3-5 E-Production Data Information

Eighty five of statistical output reporting methods are conceived relating to this data information group, which are referred to the page AI-104 of Appendix I.

For the convenience of utilization, these are classified into following twenty two groups.

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

reported in a fitting and in figure and

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and a light factor, the second

- (2) Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production
- (3) Monthly High Pressure Gas, Medium Pressure Gas and Law Pressure Gas Production
- (4) Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production
- (5) Historical Monthly Oil & Total Condensate and Total Gas Production
- (6) Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production
 - (7) Historical Monthly High Pressure Gas, Medium Pressure Gas and Law Pressure Gas Production
 - (8) Historical Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production
 - (9) Monthly Water Injection
 - (10) Monthly Gas Injection
 - (11) Historical Monthly Water Injection

(12) Historical Monthly Gas Injection	g from Maus
(13) Monthly Gas Production and Consumption	
	•
(14) Historical Monthly Gas Production and Consumptio	
in the control of the	
(15) Monthly Oil Consumption was proved particular and the	4 1 - 22
(16) Historical Monthly Oil Consumption of the Monthly	Maria de Propinsión de Carlos de Car
(17) Well Status Report for all Wells : The wife relative	
(18) Well Status Report for Producer	- 4
The second of th	, ³⁷ , ; =
(19) Well Status Report for Injector	
(15) Nett Status Report for Injector	
(20) Well Status Report for Shut-in Well Issue & A State	
(21) Well Status Report for Waiting Well	
	(4)
(22) Well Status of Reservoir Unit	
Assignment parameters for these output reporting	, methods
aré as fóllows.	
- Area name	
- Area name - Facilitiés field name	学語 3 子記筆
- Pield name	
- Block station name	
- Well name	
- Pormation name	.W
- Reservoir unit name	
- String name	() [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]
- Kind of completed zone	•
- Well status	KN (0≴)
ក្រុម្ភាស់ស្ថិតថា ក្រុមក្រុម ប្រឹក្សាបាយក្នុង ប្រែក្រុមប្រឹក្សាស្មាល់ រាជ្ញាស្រីស្រីស្រីស្រីស្រីស្រីស្រីស្រីស្រីស្រី	(1) (3/)
	-
- 88 -	•

- Kind of reservoirKind of pressure for gas
- Water cut Gas-oil ratio
- Kind of injection fluid
- Period

Remarks are made relating to the above as follows.

- Followings are conceived as a string name. . 1)
 - Short length tubing (S)
 - kepa⊨ Middle length tubing (M) kan a charain af masa masa ma
 - p.- Long length tubing (L) described was grain as some disper-
 - Annulus: (A) to a concern more en in appelle de la principal de

In case that the well with name of TMT-100 has two tubings, the well name is to be repeated at output in the form of TMT-100S and TMT-100L together with related data as if there were two wells.

- 5年 李建 安慰 简单语言语 法统治 翻译 A certain range is to be assigned as to such assignment parameters as water cut and gas-oil ratio. As a result, well or string with the data of which the value falls in the rage is to be retrieved together with the related data.
- 3) Production data corresponding to the period assigned is to be retrieved together with the related data.

A description is made relating to the purpose and function of the methods by groups aforementioned as follows.

- A FERRALDING TO LOS FOR THAT Monthly Oil & Total Condensate and Total Gas Production
 - Monthly Oil & Total Condensate and Total Gas Production by Pield action at the piece of
 - Monthly Oil & Total Condensate and Total Gas **B2** Production by Block Station

E3	Monthly Oil & Total Condensate and Total Gas Production by Well
E4	Monthly Oil & Total Condensate and Total Gas Production for Formation by Field
B5	Monthly Oil & Total Condensate and Total Gas Production by Reservoir Unit
E6	Monthly Oil & Total Condensate and Total Gas Production by Well by Block Station
в7	Monthly Oil & Total Condensate and Total Gas Production by Reservoir Unit by Well
E8	Monthly Oil & Total Condensate and Total Gas Production by Well by Reservoir Unit

These are designed for the purpose of grasping statistically the monthly total liquid (oil and condensate) and the monthly total gas (solution gas, gas cap gas and non associated gas) production.

Followings are data items for the respective methods of El - E8 respectively.

on a form of the forest file for the

Item name	Bl	В2	E3	E4	B 5	E6	E7	E8	
	in the second			ing significant and the si	in in the	· · · · · · · · · · · · · · · · · · ·		· · · · · · ·	
- Year, month	•	0	0	Ó	0	0	0	0	
- Area name	Ó	0	0	0	0	0	0	0	7
- Pacilities field name	x	0	X	x	x	0	x	x	7 71
- Field name	0	x	Ó	0	0	×	O	0	
- Block station name	×		0	X	X	0	0	Ó	
- Well name	×	x ·	x	0	X	X	0	0	2
- Formation name	×	x	x	0	•	x	x	×	
- Reservoir Unit	×	x	x	×	0	X	0	O	
- Average daily production	0	0	Ō	0	0	0	0	0	
- Oil and total conder	nsaté								
- Total gas	· · ·		. :			· · · , į ·	100	. <i> </i>	5.3
- Water cut		. :	17.		.,,		4.5	;	
 Average daily injection gas by gas lift 	٥		0	×	×	0	x	×	

 $\{(x,y,y,y,z), y\in X\}$

- Monthly production								
- Oil & total condensate	Ó	Ó	o	o	o	Ò	Ò	o
- Total gas	ó	Ó	0	O	0	Ò	Ó	o
- Gàs òil ratio	0	Ó	x	o	o	o	0	o
Water Company of	Ó	×	×	0	0	x	x	x
- Cumulative production								•
- 011 & total condensate	Ö.	Ö,	, o	0	o	Ò	o	O,
Total gas	Ó	0	0	O	0	. 0	Ó	0
- Water	o	x	•	0	0	×	×	×
- Number of producers	o	0	×	O	o	×	x	x
- Block station name	×	Ó	. 0	X	×	0	o	0
- String name	×	×	0	×	×	Ó	Ó	0
- Workover number	×	· x	0	x	×	О	o	Ο.
- Kind of completed zone	×	×	0	x	×	Ó	Ó	O
- Well status	×	×	0	x	x	0	0	.0
- Layer name	x	x	O	×	o	Ó	0	0
- Share factor	x	×	×	×	x	×	0	Ò
- Choke size	×	×	o	x	×	0	0	0
- Tubing pressure	×	×	Ó	x	×	0	o	0
- Casing pressure	æ	×	. 0	x	x	О	0	0
- Separator pressure	×	x	O	x	x	o	0	0
- Production days		×	O	x	x	0	0	0
- Historical production Months		×		×	×	•	0	0

Table in the page 132 shows the unit output data items and the methods of statistics for the respective methods of B1 - B8.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of Bloom BB and And the literate was ance on

ាសិល្សស្ថាលមានគឺ ស្លាប់ សិល្ស សមាសមាមក្នុងស្នាប់ សូវបានបើបានក្របានប្រកាសប្រកាសប្រកាសប្រកាសប្រកាសប្រកាសប្រកាសប្ ប្រជាពលរបស់ សេសិល្បានសិល្សសមានក្របានស្វាស់ ស្រាប់ អ្នកបានក្របានក្របានប្រកាសប្រកាសប្រកាសប្រកាសប្រកាសប្រកាសប្រក

Output Reporting method	Assignment parameter	Assignment Parameter for Common Use
· · · · · · · · · · · · · · · · · · ·		
E1	in the second	Area name
Е2	Pacilities field name	String name Kind of Completed zone Well status
вЗ	Field name	Water cut Gas-oil ratio Kind of Reservoir
Е4	Formation name	Period Table 18 Applies
E5	Field name	alte divel ad que ella
Е6	Facilities field name	endok esk Gerkara
в7	Field name	The state of the s
83	Field name	gan ezete e En eseane

As for B4, in case that Jambi is assigned by the assignment parameter of "Area name", total production related to the assigned formation is to be calculated and output by fields in Jambi according to the other assignment parameters.

- (2) Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production
 - B9 Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production by Field

- E10 Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production by Block Station
- Ell Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production for Formation by Field
- B12 Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production by Reservoir unit

These are designed for the purpose of grasping statistically the monthly oil, gas cap condensate and Non associated condensate production.

Single Sales States

Pollowing are data items for the respective methods of E9 - E12. 1976年1月1日 - 1986年1月1日 - 1986年1月1日 - 1986年1日 -

, ,		Programme of	; =	· ;	2		1.7	
•	Item name							
	y the filter as all the con-							
٠.	- Year, month							
	- Area name		- 0	0	0	0	1.	
	- Facilities f	ield name	X	0	X	x		
•	- Field name							
	- Block static	n name	×	0	, x	×	egen in energy of	.5.
F	- Formation na	ime	. x	×	, Ó	• x ,	San San S	- ·.
		hit of the second						
	- Layer name	agree 1885 and Arthur	×	x ;	×	· • •	San Maria	1 - 1
		ly production						
	- 011	janaka salah ke	. F	14 <u>.</u> 1.			A Spirite	
	- Gas Ca	p Condensate		4. 14.	٠			
	- Non As	sociated conder	nsat	ė				
	- Monthly pro	duction	Ó	0	, O	o :,		. 1
	- 0i1		: : 					
	- Gas Ca	p condensate						
	- Non As	sociated conde	nsat	e	•			
	- Cumulativé	production	Ċ	0	O	0		

a da kwiti. Pro-

Table in the page 132 shows the unit output data items and the methods of statistics for the respective methods of B9 - B12.

Business Constitution (Fig.) in the configuration of the state of the

- Gas Cap condensate

- Non Associated condensate

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective ouput reporting methods of E9 - E12.

Output reporting method	Assignment parameter	Assignment parameter for common use
В9		Area name
E10	Pacilities field name	String name Well status
E11	Formation name	Water cut Gas-oil ratio
E12	Field name	Kind of reservoir Period
		Book Baranasis La Baranasis

As for Bll, in case that Jambi is assigned by the assignment parameter of "Area name", total production related to the assigned formation is to be calculated and output by fields in Jambi according to the other assignment parameters.

- (3) Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production
 - B13 Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production by Field
 - B14 Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production by Block Station
 - B15 Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production by Well
 - B16 Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas by Well by Block Station
 - B17 Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Pormation by Field
 - B18 Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production by Reservoir Unit

These are designed for the purpose of grasping statistically monthly high pressure gas, medium pressure gas and low pressure gas production.

Followings are data items for the respective methods of E13 - E18.

					- a mi 'i		
Îtêm nâmê Herrina û ji kara den de dekember da bi de d	E13 F	314 E	15 1	316 ¥	317 E	818	
- Year, month				0	· • · · · :		: .
- Area name	<u>.</u>	o	0	0	0	o .	A.
- Facilities field name	x :	0	×	Ó	×	×	
- Field name	Ó	x	O '	×	Ó	0	
- Block station name	x -	0	o	0	×	x .	
	· x . ?	x	O 3	0	×	×	. 1
- Workover number	x	×	O	0	×	×	
- String name	X	×	O	-0	×	×	
- Production days	×	×	0	Ó	×	×	
- Kind of completed zone	x -	x	o	Ö.	×	×	
- Well status		X	O	0	×	x	
- Choke size	×	×	O	0	×	x	
- Formation name	x	x	×	×	0	x	
- Reservoir unit	x	x	×	×	x	0	
- Layer name	x	x	O	0	x	0	
- Average daily production	0	Ο.	0	o	0	• ,	
- High pressure gas							
- Medium pressure gas	•	:	\ :				
- Low pressure gas	÷1 . ;	1000	2		5.	• .	
- Monthly production	o ´	O	0	O	0	. •	
- High pressure gas	ing Entertain	1.			:		
- Medium pressure gas			:				
- Low préssure gas			•				
- Cumulative production	0	. •	. 0	. 0	•	Ο.	
- High pressure gas		5 L 3 L					
- Medium pressure gas	111. · .		ŧ .				. : :
- Low pressure gas	- 1 to 1	5-1	1.5		u tatiju		
- Definition of high, mediu	m o	•	0	Ó	0	0	
and low pressure gas							

Table in the page 133 shows the unit output data items and the methods of statistics for the respective methods of E13 - E18.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of El3 - El8.

Output reporting method	Assignment parameter	Assignment parameter for common use
Е13		
в14	Facilities field name	Area name String name Kind of completed
В15	Field name	zone Well status
E16	Field name, Block station name	Water cut Gas-oil rátio Kind of reservoir
Е17	Pormation name	Period
E18	l Field name	internation (Fig.).

As for B17, in case that Jambi is assigned by the assignment parameter of "Area name", total production related to the assigned formation is to be calculated and output by fields in Jambi according to the assignment parameters.

erichte, das besaft Sia

- (4) Monthly Solution Gas, Gas Cap Gas and Non Associated
 Gas Production
 - El9 Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production by Pield
 - B20 Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production by Block Station
 - E21 Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production for Pormation by Field
 - B22 Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production by Reservoir Unit

These are designed for the purpose of grasping statistically the monthly solution gas, gas cap gas and Non Associated gas production.

Following are data items for the respective methods of B19 - B22.

housing the responsibility of the least of the

	Item No.	В19	E20	E21	E22		± .
	- Area name	Ο.	. •	•	0		
	- Pacilities field name	×	0	×	х.		
	- Field name	0	x	0	. 0		
	- Block station name	×		×	×		
••	- Pormation name	×	×	Ö	X		
	- Reservoir unit	X.	. ^	^	•		. •
	- Layer name	×	×	×	0	· · · · · · · · · · · · · · · · · · ·	
	- Average daily production	O	0	O	o		
	- Solution gas - Gas cap gas	-			•		: <u>.</u>
	- Non Associated gas	٠.				71 : 	
	- Monthly production - Solution gas		0	O	O	1 ·	
	face - Gas cap gas . 10 for . 1		1	1 .			
	- Non Associated gas	e Tojana.	÷.,		F		
•	- Cumulative production	· •	O	6 P	Ó		
	- Solution gas	i de in Kapanga					
	- Gas cap gas		•				
	- Non Associated gas						

Table in the page 133 shows the unit output items and the methods of statistics for the respective methods of E19 - E22.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E19 - E22.

Assignment parameter	Assignment parameter for common use
	Area name String name
Pacilities field name	Well Status Water cut Gas-oil ratio
Pormation name	Kind of reservoir King of pressure
Field name	for gas Period
	Pacilities field name Pormation name

As for E21, in case that Jambi is assigned by the assignment parameter of "Area name", total production related to the assigned formation is to be calculated and output by fields in Jambi according to the other assignment parameters.

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

B23	Historical Monthly Gas Production for		Condensate and Total
B24	Historical Monthly Gas Production for	10.2 - 3.3	Condensate and Total
B25	Historical Monthly Gas Production for	Oil, Total Block Stat	Condensate and Total
B26	Historical Monthly Gas Production for	Oil, Total Well	Condensate and Total

- B27 Historical Monthly Oil, Total Condensate and Total Gas Production for Formation
 - E28 Historical Monthly Oil, Total Condensate and Total Gas Production for Reservoir Unit

These are designed for the purpose of grasping the historical monthly total liquid (oil and condensate) and monthly total gas (solution gas, gas cap gas and Non Associated gas) production.

Pollowings are data items for the respective methods of B23 - B28 respectively.

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•			•			
Item name	E23	E24	E25	E26	E27	E28
- Year, month	0) O	• • • • • • • • • • • • • • • • • • •	0	Ó	o
- Area name	Ò	0	•	O	0	0
- Facilities field name	×	x	o	×	×	x
- Field name	×	O	x	0	•	0
- Block station name	×	×	0	0	x	×
- Well name	×	×	x	0	х	×
- Pormation name	х	×	×	x	0	×
- Reservoir unit	×	×	×	•	×	, O
- Average daily production			ty v	**************************************	•	
- Oil & total condensate	•	0	0	0	0	0
- Total gas	0	0	Ó	0	•	0
- Gas oil ratio	0	Ó	o	×	0	0
- Water cut	0	0	o	0	o	0
- Average daily injection gas						
by gas lift	o	0	x	0	×	×
- Monthly production			-			
- Oil & total condensate	o	0	0	0	o	0
- Total gas	0	0	0	0	0	0
- Water	0	0	×	×	0	0
- Cumulative production						
- Oil & total condensate	0	0	0	0	0	0
- Total gas	٥	•	0	Ò	o	0
- Water	0	Ó	×	0	0	0

on the property of

in the first transfer of a few areas. The control of the angle of the second

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					and the state of		* .
_	Number of producers	0	ø	0	×	0	0
<u>-</u>	Block station name	×	×	Ó	Ó	×	×
	String name	x	×	×	. •	×	×
_	Workover number	×	X	×		x	
_	Kind of completed zone	x	×	x	0	X	X
_	Well status	x	×			χ.	
_	Layer name	X	×	X	0	×	TO PERSON
_	Share factor	X	×	X	X	x	* *
_	Choke size	· x	· X	×	Ó	×	x
_	Tubing pressure	×	×	×	Ò	×	×
-	Casing pressure	x	×	×	0	×	×
-	Separator pressure	×	×	×	•	×	×
-	Production days	x	x	×	O	×	×
-	· Historical production months	s x	x	×	0	×	×

Table in the page 134 shows the unit output data items and the methods of statistics for the respective methods of B23 - B28.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of B23 - B28.

