Chapter 5.

COMPUTER HARDWARE

Chapter 5 Computer Hardware

In this chapter, a hardware related to the input/output processing of the data bank system proposed in Chapter 4 was investigated in connection with the volume of data expected to treat and, also, a recommendation for data communication and utilization method among offices was made as a future plan.

Further, a job and a organization to be newly required for operating and maintenance of the data bank system were investigated together with the work volume coming in addition.

As for the said computer resources, an investigation was made on the premises that data be treated and handled by means of a batch system and that IMS be utilized for treatment of the data base.

In the followings, a computer hardware related to input/output processing is described in Section 1, the volume of the data to be treated and computer resources in Section 2, data communication in Section 3, job and organization in Section 4, and work volume in Section 5.

5-1 Computer Hardware Related to Input/Output Processing

(1) Input Processing

The results of the analysis of the data structure as proposed in Chapter 4 led us to a conclusion that the following preparation procedure for input data be recommended from the reasons that it is inevitable for experts to take part in the said job, a sufficient proof of data is necessary prior to input and a cycle of data occurrance is relatively lengthy. Fig 5-1 shows a schematic diagram for input data processing procedure.

1) to select data from the source document (APPENDIX II) and record them on data sheets.

2) to key data on diskettes

3) to verify data by keying again.

4) to input data to a computer system from the diskettes and print out error lists and proof lists.

5) to collate data in the said lists and, if any errors, to correct data on the diskettes.

6) to establish or update the data base by inputing data from the diskettes.

(2) Output Processing

The data stored in the data base is utilized for the purposes of outputing the reports as proposed in Chapter 3.

Figure 5-1 shows a conceptual diagram of output data processing.

The said output reporting method is classified into the following two categories.

1) routine report

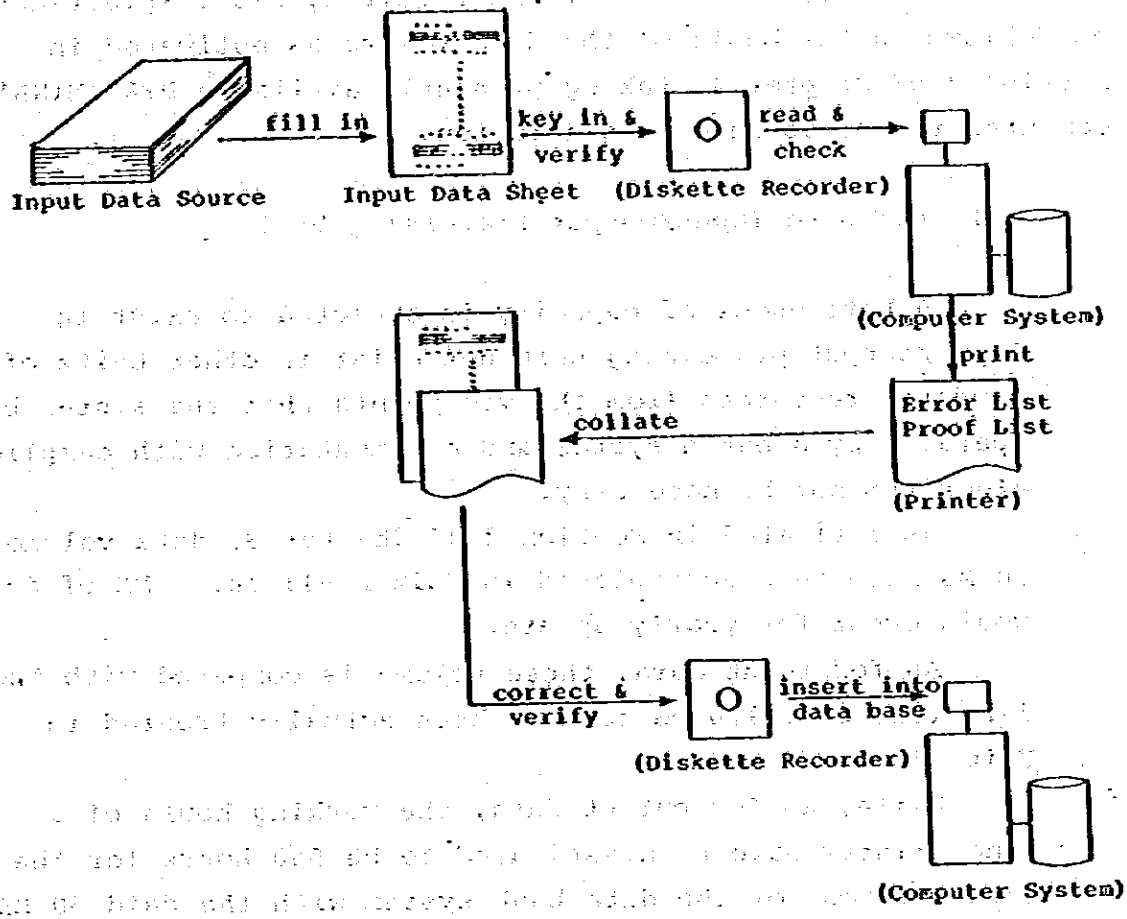
This would be output periodically in a batch after all necessary data are prepared in the data base.

2) irregular report

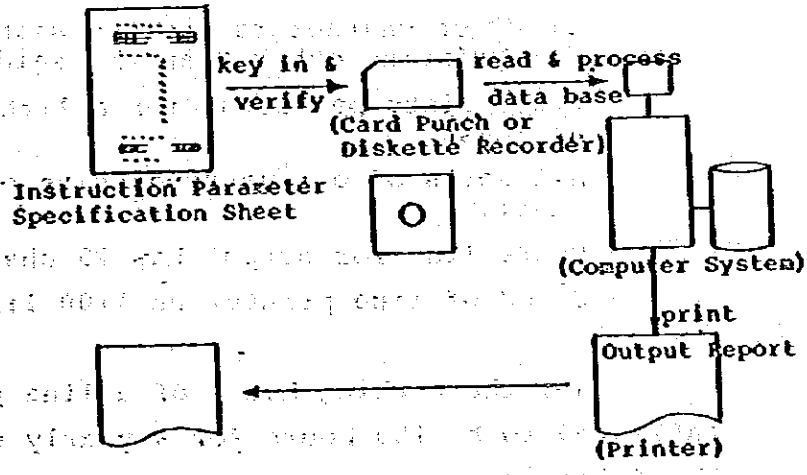
This would be output irregularly to obtain basic information required for a specific purpose.

Fig. 5-1 DATA PROCESSING OF DATA BANK SYSTEM

(1) DATA ENTRY



(2) REPORT OUTPUT



5-2 Data Volume to be treated and Computer Resource

Loads to input/output processing unit were investigated and other computer resources to be required, also, investigated as follows on the basis of the data volume as estimated in Section 2 of Chapter 4, taking presently available PERTAMINA's computer resources into consideration.

(1) Loads to Input/Output Processing Unit

A bottleneck of capacity is expected to exist in input/output processing unit not exist in other units of computer resources from the viewpoints that the system be operated by a batch system and a computation with complicated algorithm not be necessary.

As estimated in Section 2 of Chapter 3, data volume of 50 MB have been accumulated in Unit EP-II and 5 MB of data would occur for yearly update.

As for input data, these volume is compared with the date volume of 110 MB to have been actually treated in Unit-II.

While, as for output data, the working hours of a line printer have been estimated to be 550 hours for the establishment of the data bank system with the said 50 MB of data on the following premises.

- 50 MB of characters are necessary as a character for printing other than the said 50 MB for data.
- Proof lists be output for all the data four times at least.
- All sorts of output reports be output five times at least.
- Every line for output has 25 characters.
- Speed of line printer be 1100 lines a minute.

Also, the working hours of a line printer have been estimated to be 150 hours for a yearly updating data on the following premises.

- 5 MB of characters are necessary as a character for printing other than the 5 MB for data.
- Proof lists be output for a yearly updating data four times at least.
- All sorts of output reports be output two times yearly at least.
- Every line for output has 25 characters.
- Speed of line printer be 1100 lines a minute.

(2) Computer and Peripheral

In this, an auxiliary memory storage and a central processing unit were investigated in connection with the volume of data to be processed.

1) Auxiliary Memory Unit

Data and programs are to be stored in an auxiliary memory unit. A detail allocation of the above on the unit can not be decided unless an arrangement of data and a specification of programs are detailed in the further system design. However, two units of 3340 type of disk with 70 MB are expected to be sufficient because that 125 MB is estimated necessary as described in the following.

- for data (Estimates are made for data volume of 50 MB with 50 percent margine for indexes and pointers).	75 MB
- for IMS's programs	30 MB
- for application programs and a specification of the data base	20 MB
Total	125 MB

In addition to the above disks, one magnetic tape is to be necessary for IMS's system log.

In case of a future on-line system with CICS (Customer Information Control System) or DMS (Development Management System), one more of 3340 type will be necessary coming in addition.

2) Central Processing Unit (CPU Main Storage)

The real main storage capacity of a central processing unit to be required can not be estimated exactly as it works as virtual storage, which transfers programs to/from its auxiliary memory units.

And it would be so effected by the programs running parallel with, that it would be determined on the actual experienced base. In this, also, references is made to Table 5-1 in which examples in Japanese industrial firms have been made public.

The central processing unit with the real memory of 1 MB has been operated under operating system with OS/VS1 in Unit-II.

It is clear from the examples in Table 5-1 that no addition to CPU memory is necessary even that IMS has to be introduced in a batch processing to the present system in addition.

However, in case of on-line system with CICS or IMS/DC, there are examples such as A - D in Table 5-1, of which computers have a real memory more than 1.5 MB.

Further, it is reported, not as exampled in Table 5-1, that a bad response causes trouble in case of a computer system with the real memory of 1 MB which has been operated under OS/VS1, DL/I (Data Language I) and CICS. Consequently, it seems to be necessary to enlarge the real storage size to 1.5 MB in case of a on-line system to be added in future.

Table 5-1 Example of Computer System Configuration in Japan

USER	A (Ship Building)	B (Chemical)	C (Medicine)	D (Machinery)	E (Photography)	F (Machinery)	G (Chemical)
HARDWARE							
CPU	370/158 3MB	370/158 3MB	370/158 1.5MB	370/158 1.5 MB	370/148 1MB	370/138 1MB	370/138 1MB
DISK	3333.0 *7 (200MB)	3350 *8 (317.5MB)	2200MB	333.0 *7 (200MB)	3340 *8 (70MB)	3340 *7 (70MB)	3340 *10 (70MB)
				3350 *6 (317.5MB)			
TERMINAL							
DISPLAY	26	12	84	2	21	11	14
PRINTER	11	8		12	25	9	14
OTHER		Comm. System (3790) *6 (3770) *5			Finance Comm. (3600) System *2	Data Comm. (3770) System *10	
SOFTWARE							
OS	OS/MVS	OS/SVS	OS/VS1	OS/VS1	DOS/VS	DOS/VS	OS/VS1
DBMS	IMS/DB	IMS/DB	IMS/DB	IMS/DB	VANDL/I	DL/I-DOS/VS	-
COMM.	IMS/DC	IMS/DC	IMS/DC	CICS/VS	CICS-DOS/VS	CICS/VS	CICS/VS
OTHER	TSO	TSO	GIS/VS				

Note) OS : Operating System
DBMS : Data Base Management System
COMM. : Online Data Communication System
IMS : Information Management System
DL/I : Data Language/I
CICS : Customer Information Control System
TSO : Time Sharing Option
GIS : Generalized Information System

5-3 Data Communication

The data bank system by means of a batch system would be established by inputing the data which have been accumulated and stored in Unit EP-II, and then would be operated by updating the data.

For the time being, these input data would be delivered by manpower or mail field offices to a unit head office and also output reports would be distributed by a manpower or a mail to offices concerned.

In this, a future plan for these data communication is plotted as described in the followings.

(1) Data Communication between Field Offices and Unit Head Office

In case of a remote job entry system, data are delivered to a computer in a head office from a remote terminal in field offices through a communication line.

In this system, operator at the remote terminal can input data to the computer, execute programs and receive the output, while, of cource, it is possible to output at a printer in the head office.

If data are delivered in a batch, a dedicated line seems not to be necessary as a communication line but a switched line seems to be quite sufficient. However, this has the demerit that requires the experts who have a enough knowledge as to how to operate equipments concerned at the remote terminal.

As data are expected to be too small amount in comparison with the capacity of a available remote terminal system as far as the data bank system is concerned, this system should be introduced only in connection with the other jobs.

The data bank system is still very useful even that it has a data communication system by manpower mail for the time being.

Consequently, introduction of this system should be discussed in the light of the experience of operation which will have been accumulated.

(2) Data Communication between Unit Head Office and Jakarta Head Office

Data flows hierarchically Unit head office to Jakarta Head Office or reversely and very rarely among unit head offices.

Therefore, it is considered that a hierarchical communication between Unit head office and Jakarta head office is much more suitable than a ring-line communication among unit head offices.

In case of data communication among Unit head offices, it would be carried out via Jakarta head office. For the time being, data of the data bank system of Unit-II are to be delivered to Jakarta head office by mailing magnetic tape storing data. When a data communication line is available between them in future, data which Jakarta head office needs is to be obtained by the following procedure.

1) Call a computer of a Unit head office by dialing and connect a remote terminal equipment to a line.

2) Receive a required data from the computer of the unit and store these in diskettes.

3) Output the data from the diskettes when it is needed.

As mentioned in the above, Jakarta head office can make use of data bank system of Unit head offices as it is.

There are demerits that it is required for operator to be between and it takes time to get data, while there is a

merit that Jakarta head office does not need to have a depulicate of data.

In case that direct conversation with a data base from offices is necessitated, one idea is to have a on-line system. In this, a general comments are described as follows related to a on-line system.

A direct conversation by on-line system will be made between computers and between CRT display or typewriter terminal and a computer. In a on-line system, the quick response can be accomplished, however, a dedicated line is to be necessary in most cases because of much occupancy of a line, and also, it is necessary not only to prepare on-line programs and programs for a communication control but also to utilize more computer resources.

5-4 Job and Organization

Users should be responsible for managing the data bank system because it is the users that have knowledge of what data is, while computer operators should be responsible for the technical maintenance of the data bank system such as reorganization of a data base and maintenance of application programs.

Following are jobs for users and computer operator coming in addition by introduction of the data bank system into Unit-II.

(1) User's Side
- establishment of an input data route
- preparation and custody of input data
- updating and maintenance of code system
- updating and maintenance of master file
- hearing and elaboration of user's requirement
- control of output reporting
- data communication between offices

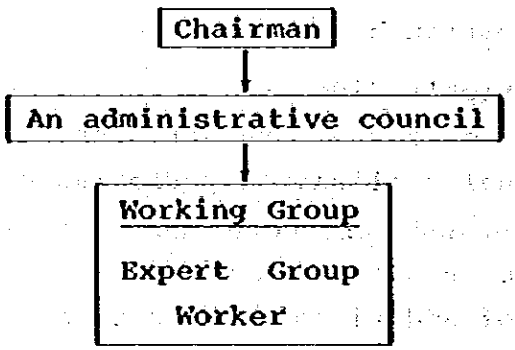
(2) Computer Operation's Side
- definition of data and data structure
- grasping actual utilization performance of data base
- reorganization and restructuring of data base
- maintenance of application programs
- preparation of additional application programs
- consultation of users
- maintenance of the following manuals
  - system manual
  - user's manual
  - operation manual
  - program manual

As mentioned in Section 1 of Chapter 4, the data stored in the data base consists of seventeen data structures of which each has segments. Therefore it is the most efficient to maintain and update an input data in a segment unit. And, it is the most efficient too, to prepare and custody these data in a concentrated manner at one place as data is scattered in various departments. It is the same with the code system and master files.

Importance should be put on a settlement of regulations of the data bank system utilization.

There are six departments such as exploration, exploitation, production, drilling, technical and gas in Unit EP-II. It is experts of respective departments that have knowledge of what data is.

Management of the data bank system has to be carried out in the manner that draw and elaborate opinions of the above experts. From this standpoint, the following organization is proposed to establish comming in addition.



The administrative council for the data bank system will be made up of representatives of the said six departments and will be highest responsible for managing the data bank system.

The council will set up fundamental principles relating to regulations of the data bank system utilization, an input data route and a data communication and will give chairman an authority to perform the management job in accordance with the principles.

For the purpose of managing the data bank system chairman will organize and supervise the working group which consists of an expert group and workers.

