BUREAU OF SUGAR EXPERIMENT STATIONS
QUEENSLAND AUSTRALIA

DATA-BASE AND DATA HANDLING PROGRAMS FOR PLANT DATA RECORD

by

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SUMMARY

The information contained in the BSES Plant Data Record is stored in computer data-bases for reporting and reference. Data for both the 1979 and 1980 seasons is stored at Bundaberg and reports for each of these years were generated using the data-base software. Listings of the forms required for the collection of new information have also been produced with this system.

The system offers many advantages over the previous manual techniques, including speed and accuracy of report preparation, and the ability to manipulate stored data and report it as required.

1 INTRODUCTION

A previous report (DYNE, Feb. 1980) described the data-base system and procedures used to prepare the 1978 Plant Data Supplement. This report details the data-base system developed to handle the complete Plant Data Record.

The Hewlett-Packard IMAGE/1000 Data Base Management System has been used for this work, and further detail of this system is available in the IMAGE/1000 Reference Manual. The following description of a data-base is given in that manual:

> A data base is a collection of logically related files containing both data and structural information. Pointers within the data base allow a user to gain access to related data and to index data across files. The organization of a data base may take one of several forms; two examples are a hierachial structure and a network structure.
>
> The hierachial structure is a natural growth from earlier conventional file management techniques. Data must be accessed through levels of qualifiers. For example, to get to information about an employee, information about division and department must first be accessed. Cross reference files and linkage files are extensively used to relate files for logical association and accessibility. When the number of data files grows and the interrelationships among them become more complex, the requirements for cross reference files amd linkage files tends to increase exponentially. An inherent result is that more overhead is required to access data.
>
> The network data base is structured under the premise that only when one logical group of data (data set or file) is related to another logical group of data, is a direct linkage constructed between them. Thus, separate cross reference files and linkage files are no longer required. The increase of complexity is directly proportional to the number of direct relationships existing among a number of logical data sets.
> When logical data sets are considered as nodes with direct accessing paths connecting them, a network data base is formed.

2. DATA-BASE STRUCTURE

The data pertaining to each of the stations in the factory is stored in separate detail data sets as described in the previous section. The number of variables involved in a full edition of the record exceeded the capacity ot the IMAGE/1000 system, so data has been stored in two separate data bases for each year. This represents an inconvenience in that the separate DB's need to be accessed, but data storage and handling is not compromised.

The DB's containing 1979 data are PLANT1 and PLANT2 respectively. They are stored on disc 19. PL80A and PL80B (on disc 25) contain the 1980 information. The structure of these differ slightly as some alterations have been made for 1980.

2.1 Data Base Schema.

The actual information is stored in detail data sets with links to a manual master set containing factory number and name, and to other automatic master sets for mill number or entry number dependent on the particular data set. Automatic masters have been included for train (A or B), mill number (1-6), evaporator number (0-5), and entry number (0-15 to allow for multiple entries for any particular item of equipment), pan number , etc.

A complete listing of the variables used is given in Appendix A.

Detail data sets containing entries for each station in the factory are included. The structure of the DB's are defined in "SCHEMA" and listings of these are given in Appendix B.

2.2 GENERATING THE D.B.'S

The Image/1000 Program DBDS is scheduled to generate the particular DB required as below.

```
:RU,DBDS,&PL80A,'PL80A,PU
```

Schema files are prefixed with "&" and list files with "'". Appendix C contains abbreviated listings of DBDS output for the four DB's.

On successful termination of this stage, the DB is ready for data entry.

3. DATA ENTRY

Application programs have been developed for data entry, with separate programs being used for each detail data set. Table I contains a summary of the data sets, their description and the data entry program name used for that set. The data entry programs are run interactively with prompts at the terminal for factory and mill or item number, and then the data items in that set.

TABLE I. DATA SETS, ENTRY PROGRAMS AND REPORT PROCEDURES.