Output reporting method	Assignment parameters	Assignment paramete for common use
B23 segres a final action of the segres actions as a segres action of the segres action of th	Area name, String name Kind of completed zone, Well status, Water cut, Gas-oil ratio, Kind of reservoir	internal property of the contract of the contr
B24 and a common a	Pield name, String name, Kind of completed zone, Well status, Water cut, Gas-oil ratio, Kind of reservoir	Period To the fire period The fire period The fire period of the fire period The fire period of the fire
B25	Block station name, String name, Kind of completed zone, Well status, Water cut, Gas-oil ratio, Kind of reservoir	
B26 B27* 1 *** 1	Pormation name, Area	ng d
	Cacadil ratio	

the structure wetter in the structure of the second contract of the second contract of

For example, as for E23, the production history of the assigned area is to be retrieved and output. Area names more than two each can be assigned simultaneously.

As for B26, in case that the well has two tubings, sum of production from two tubings is calculated and output as the well production. Each string has a kind of completed zone and a well status. In this case, well has two kinds of completed zone and two well status, and these data are output by strings as the well information.

As for B27, in case that Jambi is assigned by the assignment parameter of "Area name", the production history of the assigned formation in Jambi area is retrieved and output, while in case that a specific field name is assigned by the assignment parameter of "Field name", the production history of the assigned formation in the field is retrieved and output.

- (6) Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production
 - E29 Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production for Area
 - B30 Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production for Field
 - B31 Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production for Block Station
 - B32 Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production for Pormation
 - B33 Historical Monthly Oil, Gas Cap Condensate and Non Associated Condensate Production for Reservoir Unit

These are designed for the purpose of grasping the historical monthly oil, gas cap condensate and Non Associated condensate production.

Followings are data items for the respective methods of B29 - B33.

٠.	- Year, month		Ò	O	0	0	•		
=	- Area name	: :	O	O	O	O	0		1
	- Pacilities fi	eld name	, x	×	0	x	x		:
•	- Field name			O	x	0	Ó		:
	- Block station	name	×	×	O	x	×		
-	- Pormation nam	ė	x , ,	×	×	0	×		
	- Reservoir uni	ŧ.	×	×	×	×	0		-
•	- Layer name		×	×	×	×	0		Ì
	- Average daily	production	0	O	O	Ó	o	-	
	- oil			1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	:			•	÷
	- Gas cáp	condensate	·		-				-
	- Non Asso	clated conde	nsate						*
	- Monthly produ	ction	O _z	O	O	. 0	o		
	- Oil	$\frac{d}{dt} = \frac{dt}{dt} + \frac{dt}{dt} + \frac{dt}{dt} + \frac{dt}{dt} = 0$	$ x-x <\tilde{x}$		÷				
	- Gas cap	condensate							
	- Non Asso	ciated conde	nsate						
	- Cumulative pr	oduction	o	o	•	0	0		
	- 0il							,	
	- Gas cap	condensate							
es a vi	en - Non Asso	ciated conde	nsate	7 1.					

Table in the page 135 shows the unit output data items and the methods of statistics for the respective methods of E29 - E33.

Carrier Committee and Committe

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E29 - E33.

မြော်မေးမိုင်းများကို ကရုတ်ကြောင့် မွေးမေးသည် မြော်စာသည်။ မေါ်သည်သို့ မြော်သည်းမေးသည်။ မော်သည်။ သည် အမြော်စွေများမှုများကြုံများနှစ် မြောက်စွေများကြုံများသည်။ မေးမောက် မေးမောက်သည်။ လည်းသည် မြောက်

plants are provided and exception with exception of the contraction of

交换性性支撑 指导数 2% 电电路 有效的复数 18 30% 美国企业的企业企业企业企业

		25-29-213-22
Output reporting method	Assignment parameter	Assignment parameter for common use
		s de productión de la companya de la
E29	Area name, Kind of reservoir	String name Well Status
E30	Field name, Kind of reservoir	Water out Gas-oil ratio Period
ЕЗI	Block station name, Kind of reservoir	ryskie syganak Riko – Spania k
Е32	Formation name, Area name, Field name, Kind of reservoir	Ç. Aries
в33	Reservoir unit name	i de esta e De a esta e Les esta esta como e e e e e e
		1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

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

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	the control of the control of the particular of the control of the
в34	Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Area
E35	Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Field
E36	Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Block Station
E37	Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Well
E38	Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Pormation
В39	Historical Monthly High Pressure Gas, Medium Pressure Gas and Low Pressure Gas Production for Reservoir Unit

These are designed for purpose of grasping the historical monthly high pressure gas, medium pressure gas and low pressure gas production.

Followings are data items for the respective methods of E34 - E39.

	Item name	B34	E35	Е36	Е37	E38	E39
	- Year, month	0	•	0	0	0	0
	- Area name	0	0	o	Ó	Ó	O
	- Pacilities field name	×	×	Ó-	×	×	×
	- Pield name	×	O	* x	Ö	·	Ó
isti kun Mari	- Block station name	×	×	Ó.	0	×	×
	- Well name	x	×	×	Ó	x	×
	- Workover number	×	×	×	•	x	×
	- String name	×	X	x	Ò	x	×
	- Production days	×	×	x	0	×	×
	- Kind of completed zone	x	X	×	Ö	x	x
	- Well status	×	x	×	o	x	×
	- Choke size	×	x	×	0	×	х
	- Pormation name	X	×	: . X	×	Ò	×
-	- Reservoir unit	×	×	×	×	x	•
	- Layer name	×	×	×	Ó	х	o
	- Average daily production	o	o	0	o	0	o
	- High Pressure gas						
٠.	- Medium pressure gas						
	- Low pressure gas			1			
	- Monthly production	O	0	· ·	Ó	0	• •
	- High pressuré gas		F : 11				
	- Medium pressure gas			:			
	- Low pressure gas	100		:			
	~ Cumulative production	C) (1)	• 0		, (• •
	- High pressure gas			-			
	- Medium pressure gas						
	- Low pressure gas	ti îvet∎		÷ .			-
	- Definition of high, mediu	m		•			
	and low pressure gas			5 (,	,	

Table in the page 135 shows the unit output data items and the methods of statistics for the respective methods of E34 - E39.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of B34 - B39.

Output reporting method	Assignment parameters	Assignment parameter for common use				
Е34	Area name Kind of reservoir String name Kind of completed zone Well status Water cut Gas-oil ratio	Period				
B35	Field name Kind of reservoir String name Kind of completed Zone Well status Water cut Gas-oil ratio					
E36	Block station name Kind of reservoir String name Kind of completed zone Well status Water cut Gas-oil ratio					
в37	Well name					

Output reporting method	Assignment parameters	Assignment paramter for common use
<u> </u>	A SECTION OF THE SECT	<u> </u>
E38	Formation name	• · · · · · · · · · · · · · · · · · · ·
X X	Area name Field name	
• 4. 4.	Kind of reservoir	
Cr G	String name Kind of completed zone	high are the end of
C F	nem status	to some time grade
4.0	Water cut Gas-oil ratio	
ting the second	Gas Off Tutto	
E39	Reservoir unit name String name	er i M
<u>.</u>	Kind of completed zone	
	Well status Water cut	
	Gas-oil ratio	
	2 2 2 2 20	erent i grafia e

(8) Historical Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production

			Solution Gas, Gas Cap Gas and Production for Area
		Non Associated Gas	Solution Gas, Gas Cap Gas and Production for Field
	E42	Historical Monthly Non Associated Gas	Solution Gas, Gas Cap Gas and Production for Block Station
* \$	E43	Historical Monthly Non Associated Gas	Solution Gas, Gas Cap Gas and Production for Formation
		Historical Monthly	Solution Gas, Gas Cap Gas and Production for Reservoir Unit

These are designed for the purpose of grasping the historical monthly solution gas, gas cap gas and Non Associated gas production.

Followings are data items for the respective methods of E40 - E44.

E40	E41	E42	E43	E44

			1		11, 1	
- Area name	0	0	o	0	O	
- Facilities field name	×	×	0	×	x .	
- Field name	: · · X · .	o ·	x	0	O	
- Block station name	×	×	0	×	×	
- Pormation name	×	×	×	O	×	
- Reservoir unit	×	×	×	×	o	
- Låyer name	×	X	×	×	Ò	
- Average daily production	Ó	Ò	Ó	Ó	0	
- Solution gas		- '	:			
- Gas cap gas				•	, i	
- Non Associated gas	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e e e e e e e e e e e e e e e e e e e			-	15.5
- Monthly production	O	Ó	o	o	0	
- Solution gas						
- Gas cap gas			;			
- Non Assoicated gas						
- Cumulative production	0	0	. 0	0	0	
- Solution gas						
- Gas cap gas	: :	- , -	e taken.	· .		
 Non Associated gas 	e e e e e e e e e e e e e e e e e e e			· 1.44.	en een	<u>.</u>

Item name

Table in the page 136 shows the unit output data items and the methods of statistics for the respective methods of E40 - E44.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E40 - E44.

· "一点,我们们们的一个大型,我们们的一个一样的一个样。" (1914年) "我们的"我们的"的"我们"。

Out	tput rep metho		ng	Assingment parameters	Assignment parameter for common use
	E40		200	Area name Kind of reservoir	String name Well status
(145 (44 (44	E41	No.	1	Pield name Kind of reservoir	Water cut Gas-oil ratio Kind of pressure
	E42		1 1	Block station name Kind of reservoir	for gas
	в43		e ⁿ	Pormation name Area name, Field name Kind of reservoir	te fores a la lest All locales especies Tombours d'Originales
	B44 :		*	Reservoir unit name	

(9) Monthly Water Injection

- 845 Monthly Water Injection by Field
 - E46 Monthly Water Injection by Well
- B47 Monthly Water Injection for Formation by Field

and the transfer of the contract of the contra

- E48 Monthly Water Injection by Reservoir Unit
- E49 Monthly Water Injection by Reservoir Unit by Well
- B50 Monthly Water Injection by Well by Reservoir Unit

These are designed for the purpose of grasping statistically the monthly water injection.

Followings re data items for the respective methods of R45 - B50.

Item name	B45	B46	E47	E48	E49	E5Ò
- Year, month	0	Ó	: O	o	0	0
	_	Ö	0	0	0	o:
- Area name	0	:]	_			
- Field name	0	0	O	O ·	0	O.
- Well name	×	0	×	×	0	O
- String name	×	• •	×	×	0	0
- Workover number	х	0	x	×	ē o	0
- Formation name	x	×	Ö	O	×	0
- Reservoir unit	х	×	x	. •	. •	O
- Average daily injection	O	0	0	0	• •	O
- Monthly injection	O	0	O	0	O	0
- Cumulative injection	o	Ó	0	O	•	0
- Number of injectors	O	x	Ó	o	X	×
- Kind of completed zone	X	• •	×	x	0	•
- Well status	X	Ö	×	×	0	O.
- Layer name	×	•	×	0	O	0
- Share factor	×	×	×	X	i i o	O (
- Wellhead injecting pressure	, x ,	0	×	×	Ó	Ο.
- Kind of injection fluid	х	0	x	x	Ó	Ò
- With or without filtration	x	0	×	x	0	0
- With or without additives	΄ χ	0	×	×	i o	1 0
- Injection days	×	0	×	×	Ó	. O
- Historical injection months	· x	0	×	×	, · · •	×

Table in the page 136 shows the unit output data items and the methods of statistics for the respective methods of E45 - E50.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of R45 - R50.

	3.00	
Output reporting method		Assignment parameter for common use
E45		Area name, String name
E46	Field name	Kind of completed zone
**************************************	Pormation nămė	The state of the s
648	řield name	fluid Kind of reservoir Period
_ B49	Field name	e i de la companya d
B50	Field name	

Followings re conceived as a kind of injection fluid (refer to APPENDIX III) in this group.

- Fresh water
- Sea water
- Formation water
- Other kind of water

As for E47, in case that Jambi is assigned by the assignment parameter of "Area name", total injection related to the assigned formation is to be calculated and output by fields in Jambi according the other assignment parameters.

graduation is a consensual transfer to the contract

(10) Monthly Gas Injection

E51	Monthly Gas	Injection	by Pield
E52	Monthly Gas	-	· · · · · · · · · · · · · · · · · · ·
E53	Monthly Gas	Injection	for Formation by Field
B54	Monthly Gas	Injection	by Reservoir Unit

E55 Monthly Gas Injection by Reservoir Unit by Well

E56 Monthly Gas Injection by Well by Reservoir Unit

These are desinged for the purpose of grasping statistically the monthly gas injection.

Pollowings are data items for the respective methods of B51 - B56.

Item name	E51	B52	E53	E54	E55	E56
- Year, month	, . Ö	0	0	0	O :	0
- Area name	O	0	O	•	0	Ô
- Field name	. 0	Ó	O	0	Ò	0
- Well name	. x	0	; x	×	O	0
- String name	×	Ö,	X	×	<u> </u>	Ostan I
- Workover number	x	o	×	×	0	0
- Pormation name	×	×	0	0	х,	X
- Résérvoir unit	×	×	×	0	Ó	0
- Average daily production	0	O	O	•	o	0
- Monthly injection	o	0	0	0	0	•
- Cumulative injection	•	O	0	Ó	O	Ò
- Number of injectors	· O	x	0	0	x	×
- Kind of completed zone	x	0	X	×	0	0
- Well status	×	0	X	x	0	O
- Layer name	x	O	×	Ó	Ò	0
- Share factor	×	×	×	×	0	0
- Wellhead injecting pressure	ė x	o	×	×	O	Ò
- Kind of injection fluid	×	Ö	×	×	0	Ò
- Injection days	×	0	×	×	0	0
- Historical injection month	s x	٥	· x	X	0	•

Table in the page 137 shows the unit output data items and the method of statistics for the respective methods of E51 - E56.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above method of statistics and the following assignment parameters for the respective output reporting methods of E51 - E56.

Output reporting method	Assignment parameter	Assignment parameter for common use
B51		Area name String name
E52	Field name	Kind of completed zone
B53	Pormation name	Well status Kind of injection fluid
	Field name	Kind of reservoir
B 55		_]
B56	Field name	1

Followings are conceived as a kind of injection fluid (refer to APPENDIX III) in this group.

- Wet gas
- Dry gas
- co₂
- Air

As for 53, in case that Jambi is assigned by the assignment parameter of "Area name", total injection related to the assigned formation is to be calculated and output by fields in Jambi according to the other assigned parameters.

(11) Historical Monthly Water Injection

E57 Historical Monthly Water Injection for Area
E58 Historical Monthly Water Injection for Field
E59 Historical Monthly Water Injection for Well
E60 Historical Monthly Water Injection for Formation
E61 Historical Monthly Water Injection for Reservoir Unit

These are designed for the purpose of grasping the historical monthly water injection.

Followings are data items for the respective methods of E57 - E61.

Item name	E57	EŠŠ	E59	E60	B61
	:		- }	1 7	
- Year, month	0	0	0	0	0
- Area name	0	o	O	Ó	0
- Field name	x	0	•	0	0
- Well name	×	x .	0	×	x
- String name	×	x	0	×	x
- Workover number	\mathbf{x}	x	0	×	x
- Pormation name	×	×	×	o	0
- Reservoir unit	×	×	o	×	0
- Average daily injection	0	0	0	O	0
- Monthly injection	O	O	Q ·	Ó	O
- Cumulative injection	Ò	0	0	0	0
- Number of injectors	Ó	O ₁	×	Ó	0
- Kind of completed zone	X	x	0	×	×
- Well status	×	×	O	×	x
- Layer name	x	×	0.	. X	x
- Share factor	x	×	O	×	×
- Wellhead injecting pressure	×	×	. •	, x	×
- Kind of injection fluid	×	×	0	× ×	×
- With or without filtration	×	×	0	X	×
- With or without additives	x	×	0	×	x
- Injection days	×	×	•	×	X
- Historical injection months	×	×	•	×	×
			1.5	2.00	

Table in the page 137 shows the unit output data items and the methods of statistics for the respective methods of E57 - E61.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E57 - E61.

