
Acquisitions	3.41	No system for record-keeping	Develop card files, lists & procedures		4Q 1989	1Q 1990
Cataloging, classification & indexing	3.42	Limited cataloging & classification	Assign Dewey classification numbers & subject headings to all materials	Procure recommended titles in Basic Plan	1Q 1990	Ongoing
Materials processing	3.43	No book cards, pockets or spine labels	Prepare cards, pockets & spine labels Process all materials	Procure supplies Catalog & classify collection	1Q 1990 1Q 1990	Ongoing Ongoing
Circulation	3.44	Time-consuming, redundant procedures	Develop & implement new procedures based on recommended steps		4Q 1989	4Q 1989
Reference	3.45	No statistics for reference services No use of outside resources	Develop & implement user request form Identify & evaluate resources for ILL, document delivery, online searching		4Q 1989 4Q 1989	4Q 1989 Ongoing
Current awareness	3.46	Limited or poorly used services Users receptive to new services	Identify & analyze user needs Develop & test new services		4Q 1989 4Q 1989	Ongoing Ongoing
Retention	3.47	No guidelines for retention Archives occupying more than 15% of available library shelving	Develop retention policy Review and update policy Relocate archives	Establish advisory committee Establish collection development policy	1Q 1990 2Q 1990 4Q 1989	1Q 1990 Ongoing 4Q 1989

	Report Section	Observation(s)	Recommended Action(s)	Pre-requisite Action(s)	Timing Begin	Timing Complete
Automation alternatives	3.5	Library & Info Dept staff novices at use of microcomputers	Procure microcomputer & software		4Q 1989	4Q 1989
		No microcomputer in library	Train library staff on use of hw/sw		4Q 1989	1Q 1990
Functions & processes targeted	3.51	Current staff inadequate to manage manual card or book catalog	Automate catalog with cataloging software & CD-ROM MARC records	Procure microcomputer; train staff on hw/sw	1Q 1990	4Q 1990
		No current access to collection for staff or users	Provide access to collection for users on CD-ROM workstation(s)	Develop CD-ROM catalog data	4Q 1990	4Q 1990
		Circulation volume currently manageable as manual system	Evaluate automation of circulation process based on volume & staff experience with existing systems	Procure & implement CD-ROM work stations	1Q 1991	3Q 1991
		Demand for library acquisitions sporatic & low volume	Evaluate cost-effectiveness of automating acquisitions processes		4Q 1991	1Q 1992

Egyptian General Petroleum Corporation
Summary of Estimated Costs for Implementation and Procurement Costs

Category	Report Page Reference	BASIC PLAN COSTS	INTERMEDIATE PLAN COSTS	EXEMPLARY PLAN COSTS
Collection Development				
Bibliographies & Indexes	B-21		2,567	2567
Dictionaries	B-2 - B-3	843	843	843
Directories	B-4	1,271	1,271	1,271
Encyclopedias & Yearbooks	B-5	965	965	965
Handbooks, Manuals & Basic Texts	B-6 - B-21	10,330	10,330	10,330
Journal Back Issues	B-22 - B-25			11,711
Journals (subscriptions)	B-26 - B-28		6,634	6,634
Statistical Sources	B-29		687	687
Standards	B-30			24,400
Subtotal	23	13,409	23,297	59,408
Basic Equipment, Hardware & Software	C-1	12,800	12,800	19,800
Library Supplies	C-2	3,210	3,210	3,210
Furniture & Shelving	C-2	7,220	13,500	20,350
Library Automation Hardware & Software	C-3	5,640	9,105	19,875
TOTALS		42,279	61,912	122,643

Future Years' Maintenance Costs		Per Year BASIC	Per Year INTERMEDIATE	Per Year EXEMPLARY
Collection (Books, journals & standards)		3,850	12,600	44,400
Library Automation Software		2,640	3,135	4,235
Library Supplies		250	500	1,000
TOTAL ESTIMATED ANNUAL MAINTENANCE		6,740	16,235	49,635

2. EGPC General Library Assessment (Task 6.1)

In order to prepare recommendations for upgrading the EGPC Library, the current condition of the library collection and the range and types of library services were evaluated. The "current condition" provided the framework for evaluating the effectiveness of the library and for developing recommendations for upgrading it.

2.1 Preliminary observations

Prior to meeting with library managers, staff or users the consultant visited the library and recorded the following observations:

- No classification is performed except shelving by broad subject area
- English language and Arabic materials are, for the most part, separated
- Materials appear to be widely dispersed in many disciplines and fairly dated
- Collection includes a limited number of reference books, general or technical
- Title duplication appears minimal
- The room appears dimly lighted, and the ceiling is low
- Shelving is not fully utilizing available space
- Aisles are not evenly spaced; some are too wide some are too narrow
- Limited storage space exists for unprocessed materials, supplies, etc.
- Limited user space and work surfaces
- No journal boxes are in use; journals and newspapers are stacked with some falling down and sliding loosely on the shelves
- Only minimal journal binding has been done
- Closed cabinets for journals and newspapers make it difficult to see what is there

2.2 Methodologies

The consultant employed a variety of methods to assess different aspects of the EGPC Library.

- Collection size, scope and currency were profiled (1) indirectly through staff interviews, survey, and observation, and (2) directly by comparing the collection against published bibliographies.
- Circulation history of the collection was measured through random sampling.
- Library usage was monitored directly through observation and daily statistics collected by the EGPC librarians, and indirectly through user interviews.
- Workflow patterns were developed through direct observation, interviews, and daily task/time logs maintained by the EGPC librarians.
- Acquisitions history was measured directly through review of accession records and indirectly through staff and user interviews.
- Indexing and cataloging functions were evaluated through review of past work and user and staff interviews.
- Scope and effectiveness of reference and other library services were assessed by observation and through user and staff interviews.

2.3 Detailed Findings

Details of the findings are divided into four major categories. The physical and environmental resources are represented by the space allocated to the library and the equipment and furniture required to accommodate the media resources, i.e. the collection, and to provide work space for the human resources, i.e. the staff. The organizational, maintenance and retrieval resources are the systems and processes used by the staff to manage the collection and to provide services to library users.

2.31 Space (Physical and environmental resources)

The current location of the EGPC General Library is on the first floor in the central building, between the main building for EGPC and the GUPCO building. It is linked to the main building by a short tunnel-like walkway from the main building. The main building has three levels, one below and one above the level of the tunnel. The single entrance to the library is about halfway down the first hall to the right of the walkway, on the left side.

From time to time when it is necessary for all library staff members to be away, the door to the library is locked. There is no signage outside the door regarding the procedure for users to follow if the library is closed. Upon opening the door, one enters directly into the work area for the library staff. See Exhibit I for a photocopy of the library layout relative to other areas closeby in the central building and page for a detailed current space plan.

The library staff area measures 2.95 m X 7.37 m for a total area of approximately 21.75 square meters. There are four workstations in the library staff area. At present, three are utilized on a full-time basis while the one remaining serves for over-flow activities and storage. One storage closet is located immediately to the right of the door. The current placement of the workstation closest to the entry door allows the closet door to open only about 40%. The closet is filled floor to ceiling with archival issues of the Miquelet al Petrol (Petroleum Magazine) published monthly by EGPC.

The doorway to the main library area is opposite the entrance door at the far end of the staff work area. The room measures 5.82 m X 14.78 m, for a total area of approximately 86 square meters.

Ranges of shelving run perpendicular to the length of the room, flush against the back wall, and include two (2) single-faced ranges along each end wall and seven (7) double-faced ranges. The ranges are separated by aisles of widths ranging between 45 cm and 140 cm. Each range includes ten (10) units; each unit has four (4) shelves. Shelves measure 40 cm wide by 30 cm deep and are supported by steel uprights which are 3 cm wide, 30 cm deep, and 180 cm high. Each upright has notches to accommodate shelf supports on 5 cm spacing. Four shelf supports are required to secure each shelf. The current openings between shelves vary between 35 cm and 40 cm; the spaces from the floor to the bottom shelves vary between 20 cm and 25 cm; the spaces from the surface of the top shelves to the top of the uprights vary between 30 cm and 35 cm.

There is one open area between range numbers three and four, measuring 325 cm wide, where one 120 cm diameter table and five chairs are available for library users. Against the back wall, in the space behind the user table, there is one shelving unit (100 cm wide, 200 cm high, 30 cm deep) with four shelves for current journal issues. Against the wall to the left of the

entrance to the library space, are twelve lateral cabinets measuring 100 cm wide, 98 cm high, 50 cm deep, with four adjustable shelves inside lockable sliding doors. Doors are unlocked on all cabinets except one.

2.32 Collection (Media resources)

The EGPC library represents the efforts of numerous individuals, over more than twenty-five years, to develop a multi-disciplinary collection capable of serving the needs of all EGPC employees. Subject categories include general reference, technical (petroleum, chemistry, engineering, geology, computer science), business (banking, economics, management, training, personnel), and recreational reading (philosophy, religion, fiction and juvenile literature).

Prior to beginning the detailed review of the collection, interviews were conducted with library staff and management. The interviews served as an introduction to the current collection as well as to the developmental history of the library, its policies and procedures. The following details were identified through the interviews:

Book Collection --	4,000 titles (estimated)
Distribution --	By language - 30 % English, 70% Arabic By subject - 50% Technical, 50% General
Journals --	50 titles (estimated 10 newspapers, 40 journals (all newspapers are Arabic; of the journals, 35 are English, 5 Arabic)
Acquisitions --	New acquisitions 1989 - 165 items (estimated through August 15, 1989); 1988 - 100 items (estimated)
Retention --	1-2 months for newspapers; 5 years for journals except petroleum sector titles (e.g. Oil & Gas Journal, Chemical Engineering, Chemical Week, Petroleum Economist; Europe Energy) which have an 8 year retention; prior to moving from Nasr City the book collection was reviewed thoroughly and about 75% was destroyed

In the detailed review of the collection, the physical formats included in the EGPC library collection expanded from books, journals, and newspapers to also include 2 video cassettes, 4 audio cassette language studies, and an unknown number of microfiche of the archival EGPC annual reports and Miquelet al Petrol. The technical and business materials in bound or book-type formats are on ranges one (1) through seven (7), in the open-faced steel shelving units; they are arranged in broad subject areas. Small hand-lettered, pressure-sensitive labels affixed to the shelving indicate the various subject categories. The remaining ranges include a variety of subject categories and formats.

The journals, newspapers, cassettes, and microforms are stored in the closed lateral cabinets and in the closed wall files in the work area. Several cabinets have pressure-sensitive labels listing the titles shelved inside. Some space in the lateral cabinets, as well as most space in the hanging wall files in the work area, accommodate annual reports, miscellaneous documents, library files, and supplies.

In the absence of a shelf list, acquisitions records, and circulation statistics, a survey of the collection was performed. On the basis of the survey, a currency profile and a usage profile were developed. Tables 1, 2A,

2B, and 3 summarize the findings of the collection survey.

The following methodology was used to select a random sample from the collection, and then to gather data on each item.

- Each range of shelves was numbered starting at the left wall inside the door and running to the right (1-16)
- Units in each range were numbered starting at the wall opposite the door, and running toward the door (1-10)
- Shelves were identified top to bottom (A, B, C, D)
- Thirty-three selections were made from separate sets of numbers for ranges and units, and a set of letters for the shelves
- Each selected shelf was examined to identify (1) the total number of items on the shelf, (2) copyright date and the numbers and dates of circulations for the third book from the left end of the shelf and the third book from the right end of the shelf.

2.33 Staffing and User Groups (Human resources)

The EGPC library is part of the Information Department and as such, reports to the Vice Chairman for Information, Dr. Mohamed Shawkat. Other activities of the department include microfilming and publishing. All types of documents and data are converted to various microforms, not only for EGPC, but also for several subsidiaries and field offices. The documents are filmed and the processed microfilm, fiche, etc. are indexed and maintained in an area down the hall from the library. Full capability exists to read and, when required, to produce paper copies from all microforms.

In addition to the library and microfilming, the Information Department is responsible for the publication of the monthly Miquelet al Petrol, a monthly employee newsletter, the corporate annual report, and a number of special publications including proceedings and technical papers from conferences and seminars sponsored by EGPC.

The overall objectives of the Information Department include:

- Assist the researcher
- Support the training function at EGPC
- Assist journalists, both Egyptian and foreign
- Share in the activities of Congresses, seminars, etc., especially those dealing with the international petroleum industry
- Support the university programs
- Support the information needs of the Egyptian petroleum sector and government officials on missions to other countries

The supervisor of the library staff, Mrs. Laila Abu el Atta, is also the editor of the Miquelet al Petrol. Although she has no academic training in library science, she has been involved in information services for many years. The personnel involved directly with managing the library collection and providing services to library users include three individuals. Each has a university degree in library science. Mrs. Enas el Sheikh has worked in the EGPC library for nine years; Mrs. Nadia Omar el Safy has worked for eight years. Mrs. Soheir Mafuz Rams returned from an extended leave on August 31, 1989. Although she has limited experience with EGPC, Mrs. Soheir previously worked in a public library setting.

Other Information Department staff who provide support services to the library include:

Mrs. Nabila Dagear and Mrs. Magda Zagalul - Readers/indexers
Miss Mona Amin - Typist/word processing specialist
Mrs. Magda Hassan - Department secretary
Mr. Hamgi Abdel Aziz - Technical writer, Mail services

The user group universe for the EGPC library includes all EGPC employees. The size of that group is estimated to be 1,500, of which only about 60% are actual users, and only 25% of the actual users could be classified as regular library users.

The group is extremely diverse and includes engineers, geologists, geophysisists, chemists, economists, accountants, managers, secretaries and other clerical support staff, safety and purchasing personnel, and healthcare providers. In addition to EGPC employees, visitors and guests from EGPC joint ventures, students from area universities, and journalists often use the library or request assistance from the library staff.

Most library users who are EGPC employees have offices in the main building. Although they may call the library for assistance, they usually come in person.

2.34 Systems and Services (Organizational, maintenance and retrieval resources)

Analysis of current systems and processes involved data gathering on a daily basis for two weeks. Nadia and Enas logged the amount of their time spent on each organizational, maintenance, and service activity. Usage statistics were also gathered during the same two week period. Results are reported in Tables 4 and 5.

Acquisitions and Collection Development

There is no formal collection development or acquisitions policy for the EGPC library. If a user requests a book which is not in the collection, the request is forwarded to Dr. Shawkat for approval. If no budget dollars are available, the request is held until money becomes available. Only library budget dollars can be used to purchase books; there are no departmental book budgets. Those books shelved within departments are either personal copies or belong to library; they may be on permanent or long-term loan; there are no departmental book collections that are known to the EGPC librarians.

The annual book budget for the EGPC library varies between L.E.3,000 and L.E.4,000 ($1,100-1,600). Each year a small amount (L.E.100-200) is designated for each department; the remainder is used for general library collection development. Of that amount, about L.E.2,000 are spent each year at the Cairo Book Fair. A separate subscriptions budget of L.E.10,000 pays for magazines, journals, and newspapers.

Users identify the age of the EGPC collection as a primary concern, especially in the subject areas of geophysics, petroleum geology, engineering, data processing, and computer technology. Although budget limitations for purchase of publications affect both individual departments as well as the library, many users question past priorities for allocating those expenditures.

Acquisitions sources utilized by EGPC vary with the type and date of the published material. Approximately twenty-five (25) of the journal subscriptions and all the newspapers are ordered and received through Al-Ahram Distribution Agency in Cairo. Although the cost is greater, service is very fast and reliable. Al-Ahram is also used for ordering new books which have recent copyright dates (e.g. within the last two years). Universal Subscription Service, Ltd., out of London, handles U.S. trade journals and U.S. business magazines. A few journals are ordered and received directly from the publisher. Direct mail service is slow, but fairly reliable.

Cataloging and Classification

A traditional card catalog has never existed for the EGPC library collection. Several years ago, Nadia and Enas prepared main entry cards for many books, but these cards were inadvertantly destroyed prior to the move to New Maadi. Although the books are shelved in broad subject areas, subject classification is fairly arbitrary, and no direction is provided for the user to know where a specific book should be found or replaced after use.

Several months ago Enas and Nadia talked with Yehya Lashine in the Information Services department about the possibility of building a computer database for the library. Since that time the librarians have developed worksheets which can be used as cataloging data entry forms (Exhibit II). Data on approximately 240 titles have been recorded and includes author, title, publisher, place, date, # copies, and ISBN; about 100 of these titles have also been classified using the 16th edition of the Dewey Decimal Classification system; most call numbers included one (1) digit past the decimal. A "cutter" line follows the Dewey number with the first letter of the author's name and the first letter of the first significant word in the title. Subject areas include economics, business, management, and marketing. Total staff time for Enas and Nadia to review and record all this information was approximately ten (10) man hours, divided into five (5) days at two hours each day.

Library users frequently encounter difficulty in locating publications or information on specific topics. A standardized classification system with printed or computer-based access (author, title, and subject) is a universally identified need for the EGPC library.

Indexing and Abstracting

On a regular basis the readers/abstractors read and review journal articles, primarily petroleum economic magazines. Brief abstracts are prepared in English or Arabic, depending on the language of the article, and are maintained in the information files. The abstracts are classified by subject with the same subjects duplicated in English and Arabic. The files are stored in the work areas of Nabila and Magda, next door to the library. When a user requests information which is included in the files, the files are brought to the library for their use.