DATA	DATA SET	ENTRY PROGRAM	REPORT
Transport Equipment	TRANS	&PDEN1	&PGE1
			&PGE2
Carriers	CARR	&PDEN2	&PGE3
			&PGE4
Knives	KNIVES	&PDEN3	&PGE5
Shredder	SHRED	&PDEN4	&PGE6
Milling Equipment	MILLS	&PDEN5	&PGE7
			&PGE8
Mill Feeding Devices	FEEDS	&PDEN6	&PGE9
			&PGE10
Pressure Feeder Grooving	PRESS	&PDEN7	&PGE11
Diffuser	DIFFUS	&PDEN8	&PGE12
Juice Screens	SCREEN	&PDEN9	&PGE13
Juice Heaters	HEATER	&PDN10	&PGE14
Clarifiers	CLARIF	&PDN11	&PGE15
Bagasse separators	SEPAR	&PDN12	&PGE16
Evaporators	EVAP	&PDN13	&PGE17
Panstage vessels	PANS	&PDN20	&PGE20
Stock Tanks	STOCK	&PDN21	&PGE21
Vacuum Pumps	PUMPS	&PDN22	&PGE22
Crystallizers	CRYST	&PDN23	&PGE23
High Grade Centrifugals	HGFUG	&PDN24	&PGE24
Low Grade Centrifugals	LGFUG	&PDN25	&PGE25
Sugar Dryers	DRYER	&PDN26	&PGE26
Boilers	BOILER	&PDN27	&PGE27
			&PGE28
Storage Bins	BINS	&PDN28	&PGE29
Electrical Plant	ELECT	&PDN29	&PGE30
			&PGE31

These programs were developed for the 1979 report (data bases PLANT1 and PLANT2), and are listed in Appendix D.
They have not been altered for the 1980 DB's. The 1980 data is an edited copy of the 1979 report, and editing was done using "QUERY". Consideration should be given to modifying the programs for the current D.B. structure, and also incorporating an editing mode in each for future editions.

4. DATA REPORTS

To date all listings of the data have been generated using the reporting facility of the QUERY program. Formatting of data using these procedures is relatively straight forward and sufficiently powerful to perform current requirements.

4.1 Procedure Files

To generate a report it is necessary to access the DB, find the required data and list it according to a procedure specified in a disc file. Table I contains a listing of reporting procedures which have been written for the various pages of output in the record.

Three versions of each of these reporting procedures are necessary -

&PGE-- . Lists data in the format as for the final record. Suitable for use at the printer or terminal.

$PGE-- . Same format as above, except that headings are included. Used for listing to disc file for later presentation on the HP 9872S plotter.

#PGE-- . Slightly different format to the above (more spaces between lines of output). Used for generating forms for an individual factory for collection of data for next year.

Listings of these are presented in Appendix E.

4.2 GENERATING A REPORT

The final report contains listings of each of the formats of Table I with some multiple listings where the same procedure is used for each of the mills in the train.

4.2.1 At the Printer

Query allows procedures to be developed to perform all of the tasks necessary to generate these reports on a batch basis. Appendix F contains listings of files which will generate at the printer a complete edition of the record.

To generate the listings schedule QUERY in batch mode -

```
:RU,QUERY,Q1
```

Q1 opens the first DB in the required mode, and transfers to the file PROCF. This procedure searches for the required entry lists at the printer as required, and continues through the report.

Similarly for the second half of the report

```
:RU,QUERY,Q2
```

which transfers to the batch procedure PROCF2.

4.2.2 At the Plotter

To list the data at the plotter, it is necessary to spool the QUERY generated reports to disc files and then list them at the plotter using a program 'PDLST' developed using the Graphics/1000 Software.

The source code for PDLST is listed in Appendix G. PDLST lists files at 60 lines per A4 page with 132 characters across the page. Block headings are generated if the first two characters of the record are "$$", and a form feed is generated for "$$" as the third and fourth characters of the record. The report procedures $PGE-- generate "$$" as required together with a heading for printing in block mode.

Plotter listings can be generated by -

* Spooling QUERY Output to a disc file

```
:CR,LISTA::25:4:24
:SL,6,LISTA::25,WR
:RU,QUERY,Q1
:CS,6
```

Note that the procedure file PROCF should be edited so that the $PGE-- versions of the reports are listed.

* Editing the list file (LISTA) to include page numbers at the top of pages, and to include mill numbers at the top of the respective reports.

* Listing the edited file at the plotter -

```
:RU,PDLST,LISTA,25
```

4.2.3 Title Pages

Apart from the data listed as detailed above there are only four further pages required to complete the report. These are -

* Title page
* Contents
* Key to factory numbers
* Diagrams of feeding devices

These can be printed on the 9872S using the list program PDLS2. The source code for this program is listed in Appendix H.