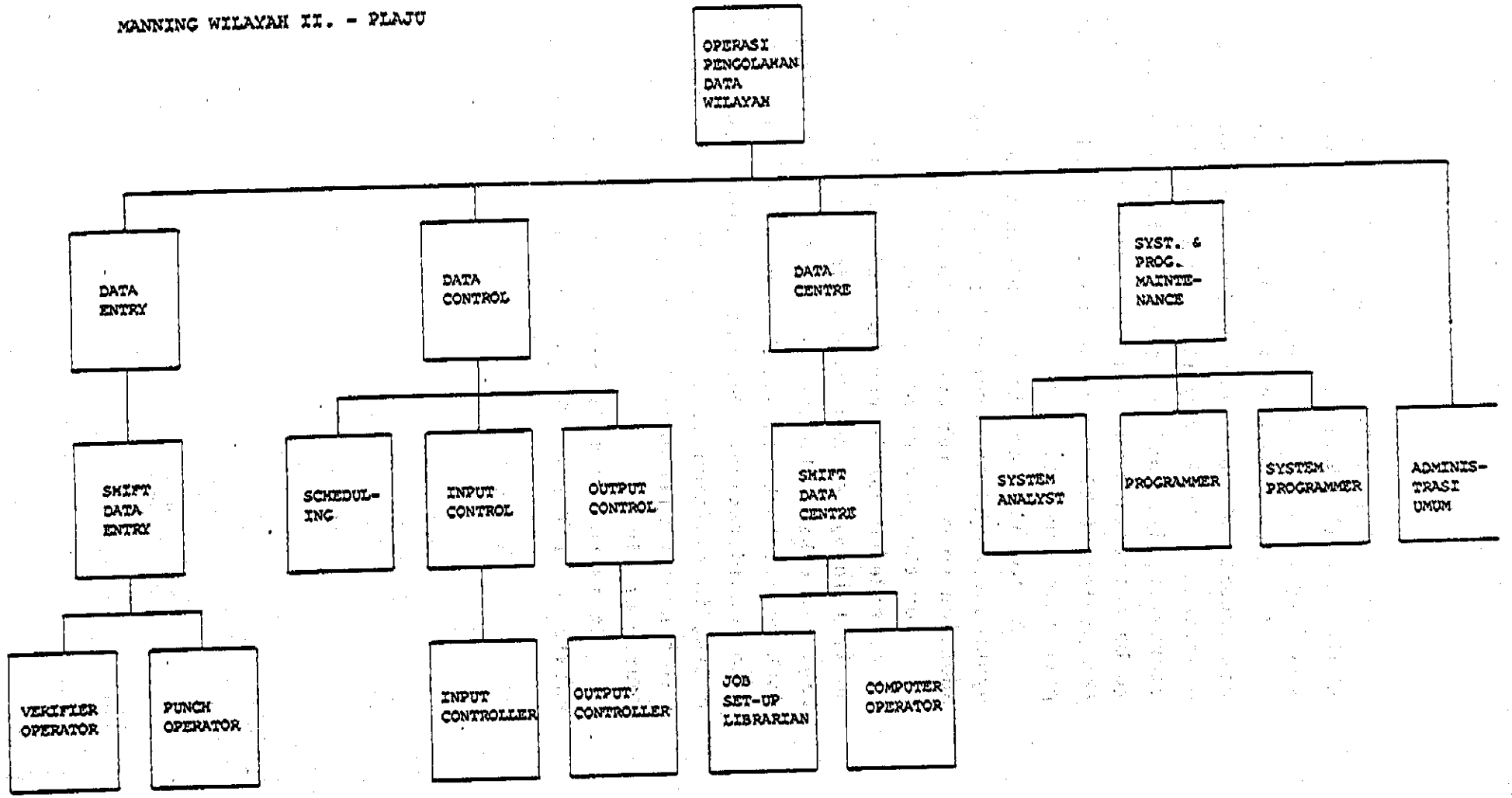
It is recommended that the expert group be composed of six experts who are senior class engineer and come from each department. Workers will be made up of junior class engineers, clerks, typists and temporary employees and their number is to be determined variously in accordance with a progress of the project taking work volume as described in the latter part into account.

As for the technical maintenance of the data bank system, a new job as described previously will be comining in addition to computer operator's side.

For the purpose of performing the job newly come up, is considered sufficient to assign additional one system analyst in System and Programming Maintenance section of Fig. 5-2 taking the size of the data bank system and the work volume to be expected as mentioned in the latter part into consideration. One system analyst can perform the job coming in addition with the assistance of consultants of which number will depend on work volume changing in the course of time.

It is required for the system analyst to have full knowledge of IMS and be good consultant to users.

Fig. 5-2 Processing Operation in Unit II



5-5 Work Volume

In this, estimates were made for the work volume required for input data preparation and maintenance and updating of application programs, on the basis of loads to input/output processing unit as mentioned in Section 2 of Chapter 5 and number of steps of application program as mentioned in Section 6 of Chapter 4.

Further, estimates were made for a manpower of consultants required during the period establishing the data bank system and the period of a normal operation.

(1) Preparation of Input Data

As estimated in Section 2 of Chapter 4, 50MB of data is considered to be kept in Unit EP-II and 5MB be come out yearly for updating.

Further, it is reported that Unit-II had treated 110MB of data throwing ten key punchers during 1977. Consequently, it is estimated that 55 man-months and 6 man-months are required for key punching of the data stored and the data for updating respectively.

As for the work for input data preparation, there are jobs other than punching, such as a review and an arrangement of source data, recording data in data sheet, and proof and correction data.

On the basis of the figures mentioned above, estimates are made for manpower required for performance of the said jobs, as follows, considering actual performance of Japanese industry.

	establishment of data base (man-month)	yearly updating (man-month)
1) review and arrangement of source data	165	18

		establishment of data base (man-month)	yearly updating (man-month)
2)	recording data in data sheet	110	12
3)	punching data in diskette (including puch for proof)	55	6
4)	proof and correction of data	110	12
	Total	440	48

It is noted that experts are necessitated for performing job 1) and 4) in the above.

(2) Maintenance and Updating of Application Programs

Application programs to be prepared at the establishment of the data bank system are not considered to be a complete one but one tested through two or three times debugging. These are to be corrected through their actual executions. 130,000 line statements of programs are estimated to be corrected during three years since a start of the operation based on the total line statement of application programs as estimated in Section 6 of Chapter 4. Further, new application programs have to be prepared in accordance with the user's requirement coming in addition. 10,000 line statements of programs are expected to add yearly.

In conclusion, the following manpower of system analyst is to be required for performing the said job.

Three years since a start up operation	12 man-months
After three years	6 man-months

(3) Man-power of Consultant

It is to be expected that consultants design, program, make a test run and introduce the data bank system in Unit-II and, also, the said consultants is expected to prepare manuals related to the data bank system such as system manual, user's manual, operation manual and program manual.

For the purpose that PERTAMINA prepare the input data for the data base and perform the maintenance of the data bank system with the organization as described in Section 4 of Chapter 5, it is recommended to have the direct guidance from the said consultants who will consult and train the personnel concerned with project based on the above-mentioned manuals.

Manpower of consultants to be required are estimated as follows.

- three months of input data preparation stage
  - Exploration expert 1
  - Drilling expert 1
  - Petroleum Engineer 1
  - Reservoir Engineer 1
  - Mechanical and/or Process Engineer 1
  - System Analyst 1
- two months of system introduction stage
  - System Analyst 1
  - System Programmer 1
  - System Operation Expert 1
  - Programmer 1
- Three years after introduction of the data bank system
  - System Analyst 2
- Over the above period
  - periodical observation by designer 2 man-months/year

LIST OF APPENDIX

APPENDIX I

OUTPUT REPORTING METHOD

FOR

THE PETROLEUM EXPLORATION AND PRODUCTION DATA

BANK SYSTEM OF PERTAMINA UNIT EP-II

INTRODUCTORY REMARKS

I. A limit of data to be retrieved would be given on the output according to instruction by "Assignment Parameter" in METHOD.

II. An order of output data would be given according to instruction by "Sorting Parameter" in METHOD.

III. "Item number" in Output Item is refered to "Item No." in APPENDIX II , so that properties of data in "Item name" can be made clear by reference.

IV. As described in the text, there are three kind of output method, namely Basic Output Reporting Method, Combined Output Reporting Method and Statistical Output Reporting Method. All these are listed up in "Diagram Index of Output Reporting Method".

However, the detail description is made for only the bas output reporting method in this APPENDIX, because such descri tion is made for other reporting methods in the text.

V. The above basic output reporting method is grouped hierarchically in "Diagram Index of Output Reporting Method" and abbreviated in the form such as A0-, B0-, ----, namely with 0 after an alphabetic letter.

LIST OF CONTENTS

1 A-GEOLOGICAL DATA AND RIGHT HOLDER'S AREA INFORMATION

1-1 DIAGRAM INDEX OF OUTPUT REPORTING METHOD

1-2 Conceptual Specification of Output Reporting Method

METHOD A0-1 RIGHT HOLDER'S AREA

Assignment Parameter

- Province name
- Contractor name
- Contract name (code)
- Period

Sorting Parameter

Conditions of Changing Page

- Processing to the next concession area code

Output Item

Data items for this method consist of ;

- Items in METHOD A0-11 (Page AI- 8)
  and
- Items in METHOD A0-12 (Page AI-10)

However, consideration would be taken to avoid improper repetition of data items

Remarks

METHOD A0-11 ORIGINAL AREA

Assignment Parameter

- Province name
- Kind of contract
- Contractor name
- Contract name (code)
- Period

Sorting Parameter

- Contract date (Contract started date)

Conditions of Changing Page

- Proceeding to the next concession area code

Output Item

No.	Item name	Unit	Item number
1	Contract name		A100-1
2	Province name		-2
3	Contract date		-3
4	Contract area name		-4
5-	Agreement		-5
1	Title		-1
2	Identification		-2
6	Kind of contract		-6
7	Contractor name		-7
8	Period of contract		-8
9-	Identification of contract area map		-10
1	Identification number		A500-7-2
2	Title		-1
3	Scale		-15

No.	Item name	Unit	Item number
10	Original size of contract area	[km^2]	A100-1
11	Boundary points of original area		A120-1
12-	Mercator coordinate of each point		-2
1	Latitude (N)	[deg] [min] [sec]	-1
2	Longitude (E)	[deg] [min] [sec]	-2

Remarks

METHOD A0-12 HISTORY OF RELINQUISHMENT

Assignment Parameter

- Province name
- Kind of contract
- Contractor name
- Contract name
- Period

Sorting Parameter

Relinquished date

Conditions of Changing Page

- Proceeding to the next concession area code

Output Item

No.	Item name	Unit	Item number
1	Contract name		A100-1
2	Province name		-2
3	Contract area name		-4
4-	Agreement		-5
1	Title		-1
2	Identification number		-2
5	Kind of contract		-6
6	Contractor name		-7
7	Original area size	[km^2]	-10
8	Relinquished area size	[km^2]	A110-3
9	Contract period		A100-8
10	Ratio of area size	[%]	
11	Relinquished area name		A110-1
12-	Maps drawn relinquished area		-4
1	Identification number		A500-7-2

No.	Item name	Unit	Item number
12-2	Title		A500-7-1
3	Scale		A500-15
13	Boundary points of relinquished area		A111-1
14-	Mercator coordinate of each boundary point		A111-2
1	Latitude (N)	[deg] [min] [sec]	-1
2	Longitude (E)	[deg] [min] [sec]	-2

Remarks

METHOD A0-2 GEOLOGICAL SURVEY

Assignment Parameter

- Area name
- Kind of survey
- Survey name (code)
- Period

Sorting Parameter

Condition of Changing Page

- Proceeding to the next survey code

Output Item

No.	Item name	Unit	Item number
1	Survey name		A200-1
2	Kind of survey		-2
3	Unit name		
4	Area name		-3
5-	Identification of main survey report		
1	Title		-4
2	Number		-5
6	Locality name surveyed		-6
7	Survey period		-7
8	Survey personnel		-9
9	Company name		-10
10	Party month		-11
11	Total traverse measured	(m)	-12
12	Approximate geologically compiled area size	(km^2)	-13
13	Total drilled depth	(m)	-14
14	Total number of shallow well		-15

No.	Item name	Unit	Item number
15-	Total cost		A200-16
1	U.S.$	[U.S.$]	-1
2	Rp	[Rp]	-2
16	Exchange rate of Rp to U.S.$.		-17
17-	Main map prepared by survey		A210-2
1	Identification number		A500-7-2
2	Title		-1
3	Scale		-15
4	Prepared date		-6
18-	Mian figure prepared by survey		A210-2
1	Identification number		A500-7-2
2	Title		-1
3	Scale		-16
4	Prepared date		-6
19-	Survey report		A210-2
1	Identification number		A600-6-2
2	Title		-1
3	Prepared date		-5

Remarks

METHOD A0-3 GEOLOGICAL ANALYSIS

Assignment Parameter

- Area name
- Field or prospect name
- Kind of Analysis
- Analysis name (code)
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next analysis code

Output Item

No.	Item name	Unit	Item number
1	Analysis name		A300-1
2	Kind of analysis		-2
3	Area name		-3
4	Sample source		-5
5-	Analysis report		
1	Identification number		-6
2	Title		-7
6	Author		-8
7	Company name		-9
8	Location of laboratory		-10
9	Sample identification		A310-1
10	Field name		-2
11	Well name		-3
12	Formation name		-4
13	Kind of sample		-5
14	Sampling locality		-6
15	Analysis period		-8

No.	Item name	Unit	Item number
16	Kind of analysis performed		A311-1
17	Number of sample		-2
18-	Unit cost		-3
1	U.S.$	[U.S.$.]	-1
2	Rp	[Rp]	-2
19-	Total cost		A300-11
1	U.S.$	[U.S.$.]	-1
2	Rp	[Rp]	-2
20-	Chart and Figure prepared by survey		A320-1 and 2
1	Identification number		A500-7-2
2	Title		-1
3	Scale		-15 or 16
4	Prepared date		-6

Remarks

METHOD A0-4 PROSPECT INFORMATION

Assignment Parameter

- Area name
- Prospect name
- Type of trap
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next prospect code

Output Item

No.	Item name	Unit	Item number
1	Prospect name (code)		A400-1
2	Area name		-2
3	Prospect name		-3
4	Well name		-4
5	Registered date as prospect		-8
6	Formation name		A410-1
7	Type of trap		-2
8	Number of layers		-3
9	Size of areal closure	(km^2)	-4
10	Height of vertical closure	(m)	-5
11	Net pay thickness	(m)	-6
12-	Estimated reservoir rock volume		-7
	1 Gas	($m^3/km^2.m$)	-1
	2 Oil	($m^3/km^2.m$)	-2
13-	Index productivity		-8
	1 Gas	($m^3/km^2.m$)	-1
	2 Oil	($m^3/km^2.m$)	-2

No.	Item name	Unit	Item number
14-	Initial hydrocarbon in place		A410 -9
	1 Gas	[std m^3]	-1
	2 Oil	[std m^3]	-2
15	Recovery factor	[%]	-10
16-	Recoverable hydrocarbons in place		-11
	1 Gas	[std m^3]	-1
	2 Oil	[std m^3]	-2
17	Chance factor	[%]	-12
18-	Risk reduced recoverable hydrocarbons in place		-13
	1 Gas	[std m^3]	-1
	2 Oil	[std m^3]	-2
19-	Seismic interpretation report reference		A400-5
	1 Title		B112-2
	2 Identification number		-1
20-	Map reference		A400-6
	1 Title		A500-7-1
	2 Identification number		-2
21-	Prospect and lead report reference		A400-7
	1 Title		A600-7-1
	2 Identification		-2

Remarks

METHOD A0-5 MAP AND FIGURE INFORMATION

Assignment Parameter

- Area name
- Field name
- Kind of map and figure
- Formation or layer name
- Point coordinate (in case of map)
- Scale (in case of map)
- Period

Sorting Parameter

Conditions of Changing Page

- According to assignment parameters

Output Item

No.	Item name	Unit	Item number
1	Map name (code)		A500-1
2	Kind of map		-2
3	Province name		-3
4	Area name		-4
5	Field or prospect name		-5
6	Prepared or revised date		-6
7-	Map Identification		-7
	1 Title		-1
	2 Identification number		-2
8	Author		-8
9	Company name		-9
10	Drawing number		-10

No.	Item name	Unit	Item number
11	Microfilm number		A500-11
12	Map sheet size		-12
13	Scale		-15
14	Contour interval		-16
15-	Coordinates of map limit		-17
	1 Latigude	[deg] [min] [sec]	-1
	2 Longitude	[deg] [min] [sec]	-2
16	Well name		A510-2
17	Formation name or layer name		-1
18-	Identification of report		A500-14
	1 Title		A600- 7-1
	2 Identification number		-2
19	Storage number		A500-13
	In case of cross-section		
13	Line name		A500-15
14-	Scale		-16
	1 Vertical scale		-1
	2 Horizontal scale		-2
15	Number of well		-17
16	Well name		A510-2
17	Formation name or layer name		A520-1
18-	Identification name or layer name		A500-14
	1 Title		A600-7-1
	2 Identification number		-2
19	Storage number		A500-13
	In case of chart		
13	Means of chart		A500-15
14-	Scale		-16
	1 Vertical scale		-1
	2 Horizontal scale		-2
15	Well name		A510-2
16	Formation name		A520-1
17-	Identification of report		A500-14
	1 Title		A600- 7-1
	2 Identification number		-2

No.	Item name	Unit	Item number
18	Storage number		A500-13

Remarks

METHOD A0-6 REPORT INFORMATION

Assignment Parameter

- Area name
- Kind of report
- Period

Sorting Parameter

- Reference number

Condition of Changing Page

- According to the assignment parameter

Output Item

No.	Item name	Unit	Item number
1	Report name (code)		A600-1
2	Kind of report		-2
3	Area name		-3
4	Field name		-4
5	Prepared date		-5
6-	Identification number		-6
	1 Title		-1
	2 Identification number		-2
7	Author		-7
8	Company name		-8
9-	Reference number of map and figure		A610-2
	1 Title		A500-7-1
	2 Identification number		-2
	3 Scale		A500-15 or 16
10	Storage number		A600-9

2 B-GEOPHYSICAL DATA INFORMATION

2-1 Diagram Index of Output Reporting Method

B1 ---------- Geophysical Survey List by Year

B2 ---------- Geophysical Survey List by Area

B3 ---------- Summary of Geophysical Data Processing

B4 ---------- Summary of Geophysical Interpretation & Special Study

B5 ---------- List of Report

B6 ---------- List of Map

B7 ---------- List of Magnetic Tape

B8 ---------- Summary of Unit Cost

B9 ---------- Survey Method for Seismic Survey

B10 ---------- Total Length for Field Operation

B11 ---------- Total Fuel

B12 ---------- Total Explosive

B13 ---------- Total Survey Cost by Area

B14 ---------- Total Survey Cost by Year

2-2 Conceptual Specification of Output Reporting Method

METHOD B0-1 SEISMIC SURVEY

Assignment Parameter

- Area name
- Field or prospect name
- Method of survey
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next survey procedure

Output Item

Data items for this method consist of;

- Items in METHOD B0-11 (Page AI-27)
- Items in METHOD B0-12 (Page AI-31)
- Items in METHOD B0-13 (Page AI-34)

and

- Items in METHOD B0-14 (Page AI-36)

However, consideration would be taken to avoid improper repetition of data item.