Several years ago, the archival issues of the Miquelet al Petrol, 1959-1985, were microfilmed. At that time, instead of a true index, a retrieval tool was developed with a listing of each issue's table of contents, arranged by issue year and number.

Materials Processing

Books and journals added to the EGPC library are processed as they are received. Although the collection includes other formats, there is no evidence that formats other than books are accessioned or processed in any way. The following process represents current procedure:

Books
- Receive item
- Write entry into the accession book using next sequential number for the current year; the entry includes accession number (serial number), author, title, publisher and date, pages, price, and notes (Exhibit III)
- Stamp with EGPC library ownership stamp on title page
- Prepare book card, handwritten, with author and title
- Insert in book; book pockets have not been used for the last five (5) years due to limited supply budgets
- Determine the correct subject area in the library
- Shelve book in subject area

Journals and Newspapers
- Journal issues and newspaperam received through the mail are delivered to the library
- Record the number or date of each issue received on the journal check-in log sheet (Exhibit IV) in the column next to the correct journal title
- Shelve issues in the closed lateral cabinets on the proper stack for each title.

Circulation

All types of materials are checked out to users. The circulation period for books is one month with varying periods for other types and formats of materials. If a user requires a longer term loan, his request is usually honored unless other users are waiting for the same item. If the material is not returned by the due date, one of the librarians, usually Enas, will telephone a reminder.

The daily process for circulation includes the following steps for materials being checked out:
- Book cards for all materials checked out for the day are divided into groups by sector (department)
- A record for each book borrowed is entered in the circulation log book (Exhibit V) in the proper alphabetical section for the borrower; each page is divided into columns for name, sector, telephone number (this must be looked up in the EGPC employee directory), title, date borrowed, date returned
- The cards are filed alphabetically, by borrower name in the rubber banded stack for the proper sector, and stacked in the top right hand drawer of the front workstation

For books or other materials returned to the library, the following process occurs:
- The librarian searches the circulation log book for the title, and identifies the borrower who returned the item
- The date returned column is completed with the current date
- The book card is pulled from the correct sector stack

- The book card is inserted in the book
- The book is shelved

An estimated number of items in circulation as of 8/21/89 was prepared by counting the exact number of cards in a stack measuring 5 cm. All cards for items currently circulated measured 45 cm when stacked together.

242 cards per 5 cm
45 cm of book cards
9 times 242 = 2,178 estimated items in circulation

Many of the 2,178 items represent books on long term loan for extended study or books purchased by the library for a specific department. Although those books are included in the estimate of current circulation, they are not likely to be returned to the library.

Reference

Reference services consist primarily of directional assistance. Librarians aid users in locating specific books or journal articles in the EGPC library or in identifying material on a specific topic. Printed indexes to technical papers and journals are not received, so users and librarians must review individual title pages of journal issues to locate articles. Librarians do not search commercial online databases or utilize outside resources or services for online searching, inter-library loan, or document retrieval.

Few library users are familiar with commercial bibliographic databases or the typical reference and research services provided by a corporate library. However, one priority identified by users and librarians is developing capabilities to identify and retrieve relevant information, efficiently and effectively, within EGPC library and elsewhere.

Current Awareness and Routing

Early in 1989, Nadia bagan providing a news clipping service. Each day she reviews the Arabic language newspapers, photocopies articles of interest, and prepares four folders, one each for the EGPC Chairman, the Vice Chairman for Exploration, the Vice Chairman for Information, and the library supervisor. Articles are filed in reverse chronological order for approximately one month and then forwarded to the four individuals for review. After their review the folders are returned to the library, the individual articles are separated and filed into pink legal folders divided by subjects and countries (e.g. Kuwait; Oman, OPEC production; Supply & Demand in OPEC countries; OPEC prices; Capacities of refineries in OPEC countries, etc.). Prior to beginning the in-house service, a local commercial clipping service was contacted but was not retained by EGPC.

There is only limited routing of current journals, done by special request. Users indicate a moderate interest in routing services.

Current awareness services as well as library public relations and visibility are accomplished through written reviews or brief summaries, in Arabic, for new titles added to the library collection. These reviews are prepared monthly for publishing in the Miquelet al Petrol. Nadia and Enas alternate responsibility for preparing the reviews. Titles reviewed in recent issues include:

World Development Report 1988
OPEC Secretary General's Annual Report for 1987
Central Egyptian Bank Annual Report 1987-1988
United Arab Economic Report 1988

Retention

The retention guidelines for journals and newspapers, when applied, can assist in reducing unnecessary maintenance and space requirements for outdated or unused materials. In the EGPC library, no such guidelines exist for reference materials, technical and business-related books, conference proceedings, recreational reading materials, etc.

3. Comments and Recommendations (Tasks 6.2, 6.3 and 6.4)

3.1 Space (*Physical and environmental resources*)

To be most effective, the location, design, and layout of a library should be consistent with the corporate culture and image of its parent company. In this regard, the EGPC library currently operates under several limitations which need to be addressed.

3.11 Quantity

The initial appearance upon entering the EGPC library is that space is extremely limited. Part of the problem results from the quantity of actual floor space available for the library. More importantly however, is the utilization of the existing space. Although additional floor space might be desirable, it is not a priority at this time. Fairly minor and inexpensive modifications in furniture and workspace layout, and the relocation or reduction of low usage or non-essential materials, will free a significant amount of space. At least for the short term, these recommended changes will allow for collection growth, improved services, and a more pleasant working environment for the library staff.

3.12 Location

The EGPC library is physically located at one of the most remote points from the majority of the principal user group segments, i.e. geologists, geophysisists, engineers, and managers. All but a small percentage of the users must come from another floor in the main building and then walk across the walkway to enter the library. Although the actual distance may not be great, the sense of remoteness, i.e. in another building, is a real deterent to walk-in users. Furthermore, since the library has only one intra-office telephone line, users may also find it difficult to phone the library with an information request.

If a user decides to visit the library, one hurdle he must overcome is that of finding the right door. The door is not marked with name designation or room number. Sometimes the door to the library is locked for short periods when it is necessary for all staff to be away. Although this represents a conscious and necessary practice for security purposes, it can be a serious deterrent to individuals wishing to use the library or for those wishing to return materials.

Clearly marked signage is recommended. Directional signs at the main entrance to the walkway and upon entering the central building will send users in the right direction. A large door sign should mark the location of the library and indicate the normal hours of operation. A brief explanation of the procedure to use when the library is closed will alleviate disappointed library users. A book return slot in the door or a portable book return bin outside the library door, will also facilitate returning materials when the library is closed.

Limited corporate visibility is another serious problem associated with the current location of the EGPC library. One of the simplest ways to assure that personnel know about a unique service and resource, like a corporate library, is to locate the library in a visible spot. An area which receives heavy traffic is always desirable. Ground floor locations often provide that

traffic and visibility as do locations near lunch rooms or refreshment centers. A consistent, visible presence makes the library and librarians more approachable and makes individuals less likely to forget about the services and resources. When a need for information arises, employees will more fully utilize a corporate library's resources if they have easy access and regular reminders of its presence.

Given the opportunity to plan a relocation for the EGPC library, the most ideal spot would be on the ground level floor of the main building, preferably not far from the main reception and security center. However, since space is not available at this time, and the current location has existed less than a year, alternate solutions should be used to improve access and visibility for the EGPC library. In this report, all recommendations for furniture, equipment, space plans, systems, and services are based on the existing space allocated to the library.

3.13 Lighting and sound

One of the first impressions one gets upon entering the EGPC library is that the room is somewhat dimly lighted. Although the fluorescent lighting may be adequate for routine reading in a standard office configuration, the maroon, or deep red shelving and lateral filing cabinets significantly reduce its effectiveness. The absence of natural light and the current appearance of clutter, common to libraries with limited space, also contribute to a sense of closeness in the library. Increasing the wattage of the flourescent bulbs should improve the lighting problem significantly.

The current location is also vulnerable to a constant low- to mid-level humming noise from air conditioning equipment. The noise is somewhat amplified because the ceiling is low relative to the size of the room and the height of the shelving. The presence of this same noise in an area with normal conversation or office equipment noises would probably not be bothersome. However, since the library is often quiet, the equipment sound, especially when it changes pitch or speed, is disruptive to library users and staff. Identifying the source of the noise and evaluating possible actions to help reduce its impact on the library are essential activities. The simple addition of sound dampening insulation in the library ceiling may be an alternative.

3.14 Shelving and other materials storage

The use of open steel shelving, similar to the type currently in use at EGPC, is common in a corporate library. The width and height of the individual shelving units at EGPC are unusual and reduce the amount of usable shelving space significantly. More than three (3) meters of potential shelving is lost due to the number of uprights for a given range length required for 40 cm wide shelves.

Shelf space is further reduced since only four shelves are installed in the 180 cm height of the current uprights. The size of the opening between shelves is slightly larger than necessary, and no shelf is used in the lower 25 to 30 cm of each upright. By decreasing the opening to approximately 30 to 35 cm and adding one shelf in each unit, approximately 10 cm from the floor, a total of 4 meters of linear space can be added. Unfortunately, that is not a significant or adequate increase.

According to the sales representative for Mobica, the manufacturer of the existing EGPC shelving, the standard width for library shelving is 100 cm; the standard height for uprights is 200 cm. With uprights of 200 cm, a minimum of six (6) shelves can be accommodated in each unit. Using uprights which are 200 cm tall, shelves which are 100 cm wide, and arranging the units in a configuration of the same linear measurement as the current EGPC shelving, can reduce the shelving space lost for uprights and increase available shelving by 50%. Not only would wider shelves increase storage, they would also improve the appearance and flow of the shelving process. Although taller uprights would worsen the closed-in appearance of the library, the additional shelving space would be a valuable improvement and a reasonable trade-off.

There is a potential problem with wider steel shelves. Occasionally, the weight of books may be too great and a shelf may bend or sag. That problem seldom occurs with the type and size of materials likely for the EGPC library. Furthermore, the 100 cm shelves manufactured by Mobica are reinforced along the underside to provide additional weight capacity and strength for heavy books.

The closed lateral cabinets are functional and attractive. Since they are lockable, they can provide a somewhat secure storage location for materials such as video and audio cassettes. However, they are not well suited for storing journals and newspapers. The closed doors eliminate all possibility of scanning shelves for titles or for quick shelving and retrieval. The shelves, although not permanently fixed, are not easily repositioned, thereby reducing the flexibility of using binders and boxes for journals and newspapers. Improved access, retrieval, and maintenance of individual issues can be achieved by using magazine or pamphlet boxes. These are available in a variety of colors and materials (cardboard, metal, wood or plastic) and can be easily labeled with titles and date ranges.

3.15 Furniture

The existing work stations for the library staff are aesthetically pleasing and functional. Although there is not an abundance of storage space, what is available appears adequate for current and future needs if necessary materials and files are organized, and space is used more appropriately. However, there are not adequate or appropriate surfaces to process incoming library materials or accommodate microcomputer equipment or microform readers/printers.

Furniture and work surfaces for library users is also inadequate. The single table is often occupied by two or more library users who have little space to spread out with reference materials and papers. Furthermore, since the user table is the only flat surface in the main library area, the librarians often use it as well. Its dark color is inconsistent with the other library furnishings and make it appear out of place and uninviting.

A user study carrel in addition to one or two user tables are necessary to provide adequate space and surfaces and to encourage the use of materials in the library.

3.16 Equipment

The EGPC library has no equipment currently. In many cases the librarians are not aware of other departments which have the equipment (e.g. microfiche readers, cassette players) to utilize materials housed in the

library collection.

The following items are recommended as part of the basic needs for the library. More detailed specifications are included in Appendix C.

a) One electric typewriter
b) Two metal, rolling book trucks with three flat shelves each
c) One plain paper photocopier with capabilities to enlarge, reduce, print in duplex, and print double sided copies
d) One IBM-compatible microcomputer
e) One dot-matrix printer with tractor feed
f) One microfiche reader

3.17 User and staff space

The quantity of space currently available for users and library staff, if reconfigured and upgraded, will be adequate to meet needs for the short term. Recommended changes address two primary problems and require major shifts in the location and furniture placement of both areas.

At present all workstations for staff are located near the entrance door to the library. This enables the staff to be highly visible to users as they enter the library and allows the staff to provide a measure of security as users leave. However, the library staff is totaly separated from the user area and the location of the collection. This arrangement not only increases the demand on staff who regularly access and maintain the collection, but it also limits their ability to see users in the stacks area who may need assistance. Everyone spends too much time walking back and forth.

One additional problem in the current configuration is the bottleneck which often occurs just inside the library door. The primary location for users to consult with a librarian and check out materials is located just inside the entrance door. When several users or visitors are in the library at the same time and another person opens the door to enter, the first thing he sees is a crowd of people in too small a space.

Three proposed space plans are included in Section 3.19. Recommendations suggest that the staff workspace be divided into two areas: (1) a reference desk and processing area located near the stacks along with a table for users; and (2) a separate workstation in the present staff area for handling circulation and security, with additional workspace for users.

3.18 Storage space; secure and otherwise

At present there is limited storage space, and what is available is not used to best advantage. By removing the historical issues of <u>Miquelet al Petrol</u> currently stored in the closet near the library entrance, an area more than 60 square meters will be available for closed storage. Adjustable shelves could be installed along three of the walls alloving enough space for a person to walk into the closet. With six levels of shelves a total of more than 30 linear meters of shelving would be available for library supplies, materials in process, small equipment (e.g. slide projectors, microfiche readers, audio and video cassette players, etc.) and other items with special security or access requirements.

3.19 Proposed layouts

Development plans for a library/information center are often implemented in several phases. The three proposed space layouts are very similar to one another, and in fact, can be used in a phased approach. Each one seeks to effectively utilize both the existing space and some or all of the existing shelving and workstation equipment.

Each of the plans improves workflow, increases access to the media resources, and facilitates the library staff in assisting users. The primary differences between the plans are those of equipment for utilization of various media formats, especially microfilm, microfiche, audio and video cassettes, computers and the associated hardware for the automation of several library processes.

The recommended space plans appear as Sections 3.19.2, 3.19.3 and 3.19.4. For comparison purposes, the current configuration is represented at the same scale in Section 3.19.1. Existing shelving and furniture as well as recommended additions are designated on all drawings with the label as indicated on the space plan key on the following page.

Drawing Label	Description	Quantity Existing	Quantity Needed
A	Book shelf unit, 180 cm high, 30 cm deep, 40 cm wide		
Aa	Single-faced (Aa-4 has 4 shelves; Aa-5 has 5 shelves)	20	40
Ab	Double-faced (Aa-4 has 4 shelves; Aa-5 has 5 shelves)	70	60
C	Book shelf unit, 180 cm high, 30 cm deep, 100 cm wide with 4 flat shelves	1	
D	Lateral cabinet, 98 cm high, 100 cm wide, 50 cm deep, sliding, lockable doors	12	12
E	Wall cabinets, 165 cm wide, 36 cm high, with sliding, lockable doors	2	
F	Users' table, round, 120 cm diameter	1	
G	Work table, 170 cm long, 60 cm wide	2	
H	Work table, 170 cm long, 75 cm wide	2	
I	Chair (blue) with casters	3	
J	Chair (secretarial, blue, with casters)	1	
K	Chair (orange)	5	
L	Rolling, three-drawer filing unit	4	
M	Computer work table		1
N	Book shelf unit, 200 cm high, 30 cm deep, 100 cm wide, 6 shelves each		
Na	Single-faced		18
Nb	Double-faced		27
O	Book shelf unit, 200 cm high, 30 cm deep, 100 cm wide, with 6 slanted display shelves		1
P	Microfilm (fiche) reader		1
Q	Microfilm (fiche) reader/printer		1
R	Photocopier		1
S	BiblioFile Intelligent Catalog		1
T	User carrel; 4 individual stations		1
U	User Chair		8
V	Users' table, round, 100 cm diameter		1
X	Microfilm cartridge carousel rack (will subscription to standards)		5

3.19.1 Current - Page 21A

3.19.2 Basic Plan - Page 21B

3.19.3 Intermediate Plan - Page 21C

3.19.4 Exemplary Plan - Page 21D

3.2 Staffing (*Human resources*)

The physical resources of the EGPC library not only accommodate the human resources (i.e. staff and library users) but also inhibit or facilitate their effectiveness and productivity in performing necessary tasks and responsibilities. Other factors also affect the ability of library staff to do their jobs.

3.21 Location and number

The three EGPC librarians seem an adequate number to provide service to users and maintenance to the collection under normal operating conditions. However, additional staff will be required throughout the library upgrading process. In order to complete the process in a reasonable time frame, the use of additional staff on a project basis will enable the regular staff to continue day-to-day operations somewhat uninterrupted.

The project team can concentrate on cataloging, classification, physical organization, materials processing, and implementation of other systems. Although the regular staff should be involved in advising and assisting from time to time, the bulk of the actual work can be performed by others. The "new library" will be completed more quickly and will be more consistent, and the existing staff will not experience the frustration and burn-out which often accompany major projects.