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Output reporting method	Assignment parameter	Assignment parameter for common use
B57 08 003 490	Area name, String name Kind of completed zone Well status, Kind of	
) 기 및 1명 (5) (6) (6) (6)	injection fluid, Kind of reservoir	in a serie. Series and desire
<u> </u>	<u></u>	a areadii e
858 0 0 0 0 0 0 0 0 0 6 0 0	Field name, String name Kind of completed zone Well status, Kind of injection fluid, Kind of reservoir	intropela. Boshtatasas k
E59 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Well name Kind of reservoir	Period
E60	Formation name, Area name, Field name, String name, Kind of Completed zone, Well status, Kind of	
	injection fluid, Kind of reservoir	
B61 ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗	Reservoir unit name String name, Kind of Completed zone, Well status, Kind of inject	
	fluid	

(12) Historical Monthly Gas Injection

E62 Historical Monthly Gas Injection for Area
E63 Historical Monthly Gas Injection for Field
E64 Historical Monthly Gas Injection for Well
E65 Historical Monthly Gas Injection for Formation
E66 Historical Monthly Gas Injection for Reservoir Unit

These are designed for the purpose of grasping historically the monthly gas injection.

Pollowings are data items for the respective methods of E62 - E66.

Item name	E62	E63	E64	E65	E66
and the second of the second o	$z_{i} \notin J_{i}$				
- Year, month	Ö	0	Ó	0	• 0
- Area name	0	Ò	0	•	o
- Field name	×	0	0	O	. •
- Well name	×	×	0	x	x .
- String namé	x	x	0	×	x
- Workover number	×	X	•	×	×
- Formation name	x	X	×	o	o
- Reservoir unit	×	x	0	×	0
- Average daily injection	•	0	•	o	o 100 d
- Monthly injection	0	Ó	o	0	0
- Cumulative injection	o	0	Ò	Ó	o
- Number of injectors	0	O	×	0	0
- Kind of completed zone	×	X د	Ò	X,	x
- Well status	X	×	0	×	×
- Layer name	×	x	0	×	Ó
- Share factor	×	×	0	×	×
- Wellhead injecting pressure	x x	×	0	×	×, · · ·
- Kind of injecting fluid	×	×	0	×	, x * 2.1
- Injection days	×	×	•	×	×
- Historical injection months	×	×	0	×	×

Table in the page 138 shows the unit output data items and the methods of statistics for the respective methods of E62 - E66.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E62 - E66.

Output reporting method	Assignment parameter	Assignment parameter for common use
E62	Area name, String name Kind of completed zone Well status, Kind of injection fluid Kind of reservoir	
В63	Field name, String nam Kind of completed zone Well status, Kind of injection fluid Kind of reservoir	
E64	Well name, Kind of reservoir	Period
в65	Pormation name, Area name, String name, Kind of completed zone Well status, Kind of injection fluid, Kind of reservoir	
В66	Reservoir unit name, String name, Kind of Completed zone, Well status, Kind of injection fluid	

(13) Monthly Gas Production and Consumption

E67 Monthly Gas Production and Consumption by Area E68 Monthly Gas Production and Consumption by Field

There are designed for the purpose of grasping the monthly gas production and consumtion.

E67 E68

Ö

Pollowings are data items for the respective methods of E67 and E68.

Item name
- Area name
- Field name
- Gas production
(Associated gas (High pressure gas, Medium pressure gas, Low pressure gas) and Non associated gas (High pressure gas, Medium pressure gas, Low pressure gas)).
- Gas consumption
(Associated gas (High pressure gas, Medium pressure gas, Low pressure gas) and Non associated gas (High pressure gas, Medium pressure gas, Low pressure gas)).
- Own use
- Fuel
- Injection gas
- Gas lift
- Compressor
- Utilities
- Process
- LPG plant
- LNG plant
- Fertilize plant
- Pusri II
- Pusri III
- Pusri IV

- S. Gérgon
 - Pólypropyléne
- Sales
 - City gas
 - half problic utility. The specimen was a second
- Plare and loss than the property of the Original Property in
- de la **di Pilare** Pityland of the later and later and later and later
 - Loss

Table in the page 138 shows the unit output data items and the methods of statistics for the respective methods of E67 and E68.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reproting methods of E67 and E68.

Output réporing method	Assignment parameter	Assignment parameter for common use
В67		
E68	Area name	Period

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(14) Historical Monthly Gas Production and Consumption

E69	Historical Monthly Gas for Unit II	Production and Consumption
B70	Historical Monthly Gas for Area	Production and Consumption
E71	Historical Monthly Gas for Field	Production and Consumption

These are designed for the purpose of grasping the historical monthly gas production and consumption.

Pollowings are data items for the respective methods of E69 - E71.

Itém namé		E69 E70 E71
– Area name		0 0 0
- Pield name		o o o
- Gas production	in the second of the second	androper (på eph et liker Anne handroper
(Associated gas (H gas, Medium pressi pressure gas) and gas (High pressure pressure gas, Low	ure gas, Low Non associated e gas, Médium	in to the profit of the profit of the second
- Gas consumption	•	0 0 0
(Associated gas (H gas, Medium press pressure gas) and gas (High pressur pressure gas, Low	ure gas, Low Non associated e gas, Medium	i graintean despita e tradaga graintean e compressión i tra
- Own use		
- Fuel	经营业 医抗原毒	
- Injectio	n gas	
- Gas lift		
- Compress	or	
- Utilitie	: S	
- Process		
- LPG plan	it	
- LNG plan	. 1	

- Fertilize plant

- Pusri II
- Pusri III
- Pusri IV
- ntropy Fire 🗝 Refinery, report of the relative residence of the relative residence of the residence of th
 - Plaju
 - Gergon
 - Polypropylené
 - Aromatic
 - Sales
 - City gas
 - Public utility
 - Flare and Loss

0 0 0

- Plare
- Loss

Table in the page 139 shows the unit output data items and the methods of statistics for the respective methods of E69 - E71.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E69 - E71.

	Assignment pårameter	Assignment parameter for common use
<u>্রিক্রিক্রিক্রিক্রিক্রিক্রিক্রিক্রিক্রিক</u>	Life of the days will be a	
в69		
в70	Area name	Period
E71	Field name	

ရှိရှိ တန်းအခြေးချစ်ရှိ အတျဉ်းချို့တွင် လာလမျှခေါ့ သွန်းကို လွန်းချို့များသည်။ သင်္ကာလမ်းတွင် (၁၈၈) မြောင်းမျာ လူသို့ ရေတန့်ရှိ အချောင်းမျှန်းများနိုင်ကို မြောမားများတဲ့ ကြိန်းများသည် မြေသည်။ မြေသည် မြောင်းသည် နေသည် မြောင

(15) Monthly Oil Consumption

B72 Monthly Oil Consumption by Area

This is designed for the purpose of grasping the monthly oil consumption.

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And the control of th

Pollowings are data items for this method.

- Oil consumption
 - Refinery Plaju
 - Gross
 - Water cut
 - Net
 - Specific gravity
 - Sub total
 - Field used
 - Road maintenance
 - Well servicing to the service as the same of the first
 - Fuel
 - Other
 - Sub total in the second of the second second second
 - Total Total and the state of the state of

Table in the page 139 shows the unit output data items with and the method of statistics for B72.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above method of statistics and the following assignment parameter for the output reporting method of B72.

- Period
- (16) Historical Monthly Oil Consumption
 - E73 Historical Monthly Oil Consumption for Unit II
 E74 Historical Monthly Oil Consumption for Area

These are designed for the purpose of grasping the historical monthly oil consumption.

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Pollowings are data items for the respective methods of E73 and E74. White the first the first the second second the second seco

"我们在我的一块"就是"我们是我的,我也没有一起人的。""我们的。"

Item name

- Oil consumption

 - Refinery Plaju
 - Gross
 - Water cut
 - Net
 - Specific gravity
 - Sub total
 - Field used
 - Road maintenance
 - Well servicing
 - Fuel
 - Other
 - Sub total
 - Total

Table in the page 139 shows the unit output data items and the methods of statistics for the respective methods of B73 and B74.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of B73 and 874. 4 4 7.1

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Output reporting method	Assignment parameter	Assignment parameter for common use
873 **********	Floring to Bright with the	Period
E74	Area name	reriod

(17) Well Status Report for All Wells

E75 Well Status Report for All Wells by Field E76 Well Status Report for All Wells by Reservoir Unit

These are designed for the purposed of grasping statistically the number of wells and strings by well status.

Followings are data items for the respective method of E75 and E76.

Item name	E75 E76
- Area name	• • •
- Field name	Samuel O .
- Reservoir unit	x o
- Number of prodecers and strings	
	• •
- Producing well	in the state of th
- Shut-in well	
- Number of injectors and strings	r in the first of the second o
	0 0
- Injecting well	in our ery made the observation
	a that the will result safe ear
- Number of observation wells	• • • • • • • • • • • • • • • • • • •
- Number of waiting wells	
- Number of suspended wells	0 0
- Number of abandoned wells	

Table in the page 140 shows the unit output data items and the methods of statistics for the respective methods of E75 and E76.

The unit data for date items as mentioned in the previous part is to be retrieved and output according to the above method of statistics and the following assignment parameters for the respective output reporting method of B75 and B76.

Output reporting method	Assignment parameter	Assignment parameter for common use
È75		Area name String name Kind of completed
B76	Pield name	zone Kind of reservoir Period

(18) Well Status Report for Producer

B77 Well Status Report for Producer by Field B78 Well Status Report for Producer by Reservoir Unit

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These are designed for the purpose of grasping statistically the number of producers and their strings by Well status.

Followings are data items for the respective methods of B77 and B78.

				•	
Item name		1	377	в78	
តិតេដ្ឋាស្រីស្រីស្រ កក់ ប្រជាតិបន្ទ				-	
- Area name		a tribunat	Ò	0	
- Field name			0	O	
- Reservoir unit			x	0	
- Number of producing	g wells and				
their strings	in the second	na tina sara	o ;	a	
- Natural flowi	ng				
- Submergible p	umping	vitak jer ^{ot}		+ 1	-
- Rod pumping					
- Gas lifting	- · · · · · · · · · · · · · · · · · · ·				••
- Gas lifting w	ith macaroni		:	<i>:</i> :	
- Number of shut-in	wells and			•.	
their strings			0	0	

- Ordinary string
- Submergible pump
- Rod pump
- Gas lift
- Gas lift with macaroni

Table in the page 140 shows the unit output data items and the methods of statistics for the respective methods of B77 and E78.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of B77 and B78.

Output reporting method	Assignment pårameter	Assignment parameter for common use
В77		Aréa namé String namé Kind of compléted
E78	Field name	zone Kind of reservoir Period

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(19) Well Status Report for Injector

B79 Well Status Report for Injector by Field
B80 Well Status Report for Injector by Reservoir Unit

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These are designed for the purpose of grasping statistically the number of injectors and their strings by well status.

Following are data items for the respective methods of B79 and E80.

transference (a.f. farm park (a.g. e. 6 *) ar Item name	E79 E80
- Area hame promote the complete the second	• • •
Field name: https://doi.org/10.1007/10.1007/10.1007	.
- Reservoir unit	X Opening and a second
- Number of injecting wells	
and their strings	
- Dump flood water injection	
- Powered water injection	en e
- Gas injection	
- Number of shut-in injectors and	grand and the
their strings	
- Dump flood water injection	Carrier a keys green had
- Powered water injection	·
the contract of the contract o	grafiet i eta grafie
្រី រំបានសម្រាស់ ម៉ាស់ស្រែស្រាស់ ខេត្ត	Navagos estados

Table in the page 140 shows the unit output data items and the methods of statistics for the respective methods of B79 and E80.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of B79 and E80.

Output reporting method	Assignment parameter	Assignment parameter for common use
កល់ចង់នៃ ស្ថិនម៉ា មិនឆ្ន ខ 879 ស្និតកម្ម ១ សូមិ	na tine nij waedo eli. Gargana til enn a steat.	Area name String name Kind of completed
E80	Field name	zone Kind of reservoir Period

(20) Well Status Report for Shut-in Well

Well Status Report for Shut-in Well by Field E81 E82 Well Status Report for Shut-in Well by Reservoir Unit

These are designed for the purpose of grasping statistically the number of shut-in wells and their strings by well status.

Followings are data items for the respective methods entre en en estado a la companión. of E81 and E82.

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E81 E82 Item name

- Area name
- Field hame
- Reservoir unit
- Number of shut-in producers and their strings
 - Due to production schedule
 - Due to well service
 - Due to surface repair
 - Due to low pressure (Waiting for bottomhole pressure build-up)
 - Due to high gas-oil ratio
 - Due to high BS & W
- Number of shut-in injectors and strings
 - Due to injection schedule
 - Due to well service
 - Due to surface repair

Table in the page 141 shows the unit output data items and the methods of statistics for the respective methods of B81 and B82.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E81 and E82.

Output reporting method	Assignment parameter	Assignment parameter for common use
- To the factor of the factor		Bullion and
E81	Marin 12 Jan 1180 Graff Roll (1807)	
	Pield name	l Kind of recervoir
និង អ.ស. <u>មាន</u> ន	Rangery sangty <u>january</u>	

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(21) Well Status Report for Waiting Well

E83 Well Status Report for Waiting Well by Field
E84 Well Status Report for Waiting Well by

R84 Well Status Report for Waiting Well by Reservoir Unit

These are designed for the purpose of grasping statistically the number of waiting wells by well status.

Followings are data items for the respective methods of B83 and E84.

Item name	n de estar virus sens fra 883	E84
- Area name	i Ligger Stephylogist (1996) (19 jo).	o
- Pield name	0	0
- Reservoir unit	विके केन्स्पृत्रकत् करोत्र कर्ने केर प्रश्नुप्र प्र ा	O
- Number of waiti	ng producers	, o -
- For facili	ties	
- For workov	er	

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- Number of waiting injector o o
 - Por facilities
 - For workover
 - For stimulation
 - For abandonment

Table in the page 141 shows the unit output data items and the methods of statistics for the respective methods of E83 and E84.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of E83 and E84.

Output reporting method	Assignment parameter	Assignment parameter for common use
Е83		Area name String name Kind of completed
E84	Pield name	zone Kind of reservoir Period

(22) Well Status of Reservoir Unit

R85 Well Status of Reservoir Unit

This is designed for the purpose of correlating the well status of reservoirs units which have been penetrated by wells.

The followings data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Area name
- Field name
 - Reservoir unit name
 - Kind of completed zone
 - Well name
 - Well Status

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Assignment parameters to be applied to this method are "Field name", "Well name", "Reservoir unit name", "Kind of reservoir" and "Period". Twenty of reservoir unit names and their output orders can be assigned at most by one time execution. In case of correlation of reservoir unit names more than twenty each, therefore, executions more than two times are required for production of output. As for number of well names, it is unlimited and the output order for well name can be assignment.