Remarks

METHOD B0-11 FIELD OPERATION

Assignment Parameter

- Area name
- Field or prospect name
- Method of survey
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Method of survey		-5
6	Survey name		-1
7	Survey name		-6
8	Period		B110-1
9	Name of organization		-3
10-	Contract		-2
1	Date		-1
2	Identification		-2
11	Site description		-5
12	Total length recorded	[Km]	-6
13	Total stations recorded		-7
14	Total line cutting	[Km]	-8

No.	Item name	Unit	Item number
15	Total bridging	[Km]	B110-9
16	Total land survey	[Km]	-10
17-	Helicopter		-11
1	Total flying hours	[hours]	-1
2	No. of helipad		-2
3	Name of helibase station		-3
4	Type of helicopter		-4
18-	Total fuel		-12
1	Total gasoline	[liter]	-1
2	Total diesel oil	[liter]	-2
3	Total kerosene	[liter]	-3
4	Total aviation turbine fuel	[liter]	-4
5	Total lubricant	[kg]	-5
6	Total grease	[kg]	-6
19-	Average manpower		-13
1	Expatriate		-1
2	Local staff		-2
3	Labor		-3
20-	Total explosive		-14
1	Total primer	[lbs]	-1
2	Total detonator	[pcs]	-2
3	Total main charge	[lbs]	-3
21-	Drilling		-15
1	Total holes drilled		-1
2	Total depth drilled	[m]	-2
22-	Survey method		-16
1	Name of recording instrument		-1
2	Recording system		-2
3	Recording filter		-3
4	Sampling rate	[msec]	-4
5	Name of detector		-5
6	Length	[m]	-6
7	Offset	[m]	-7
8	Group interval	[m]	-8
9	Geophone interval	[m]	-9

No.	Item name	Unit	Item number
22-10	No. of groups		B110-16-10
11	No. of geophone per group		-11
12	Source of energy		-12
13	No. of holes per shot		-13
14	Charge per hole		-14
15	Hole's separation	[m]	-15
16	Average charge depth	[m]	-16
17	Shooting pattern		-17
18	Distance between stations	[m]	-18
19	No. of fold for recording	[%]	-19
20	Line interval		-20
21	Positioning method		-21
22	Field test date		-22
23	Field test location		-23
23-	Location map		B111
1	Identification of map		-1
2	Title		-3
3	Date		-4
4	Scale		-5
5	Microfilm number		-6
6	Author		-7
7	Name of organization		-8
8	Identification of report		-9
24-	Magnetic tape		B110-4
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2
3	Quality		-3
4	Storage place		-4
25-	Report		B112
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6

No.	Item name	Unit	Item number
26-	Operation cost		B113
1	Date		-1
2*	Survey length per year		-2
3*	No. of stations per year		-3
4*	Operation cost per year	[U.S.$]	-4-1
5*	Operation cost per year	[Rp.]	-2
6*	Manpower cost for expatriate per year	[U.S.$]	-5-1
7*	Manpower cost for expatriate per year	[Rp.]	-2
8*	Manpower cost for local staff per year	[U.S.$]	-6-1
9*	Manpower cost for local staff per year	[Rp.]	-2
10*	Manpower cost for labor per year	[U.S.$]	-7-1
11*	Manpower cost for labor per year	[Rp.]	-2
12	Operation cost per Km	[U.S.$]	
13	Operation cost per Km	[Rp.]	
14	Operation cost per station	[U.S.$]	
15	Operation cost per station	[Rp.]	

*Hereinafter, these items are repeated on the following basis respectively,
- survey

Remarks

METHOD B0-12 DATA PROCESSING

Assignment Parameter

- Area name
- Field or prospect name
- Method of survey
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next number of time

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Method of survey		-5
6	Survey name		-1
7	Survey name		-6
8	Period		B120-2
9	Name of organization		-4
10	No. of times		-1
11-	Order document		-3
1	Date		-1
2	Identification		-2
12-	Processing method		-6

No.	Item name	Unit	Item number
12-1	No. of fold for recording	[%]	B120-6-1
2	No. of fold for processing	[%]	-2
3	Sampling rate for processing	[msec]	-3
4	Kind of section		-4
5	Application of deconvolution		-5
6	Additional processing sequence		-6
13-	Line number and station number		B121-1
14-	Magnetic tape		B120-5
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2
3	Quality		-3
4	Storage place		-4
15-	Report		B122
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
16-	Processing cost		B123
1	Date		-1
2*	Processed length per year	[Km]	-2
3*	No. of stations processed per year		-3
4*	Processing cost per year	[U.S.$]	-4-1
5*	Processing cost per year	[Rp.]	-2
6	Processing cost per Km	[U.S.$]	
7	Processing cost per Km	[Rp.]	
8	Processing cost per station	[U.S.$]	
9	Processing cost per station	[Rp.]	

* Hereinafter, these items are repeated on the following basis respectively

  - survey

Remarks

METHOD B0-13 INTERPRETATION

Assignment Parameter

- Area name
- Field or prospect name
- Method of survey
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next number of time

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Method of survey		-5
6	Survey name		-1
7	Survey name		-6
8	Period		B130-2
9	Author		-4
10	Name of Organization		-5
11	No. of times		-1
12-	Contract		-3
1	Date		-1
2	Identification		-2
13-	Report		B133
1	Identification of report		-1
2	Title		-2

No.	Item name	Unit	Item number
13-3	Date		B133-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
14-	Interpretation cost		
1	Total length interpreted	[Km]	B130-6
2	Total stations interpreted		-7
3	Total interpretation cost	[U.S.$]	-8-1
4	Total interpretation cost	[Rp.]	-2
5	Interpretation cost per Km	[U.S.$]	
6	Interpretation cost per Km	[Rp.]	
7	Interpretation cost per station	[U.S.$]	
8	Interpretation cost per station	[Rp.]	

Remarks

METHOD B0-14 INTERPRETATION MAP

Assignment Parameter

- Area name
- Field or prospect name
- Method of survey
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next kind of map

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Method of survey		-5
6	Survey name		-1
7	Survey name		-6
8	Period		B130-2
9	No. of times		-1
10	Kind of map		B132-2
11	Identification of map		-1
12	Title		-3
13	Date		-4
14	Migrated or unmigrated		-5
15-	Horizon name		-6
1	Horizon name		-1
2	Formation name		-2

No.	Item name	Unit	Item number
16	Contour interval		B132-7
17	Scale		-8
18	Microfilm number		-9
19	Author		-10
20	Name of organization		-11
21	Identification of report		-12

Remarks

METHOD B0-2 MAGNETIC SURVEY

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next survey procedure

Output Item

Data items for this method consist of;

- Items in METHOD B0-21 (Page AI-39)
- Items in METHOD B0-22 (Page AI-42)
- Items in METHOD B0-23 (Page AI-44)

  and

- Items in METHOD B0-24 (Page AI-46)

However, consideration would be taken to avoid improper repetition of data item.

Remarks

METHOD B0-21 FIELD OPERATION

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B110-1
8	Name of organization		-3
9-	Contract		-2
1	Date		-1
2	Identification		-2
10	Site description		-5
11	Total length recorded	[Km]	-6
12	Total stations recorded		-7
13	Total line cutting	[Km]	-8
14	Total bridging	[Km]	-9
15	Total land survey	[Km]	-10

No.	Item name	Unit	Item number
16-	Helicopter		B110-11
1	Total flying hours	[hours]	-1
2	No. of helipad		-2
3	Name of helibase station		-3
4	Type of helicopter		-4
17-	Total fuel		-12
1	Total gasoline	[liter]	-1
2	Total diesel oil	[liter]	-2
3	Total kerosene	[liter]	-3
4	Total aviation turbine fuel	[liter]	-4
5	Total lubricant	[liter]	-5
6	Total grease	[kg]	-6
18-	Average manpower		-13
1	Expatriate		-1
2	Local staff		-2
3	Labor		-3
19-	Survey method		-16
1	Airborne or land		-1
2	Approximate surveyed area size	[Km^2]	-2
3	Line interval		-3
4	Flight high	[m]	-4
5	Distance between stations	[m]	-5
6	Name of magnetometer		-6
7	Accuracy of magnetometer		-7
8	Name of magnetometer		-8
9	Accuracy of magnetometer		-9
10	Recording system		-10
11	Sampling rate		-11
12	Name of recording instrument		-12
13	Positioning method		-13
20-	Location map		B111
1	Identification of map		-1
2	Title		-3
3	Date		-4

No.	Item name	Unit	Item number
20-4	Scale		B111 -5
5	Microfilm number		-6
6	Author		-7
7	Name of organization		-8
8	Identification of report		-9
21-	Magnetic tape		B110-4
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2
3	Quality		-3
4	Storage place		-4
22-	Report		B112
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
23-	Operation cost		B113
1	Date		-1
2*	Survey length per year		-2
3*	No. of stations per year		-3
4*	Operation cost per year	[U.S.$]	-4-1
5*	Operation cost per year	[Rp.]	-2
6*	Manpower cost for expatriate per year	[U.S.$]	-5-1
7*	Manpower cost for expatriate per year	[Rp.]	-2
8*	Manpower cost for local staff per year	[U.S.$]	-6-1
9*	Manpower cost for local staff per year	[Rp.]	-2
10*	Manpower cost for labor per year	[U.S.$]	-7-1
11*	Manpower cost for labor per year	[Rp.]	-2
12	Operation cost per Km	[U.S.$]	
13	Operation cost per Km	[Rp]	

No.	Item name	Unit	Item number
23-14	Operation cost per station	[U.S.$]	
15	Operation cost per station	[Rp.]	

*Hereinafter, these items are repeated on the following basis respectively,
- survey

Remarks

MEHTOD B0-22 DATA PROCESSING

Assignment Parameter

- Area name
- Field or Prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next number of time

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B120-2
8	Name of organization		-4
9	No. of times		-1
10-	Order document		-3
1	Date		-1
2	Identification		-2
11-	Processing method		-6
1	Sampling rate for processing		-1
2	I.G.R.F. used correction		-2
3	Filtration		-3

No.	Item name	Unit	Item number
12	Line number and station number		B121-1
13-	Magnetic tape		B120-5
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2
3	Quality		-3
4	Storage place		-4
14-	Report		B122
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
15-	Processing cost		B123
1	Date		-1
2*	Processed length per year	[km]	-2
3*	No. of stations processed per year		-3
4*	Processing cost per year	[U.S.$]	-4-1
5*	Processing cost per year	[Rp.]	-2
6	Processing cost per km	[U.S.$]	
7	Processing cost per km	[Rp.]	
8	Processing cost per station	[U.S.$]	
9	Processing cost per station	[Rp.]	

* Hereinafter, these items are repeated on the following basis respectively,
- survey

Remarks

METHOD B0-23 INTERPRETATION

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next number of time

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B130-2
8	Author		-4
9	Name of organization		-5
10	No. of times		-1
11-	Contract		-3
1	Date		-1
2	Identification		-2
12-	Report		B133
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5

No.	Item name	Unit	Item number
12-6	Name of organization		B133-6
13-	Interpretation cost		
1	Total length interpreted	[km]	B130-6
2	Total stations interpreted		-7
3	Total interpretation cost	[U.S.$]	-8-1
4	Total interpretation cost	[Rp.]	-2
5	Interpretation cost per km	[U.S.$]	
6	Interpretation cost per km	[Rp.]	
7	Interpretation cost per station	[U.S.$]	
8	Interpretation cost per station	[Rp.]	

Remarks

METHOD B0-24 INTERPRETATION MAP

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next kind of map

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B130-2
8	No. of times		-1
9	Kind of map		B132-2
10	Identification of map		-1
11	Title		-3
12	Date		-4
13	Contour interval		-7
14	Scale		-8
15	Microfilm number		-9
16	Author		-10
17	Name of organization		-11
18	Identification of report		-12

Remarks

METHOD BO-3 GRAVITY SURVEY

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next survey procedure

Output Item

Data items for this method consist of;

- Items in METHOD BO-31 (Page AI-49)
- Items in METHOD BO-32 (Page AI-52)
- Items in METHOD BO-33 (Page AI-54)

  and
- Items in METHOD BO-34 (Page AI-56)

However, consideration would be taken to avoid improper repetition of data item.

Remarks

METHOD B0-31 FIELD OPERATION

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of changing page

- Proceeding to the next survey code

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B110-1
8	Name of organization		-3
9-	Contract		-2
1	Date		-1
2	Identification		-2
10	Site description		-5
11	Total length recorded	[Km]	-6
12	Total stations recorded		-7
13	Total line cutting	[Km]	-8
14	Total bridging	[Km]	-9
15	Total land survey	[Km]	-10

No.	Item name	Unit	Item number
16-	Helicopter		B110-11
1	Total flying hours	[hours]	-1
2	No. of helipad		-2
3	Name of helibase station		-3
4	Type of helicopter		-4
17-	Total fuel		-12
1	Total gasoline	[liter]	-1
2	Total diesel oil	[liter]	-2
3	Total kerosene	[liter]	-3
4	Total aviation turbine fuel	[liter]	-4
5	Total lubricant	[liter]	-5
6	Total grease	[kg]	-6
18-	Average manpower		-13
1	Expatriate		-1
2	Local staff		-2
3	Labor		-3
19-	Survey method		-16
1	Approximate surveyed area size	[km^2]	-1
2	Line interval		-2
3	Distance between stations	[m]	-3
4	Name of gravimeter		-4
5	Accuracy of gravimeter		-5
6	Recording system		-6
7	Name of recording instrument		-7
8	Positioning method		-8
9	No. of samples		-9
10	Description		-10
20-	Location map		B111
1	Identification of map		-1
2	Title		-3
3	Date		-4
4	Scale		-5
5	Microfilm number		-6

No.	Item name	Unit	Item number
20-6	Author		B111-7
7	Name of organization		-8
8	Identification of report		-9
21-	Magnetic tape		B110-4
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2
3	Quality		-3
4	Storage place		-4
22-	Report		B112
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
23-	Operation cost		B113
1	Date		-1
2*	Survey length per year		-2
3*	No. of stations per year		-3
4*	Operation cost per year	[U.S.$]	-4-1
5*	Operation cost per year	[Rp.]	-2
6*	Manpower cost for expatriate per year	[U.S.$]	-5-1
7*	Manpower cost for expatriate per year	[Rp.]	-2
8*	Manpower cost for local staff per year	[U.S.$]	-6-1
9*	Manpower cost for local staff per year	[Rp.]	-2
10*	Manpower cost for labor per year	[U.S.$]	-7-1
11*	Manpower cost for labor per year	[Rp.]	-2
12	Operation cost per km	[U.S.$]	
13	Operation cost per km	[Rp.]	

No.	Item name	Unit	Item number
23-14	Operation cost per station	(U.S.$)	
15	Operation cost per station	(Rp.)	

* Hereinafter, these items are repeated on the following basis respectively,
- survey

Remarks

METHOD B0-32 DATA PROCESSING

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of changing page

- Proceeding to the next survey code or next number of time

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B120-2
8	Name of organization		-4
9	No. of times		-1
10-	Order document		-3
1	Date		-1
2	Identification		-2
11-	Processing method		-6
1	Rock density	[g/cm^3]	-1
2	Filtration		-2
12	Line number and station number		B121-1
13-	Magnetic tape		B120-5
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2

No.	Item name	Unit	Item number
13-3	Quality		B120-5-3
4	Storage place		-4
14-	Report		B122
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
15-	Processing cost		B123
1	Date		-1
2*	Processed length per year	[km]	-2
3*	No. of stations processed per year		-3
4*	Processing cost per year	[U.S.$]	-4-1
5*	Processing cost per year	[Rp.]	-2
6*	Processing cost per km	[U.S.$]	
7*	Processing cost per km	[Rp.]	
8*	Processing cost per station	[U.S.$]	
9*	Processing cost per station	[Rp.]	

* Hereinafter, these items are repeated on the following basis respectively,
- Survey

Remarks

METHOD B0-33 INTERPRETATION

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code or next number of time

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B130-2
8	Author		-4
9	Name of organization		-5
10	No. of times		-1
11-	Contract		-3
1	Date		-1
2	Identification		-2
12-	Report		B133
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4

No.	Item name	Unit	Item number
12-5	Author		B133-5
6	Name of organization		-6
13-	Interpretation cost		
1	Total length interpreted	[Km]	B130-6
2	Total stations interpreted		-7
3	Total interpretation cost	[U.S.$]	-8-1
4	Total interpretation cost	[Rp.]	-2
5	Interpretation cost per Km	[U.S.$]	
6	Interpretation cost per Km	[Rp.]	
7	Interpretation cost per station	[U.S.$]	
8	Interpretation cost per station	[Rp.]	