The three EGPC librarians each has a workstation in the staff area. Having all three together maximizes opportunities for communication and team work. However, it also results in frequent interruptions and distractions. One person may be working independently on a task which requires conversation in person or by telephone, while the other librarians need to concentrate on the details of their own tasks in a relative quiet environment. Relocating the staff into separate work areas will help solve this problem and will also put the librarians closer to library users who may need assistance.

The location of staff should be somewhat flexible based on the particular task or duty each one is assigned. The individual primarily responsible for the daily circulation should be located at the workstation (H-a) as labeled on the space plans. The individual primarily responsible for reference and user assistance should be at the workstation in the stacks area (G-b). The person who handles journal check-in and materials processing should sit at the remaining workstation (H-c).

3.22 Educational preparation

Each of the EGPC librarians has a university degree in library science. This seems to be the norm in many parts of the world. Over the last fifty to seventy-five years, notably in the United States and Great Britain, more and more librarians, especially in corporate and academic settings, will have an undergraduate degree, followed by a master's degree in library and information science. Additional academic training in library and information science for one or more of the EGPC librarians would enhance their abilities to manage the library.

Although an advanced degree does not completely equip a librarian to function effectively, combined with the broader educational and subject-specific requirements of a bachelor's program, it does provide a good educational foundation for on-the-job training. It also exposes students to

operational and managerial processes and methodologies which can be used and developed on the job in a library.

3.23 Level of experience

Experience in any type of library - school, academic, or public - is valuable for most duties and responsibilities in a corporate library setting. Many of the day-to-day processes and procedures are quite similar, differing only in total numbers from one library to another.

Varied experience in different library settings is more valuable however, since it provides an individual with insight into a variety of solutions for a given problem and an opportunity to see differing methodologies for accomplishing the same task. Without that exposure, it is easy to perform the same job in the same way for years, without questioning its appropriateness, effectiveness, or efficiency.

The EGPC library staff lacks broad work experience in other library settings. Their knowledge of and exposure to other libraries, more specifically, special or corporate libraries, is essentially nonexistent. Regular opportunities to meet library professionals working in similar roles for other companies and to experience firsthand how other individuals creatively administer a library program, would provide valuable growth opportunity for the EGPC librarians.

The most significant difference between the services provided in a progressive corporate library/information center and those provided in more general libraries, involves research and reference services. A corporate library often requires additional subject expertise and in-depth experience above the level typically needed in general libraries. Corporate librarians are familiar not only with the published resources pertinent to the users' information needs, but strive to understand, at least at a layman's level, the most technical or complicated request. In many cases, they are expected to anticipate a user's information needs and be equipped to meet those needs almost immediately.

The EGPC librarians have both the need and the desire to improve the level of reference and research services they provide to users. Some improvement will automatically accompany the updating and expansion of the collection. Additional improvement will require an individual commitment to read and develop familiarity and competence with the new resources. Recommended training and professional development programs are discussed elsewhere in the report.

3.24 Organizational structure

The supervisory and managerial levels outside the library facility, i.e. within the Information Department, appear to be well defined and fully functional. However, unlike many corporate libraries, the EGPC library apparently lacks a clearly defined organizational structure among the three individuals who actually work in the library.

In order to facilitate the daily operations of the EGPC library, defined job descriptions should be developed for each librarian and the various individuals who provide support services. This will not only help to identify responsibilities, but will also reduce the likelihood of work not getting done. A team approach, with one individual assigned the job of coach or team

leader, works well with a small homogeneous group. The staff is allowed maximum flexibility to get the job done while at the same time, opportunities for cross-training and staff development are increased.

Especially tiresome or mundane chores can be assigned on a rotating basis to share the burden; likewise, the more unique and challenging tasks can be shared so that everyone has an opportunity to learn new things. In both cases, one individual is ultimately responsible for the performance of responsibilities within defined functional areas of the library's operation, and one person, the team leader, is charged with coordinating the team and resolving conflicts should they arise.

In addition to the team approach for the routine operation of the EGPC library, a team or committee concept will also benefit the management and development of the library program. A library advisory committee should be established. I should be composed of representatives from various departments and disciplines, as well as from the library staff and Information Department personnel. The committee's responsibilities are to assist in the development of library policies and to help develop priorities for collection development, expansion of services, and other important issues affecting both library staff and user groups.

3.25 Group dynamics, communication and morale

Effective communication is important in any business setting and it is especially critical between library users, staff, and managers of an information services function. Staff meetings, planning sessions and user interviews or surveys should be scheduled as normal activities. These times are important opportunities to discuss areas of need or concern, to identify remedies, and to evaluate the effectiveness of the services. They will facilitate communication and encourage participation and commitment to the overall objectives of the library by all EGPC employees. As individuals experience participation in the library program, they will more fully utilize the resources to benefit themselves and the company.

3.26 Training needs and professional development

Regardless of the academic background or job experience, librarians and information professionals should experience ongoing training and professional development. The library and information services industry is one which is changing rapidly requiring practicioners to obtain regular updating on new resources, methodologies, and technologies. Even the processes and procedures which do not change can benefit from a fresh approach shared by a colleague from another library.

The EGPC librarians should be encouraged and challenged to develop and maintain contacts in other libraries, and to participate fully in meetings, conferences, and seminars, both in Cairo and elsewhere in Egypt. There are a least two professional associations for librarians in Cairo: the Egyptian Library Association and the Association of Technical Librarians and Information Specialists. Each one sponsors meetings, seminars, and other opportunities for professional development.

In addition to training and development opportunities through associations, more formal and organized programs can be arranged. The American Cultural Center Library, under the direction of Mr. Akhnoukh Louis Fanous, offers orientation sessions customized to the needs of the

individuals. Over the last ten years the Center staff has assisted the Sadat Academy for Administrative Affairs and the Egyptian Ministry of Administrative Affairs, among others, by providing hands-on training for librarians and library staff. More than 300 individuals have participated in numerous sessions. See Exhibit VI, pages 15 through 19.

The orientation programs usually begin with a meeting with Mr. Fanous to discuss the role of a library and the library staff's role in providing services. Individual sessions are scheduled with other Center librarians for the attendees to personally experience the functions and processes of the library. Cataloging, classification, materials processing, circulation, collection development, online searching and user reference are included. Many times visits are scheduled to other libraries so that attendees can gain broad exposure to the types of library facilities in Cairo. Sessions are given in English or Arabic, depending on the needs and abilities of the attendees, and normally require five to ten working days to cover the various functions.

Based on the current expertise of the EGPC librarians, the primary emphasis for customized training should be on reference and user services. Using and becoming familiar with many standard and specialized reference sources, and to existing collections and services in the city, will enable the EGPC librarians to assist their library users more fully. Learning about and using services such as interlibrary loan, online database searching, and document delivery will expand the capabilities of the EGPC librarians and significantly broaden the resources available to EGPC library users.

Other training and educational opportunities which may meet existing needs for the EGPC library staff include library science courses at Cairo University and the Department of Public Service at the American University of Cairo. In-depth English language training is provided by the Training Department of the General Petroleum Company, an EGPC subsidiary, in Nasar City. Twelve different levels are offered including one called petro-business English.

3.3 Collection (*Media resources*)

Recommendations for specific titles, including books, journals and other media, are included as Appendix B. Titles are arranged alphabetically in nine categories as follows:

Bibliographies & Indexes
Dictionaries
Directories
Encyclopedias & Yearbooks
Handbooks, Manuals & Basic Texts
Journals (subscriptions)
Journal Back Issues
Statistical Sources
Standards

For procurement purposes, each title entry also includes author, place, publisher, date, list price, and ISBN/ISSN as available from published and electronic sources on the date prepared. Prices cannot be guaranteed; no shipping or handling charges are included nor is any allowance made for import duties which may be charged.

3.31 Collection development policy

The purpose of a library's collection development policy is to clearly state the principles and guidelines along which the process of selecting and acquiring materials will proceed, and on which current holdings will be judged for retention. It is useful both in providing consistency among those who have responsibility for developing the collection and in communicating the library's policies to users and to management. It is understood that as the corporate business objectives and information needs of the parent organization change, so the collection development policy for the library must be altered or updated to meet those changing needs.

It should be the responsibility of the EGPC library advisory committee, in conjunction with the library staff and management, to develop a mission statement for the EGPC General Library, and on the basis of that mission statement, outline a collection development policy. The policy should include guidelines for the following:

- Who is ultimately responsible for the decision-making regarding what materials will be purchased?
- Who else participates in the process?
- How are budget dollars allocated?
- Do guidelines vary for materials in different formats? (Books, journals, newspapers, other serials, microforms, audio/video cassettes).
- What subject areas and disciplines shall be represented in the collection?
- What level of depth is recommended for each subject area and discipline? (Minimal, representative, comprehensive).
- How shall gift materials be handled?
- Under what circumstances is duplication necessary or recommended?
- How shall materials requested by individual users be handled if the request does not meet existing collection development guidelines?
- What criteria shall be used to identify materials which should be

removed from the collection for storage and/or discard?
- How frequently shall the policy be reviewed and updated?

3.32 Justification

The success of the EGPC collection development policy should be evaluated regularly and specific criteria should be justified. Justification may take the form of statistics which document new acquisitions in the various subject areas, in usage statistics, or in specific user requests for materials not included in the collection guidelines. The EGPC library advisory committee should seek to refine and adapt the guidelines so that the collection provides adequate subject and format coverage to meet the information needs of the defined library user groups. A schedule should be establish and adhered to for that review.

3.33 Implementation plans

Bibliographies of recommended titles are included as Appendix B. For budgeting and implementation scheduling, the following levels of collection development are consistent with the plans for space and systems development.

3.33.1 Basic

All materials in the following categories should be purchased:

Encyclopedias & Yearbooks	$ 965.31
Dictionaries	843.20
Directories	1,271.05
Handbooks, Manuals & Basic Texts	10,096.40
Sub-Total	$ 13,175.96

3.33.2 Intermediate

In addition to the Basic level materials, all materials in the following categories should be purchased:

Bibliographies & Indexes *	$ 2,567.40
Journals (subscriptions)	6,634.05
Statistical Sources	686.60
Sub-Total	$ 9,888.05

* *An allowance of $1,500 is also included for the H.W. Wilson* ***Applied Science & Technology Index****, which does not appear in the title listing.*

3.33.3 Exemplary

In addition to the Basic and Intermediate level materials, all materials in the following categories should be purchased:

Journal Back Issues	$ 11,719.90
Standards	24,400.00
Sub-Total	$ 36,119.90
TOTAL for ALL LEVELS:	$ 59,183.91

3.4 Systems and Services (*Organizational, maintenance and retrieval resources*)

Through the effective utilization of the library's organizational, maintenance and retrieval resources (*the systems and services*), the human resources (*the staff and library users*), can access and manage the media resources (*the collection*), and achieve the desired objectives of the library.

The EGPC library has the most opportunity for growth and improvement in the systems and services area. Although the staff exhibits interest and enthusiasm in improving the organization of the collection and in providing better reference, maintenance and retrieval services, limitations in time, money and expertise restrict their capabilities.

3.41 Acquisitions

The acquisitions process in a library seeks to identify the most appropriate sourcing for media purchases. The individual may be required to verify titles and obtain additional bibliographic information before actually processing an order. Once the order is placed with a vendor, confirmation and status reports may follow. Upon receipt of a parcel, the item is checked for condition and compared to the original order for correctness. Receipt is confirmed and the invoice is processed for payment.

The most critical resource for acquisitions is a strong knowledge of publisher, supplier, and vendor capabilities and requirements. Without that knowledge, a great deal of time may be wasted if a title is ordered from a vendor who is incapable of filling the request. EGPC librarians should attempt to broaden their options for acquisitions and become more familiar with additional resources.

Acquisitions is a very cyclical process at the EGPC library. During the two week monitoring period, no staff time was used to order new materials or to order or renew subscriptions. With the small number of new publications being ordered for the EGPC library, and the number of available vendors also being quite small, several straight-forward improvements to the process will result in major enhancements. The librarians should:

- Develop a card file or word-processed list of all sources of publications used within the last two years; include commercial sources as well as governmental and free sources.
- Include name, address, telephone, contact person, payment/billing procedures, account number, ordering instructions, preferred shipping mode, areas of specialization (e.g. U.S. trade books, Arabic newspapers), normal delivery time.
- Update entries with information changes and notes on performance as needed.
- Prepare a card file or word-processed list of all subscriptions currently received; include title, publisher, frequency, price, available indexing, purchasing source, current subscription period, notes on normal delivery schedule
- Develop a publication request form for users to complete; include space for basic bibliographic information, approval signature, sourcing data, collection development category, budget charge codes.
- Develop a brief form letter which can be used with a word-processing software program and a microcomputer system to prepare publication orders.

- Evaluate the importance and long-term need to continue the accessioning process; consider noting the date on which the item is added to the collection as part of the cataloging record
- Develop written procedures for the acquisitions process including copies of all forms, vendor lists, preferred sourcing.

3.42 Cataloging, classification and indexing

The cataloging, classification and indexing processes are the most valuable tools the librarian uses to organize a collection. Cataloging involves the bibliographic description of the item (author, title, place, publisher, date, number of pages, series name, etc.) as well as subject headings assignment, generally chosen from a standardized thesaurus of terms.

Classification is the process of assigning a number or numbers to a publication based on its subject content. One classification scheme frequently used is the Dewey Decimal Classification system, which divides all knowledge into ten categories, which may be further subdivided to various level of specificity.

The EGPC librarians have begun to prepare cataloging and classification for some parts of the collection. During the monitoring period a total of 144 books were partially or fully cataloged and classified, requiring approximately 13 hours of staff time. Although the intellectual processes require expertise and experience with the tools, as well as patience and discipline throughout the project, given enough time, the current EGPC library collection can be cataloged and classified using current procedures.

In order to expedite the process currently underway, cards or small slips of paper could be used in place of the large multi-title data sheets. Each card would include all the information for a single title. The cards can then be marked, sorted, inserted in books, filed in a box, or manipulated any number of ways as the project continues.

The intellectual effort of cataloging and classification can be reduced a great deal by utilizing "cataloging in publication data" (cip), which is included on the verso of the title pages of many recently published books. The information is usually accurate and complete and can be copied into whatever format is desirable, print or electronic.

Two additional recommendations will help to standardize and enhance the quality of the cataloging and classification information being created and will also improve the retrievability of materials.

1. Update the current edition of the <u>Dewey Decimal Classification & Relative Index</u> from the 16th edition to the 20th edition (See Appendix B).

2. Use the <u>Sears List of Subject Headings</u> as the standard list for subject descriptors for most publications; for technical or highly specialized areas (e.g. geology, geophysics, petroleum engineering) consider using one or more of the thesauri or technical dictionaries (see recommended publications) as alternative sources of authorized terms; make clear, concise notes in the Sears List when terms are used from an alternate source so that consistency can be maintained over time.

Indexing is the process most commonly applied to articles, technical papers, etc. and involves assigning subject headings, descriptors, or keywords which describe the subject content of the publication, and which will assist in the retrieval of the material. Indexing may also include the citation or bibliographic information for the article. The current indexing effort at EGPC should be continued, and ultimately access to that material should be provided through the same document, card file, or computer database as the rest of the EGPC library collection.

3.43 Materials processing

One of the obvious reasons for processing materials for inclusion in a library collection is to provide ownership identification. The EGPC ownership stamp should be easily identified and placed on a book or other publication in at least one location. Some libraries choose the title page plus one distinctive location (e.g. the side margin of page 27) so that even if the cover and title pages are removed, the book can still be identified.

Many libraries manually write the date or year received, the price, accession number, and/or call number somewhere on the title page or inside the front or back covers. This provides a second level of identification for each item and also serves as an accuracy or quality control check for the cataloging, classification and materials processing functions.

Identifying the shelf location, or "address", is also a part of materials processing. The shelf location is usually included on a label printed with the classification number (Dewey Decimal) plus a second line of letters or a combination of letters and numbers which represent the last name of the author or the title of the item (this second line is sometimes called the Cutter number). The classification number and the second line together make up the call number, which should be typed or printed on a small, pressure sensitive label (see recommended supplies) and placed on the lower portion of the spine, or back edge, of the publication. In the event the item is too thin for the label to fit on the spine, it should be placed on the front cover of the book for easy reading. Book (dust) jackets are usually removed, especially if they are worn or dirty, before affixing call number labels. New book jackets, or those in good condition, can later be used to prepare a display of new titles in the library collection.

The final stage of materials processing for book-type items involves creation of a circulation card or book card, along with a pocket to hold it inside the book. Preparing a card for each item facilitates the process for borrowers to check-out materials and reduces the possibility of confusion if more than one borrower has the same item checked-out at one time.

Information may be typed directly on the book cards and pockets or pressure sensitive labels can be used along with card stock and prepared book pockets. (See library supplies list, Appendix C.) The same information is printed on the book card and book pocket and usually includes a brief title, call number, copy number, and any other vital information which is unique or will help to identify the item easily. The book card slides inside the book pocket; the pocket is then glued inside the front or back cover of the item. A separate date due slip can be used or pockets may be purchased which have an area printed on them for the due date to be stamped. The book is now ready to be shelved in its proper shelf location and to await check-out by a user.

3.44 Circulation

Circulation of materials is an important aspect of the services provided by the EGPC library. During the two week monitoring period a total of 90 books were checked and 103 were returned. Approximately 10.33 hours were dedicated to circulation-related tasks. Although the amount of staff time does not seem excessive it amounts to almost three minutes per book handled. Furthermore, the existing procedures are tedious, suceptible to error, and can result in delays for users and librarians.