This program is similar to PDLST except that it prints 80 characters across an A4 page.

Appendix I contains a listing of a file "PDHEAD" which contains the information used for the 1980 Record.

4.3 GENERATING FORMS FOR DISTRIBUTION TO FACTORIES

These are listings of the same information as the complete report, but with data listed separately for each factory. A different set of procedures is required to generate these reports. Care should be taken in insuring that data is entered for each find command in these procedures as QUERY will terminate if a report is requested and no records have been found.

Appendix J contains listings of the necessary procedures.

To list (at the printer) the set of forms for forwarding to factories for 1981 data -

PD81RP

these transfer to a series of procedures for each of the factories (one for each DB)

PD8001 - PD8030
and PD8A01 - PD8A30 respectively.

These procedures use the QUERY reporting files #PGE-- as listed in Appendix E.

5. GENERATING THE NEXT SET OF DB's

As mentioned previously, data is retained for each year in separate DB's. The DB for the following year is generated by copying the existing DB's and editing this data as indicated by the returns from each factory. The following briefly describes the steps involved in this process.

5.1 Unload Current D.B.

This will probably have already been done to back-up the data. See section 6 of this report.

```
:RU,DBULD,1,$PL80::25,PL80A:GD,GD,AB
```

will store the data from the first DB in the file $PL80A.

5.2 Alter the schema as required

The only alterations that should be required are:-

* rename DB (to PL81A)
* alter cartridge references

If an attempt is made to store data for different years on the one cartridge, duplicate data sets will occur unless all of the data sets are renamed. It is preferable to maintain the same detail data set names throughout. Thus data for each year must be stored on separate cartridges. Considerable space is required for each years' data, and a complete 7900 disc needs to be provided for each year.

5.3 Generate DB with DBDS

The new schema is used to generate the DB on the new cartridge

```
:RU,DBDS,&PL81A,'PL81A,PU
```

5.4 Load existing data into the new data base

The Image/1000 utility program DBLOD is used

```
:RU,DBLOD,1,$PL80A::25,PL80A:GD,CO
```

5.5 Edit the data

QUERY can be used to update the information in the DB as required by alterations to the forms returned by the factories. Refer to the Image/1000 reference manual and the lists of data sets (Table I) and variables (Appendix A) given in this report.

The data entry programs used for storing the data in the DB could be relatively easily modified to perform data edits as well. Consideration should be given to making these alterations since editing with QUERY has two disadvantages:-

(a) the syntax is extremely long-winded
(b) it is difficult to examine the current variable value prior to alteration. This facility gives a valuable check on the accuracy of the edit.

6. SECURITY OF DATA

Data stored in the DB is backed up in two ways:

(a) Complete cartridge backed up on second disc. This is the normal procedure with all discs at Bundaberg.

(b) As well as the DB files, an unloaded version of the DB should be stored on the disc.

After a number of alterations have been made to the data the following procedures should be followed:

* check the DB with the utility DBSPA.
* attempt to unload the data with the utility DBULD.

If the unload on the original DB is successful, the DB is still sound and all of the alterations have been successfully incorporated.

Should this fail -

* mount the duplicate disc and attempt to re-load the original data base from the unload on the duplicate.
* If this in turn fails attempt to unload the duplicate DB. On successfully unloading this, load the original from this file.

It is now safe to copy the whole disc onto its duplicate. To do this use the RTE utilities 'COPY' and 'VERFY'.
Mount the original disc in Drive Ø (LU 9) and the duplicate in Drive 1 (LU 1Ø).

```
:RU,COPY,1,Ø,9,1Ø
VERIFY? YES
TRACK SIZE BUFFER? YES
```

After this track by track copy, it will be necessary to re-number and rename the duplicate disc. Refer to the Terminal Users Manual.

```
:IN,XX,-1Ø,2Ø,PLANT2,Ø,3,96
```

If these procedures are successfully completed periodically, the integrity of the data will be maintained.
Should a problem arise at any stage, for example as a result of a system crash, the DB should be recoverable (at least to the extent of the previous backup).

7. ANNUAL SUMMARY

A summary of some of the more important items of plant can be prepared using the procedure 'ANNREP'.

This procedure is listed in Appendix K and is performed using the command

```
:RU,QUERY,ANNREP.
```

A listing of factory and state totals is generated.

APPENDIX A: LIST OF VARIABLES.