Remarks

METHOD B0-34 INTERPRETATION MAP

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next kind of map

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Period		B130-2
8	No. of times		-1
9	Kind of map		B132-2
10	Identification of map		-1
11	Title		-3
12	Date		-4
13	Contour interval		-7
14	Scale		-8
15	Microfilm number		-9
16	Author		-10
17	Name of organization		-11
18	Identification of report		-12

Remarks

METHOD B0-4 WELL VELOCITY SURVEY

Assignment Parameter

- Area name
- Field name
- Well name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next well code

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Well name		B100-3
5	Kind of survey		-4
6	Survey name		-1
7	Survey name		-6
8	Period		-7
9	Name of organization		B140-2
10	Location		-3
11-	Contract		-1
1	Date		-1
2	Identification		-2
12	Datum level		-4
13	Source of energy		-5
14	Total shots		-6
15	Initial depth surveyed	(m)	-7

No.	Item name	Unit	Item number
16	Total depth surveyed	[m]	B140-8
17	Formation name		-9
18-	Magnetic tape		-3
1	Tape number & supporting data		-1
2	Type of magnetic tape		-2
3	Quality		-3
4	Storage place		-4
19	Synthetic seismogram		-10
20-	Report		B142
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
21-1	Total survey cost	[U.S.$]	B140-11-1
2	Total survey cost	[Rp.]	-2

Remarks

METHOD B0-5 SPECIAL STUDY

Assignment Parameter

- Area name
- Field or prospect name
- Survey name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next survey code

Output Item

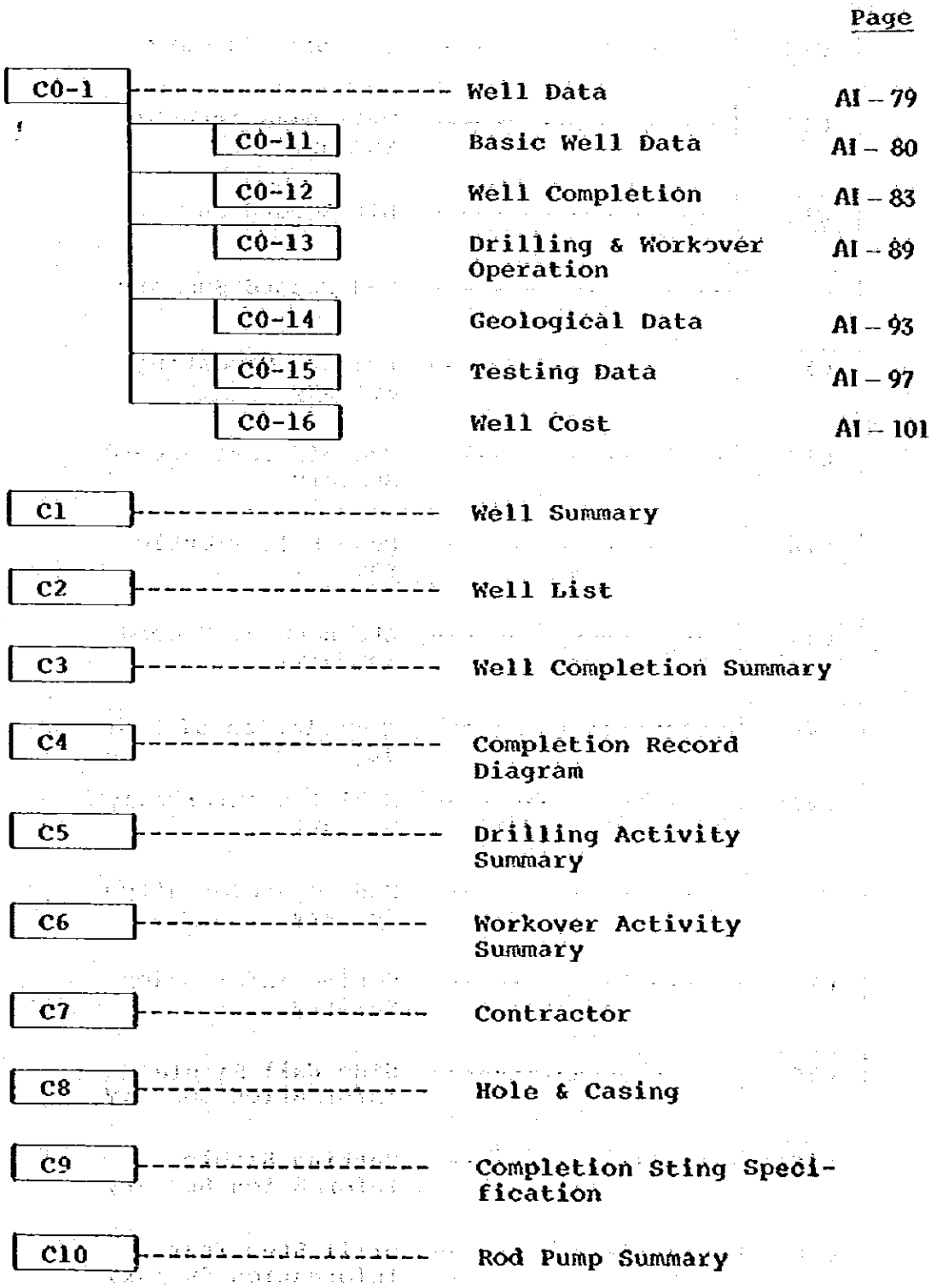
No.	Item name	Unit	Item number
1	Unit name		
2	Area name		B100-2
3	Field or prospect name		B150-1
4	Kind of survey		B100-4
5	Survey name		-1
6	Survey name		-6
7	Objective		-8
8	Author		B130-4
9	Name of organization		-5
10	Period		B100-7
11-	Contract		B130-3
1	Date		-1
2	Identification		-2
12	Line number		B131-1
13	Survey name		-2

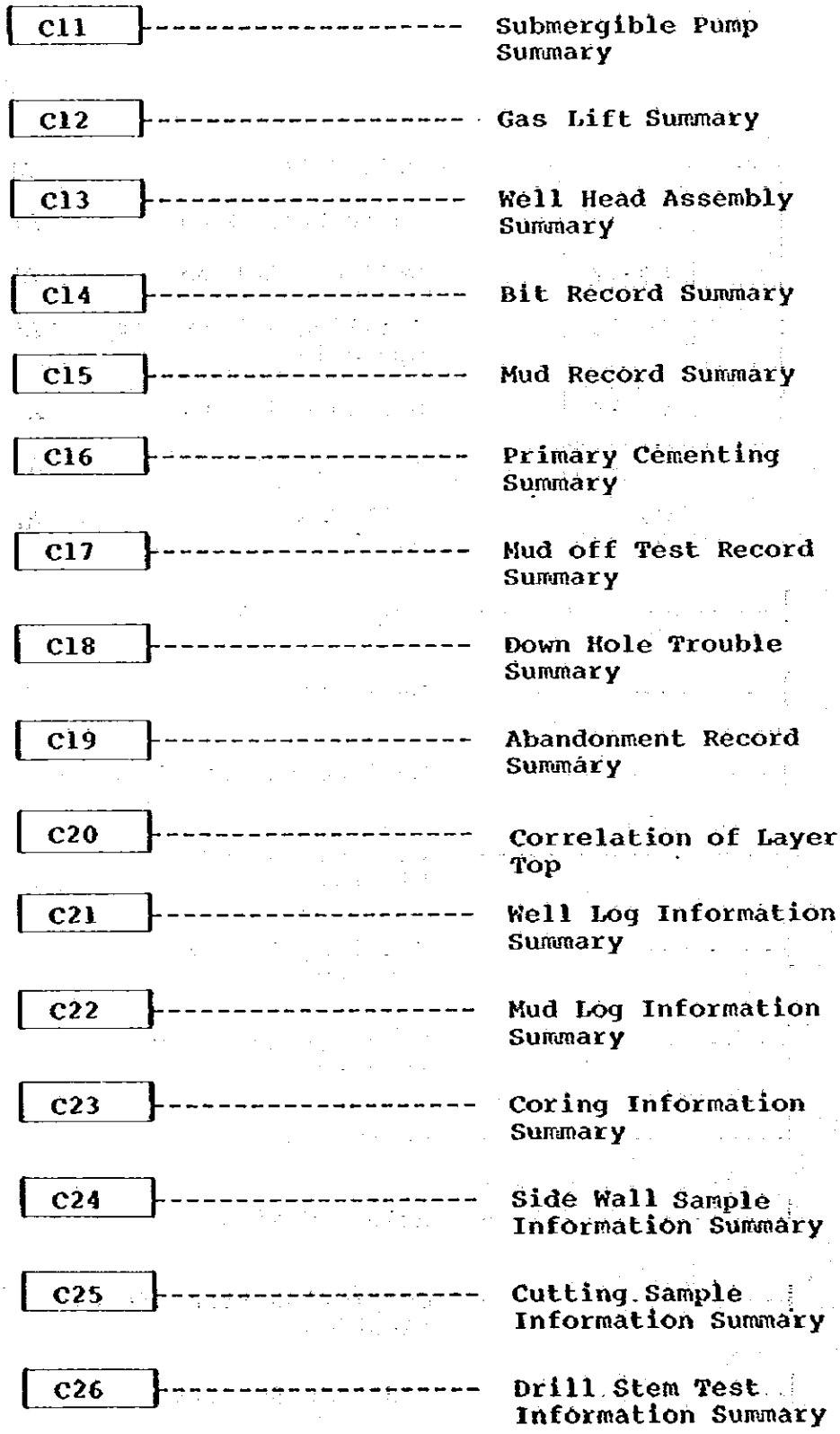
No.	Item name	Unit	Item number
14-	Map		B132
1	Kind of map		-2
2	Identification of map		-1
3	Title		-3
4	Date		-4
5	Migrated or unmigrated		-5
6	Horizon name		-6-1
7	Formation name		-2
8	Contour interval		-7
9	Scale		-8
10	Microfilm number		-9
11	Author		-10
12	Name of organization		-11
13	Identification of report		-12
15-	Report		B133
1	Identification of report		-1
2	Title		-2
3	Date		-3
4	Storage number		-4
5	Author		-5
6	Name of organization		-6
16-	Interpretation cost		
1	Total interpretation cost	[U.S.$]	B130-8-1
2	Total interpretation cost	[Rp.]	-2

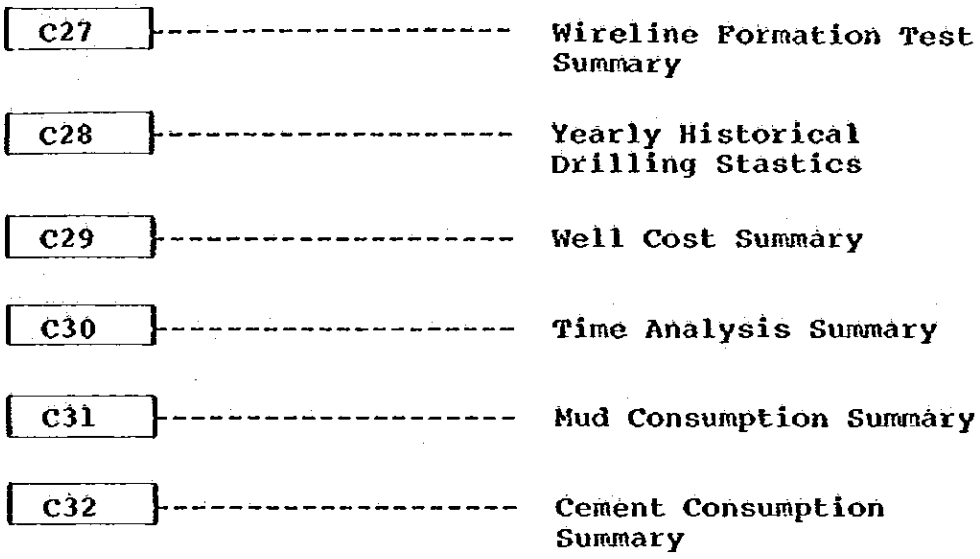
Remarks

3 C-WELL DATA INFORMATION

3-1 Diagram Index of Output Reporting Method




C11
Submergible Pump Summary
C12
Gas Lift Summary
C13
Well Head Assembly Summary
C14
Bit Record Summary
C15
Mud Record Summary
C16
Primary Cementing Summary
C17
Mud off Test Record Summary
C18
Down Hole Trouble Summary
C19
Abandonment Record Summary
C20
Correlation of Layer Top
C21
Well Log Information Summary
C22
Mud Log Information Summary
C23
Coring Information Summary
C24
Side Wall Sample Information Summary
C25
Cutting Sample Information Summary
C26
Drill Stem Test Information Summary


C27
Wireline Formation Test Summary
C28
Yearly Historical Drilling Stastics
C29
Well Cost Summary
C30
Time Analysis Summary
C31
Mud Consumption Summary
C32
Cement Consumption Summary

3-2 Conceptual Specification of Output Reporting Method

METHOD CO-1 WELL DATA

Assignment Parameter

- Workover number
- Province name
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period
- Date

Condition of Changing Page

- Proceeding to the next well

Output Item

Data items for this method consists of;

- Items in METHOD CO-11 (Page AI-68)
- Items in METHOD CO-12 (Page AI-71)
- Items in METHOD CO-13 (Page AI-77)
- Items in METHOD CO-14 (Page AI-81)
- Items in METHOD CO-15 (Page AI-85)

and

- Items in METHOD CO-16 (Page AI-89)

However, consideration would be taken to avoid improper repetition of data item.

METHOD C0-11 BASIC WELL DATA

Assignment Parameter

- Workover number
- Province name
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period
- Date

Condition of Changing Page

- Proceeding to the next well

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		C100-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-1
7	Workover number		-2
8	Objective of well		-7
9	Objective of workover		-8
10	Completion status		-9
11-	Objective formation name		-10
	1 Primary objective formation name		-1
	2 Secondary objective formation name		-2

No.	Item name	Unit	Item number
12	Objective layer name		C100-11
13	Completed formation name		
14	Completed layer name		
15	Completed interval	[m]	C130-3
16	Operating date		C100-12
17	Spud date		-1
18	Date reached TD		-2
19	Rig release date		-3
20	Total days to TD		-4
21	Total days		-5
22	Operator		-13
23	Drilling contractor		-14
24	Rig name		-15
25	Rig type		-16
26	Vertical or Deviated		-17
27-	Sidetracking		-18
1	Date		-1
2	Depth	[m]	-2
28-	Local coordinate		-19
1	Base point		-1
2	X	[m]	-2
3	Y	[m]	-3
29-	Marcator coordinate		-20
1	Latitude (S)		-1
2	Longitude (E)		-2
30	Ref. No. of geophysical survey (Seismic survey)		-21
31	Seismic line No.		-22
32	Shot point No.		-23
33	Well location name		-24
34-	Local coordinate (Bottom hole location)		-25
1	Base point		-1
2	X	[m]	-2
3	Y	[m]	-3

No.	Item name	Unit	Item number
35-	Mercator coordinate (Bottom hole location)		C100-26
1	Latitude (S)		-1
2	Longitude (E)		-2
36	Site description		-27
37	Original derrick floor elevation	[m]	-28
38	Original derrick floor height from bottom flange	[m]	-29
39	Total depth	[m]	-30
40	Plug back depth	[m]	-31
41	True vertical depth	[m]	-32
42	Kick off point	[m]	-33
43	Horizontal deviation	[m]	-34
44	Mean drift angle	[deg]	-35

METHOD C0-12 WELL COMPLETION

Assignment Parameter

- Workover number
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period
- Date

Condition of Changing Page

- Proceeding to the next well

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		C100-4
3	Field office name		-5
4	Field or prospect name		-6
5	Well name		-1
6	Workover number		-2
7	Objective of well		-7
8	Objective of workover		-8
9	Completion status		-9
10	Rig release date		-12-3
11	Vertical or deviated		-17
12	Original derrick floor elevation	(m)	-28
13	Original derrick floor height from bottom flange	(m)	-29

No.	Item name	Unit	Item number
14	Total depth	[m]	C100-30
15	Plug back depth	[m]	-31
16	Operator		-13
17-	Hole and casing		C120
1	Hole size	[in]	-1
2	Hole depth	[m]	-2
3	Casing size	[in]	-3
4	Grade		-5-1
5	Weight	[lbs/ft]	-2
6	Set depth/interval	[m]	-3
7	Liner hanger		-6
8	Liner slot interval	[m]	-7
9	Casing set date		-4
	Following items (No. 18-1 - No. 18-11) are applied to "Original String", "Dump flood water injection" "Powered water injection", and "Gas injection" in classification of String specification.		
18-	Completion string		
1	String name		C130-1
2	String specification		-2
3	Completed interval	[m]	-3
4	Completed formation name		
5	Completed layer name		
6	Tubing		-4
7	Size	[in]	-1
8	Weight	[lbs/ft]	-2
9	Grade		-3
10	Depth	[m]	-4
11	Packer depth	[m]	-5
	Following items No. 19-1 - No. 19-31) are applied to "Rod pump" in classification of String specification.		

No.	Item name	Unit	Item number
19- 1	String name		C130-1
- 2	String specification		-2
- 3	Completed interval	[m]	-3
- 4	Completed formtion name		
- 5	Completed layer name		
- 6	Tubing		C130-4
- 7	Size	[in]	-1
- 8	Weight	[lbs/ft]	-2
- 9	Grade		-3
-10	Depth		-4
-11	Packer depth	[m]	-5
-12	Subsurface pump		C131-1
-13	Installation date		-1
-14	Size	[in]	-2
-15	Manufacturer		-3
-16	Type		-4
-17	Depth	[m]	-5
-18	Gas anchor		-2
-19	Anchor catcher depth	[m]	-3
-20	Surface pump		-4
-21	Installation date		-1
-22	Type		-2
-23	Manufacturer		-3
-24	Model		-4
-25	Ident. No.		-5
-26	Prime mover		-5
-27	Installation date		-1
-28	Type		-2
-29	Manufacturer		-3
-30	Model		-4
-31	Ident. No.		-5

Pollowing items (No. 20-1 - No. 20-19) are applied to "Submergible pump" in classification of String specification.