Problems are often caused by the fact that since book pockets have not been used, the cards are inserted into the book pages. The result is that the book cards are often difficult to locate quickly, and sometimes they are missing entirely. The time required to record borrower information on the book card and in the circulation book, plus the additional step to sort and file by sector, can be simplified somewhat without a significant reduction in available information.

The following steps outline the recommended circulation cycle -- charging out an item to a borrower and discharging the item when it is returned to the library -- :

- Borrower removes book card from pocket of desired item.
- Borrower writes his name, sector designation, and telephone number in the spaces provided on the card.
- Library staff stamps the date due based on the length of the loan period for the type of material being borrowed.
- Borrower leaves the library with the item.

At the end of the day:

- Library staff alphabetizes all book cards for the day's circulation by the first significant word in the title of each item.
- Once the cards are alphabetized, library staff files them behind the tabbed divider for the day and month of the due date in the circulation file.

When the item is returned by the borrower to the library:

- Library staff checks the last due date stamped inside the returned item.
- Library staff pulls the matching book card from the appropriate date due section of the circulation file.
- Library staff lines through the borrower's name on the book card and the matching date on the date due to signify discharge of the item.
- Library staff shelves the item in the library collection.

The word processing software can be used to prepare a reminder form or telephone calls to users can alert them of their "overdue" materials. This procedure will help reduce losses. Long-term or permanent loans can easily be established when necessary, and should be filed in the circulation file behind a tab indicating that special status. Circulation of reference books, journal issues, and other materials for which book cards are not normally prepared, can be performed as needed. A brief handwritten book card for those items may be prepared for the user at the time of check-out, and a date due slip can be temporarily attached to the material.

3.45 Reference

Reference services depend much more on the attitude of the library staff than on a system or process. The attitude and level of confidence the users

have toward the library collection and staff are also important factors in the frequency and volume of their requests. Current demand for reference services at EGPC library is somewhat low. During the two weeks of library usage data collection, a total of 20 reference questions were counted. Responding to those questions and providing other user assistance services accounted for less than 8 hours of total staff time over a two week period, or an average of 46 minutes per day.

With the helpful and resourceful individuals staffing the EGPC library, expansion of reference services can be accomplished over time. Enhancing the capabilities of the library staff and updating and expanding the scope of the collection will encourage the users to depend on the library staff for assistance and utilize the resources of the library to meet their information needs successfully.

A standard information request form will establish a record of the number and variety of reference requests for the library. It will also enable more than one individual to assist in filling a user's request and prevent delay in completion. The form should provide space for requestor name, phone number, date, deadline, type of request (quick reference, photocopy request, inter-library loan, manual research, online database search, etc.), outside cost limitations, and enough space for the librarians to record all action taken to fill the request.

Regular review of the completed or pending reference request forms will help to identify gaps in the library collection, additional services or capabilities which are requested but not available, and the frequency of use of the services and resources which are available. Such information will assist the library advisory committee in assessing the effectiveness of the library and in developing plans and priorities for the future.

3.46 Current awareness

Current awareness services can be varied. A basic approach involves regular routing of new journal issues directly to individuals who request the service. A slightly more involved process includes the routine monitoring of relevant journal or newspaper titles for articles of interest to an individual or group. This type of service was recently began by the EGPC library staff. At least one of the users for whom it is specifically prepared seemed to be unfamiliar with it during a user interview.

Another form of current awareness includes photocopying journal title pages when they arrive in the library and sending the copies to individuals for their review. The individuals may then call or return a request to the library for photocopies of articles. A daily or weekly library update, perhaps in newsletter format, can also mention articles or new library materials of special interest to certain library user groups.

By far the most sophisticated form of current awareness service involves the regular execution of an online database search on one or more databases. If properly established and monitored, this type of service can be cost effective and can enable an individual to stay abreast of the changes in his field of interest without having to wade through a sea of irrelevant information.

3.47 Retention

Retention guidelines for a library collection assist in reducing unnecessary maintenance and space requirements of outdated or unused materials. At EGPC no such guidelines exist for reference materials, technical and business-related books, conference proceedings, recreational reading, journals, or newspapers. The dusty condition of many library materials reflect the years during which books were seldom or never used. The worn condition of almost all of the recreational reading materials indicate high usage, but contribute to a deteriorated image of the entire collection.

As the EGPC library collection development policy is implemented, a retention policy should accompany it. The regular and consistent application of the retention guidelines is critical; likewise the appropriate withdrawal, relocation, or discard of materials is important to maintain the health and integrity of the collection.

The retention policy should include schedules and review cycles for all types of materials as well as periodic review and updating of the guidelines themselves to reflect changes in the information needs of the EGPC library users.

After basic guidelines are established for retention and collection development, the existing EGPC library collection should be reviewed in detail and the following recommendations considered for implementation:

- Create two complete sets (two copies of each issue) of the Miquelet al Petrol for the library collection; identify the minimum number of duplicate copies of each issue which should be archived (consider 10 - 15); box and clearly label those archival copies for storage elsewhere in the EGPC building; destroy or give away all remaining issues except for issues from the current volume year and two previous volume years; at the end of the current volume year, box and label the minimum number of archival copies of the oldest volume year for storage; at all times retain in the library only the two library copies; additional copies of the last two volume years should be maintained in a separate publications storage area for filling outside requests.
- Duplicate the above process as appropriate for the EGPC annual reports.
- Prepare detailed holdings lists for journals with missing issues noted.
- Review all titles, especially those in the general reference, Institute of Commerce, and recreational reading categories, to determine disposition based on the EGPC library mission statement and collection development policy; give away, discard or repair as appropriate.

3.5 Automation alternatives

The decision to automate a library's systems and processes should be approached with as much knowledge, planning, and coordination as possible. Because bibliographic data is textual, not numerical, and almost all library processes use the same data and are closely integrated with one another, library automation presents some unique problems. These problems, especially if the manual systems and processes are not well defined and operating smoothly, will quickly frustrate and overwhelm even the most committed and experienced library staff. As the degree of automation and the number of integrated library processes involved in that automation effort increase, both the level of library staff training and the requirement for information systems support increase dramatically.

Originally only larger public and academic libraries (more than 100,000 volumes) considered automation because they were the only libraries who could afford the expense and justify the cost of a mainframe application program, as well as the associated implementation costs and personnel requirements. Integrated mainframe programs like Dynix, CLIS, NOTIS, OCLC, Unisys' PALS, and Battelle's TechLib have all found favor and acceptance among large libraries.

With the advent of mini-computers, some re-written mainframe applications as well as several new programs, were available for mid-sized libraries (20,000 to 100,000 volumes) who automated their cataloging, acquisitions, and circulation processes successfully. Other programs which offer more flexible retrieval capabilities, but lack integration and may require significant front-end customizing, include Inmagic and BRS Search Software.

Within the last ten years, the development and improvement in microcomputers has made automation available for many corporate and school libraries. A number of software packages have been developed which provide everything from basic card catalog and book label production capabilities to fully integrated library systems, including modules for acquisitions, serials, cataloging, and circulation. Unfortunately for many libraries and librarians, a number of library software companies survived only a short time and failed to live up to promises for enhancements, new modules, and consistent support.

Several companies have survived and are enjoying a widening market as the desktop computer has improved in memory capacity and speed. BiblioTeck, DataTrek, Follett, The Library Corporation, MOLLI, Sydney Data Products, and Winnebago have software products which provide a variety of integration levels, user-friendly screens, and flexibility to add modules and expand the system on a gradual basis.

Prior to developing an automation plan for any library, there are a several of questions which should be answered.

- How many items are in the library collection?
- Is the collection stable in its size and subject content?
- What library processes are most in need of improvement?
- Does the library staff have experience with library automation or does a support group exist to provide that expertise when needed?
- Does the library staff recognize the need and have the commitment to endure a library automation project?

On the basis of the answers to the above questions, a total library automation program for the EGPC library is not advised prior to implementation

of other recommendations included in this report. The collection should be refined and developed based on the mission statement, collection development plan, and the retention guidelines. The staff needs to mature somewhat in its capabilities to manage the manual processes and become comfortable with more in-depth reference and user assistance services. Once those two goals are achieved, many of the inherent problems and risks of changing to an automated library environment will be reduced and the phased automation process should begin.

In the meantime, a few applications for a microcomputer system will help streamline library operations and also acquaint the staff with the basic hardware and software. This interim involvement will help shorten the learning curve, ease the human stress involved with the more involved automation projects, and ensure successful implementation. The following list of possible not meant to be exhaustive but should serve as a starting point.

- Word-processing software for creating form letters for ordering new materials, inter-library loan requests, over-due reminders, library reports to management, user newsletters, journal routing slips, customized bibliographies for users
- Spreadsheet software for managing library statistics, developing budgets
- Database management software for preparing and managing small databases of journal titles, unique library collections (e.g. language tapes), acquisitions sources, recommended acquisitions
- Communications software to access the Egyptian National Scientific and Technical Information Network and the associated reference resources (e.g. directories, online library catalogs, other localized information resources)

3.51 Functions and processes targeted and prioritized

When the total library automation plan for the EGPC library is ready for implementation, the library processes which should be of top priority are those of cataloging and classification. These processes are the most demanding in terms of time and expertise from the staff. Furthermore, once they are automated, users and library staff have the added benefit of improved access to the collection.

Most cataloging programs are built around a MARC (machine-readable cataloging) record and require some familiarity with the data type, as well as with library processes, to be implemented and operated effectively. A review of basic bibliographic and descriptive cataloging should precede the introduction of the MARC record format, and concentrate on the critical MARC-tagged fields which will be used at EGPC.

In order to facilitate the initial process, especially with the addition of the newly recommended titles, a system which can integrate the identification of existing MARC records with the printing of cards, labels, reports, etc. will provide the greatest benefit for the EGPC librarians. Not only will they have access to quality cataloging for many titles in their collection, but they will also have those same cataloging records to serve as models to develop their original cataloging for titles not in the LC-MARC database.

Once all existing cataloging and classification data is automated, the next process to consider for automation should be circulation. The cards,

pockets, and new filing procedures recommended elsewhere in this report will enhance the existing manual system, but if circulation volume increases, automation of the task may become more important.

Prior to implementing the automated circulation system, a brief needs assessment should be performed. The size of the collection, number of borrowers, and the average circulation volume should be criteria for the decision to automate library circulation. Although not required, most libraries use barcodes on all materials which are scanned into the existing MARC record. If and when the decision is made to automate circulation, a methodology for barcoding the collection should strive to utilize staff time efficiently and minimize interruption to daily routines in the library.

Many libraries find it acceptable to barcode items "on the fly", i.e. as each item is actually checked-out. This method helps library staff evaluate library usage book by book, and eliminates the guesswork and tedious effort of collecting and analyzing usage statistics. It also saves in the cost of materials and labor required to barcode materials in the collection which are not being used and should soon be considered for discard.

For the EGPC library, the last process which should be considered for automation is acquisitions. A system which will integrate the acquisitions function into that of cataloging and classification will reduce some duplication of effort. It should also be able to take advantage of information from English language publishers which is more difficult for the EGPC librarians to obtain. However, before seriously considering automation of the EGPC acquisitions process, the rate of acquisitions needs to increase substantially over the current level. A careful assessment of the software costs, staff learning costs, as well as the potential benefit, should be performed before proceeding with the automation effort.

One additional process which can benefit from applying microcomputer technology is that of providing reference services. Accessing and searching commercially available, online bibliographic and full-text databases will complete the upgrading process for the EGPC library.

This particular process requires minimal additional start-up expense to implement. However, the increased requirement for staff training, for user and staff orientation to assure its effective use, and the difficulty of controlling operating costs are significant, and represent the principal reasons for recommending the delay in implementation until after all other library operations are fully upgraded. The delay is made more acceptable because there are resources already in place for the EGPC library staff to utilize in the interim which will significantly enhance their reference services capabilities.

Prior to performing online database searching in-house, the EGPC library staff can utilize existing outside resources and services on an as-needed basis. The Academy of Scientific Research and Technology has established the Egyptian National Scientific and Technical Information Network (ENSTINET). The network is equipped to provide services to organizations and companies throughout Egypt. See Exhibit VI, pages E - 7 through E - 11.

Through the various subject-specific information nodes users may request online database searches, document delivery services, and interlibrary loans. These requests are processed on a low-cost or subscription basis. The Energy Node of ENSTINET is operated out of the Energy Information Center (EIC) within

the Organization for Energy Planning. The EIC also maintains a collection of energy-related publications and data and a staff to provide reference and orientation. See Exhibit VI, pages E - 12 through E - 14.

Each librarian at EGPC should have opportunity to tour the headquarters facilities of ENSTINET and to visit the Energy Information Center as well one or more of the other information nodes. The exposure they can gain through using this capability to access the online systems and utilizing other resources available through ENSTINET, will equip them to evaluate the need and potential benefit of establishing in-house capabilities for those same services in the EGPC library in the future. It will also help reduce the training requirements and shorten the actual learning curve for online database searching.

3.52 Recommended software and hardware

Little consideration was given to a mainframe library automation software for the EGPC library. Neither the current or anticipated collection size requires mainframe capabilities, nor is the level of library staff expertise or information systems automation support available to assure successful implementation. For similar reasons, a mini-computer system application is inappropriate at this time. Given the expanding speed, memory, and networking capabilities of microcomputers today, as well as the existing systems and support in EGPC, a microcomputer-based library automation application is clearly appropriate.

When feasible, microcomputer software and hardware recommendations should be consistent with what is already in use elsewhere in the same organization. Since there is currently an Apple MacIntosh Desktop Publishing system in the Information Department, consideration was given to Apple-compatible software and hardware. However, since the vast majority of EGPC personnel are familiar with the IBM world, the necessary training and support are more easily available through the Information Services Department. Based on the limited computer expertise of the EGPC library staff and the fact that library automation software capabilities suited to EGPC needs are more numerous for IBM environments than for those of Apple, a recommendation for IBM-compatibility was almost a foregone conclusion.

Microcomputer and printer hardware as well as word processing, spreadsheet, database management, and communications software, should be selected from those packages already supported by the Information Services Department. For planning purposes, cost estimates are included in Appendix C. Software and hardware to meet requirements in Section 3.51 are available through The Library Corporation, P.O. Box 40035, Washington, D.C. 20016 or One Research Park, Inwood, WV 25428; telephone (800) 624-0559 or (304) 229-0100. Modules, specifications and current pricing estimates are also included in Appendix C.

3.53 Implementation plans

3.53.1 Basic

The basic automation implementation plan for the EGPC library includes purchase of one IBM-PC or compatible microcomputer, a dot-matrix printer, and four categories of software, word processing, spreadsheet, database management and communications. All staff should have at least an introductory training session on the word processing and spreadsheet packages. A minimum of three

months should be allowed before proceeding with training for the database management and communications software.

The plan also includes the BiblioFile Cataloging software from The Library Corporation as well as a CD-ROM drive. This will enable the library staff to identify MARC records for the majority of the English language items in the collection. These records can be saved to diskette along with all originally created cataloging records. On an established schedule, diskettes filled with electronic records are sent to The Library Corporation for conversion to compact disc format. Ultimately, the entire catalog of the library collection, as well as all special collections, can be converted to compact disc.

3.53.2 Intermediate

The Intermediate plan includes everything in the Basic Plan plus the installation of one Intelligent Catalog system from The Library Corporation. This will enable library users who come to the library to search the catalog themselves. With some basic orientation, they can become somewhat self-sufficient in locating materials in the EGPC library collection.

This plan will also allow time for the library staff to fully develop their capabilities to utilize the enhancements of the automation package with most of the data available. This should occur prior to providing additional access to users in the Exemplary Plan.

3.53.3 Exemplary

The Exemplary Plan will take full advantage of the software capabilities. With the addition of a second Intelligent Catalog system for users to access in their main building work areas, and the possible implementation of the circulation and acquisitions modules, the demands on the library staff will increase significantly. They will be required to learn and fine tune the automated processes and will also be called upon to provide training and orientation for the library users. It is for this reason that this level of automation is targeted for the Exemplary level and should not be attempted before mastery of the manual processes and the recommended automation of both the Basic and Intermediate plans.

4. Implementation schedules

A schedule for the implementation is presented for planning purposes only. Many factors impact the implementation process and require modifications and changes in an earlier plan. Library staff and users should be involved in the planning effort and should be reminded of the need to remain flexible and patient.

As part of Section 1.0, specific timing is given for recommended actions, along with any required pre-requisite actions. Additional detail is not repeated in this section.

4.1 Space

Implementation should begin on all recommendations related to the library space during the fourth quarter of 1989 or the first quarter of 1990. Elapsed time, for the most part should not exceed four to five months.

4.2 Staffing

Recommendations related to EGPC library staffing focus on activities which the librarians and library management should address. For the most part these will require ongoing activity and updating once initial action is taken. A detailed library staff training program and schedule are not included as this is outside the scope of work for the library upgrading project.

4.3 Collection

The implementation schedule for recommendations related to the media resources of the EGPC library should begin as soon as possible during the fourth quarter of 1989. The first priority should be the establishment of the library advisory committee and a thorough review and inventory of the collection. The collection development recommendations should begin during the first quarter of 1990 and continue throughout the year. The Basic Plan requires at least six months for implementation because of the volume of publications and the required library processing of the materials.