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OUTPUT METHOD

(1) Monthly Oil & Total Condensate and Total Gas Production (1984) and (1985)

Output Kethod	The Unit Output Data Item	Method of Statistics
Ei	Konthly Production of Field	By Area 120 Bullet
E2	Monthly Production of Block Station	By Area, By Field Area
в3	Monthly Production of Well	By Area, By Field
E4	Monthly Production of Formation by Field	
E 5	Monthly Production of Réservoir Unit	
E6	Montly Production of Well	
E7	Monthly Production of Reservoir Unit	By Area, By Field, By Well
E8	Monthly Production of Well	By Area, By Field,
		By Reservoir Unit

(2) Konthly Oil, Gas Cap Condensate and Ronassociated Condensate Production

Output Kethod	The Unit Output Data Item	Method of Statistics
89	Konthly Production of Field	By Area,
E10	Monthly Production of Block Station	By Area, By Field Area
E11	Monthly Production of Formation in Field	By Area
В12	Monthly Production of Reservoir Unit	By Area, By Field, By Pormation in Field

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

The Unit Output Data Item	Method of Statistics
Monthly Production of Field	By Area
Monthly Production of Block Station	By Area, By Pacilities Field
Monthly Production of Well	By Area, By Pield
Monthly Production of Well	By Area, By Facilities Field By Block Station
Monthly Production of Formation in Field	By Area
Monthly Production of Reservoir Unit	By Area, By Field, By Formation in Field
	Monthly Production of Pield Monthly Production of Block Station Monthly Production of Well Monthly Production of Well Monthly Production of Formation in Field Monthly Production of Reservoir

(4) Monthly Solution Gas, Gas Cap Gas and Non Associated Gas Production

Output Kethod	The Unit Output Data Item	Wethod of Statistics
E19	Monthly Production of Field	By Area
E20	Monthly Production of Block Station	By Area, By Facilities Field
E21	Monthly Production of Formation in Field	By Area
E22	Monthly Production of Reservoir Unit	By Area, By Field, By Formation in Field

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

The Unit Output Data Item		
Missilla Basharlian AE Awah		
Monthly Production of Area		*
Monthly Production of Field		i. Š
Monthly Production of Block Station	er en jobben Historia	
Monthly Production of Well	in a single	-
Monthly Production of Pormation in Area or Field	o or the aut	
Monthly Production of Reservoir Unit		· · · · · · · · · · · · · · · · · · ·
	Monthly Production of Block Station Monthly Production of Well Monthly Production of Formation in Area or Field Monthly Production of Reservoir	Monthly Production of Block Station Monthly Production of Well Monthly Production of Pormation in Area or Field Monthly Production of Reservoir

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

Output Kethod	The Unit Output Data Item	Method of Statistics
E29	Monthly Production of Area	
E30	Fonthly Production of Field	e en a la companya de la companya d
E31	Monthly Production of Block Station	
E32	Monthly Production of Formation in Area or Field	e grand and the first section of the first section
E33	Monthly Production of Reservoir Unit	englinger (d. 1884) George (d. 1884)

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

Output Kethod	The Unit Output Data Item	Method of Statistics
в34	Monthly Production of Area	
B35	Monthly Production of Field	
Е36	Monthly Production of Block Station	
B37	Konthly Production of Well	
Е38	Monthly Production of Formation in Area or Field	
B39 . F48 at 1	. Monthly Production of Reservoir	

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

Output Kethod	The Unit Output Data Item	Kethod of Statistics
E40	Monthly Production of Area	
E41	Monthly Production of Field	
E42	Monthly Production of Block Station	1974 (A) 1885 1885
E43	Konthly Production of Formation in Area or Field	
E44	Monthly Production of Reservoir Unit	- 100 mm (2000年) - 8 基本 - 100 mm (2000年) - 8 基本

(9) Konthly Water Injection of the Land Health of the Landscape and Land

Output Kéthod	The Unit Output Data Item	Method of Statistics
E45	Konthly Injection of Field	By Area
£46	Konthly Injection of Well	By Area, By Field
E47	Konthly Injection of Formation by Field	By Area
E48	Monthly Injection of Reservoir Unit	By Area, By Field, By Formation in Field
E49	Monthly Injection of Reservoir Unit	By Area, By Well
E50	Monthly Injection of Well	By Area, By Field, By Formation in Field, By Reservoir Unit

(10) Monthly Gas Injection

Output Method	The Unit Output Data Item	Method of Statistics
E51	Monthly Injection of Field	By Area
E52	Monthly Injection of Well	By Area, By Field
- E53	Monthly Injection of Pormation by Field	By Area,
E54	Monthly Injection of Reservoir Unit	By Area, By Field, By Formation in Field
E55	Monthly Injection of Reservoir Unit	By Area, By Field, By Well
E56	Monthly Injection of Well	By Area, By Field, By Formation in Field,
	uding want fire .	By Reservoir Unit

(11) Historical Monthly Water Injection

Output Kethod	The Unit Output Data Item	Kethod of Statistics
E57	Monthly Injection of Area	1
E58	Monthly Injection of Field	
E59	Monthly Injection of Hell	
E60	Konthly Injection of Formation in Area or Field	
E61	Monthly Injection of Reservoir Unit	

(12) Historical Monthly Gas Injection

Output Kethod	The Unit Output Data Item	Method of	Statis	tics
E62	Monthly Injection of Area			
E63	Monthly Injection of Field	• • . : • : •	1. *	. **
E64	Monthly Injection of Well			. " - 1
Σ 65	Monthly Injection of Formation in Area or Field		:	i h
E66	Monthly Injection of Reservoir Unit		:	14.

(13) Monthly Gas Production and Consumption

Output Kethod	The Unit Output Data Item	Method of Statistics
E67	Monthly Production and Consumption of Area	A Control of the Cont
E68	Monthly Production and Consumption of Field	By Area

(14) Historical Monthly Gas Production and Consumption

Output	The Unit Output Item	Method of Statistics		
Kethod				
E69	Monthly Production and Consumption of Unit II			
£70	Monthly Production and Consumption of Area			
· E71	Monthly Production and Consumption of Field			

(15) Monthly Oil Consumption

Output Kethod	The Unit Output Item	Method of Statistics
Е72	Monthly Oil Consumption of Area	

(16) Historical Monthly Oil Consumption

Output Method	The Unit Output Item	Method of Statistics
B73	Monthly Oil Consumption	
į (£	els of Unitall provedus at a an outrained ad	tadet despeso
874	Monthly Oil Consumption of Area	

(17) Well Status Report for All Wells

Output Kethod	The Unit Output Data Item	Wethod of Statistics
E 75	Number of Wells in Field	By Area
E76	Number of Wells in Reservoir Unit	By Area, By Pield, By Pormation in Pield

(18) Well Status Report for Producer

Output Method	The Unit Output Data Item	Method of Statistic
£77	Number of Producers in Field	By Area
E78	Number of Producers in Reservoir Unit	By Area, By Field, By Formation in Field

(19) Well Status Report for Injector

Output Kethod	The Unit Output Data Item	Method of Statistics
E79	Number of Injectors in Field	By Area
E80	Number of Injectors in Reservoir Unit	By Area, By Field, by Formation in Field

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(20) Well Status Report for Shut-in Well

Output Kethod	The Unit Output Data Item	Method of Statistics
E81	Number of Shut-in Wells in Pield	
E82	Number of Shut-in Wells in Reservoir Unit	By Area, By Pield, By Formation in Pield

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(21) Well Status Report for Waiting Well

Output Method	The Unit Output Data Item	Method of Statistics
E83	Number of Waiting Wells in Field	By Area
E84	Number of Waiting Wells	By Area, By Field, By Formation in Field

ានសុទ្ធសុំនៃសុំ សុស៊ី ស្រាស់ស្រាស់សុស្ស សុស៊ី សុស្សិត្តនេះ នៃសុស្ស សុស្សិត្តសុស្ស សុ

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3-6 F-Reserves Data Information

rifteen of statistical output reporting methods are conceived relating to this data information group, which are referred to the page AI-123 of APPENDIX I.

For the convenience of utilization, these are classified into following four groups.

- (1) Remaining Reserves
- (2) Original Hydrocarbon In Place and Reserves
- (3) Historical Remaining Reserves Summary
- (4) Reservoir Parameter

Assignment parameters for these output reporting methods are as follows.

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

Remarks are made relating to the above as follows.

- 1) Kind of reserves are classified into the following nine categories.
 - i) Oil
 - ii) Gas cap condensate
 - iii) Non Associated condensate
 - iv) Total condensate = ii) + iii)
 - v) Oil & total condensate = i) + ii) + iii)
 - vi) Solution gas
 - vii) Gas cap gas
 - viii) Non Associated gas
 - ix) Total gas = vi) + vii) + viii)

- 2) Primary recovery, secondary recovery and tertiary recovery are conceived as a kind of recovery method, and assignment methods are as follows.
 - Primary recovery
 - Secondary recovery but the state of the state of
 - Tertiary recovery
 - Sum of primary and secondary recoveries
 - Sum of primary, secondary and tertiary recoveries

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- Sum of secondary and tertiary recoveries
- 3) Reserves data corresponding to the period assigned is to be retrieved together with the related data.

A description is made relating to the purpose and function of the methods by groups aforementioned as follows.

- (1) Remaining Reserves
 - Pl Remaining reserves by field by kind of reserves
 - P2 Remaining reserves for formation by field by kind of reserves
 - P3 Remaining reserves by reservoir unit by kind of reserves
 - F4 Remaining reserves by reservoir unit

These are designed for the purpose of grasping statistically the oil, condensate and gas remaining reserves.

Followings are data items for the respective methods of F1-F4 respectively.

ri-ra respectively.	g Antonio de Argango Destrologo y estimo de Antonio				: :
Item name		Fl	F2	F3	F4
·		:			
- Remaining reser of the last year	ves at the beginning ir	0	• •	0	×
- Provéd	in the field Market States		•		·
- Possible	to a first of the second	•			
	Compatible Comment			7. 2	

Item name	F1	-		
- Production during the last year				
- Injection during the last year	0	0	0	×
- Extension or reduction by revision during the last yera	0	0	0	x
- Proved		£	-1 -	
~ Probable	•			
- Possible	•			
- Remaining reserves at the beginning				
the year		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	e d	i .
- Proved	· · · · · · · · · · · · · · · · · · ·	i o	0.	• •
- Probable		0	. 0	×
- Possible				X
- Discountéd	0	Ó	0	Ó
- Method of discounted value calcul	ationo	6.4.1 O	0	istra O

Table in the page 152 shows the unit output data items and the methods of statistics for the respective methods of P1-P4.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of F1-F4.

	ann ata an an an an an Aire an air ag ac	
Output reporting method	Assignment parameter	Assignment parameter for common use
F1	Kind of reserves	Area name Development status of
F2	Formation name, Kind of reserves	reservoir unit Kind of recovery method
F3	Field name, Kind of reserves	Abandon condition for gas cap zone and gas reservoir
F4	Field name	Period

As for P1-P3, data information related to the kind of reserves assigned is to be retrieved, calculated and output according to the other assignment parameters.

As for P2, in case that Jambi is assigned by the assignment parameter of "Area name", remaining reserves related to the assigned formation is to be calculated and output by fields in Jambi area according to the other assignment parameters.

As for P4, 1) in case of oil reservoir, data information related to oil, solution gas, gas cap condensate and gas cap gas, 2) in case of gas reservoir, data information related to Non Associated condensate and Non Associated gas are output by reservoir units according to the other assignment parameters.

The separate properties are the second of th

- (2) Original Hydrocarbon in Place and Reserves
- P5 Original hydrocarbon in place and reserves by field by kind of reserves
 - F6 Original hydrocarbon in place and reserves for formation by field by kind of reserves
 - P7 Original hydrocarbon in place and reserves by reservoir unit by kind of reserves
 - r8 Original hydrocarbon in place and reserves by reservoir unit

These are designed for the purpose of grasping statistically the hydrocarbon in place and the original reserves.

Pollowings are data items for the respective methods of

Item name

- Original hydrocarbon in place

o o o o

- Proved

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- Probable
- Possible

Itėm namė	F5 4 F6 F7 F8
- Recovery factor	
- Proved	and the first of the second section is a second section of the section of t
- Probable	en de la companya de La companya de la co
- Possible	ing the state of t
- Original reserves	
- Proved	n et la relika establik es a galete warrensa kereasa ili disebak.
- Probable	
- Possible	For the property of the party o
- Discounted	in a firm of the analysis of the second second second

Table in the page 152 shows the unit output data items and the methods of statistics for the respective methods of F5-F8.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of F5-F8.

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Output reporting method	Assignment parameter	Assignment parameter for common use
P5	Kind of reserves	Area name
F6	Formation name, kind of reserves	Development status of reservoir unit Kind of recovery method
F7	Pield name, kind of reserves	Abandon condition for gas cap zone and gas reservoir
F8	Field name	Period

As for P5-P7, data information related to the kind of reserves assigned is to be retrieved, calculated and output according to the other assignment parameters.

As for P6, in case that Jambi is assigned by the assignment parameter of "Area name", remaining reserves related to the assigned formation is to be calculated and output by fields in Jambi area according to the other assignment parameters.

As for P8, 1) in case oil reservoir, data information related to oil, solution gas, gas cap condensate and gas cap gas, 2) in case of gas reservoir, data information related to Non Associated condensate and Non Associated gas are output by reservoir units according to the other assignment parameters.

Historical Remaining Reserves Summary (3)

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r9 Histroical remaining reserves summary for area by kind of reserves PlO Historical remaining reserves summary for field by

kind of reserves

Pll Historical remaining reserves summary for formation by kind of reserves

P12 Historical remaining reserves summary for reservoir unit by kind of reserves

F13 Historical remaining reserves summary for reservoir unit

These are designed for the purpose of grasping the remaining reserves of oil, condensate and gas historically.

Pollowings are data items for the respective methods of F9-F13 respectively.

Item name:		F9	P10	Pll	F12	F13
- Remaining re	serves at the begin-	1				:
ning of the - Proved	year	0	•	. · · · ·	•	0
- Probable	genomic established by the control of the control o	0	O	0	0	×
- Possible	€	0	O	0	0	×
- Discounte		0	0	0	0	•

Item name	F9	F10	Fll	F12	P13
- Production during the year	0	• • • • • • • • • • • • • • • • • • •	0	•	×
- Injection during the year	-	Ao s			
- Extension or reduction by revision during the year	ò	e alaa	φ.	* o ::	. x .
- Proved - Probable - Possible		ture i primi tili gradification	er (* 1840)	il des	
- Remaining reserves at the end of the year	E	esevene Las <mark>o</mark>	, o	n se egy ó g	tanta National
- Proved - Probable - Possible					
- Discounted - Method of discounted value calculation	O	ò	o	· •	, O

Table in the page 153 shows the unit output data items and the methods of statistics for the respective methods of F9-F13.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above methods of statistics and the following assignment parameters for the respective output reporting methods of F9-F13.

Output reporting method	Assignment parameter	Assignment parameter for common use
F9	Aréa name, development status of reservoir unit, kind of reserves	Kind of recovery method Abandon condition for gas cap zone and gas reservoir
P10	Field, development status of reservoir unit, kind of reserves	Period
F11	Formation name, area name, development status of reservoir unit, kind of reserves	・ (2)

Output reporting method	Assignment parameter	Assignment parameter for common use
P12	Reservoir unit name,	March Mark
•	kind of reserves	1 I I I I I I I I I I I I I I I I I I I
	e the second	Ram Turk god
F13	Reservoir unit name	esento di di le

As for F9-F12, data information related to the kind of reserves assigned is to be retrieved, calculated and output according to the other assignment parameters.

As for Pl1, in case that Jambi is assigned by the assignment parameter of "Area name", the remaining reserves history of the assigned formation in Jambi area is retrieved and output, while in case that a specific field name is assigned by the assignment parameter of "Pield name", the remaining reserves history of the assigned formation in the field is retrieved and output.

As for F13, 1) in case of oil reservoir, data information related to oil, solution gas, gas cap condensate and gas cap gas, 2) in case of gas reservoir, data information related to Non Associated condensate and Non Associated gas are output by reservoir units according to the other assignment parameters.

(4) Reservoir Parameter

F14 Reservoir Parameter for oil zone

P15 Reservoir Parameter for gas cap zone and gas reservoir

These are designed for the purpose of grasping statistically the reservoir parameter.

Followings are data items for the respective methods of P14 and P15.

Item name P14 P15

- Areal extend
 - Proved
 - Probable
 - Possible

	F14	F15
- Net bulk rock volume	O	Ó
- Proved		
- Probable		
- Possible		
- Weightéd average porosity	•	•
- Proved		
- Probable		
- Possible	en e	e f
- Weighted average water saturation		0
- Proved	ing Arabitan Santa S	r Birograpia
	ing sing sing and the single s	
- Possible	ning sample	
- Weighted average formation volume	•	
- Proved	្រាស់ ព្រះស្រីស្បីស្រីស្រីស្រីស្រីស្រីស្រីស្រីស្រីស្រីស្រ	d Armi
- Probable	ing mada sa	ing edak s
- Possible	ing and the second of the seco	ing of the district of the di
- Original oil in place	_	X
- Proved	。 维	
- Probable	£1951 bill £Batilia ili	
- Possible	tara 12 oktob at A	15 yasa
- Original solution gas in place		
- Proved	ing di kalangan di Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn K Kabupatèn Kabupatèn	១៩១៩
- Probable		•
- Possible		
- Weighted average gas oil ratio	a ann aig nagaras '	Ò
- Proved	er da ar Torranija. Programa	ind At
- Possible		
- KYDANSIOD FACTOF	· · · · · · · · · · · · · · · · · · · 	
- Initial		
- 60 or 20 KSC		
- 30 or 10 KSC	च के कि की है। जिल्लामा	
- Total original gas in place	and the second second	•
- Proved	ti kana ta	
- Probable	in a stand i kanka Padabayah k	
- Possible		
	1000年6月1日 - 1000年	

	F14	F15	
- Fractional gas	•		
- Initial gas in place	×	•	
- Proved			
- Probable		•	
- Possible			÷ ;
- Original condensate in place	×	Ò	*
- Proved - Probable			F + +
- Possible		-	
- Pluid property		×	
- Bubble point pressure		£	:
- Oil gravity	e de la companya de l La companya de la companya de		
- Gas gravity		· •	
- Oil viscosity		:	
- Gas viscosity			:
- Reference report	•	0	
- Title			
- Date	2	11.00	2.0
- Reference number	· <u>-</u>		
- Author			
- Organization of author			
- Map date		•	
	•		

Table in the page 153 shows the unit output data items and the methods of statistics for P14 and P15.