No.	Item name	Unit	Item number
20	Completion string		
- 1	String name		C130-1
- 2	String specification		-2
- 3	Completed interval	[m]	-3
- 4	Completed formation name		
- 5	Completed layer name		
- 6	Tubing		C130-4
- 7	Size	[in]	-1
- 8	Weight	[lbs/ft]	-2
- 9	Grade		-3
-10	Depth	[m]	-4
-11	Packer depth	[m]	-5
-12	Subsurface pump		C132-1
-13	Installation date		-1
-14	Manufacturer		-2
-15	Model		-3
-16	Size		-4
-17	Ident No.		-5
-18	Depth at intake	[m]	-6
-19	Gas separator		-7
	Following items (No. 21-1 - 21-27) are applied to "Gas lift" in classification of String specification.		
21	Completion string		
- 1	String name		C130-1
- 2	String specification		-2
- 3	Completed interval	[m]	-3
- 4	Completed formation name		
- 5	Completed layer name		
- 6	Tubing		-4
- 7	Size	[in]	-1
- 8	Weight	[lbs/ft]	-2
- 9	Grade		-3
-10	Depth	[m]	-4

No.	Item name	Unit	Item number
21-11	Packer depth	[m]	C130-5
- 2	Macaroni pipe		C133-1
-13	Type of lifting		-2
-14	Type of installation		-3
-15	Installation date		-4
-16	Macaroni pipe data		-5
-17	Size	[in]	-1
-18	Length	[m]	-2
-19	Gas lift valve		-6
-20	Manufacturer		-1
-21	Model		-2
-22	Port size		-3
-23	Depth	[m]	-4
-24	Surface controller		-7
-25	Installation date		-1
-26	Manufacturer		-2
-27	Model		-3
22	Casing and tubing head assembly		C100-37
- 1	Size		-1
- 2	Manufacturer		-2
- 3	Working pressure	[psi]	-3
23	Christmas tree assembly		C100-38
- 1	Date of installation		-1
- 2	Manufacturer		-2
- 3	Wing valve configuration		-3
- 4	Working pressure	[psi]	-4
24	Perforation		C140
- 1	Date		-1
- 2	Objective		-2
- 3	Interval	[m]	-3
- 4	Type of perforation		-4
- 5	Size of perforation		-5
- 6	Number of shot		-6
- 7	Density of shot	[shots/ft]	-7

No.	Item name	Unit	Item number
24- 8	Casing/liner perforated		C140-8
- 9	Status of perforation		-9
25	Plug back		C150
- 1	Date of set		-1
- 2	Kind of plug back		-2
- 3	Depth/interval	[m]	-3
- 4	Model of bridge plug		-4
26	Abandonment record		C160
- 1	Reason of abandonment		-1
- 2	Hole condition		-2

METHOD C0-13 DRILLING & WORKOVER OPERATION

Assignment Parameter

- Workover number
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period

Condition of Changing Page

- Proceeding to the next well

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		C100-4
3	Field office name		-5
4	Field or prospect name		-6
5	Well name		-1
6	Workover number		-2
7	Objective of well		-7
8	Objective of workover		-8
9	Completion status		-9
10	Rig release date		-12-3
11	Total days to TD		-4
12	Total days		-5
13	Vertical or Deviated		-17
14	Original derrick floor elevation	(m)	-28

No.	Item name	Unit	Item number
15	Original derrick floor height from bottom flange	[m]	C100-29
16	Total depth	[m]	-30
17	Plug back depth	[m]	-31
18	True vertical depth	[m]	-32
19	Kick off point	[m]	-33
20	Holizontal deviation	[m]	-34
21	Mean drift angle	[deg]	-35
22	Operator		-13
23	Drilling contractor		-14
24	Rig name		-15
25	Rig type		-16
26	Bit record		C170
- 1	Run No.		-1
- 2	Bit size	[in]	-2
- 3	Model		-3
- 4	Interval	[m]	-4
- 5	Footage drilled	[m]	
- 6	Hours		-5
- 7	Tooth dullness		-6-1
- 8	Bearing condition		-2
- 9	Bit gage		-3
27	Mud record		C180
- 1	Interval	[m]	-1
- 2	Type of mud		-2
- 3	Weight (SG)		-3-1
- 4	Viscosity	[sec]	-2
- 5	Water loss	[cc]	-3
- 6	Sand content	[%]	-4
- 7	Salt content	[ppm]	-5
- 8	Oil content	[%]	-6
- 9	P.H.		-7

No.	Item name	Unit	Item number
28	Mud consumption		C100-43 & 44
- 1	Name of mud agents		-1
- 2	Consumption	[kg] or [l]	-2
29	Mud off test		C190
- 1	Tested date		-1
- 2	Tested depth	[m]	-2
- 3	Equivalent weight of leak off pressure	[kg/cm^2/10m]	-3
30	Primary cementing		C210
- 1	Cementing date		-1
- 2	Casing size	[in]	-2
- 3	Stage name		-3
- 4	Depth	[m]	-4
- 5	Type of cement		-5-1
- 6	Additives		-2
- 7	Slurry weight (SG)		-3
- 8	Cement bulk amount	[kg]	-4
31	Squeeze cementing		C220
- 1	Date		-1
- 2	Objective		-2
- 3	Interval	[m]	-3
- 4	Type of cement		-4-1
- 5	Additives		-2
- 6	Slurry wright (SG)		-3
- 7	Cement bulk amount	[kg]	-4
- 8	Average squeezing injection rate	[l/min]	-5
- 9	Squeezing final pressure	[kg/cm^2]	-6
-10	Comment on result		-7
32	Cement & additive consumption		C100-45 & 46
- 1	Type or name of cement and additives		-1
- 2	Consumption	[kg] or [l]	-2

No.	Item name	Unit	Item number
33	Kind of deviation survey		C100-36
34	Down hole troubles		C230
- 1	Kind of trouble		-1
- 2	Date emergenced		-2
- 3	Date overcome		-3
- 4	Depth	[m]	-4
- 5	Formation name		
- 6	Summary of trouble		-5
35	Miscellaneous troubles		C240
- 1	Summary of miscellaenous troubles		-1
36	Time analysis		C100-47
- 1	Rigging up	[hr]	C100-47
- 2	Rigging down	[hr]	C100-47
- 3	Drilling	[hr]	C100-47
- 4	Round trip	[hr]	C100-47
- 5	Circulation	[hr]	C100-47
- 6	Coring	[hr]	C100-47
- 7	Reaming	[hr]	C100-47
- 8	Pressure test/injection test/mud off test	[hr]	C100-47
- 9	Running casing	[hr]	C100-47
-10	Cementing	[hr]	C100-47
-11	Wait on cement	[hr]	C100-47
-12	Completion/swab/prerarationn	[hr]	C100-47
-13	Fishing	[hr]	C100-47
-14	Repairing mud pump	[hr]	C100-47
-15	Repairing other	[hr]	C100-47
-16	Well logging	[hr]	C100-47
-17	Production test/BHP	[hr]	C100-47
-18	Waiting	[hr]	C100-47
-19	Shut down	[hr]	C100-47
-20	Other	[hr]	C100-47
-21	Total	[hr]	C100-47

METHOD C0-14 GEOLOGICAL DATA

Assignment Parameter

- Workover number
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period

Condition of Changing Page

- Proceeding to the next well

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		C100-4
3	Field office name		-5
4	Field or prospect name		-6
5	Well name		-1
6	Workover number		-2
7	Objective of well		-7
8	Objective of workover		-8
9	Completion status		-9
10	Objective formation name		-10
11	Objective layer name		-11
12	Completed formation name		
13	Completed layer name		
14	Original derrick floor elevation	(m)	-28

No.	Item name	Unit	Item number
15	Original derrick floor height from bottom flange	[m]	C100-29
16	Total depth	[m]	-30
17	Rig release date		-12-3
18	Operator		-13
19	Stratigraphy		C110
- 1	Formation name		-1
- 2	Layer name		-2
- 3	Top of formation (Drilling depth)	[m]	-3
- 4	Top of layer (Drilling depth)	[m]	-4
- 5	Top of formation (Subsea depth)	[m]	
- 6	Top of layer (Subsea depth)	[m]	
- 7	Formation thickness	[m]	
- 8	Layer net thickness	[m]	-6
- 9	Layer gross thickness	[m]	-7
-10	Lithology		-5
20	Well log		
- 1	Service contractor		C100-42-5
- 2	Kind of log		C250- 1
- 3	Run No.		- 2
- 4	Interval	[m]	- 3
- 5	Scale		- 4
- 6	Survey date		- 5
- 7	Ident No.		- 6
- 8	Well log interpretation report		C100-40
- 9	Kind of interpretation		-1
-10	Date		-2
-11	Reference No.		-3
-12	Author/organization		-4

No.	Item name	Unit	Item number
21	Mud log		
- 1	Service contractor		C100-42-4
- 2	Type of logging unit		-39-1
- 3	Log interval	[m]	-2
- 4	Mud logging report		-41
- 5	Date		-1
- 6	Reference No.		-2
- 7	Author/organization		-3
22	Coring		C260
- 1	Coring date		-1
- 2	Core No.		-2
- 3	Interval	[m]	-3
- 4	Cut	[m]	
- 5	Recovery	[m]	-4
- 6	Recovery	[%]	
- 7	Formation name		
- 8	Layer name		
- 9	Core size		
-10	Type of coring bit		-6
-11	Type of barrel		-7
-12	Reference report No.		-8
-13	Core lithology		C261
-14	Interval selected	[m]	-1
-15	Lithology		-2
-16	Sorting		-3-1
-17	Hardness		-2
-18	Grain size		-3
-19	Porosity	[%]	-4
-20	Colour		-5
23	Side wall sample		C270
- 1	Sampling date		-1
- 2	Service contractor		-2
- 3	Reference report No.		-3
- 4	Sample No.		C271-1

No.	Item name	Unit	Item number
23- 5	Sample depth	[m]	C271-2
- 6	Recovery	[%]	-3
- 7	Formation name		
- 8	Layer name		
- 9	Lithology		-4
-10	Porosity	[%]	-5
-11	Colour		-6
-12	Grain size		-7
-13	Sorting		-8
-14	Hardness		-9
24	Cutting sample		C280
- 1	Sampling interval	[m]	-1
- 2	Sampling frequency	[m]	-2
- 3	Reference report No.		-3
25	Hydrocarbon indication		C290
- 1	Interval	[m]	-1
- 2	Lithology		-2
- 3	Formation name		
- 4	Layer name		
- 5	Flourescenece show		-3
- 6	Gas chromatogram component		-4
- 7	C1	[%]	-1
- 8	C2	[%]	-2
- 9	C3+	[%]	-3
-10	Select depth	[m]	-4
-11	Solvent		-5
-12	Porosity	[%]	-6
-13	Sw	[%]	-7

METHOD C0-15 TESTING DATA

Assignment Parameter

- Workover number
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period

Condition of Changing Page

- Proceeding to the next well

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Area name		C100-4
3	Field office name		-5
4	Field or prospect name		-6
5	Well name		-1
6	Workover number		-2
7	Objective of well		-7
8	Objective of workover		-8
9	Completion status		-9
10	Completed interval	[m]	C130-3
11	Completed formation name		
12	Completed layer name		
13	Original derrick floor elevation	[m]	C100-28
14	Original derrick floor height from bottom flange	[m]	-29

No.	Item name	Unit	Item number
15	Rig release date		C100-12-3
16	Operator		-13
17	Drill stem test		C310
- 1	Test No.		-1
- 2	Tested date		-2
- 3	Service contractor		-3
- 4	Type of test		-4
- 5	Test interval	[m]	-5
- 6	Tested formation		
- 7	Tested layer		
- 8	Swabbing operation		C310-6
- 9	Fluid recovery		-7
-10	Cumulative oil recovery	[m^3]	-1
-11	Cumulative gas recovery	[10^3m^3]	-2
-12	Cumulative water recovery	[m^3]	-3
-13	Oil cut mud	[m^3]	-4
-14	Water cut mud	[m^3]	-5
-15	Gas cut mud	[m^3]	-6
-16	Oil water cut mud	[m^3]	-7
-17	Gas water cut mud	[m^3]	-8
-18	Fluid recovery in chamber		-8
-19	Oil volume	[cc]	-1
-20	Gas volume	[m^3]	-2
-21	Water volume	[cc]	-3
-22	Mud volume	[cc]	-4
-23	Oil specific gravity		-5
-24	Gas specific gravity		-6
-25	Salinity of water	[ppm]	-7
-26	Pressure & temperature		-9
-27	Bottom hole shut in pressure	[kg/cm^2]	-1
-28	Bottom hole temprature	[°C]	-2
-29	Wellhead flowing pressure	[kg/cm^2]	-3
-30	Choke size	[mm]	-4

No.	Item name	Unit	Item number
17-31	Test analysis result		C310-10
-32	Static pressure	[kg/cm^2]	-1
-33	Flow capacity	[md-m]	-2
-34	Permeability	[md]	-3
-35	Skinfactor		-4
-36	Damage ratio		-5
-37	PI ideal	[$m^3/d/kg/cm^2$]	-6
-38	PI actual	[$m^3/d/kg/cm^2$]	-7
-39	Flow efficiency	[10^3std m^3/d]	-8
-40	Open flow potential	[MSCMD]	-9
-41	Q.max	[m^3d]	-10
-42	Drill stem test report		-11
-43	Date		-1
-44	Reference No.		-2
-45	Author/organization		-3
-46	Fluid analysis report		-12
-47	Title		-1
-48	Date		-2
-49	Reference No.		-3
-50	Author/organization		-4
18	Wireline formation test		C320
- 1	Test No.		-1
- 2	Tested date		-2
- 3	Service contractor		-3
- 4	Tested depth	[m]	-4
- 5	Tested formation		
- 6	Tested layer		
- 7	Succeeded or not		-5
- 8	Fluid recovery in chamber		-6
- 9	Oil volume	[cc]	-1
-10	Gas volume	[cuft]	-2
-11	Water volume	[cc]	-3
-12	Filtrate	[cc]	-4

No.	Item name	Unit	Item number
18-13	Test analysis result		C320-7
-14	Kind of fluid estimated		-1
-15	Static pressure	[kg/cm^2]	-2
-16	Permeability	[md]	-3
-17	Test report		-8
-18	Title		-1
-19	Date		-2
-20	Reference No.		-3
-21	Author/organization		-4
-22	Analysis report		-9
-23	Title		-1
-24	Date		-2
-25	Reference No.		-3
-26	Author/organization		-4

METHOD C0-16 WELL COST

Assignment Parameter

- Workover number
- Province name
- Area name
- Field or prospect name
- Well name
- Objective of well
- Objective of workover
- Completion status
- Period

Conditions of Chaning Page

- Proceeding to the next well

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		C100-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-1
7	Workover number		-2
8	Objective of well		-7
9	Objective of workover		-8
10	Completion status		-9
11	Rig release date		-12-3
12	Total days		-5
13	Total depth	[m]	-30
14	Site description		-27
15	Operator		-13

No.	Item name	Unit	Item number
16	Drilling contractor		C100-14
17	Rig type		-16
18	Access and Preparation		
- 1	Aceess - Land	[U.S.$]	C330-1-1
- 2	Access - Land	[Rp x 1000]	-2
- 3	Access - Marine	[U.S.$]	-1
- 4	Access - Marine	[Rp x 1000]	-2
- 5	Well site	[U.S.$]	-1
- 6	Well site	[Rp x 1000]	-2
- 7	Marine platform	[U.S.$]	-1
- 8	Marine platform	[Rp x 1000]	-2
- 9	Derrick erection/dismantling	[U.S.$]	-1
-10	Derrick erection/dismantiling	[Rp x 1000]	-2
-11	Service lines	[U.S.$]	-1
-12	Service lines	[Rp x 1000]	-2
-13	Indemnities	[U.S.$]	-1
-14	Indemnities	[Rp x 1000]	-2
19	Drilling		
- 1	Rigging up/down	[U.S.$]	C330-1-1
- 2	Rigging up/down	[Rp x 1000]	-2
- 3	Drilling consumables - surface	[U.S.$]	-1
- 4	Drilling consumables - surface	[Rp x 1000]	-2
- 5	Drilling comsumables - subsurface	[U.S.$]	-1
- 6	Drilling comsumables - subsurface	[Rp x 1000]	-2
- 7	Drilling string maintenance	[U.S.$]	-1
- 8	Drilling string maintenance	[Rp x 1000]	-2

No.	Item name	Unit	Item number
19- 9	Payment under contract	[U.S.$]	C330-1-1
-10	Payment under contract	[Rp x 1000]	-2
-11	Mud	[U.S.$]	-1
-12	Mud	[Rp x 1000]	-2
-13	Fuel, lubricating oil, greases, steam, electricity	[U.S.$]	-1
-14	Fuel, lubricating oil, greases, steam, electircity	[Rp x 1000]	-2
-15	Water	[U.S.$]	-1
-16	Water	[Rp x 1000]	-2
20	Casing		
- 1	Casing	[U.S.$]	C330-1-1
- 2	Casing	[Rp x 1000]	-2
- 3	Cementing	[U.S.$]	-1
- 4	Cementing	[U.S.$]	-2
21	Subsurface evaluation		
- 1	Subsurface evaluation	[U.S.$]	C330-1-1
- 2	Subsurface evaluation	[Rp x 1000]	-2
22	Completion		
- 1	Stimulation treatments	[U.S.$]	C330-1-1
- 2	Stimulation treatments	[Rp x 1000]	-2
- 3	Completion and production testing	[U.S.$]	-1
- 4	Completion and production testing	[Rp x 1000]	-2
23	Salaries/wages		
- 1	Crew salaries/wages	[U.S.$]	C330-1-1
- 2	Crew salaries/wages	[Rp x 1000]	-2
- 3	Drilling department overhead	[U.S.$]	-1
- 4	Drilling department overhead	[Rp x 1000]	-2

No.	Item name	Unit	Item number
24	Transport-rig move		
- 1	Transport-rig move Land	[U.S.$]	C330-1-1
- 2	Transport-rig move Land	[Rp x 1000]	-2
- 3	Transport-rig move Water	[U.S.$]	-1
- 4	Transport-rig move Water	[Rp x 1000]	-2
- 5	Transport-rig move Air	[U.S.$]	-1
- 6	Transport-rig move Air	[Rp x 1000]	-2
25	Transport-Other		
- 1	Transport-other-Land	[U.S.$]	C330-1-1
- 2	Transport-other-Land	[Rp x 1000]	-2
- 3	Transport-other-Water	[U.S.$]	-1
- 4	Transport-other-Water	[Rp x 1000]	-2
- 5	Transport-other-Air	[U.S.$]	-1
- 6	Transport-other-Air	[Rp x 1000]	-2
26	Well equipment		
- 1	Wellhead equipment	[U.S.$]	C330-1-1
- 2	Wellhead equipment	[Rp x 1000]	-2
- 3	Subsurface lifting equipment	[U.S.$]	C330-1-1
- 4	Subsurface lifting equipment	[Rp x 1000]	-2
27	Temporary camp		
- 1	Temporary camp facilities	[U.S.$]	C330-1-1
- 2	Temporary camp facilities	[Rp x 1000]	-2
- 3	Camp operation and service	[U.S.$]	-1
- 4	Camp operation and service	[Rp x 1000]	-2
28	Depreciation		
- 1	Drilling string	[U.S.$]	C330-1-1
- 2	Drilling string	[Rp x 1000]	-2
- 3	Marine drilling unit	[U.S.$]	-1
- 4	Marine drilling unit	[Rp x 1000]	-2

No.	Item name	Unit	Item number
28- 5	Transport - Land	[U.S.$]	C330-1-1
- 6	Transport - Land	[Rp x 1000]	-2
- 7	Transport - Water	[U.S.$]	-1
- 8	Transport - Water	[Rp x 1000]	-2
- 9	Transport - Air	[U.S.$]	-1
-10	Teansport - Air	[Rp x 1000]	-2
-11	Spec. and heavy equipment	[U.S.$]	-1
-12	Spec. and heavy equipment	[Rp x 1000]	-2
-13	Other items	[U.S.$]	-1
-14	Other items	[Rp x 1000]	-2
-15	Field and district overhead	[U.S.$]	-1
-16	Field and district overhead	[Rp x 1000]	-2
-17	General overhead	[U.S.$]	-1
-18	General overhead	[Rp x 1000]	-2
-19	Depreciation on overhead facilities	[U.S.$]	-1
-20	Depreciation on overhead facilities	[Rp x 1000]	-2
29	Totals by items		
- 1	Access and preparation	[U.S.$]	
- 2	Access and preparation	[Rp x 1000]	
- 3	Drilling	[U.S.$]	
- 4	Drilling	[Rp x 1000]	
- 5	Casing	[U.S.$]	
- 6	Casing	[Rp x 1000]	
- 7	Subsurface evaluation	[U.S.$]	
- 8	Subsurface evaluation	[Rp x 1000]	
- 9	Completion	[U.S.$]	
-10	Completion	[Rp x 1000]	
-11	Salaries/wages	[U.S.$]	
-12	Salaries/wages	[Rp x 1000]	