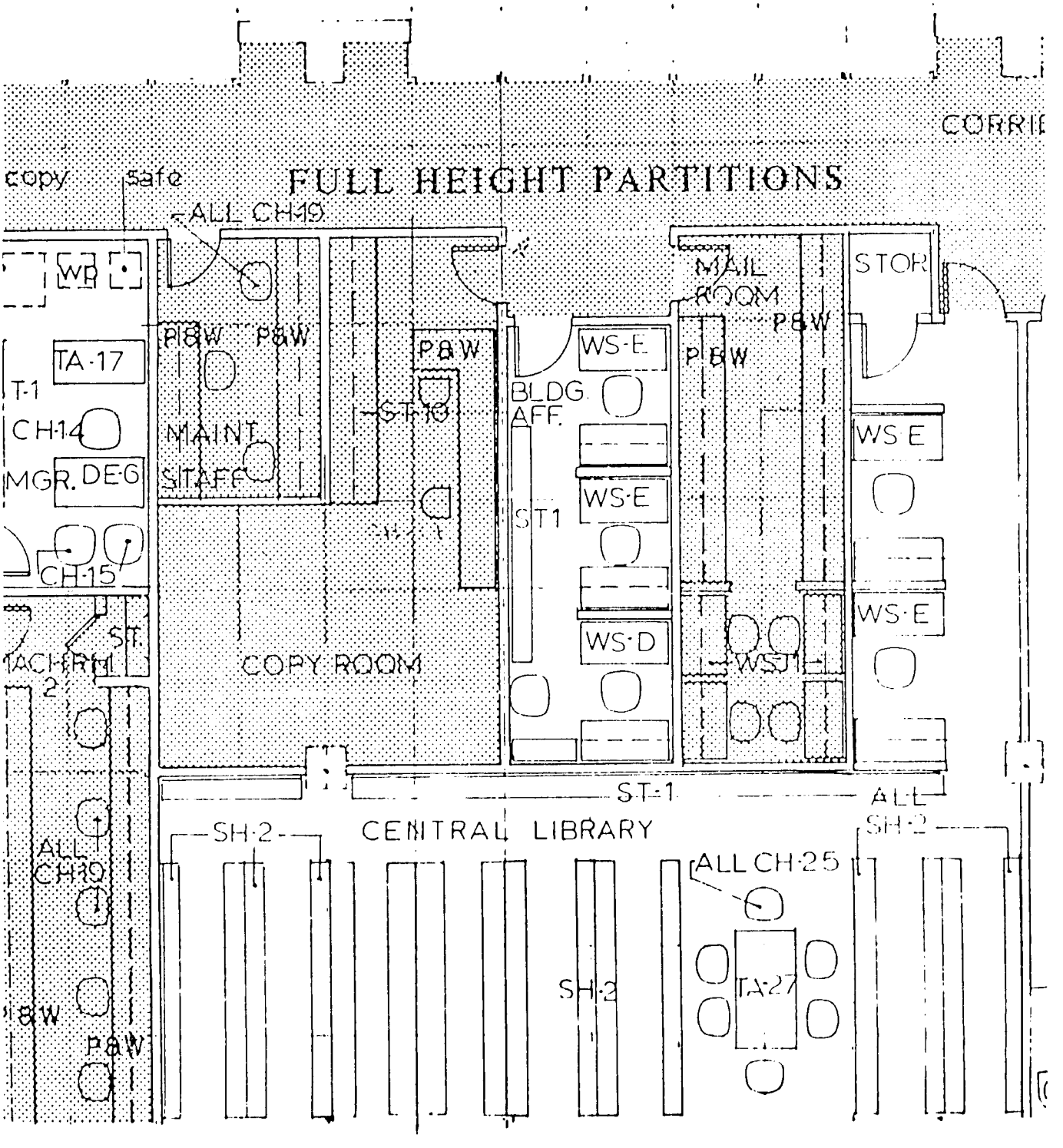
4.4 Systems and Services

Associated with the collection development plans, the implementation schedules for recommended actions involving systems and services require significant activity during the fourth quarter of 1989 and the first quarter of 1990. Many of these actions will be ongoing and regularly evaluated for effectiveness and updating.

5. Follow-up assessment of implementation progress

A summary report will be prepared and presented following the final client site visit during first quarter 1990.

BUILDING ... ms



CENTRAL LIBRARY

[illegible]	Name of Book	Author	Publication			Source	[illegible]	ISBN
			place	publisher	date			

Exhibit II

الهيئة المصرية العامة للبترول

ACCESSION BOOK SRECORD سجل قيد الكتب الواردة

رقم مسلسل Serial Number	المؤلف AUTHOR	العنوان TITLE	مكان النشر Place	اسم الناشر وتاريخ النشر PUBLISHER & DATE		عدد الصفحات PAGES	الثمن PRICES	ملاحظات NOTES
(٦٥)	Sidney H. Goodman	Handbook of Thermoset Plastics	1986	N. J.	Noyes Pub.		118.90	[illegible]
(٦٦)	D. S. Parasnis	Principles of Applied Geophysics	1986	London	Chapman & Hall		59.800	4th ed.
(٦٧)	P. Mason	" of Geochemistry	1985	New Delhi	Wiley Eastern Ltd		12.500	
(٦٨)	G. Grimmett	Probability an Introduction	1986	Oxford	Clarendon Press		29.900	
(٦٩)	Hans Joachim	Petroleum Refining	1984	Germany	Enke		76.00	
(٧٠)	Jeff Walden	The IBM PC in Your Corporation	1985	N.Y.	Johnwiley & Sons		35.900	
(٧١)	Sam F. Lam	Computer Capacity Planning	1987	Boston	Academic Press		62.400	
(٧٢)	M.G. Sills	The reliability of Non-Dest	1987	England	Adam Hilger		120.00	
(٧٣)	Anthony Chandor	Dictionary of Computers	87	London	Penguin Books		22.200	3rd ed.
(٧٤)	E. T. Pettijohn	Sand & Sandstone	87	N.Y.	Springer Verlag		172	2nd ed.
(٧٥)	Gerald E. Kemp	Planning & Producing Instructional Media	86	N.Y.	Harper & Row		44.00	5th ed.
(٧٦)	[illegible]	[illegible]	[illegible]	1986	[illegible]		[illegible]	

Exhibit IV

	اسم النشرة	١٩٨٩ الاصدار	يونيو	يوليو	اغسطس	سبتمبر	اكتوبر	نوفمبر	ديسمبر
1	Business Week ١٢/١٦ — ٤/١٦	2 27	5 12 19 26	3 10 17 24 31	7 14 21 28				
2	The Economist ١٢/١٦ — ٤/١٦	5 11 19 26	3 10 17 24	1 8 15 22 29	6 12 19				
3	Fortune ١٢/١٦ — ٤/١٦	3 31	14 30	3 31	14 — 28	11			
4	MEED	5 12 19 26	8 16 23 30	7 14 21 28	4 11 18				
5	Time ١٢/١٦ — ٤/١٦	7 14 21 28	4 12 19 26	3 31 10 17 26	7 14 21 28	4			
	~~Energy Economist~~	1	1	1	1				
6	Energy Economist ٨٩/١٢ — ٨٩/١								
7	Europe Energy ٩/٢ — ١٢/٢٨	3 10 17 26	3 10 17 23 30	1 28 7 14 21					
8	International Crude Oil and product prices ٨٩/١٢ — ٨٩/١			1					
9	Corrosion ٨٩/١٢ — ٨٩/١	1							
10	Corrosion Abstracts ٨٩/١٢ — ٨٩/١	March-April				1			
11	Fairplay Inter. ٨٩/١٢ — ٨٩/١	3 30 9 16 23	4 11 18 25	13 20 27	3 17 24				
12	Gas World ٩/٥ — ٨٩/٦	1	1	1	1				
	٨٩/١٢ — ٨٩/١								
13	Journal of petroleum Geology			1					

الهيئة المصرية العامة للبترول
المكتبة

اسم المستعير	الادارة	رقم التليفون	اسم الكتاب والمؤلف	التاريخ: الاعارة	التاريخ: الاعادة	ملاحظات
[illegible]	[illegible]	٧٥٢	[illegible]	١٨/١/٨٧	٤/٢/٨٧	
[illegible]	[illegible]	(٠)	[illegible]	١٠/٢/٨٧	٢/٣/٨٧	
[illegible]	[illegible]	١٨٦	English Telephone Conversations - Learn Grammar	٢/٣/٨٧		
			[illegible]		٤/٧/٨٧	
[illegible]	[illegible]	١٢٣	[illegible]	٢٩/٢/٨٧	١٤/٣/٨٧	
[illegible]	[illegible]	٣٩٢	[illegible]	٢٠/٢/٨٧	٢/٣/٨٧	
[illegible]	[illegible]	١٨٦	Fallowme - [illegible]	١٢/٢/٨٧		
[illegible]	[illegible]	٢٠٥	Fixed Grops	٢/٣/٨٧	٢/٤/٨٧	
[illegible]	[illegible]	٣٥٢	[illegible]	٢/٣/٨٧	٣٠/٣/٨٧	
[illegible]		[illegible]	[illegible]	٢٦/٣/٨٧	٢٠/٧/٨٧	
[illegible]	[illegible]	٢٠٢	Cambridge Certificate English - Kenneth Goff	٢٧/٧/٨٧	١٠/٢/٨٧	
[illegible]	[illegible]	٢٨٢	[illegible]	٢٨/٢/٨٧		عبد العزيز محمد
[illegible]	[illegible]	٢٥٣	[illegible]	٩/٢/٨٧	٢٤/٢/٨٧	
[illegible]		٢٥٢	[illegible]	١٨/١٢/٨٧	١٦/١/٨٧	
[illegible]	[illegible]	٢١٢	[illegible]	٢١/٢/٨٧		استلام [illegible]
[illegible]	[illegible]	٢٢	[illegible]	١٤/١/٨٧	١٤/٢/٨٧	

E - 5

Exhibit V

Exhibit VI: Supplementary Resource Materials

ENSTINET
Energy Information Center
American Cultural Center

الشبكة القومية
للمعلومات
العلمية والتكنولوجية

ENSTINET

EMCA

ENSTINET MONTHLY CURRENT AWARENESS

The Academy of Scientific Research and Technology

INTRODUCTION

ENSTINET, Egyptian National Scientific and Technical Information Network, is a public information utility intended to support the Egyptian socio- economic development.

The project is sponsored by the Egyptian Academy of Scientific Reserch and Technology (A.S.R.T.), as part of the U.S.- Egyptian agreement on co-operation in science and technology. Partial support of the project is provided by the U.S. Agency for International Development (A.I.D.).

The school of information and computer science of the Georgia institutes of technology is the principal contractor for «ENSTINET».

WHAT IS EMCA ?

The Egyptian National STI Network proudly offers a major new information service to all of Egypt, the "ENSTINET MONTHLY CURRENT AWARENESS" (EMCA). For a low annual subscription fee, EMCA delivers to your organization each month a complete list of references to the most recent world's literature relevant to your activities, organizational programs, projects, tasks, or fields of interest. You receive, regularly, relevant literature references derived from thousands of the most recent journals, technical reports, conferences, books, dissertations and patents issued anywhere in the world.

HOW EMCA WORKS ?

ENSTINET has brought to Egypt several of the world's largest electronic databases. Each month, ENSTINET receives the latest updates added to these databases during the previous month,tens of thousands of references to the latest literature. As soon as the data is loaded on computers, specially prepared, individualized "profiles" of your organization's subject interests are automatically run against the database, and the references that match these profiles are printed out and delivered to the address you specify.

THE EMCA DATABASES

The databases currently available on ENSTINET computers include some of the world's largest:

AGRICOLA, a U.S. agricultural database that adds 12,000 refences each month;

AGRIS, a U.N. agricultural database that adds 8,000 references each month;

COMPENDEX, a U.S. engineering database that adds 11,000 references each month;

ISI/DB+, a U.S. science database that adds 55,000 references each month;

MEDLINE, a U.S. biomedical database that adds 17,000 references each month.
It is planned to add other large international databases in the near future.

WHAT CAN EMCA DO FOR YOUR ORGANIZATION?

1. While EMCA profiles can represent an individual's interest, the most effective profiles are those reflecting organizational interests

2. EMCA profiles reflect your organization's central activities, your research projects, assigned Five-Year plan activties, production of goods, provision of professional services, applications of new technology, and so on. EMCA's professional staff will help you formulate as many profiles as may be needed to keep your organization informed of the state of the art in every important activity.

3. The EMCA service output is delivered to you within few days after receiving the electronic tape by ENSTINET.

4. The monthly EMCA service provides only the most recent references. If you would like a complete set of references, ENSTINET will run a "retrospective" search for you. This "online" search service, directly connecting ENSTINET computers with hundreds of foreign electronic databases, has been operated by ENSTINET for several years. Your one-time cost for a retrospective search is LE 25.

5. An important extension to EMCA is its document delivery service EMCA staff will assist you to obtain a photocopy of any document referenced in the monthly printout, either from a local library or from a foreign repository. The document delivery service helps you to build up a highly specialized collection of relevant documents in your area of activity or interest.

6. All ENSTINET costs - the EMCA subscription, retrospective database searches, and provision of documents from abroad - are payable in Egyptian currency Your organization incurs no foreign currency outlays.

EMCA Subscription Fee

The regular annual subscription fee is L.E 100 per profile, payable in full amount on subscription date. This fee fully covers the 12 monthly printouts run against one database, regardless of the number of references located.

In addition to the single profile subscriptions, EMCA users can subscribe to blocks of 10, 25 ,50 or 100 profiles at discounts ranging from 10% to 30% of the basic fee. Please refer to the ENSTINET price list for types of subscription, prices and methods of payment.

SECTORAL INFORMATION SERVICE NODES

AGRICULTURAL SECTOR

Egyptian Documentation and Information Center for Agriculture (EDICA)

Nadi El-Seid Street, Dokki Tel. 702812/703616

Covers the fields of agriculture, irrigation, aquaculture, land reclamation, veterinary medicine, rural sociology and economics, food processing and preservation, animal production, agricultural extension, veterinary medicine, etc.
Provides services to professionals, agricultural engineers, planners, researchers, veterinarians, and students interested in the above fields

MEDICINE AND HEALTH CARE SECTOR

Center for Educational Technology (CET)

21 Abd- El Aziz Al-Soud street, El Rhoda Tel. 840113/848046

Ain Shams University Specialized Hospital

Al Khalifa Al Maamoun St, Abbassia, Cairo. Tel 609018, 609218

Covers the fields of preventive and curative medicine, dentistry, veterinary medicine, drugs and pharmacology, nursing, industrial medicine, pollution, hospital administration, etc
Provides Services to physicians, pharmacists, professors and students, researchers, hospital staff and other professionals in medicine, pharmacy, nursing, dentistry, and other related health sciences

INDUSTRIAL SECTOR

Engineering and Industrial Design Development Center (EIDDC)

203 Al Ahram Road, Giza. Tel 853544/852550

Covers the fields of, mechanical, electrical, electronic, mining, textile and other engineering and industries.
Provides information services to engineers, project managers and planners, research and development units in plants and factories, and practitioners in the field of industrial design

SCIENCE AND TECHNOLOGY SECTOR

National Information and Documentation Center (NIDOC)

National Research Building, El-Tahrir Street, Dokki, Tel 701696/701615

Covers the fields of pure sciences and of those applied sciences not covered by other nodes including mathematics, physics, computer sciences, astronomy, social sciences, etc.
Provides services to managers, planners, faculty and students of academic institutions, researchers and professionals in science and technology.

ENERGY INFORMATION CENTER

An OEP service to gather and disseminate energy data and information for engineers, planners, managers and researchers.

ORGANIZATION FOR ENERGY PLANNING

ENERGY INFORMATION

WHAT IS THE ENERGY INFORMATION CENTER ?

The Energy Information Center (EIC) has been established within the Organization for Energy Planning (OEP) to support Egypt's energy community through the promotion and dissemination of scientific and technical information to scientists, technologists, planners and administrators throughout the country.

The EIC has the energy node, linked to ENSTINET, the Egyptian National Scientific and Technical Information Network, coordinated by the Academy of Scientific Research and Technology.

The EIC's objectives are:

- To become the national depository of all energy information and energy data for the country.
- To build a National Energy Database including all Egyptian energy-related publications, made available through a computerized system.
- To provide energy specialists with the most up-to-date scientific, technical, and management information published in the field of energy, utilizing the Energy Node at OEP and its linkages nationally and internationally.

WHO ARE OUR USERS?

- Decision makers on energy issues
- Energy managers from industries
- Researchers in energy related fields
- Academics involved in energy topics
- The Public with special energy interests

WHAT SUBJECTS DO WE COVER?

- Electric energy generation and transmission
- Petroleum production, supply and demand
- Coal, local and foreign supply
- Nuclear energy technologies and costs
- Renewable energy sources
- National energy planning
- Cogeneration
- Energy conservation
- Thermal and hydro energy potential and technologies
- Advanced energy technologies: superconductivity, fusion
- Energy from agricultural wastes
- Energy from urban wastes
- Energy and its effects on growth rate
- World energy situation
- Energy transfer, thermodynamics, combustion, etc.
- Energy planning and policy
- Energy models

CENTER

WHAT SERVICES DO WE OFFER?