The unit data for data items as mentioned in the previous part is to be retrieved and output according to the above method of statistics and the following assignment parameters for the output reporting methods of F14 and F15.

- Area name
- Field name
- Reservoir unit
- Kind of reservoir

OUTPUT METHOD

(1) Remaining Reserves

Output Method	The Unit Output Data Item	Method of Statistics
Fl	Remaining Reserves of Field by Kind Reserves	By Area
F2	Remaining Reserves of Formation by Field by Kind of Reserves	By Area
P3	Remaining Reserves of Reservoir Unit by Kind of Reserves	By Area, By Field, By Formation in Field,
P4	Remaining Reserves of Reservoir Unit	By Area, By Field, By Formation in Field,

(2) Original Hydrocarbon In Place and Reserves

Output Kethod	The Unit Output Data Item	Method of Statistics
F 5	Original Hydrocarbon In Place and Reserves of Field by Kind of Reserves	By Area The second of the sec
F6	Original Hydrocarbon in Place and Reserves of Pormation by Pield by Kind of Reserves	By Area () as sold () as sold ()
F7	Original Hudrocarbon In Place and Reserves of Reservoir Unit by Kind of Reserves	By Area, By Field, By Formation in Field,
F8	Original Hudrocarbon in Place and Reserves of Reservoir Unit	By Area, By Field, By Formation in Field,

(3) Historical Remaining Reserves Summary

Output Kethod	The Unit Output Data Item	Method of Statistics
F9	Remaining Reserves of Area by Kind of Reserves	e Carollono e Loro esperanto v
P10	Remaining Reserves of Field	And Control
-		新1. 14. 新1. 11. 14.
ri1	Remaining Reserves of Formation in Area or Field by Kind of Reserves	is the section of the
F12	Remaining Reserves of Reservoir Unit by Kind of Reserves	in the street
P13	Rémaining Reserves of Reservoir	
	Unit 2 to 7 1 to 18 to 1	
	Bana salah ta	National Association

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(4) Reservoir Parameter

	Output Method	The Unit Output Data Item	Method of Statistics
	P14	Reservoir Parameter of Reservoir Unit	By Area, By Field, By Formation in Field,
7 4 2	PIS	Réservoir Parameter of Reservoir Unit	By Area, By Field, By Formation in Field

 នៅការប្រជាជាធិបាន បញ្ជាតិដូចបញ្ជាក់ បើបញ្ជាតិសាក់ ប្រតិការណ៍ ដូច សម្រាញ់ ប្រធានប្រជាជាធិបាន ប្រជាជា សិក្សាចាំ «សិក្សាចាំ «សិក្សាចាំ» «សិក្សាចាំ «សិក្សាចាំ » «សិ

3-7 G-Production Operation Data Information

Bleven of basic output reporting methods are ten of combined output reporting methods are conceived relating to this data information group.

Assignment parameters for these output reporting methods are as follows.

- Area name
- Field or prospect name
- Station name
- Well name
- Workover number
- Reservoir unit name
- Layer name
- 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 production log
- Objective for stimulation
- Type of stimulation
- Kind of analysis
- Period

A description is made relating to the purpose and function of the methods as follows.

3-7-1 Basic Output Reporting Method

There are eleven of basic output reporting methods G0-1, G0-11, G0-12, G0-13, G0-14, G0-15, G0-2, G0-21, G0-22, G0-23 and G0-24 which are referred to the page AI-134 of APPENDIX I.

Pollowings are GO-1 and its subordinate output reporting methods.

	G0-1	Well Test and Stimulation Information
	G0-11	Production Test Information
1,	G0-12	Injection Test Information
Þ	G0-13	Subsurface Pressure Survey Information
	G0-14	Production Log Information
e 202	G0-15	Well Stimulation Information

GO-1 is related to data information of well test and stimulation. All the above data information can be retrieved and output at the same time in use of GO-1, while the above data information can be retrieved and output independently in a separate form in use of GO-11, GO-12, GO-13, GO-14 and GO-15 respectively.

Assignment parameters to be applied to the respective methods are as follows.

Output reporting method	Assignment parameter	Assignment parameter for common use
	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 production log, Objective for stimulation, Type of stimulation	Area name Field or prospect name, Well name, Workover number, Réservoir unit name, Layer name, Period
66-11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Kind of production test, Type of production test, Formation name	
60-12 x 10 grade x 11 grade	Kind of injection test, Type of injection test, Type of injection fluid	
60-13	Type of subsurface pressure survey	
G0-14	Kind or production log	
G0-15	Objective stimulation, Type of stimulation	

Test period is to be retrieved according to the assignment of "Period" in case of GO-11, GO-12, GO-13 and GO-14, while stimulation period in case of GO-15.

Followings are G0-2 and its subordinate output reporting methods.

G0-2	Field Laboratory Fluid	Analysis Information
G0-21	Oil Analysis	
G0-22	Condensate Analysis	in the tradition of the constitution
G0-23	Gas Analysis	
GÒ-24	Water Analysis	The Control of the part of the control

GO-2 is related to data information of field laboratory fluid analysis information. All the above data information can be retrieved and output at the same time in use of GO-2, while the above data information can be retrieved and output independently in a separate form in use of GO-21, GO-22, GO-23 and GO-24 respectively.

Assignment parameters to be applied to the respective methods are "Area name", "Field or prospect name", "Station name", "Well name", "Workover number", "Reservoir unit name". Sampling date is to be retrieved according to the assignment of "Period" in these methods.

3-7-2 Combined Output Method

There are ten of combined output reporting methods G1 - G10, which are referred to the page AI - 134 of APPENDIX I.

Gl Production Test Result

G1 is designed for the purpose of correlating data information related to production test by wells. The following data items are selected to retrieve and output according to the instruction given by the assignment parameters as mentioned in the latter part.

- Well name
- Workover number
- String name
- Kind of completed zone
- Well status
- Reservoir unit name
- Kind of production test
- Type of production test
- Test period
- Production record
 - Plowing method for test

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- Choke size
- Oil rate
- Gas rate
- Water cut
- Test result
 - p*
 - Flow capacity
 - Permeability
 - Skin factor
 - Damige ratio
 - Productivity index
 - Ideal
 - Actual
 - Plow efficiency

 - Absolute open flow potential

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Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well naem", "Workover number", "Reservoir unit name", "Layer name", "Kind of production test", "Type of production test" and "Period". Test period is to be retrieved according to the assignment of "Period" in this method,

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G2 Injection Test Result

G2 is designed for the purpose of correlating data information related to injection test by wells. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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- Well name
- Workover number
- String name
- Kind of completed zone
- Well status
- Reservoir unit name
- Kind of injection test
- Type of injection test
- Kind of injection fluid
- Test period
- Injection record
 - Wellhead injecting pressure
 - Injection rate
- Test result
 - .. p#
 - Flow capacity
 - Permeability
 - Skin factor
 - _ Damage ratio
 - Injectivity index
 - Ideal
 - Actual
 - Plow efficiency

Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well name", "Workover number", "Reservoir unit name", "Layer name", "Kind of injection test", "Type of injection test", "Kind of injection fluid" and "Period". Test period is to be retrieved according to the assignment of "Period" in this method.

G3 Bottomhole Pressure Survey Record Diagram

G3 is designed for the purpose of correlating the kind and the number of bottomhole pressure surveys carried out in the wells by the reservoir units in the assigned field or prospect. The following data items are retrieved and output according to the assignment parameters as mentioned in the latter part.

- Well name
- Reservoir unit name
- Type of subsurface pressure survey
- Number of subsurface pressure surveys conducted

Assignment parameters to be applied to this method are as follows.

- Field or prospect name
- Well name
- Workover number
- Reservoir unit name
- Period to the second

Test period is to be retrieved according to the assignment of "Period" in this method. Ten of reservoir units and its output order can be assigned at most by one time execution. In case of correlation of reservoir units more than ten each, therefore, executions more than two times are required for production of output. As for number of well names, it is unlimitted and the output order for well name can be assigned.

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G4 Current Bottomhole Pressure Survey Record

G4 is designed for the purpose of correlating the most up-to-date information related to bottomhole pressure record by wells. The following data items are selected to retrieve and output according to the instruction given by the assignment parameters as mentioned in the latter part.

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- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Type of subsurface pressure survey
- Survey depth
 - BDF
 - Subsea depth
- Datumn plane depth in subsea depth
- Date of last calibration
- Pressure element number
- Type of pressure element
- Bottomhole pressure (final point)
- Liquid level in subsea depth
- Average pressure gradient for gas column
- Average pressure gradient for liquid column
- Wellhead pressure

Assignment parameters to be applied to this method are "Area name", "Field or Prospect Name", "Well name", "Reservoir Unit Name", "Layer Name" and "Type of Subsurface Pressure Survey".

G5 Current Buildup and Falloff Pressure Survey Result

G5 is designed for the purpose of correlating the results of buildup and falloff pressure surveys carried out in the most up-to-date by wells. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Well name
- Workover number
- Reservoir unit name
- Layer name
- Period
- Type of subsurface pressure survey
- Survey depth
 - BDF
 - Subsea depth

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- Bottomhole pressure (final point)
 - Test analysis result
 - _ p*
 - Flow capacity
 - Permeability
 - Skin factor
- Damage ratio
- Productivity index
 - . Proper region of the **ideal** region is the region of the contribution
 - Actual
 - Flow efficiency
 - Qo_{máx}
 - Absolute open flow potential

Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well name", "Reservoir unit name", "Layer name" and "Type of subsurface pressure survey".

G6 List of Production Log Survey

G6 is designed for the purpose of correlating data information related to production log survey by wells. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Well name
- Workover number
- Reservoir unit name
 - Layer name
 - Survey périod
- Kind of production log
 - Run number
 - Interval
 - .- Log identification number

Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well name", "Workover number", "Reservoir unit name", "Layer name", "Kind of production log" and "Period".

Test period is to be retrieved according to the assignment of "Period" in this method.

G7 Stimulation Job Result

G7 is designed for the purpose of correlating data information related to stimulation by wells. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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- Well name
- Workover number
- Period
- Objective for stimulation
- Type of stimulation to be a first to be a first to be
 - Total days
 - Summary of treatment and the state of the
 - Reservoir unit name
 - Interval
 - Production test information before stimulation
 - Date of production test
 - Plowing method for test
 - Choke size
 - Oil rate
 - Gas rate
 - Water cut
 - Productivity index (actual)
 - Skin factor
 - Production test information after stimulation
 - Date of production test
 - Plowing method for test and common of this e
 - Choke size
 - Oil rate
 - Gas rate
 - -. Water cut
 - Productivity index (actual)
 - Skin factor

Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well name", "Workover number", "Reservoir unit name", "Layer name", "Objective for stimulation", "Type of stimulation" and "Period". Stimulation period is to be retrieved according to the assignment of "Period" in this method.

G8 Field Laboratory Fluid Analysis Data Summary

G8 is designed for the purpose of correlating data information related to field laboratory fluid analysis data (oil, condensate, gas and water) by wells. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Well name
- Sampling date
- Reservoir unit name
- Layer name
- Kind of analysis
- Sampling place
- Oil or condensate information
 - API gravity
 - API pour point
- Gas information
 - Component with highest per cent volume
 - Per cent volume of CO2
- Gross heating value
- Net calorific value
 - Water information
 - Carrier to Salinity protection of the literature of the
 - Scaling index
 - Total solid

Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well name", "Workover number", "Reservoir unit name", "Layer name", "Kind of analysis" and "Period". Sampling date is to be retrieved according to the assignment of "Period" in this method.

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G9 Field Laboratory Gas Analysis Data Summary

G9 is designed for the purpose of correlating the gas components obtained by field laboratory gas analysis by wells. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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- Well name
- Sampling date
- Reservoir unit name
- Layer name
- Sampling place
- Component
 - H₂S
 - $-co_2$
 - o₂
 - N₂
 - c,
 - C₂
 - c₃
 - ,C4
 - _nc₄
 - _ic₅
 - _nc₅
 - c₆₊

Assignment parameters to be applied to this method are "Area name", "Field or prospect name", "Well name", "Workover number", "Reservoir unit name", "Layer name" and "Period". Sampling date is to be retrieved according to the assignment of "Period" in this method.

Glo Field Laboratory Water Analysis Data Summary

GlO is designed for the purpose of correlating the water components obtained by field laboratory water analysis by wells.

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The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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 - Sampling date
- Reservoir unit name
 - Layer name
 - Sampling place
 - Component
 - Na[†]
 K[†]
 Ca^{††}
 Mg^{††}
 - Fe⁺⁺¹
 - c1⁻
 - нсо<u>з</u>
 - co₃

Assignment parameter to be applied to the method are "Area name", "Field or prospect name", "Well name", "Workover number", "Reservoir unit name", "Layer name" and "Period". Sampling date is to be retrieved according to the assignment of "Period" in this method.

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3-8 H-Production Facilities Data Information

Six of basic output reporting methods and eleven of combined output reporting methods are conceived relating to this data information group.

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Assignment parameters for these output reporting methods are as follows.

- Field office name
- Pacilities field name
- Kind of station
- Station name
- Kind of equipment
- Equipment name
- Spécification
- Manufacturer name
- Result of inspection
- System code (Refer to the page AII-176 of APPENDIX II)
- Period

Remarks of the above assignment parameters are described as follows.

- Pacilities field name is different from the above-mentioned field name (Refer to Appendix III) and is the name of division area for production management. In general, one division area for production management consists of a few or several fields.
- 2) Assignment parameters related to "Specification" classified by kinds of equipment, are described as "Specification items for assignment" in the next page Table 3-1. In case of vessel tank, for example, a certain range is to be assigned as to assignment parameters of "Volume" and "Pressure" (e.g. over 5m³, 10-50 kg/cm²G). As a result, vessel tank with the data of which the value falls in the range is to be retrieved together with the related data.

Table 3-1 SPECIFICATION ITEMS FOR ASSIGNMENT

ģ	XIND OF EQUIPMENT	TW.	MAIN SPECIFICATION (DESIGN)		
CODE	TOWN	(a)	के की (2) है के हैं कि	(3)	·
ಸ	Separator	Flow Rate (Lig.) ki/d 9(4)v9(1)	Flow Rate (Gas) std m ³ /d 9(8)	Pressure kg/cm ² G 9(3)v9(1)	
:8	Vessel Fank	Volume m ³ 9 (6)	Pressure kg/cm ² G 9(3)v9(1)	1	
ုန	Absorber	Flow Rate "1 kg/h 9(8)	Flow Rate (Solution) 1/min 9(5)	Pressure kg/cm ² G 9(3)v9(1)	*1 Flow rate of fluid treated
8	Stripper	Flow Rate 1 kg/h 9(5)	Flow Rate (Solution) 1/min 9(5)	Pressure kg/cm ² G 9(3)v9(1)	
8	Filter	Flow Rate (Lig.) XL/d 9(6)	Flow Rate (Gas) std m ³ /d 9(8)	pressure kg/cm ² c 9(3)v9(1)	
98	Adsorber	Flow Rate *1 kg/h 9(5)	Procesure kg/cm²c 9(3) v9(1)	1	
12	Storage Tank	Volume m ³ 9(6)	Pressure cm H ₂ O G 9(3) v9(1)		

Ž	KIND OF EQUIPMENT	Z	MAIN SPECIFICATION (DESIGN)	·	
	MAME	Ĉ	(2)	(3)	
	Reat Exchanger	Thermal Duty kcal/h 9(8)	Surface Area 12 m ² m ² 9(4)		* Heating Surface Area
4.5	Fired Keater	Thermal Duty kcal/h 9(8)	Surface Area*1 m ² 9(4)		
	Refrigerator	Thermal Duty Kcal/h 9(8)	Flow Rate (Brine) kl/h 9(3)v9(1)		
	Pump	Flow Rate kl/h 9(5)v9(3)	Head *2 kg/cm ² 9(3)v9(1)		*2 Total Difference Read
	Compressor	Flow Rate std m ³ /h 9(7)	Mead *2 kg/cm ² 9(3)v9(1)		
	Senerator	Output Capacity kVA 9(5)	Voltage Volt 9(4)		
	Fan or Blower	Flow Rate std m ³ /h · 9(7)	maka cm		
	S. gr., Park Lagrage,Agitator,	Ро че т КИ 9 (3)	volume x1/each 9(5)		*3 Volume of vessel per each agitator

		"I Power corresponding to voltage used actually	*2 Speed without reduction			*3 Design flow rate per one whole system *4 Duration of discharge corresponding to design flow rate	
W)	(3)					Duration *4 min 9(3) v9(2)	
SPECIFICATION (DESIGN)	(2)	Speed *2 mpm 9(5)	Speed 2 rpm 9(5)	Speed "2 spm 9(5)	Speed *2 rpm - 2 (5) 6 (5)	Flow Rate *3 (Other) 1 kg/min 9 (5)	
NATA	(t)	Powor*** KW 9(5)	Power XW 9(4)v9(1)	Power XW 9(4)v9(1)	Power 9(S)	Flow Rate "3(Liquid) 1/min 9(5)	
KIND OF EQUIPMENT	NAME:	Zioctale Motor	Ignition Engine	Scoom Engline		Fire Fighting System	
X	2000	#	8	8	***	। । । । । । । । । । । । । । । । । । । 	Tentral and

A description is made relating to the purpose and function of the methods as follows.