No.	Item name	Unit	Item number
29-13	Transport-rig move	[U.S.$]	
-14	Transport-rig move	[Rp x 1000]	
-15	Transport-other	[U.S.$]	
-16	Transport-other	[Rp x 1000]	
-17	Well cost	[U.S.$]	
-18	Well cost	[Rp x 1000]	
-19	Well equipment	[U.S.$]	
-20	Well equipment	[Rp x 1000]	
-21	Temporary camp	[U.S.$]	
-22	Temporary camp	[Rp x 1000]	
-23	Depreciation (Incl. Drilling String, Marine drilling unit, Transport, Spec. & heavey equipment, and other items)	[U.S.$]	
-24	Depreciation (Incl. Drilling String, Marine drilling unit, Transport, Spec. & heavey equipment, and other items)	[Rp x 1000]	
-25	Depreciation (Incl. Field and district overhead, General overhead, and Depreciation on overhead facilities)	[U.S.$]	
-26	Depreciation (Incl. Field and district overhead, General overhead, and Depreciation on overhead facilities)	[Rp x 1000]	
30	Subtotal		
- 1	Well cost	[U.S.$]	
- 2	Well cost	[Rp x 1000]	
- 3	Well equipment	[U.S.$]	
- 4	Well equipment	[Rp x 1000]	
- 5	Camp cost	[U.S.$]	
- 6	Camp cost	[Rp x 1000]	
- 7	Depreciation and overheads	[U.S.$]	
- 8	Depreciation and overheads	[Rp x 1000]	

Name	Item name	Unit	Item number
31	Per meter cost		
- 1	Access and preparation	[U.S.$/m]	
- 2	Access and preparation	[Rp x 1000/m]	
- 3	Drilling	[U.S.$/m]	
- 4	Drilling	[Rp x 1000/m]	
- 5	Casing	[U.S.$/m]	
- 6	Casing	[Rp x 1000/m]	
- 7	Subsurface evaluation	[U.S.$/m]	
- 8	Subsurface evaluation	[Rp x 1000/m]	
- 9	Completion	[U.S.$/m]	
-10	Completion	[Rp x 1000/m]	
-11	Salaries/wages	[U.S.$/m]	
-12	Salaries/wages	[Rp x 1000/m]	
-13	Transport-rig move	[U.S.$/m]	
-14	Transport-rig move	[Rp x 1000/m]	
-15	Transport-other	[U.S.$/m]	
-16	Transport-other	[Rp x 1000/m]	
-17	Well cost	[U.S.$/m]	
-18	Well cost	[Rp x 1000/m]	
-19	Camp cost	[U.S.$/m]	
-20	Camp cost	[Rp x 1000/m]	
-21	Depreciation and overheads	[U.S.$/m]	
-22	Depreciation and overheads	[Rp x 1000/m]	
33	Total cost of well	[U.S.$]	
33	Total cost of well	[Rp x 1000]	

4 D-PETROPHYSICAL AND PVT ANALYSIS DATA INFORMATION

4-1 Diagram Index of Output Reporting Method

4-2 Conceptual Specification of Output Reporting Method

METHOD D0-1 CORE ANALYSIS INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Formation name
- Layer name
- Kind of analysis
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next analysis

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Analysis identification		D100-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-7
7-	Order document		-8
1	Date		-1
2	Order document number		-2
8-	Invoice		-9
1	Date		-1
2	Invoice number		-2
9-	Sample analysis report		-10
1	Title		-1
2	Date		-2
3	Author		-3
4	Organization of author		-4
10	Location of laboratory		-11

No.	Item name for output	Unit	Item number (Refer to data structure)
11-	Total cost		D100-12
1	US$		-1
2	Rp		-2
12	Formation name		D110-1
13	Reservoir unit name		-2
14	Layer name		-3
15	Sampling period		-4
16	Kind of sampling		-5
17	Kind of analysis		D111-1
18	Number of sampling		-2

Remarks

METHOD D0-2 PVT ANALYSIS INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Formation name
- Reservoir unit name
- Kind of analysis
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next analysis

Output Item

No.	Item name	Unit	Item number (Refer to data structure)
1	Analysis identification		D100-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-7
7-	Order document		-8
1	Date		-1
2	Order document number		-2
8-	Invoice		-9
1	Date		-1
2	Invoice number		-2
9-	Sample analysis report		-10
1	Title		-1
2	Date		-2
3	Author		-3
4	Organization of author		-4
10	Location of laboratory		-11

No.	Item name for output	Unit	Item number (Refer to date structure)
11-	Total cost		-12
1	US$		-1
2	Rp		-2
12	Formation name		D110-1
13	Reservoir unit name		-2
14	Layer name		-3
15	Sampling period		-4
16	Kind of sample		-6
17	Number of analysis		D111-1
18	Number of samples		-2

Remarks

5 E-PRODUCTION DATA INFORMATION

5-1 Diagram Index of Output Reporting Method

Page

E0 ----------Basic Output Item A1 – 129

(1) Monthly Oil & Total Condensate and Total Gas Production

E1 ---------- By Field
E2 ---------- By Block Station
E3 ---------- By Well
E4 ---------- For Formation by Field
E5 ---------- By Reservoir Unit
E6 ---------- By Well by Block Station
E7 ---------- By Reservoir Unit by Well
E8 ---------- By Well by Reservoir Unit

(2) Monthly Oil, Gas Cap Condensate and Nonassociated Condensate Production

E9 ---------- By Field
E10 ---------- By Block Station
E11 ---------- For Formation By Field
E12 ---------- By Reservoir Unit

(3) Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production

E13 ---------- By Field
E14 ---------- By Block Station
E15 ---------- By Well
E16 ---------- By Well by Block Station
E17 ---------- For Formation by Field
E18 ---------- By Reservoir Unit

(4) Monthly Solution Gas, Gas Cap Gas and Nonassociated Gas Production

E19 ---------- By Field

E20 ---------- By Block Station

E21 ---------- For Formation by Field

E22 ---------- By Reservoir Unit

(5) Historical Monthly Oil & Total Condensate and Total Gas Production

E23 ---------- For Area

E24 ---------- For Field

E25 ---------- For Block Station

E26 ---------- For Well

E27 ---------- For Formation

E28 ---------- For Reservoir Unit

(6) Historical Monthly Oil, Gas Cap Condensate and Nonassociated Condensate Production

E29 ---------- For Area

E30 ---------- For Field

E31 ---------- For Block Station

E32 ---------- For Formation

E33 ---------- For Reservoir Unit

(7) Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production

E34	For Area
E35	For Field
E36	For Block Station
E37	For Well
E38	For Formation
E39	For Reservoir Unit

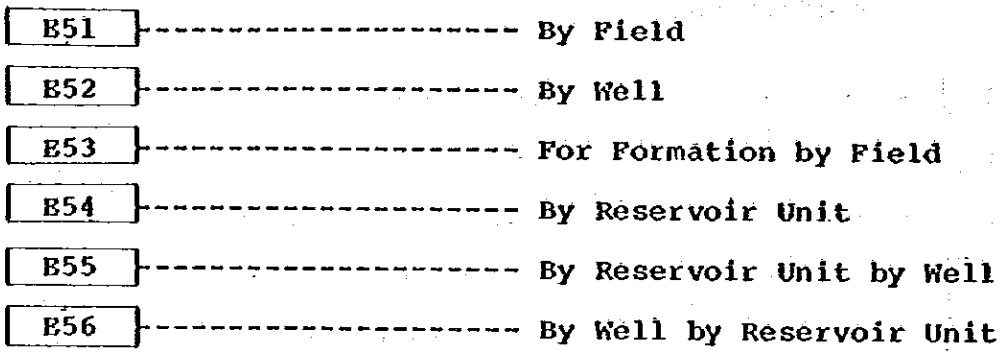
(8) Historical Monthly Solution Gas, Gas Cap Gas and Nonassociated Gas Production

E40	For Area
E41	For Field
E42	For Block Station
E43	For Formation
E44	For Reservoir Unit

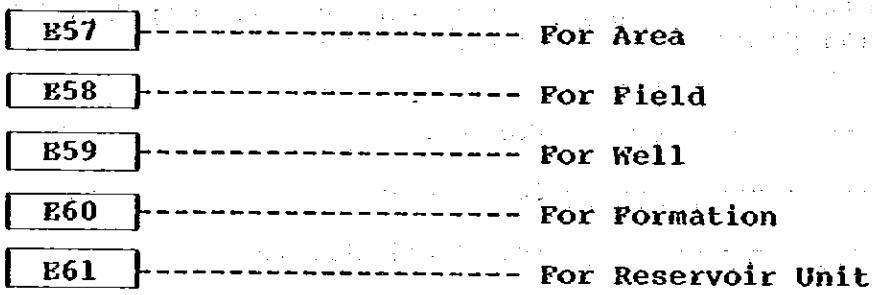
(9) Monthly Water Injection

E45	By Field
E46	By Well
E47	For Formation by Field
E48	By Reservoir Unit
E49	By Reservoir Unit by Well
E50	By Well by Reservoir Unit

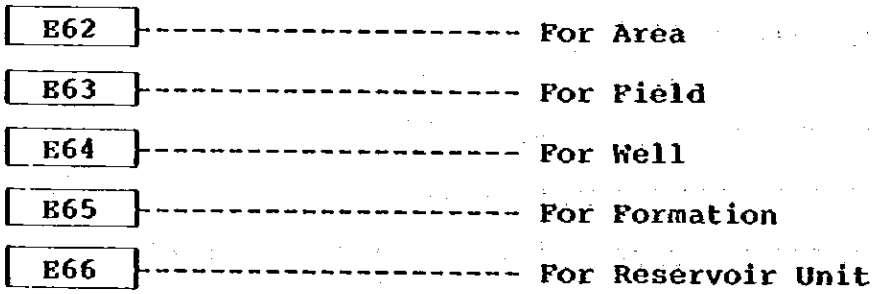
(10) Monthly Gas Injection



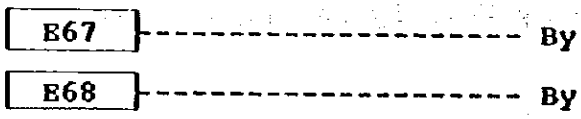
(11) Historical Monthly Water Injection



(12) Historical Monthly Gas Injection



(13) Monthly Gas Production and Consumption



(14) Historical Monthly Production and Consumption

E69 ---------- For Unit II

E70 ---------- For Area

E71 ---------- For Field

(15) Monthly Oil Consumption

E72 ---------- By Area

(16) Historical Monthly Oil Consumption

E73 ---------- For Unit II

E74 ---------- For Area

(17) Well Status Report for All Wells

E75 ---------- By Field

E76 ---------- By Reservoir Unit

(18) Well Status Report for Producer

E77 ---------- By Field

E78 ---------- By Reservoir Unit

(19) Well Status Report for Injector

E79 ---------- By Field

E80 ---------- By Reservoir Unit

(20) Well Status Report for Shut-in Well

E81 ---------- By Field

E82 ---------- By Reservoir Unit

(21) Well Status Report for Waiting Well

E83 ---------- By Field

E84 ---------- By Reservoir

(22) Well Status of Reservoir Unit

E85 ---------- Well Status of Reservoir Unit

5-2 Conceptual Specification of Output Reporting Method

METHOD E0 BASIC ITEM

Assignment Parameter

- Area name
- Facilities field name
- Field name
- Block station name
- Well name
- Formation name
- Reservoir unit name
- String name
- Kind of completed zone
- Well status
- Kind of reservoir
- Kind of pressure for gas
- Water cut
- Gas-oil ratio
- Kind of injection fluid
- Period

Basic Item

No.	Item name	Unit	Item number
1	Area name		E 100-5, 200-1
2	Field name		-7
3	Well name		-1
4	Workover number		-2
5	String name		-3
6	Date		E 110-1, 120-1, 210-1
7	Kind of completed zone		-2, -2
8	Well status		-3, -3
9	Block station name		-4
10	Layer name		E 111-4, 121-3

No.	Item name	Unit	Item number
11	Choke size	[mm]	E 110-5
12	Casing pressure	[kg/cm^2]	-6
13	Tubing pressure	[kg/cm^2]	-7
14	Separator pressure	[kg/cm^2]	-8
15	Monthly production rate	[std m^3]	-9
	1. Oil	[std m^3]	-1
	2. Gas		-2
	1. High pressure gas	[10^{3}std m^3]	-1
	2. Medium pressure gas	[10^{3}std m^3]	-2
	3. Low pressure gas	[10^{3}std m^3]	-3
	3. Water cut	[%]	-3
16	Production days	[d]	-10
17	Historical Production days	[d]	-11
18	Reservoir unit name		111-1, 121-1
19	Kind of recovery method	[%]	-2
20	Share factor for production		-3
21	Monthly gas injection volume	[10^{3}std m^3]	112-1
22	Monthly injection rate	in case of water [std m^3] in case of gas [10^{3}std m^3]	120-4
23	Kind of injection fluid		-5
24	Filtration		-6
25	Additives		-7
26	Injection days	[d]	-8
27	Historical injection days	[d]	-9
28	Share factor for injection	[%]	121-2
29	Date		210-1

No.	Item name	Unit	Item number
30	Monthly Oil Consumption at 15°C		E 210-2
	1- Refinery plaju		-1
	1. Gross	[m^3]	-1
	2. Water cut	[%]	-2
	3. Net	[m^3]	-3
	4. Specific gravity	[water=1]	-4
	2- Field use		-2
	1. Road maintenance	[m^3]	-1
	2. Well servicing	[m^3]	-2
	3. Fuel	[m^3]	-3
	4. Other	[m^3]	-4
31	Date		
32	Monthly gas consumption		310-2
	1- Own use		-1
	1- Fuel		-1
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Injection gas		-2
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

No.	Item name	Unit	Item number
32	1-2-2- Non associated gas		E 310-2-1-2-2
	1- High pressure gas		
		[MM scf]	
	2- Medium pressure gas		
		[MM scf]	
	3- Low pressure gas	[MM scf]	
	3- Gas lift		-3
	1- Associated gas		-1
	1. High pressure gas		
		[MM scf]	-1
	2. Medium pressure gas		
		[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas		
		[MM scf]	-1
	2. Medium pressure gas		
		[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	4- Compressor		-4
	1- Associated gas		-1
	1. High pressure gas		
		[MM scf]	-1
	2. Medium pressure gas		
		[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas		
		[MM scf]	-1
	2. Medium pressure gas		
		[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

No.	Item name	Unit	Item number
32	1-5- Utilities		E 310-2-1-5
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Process		-2
	1- LPG Plant		-1
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- LNG Plant		-2
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

No.	Item name	Unit	Item number
32	2-2-2- Non associated gas		E 310-2-2-2-2
	1. High pressure gas		-1
	2. Medium pressure gas		-2
	3. Low pressure gas		-3
	3- Fertilizer Plant		-3
	1- Pusri II		-1
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Pusri III		-2
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

No.	Item name	Unit	Item number
32	2-3-3- Pusri IV		E310-2-2-3-2-3
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Non associated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	4- Refinery		-4
	1- Plaju		-1
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

No.	Item name	Unit	Item number
32	2-4-2- S. Gergon		B310-2-2-4-2
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	5- Polypropylene		-5
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

Name	Item name	Unit	Item number
32	2-6- Aromatic		B310-2-2-6
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	3- Sales		-3
	1- City gas		-1
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Public utility		-2
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

Name	Item name	Unit	Item number
	3-1-2-2- Nonassociated gas		E310-3-2-2-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
33	Flare and loss		-3
	1- Flare		-1
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Loss		-2
	1- Associated gas		-1
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3
	2- Nonassociated gas		-2
	1. High pressure gas	[MM scf]	-1
	2. Medium pressure gas	[MM scf]	-2
	3. Low pressure gas	[MM scf]	-3

Remarks

This is not what is presented as basic output report method in other part. This will not be actually output, but the assignment parameters and items described above will be made use of to prepare the output report for statistics.