- Searches of national, regional and foreign databases of published and unpublished energy literature.
- Periodic announcement of new publications (can be tailored to meet individual needs).
- Bibliographies of database contents according to specified subject areas.
- Furnishing copies of publications retrieved through the services listed above.
- Referral to other organizations and individuals with specialized expertise.
- Access to a library of scientific and technical books and periodicals on a wide variety of energy-related subjects.

Users may obtain some services immediately upon request. Other services, such as lengthy searches of foreign databases, may require two weeks for delivery.

WHAT ARE OUR SOURCES OF INFORMATION?

- Foreign and local bibliographic databases
- Books and monographs
- Journals
- Specialized serials
- Technical reports
- Local and worldwide statistics

BACKGROUND

The Energy Information Center (EIC) represents the integration of three separate but related activities of the Organization for Energy Planning (OEP):

- The Energy Library,
- The Energy Node, and
- The Energy Database for the Country

BY President Decree No. 112 dated April 16, 1983, OEP is authorized to:

"collect necessary energy data from all Government agencies and from both public and private sectors,"

and

"establish necessary linkages with Government agencies which provide OEP with energy information and which make use of OEP work results in planning their activities."

The Energy Information Center is the vehicle to enable OEP to become the depository of all national energy data and the disseminator of OEP energy planning data to public and private sector organizations, research institutes, universities and individuals.

The Energy Library houses a collection of books and periodicals on energy-related technologies, energy economics, energy planning and policy, and general management.

The Energy Node provides access to national, regional and foreign bibliographic databases via online searches.

The Energy Database collects and stores energy-related data from public and private sectors and provides retrieval service to assist with energy-related planning and policy decisions.

The integration of the above activities provides one-stop information service to local, national and international clientele.

AMERICAN
CULTURAL
CENTER

4 Sh. Ahmed Ragheb
Garden City, Cairo

United States Information Service

LIBRARY SERVICES

A staff of specialists in various subject fields is available during regular library hours to help you locate materials required for research or leisure reading. For quick factual inquiries, a telephone reference service is also available to library members.

The American Cultural Center library has many avenues of inquiry available to it to provide our patrons with accurate and complete information on the United States. If the information needed is not readily available in our collection, our staff has the ability to continue its reference search using the wide-ranging facilities of our Washington office. REMEMBER: The information that you need either in or about the United States is accessible to you through us.

To highlight the many new additions to our book collection, the library offers a periodic list of new acquisitions divided by subject and available at the circulation desk upon request.

LOCATING BOOKS

The Card Catalog provides a complete index of all books, pamphlets, periodicals and videotapes cross-filed alphabetically by author, title and subject. It is useful for locating works of a certain author, a particular title, or material available on a certain topic.

After finding the proper index card in the catalog, note the call number typed on the upper left-hand corner of the card. This provides the information required to locate the material on the shelves. Reference librarians are available throughout the library to assist you in this search. To borrow a selected book, please take it to the circulation desk located by the front door to have it checked out in you name.

LIBRARY RESOURCES

REFERENCE

Our specialized reference collection consists of bibliographies, dictionaries, encyclopedias, handbooks, indices, yearbooks and abstracts. These publications provide factual information and serve as basic tools for research. Reference librarians are on duty throughout the day to assist you in their use.

Reference materials MAY NOT be removed from the library. Books which are a part of this collection are marked with the letter "R" above the call number for easy identification. Books marked with the letters "NC"

LIBRARY HOURS:

Sunday, Tuesday, Thursday, Friday:
10:00 a.m. - 4:00 p.m.

Monday, Wednesday:
10:00 a.m. - 8:00 p.m.

The American Cultural Center is closed on Saturday and on official Egyptian and American holidays.

TELEPHONE:

Cultural Center: 354-9601
Library: 355-0532;
354-8211, Ext. 3295/3412

WELCOME
TO THE AMERICAN CULTURAL CENTER

This guide provides a brief outline of our services, resources and programming to help you use the Center most effectively. The Cultural Center holds a library and hosts an ongoing program of varied monthly programming activity. The Center s library collection includes approximately 13,000 books and 240 periodicals, as well as videotapes and audio cassettes. This collection covers the major areas of American political and social thought, international relations, economics and management, arts and literature, science and technology, and a general reference collection.

The American Cultural Center presents a wide range of programming depicting the many varied aspects of American life and society. We offer a monthly schedule of American speakers, American feature films and documentaries, art exhibits by American artists, and seminars and telephone conferences on subjects ranging from American literature to science and technology to politics and social issues. A calendar of events is available each month to all of our patrons.

above the call number supplement this collection and also ARE NOT available for circulation.

PERIODICALS AND NEWSPAPERS

Current issues of periodicals of both general and specialized interest are displayed in the library basement. Periodicals are included in the library's card catalog on green cards with the letter "P" above the call number. A listing of all periodicals in the library is available upon request.

Periodical Indices and Abstracts

The library collection includes several subject indices designed to identify articles in various periodicals. Some of these indices are general in scope, such as "The Readers' Guide to Periodical Literature", while others are targeted to specific subjects, such as "The Business Periodicals Index" for topics related to business and economics. The library's staff specialists are ready to help you choose the appropriate subject index for your specialized research problems. All such indices are shelved with the periodicals in the library basement.

VIDEOTAPES (VCRS)

The Cultural Center's rapidly growing videotape library covers a wide spectrum of subjects including American art, music, politics, science, business and economics. Each day, the Video Lounge, located in the library basement, offers a schedule of daily USIS WORLDNET news feeds, and documentaries. The times of these showings are included in the monthly calendar and will be posted at the door of the lounge. In addition, the schedule allows for several periods of "free" time throughout the day for individual patrons to view tapes of their own choosing. An A/V technician is on duty in the lounge to assist in making these selections. All videotapes are listed in the library's card catalog on orange cards marked by the letters "MV" above the call number.

AUDIO CASSETTES

The library has a collection of audio cassettes which can be played in the Video Lounge. Many are readings of American literature which assist in the enjoyment and comprehension of the written work. Cassettes are listed in the card catalog on orange cards and marked by the letters "RT".

PAMPHLETS

Pamphlets and U.S. Government publications are housed in blue file containers and are available upon request from the reference librarian on the main floor of the library . All pamphlets are arranged under broad subject headings in the library's card catalog on blue cards and marked by the letters "VF" above the call number.

MEMBERSHIP RULES AND RESPONSIBILITIES

Members of the American Cultural Center may make use of all of the Center's resources, services and programming at no cost.

Application for Membership

Membership is open to any resident who is over twenty and to university students. To apply for membership, please bring two small photos (approximately 4 X 6 cm.) and your identity card to the circulation desk. Your membership card will be processed and ready one week after the date of your application. Please collect it personally from the circulation desk.

Borrowing Library Materials

Each patron may borrow two books at a time. Books may be borrowed for a two-week period and should be returned on or before the due date stamped in the book.

Renewals

Most books may be renewed for an additional two weeks unless previously requested by another member. Renewals may be made in person or by telephone (355-0532Z). When renewing a book, please provide your name, the number of your membership card, and the title and call number of the book.

Reserves and Searches

If the book or periodical that you want cannot be located on the library shelves, ask the circulation desk for assistance. If the book is already on loan, you will be informed when it becomes available.

Tables

Table 1: EGPC Library Collection Categories

Tec Technical category includes: Geology, geophysics, chemistry, engineering, reservoir engineering, exploration, production, drilling, refining, pipelines, petrochemicals (Ranges 1-3, 5 and parts of ranges 7 and 12; total of 178 shelves; English)

Bus Business category includes: Accounting, finance, banking, auditing, economics, management, planning, personnel, statistics, marketing (Range 6 and parts of ranges 7 and 12; total of 43 shelves English)

Gen General reference category includes: Encyclopedias, dictionaries, handbooks, directories, bibliographies (Range 4 and part of range 7; total of 47 shelves; English and Arabic)

Con Conferences category includes: Published papers of complete proceedings from conferences, seminars, symposia, meetings; also individual papers and reports not bound together (Range 14 and part of ranges 7 and 10; total of 45 shelves; English and Arabic)

Leg Legal and regulatory category includes: Bound volumes and looseleaf services of Egyptian law and legislation (Range 13 and part of range 12; total of 52 shelves; Arabic)

Aca Academic support category includes: Publications covering all disciplines for EGPC employees attending classes offered through the Institute of Commerce at the University of Cairo (Range 9; total of 40 shelves; Arabic)

Rec Recreational reading category includes: Fiction for adults and children; philosophy, history, religion, social sciences, etc. (Ranges 8 and 11 and parts of ranges 10 and 12; total of 110 shelves; English and Arabic)

Ven Vendor category includes: Product catalogs, specifications and promotional literature provided by manufacturers, suppliers, and service companies. (Part of range 10; total of 11 shelves; English)

Arc Archives category includes: Multiple copies of all back issues of Miquelet al Petrol from 1959 to the present and EGPC Annual Reports (Ranges 15 and 16; total of 74 shelves plus 35 linear meters of copies which are stacked or boxed under shelves, on top of cabinets and on the floor; Arabic and English)

Table 2A: EGPC Library Collection Survey

Range/Unit/Shelf			Number of Items	Copyright Date (19..) Book 1	Book 2	Language: 1=English 2=Arabic	Category: Per Table 1
12	7	A	9	67	71	1	Tec
9	1	A	18	83	81	2	Leg
2	6	B	9	74	71	1	Tec
5	2	C	12	59	25	1	Tec
2	1	D	6	82	73	1	Tec
9	1	D	21	82	85	2	Leg
1	10	A	16	52	76	1	Tec
9	7	B	15	82	78	2	Aca
9	7	A	22	80	82	2	Aca
7	1	C	14	79	75	1	Gen
5	9	A	19	50	83	1	Tec
9	8	A	18	84	78	2	Aca
13	10	C	14	84	66	2	Leg
1	3	B	11	59	60	1	Tec
8	6	B	20	89	87	2	Rec
9	6	B	16	86	77	2	Aca
12	5	D	23	78	78	1	Tec
1	5	D	10	62	61	1	Tec
7	10	C	9	69	64	1	Con
12	7	D	11	72	74	1	Bus
1	7	C	11	59	50	1	Tec
7	10	B	10	76	53	1	Bus
7	8	B	10	58	79	1	Tec
2	9	A	7	79	55	1	Tec
6	8	B	12	59	83	1	Bus
1	7	B	14	71	67	1	Tec
2	1	A	11	75	58	1	Tec
9	7	D	14	85	76	2	Aca
7	1	D	7	76	70	1	Gen
8	2	B	17	81	77	2	Rec
10	7	C	25	77	72	2	Rec
7	1	B	12	71	81	1	Gen
11	9	B	5	71	69	2	Rec
TOTALS			448				
Averages			14	73	71		
Count			33	33	33		
Minimum			5	50	25		
Maximum			25	89	87		
Variance			25	108	145		
Std deviation			5	10	12		

Table 2B: EGPC Library Collection Survey

Range/Unit/Shelf			Total Circulations		Total Circs	Most Recent Circ	
			Book 1	Book 2	'87 -'89	Book 1	Book 2
12	7	A	1	5	0	70	85
9	1	A	4	3	1	87	86
2	6	B	0	2	0		80
5	2	C	2	0	1	89	
2	1	D	1	1	2	88	88
9	1	D	1	2	3	89	89
1	10	A	1	2	0	63	78
9	7	B	0	6	0		84
9	7	A	1	3	3	88	88
7	1	C	2	1	1	80	89
5	9	A	2	1	0	84	83
9	8	A	0	2	1		88
13	10	C	1	3	0		86
1	3	B	1	2	0	72	69
8	6	B	2	2	2	89	67
9	6	B	1	5	0	89	85
12	5	D	4	1	0	86	80
1	5	D	1	1	1	89	79
7	10	C	0	0	0		
12	7	D	0	1	1		87
1	7	C	1	0	0	71	
7	10	B	1	1	0	81	73
7	8	B	1	2	0	78	83
2	9	A	2	1	0	87	67
6	8	B	5	8	2	73	87
1	7	B	1	0	0	74	
2	1	A	0	0	0		
9	7	D	5	5	3	89	85
7	1	D	1	2	0	81	85
8	2	B	2	0	1	88	
10	7	C	1	4	0	80	85
7	1	B	2	1	2	89	81
11	9	B	3	12	3	87	89
TOTALS			50	79	27		
Averages			2	2	1	82	83
Count			33	33	33	26	27
Minimum			0	0	0	63	67
Maximum			5	12	3	89	89
Variance			2	6	1	55	33
Std deviation			1	3	1	7	6

Table 3: EGPC Library Collection Survey Analysis

Mean copyright date	1972
Mean number of total circulations	2.08
Mean number of 1987-89 circulations	1
Median copyright dates	1957
Median number of circulations	6
Median number of 1987-89 circulations	1.5
Mode copyright date	1971
Mode number of circulation	1
Mode number of 1987-89 circulations	0
Total number shelves in Library	640
Less empty shelves (Totally empty plus sum of partially empty)	40
Less Archives	74
Number of shelves with items to be cataloged and classified	526
Average # of items per shelf	13.58
Est of number of items in collection	7,143

SUBJECT/FORMAT CATEGORY		# Shelves	Est # items
Tec	Technical	178	2,417
Bus	Business	43	584
Gen	General reference	47	638
Con	Conferences	45	611
Leg	Legal	52	706
Aca	Academic support	40	543
Rec	Recreational reading	110	1,494
Ven	Vendor	11	149
Arc	Archives	74	
	TOTALS	600	7,143

Table 3: EGPC Library Collection Survey Analysis

Mean copyright date	1972
Mean number of total circulations	2.08
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Median copyright dates	1957
Median number of circulations	6
Median number of 1987-89 circulations	1.5
Mode copyright date	1971
Mode number of circulation	1
Mode number of 1987-89 circulations	0
Total number shelves in Library	640
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Less Archives	74
Number of shelves with items to be cataloged and classified	526
Average # of items per shelf	13.58
Est of number of items to be cataloged and classified	7,143

SUBJECT/FORMAT CATEGORY Code		# Shelves	Est # items	Percent
Tec	Technical	178	2,417	29.7%
Bus	Business	43	584	7.2%
Gen	General reference	47	638	7.8%
Con	Conferences	45	611	7.5%
Leg	Legal	52	706	8.7%
Aca	Academic support	40	543	6.7%
Rec	Recreational reading	110	1,494	18.3%
Ven	Vendor	11	149	1.8%
Arc	Archives	74		12.3%
	TOTALS	600	7,143	100.0%

Table 4: USAGE STATISTICS
EGPC LIBRARY

WEEK 1

DATE	CATEGORY	TALLY	DAILY TOTAL
Aug 20, 1989	Reference questions	III	3
	Books checked out	卌 卌 IIII	14
	Books returned	卌 卌 III	13
	Journals received	卌 卌 I	11
	Books cataloged	卌 I	6
Aug 21, 1989	Reference questions	II	2
	Books checked out	卌 卌 卌	15
	Books returned	卌 卌 卌 卌	20
	Journals received	III	3
	Books cataloged	卌 II	7
Aug 22, 1989	Reference questions	I	1
	Books checked out	卌 III	8
	Books returned	卌 IIII	9
	Journals received		0
	Books cataloged	卌 卌 卌	15
Aug 23, 1989	Reference questions	II	2
	Books checked out	卌 卌	10
	Books returned	卌 卌 I	11
	Journals received		0
	Books cataloged	卌 卌 卌 II	17
Aug 24, 1989	Reference questions	III	3
	Books checked out	卌 II	7
	Books returned	卌	5
	Journals received	卌	5
	Books cataloged	卌 卌 卌 卌 卌 IIII	28

WEEK 2

DATE	CATEGORY	TALLY	DAILY TOTAL
Aug 27, 1989	Reference questions	//	2
	Books checked out	卌	5
	Books returned	卌 卌 ///	13
	Journals received	///	3
	Books cataloged	卌 卌 卌 ///	18
Aug 28, 1989	Reference questions	/	1
	Books checked out	卌	5
	Books returned	//// ///	8
	Journals received	//	2
	Books cataloged	卌 卌 卌 ///	18
Aug 29, 1989	Reference questions	///	3
	Books checked out	卌 ///	8
	Books returned	//	2
	Journals received	////	4
	Books cataloged	卌 卌 卌	15
Aug 30, 1989	Reference questions	卌	5
	Books checked out	卌 卌 //	12
	Books returned	卌 卌	10
	Journals received		0
	Books cataloged	卌 卌	10
Aug 31, 1989	Reference questions	/	1
	Books checked out	卌 /	6
	Books returned	卌 卌 //	12
	Journals received	卌 卌	10
	Books cataloged	卌 卌	10

Table 5A: LIBRARIANS' DAILY TIME USAGE DISTRIBUTION
EGPC LIBRARY

WEEK 1: Nadia Omar

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 20, 1989	Reference & user assistance	卌 /	60
	Cataloging & classification		0
	Circulation	///	30
	Journals processing	///	30
	Clipping, photocopying	卌	50
	Subscriptions ordering	///	30
	Filing, looseleaf & other	////	40
	Other	卌	60
Aug 21, 1989	Reference & user assistance	////	40
	Cataloging & classification		0
	Circulation	//	20
	Journals processing	卌 ////	90
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	卌 卌	100
Aug 22, 1989	Reference & user assistance	///	30
	Cataloging & classification		0
	Circulation		0
	Journals processing	卌	50
	Clipping, photocopying	////	40
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	卌 卌 卌 ///	180