3-8-1 Basic Output Reporting Method

There are six of basic output reporting methods H0-1, H0-11, H0-12, H0-2, H0-21, and H0-22, which are referred to the page AI-161 of APPENDIX I. Pollowings are H0-1 and its subordinate output reporting methods.

H0-1	Station General
но-11	Station Resume
H0-12	Station Modification

HO-1 is related to data information of station general. All the above data information can be retrieved and output at the same time in use of HO-1, while the above data information can be retrieved and output independently in a separate form in use of HO-11 and HO-12, respectively.

Assignment parameters to be applied to the respective method are "Field office name", "Facilities field name", "Kind of station", "Station name", and "Period".

Date of installation is to be retrieved according to the assignment of "Period" in case of HO-11, while end date of modification in case of HO-12. And both date are to be retrieved simultaneously and independently in case of HO-1.

HO-2	Equipment General
H0-21	Equipment Resume
H0-22	Equipment Maintenance

H0-2 is related to data information of equipment general.

All the above data information can be retrieved and output at the same time in use of H0-2, while the above data information can be retrieved and output independently in a separate form in use of H0-21 and H0-22, respectively.

Assignment parameters to be applied to the respective methods are "Field office name", "Pacilities field name", "Kind of

station", "Station name", "Kind of equipment", "Equipment name", "Specification", "Result of inspection", and "Period".

Date of installation is to be retrieved according to the assignment of "Period" in case of H0-21, while end date of work in case of H0-22, and both dates are to be retrieved simultaneously and independently in case of H0-2.

3-8-2 Combined Output Method

There are eleven of combined output reporting methods
H1 - H11, which are referred to the page A1-161 of APPENDIX I.

Hl Summary of Station (by Facilities Field)

Il is designed for the purpose of correlating data information related to station by facilities fields. And this is the summarized report of the above-mentioned basic output reporting method about stations. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Station name
 - Function and capacity
 - Drawing no. of flow diagram
 - Drawing no. of plot plan
 - Drawing no. of piping
 - Order document no.
 - Station cost
 - Date of station delivery

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "kind of station", "Station name", and "Period". Date of station delivery is to be retrieved according to the assignment of "Period" in this method.

H2 Station Cost Data by Kind of Station

H2 is designed for the purpose of correlating data information

related to station cost by kinds of station. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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- Station name
- Station cost (Material cost)
- Station cost (Site work cost)
- Station cost (Indirect cost)
- Station cost (Total cost)
- Date of station delivery.
- Invoice no. A contact that the property of the state of

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name", and "Period". Date of station delivery is to be retrieved according to the assignment of "Period" in this method.

H3 Station Cost Data by Year (of Station Delivery)

H3 is designed for the purpose of correlating data information related to station construction cost by years of station delively. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Station name
- Station cost
- Date of station delivery

Assignment parameters to be applied to this method are "Field office name", "Facilities field name", "Kind of station", and "Period". Date of station delivery is to be retrieved according to the assignment of "Period" in this method.

H4 Summary of Equipment (by Station)

H4 is designed for the purpose of correlating data information

related to equipment by stations. And this is the summarized report of the above-mentioned basic output reporting method about equipment. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Equipment name
- Equipment popular name (Ex. water injection pump)
- Equipment object no.

 - and the Type (1988) is given the second and the second of the second second second second second second second - Main specification (Refer to Table 3-1)
 - Manufacturer name
 - Drawing no.
 - Order document no.
 - Date of installation
 - Equipment cost

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name", "Kind of equipment", "Equipment name", "Main specification", and "Period". Date of equipment installation is to be retrieved according to the assignment of "Period" in this method.

H5 Equipment Cost Data by Kind of Equipment

H5 is designed for the purpose of correlating data information related to equipment cost by kinds of equipment. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Equipment name
- Equipment popular name
 - .- Station name
 - Equipment Object no.
 - Type
 - Main specification (Refer to Table 3-1)
 - Equipment cost
 - Date of installation

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 $(2n_1,2n_2)(2n_2,\frac{n_2}{2},\dots,2n_n) = (2n_1,2n_2,\dots,2n_n)$

Assignment parameters to be applied to this method are "Pield office name", "Facilities field name", "Kind of station"; "Station name", "Kind of equipment", "Main specification", and "Period". Date of equipment installation is to be retrieved according to the assignment of "Period" in this method.

H6 Equipment Data by Manufacturer

H6 is designed for the purpose of correlating data information related to equipment by manufacturers. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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- Equipment name
- Equipment popular name
- Station name
- Equipment object no.
- Type
- Equipment cost
- Date of installation

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name", "Kind of equipment", "Manufacturer name", "Manufacturer scountry name" and "Period". Date of equipment installation is to be retrieved according to the assignment of "Period" in this method.

H7 Equipment Cost Data by Year (of installation)

H7 is designed for the purpose of correlating data information related to equipment cost by years. The following data items are selected as mentioned in the latter part.

- Equipment name of the production of the produc
- Equipment popular name
- Station name
- Equipment object no.
- Type

- Equipment cost
 - Date of installation

Assignment parameters to be applied to this method are "Field office name", "Facilities field name", "Kind of station", "Station name", "Kind of equipment" and "Period". Date of equipment installation is to be retrieved according to the assignment of "Period" in this method.

H8 Summary of Station Modification (by Modification)

H8 is designed for the purpose of correlating data information related to station modification. And this is the summarized report of the above-mentioned basic output reporting method about station modification. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Station name
- Date of station delivery
- Station cost (Initial investment)
 - End date of modification
 - Period of modification
- Modification cost
 - Invoice no.
 - Order document no.
 - Report no.
 - Kind and name of executor

Assignment parameters to be applied to this method are "Field office name", "Pacilities field name", "Kind of station", "Station name", and "Period". End date of modification is to be retrieved according to the assignment of "Period" in this method.

H9 Summary of Equipment Maintenance (by Maintenance)

H9 is designed for the purpose of correlating data

information related to equipment maintenance. And this is the summarized report of the above-mentioned basic output reporting method about equipment maintenance. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Equipment name
- Equipment popular name
- Equipment object no.
- Type
- End date of work
- Period of work
- Kind and name of executor
- Kind of repair
- Kind of inspection
- Result of inspection
- Maintenance cost
- Report no.

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name", "Kind of equipment", "Equipment name", "Result of inspection", and "Period". End date of work is to be retrieved according to the assignment of "Period" in this method.

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H10 Equipment Maintenance Cost Data (by Year)

H10 is designed for the purpose of correlating data information related to equipment maintenance cost by years. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Equipment name
- Equipment popular name
- Equipment óbject no.
- Type
- Maintenance cost by year

- Equipment cost
- Date of installation
- Year

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name", "Kind of equipment", "Equipment name", and "Périod". End date of work is to be retrieved according to the assignment of "Period" in this method.

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Hll System's Equipment Data

Hil is designed for the purpose of correlating data information related to equipment by systems. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Equipment name
- Equipment popular name
- Equipment object no.
- A Type a palicy stall common at
 - Name of manufacturer
 - Date of installation
- Equipment cost
- Thvoice no.
- Tay of Drawing no. The Golden and Control of the Co
 - Order document no.

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name", "System name", and "Period". Date of equipment installation is to be retrieved according to the assignment of "Period" in this method.

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3-9 I-Pipeline Data Information

Three of basic output reporting methods and five of combined output reporting methods are conceived relating to this data information group.

Assignment parameters for these output reporting methods are as follows.

- 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
- Nominál size
- Pipeline name
- Result at inspection
- Period

Remarks of the above assignment parameters are described as follows.

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1) Crude oil flowing in the pipeline gathers gradually into one station along the flow from well to block station, from block station to gathering station and so on in the oil production field.

So, it is convenient to use pipeline end point for the purpose of grouping pipeline. When pipeline is assigned, we use the name of place where the pipeline end point belongs to.

Pipeline end point is defined as the downstream side of pipeline in case of production line and as the upstream side of pipeline in case of injection line.

A description is made relating to the purpose and function of the method as follows.

3-9-1 Basic Output Reporting Method

There are three of basic output reporting methods 10-1, 10-11 and 10-12, which are referred to the page AI-174. of APPENDIX I. Pollowings are IO-1 and its subordinate output reporting methods.

10-1 Pipeline General
10-11 Pipeline Resume
10-12 Pipeline Maintenance

10-1 is related to data information of pipeline. All the above data information can be retrieved and output at the same time in use of 10-1, while the above data information can be retrieved and output independently in a separate form in use of 10-11 and 10-12, respectively.

Assignment parameters to be applied to the respective methods are "Field office name", "Facilities field name", "Kind of station", "Station name" at pipeline end point and "Kind of line pipe", "Nominal size", Pipeline name", "Result of inspection", and "Period".

Date of installation is to be retrieved according to the assignment of "Period" in case of 10-11, while end date of work in case of 10-12. And both dates are to be retrieved simultaneously, respectively and independently in case of 10-1.

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3-9-2 Combined Output Method

There are five of combined output reporting methods 11-15, which are referred to the page AI-151 of APPENDIX I.

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Il Summary of Pipeline

Il is designed for the purpose of correlating data information related to pipeline by stations at pipeline end point. And this is the summarized report of the

above-mentioned basic output reporting method about pipeline by stations at pipeline end point.

The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Pipeline name
- Well or station name at pipeline starting point

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- Objective at installation
- Nominal size
- Length
- Design pressure
- Kind and specification of line pipe
- Drawing no.
- Order document no.
- Kind of executor
- Construction cost
- Date of installation
- Invoice no.

Assignment parameters to be applied to this method are "Field office name", "Facilities field name", "Kind of station", "Station name" at pipeline end point and "Kind of line pipe", "Nominal size", "Pipeline name" and "Period". Date of installation is to be retrieved according to the assignment of "Period" in this method.

12 Pipeline Cost Data by Kind of Line Pipe

12 is designed for the purpose of correlating data information related to pipeline cost by kinds of line pipe. The following data items are selected to retrieved and output according to the assignment parameters as mentioned in the latter part.

- Pipeline namé
- Station name at pipeline end point
 - Well or station name at pipeline starting point

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- Objective at installation
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 - Design pressure
 - Specification of line pipe
 - Construction cost
 - Construction cost per length
- and a Date of installation of the product of the state of the

Assignment parameters to be applied to this method are "Field office name", "Facilities field name", "Kind of station", "Station name" at pipeline end point and "Kind of line pipe", "Nominal size", "Pipeline name", and "Period". Date of installation is to be retrieved according to the assignment of "Period" in this method.

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13 Pipeline Cost Data by Year (of Installation)

13 is designed for the purpose of correlating data information related to pipeline cost by years. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Pipeline name
- Station name at pipeline end point
- Well or station name at pipeline starting point
- Objective at installation
- Nominal size
- Length
- and for #Design pressure payment has a ratio or any it as a reco
- Kind and specification of line pipe
 - Could be Construction cost on the sections of the section of
 - al datpate of installation and the design of the design of

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Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name" at pipeline end point and "Kind of pipeline", "Nominal size", and "Period". Date of installation is to be retrieved according to the assignment of "Period" in this method.

14 Summary of Pipeline Maintenance (by Maintenance)

14 is designed for the purpose of correlating data information related to pipeline maintenance. And this is the summarized report of the above-mentioned basic output reporting method about pipeline maintenance. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

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- Pipeline name
- Well or station name at pipeline starting point
- , -Kind of line pipe
 - Nominal size
 - End date of work
 - Period of work was a market of the state o
 - Kind and name of executor
 - Kind of repair
 - Kind of inspection
 - Result of inspection
 - Maintenance cost
 - Invoice no.
 - Order document no.
 - Report no.

Assignment parameters to be applied to this method are "Pield office name", "Pacilities field name", "Kind of station", "Station name" at pipeline end point and "Kind of line pipe", "Result of inspection" and "Period". End date of work is to be retrieved according to the assignment of "Period" in this method.

15 Pipeline Maintenance Cost Data (by Year)

15 is designed for the purpose of correlating data information related to maintenance cost of pipeline. The following data items are selected to retrieve and output according to the assignment parameters as mentioned in the latter part.

- Pipeline name
- Well or station name at pipeline starting point
- Kind of line pipe
- Nominal size
- Date of installation
- Construction cost
- Year
- Maintenance cost per year

Assignment parameters to be applied to this method are "Field office name", "Facilities field name", "Kind of station", "Station name" at pipeline end point and "Kind of line pipe", and "Period". End date of work is to be retrieved according to the assignment of "Period" in this method.

Chapter 4.

CONCEPTUAL SYSTEM DESIGN

Chapter 4 Conceptual System Design

In this chapter, conceptual system design was made on the basis of the results of the analysis of the output reporting methods proposed in Chapter 3.

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Firstly, a data structure was established as the basis of the system design, and then estimates were made, by structures, for the data volume accumulated presently in PERTAMINA Unit EP-II and the data volume to be updated by years. Secondarily, assignment parameters proposed in Chapter 3 and data in the data structure were investigated and some of data items were selected for coding of which a format and method were recommended.

In addition, master files such as field master, well master, zone master and station master were proposed to establish independently of the data base so as to improve the efficiencies of the system function.

As for data processing, a conception is made for input-output processing and processing for data proof.

Lastly, as for programs to be utilized, an introduction of IMS (Information Management System) to the system was recommended and COBOL as recommended as a main computer language for utility and estimates were made for the number of line statements of the application programs to be prepared for the system.

In the followings, the data structure is described in Section 1, the data volume in Section 2, the code system in Section 3, the master file in Section 4, the data processing in Section 5 and the program in Section 6.

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4-1 Data Structure

Data structure has been established based on the results of the analysis of the output reporting method proposed in Chapter 3. For this purpose, data items were selected for the data structure and properties among one another were investigated. In the course of analysis, the format, the length and the frequency of occurrence of data were made clear and taking into account following characteristics of data, it was concluded to recommend that data be processed and handled by means of a batch system.

- 1) There is time to update data.
- 2) Abundance of data is apt to be processed at one

In conclusion, the data structure has been established as shown in APPENDIX II, taking into consideration an efficiency of data retrieval and an easiness of data processing on the data base. Features of the data structure and summarized as follows:

- 1) The structure is the special mark of a hierarchical structure with seventeen root segments.

 The root segment is located at the first level and consisted of the minimum unit data which have a higher frequency of retrieval.
- 2) Structures have the said seventeen root segments on the top level followed by segments at second and third levels.
- 3) Followings are the abbreviation and full name of the seventeen structures with the above root segments and number of segments under the respective root segment.