6 P-RESERVES DATA INFORMATION

6-1 Diagram Index of Output Reporting Method

6-2 Conceptual Specification of Output Reporting Method

METHOD F0 BASIC ITEM

Assignment Parameter

- Area name
- Field name
- Formation name
- Reservoir unit name
- Development status of reservoir unit
- Kind of reserves
- Kind of recovery method
- Kind of reservoir
- Abandon condition for gas cap zone and gas reservoir
- Period

Basic Item

No.	Item name	Unit	Item number (Refer to data structure)
1	Area name		F 100-3
2	Field name		-5
3	Reservoir unit name		-1
4	Development status of reservoir unit		110-2
5	Kind of reservoir		100-6
6	Original oil in place		110-3
	1. Proved	[10^3std m^3]	-1
	2. Probable	[10^3std m^3]	-2
	3. Possible	[10^3std m^3]	-3
7	Oil Reserves		-4
	1. Proved		-1
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3

No.	Item name	Unit	Item number (Refer to data structure)
7	2. Probable		F 110-4-2
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
	3. Possible		-3
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
8	Yearly oil production		-5
	1. From primary recovery	[10^3std m^3]	-1
	2. From secondary recovery	[10^3std m^3]	-2
	3. From tertiary recovery	[10^3std m^3]	-3
9	Original solution gas in place		-6
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
10	Solution gas reserves		-7
	1. Proved		-1
	1. Primary	[10^6std m^3]	-1
	2. Secondary	[10^6std m^3]	-2
	3. Tertiary	[10^6std m^3]	-3
	2. Probable		-2
	1. Primary	[10^6std m^3]	-1
	2. Secondary	[10^6std m^3]	-2
	3. Tertiary	[10^6std m^3]	-3
	3. Possible		-3
	1. Primary	[10^6std m^3]	-1
	2. Secondary	[10^6std m^3]	-2
	3. Tertiary	[10^6std m^3]	-3

No.	Item name	Unit	Item number (Refer to data structure)
11	Yearly solution gas production		F 110-8
	1. From primary recovery	[10^3std m^3]	-1
	2. From secondary recovery	[10^3std m^3]	-2
	3. From tertiary recovery	[10^3std m^3]	-3
12	Reservoir parameter for oil zone		-9
	1. Areal extend		-1
	1. Proved	[ha]	-1
	2. Probable	[ha]	-2
	3. Possible	[ha]	-3
	2. Net bulk rock volume		-2
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
	3. Weighted average porosity		-3
	1. Proved	[Fraction]	-1
	2. Probable	[Fraction]	-2
	3. Possible	[Fraction]	-3
	4. Weighted average water saturation		-4
	1. Proved	[Fraction]	-1
	2. Probable	[Fraction]	-2
	3. Possible	[Fraction]	-3
	5. Weighted average formation volume factor		-5
	1. Proved	[m^3std m^3]	-1
	2. Prabable	[m^3std m^3]	-2
	3. Possible	[m^3std m^3]	-3
	6. Gravity		-6
	1. Oil	[°API]	-1
	2. Gas	[Air=1]	-2
	7. Viscosity		-7
	1. Oil	[cp]	-1
	2. Gas	[cp]	-2

No.	Item name	Unit	Item number (Refer to data structure)
12	8. Weighted gas oil ratio		F 110-9-8
	1. Proved	[std m^3/std m^3]	-1
	2. Probable	[std m^3/std m^3]	-2
	3. Possible	[std m^3/std m^3]	-3
13	Reference report		F 110-10
	1. Title		-1
	2. Date		-2
	3. Reference number		-3
	4. Author		-4
	5. Organization of author		-5
	6. Map date		-6
14	Date		120-1
15	Development status of reservoir unit		-2
16	Original condensate in place		-3
	1. Proved	[10^3std m^3]	-1
	2. Probable	[10^3std m^3]	-2
	3. Possible	[10^3std m^3]	-3
17	Condensate reserves		-4
	1. Abandon condition is 60 or 20 ksc		-1
	1. Proved		-1
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
	2. Probable		-2
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
	3. Possible		-3
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3

No.	Item name	Unit	Item number (Refer to data structure)
17	2. Abandon condition is 30 or 10 ksc		F 120-4-2
	1. Proved		-1
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
	2. Probable		-2
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
	3. Possible		-3
	1. Primary recovery	[10^3std m^3]	-1
	2. Secondary recovery	[10^3std m^3]	-2
	3. Tertiary recovery	[10^3std m^3]	-3
18	Yearly condensate production		-5
	1. From primary recovery	[std m^3]	-1
	2. From secondary recovery	[std m^3]	-2
	3. From tertiary recovery	[std m^3]	-3
19	Total original gas in place		-6
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
20	Gas reserves		-7
	1. Abandon condition is 60 or 20 ksc		-1
	1- Proved		-1
	1. Primary	[10^6std m^3]	-1
	2. Secondary	[10^6std m^3]	-2
	3. Tertiary	[10^6std m^3]	-3
	2- Probable		-2
	1. Primary	[10^6std m^3]	-1
	2. Secondary	[10^6std m^3]	-2
	3. Tertiary	[10^6std m^3]	-3

No.	Item name	Unit	Item number (Refer to data structure)
20	3- Possible		F 120-7-1-3
	1. Primary	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
	2. Abandon condition is 30 or 10 ksc		-2-1
	1- Proved		-1
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
	2- Probable		-2
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
	3- Possible		-3
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6std m^3]	-2
	3. Possible	[10^6std m^3]	-3
21	Yearly gas production		-8
	1. From primary recovery	[10^6std m^3]	-1
	2. From secondary recovery	[10^6std m^3]	-2
	3. From tertiary recovery	[10^6std m^3]	-3
22.	Yearly gas injection		-9
	1. To primary recovery	[10^6std m^3]	-1
	2. To secondary recovery	[10^6std m^3]	-2
	3. To tertiary recovery	[10^6std m^3]	-3
23	Reservoir parameter for gas cap zone or gas reservoir		-10
	1. Areal extend		-1
	1. Proved	[ha]	-1
	2. Probable	[ha]	-2
	3. Possible	[ha]	-3

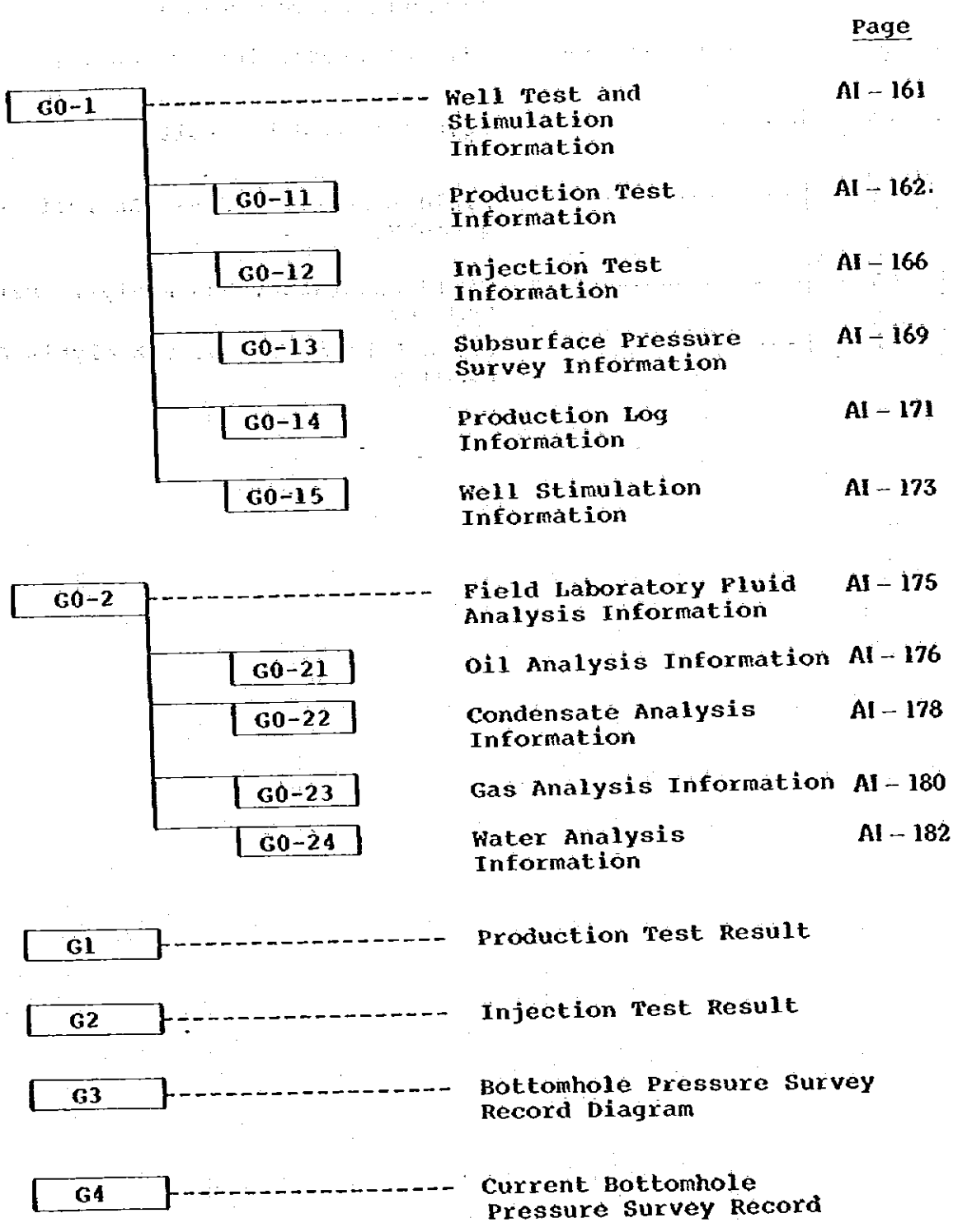
No.	Item name	Unit	Item number (Refer to data structure)
23			
	2. Net bulk rock volume		F 120-10-2
	1. Proved	[10^6std m^3]	-1
	2. Probable	[10^6atd m^3]	-2
	3. Possible	[10^6std m^3]	-3
	3. Weighted average porosity		10-3
	1. Proved	[Fraction]	-1
	2. Probable	[Fraction]	-2
	3. Possible	[Fraction]	-3
	4. Weighted average water saturation		-4
	1. Proved		-1
	2. Probable		-2
	3. Possible		-3
	5. Weighted average gas oil ratio		-5
	1. Proved	[std m^3/std m^3]	-1
	2. Probable	[std m^3/std m^3]	-2
	3. Possible	[std m^3/std m^3]	-3
	6. Expansion factor		-6
	1. Initial	[std m^3/std m^3]	-1
	2. 60 or 20 ksc	[std m^3/std m^3]	-2
	3. 30 or 10 ksc	[std m^3/std m^3]	-3
	7. Fractional gas		-7
	8. Abandon condition		-8
	1. High pressure		-1
	2. Low pressure		-2
24	Reference report		-11
	1. Title		-1
	2. Date		-2
	3. Reference number		-3
	4. Author		-4
	5. Organization of author		-5
	6. Map date		-6

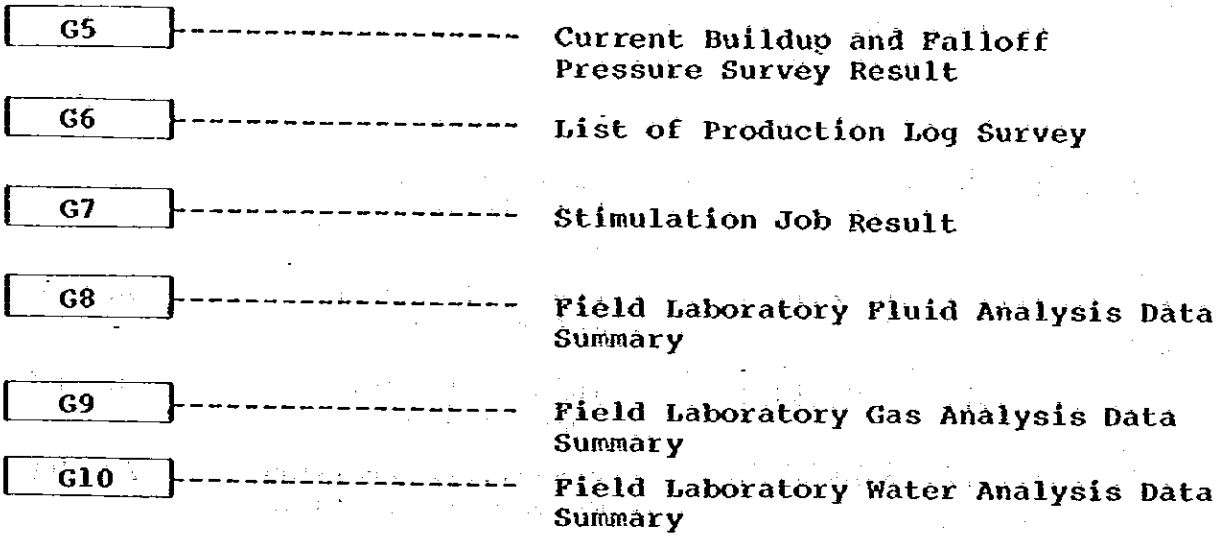
Remarks

This is not what is presented as basic output report method in other part. This will not be actually output, but the assignment parameterr and items described above will be made use of to prepare the output report for statistics.

7 G-PRODUCTION OPERATION DATA INFORMATION

7-1 Diagram Index of Output Reporting Method




G5
Current Buildup and Falloff Pressure Survey Result
G6
List of Production Log Survey
G7
Stimulation Job Result
G8
Field Laboratory Fluid Analysis Data Summary
G9
Field Laboratory Gas Analysis Data Summary
G10
Field Laboratory Water Analysis Data Summary

7-2 Conceptual Specification of Output Reporting Method

METHOD G0-1 WELL TEST AND STIMULATION INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Kind of production test
- Type of production test
- Kind of injection test
- Type of injection test
- Kind of injection fluid
- Type of subsurface pressure survey
- Kind of log
- Objective for stimulation
- Type of stimulation

Sorting Parameter

Condition of Changing Page

- Proceeding to the next test

Output Item

Output items for this method consist of;

- Items in METHOD G0-11 (Page AI-138)
- Items in METHOD G0-12 (Page AI-142)
- Items in METHOD G0-13 (Page AI-145)
- Items in METHOD G0-14 (Page AI-147)
- Items in METHOD G0-15 (Page AI-149)

However, consideration would be taken to avoid improper repetition of data item.

Remarks

METHOD G0-11 PRODUCTION TEST INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Formation name
- Layer name
- Period
- Kind of production test
- Type of production test

Sorting Parameter

Condition of Changing Page

- Proceeding to the next test

Output Item

No.	Item name	Unit	Item number (Refer to data structure)
1	Test name		G100-1
2	Proviace name		-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-7
7	Workover number		-8
8	String name		-9
9	Kind of completed zone		-10
10	Well status		-11
11	Formation name		-12
12	Reservoir unit name		-13
13	Layer name		-14
14	Test period		-15
15	Test interval	[m]	G110-4
16	Surveyor		G100-16

No.	Item name	Unit	Item number (Refer to data structure)
17	Kind of production test		G110-1
18	Type of production test		-2
19	With or without bottom hole pressure survey		-3
20-	Test record		-5
1	With or without bottomhole sampling		-1
2	Bottomhole shut-in pressure	[kg/cm^2]	-2
3	Bottomhole flowing pressure	[kg/cm^2]	-3
4	Average pressure traverse in tubing	[kg/cm^2]	-4
5	Bottomhole temperature	[°C]	-5
21-	Choke size	[mm]	G111-1
22	Flowing method for test		-2
23-	Flow rate		-3
1	Oil	[std m^3/d]	-1
2-	Gas		-2
1	High pressure gas	[10^3 m^3/d]	-1
2	Medium pressure gas	[10^3 m^3/d]	-2
3	Low pressure gas	[10^3 m^3/d]	-3
3	Water cut	[10^3 m^3/d]	-3
24	Tubing pressure	[kg/cm^2]	-4
25	Casing pressure	[kg/cm^2]	-5
26	Flow line pressure	[kg/cm^2]	-6
27-	Separator pressure		-7
1	High pressure	[kg/cm^2]	-1
2	Medium pressure	[kg/cm^2]	-2
3	Low pressure	[kg/cm^2]	-3
28	Gas lift gas	[10^3 m^3/d]	-8
29-	Fluid analysis (Surface sampling fluid)		G110-6
1	API oil gravity	[°API]	-1
2	API pour point	[°C]	-2
3	Water salinity	[ppm]	-3
4	Gas gravity	[Air=1]	-4

No.	Item name	Unit	Item number (Refer to data structure)
29-5	Gas main component		G110-6-5
1.	H_2S	[% Vol]	-1
2.	CO_2	[% Vol]	-2
3.	O_2	[% Vol]	-3
4.	N_2	[% Vol]	-4
5.	C_1	[% Vol]	-5
6.	C_2	[% Vol]	-6
7.	C_3	[% Vol]	-7
8.	C_4	[% Vol]	-8
9.	C_{5+}	[% Vol]	-9
10.	Other components	[% Vol]	-10
30-	Test analysis result		-7
1	P*	[kg/cm^2]	-1
2	Flow capacity (Kh)	[millidarcy m]	-2
3	Permeability (K)	[millidarcy]	-3
4	Skin factor (S)		-4
5	Damage ratio (DR)	[%]	-5
6-	Productivity index (PI)		-6
1	Ideal	in case of oil [std m^3/d/kg/cm^2]	-1
		in case of gas [10^3 std m^3/d/cm^2]	
2	Actual	in case of oil [std m^3/d/kg/cm^2]	-2
		in case of gas [10^3 std m^3/d/kg/cm]	
7	Flow efficiency	[std m^3/d]	-7
8	Qo max	[std m^3/d]	-8
9	Absolute open flow potential	in case of gas [10^3 std m^3/d]	-9
31-	Reference report		-8
1-	Flow test report		-1
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5

No.	Item name	Unit	Item number (Refer to data structure)
31-2-	Fluid analysis report		G110-8-2
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5
3-	Flow test analysis report		-3
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5

Remarks

METHOD G0-12 INJECTION TEST INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Kind of injection test
- Type of injection test
- Type of injection fluid

Sorting Parameter

Condition of Changing Page

- Proceeding to the next test

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Test name		G100-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-7
7	Workover number		-8
8	String name		-9
9	Kind of completed zone		-10
10	Well status		-11
11	Reservoir unit name		-13
12	Layer name		-14
13	Test period		-15

No.	Item name for output	Unit	Item number (Refer to data structure)
14	Test interval	[m]	G120-4
15	Surveyor		G100-16
16	Kind of injection test		G120-1
17	Type of injection test		-2
18	With or without bottomhole pressure survey		-3
19	Kind of injection fluid		-5
20-	Treatment for injection fluid		-6
1	With or without filtration		-1
2	With or without additivies		-2
21-	Test record		-7
1	Cumulative injection volume	in case of water [std m^3/d]	-1
		in case of gas [10^3 std m^3/d]	
2	Average daily injection rate	in case of water [std m^3/d]	-2
		in case of gas [10^3 std m^2/d]	
3	Maximum wellhead following pressure	[kg/cm^2]	-3
4	Maximum bottomhole flowing pressure	[kg/cm^2]	-4
5	Bottomhole flowing pressure at stabilized condition	[kg/cm^2]	-5
6	Bottomhole temperature (MAX)	[°C]	-6
22-	Test result		-8
1	p*	[kg/cm^2]	-1
2	Flow capacity (kh)	[millidarcy m]	-2
3	Permeability (K)	[millidarcy]	-3
4	Skin factor (S)		-4
5	Damage ratio (DR)	[%]	-5
6-	Injectivity index (II)		-6
1	Ideal	in case of water [std m^3/d/kg/cm^2]	-1
		in case of gas [10^3 std m^3/d/kg/cm^2]	
2	Actual	in case of water [std m^3/d/kg/cm^2]	-2
		in case of gas [10^3 std m^3/d/kg/cm^2]	

No.	Item name for output	Unit	Item number (Refer to data structure)
7	Flow efficiency		G120-8-7
23-	Reference report		-9
1-	Injection test repott		-1
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author of report		-4
5	Organization of author		-5
2-	Injection test analysis report		-2
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5
3-	Injection fluid treatment report		-3
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5

Remarks

METHOD G0-13 SUBSURFACE PRESSURE SURVEY INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Type of subsurface pressure survey