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 23, 1989	Reference & user assistance	///	30
	Cataloging & classification		0
	Circulation	//	20
	Journals processing	////	40
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	~~////~~ ////	90
Aug 24, 1989	Reference & user assistance	//	20
	Cataloging & classification		0
	Circulation	/	10
	Journals processing	~~////~~ /	60
	Clipping, photocopying	////	40
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	~~////~~ ////	90

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 27, 1989	Reference & user assistance	//	20
	Cataloging & classification		0
	Circulation	//	20
	Journals processing	/~~//~~/	50
	Clipping, photocopying	/~~//~~/ /	60
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	/~~//~~/ ///	80
Aug 28, 1989	Reference & user assistance	/	10
	Cataloging & classification		0
	Circulation		0
	Journals processing	/~~//~~/	50
	Clipping, photocopying	////	40
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	///	30
Aug 29, 1989	Reference & user assistance	//	20
	Cataloging & classification		0
	Circulation	//	20
	Journals processing	/~~//~~/	50
	Clipping, photocopying	/~~//~~/	50
	Subscriptions ordering		0
	Filing, looseleaf & other	////	40
	Other	/~~//~~/ //	70

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 30, 1989	Reference & user assistance	//	20
	Cataloging & classification	////	40
	Circulation	/	10
	Journals processing	/~~//~~ /	60
	Clipping, photocopying	//	20
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	/~~//~~ ////	90
Aug 31, 1989	Reference & user assistance	//	20
	Cataloging & classification		0
	Circulation	//	20
	Journals processing	/~~//~~ /	60
	Clipping, photocopying	//// ////	90
	Subscriptions ordering		0
	Filing, looseleaf & other	//	20
	Other	//// ~~////~~	100

Table 5B: LIBRARIANS' DAILY TIME USAGE DISTRIBUTION
EGPC LIBRARY

WEEK 1: Enas El Sheikh

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 20, 1989	Reference & user assistance	///	30
	Cataloging & classification	卌	50
	Circulation	卌 ////	90
	Journals processing		0
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other	/	10
	Other	///	30
Aug 21, 1989	Reference & user assistance	/	10
	Cataloging & classification	卌	50
	Circulation	卌 ////	90
	Journals processing		0
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other		0
Aug 22, 1989	Reference & user assistance	/	10
	Cataloging & classification	卌 ///	80
	Circulation	////	40
	Journals processing		0
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	卌 卌 卌 ///	180

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 23, 1989	Reference & user assistance	/	20
	Cataloging & classification	卌 ////	90
	Circulation	///	30
	Journals processing		0
	Clipping, photocopying		0
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	卌 ///	80
Aug 24, 1989	Reference & user assistance	/	10
	Cataloging & classification	卌 卌 //	120
	Circulation	卌	50
	Journals processing		0
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	卌 卌 /	110

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 27, 1989	Reference & user assistance	//	20
	Cataloging & classification	卌 ////	90
	Circulation	卌	50
	Journals processing	/	10
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	卌 /	60
Aug 28, 1989	Reference & user assistance	/	10
	Cataloging & classification	卌 ////	90
	Circulation	////	40
	Journals processing	/	10
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	卌 ///	80
Aug 29, 1989	Reference & user assistance	///	30
	Cataloging & classification	卌 / /	70
	Circulation	////	40
	Journals processing		0
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	卌 卌	100

DATE	ACTIVITY NAME	TALLY	DAILY TOTAL
Aug 30, 1989	Reference & user assistance	////	40
	Cataloging & classification	/~~//~~	50
	Circulation	/~~//~~ /	60
	Journals processing		0
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	/~~//~~ ////	90
Aug 31, 1989	Reference & user assistance	/	10
	Cataloging & classification	/~~//~~ ///	80
	Circulation	/~~//~~	50
	Journals processing	//	20
	Clipping, photocopying	///	30
	Subscriptions ordering		0
	Filing, looseleaf & other		0
	Other	/~~//~~ /~~//~~	100

Appendices

Appendix A

SCOPE OF WORK

Excerpts of the relevant sections from the Scope of Work for the USAID funded Mineral, Petroleum and Groundwater Assessment Project 263-0105:

An objective of the ...[project]... is to improve EGPC's organization of existing data permitting enhanced information exchange among EGPC's exploration, production, and operations divisions as well as between EGPC and oil companies. The benefits are expected to include more effective management and utilization of EGPC's personnel and energy resources.

The scope of work requires a multidisciplinary team with expertise in the fields of information systems design and petroleum resources.

Task 6: *Library Upgrading*

Upgrade the General Library at EGPC. Provide a consultant to perform the following:

Task 6.1 *Evaluate the current EGPC library and make recommendations*

Library Consultant will examine the range and scope of services at the EGPC library and assess the effectiveness of reference services, citation and document delivery, indexing/cataloging services, acquisition and processing of materials, current awareness and routing activities, and bibliographic instruction services. A user assessment will be conducted using survey/interview methods to determine the library's role in meeting organizational information needs.

Task 6.2 *Prepare a library layout and user setting as suggested by EGPC*

Using the fiscal and functional guidelines of EGPC, the Library Consultant will evaluate the role of the EGPC library, its use by clientele and staff, and it's anticipated growth. He/she will conduct time and motion studies and other observation techniques. In conjunction with the EGPC staff, the Library Consultant will compile a space plan that reflects the library's particular location, equipment, environmental and functional needs.

Task 6.3 *Prepare other organizational, documentary and retrieval data and potentially needed software information*

Appropriate information retrieval systems will be recommended, including suggestions for development of information files, especially local and proprietary information files, as well as downloading of materials of particular interest from larger commercially prepared vendor databases. Specifications for recommended hardware and software will be included.

The Library Consultant will also assess current systems that support information, research and decision-making at EGPC in terms of success in timely and relevant information delivery and review staff's ability to evaluate information alternatives, focusing on needs for additional staff training and preparing training plans.

Task 6.4 *Prepare a list of tools, periodicals and references useful to EGPC in the specialty fields of petroleum geology, geophysics, geochemistry, production engineering, etc.*

The Library Consultant will conduct a systematic assessment of how well the present collection of EGPC library is meeting the needs of the users, both present and potential, utilizing the expertise of geotechnical information specialists. The Consultant will evaluate previous collection efforts, monitor current programs, and provide data for establishing development priorities. Collection policy recommendations will be delivered with written objectives for meeting projected user needs. Subjectivity of the assessment will be reduced by selection of both collection-centered and client-centered measurement techniques.

Task 6.5 *Prepare a follow-up assessment of implementation progress*

Within the contract duration and at the discretion of the Study Director, Consultant shall perform a follow-up assessment of progress achieved in the implementation of the recommendations resulting from the performance of Tasks 6.1 - 6.4 above.

Appendix B: Bibliographies for Collection Development for the EGPC Library

Bibliographies & Indexes

Energy Information Guide (3 Volumes). Weber, R. David.
Santa Barbara, CA: ABC-Clio, 1982. $124.40 ISBN 0-87436-388-8.

Petroleum/Energy Business News Index.
New York, NY: American Petroleum Institute. Monthly. $610.00 ISSN 0065-7743.

Science And Engineering Literature: A Guide To Reference Sources. Malinowsky, H. Robert, et al.
Littleton, CO: Libraries Unlimited, Inc., 1980. $33.00 ISBN 0-87287-230-0.

Society Of Petroleum Engineers Technical Papers (2 Volumes).
Ann Arbor, MI: University Microfilms International, 1981. $300.00 ISBN 0-8357-0217-0.

EGYPTIAN GENERAL PETROLEUM CORPORATION
COLLECTION DEVELOPMENT

Dictionaries

A New Dictionary Of Petroleum And The Oil Industry; English-Arabic. Al-Khatib, Ahmad Sh.
Beirut, LBN: Lirarie Du Liban, 1975. Price Not Available

An A-Z Of Offshore Oil & Gas. Whitehead, Harry.
Houston, TX: Gulf Publishing Co., 1983. $44.50 ISBN 0-87201-052-X.

D & D Standard Oil Abbreviator.
Tulsa, OK: PennWell Publishing Co., 1973. $14.95 ISBN 0-87814-017-4.

D & D Standard Oil Abbreviator. Association Of Desk & Derrick Clubs Of America.
Tulsa, OK: PennWell Books. $14.95 ISBN 0-87814-017-4.

Dictionary Of Geosciences (2 Volumes). Watznauer, Adolf.
New York, NY: Elsevier Science Publishing Co., 1982. $57.50 ISBN 0-444-99702-4.

Dictionary Of Petroleum Technology (Dictionnaire Technique du Pe'trole). Moureau, Magdeline, et al.
Paris, FRA: E'ditions Technip, 1979. $95.00 ISBN 2-7108-0361-5.

Elsevier's Oil And Gas Field Dictionary In Six Languages. Chaballe, L.Y., et al.
Amsterdam, NED: Elsevier Scientific Publishing Co., 1980. $149.00 ISBN 0-444-41833-4.

Encyclopedic Dictionary Of Exploration Geophysics. Sheriff, Robert E.
Tulsa, OK: Socity Of Exploration Geophysicists, 1984. $20.00 ISBN 0-931830-31-8.

Glossary Of Geology. Bates, Robert L., et al.
Falls Church, VA: American Geological Institute, 1980. $60.00 ISBN 0-913312-15-0.

Handbook Of Oil Industry Terms And Phrases. Langenkamp, R.D.
Tulsa, OK: PennWell Publishing Co., 1984. $29.95 ISBN 0-87814-258-4.

McGraw-Hill Dictionary of Scientific & Technical Terms. 3rd Ed. Parker, Sybil P.
Hightstown, NJ: McGraw-Hill Book Co., 1983. $70.00 ISBN 0-07-045269-5.

Onshore/Offshore Oil & Gas Multilingual Glossary.
London, GBR: Graham & Trotman Ltd., 1979. $44.00 ISBN 0-86010-184-3.

Dictionaries

Standard Definitions For Petroleum Statistics (Technical Report No. 1).
Washington, DC: American Petroleum Institute, 1981. $15.00

The Dictionary Of Energy Technology. Gilpin, Alan, et al.
London, GBR: Butterworth Scientific Ltd., 1982. $49.95 ISBN 0-408-01108-4.

The Illustrated Petroleum Reference Dictionary. Langenkamp, Robert D.
Tulsa, OK: PennWell Publishing Co., 1985. $55.95 ISBN 0-87814-272-X.

The World Energy Book; An A-Z, Atlas And Statistical Source Book. Crabbe, David, et al.
New York, NY: Nichols Publishing Co., 1978. $32.50 ISBN 0-89397-032-8.

Webster's Third New International Dictionary, Unabridged: The Great Library of the English Language.
Springfield, MA: Merriam-Webster, Inc., 1986. $89.95 ISBN 0-87779-206-2.

Directories

Arab Oil & Gas Directory.
Paris, FRA: The Arab Petroleum Research Center. Annual. $204.00 ISBN 2-903282-04-8.

Asia-Pacific/Africa-Middle East Petroleum Directory.
Tulsa, OK: PennWell Publishing Co. Annual. $70.00 ISSN 0748-4089.

Asia-Pacific/Africa-Middle East Petroleum Directory.
Tulsa, OK: PennWell Publishing Co., 1989. $149.75 ISSN 0748-4089.

European Petroleum Directory.
Tulsa, OK: PennWell Publishing Co., 1989. $149.75 ISSN 0277-0962.

European Sources Of Scientific And Technical Information.
Detroit, MI: Gale Research Co., 1981. $190.00 ISBN 0-582-90108-1.

Financial Times Oil And Gas International Yearbook.
Essex, GBR: Longman Group Ltd. Annual. $78.40 ISBN 0-502-90330-0. £ 49.00

Financial Times Who's Who In World Oil And Gas.
London, GBR: Longman Group Ltd. Annual. $51.20 ISBN 0-582-90313-0. £ 32.00

International Association Of Drilling Contractors Membership Directory.
Houston, TX: International Association Of Drilling Contractors, 1985. $40.00

International Who's Who of the Arab World, 3rd Ed.
Tulsa, OK: PennWell Publishing Co., 1989. $234.95 ISBN 0-9506122-1-9.

The Whole World Oil Directory (2 Volumes).
Deerfield, IL: Whole World Publishing, Inc. Annual. $103.00 ISBN 0-938184-11-3.

Encyclopedias & Yearbooks

Annuaire Europe'en du Pe'trole (European Petroleum Year Book).
Hamburg, FRG: Otto Vieth Verlag. Annual. $96.46 ISSN 0342-6947. DM 182,00

Encyclopedia of Associations. Vol 1: National Organizations of the U.S. 3 Bks. Gruber, Katherine.
Detroit, MI: Gale Research Co., 1986. $220.00 ISBN 0-8103-1842-3.

Encyclopedia of Associations. Vol 2: National Organizations of the U.S. 3 Bks. Gruber, Katherine.
Detroit, MI: Gale Research Co., 1986. $200.00 ISBN 0-8103-1843-1.

Encyclopedia Of Well Logging. Desbrandes, Robert.
Houston, TX: Gulf Publishing Co., 1985. $79.95 ISBN 0-87201-249-2.

European Offshore Oil & Gas Yearbook And Directory.
London, GBR: Thomas Telford Ltd. Annual. $64.00 ISBN 0-7277-0229-7. £ 40.00

International Oil And Gas Development.
Austin, TX: International Oil Scouts Association. Annual. Write For Price

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International Petroleum Encyclopedia.
Tulsa, OK: PennWell Publishing Co. Annual. $75.00 ISBN 0-87814-282-7.

Landman's Encyclopedia. Hankinson, R.L., et al.
Houston, TX: Gulf Publishing Co., 1981. $75.00 ISBN 0-87201-420-1.

Offshore Yearbook.
Tulsa, OK: PennWell Books, 1987. $34.95 ISBN 0-87814-317-3.

Resume: The Complete Annual Review Of Oil And Gas Activity In The United States.
Denver, CO: Petroleum Information Corp. Annual. $80.00 ISSN 0270-7527.

The Oil & Gas Journal Databook, 1989 Edition.
Tulsa, OK: PennWell Books, 1989. $39.95 ISSN 8756-7164.

Handbooks, Manuals, & Basic Texts

A Primer Of Oilwell Drilling. Baker, Ron.
Austin, TX: Petroleum Extension Service, 1979. $8.50 ISBN 0-88698-080-1.

A Primer Of Oilwell Drilling. Baker, Ron.
Austin, TX: Petroleum Extension Service, 1982. $8.50 ISBN 0-88698-116-6.

Advanced Drilling Techniques. Maurer, William.
Tulsa, OK: PennWell Books, 1980. $69.95 ISBN 0-87814-117-0.

Advances In Geophysical Data Processing, 2 Vols. Simaan, Marwaan.
Greenwich, CT: Jai Press, Inc., 1988. $117.00 ISBN 0-89232-620-4.

Advances In Geophysics. Saltzman, Barry.
Orlando, FL: Academic Press, Inc., 1988. $65.00 ISBN 0-12-018830-9.

Advances In Petroleum Engineering. Hurst, William.
Tulsa, OK: PennWell Books, 1981. $49.95 ISBN 0-87814-147-2.

Advances In Petroleum Geochemistry, Vol. 1. Brooks, Jim & Dietrich H. Welte.
Orlando, FL: Academic Press, Inc., 1984. $49.50 ISBN 0-12-032001-0.

Advances In Petroleum Geochemistry. Brooks, Jim.
Orlando, FL: Academic Press, Inc., 1987. $75.00 ISBN 0-12-032002-9.

AGI Data Sheets For Geology In The Field, Laboratory, And Office. Dietrich, R.V., et al.
Falls Church, VA: American Geological Institute, 1982. $12.95 ISBN 0-913312-38-X.

An Introduction To Exploration Economics. Megill, R.E.
Tulsa, OK: PennWell Books, 1979. $44.95 ISBN 0-87814-115-4.

Analytical Methods In Geochemical Prospecting. Fletcher, W.K.
New York, NY: Elsevier Science Publishing Co., Inc., 1981. $64.00 ISBN 0-444-41930-6.

Applied Geophysics For Engineers & Geologists. Griffiths, D.H. & R.F. King.
Elmsford, NY: Pergamon Press, Inc., 1965. $33.00 ISBN 0-08-022071-1.

Handbooks, Manuals, & Basic Texts

Applied Geophysics. Telford, W.M., et al.
New York, NY: Cambridge University Press, 1989. $110.00 ISBN 0-521-32693-1.

Applied Geophysics: Introduction To Geophysical Prospecting. Dohr, Gerhard.
New York, NY: Halsted Press, 1981. $23.95 ISBN 0-470-99102-X.

Applied High-Resolution Geophysical Methods: Offshore Geoengineering Hazards. Trabant, Peter K.
Boston, MA: International Human Resources Development Corp., 1984. $39.00 ISBN 0-934634-85-8.

Applied Offshore Structural Engineering. Hsu, Teng H.
Houston, TX: Gulf Publishing Co., 1984. $29.95 ISBN 0-87201-750-8.