			Numb	er of segm	ent
Abbreviation	Name	- 15	1st lev.	2nd lev.	3rd lev.
A-1	Right Holder's	Area	1.	2	1
 A-2	Geological Sur		ì	1	· · · · · · · · · · · · · · · · · · ·
A-3	Geological Ana		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	1
#####################################	Resource Pros		1	1	
A-5	Map and Pigure		1	2	
A-6	Réport		1	1	
B	Geophysical D	ata	1	5	11
· c	Well Data	ad atalini	1	21	5
D	Pétrophysical	and PVI	1	1	1
4.4	Analysis Da	ta .		taring the second	
E-1	Production an	d Inject	ion 1	2	3
E-2	Oil Consumpti	òń	1	1	
E-3	Gas Consumpti	on	1	1	
F	Reserves Data		1	2	t with the
G-1 pulk na teophili	Well Test and Stimulation	garia a Garaga	· · · · · · · · · · · · · · · · · · ·		(1) 1
G−2	Pield Laborat	ory Plu	id		
	Analysis		. 1	4	4 Å
H-1	Station		1	2	
H-2	Equipment		1		
Ĭ	Pipeline Data	ì	5 1 1		
•					
	Section 1	. :			

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4-2 Data Volume

Estimates were made for the data volume as shown in Table 4-1, on which the system design and the conception of computer hardware as mentioned in the latter part were based.

In the table, accumulated data volume means the data volume accumulated and stored presently in PERTAMINA Unit EP-II and yearly data volume means the data volume to be updated yearly for the data bank system.

The accumulated data volume is limitted to:

- Geological and geophysical data since 1966
- All well data
- Production data for five years
- Existing production facilities

Premises for estimates are, as follows, by data information groups.

- (1) A-Geological Data and Right Holder's Area Information
 The following data had been accumulated for the period
 1967 to 1979.
 - 20 each right holder's areas
 - 10 times surveys
 - 90 times analyses
 - 100 prospects
 - 5000 sheets of maps and figures
 - 650 volumes of reports
- (2) B-Geophysical Data Information
 The following data had been accumulated for the period
 1967 to 1977.

- 32 times seismic surveys
- 2 times magnetic surveys
- 3 times well velosity surveys
- 10 times special surveys
- 2500 sheets of maps
- 300 volumes of reports

(3) C-Well Data Information

- 370 production wells (73 natural flowing, 99 gas lifting and 198 pumping).
- 1080 non-producers
- 85 wells drilled during 1976 to 1978
- 237 times workovers during 1976 to 1978

(4) D-Petrophysical and PVT Analysis Data Information

- 28 times core analyses during 1967 to 1977
- 6 times PVT analyses during 1967 to 1977

(5) E- Production Data Information

- 408 producers
- 5 injectors

(6) F-Reserves Data Information

- 600 oil reservoirs
- 200 gas reservoirs

(7) G-Production Operation Data Information

- 150 times production tests for a year
- 4 times injection tests for a year
- 150 times subsurface pressure survey for a year
- 10 times production logs for a year
- 150 times well stimulations for a year
- 100 times field laboratory fluid analyses for a year

	- 54 stations	
(9)	I-Pipeline Data Information	
	- 1491 pipelines	ÿ
	1917年,1917年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,1918年,19	
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Data Volume of Each Structure

er er er er	.11	Table 4-1 Data Volume of	Each Structure	e l	
j∄, Stij	erii.				
8	Abbreviation of Structure	Name of Structure	Number of Segments	Accumulated Data Volume	Yearly Data Volume
.	-W-1	Right Holder's Area	4	150 [KB]	5 [XB]
~		Geological Survey	7	2 14 0 14 (0 14	2
n M	8-4	Goological Analysis	783 4 8 0	00 1	00
ं प्र च	3-4	Prospect	6		ń (
Ŋ	ν «	Map and Figure	ැට්ර ෆ් . ව	20 o o	000
Ý	A-6		(4)	004	Ö Ü
7	M	Geophysical	17	ന	00
ω.	U	Well	27	15,000	,000,1
• •	ο Δ	Petrophysical and PVT Analysis	 M	S S	음 유
, H	- H	on and	* ? '	15,000	2,000
H	H 1	Oil Consumption	<i>R</i>	20	છ ે.
12	ee - 0	Gas Consumption	ď	0 2	ဖ
H H	fu fu	Reserves	ო	00% 8	O 0
. 4	Q-1	Well Test and Stimulation	7	1,500	200
	8-6	Field Laboratory Fluid Analysis	ம்	1,700	200
4	H	Station	m	004	0 H
<u> </u>	1 Z	Baulonent	8	009	09
8	н	Pipeline	N	000,1	, 00 H
		(Total)	96	45,310	4,874

4-3 Code System

A proposal is made for an establishment of the code system of data items. For this purpose, the assignment parameters in Chapter 3 and the data items in APPENDIX II were investigated and as results, data items of 148 each were selected for coding from the standpoint that these would be in use of high frequency. In addition, these were classified into two groups, an assignment parameter code for common use of more than two data information groups and an assignment parameter code used only for a specific data information group.

Followings are a proposal of format and method for coding.

4-3-1 Assignment Parameter Code for Common Use

Pollowing data item were selected as assignment parameters for common use.

- Province
- Area
- Field office
- Field
- Facilities field
- Well
- Formation
- Reservoir unit
- Layer
- Station
- Map and figure
- Report
- Well status
- Kind of reservoir

As for "Unit name", it is not necessary to prepare the code in the data base because discrimination among units can be accomplished by the data base itself which has the unit name. Coding for the assignment parameters for common use are proposed as follows.

(1) Province Code, Area Code, Field Office Code

As for "Province", one character for the code is conceived due to the reason because it is reported to be the administrative district with six districts in Unit-II and no change in its number be expected in the future. As for "Area", two characters for the code are conceived because it is reported to be four areas that have been defined by PERTAMINA for the purpose of the operational use and therefore, the number might increase in accordance with the progress of a development.

As for "Field office", one character for the code is conceived because it is reported to be two field office presently at PERTAINA and it will not exceed number of ten in the future even increased by the development progress.

Following is an example of the code and the full name related to the above three items.

	the property of the second of the Code	Full Name
	oden (fr. 1975) (Lenga, ujászkan nyitt niss zász, aktoberen elektrol. Od nis an egyő Próvince jegyezetették a ki ^{ll} ak jelektettett.	Jambi
		S. Sumatra
		W. Sumatra
		Riau
12.5	aratin sakuda je a moje je a se je je a je	Bengkulu
		T a manual man
	Area Area	South Palembang District
	The second of the control of the control of \$02 and the control of	Middle Palembang District
	 Region to the first period of the street of the second of t	Musi District
	်နှံ့ ကြောက်ချိန် ကိုန်ကြီး အနေနေတို့ အသည် အသည် ရေးအနေနှင့် ကြောင်းသည်။	Jambi District
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Field office

The above code and name will be correlated and be made use of in the system as exampled in the following. Ten characters are provided for the full name of Province and fifteen characters for the full name of "Area" and "Field Office". Therefore a proper abbreviation has to be given to the full name which exceeds the above respective character numbers.

Example

Province	2 S.SUMATRA (10)
Area	04 JAMBI DISTRICT (15)
Field office	2 PRABUMULIH
	() shows number of characters

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(好人) 网络人名英马克 电电子 医皮肤透透性萎缩 医毒毛

(2) Field Code

rield code is provided for the field name and the prospect name. About sixty fields are reportedly in Unit EP-II and about fifty prospects are estimated in Unit EP-II. Three characters for the code are conceived to be sufficient even that the number of field and prospect be increased according to the progress of development. APPENDIX III shows the list of the name of field and prospect of Unit EP-II being reported. Coding for the above should be made by PERTAMINA taking convenience of operational usage into account. The code, the abbreviation and the name will be correlated and be made use of in the system as exampled in the followings.

The abbreviation is provided especially for the output to avoid diffuseness which might result in difficulty of the output design.

Twenty-five characters will be provided for the full name and three characters for the abbreviation. Therefore, a proper abbreviation has to be given to the full name.

Example

Code	Name	Abbreviation
[021]	KUANG	
(3)		(25)

Buyan tarn that Efficiency of fire and a survey of a control of the decay of

() shows number of characters

(3) Facilities Field Code

It is reported that about twenty-five facilities field exist presently in Unit EP-II and these will never be more than ninety-nine in future. As results, two characters for the code are conceived to be more than sufficient. APPENDIX III shows the list of the name of facilities field of Unit EP-II being reported.

Coding for the above should be made by PERTAMINA taking convenience of operational usage into account. The code, the abbreviation and the name will be correlated and be made use of in the system as exampled in the followings.

The abbreviation is provided for the output due to the same reason as mentioned in Field code. Fifteen characters will be provided for the name and three characters for the abbreviations.

Therefore, a proper abbreviation has to be given to the full name.

Example

Code	, <u></u> .		Na	me 🥱		<u></u>	Ι _Ι 12 μ.		Abbr	eviatio	'n
01	T	AN	J	א ט	G	T I	G A	:	ī	JT	
(2)	(r sīji	114	1 1 1	1. / <u>5</u>	. 55	(15)	145	5	(3)	
								40.00		100000	

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(4) Well Code

It is reported that about one thousand-four hundreds wells exist at present in Unit EP-II. Well code is conceived to consist of Field code and the sequence number attaching to by fields.

Three characters for the sequence number will be sufficiently provided because any field never happen to have more than 999 wells.

As for the name of well, it is proposed to be defined as a composition of a field name and its number like "KUANG-001" or "LIMAU-M001". A proper number, therefore, has to be attached to by fields by PERTAMINA taking convenience of operational usage into account.

Well code will be made use of in the system as exampled in the following.

Example

() shows number of character (1866)

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(5) Formation Code

It is reported that eight formations exist at present in Unit EP-II. However, two characters for the code are conceived taking an increase of number according to the development progress into consideration.

The code and the name are proposed as follows.

Code	Full name	Abbreviation
01	Kasai Formation	KAP
02	Muara Pormation	MUP
03	Air Benaket Formation	ABP
04	Gumai Pormation	GUF
4. 05 (2.4.5)	Batu Raja Formation	BRF
06	Talang Akar Formation	TAP
07 Takes	Lahat Formation	LAP
68 24 34	Basement	BAS

The code, the abbreviation and the name will be correlated and be made use of in the system as exampled in the following.

The abbreviation is provided especially for the output to avoid diffuseness like "Talang Akar Formation".

Pifteen characters are provided for the full name of a formation and three characters for the abbreviation. Therefore, a proper abbreviation has to be given to the full name.

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Code	Nane	Abbreviation
0 6	TALANG AKAR	TAF
(2)	(15)	(3)

() shows number of characters

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(6) Reservoir Unit Code

It is reported that about one thousand reservoir units exist presently in Unit RP-II.

Reservoir unit code is conceived to be in use of all the time together with Field code.

In response to a request of the counterpart, the reservoir unit code prevailingly used in Unit RP-II is to be introduced into the system in the form as it is.

Pollowings are part of the code and the name related to the reservoir unit code being reported.

	Nama	. 1
Code	Name	表現
110-2101	a0al ABC	BLOCK I
-2102	a0al ABC	Brock 11
-2103	aoal ABC	BLOCK III
-2201	DHF	BLOCK I
-2202	DHP	BLOCK II
-2203	DHP	BLOCK III
-2301		BLOCK I
-2302		BLOCK II WARE BURNEL
-2303	en e	BLOCK TII
		化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基

建氯化丁烷基酚 医乳二丁香 化油油干燥机 医腹囊神经 人

The code and the name are correlated and are made use of in the system as exampled in the following.

Twenty characters are provided for the full name and four characters for the code.

A proper abbreviation has to be given to the full name which exceeds the above character numbers.

Example

(7) Layer Code

It is reported that about one thousand layers exist presently scattered in the different fields in Unit BP-II.

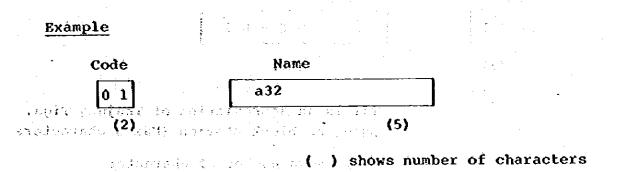
Layer code is conceived to be use of together with field code. As one field has only thirty layers more or less at the maximum, two characters for the code are sufficiently provided. Pollowings are the name of the layers in the Kenali Asam field and part of layers being reported.

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The Art (1971) Continued (1971)	s * : an example of code

The code and the name are correlated and are made use of in the system as exampled in the following.

Five characters are provided for the full name. Therefore a proper abbreviation has to be made for the full name which exceeds the above numbers.



(8) Station Code

It is reported that about sixty stations exist presently in Unit EP-II. Three characters for the code are conceived taking an increase of the station numbers according to the development progress into consideration.

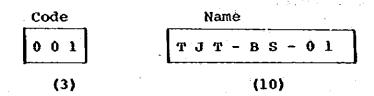
As for the name of station, it is proposed to be defined as a composition of an abbreviation of facilities field name and an abbreviation of kind of station and a sequence number as mentioned below. A proper sequence number has to be attached to by PERTAMINA taking convenience of operational usage into account.

() shows number of characters

- 11: An abbreviation of facilities field name (refer to APPENDIX III-11)
- 12: An abbreviation of kind of station (refer to APPENDIX III-69)
- 13: Sequence number

The code and the name are correlated and are made use of in the system as exampled in the following.

Example



TIT is an abbreviation of Tanjung Tiga. BS means block station (Max 3 characters).

() shows number of character

(9) Map and Figure Code

As exampled in the following, this code consists of the code which assigns an information group classified in Chapter 3, kind of map and the reference number utilized presently in Unit EP-II.

As described in the latter part, kind of map includes kind of figures.

() shows number of characters

- | 1: Code for information group, refer to page 15 of Chapter 3
- 12: Kind of map (Refer to APPENDIX III)
- 13: Référence number

One character is provided for the information group abbreviated as A to I in page 15 of Chapter 3.

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Two characters are provided for the code of kind of map which has a different classification by information groups as shown in APPENDIX III.

Ten characters are provided for the reference number so that PERTAMINA has a choice which kind of reference numbers utilized presently would be better to be assigned to the system.

(10) Report Code

As exampled in the following, this code consists of the code which assigns an information group classified in Chapter 3, kind of report and reference number utilized presently in Unit EP-II.

人名英格兰 类似的 医二苯甲基

្ន និង ១៩៩ ស្នើរូកដល់មានត្រូវប្រជាជាក្រុ

() shows number of characters

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人名约尔 医海巴氏腺素 网络手架

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11: Code for information group, refer to Chapter 3

12: Kind of report (Refer to APPENDIX III)

#3: Reference number

As mentioned previously, one character is provided for the information group.

Two characters are provided for the code of kind of report which has a different classification by information groups as shown in APPENDIX III.

Ten characters are provided for the reference number so that PERTAMINA has a choice which kind of reference numbers utilized presently would be better to be assigned to the system.

(11) Well Status Code

This code consists of the code of string specification and the code of current status as mentioned below.

(1) (2) () shows number of characters

11: String specification (Refer to APPENDIX III)

12: Current status (Refer to APPENDIX III)

(12) Kind of Reservoir Code

The code and name are proposed as follows.

Code	Name - All the terms
11	Paraffine oil reservoir
12	Asphalt oil reservoir
20	Gas reservoir

Fifteen characters are provided for the name.

4-3-2 Assignment Parameter Code for a Specific Data Information Group

rollowing data items were selected for coding as assignment parameter code used only for a respective data information group.

Reference is made to APPENDIX III and the remarks made immediately after the following items.

A - Geological Data and Right Holder's Area Information

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- Contract code
 - Contractor code
 - Survey code
 - Analysis code
 - Kind of contract
 - Kind of survey
 - Kind of analysis
 - Type of trap
 - Kind of map and figure
 - Kind of report
 - B Geophysical Data Information
 - Survey code
 - Method of survey
 - Kind of report
 - Kind of map
 - C Well Data Information
 - Objective of well
 - Objective of workover
 - Vertical or deviated
 - Type of subsurface rod pump
 - Macaroni pipe
 - Kind of down hole trouble
 - Kind of well log
 - Succeeded or not in wireline formation test

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- D Petrophysical and PVT Analysis Data Information
 - Kind of petrophysical and PVT analysis
 - Kind of analysis performed

E - Production Data Information

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- Kind of pressure for gas
- F Reserves Data Information
 - Development status of reservoir unit
 - - Kind of recovery method
 - Abandon condition for gas cap zone and gas reservoir

RESIGNATION OF SERVICE

- G Production Operation Data Information
 - 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
 - Kind of analysis
- H Production Facilities Data Information
 - Kind of station
 - Kind of equipment
- I Pipeline Data Information
 - Kind of station.
 - Kind of line pipe
- Pollowings are made relating to the above items.