Sorting Parameter

Condition of Changing Page

- Proceeding to the next test

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Test name		G100-1
2	Province		-3
3	Area		-4
4	Field office		-5
5	Field		-6
6	Well name		-7
7	Workover number		-8
8	String name		-9
9	Kind of completed zone		-10
10	Well status		-12
11	Reservoir unit name		-13
12	Layer name		-14
13	Test period		-15
14-	Survey depth		G130-2
1	BDP	[m]	-1
2	Subsea depth	[m]	-2
15	Datum plane depth	[m]	-3
16	Surveyor	[m]	G100-16

No.	Item name for output	Unit	Item number (Refer to data structure)
16	Type of survey		G130-1
17-	Test record		-4
1	Shut-in hours prior to survey	[h]	-1
2	Bottomhole pressure (Final point in use of buildup survey)	[kg/cm^2]	-2
3	Liquid level in subsea depth	[m]	-3
4	Average pressure gradient for gas colum	[kg/cm^2/10m]	-4
5	Average pressure gradient for liquid colum	[kg/cm^2/10m]	-5
6	Wellhead pressure	[kg/cm^2]	-6
18-	Test analysis result		-5
1	P*	[kg/cm^2]	-1
2	Flow capacity (kh)	[millidarcy m]	-2
3	Permeability (K)	[millidarcy]	-3
4	Skin factor (S)		-4
5	Damage ratio (DR)	[%]	-5
6-	Productivity index		-6
1	Ideal	in case of oil [std m^3/d/kg/cm^2]	-1
		in case of gas [10^3 std m^3/d/kg/cm^2]	
2	Actual	in case of oil [std m^3/d/kg/cm^2]	-2
		in case of gas [10^3 std m^3/d/kg/cm^2]	
7	Flow efficiency		-7
8	Qo max	[std m^3/d]	-8
9	Absolute open flow potential	in case of gas [10^3 std m^3/d]	-9
19-	Pressure element		-6
1	Date of last calibration		-1
2	Pressure element number		-2
3	Type of pressure element		-3

METHOD G0-14 PRODUCTION LOG INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Kind of production log

Sorting Parameter

Condition of Changing Page

- Proceeding to the next test

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Test name		G100-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-7
7	Workover number		-8
8	String name		-9
9	Kind of completed zone		-10
10	Well status		-11
11	Reservoir unit name		-13
12	Layer name		-14
13	Test period		-15
14	Test interval	(m)	G140-4
15	Surveyor		G100-16

No.	Item name for output	Unit	Item number (Refer to data structure)
16	Log identification number		G140-1
17	Run number		-2
18	Kind of production log		-3
19-	Reference report		-5
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5

Remarks

METHOD G0-15 WELL STIMULATION INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Objective for stimulation
- Type of stimulation

Sorting Parameter

Condition of Changing Page

- Proceeding to the next

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Stimulation name		G100-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field or prospect name		-6
6	Well name		-7
7	Workover number		-8
8	String name		-9
9	Kind of completed zone		-10
10	Well status		-11
11	Reservoir unit name		-13
12	Layer name		-14
13	Test period		-15
14	Treatment internal	[m]	G150-3
15	Service contractor		G100-15
16	Objective for stimulation		G150-1
17	Type of stimulation		-2

No.	Item name for output	Unit	Item number (Refer to data structure)
18-	Treatment fluid		G150-4
1	Type		-1
2	Main additives		-2
3	Volume	[m^3]	-3
19-	Summary of treatment		-5
20-	Well Stimulation report		-6
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5

Remarks

METHOD G0-2 FIELD LABORATORY FLUID ANALYSIS INFORMATION

Assignment Parameter

- Area
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next analysis

Output Item

Output items for this method consist of;

- Items in METHOD G0-21 (Page AI-152)
- Items in METHOD G0-22 (Page AI-154)
- Items in METHOD G0-23 (Page AI-156)
- Items in METHOD G0-24 (Page AI-158)

However consideration should be taken to avoid improper repetition of data item.

Remarks

METHOD G0-21 OIL ANALYSIS INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period

Sorting Parameter

Conditions of Changing Page

- Proceeding to the next Analysis

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Analysis identification		G200-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field name		-6
6	Well or station name		-7
7	Workover number		-8
8	Reservoir unit name		-9
9	Layer name		-10
10	Kind of sampling place		-11
11	Sampling date		-12
12-	Sampling condition		-13
1	Pressure	[kg/cm^2]	-1
2	Temperature	[°C]	-2
13	Analysis date		-14
14-	Reference report		-15
1	Title		-1
2	Date		-2
3	Reference No.		-3
4	Author		-4
5	Organization of author		-5

No.	Item name for output	Unit	Item number (Refer to data structure)
15	Location of laboratory		G200-16
16	API gravity	[°API]	G210-1
17	Pour point	[°C]	-2
18	Water and sediment	[%]	-3
19	Water content	[%]	-4

Remarks

METHOD G0-22 CONDENSATE ANALYSIS INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period

Sorting Parameter

Conditions of Chaning Page

- Proceeding to the next Analysis

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Analysis identification		G200-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field name		-6
6	Well or station name		-7
7	Workover number		-8
8	Reservoir unit name		-9
9	Layer name		-10
10	Kind of sampling place		-11
11	Sampling date		-12
12-	Sampling condition		-13
1	Pressure	[kg/cm^2]	-1
2	Temperature	[°C]	-2
13	Analysis date		-14
14-	Reference report		-15
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5

No.	Item name for output	Unit	Item number (Refer to data structure)
15	Location of laboratory		G200-16
16	API gravity	[°API]	G220-1
17	Pour point	[°C]	-2
18	Water and sediment	[%]	-3
19	Water content	[%]	-4

Remarks

METHOD GO-23 GAS ANALYSIS INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period

Sorting Parameter

Condition of Changing Page

- Proceeding to the next Analysis

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Analysis identification		G200- 1
2	Province name		- 3
3	Area name		- 4
4	Field office name		- 5
5	Field name		- 6
6	Well or station name		- 7
7	Workover number		- 8
8	Reservoir unit name		- 9
9	Layer name		-10
10	Kind of sampling place		-11
11	Sampling date		-12
12-	Sampling condition		-13
1	Pressure	[kg/cm^2]	-1
2	Temperature	[°C]	-2
13	Analysis date		-14
14-	Reference report		-15
1	Title		-1
2	Date		-2

No.	Item name for output	Unit	Item number (Refer to data structure)
14 - 3	Reference number		G200-15- 3
4	Author		- 4
5	Organization of author		- 5
15	Location of laboratory		-16
16	Specification gravity		G230- 1
17	Gas component		- 2
- 1	H_2S	[% Vol]	- 1
- 2	Co_2	[% Vol]	- 2
- 3	O_2	[% Vol]	- 3
- 4	N_2	[% Vol]	- 4
- 5	C_1	[% Vol]	- 5
- 6	C_2	[% Vol]	- 6
- 7	C_3	[% Vol]	- 7
- 8	$_iC_4$	[% Vol]	- 8
- 9	$_nC_4$	[% Vol]	- 9
-10	$_iC_5$	[% Vol]	-10
-11	$_nC_5$	[% Vol]	-11
-12	C_{6+}	[% Vol]	-12
-13	Other components		-13
18	Gross heating value	[Btu/scf]	- 3
19	Net calorific value	[kg.cal/kg]	- 4

METHOD G0-24 WATER ANALYSIS INFORMATION

Assignment Parameter

- Area name
- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period

Sorting Parameter

Condition of Changing Page

- Proceeding to the next Analysis

Output Item

No.	Item name for output	Unit	Item number (Refer to data structure)
1	Analysis identification		G200-1
2	Province name		-3
3	Area name		-4
4	Field office name		-5
5	Field name		-6
6	Well or station name		-7
7	Workover number		-8
8	Reservoir unit name		-9
9	Layer name		-10
10	Kind of sampling place		-11
11	Sampling date		-12
12-	Sampling condition		-13
1	Pressure	[kg/cm^2]	-1
2	Temperature	[°C]	-2
13	Analysis date		-14

No.	Item name for output	Unit	Item number (Refer to data structure)
14-	Reference report		G200-15
1	Title		-1
2	Date		-2
3	Reference number		-3
4	Author		-4
5	Organization of author		-5
15	Location of laboratory		-15
16-	Component		G240-1
1	Na^{+}	[meq/L]	-1
2	K^{+}	[meq/L]	-2
3	Ca^{++}	[meq/L]	-3
4	Mg^{++}	[meq/L]	-4
5	Ba^{++}	[meq/L]	-5
6	Fe^{+++}	[meq/L]	-6
7	CL^{-}	[meq/L]	-7
8	HCO_3^{-}	[meq/L]	-8
9	$SO_4^{=}$	[meq/L]	-9
10	$CO_3^{=}$	[meq/L]	-10
17	Salinity	[ppm]	-2
18	Resistivity	[m]	-3
19	PH		-4
20	Scaling index		-5
21	Suspended solid	[ppm]	-6
22	Disolved solid	[ppm]	-7

Remarks

8 H-PRODUCTION FACILITIES DATA INFORMATION

8-1 Diagram Index of Output Reporting Method

8-2 Conceptual Specification of Output Reporting Method

METHOD H0-1 STATION GENERAL

Assignment Parameter

- Field office name
- Facilities field name
- Kind of station
- Station name
- Period

Conditions of Changing Page

- Proceeding to the next station

Output Item

Data items for this method consist of;
- Items in METHOD H0-11 (Page AI-164)
and
- Items in METHOD H0-12 (Page AI-166)
However, consideration will be taken to avoid improper repetition of data item.

Remarks

METHOD H0-11 STATION RESUME

Assignment Parameter

- Field office name
- Facilities field name
- Kind of station
- Station name
- Period (Date of installation)

Conditions of Changing Page

- Proceeding to the next station

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		H100-2
3	Field office name		-3
4	Facilities field name		-4
5	Kind of station		-5
6	Station name		-1
7	Date of delivery		-6
8	Location name (only for offshore in the future)		-7
9	Name of first station and/or well connected to the station		-8
10-	Function and capacity		-9
1	Main function		-1
2	Design capacity		-2
11	Date of operation start-up		-10
12-	Flow diagram		-11
1	Title		-1
2	Date		-2
3	Drawing no.		-3

No.	Item Name	Unit	Item number
13-	Plot plan		H100-12
1	Title		-1
2	Date		-2
3	Drawing no.		-3
14-	Drawing of piping		-13
1	Title		-1
2	Date		-2
3	Drawing no.		-3
15-	Order document		-14
1	Title		-1
2	Date		-2
3	Document no.		-3
16-	Invoice		-15
1	Title		-1
2	Date		-2
3	Invoice no.		-3
17-	Station cost		-16
1	US$	[US$]	-1
2	Rp	[1000 Rp]	-2
18	Equipment name in station		H120-1

METHOD H0-12 STATION MODIFICATION

Assignment Parameter

- Field office name
- Facilities field name
- Kind of station
- Station name
- Period (End date of modification)

Conditions of Changing Page

- Proceeding to the next station

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		H100-2
3	Field office name		-3
4	Facilities field name		-4
5	Station name		-1
6	Modification period		H110-1
7-	Executor		-2
1	Kind of organization		-1
2	Name of organization		-2
8-	Modification cost		-3
1	US$	[US$]	-1
2	Rp	[1000 Rp]	-2
9-	Invoice		-4
1	Title		-1
2	Date		-2
3	Invoice no.		-3
10-	Order document		-5
1	Title		-1
2	Date		-2
3	Document no.		-3

No.	Item name	Unit	Item number
11-	Report		H110-6
1	Title		-1
2	Date		-2
3	Report no.		-3

METHOD H0-2 EQUIPMENT GENERAL

Assignment Parameter

- Field office name
- Facilities field name
- Kind of station
- Station name
- Kind of equipment
- Equipment name
- Main specification
- Result of Inspection
- Period

Conditions of Changing Page

- Proceeding to the next equipment

Output Item

Data items for this method consist of;

- Items in METHOD H0-21 (Page AI-146)

and

- Items in METHOD H0-22 (Page AI-148)

However, consideration will be taken to avoid improper repetition of data item.

Remarks

METHOD H0-21 EQUIPMENT RESUME

Assignment Parameter

- Field office name
- Facilities field name
- Kind of station
- Station name
- Kind of equipment
- Equipment name
- Main specification
- Period (Date of installation)

Conditions of changing Page

- Proceeding to the next equipment

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		H200-2
3	Field office name		-3
4	Facilities field name		-4
5	Station name		-5
6	Kind of equipment		-6
7	Equipment name (code)		-1
8	System code		-7
9-	Equipment name		-8
1	Name		-1
2	Popular name		-2
10	Equipment object no.		-9
11	Name of manufacturer		-10
12	Date of installation		-11
13	Name of equipment associated		-12

No.	Item name	Unit	Item number
14-	Equipment cost		H200-13
1	US$	[US$]	-1
2	Rp	[1000 Rp]	-2
15-	Invoice		-14
1	Title		-1
2	Date		-2
3	Invoice no.		-3
16-	Order document		H200-15
1	Title		-1
2	Date		-2
3	Document no.		-3
17-	Drawing		-16
1	Title		-1
2	Date		-2
3	Drawing no.		-3
18-	Specification in case of separator		-17
1	Type of vessel		-1
2	Model name		-2
3	Name of fluid treated		-3
4	Volume of vessel	[m^3]	-4
5-	Flow rate of fluid		-5
1	Liquid	[kl/d]	-1
2	Gas	[std m^3/d]	-2
6	Design pressure	[kg/cm^2G]	-6
7	Dimension (OD x S-S x WT)		-7

METHOD H0-22 EQUIPMENT MAINTENANCE

Assignment Parameter

- Field office name
- Facilities field name
- Kind of station
- Station name
- Kind of equipment
- Equipment name
- Main specification
- Result of Inspection
- Period (End date of work)

Conditions of Changing Page

- Proceeding to the next equipment

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		H200-2
3	Facilities field name		-3
4	Field area name		-4
5	Station name		-5
6	Kind of equipment		-6
7	Equipment name (code)		-1
8-	Equipment name		-8
1	Name		-1
2	Popular name		-2
9	Equipment object no.		-9
10	Work period		H210-1
11-	Executor		-2
1	Kind of organization		-1
2	Name of organization		-2

No.	Item name	Unit	Item number
12-	Kind of Work		H210-3
1	Kind of inspection		-1
2	Kind of repair		-2
13	Result of inspection		-4
14-	Maintenance cost		-5
1	US$	[US$]	-1
2	Rp	[1000 Rp]	-2
15-	Report		-6
1	Title		-1
2	Date		-2
3	Report no.		-3

9 I-PIPELINE DATA INFORMATION

9-1 Diagram Index of Output Reporting Method

9-2 Conceptual Specification of Output Reporting Method

METHOD I0-1 PIPELINE GENERAL

Assignment Parameter

- Field office name at pipeline end point
- Facilities field name at pipeline end point
- Kind of station at pipeline end point
- Station name at pipeline end point
- Kind of line pipe
- Nominal size
- Pipeline name
- Result of inspection
- Period

Conditions of Changing Page

- Proceeding to the next pipeline

Output Item

Data items for this method consist of;

- Items in METHOD I0-11 (Page AI-177)

and

- Items in METHOD I0-12 (Page AI-179).

However, consideration will be taken to avoid improper repetition of data item.

Remarks

METHOD I0-11 PIPELINE RESUME

Assignment Parameter

- Field office name at pipeline end point
- Pacilities field name at pipeline end point
- Kind of station at pipeline end point
- Station name at pipeline end point
- Kind of line pipe
- Nominal size
- Pipeline name
- Period (Date of installation)

Conditions of Changing Page

- Proceeding to the next pipeline

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		I100-2
3	Field office name		-3
4	Pipeline name		-1
5-	End point of pipeline		-4
1	Facilities field name		-1
2	Station name		-2
6-	Starting point of pipeline		-5
1	Facilities field name		-1
2	Name of well or station		-2
7	Date of installation		-6
8	Objective at installation		-7
9-	Major data of pipeline		-8
1	Nominal size	[in]	-1
2	Length of pipeline	[km]	-2
3	Design pressure	[kg/cm^{2}G]	-3

No.	Item name	Unit	Item number
10-	Line pipe		I100-9
1	Kind		-1
2	Specification		-2
13	Type of connection		-10
14	Type of valve		-11
15-	Drawing		-12
1	Title		-1
2	Date		-2
3	Drawing no.		-3
16-	Executor		-13
1	Kind of organization		-1
2	Name of organization		-2
17-	Pipeline cost		-14
1	US$	[US$]	-1
2	Rp	[1000 Rp]	-2
18-	Invoice		-15
1	Title		-1
2	Date		-2
3	Invoice no.		-3
19-	Order document		-16
1	Title		-1
2	Date		-2
3	Document no.		-3

Remarks

METHOD IO-12 PIPELINE MAINTENANCE

Assignment Parameter

- Field office name — at pipeline end point
- Facilities field name — at pipeline end point
- Kind of station — at pipeline end point
- Station name — at pipeline end point
- Kind of line pipe
- Nominal size
- Pipeline name
- Result of inspection
- Period (End date of work)

Conditions of Changing Page

- Proceeding to the next pipeline

Output Item

No.	Item name	Unit	Item number
1	Unit name		
2	Province name		I100-2
3	Field office name		-3
4	Pipeline name		-1
5-	End point of pipeline		-4
1	Facilities field name		-1
2	Station name		-2
6-	Starting point of pipeline		-5
1	Facilities field name		-1
2	Name of well or station		-2
7	Work period		I110-1
8-	Kind of work		-2
1	Kind of inspection		-1
2	Kind of repair		-2

No.	Item name		Unit	Item number
9-	Executor			I110-3
1	Kind of organization			-1
2	Name of organization			-2
10	Position of pipeline inspected and/or repaired			-4
11	Result of inspection			-5
12-	Report			-6
1	Title			-1
2	Date			-2
3	Report no.			-3
13-	Maintenance cost			-7
1	Material	US$	[US$]	-1
2	Material	Rp	[1000 Rp]	-2
3	Work	US$	[US$]	-3
4	Work	Rp	[1000 Rp]	-4
14-	Invoice			-8
1	Title			-1
2	Date			-2
3	Invoice no.			-3
15-	Order document			-9
1	Title			-1
2	Date			-2
3	Document no.			-3

Remarks