Applied Petroleum Reservoir Technology. Roebuck, Field, Jr.
Oklahoma City, OK: IED Publisher House. $28.00 ISBN 0-218-02016-5.

Artificial Lift Methods.
Austin, TX: Petroleum Extension Service, 1971. $4.50 ISBN 0-88698-061-5.

Basic Drilling Engineering Manual. Cranmer, John L.
Tulsa, OK: PennWell Books, 1982. $64.95 ISBN 0-87814-199-5.

Basic Exploration Geophysics.
New York, NY: John Wiley & Sons, Inc., 1988. ISBN 0-471-61279-0.

Basic Petroleum Geology. Link, Peter K.
Tulsa, OK: PennWell Books, 1982. $43.00 ISBN 0-930972-01-5.

Basic Petroleum Geology. Link, Peter K.
Tulsa, OK: Oil & Gas Consultants International, Inc., 1987. $40.00 ISBN 0-930972-10-4.

Basic Pipeline Engineering Manual. Cranmer, John L.
Tulsa, OK: PennWell Books, 1983. $64.95 ISBN 0-87814-244-4.

Blowout Prevention.
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1985-87. $18.00 ISSN 0010-9339 Vols. 24-26.

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1988. $14.10 ISSN 0010-9339 Vol. 27.

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1989- . $15.20 ISSN 0010-9339 Vols. 28- .

Journal Back Issues

Corrosion.
1985-87. $19.00 ISSN 0010-9312 Vols. 41-43.

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1988. $14.10 ISSN 0010-9312 Vol. 44.

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1989- . $15.20 ISSN 0010-9312 Vols. 45- .

Economist.
1985-87. [illegible]2.60 ISSN 0013-0613 Vols. 294-305.

Economist.
1988. $111.10 ISSN 0013-0613 Vols. 306-309.

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1989- . $120.30 ISSN 0013-0613 Vols. 310- .

Energy Policy.
1985-87. $41.90 ISSN 0301-4215 Vols. 13-15.

Energy Policy.
1988. $33.50 ISSN 0301-4215 Vol. 16.

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1989. $36.30 ISSN 0301-4215 Vols. 17- .

Fortune.
1985-87. $63.10 ISSN 0015-8259 Vols. 111-116.

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1988. $44.10 ISSN 0015-8259 Vols. 117-118.

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Gas World.
1985-87. $37.00 ISSN 0308-7654 Vols. 190-192.

Gas World.
1988. $28.30 ISSN 0308-7654 Vol. 193.

Gas World.
1989- . $30.50 ISSN 0308-7654 Vols. 194- .

Oil & Gas Journal.
1985-87. $164.70 ISSN 0030-1388 Vols. 83-85.

Oil & Gas Journal.
1988. $133.90 ISSN 0030-1388 Vol. 86.

Oil & Gas Journal.
1989- . $144.90 ISSN 0030-1388 Vols. 87- .

Petroleum Economist.
1985-87. $18.00 ISSN 0306-395X Vols. 52-54.

Petroleum Economist.
1988. $14.10 ISSN 0306-395X Vol. 55.

Petroleum Economist.
1989- . $15.20 ISSN 0306-395X Vols. 56- .

Petroleum Times.
1985-87. $37.00 ISSN 0141-4437 Vols. 89-91.

Petroleum Times.
1988. $28.30 ISSN 0141-4437 Vol. 92.

Petroleum Times.
1989- . $30.50 ISSN 0141-4437 Vols. 93- .

Journal Back Issues

SPE Technical Paper Microfiche Collection (Basic Backfile).
Richardson, TX: Society Of Petroleum Engineers, 1957-79. $3,213.00

SPE Technical Paper Microfiche Collection.
Richardson, TX: Society Of Petroleum Engineers, 1980-87. $400.50 Price Is Per Year

SPE Technical Paper Microfiche Collection.
Richardson, TX: Society Of Petroleum Engineers, 1988. $373.50

Time.
1985-87. $95.00 ISSN 0040-781X Vols. 124-130.

Time.
1988. $72.30 ISSN 0040-781X Vols. 131-132.

Time.
1989- . $78.20 ISSN 0040-781X Vols. 133- .

World Oil.
1985-87. $51.70 ISSN 0043-8790 Vols. 200-205.

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1988. $44.10 ISSN 0043-8790 Vols. 206-207.

World Oil.
1989- . $47.70 ISSN 0043-8790 Vols. 208- .

Journals

AAPG Bulletin.
Tulsa, OK: American Association Of Petroleum Geologists. Monthly. $95.00 ISSN 0149-1423.

Chemical & Engineering News.
Washington, DC: American Chemical Society. Weekly. $35.00 ISSN 0009-2347.

Computers & Geosciences.
Elmsford, NY: Pergamon Press, Inc. Bimonthly. $235.00 ISSN 0098-3004.

Drilling Contractor.
Houston, TX: Drilling Contractor Publications, Inc. Monthly. $35.00 ISSN 0046-0702.

Enhanced Recovery Week.
Arlington, VA: Pasha Publications. Weekly. $345.00 ISSN 0277-9137.

Geochemistry International.
New York, NY: John Wiley & Sons. Bimonthly. $488.00 ISSN 0016-7029.

Geology.
Boulder, CO: Geological Society Of America, Inc. Monthly. $55.00 ISSN 0091-7613.

Geophysics.
Tulsa, OK: Society Of Exploration Geophysicists. Monthly. $45.00 ISSN 0016-8033.

Geotimes.
Alexandria, VA: American Geological Institute. Monthly. $18.00 ISSN 0016-8556.

Hydrocarbon Processing.
Houston, TX: Gulf Publishing Company. Monthly. $250.00 ISSN 0018-8190.

Jounal Of Petroleum Technology.
Richardson, TX: Society Of Petroleum Engineers. Monthly. $24.00 ISSN 0149-2136.

Journal Of Geophysical Research: Oceans And Atmospheres.
Washington, DC: American Geophysical Union. Monthly. $470.00 ISSN 0196-2256.

Journals

Journal Of Geophysical Research: Solid Earth And Planets.
Washington, DC: American Geophysical Union. Monthly. $630.00 ISSN 0148-0227.

Offshore.
Tulsa, OK: PennWell Publishing Co. Monthly. $45.00 ISSN 0030-0608.

Oil Gas European Magazine.
Hamburg, FRG: Urban-Verlag, Hamburg/Wien GmbH. Semi-Annual. $31.80 ISSN 0342-5622. DM 60.00

Petroleum Engineer International.
Dallas, TX: Harcourt Brace Jovanovich, Energy Publications Division. 13 Is./Yr. $50.00 ISSN 0164-8322.

Petroleum Intelligence Weekly.
New York, NY: Petroleum Intelligence Weekly. Weekly. $850.00 ISSN 0480-2160.

Petroleum Outlook.
Greenwich, CT: John S. Herold, Inc. Monthly. $76.00 ISSN 0031-6490.

Petroleum Review.
London, GBR: Institute Of Petroleum. Monthly. $67.76 ISSN 0020-3076. £ 42.35

Pipeline & Gas Journal.
Dallas, TX: Harcourt Brace Jovanovich, Energy Publications Division. Monthly. $40.00 ISSN 0032-0188.

Platt's Oilgram News.
New York, NY: McGraw-Hill, Inc. Weekdays. $927.00 ISSN 0163-1284.

Science.
Washington, DC: American Association For The Advancement Of Science. Weekly. $98.00 ISSN 0036-8075.

Society Of Petroleum Engineers Journal.
Richardson, TX: Socity Of Petroleum Engineers. Bimonthly. $25.00 ISSN 0197-7520.

SPE Drilling Engineering.
Richardson, TX: Society Of Petroleum Engineers. Bimonthly. $35.00 ISSN 0885-9744.

Journals

SPE Formation Evaluation.
Richardson, TX: Society Of Petroleum Engineers. Bimonthly. $35.00 ISSN 0885-923X.

SPE Production Engineering.
Richardson, TX: Society Of Petroleum Engineers. Bimonthly. $35.00 ISSN 0885-9221.

SPE Reservoir Engineering.
Richardson, TX: Society Of Petroleum Engineers. Bimonthly. $35.00 ISSN 0885-9248.

Tectonophysics.
Amsterdam, NED: Elsevier Scientific Publishing Co. 44 Is./Yr. $1,191.49 ISSN 0040-1951. Fl 2519.00

The Journal Of Geology.
Chicago, IL: University Of Chicago Press. Bimonthly. $45.00 ISSN 0022-1376.

The Log Analyst.
Houston, TX: Society Of Professional Well Log Analysts. Bimonthly. $25.00 ISSN 0024-581X.

The Oil Daily.
Washington, DC: The Oil Daily Inc. Weekdays. $297.00 ISSN 0030-1434.

Statistical Sources

1989 Oil & Gas Journal Energy Statistics Sourcebook.
Tulsa, OK: Pennwell Books, 1989. $162.75

Basic Petroleum Data Book: Petroleum Industry Statistics.
Washington, DC: American Petroleum Institute. 3 Is./Yr. $45.00 ISSN 0730-5621.

EIA Publications Directory: A User's Guide.
Washington, DC: Energy Information Agency. Annual. $16.95

Energy Fact Book. Fox, E. C., et al.
Oak Ridge, TN: Oak Ridge National Lab, 1984. $11.95

Gas Facts.
Arlington, VA: The American Gas Association. Annual. $30.00 ISSN 0361-4298.

Imported Crude Oil and Petroleum Products.
New York, NY: American Petroleum Institute. Monthly. $300.00

Oil & Gas Journal Data Book.
Tulsa, OK: Pennwell Publishing Co. Annual. $24.95 ISSN 8756-7164.

Twentieth Century Petroleum Statistics.
Dallas, TX: Degolyer And MacNaughton. Annual. $35.00

Yearbook Of World Energy Statistics: Annuaire des Statistiques Mondiales de L'Energie.
New York, NY: Publishing Service United Nations. Annual. $60.00

American Petroleum Institute (API) Total Price per Year:	3,175
American Society for Testing and Materials (ASTM) Total Price per Year:	4,375
American Society of Mechanical Engineers (ASME) Total Price per Year:	6,865
National Association of Corrosion Engineers (NACE) Total Price per Year:	255
British Standards Institute (BSI) (Sections J, N, Q, R, V & W only) Total Price per Year:	8,720
Standards Locator Index Total Price per Year:	1,010

Total cost for entire report

Total Price per Year: $24,400

NOTE:

All prices are for a one year lease to 16mm microfilm of published documents and include printed indexes and updates during the subscription period. A 5% shipping and handling charge is added to all orders shipped outside of the U.S. Source is Information Handling Services, Englewood, CO.

Egyptian General Petroleum Corporation
Collection Development Summary

CATEGORY	TOTAL INITIAL COST of Recommended Titles	ANNUAL MAINTENANCE Costs of Titles[1]
Bibliographies & Indexes[2]	2,567	1,800
Dictionaries	843	100
Directories	1,271	750
Encyclopedias & Yearbooks	965	500
Handbooks, Manuals & Basic Texts	10,330	2,500
Journals	6,634	6,634
Journal Back Issues[3]	11,711	6,757
Statistics Sources	687	250
Standards	24,400	24,400
TOTAL ESTIMATED COST	$59,408	$43,691

NOTES:

1. Annual Maintenance figures allow for limited purchase of new titles in the designated category as well as new editions of titles already in the collection.
2. Estimated costs includes purchase of the print edition of the Applied Science & Technology Index, published by H.W. Wilson, estimated at $1,500 per year.
3. Journal Back Issues are recommended for purchase in microfiche to replace existing scattered issues in paper.

Appendix C: PROCUREMENT RECOMMENDATIONS FOR EGPC LIBRARY
In addition to Collection Development

All estimates are based on U.S. list prices and do not allow for shipping, handling or import duties involved with delivery to EGPC.

Category/Item	Estimated Cost
BASIC EQUIPMENT AND MICROCOMPUTER HARDWARE[a]:	
A. IBM-PC or compatible microcomputer with at least 640K, 30 mg hard disk, monochrome monitor, graphics capability, internal 1200 baud modem	5,000
B. Dot-matrix printer with pin-feeder, graphics capability	500
C. Microfilm/microfiche reader	500
D. Microfilm/microfiche reader printer (PC model)[E only]	7,500
E. Electric typewriter	800
F. Photocopier	5,000
Sub-Total (B,I)	$11,800
Sub-total (E)	$18,800
MICROCOMPUTER SOFTWARE[a]:	
A. Word processing	500
B. Spreadsheet	300
C. Communications	200
Sub-Total	$1,000

Note: These packages should be those which are used elsewhere in EGPC and/or those for which training and support will be available through the EGPC Information Services Department.

LIBRARY SUPPLIES[B]:

A.	Basic book repair kit	150
B.	Clear book reinforcing tape (10 rolls)	100
C.	Library Signage - wall, shelf & range end (20)	200
D.	Book pockets (8,000)	350
E.	Book cards (8,000)	75
F.	Labels for spine, book cards & pockets (8,000)	360
G.	Journal boxes (100)	300
H.	Boxes & dividers for circulation book cards (2 boxes, 3 sets of dividers)	50
I.	Paper cutter	90
J.	Label protectors (8,000)	250
K.	Typewriter	400
L.	Rolodex (3)	50
M.	Journal check-in cards (100)	15
N.	Date stamps (2)	20
O.	Book ends (300)	375
P.	Book trucks (2)	425
	Sub-Total	$3,210

FURNITURE AND LIBRARY SHELVING:

A.	Shelves[B]	6,720
B.	Computer work station[B]	500
C.	Shelving[I]	13,000
D.	Addn'l Shelving[E]	2,500
E.	Reader carrels[E] (4)	1,850
F.	Chairs[E] (8)	2,500
	Sub-Total (B)	7,220
	Sub-Total (I)	13,500
	Sub-Total (E)	20,350

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LIBRARY AUTOMATION SOFTWARE & HARDWARE:

Module	Qty	Unit Price	Annual Maint Fee	Total
Cataloging Software, CD-ROM drive & laser data discs[B,1]	1	3,000	2,640	5,640
Intelligent Catalog Software and hardware[I,E,2]	2	2,970	495	6,930
Circulation Software[E,3]	1	3,500	380	3,880
Barcodes & barcode reader allowance				2,000
Acquisitions Software[E]	1	1,200	225	1,425
	Sub-Total	$10,670	$3,740	$19,875

NOTES:

B. Basic ' an

I. Intermediate Plan

E. Exemplary Plan

1. Bibliofile Cataloging software includes the LC MARC English Language database on laser disc. Quarterly updates to it and to the LC MARC Foreign Language discs are included in the annual maintenance cost estimates.
2. The Intelligent Catalog includes: 10 MHz PC-XT compatible computer with 42mb hard disk, 360K floppy, built-in CD-ROM drive with sound, graphics, clock/calendar, RS232 port & MS-DOS, in locking desk with power conditioner, tilt-base amber monitor, silent printer, special keyboard, speaker, earphones & telephone handset.
3. As of the date of this report, the Circulation Module is not available for sale outside of North America. However, by the time the EGPC library is ready to purchase this module, that limitation should not exist.

ESTIMATED TOTALS <u>excluding Collection Development</u>

Basic Plan	$28,870
Intermediate Plan	$38,615
Exemplary Plan	$63,235

Appendix D: BIBLIOGRAPHY OF RESOURCE MATERIAL

Bibliography of petroleum information resources, Marilyn Stark, editor. Petroleum and Energy Resources Division, Special LibrariesAssociation, Wadhington, D.C., 1988.

Collection development in geoscience libraries: Proceedings, Geoscience Information Society Meeting, San Diego, CA, 1979

Collection development in sci-tech libraries, Ellis Mount, editor. Haworth Press, New York, NY, 1984.

Collection development policies for college libraries,. CLIP note #11, compiled by Theresa Taborsky and Patricia Lenkowski. College Library Information Packet Series, College Libraries Section, Association of College and Research Libraries, a division of the American Library Association, Chicago, IL, 1989.

Dewey, Patrick R., 101 software packages to use in your library; descriptions, evaluations, and practical advice. American Library Association, Chicago, IL, 1987.

Guide for written collection development statements, by the Subcommittee on Guidelines for Collection Development, Collection Management and Development Committee, Resources and Technical Services Section, American Library Association, Bonita Bryant, editor. American Library Association, Chicago, IL, 1989.

Guide to the evaluation of library collections, by the Subcommittee on Guidelines for Collection Development, Collection Management and Development Committee, Resources and Technical Services Section, American Library Association, Barbara Lockett, editor. American Library Association, Chicago, IL, 1989.

Guidelines for collection development, edited by Devid L.Perkins. American Library Association, Collection Development Committee, Chicago, IL, 1979.

Pearson, Barbara C. and Katherine B. Ellwood, Guide to the petroleum reference literature. Libraries Unlimited, Inc. Littleton, Colorado, 1987.

Walton, Robert A., Directory of microcomputer software for libraries, Library Development Division, Texas State Library, 1985.

White, Herbert S., Library personnel management. Knowledge Industry Publications, Inc., White Plains, NY, 1985.

White, Herbert S., Managing the special library; strategies for success within the larger organization. Knowledge Industry Publications, Inc., White Plains, NY, 1984.