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- Contract code | Lagrance | Lagrance | particular |
- Geological survey code
- Geological analysis code
- Geophysical survey code
- Petrophysical and PVT analysis code
- Well test and stimulation code
- Field laboratory fluid analysis code
- Equipment code
- Pipeline code

(1) Contract Code

interest of the empirical and an empirical This code consists of the abbreviation of "Kind of contract" which is referred to APPENDIX III and the sequence number as shown in the following.

The sequence number by "Kind of contract" has to be prepared by PERTAMINA taking convenience of operational usage into consideration.

- (2) (3) () shows number of characters
 - 11: Abbreviation of kind of contract (Refer to APPENDIX III)
 - Sequence number ‡2:

(2) Geological Survey Code

This code, also, consists of the abbreviation of "Kind of survey" which is referred to APPENDIX III and the sequence number as shown in the following.

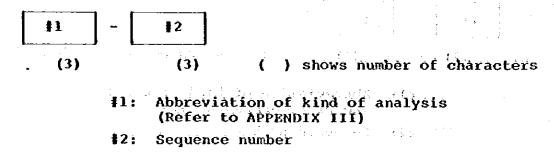
The sequence number by "Kinds of survey" has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.

- 11: Abbreviation of kind of survey (Refer to APPENDIX III)
- 12: Sequence number

(3) Geological Analysis Code

This code consists of, in the same form as geological survey code, the abbreviation of "Kind of analysis" which is referred to APPENDIX III and the sequence number as shown in the following.

The sequence number by "Kinds of analysis" has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.



(4) Geophysical Survey Code

This code consists of, like the previous code, the abbreviation of "Kind of geophysical survey" which is referred to APPENDIX III and the sequence number as shown in the following.

The sequence number by "Kinds of geophysical survey" has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.

11: Abbreviation of kind of geophysical survey (Refer to APPENDIX III)

12: Sequence number

(5) Petrophysical and PVT Analysis Code

This code consists of, like the previous code, the abbreviation of "Kind of core and PVT analysis" which is referred to APPENDIX III and the sequence number as shown in the following.

has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.

- 11: Abbreviation of kind of core and PVT analysis (Refer to APPENDIX III)
- #2: Sequence number

(6) Well Test and Stimulation Code

SERVICE MANUALIST CALLS

This code consists of "Well code", the abbreviation of "Kind of well test and stimulation" which is referred to APPENDIX III, the sequence number and year as shown in the following.

The sequence number by "Kinds of test and stimulation" during year has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.

- () shows number of characters
- 11: Well code
- #2: Abbreviation of kind of test and stimulation (Refer to APPENDIX III)
- **#3:** Date (YY)
- 44: Sequence number

(7) Field Laboratory Fluid Analysis Code

This code consists of the abbreviation of "Kind of field laboratory fluid analysis" which is referred to APPENDIX III and the sequence number as shown in the following.

The sequence number by "Kind of field laboratory fluid analysis" has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.

11: Abbreviation of kind of field laboratory fluid analysis (Refer to APPENDIX III)

12: Sequence number

(8) Equipment Code

This code consists of the abbreviation of "Kind of equipment" which is referred to APPENDIX III and the sequence number as shown in the following.

The sequence number by "Kinds of equipment" has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.

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(9) Pipeline Code

This code consists of "Station code" which means the end point of pipeline and is referred to APPENDIX III and the sequence number as shown in the following.

The sequence number by "Station" has to be prepared by PERTAMINA taking convenience of the operational usage into consideration.



(3) (2) () shows number of characters-

11: Station code (Refer to APPENDIX III)

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12: Sequence number

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4-4 Master File

Considering the code system proposed in Section 3 and data properties in data structure mentioned in Section 1, data items such as Field, Well, Zone and Station have been selected from the standpoint that those are in use of high frequency and have a higher grade of independency. Taking the followings into account, these are proposed to file together with their subsequent information as master files independently of the data base.

- 1) Efficient usage of memory of disk to be for the data base.
- 2) Efficient treatment of input data and simplification of input work.
- 3) Efficient treatment of output data.
- 4) Convenience of correction, addition and deletion of data concerned.

(1) Field Master

This file is designed to have, province code, area code, and field office code, which are subordinate to field and are referred to Section 3, together with field code and the full name of field.

The format of the file is conceived as follows.

Field Code	#1	12	13	‡ 4	‡ 5	#6	Name of Field
(3)	(1)	(2)	(1)	(2)	(1)	(3)	(25)

() shows number of characters

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- #1: Code of province to which the field belongs.
- 12: Code of area to which the field belongs.
- #3: Code of field office to which the field belongs.
- 14: Code of facilities field to which the field belongs.

- #5: Field or Prospect 1 Prospect 2 Field
- #6: Abbreviation of field name

(2) Well Master

This file is designed to have information below-mentioned together with the format.

Well Code	21	12	‡ 3	#4	15	1 6	1 7
(6)	(1)	(1)	(3)	(2)	(1)	(3)	(1)
Well Name	‡ 8	#	9	1 10	\$		
(30)	(4)	. (4)	(4)	(4))	

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- () shows number of characters
- 11: Workover number
- #2: String códe and the second in the second
 - A Annulus
 - S Short tubing
 - M Middle tubing
 - L Long tubing
- #3: Station code
- 44: Facilities field code
 - #5: Completion status
 - 1 Completed
- ្រស់សំនឹងសេខប្រកួត ភពន៍ខ្លួនបាន**2**..<mark>ម Suspended</mark> ្រុំ ២០... ប្រកួត ខេត្ត ខេត្ត ប្រ
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 - #6: Well status (Refer to APPENDIX III)
 - #7: Kind of completed zone
 - î Oil zoĥe
 - 2 Gas cap zone
 - 3 Gas zone
 - 4 Water zone
 - #8-#17: Reservoir code or layer code

(3) Station Master

This file is designed to have the information below-mentioned together with the format.

Station Code	#1	, ‡2	Station Name
(3)	(2)	(2)	(10)

) shows number of characters

- 11: Facilities field code
- 12: Kind of station (code)
 - 01 Block station
 - 02 Gathering station
 - 03 Central station
 - 04 Heater station
 - 05 Compressor station
 - 06 Booster pump station
 - 07 Storage station shall be and the
 - 08 Pinal delivery point
 - 09 Dehydration station
 - 10 Metering station
 - 11 Power station
 - 12 Telemetering station
 - 13 Other státion was produkteden sha

(4) Zone Master

This file is designed to have the information related to Reservoir unit and Layer and the format is described as follows.

			· · · · ·		
Field Code	#1	‡ 2		14	Reservoir Name or Layer Name
(3)	(4)	(1)	(1)	(1)	18 5 4 5 (10)

() shows number of characters

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- 11: Reservoir unit code
- #2: Reservoir unit or Layer
- litter and a second 1 Reservoir unit
- 2 Layer
 - #3: Kind of reservoir
 - . 1 Oil reservoir
 - 2 Gas reservoir

14: Development status of reservoir unit (Refer to APPENDIX III)

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4-5 Processing

Processing procedure was conceived in this section on the basis of the output reporting method in Chapter 3 in parallel with the code system in Section 3 and the master file in Section 4.

4-5-1 Processing Procedure for Output

Three processing procedures are conceived for output data processing. In this processing, instruction parameter cards will be prepared in accordance with the assignment parameters proposed in Chapter 3. An appropriateness of these cards will be proved at the input and the data retrieved according to the instruction will be output.

The processing procedures conceived here could be processed with a margine by a utilization of the present available computer source in Unit II.

(1) Output Procedure - 1

Data are output in the same order as stored in the data base. This will be applicable to the basic output reporting methods as proposed in Chapter 3. Pigure 4-1 shows the flowchart for output procedure - 1.

(2) Output Procedure - 2

Data are rearranged and output according to the instructions given by the instruction parameter cards. This will be applicable to the combined and statistical output reporting methods proposed in Chapter 3. Figure 4-2 shows the flowchart for output procedure - 2.

(3) Output Procedure - 3

Data are output correlating the data stored in tape with

the data stored in data base.

This will be applicable to such a output reporting method as production history report which requires to retrieve their data in chronological order.

Figure 4-3 shows the flowchart for output procedure - 3.

4-5-2 Processing Procedure for Input

The format and proof method for input data were investigated on the basis of the analysis results of the data structure as proposed in Section 1 in connection with the code system proposed in Section 4.

The investigation was made on the premises that an input mediator be diskette taking the present PERTEMINA's computer resources into account.

The result of the investigation is as follows.

(1) Processing Flow

The master files proposed in Section 4 and a cumulative files would be made use of in processing procedure for input, taking the efficiency into account.

A cumulative file is the file to prove the appropriateness of the input data and rearrange these so as to match with the instruction at updating of data base.

Figure 4-4 shows a general flowchart for input procedure.

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(2) Input Data Format

The format of input data on diskette to be used as an input mediator is conceived as follows.

‡1	‡ 2	#3	Keep blank for a margine	Input Data
(1)	(4)	(2)	(3)	(118)

() shows number of characters

#1: Identification for correction

Blank or I - Data for inserting

R - Data for replacement

D - Data for deletion

#2: Segment name

#3: Sequence No. in a segment

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(3) Processing Procedure for Data Proof

Pollowings are conceived for proving input data and the result would be confirmed by the output of error lists, proof lists and confirmation lists.

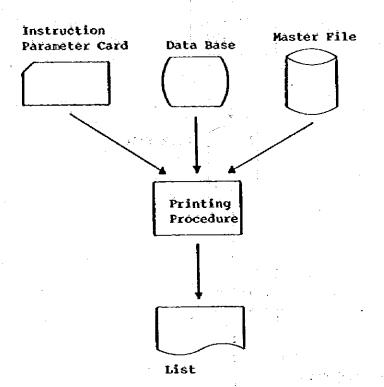
· 1987年 - 1977年 - 1977年 - 1987年 - 19874年 - 1987年 - 19

(a) The second of the secon

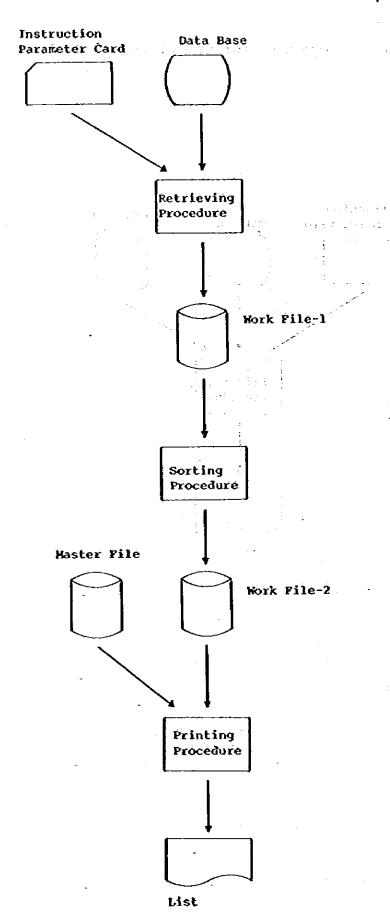
大大学 人名英格兰姓氏 医皮肤炎 數學 化橡胶纸

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- logical proof on data structure
- proof correlating data with data in master file
- logical proof of data itself
- logical proof of code for data
- logical proof at updating of data

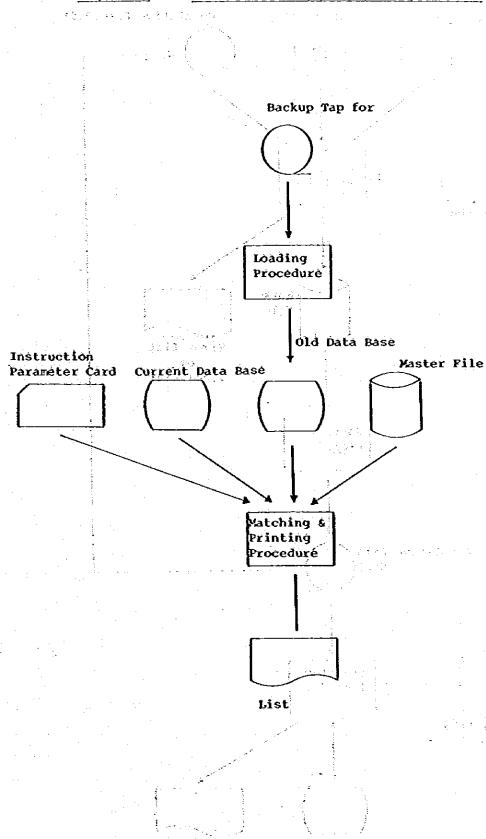


Pig. 4-2 Flowchart for Output Procedure-2



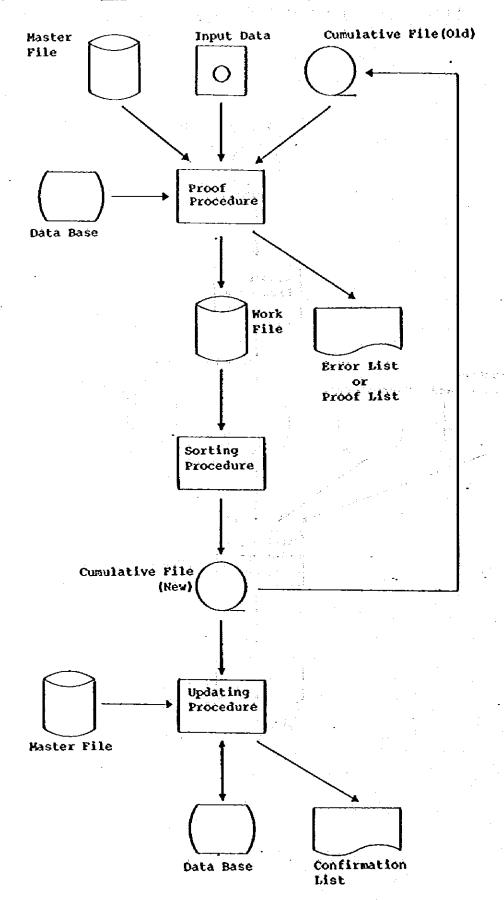
Pig. 4-3 Flowchart for Output Procedure-3

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Fig. 4-4 Plowchart for Input Procedure



4-6 Computer Program

In connection with computer programs to be utilized for the data bank system, an investigation was made for the utilization of IMS, the computer language to be utilized in the system, utility programs to be required, and number of line statements of application programs to be prepared.

These results are as described in the following.

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(1) Utilization of IMS

Utilization of IMS (Information Management System) is recommended for processing of data base of the following reasons.

- 1) The data structure established in Section 1 of Chapter 4 is hierarchical.
- 2) PERTAMINA have a enough experience to handle IMS in Jakarta head office and, also, have a plan to introduce this to Unit-II.
 - 3) This have a high versatility to enlarge to a on-line system in future.

Following advantages are expected in utilizing IMS for processing of data base.

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- 1) To enable to avoid the duplication of data stored in the data base.
 - 2) To reduce work for correction of programs which are modified according to a modification of data structure.

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3) To enable a comprehensive management and control of data in data base.

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(2) Computer Language

COBOL is recommended to use as a main computer language for the data bank system because of the following reasons.

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- 1) There are abundance of data with character and less data with numeric.
- 2) There are relative abundance of basic output reporting methods which output data in same order as stored in data base.
- 3) It can be applicable to the system with IMS:
- 4) COBOL is mainly utilized in PERTAMINA at present.

(3) Utility Program : Fire a mean of a special air

Pollowing utility programs would be required for operation of the data bank system.

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 Utility programs to be required for operating the system.

- 2) Utility programs to be used for the following purposes in connection with IMS utilization.
 - definition of system
 - description for data base
 - preparation of program specification block
 - maintenance of blocks for a control of application programs
 - security of data base
 - analysis of system logs
 - loading data base with data
 - rearrangement of data base
 - dumping data from data base and duplicating data base
 - recovery of data base
 - control utility programs

3) Utility programs having the following function

- sorting and merging
 - loading data disk to tape
 - loading data tape to disk
 - loading data disk to disk

(4) Number of Line Statement of Application Programs

An estimation was made for number of line statements of application programs to be prepared for the data bank system and described as follows, itemized as in input data processing and output data processing.

1) Input Data Processing

proof and conversion		Line
establishment of data base	10,000	statement
updating of data base	19,000	
updating of master file	4,000	
Sub total	50,000	

2) Output Data Processing

basic output reporting method	9,000
combined output reporting method	28,000
statistical output reporting method	41.000

Sub total	78,000	
Total	128 000	