BGBIN	BAGASSE BIN TYPE
BGCAP	BAGASSE BIN CAPACITY
BGPOS	BAGASSE BIN POSITION IN CIRCUIT
BO#	BOILER NUMBER
BOAA	BOILER AREA AIRHEATER
BOBA	BOILER AREA BOILER TUBES
BOEA	BOILER AREA ECONOMISER
BOFA	BOILER AREA FURNACE
BOGA	BOILER GRATE AREA
BOGTE	BOILER GRATE TYPE
BOIARR	BOILER SOOT ARRESTOR
BOICO	BOILER COAL FEEDERS?
BOIFD	BOILER FORCED DRAUGHT?
BOIOB	BOILER OIL BURNERS?
BOISTD	BOILER STACK DIAMETER
BOISTH	BOILER STACK HEIGHT
BOMAKE	BOILER MAKE
BOMCR	BOILER MCR
BOPRES	BOILER PRESSURE
BOSA	BOILER AREA SUPERHEATER
BOSHT	BOILER NOMINAL SUPERHEAT
BOSPR	BOILER SPREADER
BOWW	BOILER WATERWALLS?
CAPAC	TRUCK CAPACITY
CDVE	CARRIER DRIVE
CFEED	CARRIER FED FROM
CINCL	CARRIER INCLINATION
CLAREA	CLARIFIER AREA
CLDIA	CLARIFIER DIAMETER
CLEN	CARRIER LENGTH
CLPOS	CLARIFIER POSITION
CLTRAY	CLARIFIER NUMBER OF TRAYS
CLTYPE	CLARIFIER TYPE
CLVOL	CLARIFIER VOLUME
CPOS	CARRIER POSITION
CPWR	CARRIER POWER
CREM	REMARKS
CROPG	PERCENTAGE OF CROP ON GOVT. LINE
CROPP	PERCENTAGE OF CROP ON PRIVATE LINE
CROPR	PERCENTAGE OF CROP ON ROAD
CS#	CRYSTALLIZER NUMBER
CSAREA	CRYSTALLIZER AREA
CSGDE	CRYSTALLIZER GRADE MATERIAL
CSMAKE	CRYSTALLIZER MAKE
CSMODE	CRYSTALLIZER MODE
CSPD	CARRIER SPEED
CSTYPE	CRYSTALLIZER TYPE
CSVOL	CRYSTALLIZER VOLUME
CTCAP	COOLING TOWER CAPACITY
CTCELL	COOLING TOWER NUMBER OF CELLS

CTPWR	COOLING TOWER FAN POWER
CTTYP	COOLING TOWER TYPE
CTYPE	CARRIER TYPE
CWID	CARRIER WIDTH
DDIA	SUGAR DRYER DIAMETER
DFAN	SUGAR DRYER FAN INSTALLED?
DHTR	SUGAR DRYER HEATER INSTALLED?
DLEN	SUGAR DRYER LENGTH
DLEN	DIFFUSER LENGTH
DMAKE	DIFFUSER MAKE
DPOSN	DIFFUSER POSITION IN TRAIN
DPWR	SUGAR DRYER DRIVE POWER
DPWR	DIFFUSER DRIVE POWER
DRAC	SUGAR DRYER AIR-CONDITIONING?
DSPD	SUGAR DRYER ROTATIONAL SPEED
DSPD	DIFFUSER CARRIER SPEED
DTYPE	SUGAR DRYER TYPE
DWID	DIFFUSER WIDTH
ENG	ENGINE TYPE
ENTRY#	ENTRY NUMBER
EPDMD	MAXIMUM DEMAND
EPEXP	EXPORT POWER
EPIC	RATING I.C. GENERATOR SETS
EPIRD	MAXIMUM IRRIGATION DEMAND
EPMLD	MAXIMUM LOAD
EPMR	RATING MOTORS
EPRTG	RATING STEAM GENERATOR SETS
EPSUR	SURPLUS POWER
EVAP#	EVAPORATOR NUMBER IN SET
EVBLD	BLEED TO
EVCDIA	EVAP CONDENSER DIAMETER
EVCHGT	EVAP CONDENSER HEIGHT
EVDIA	EVAPORATOR DIAMETER
EVLEN	EVAP TUBE LENGTH
EVMATL	EVAP MATERIAL HEATED
EVOD	EVAP TUBE O.D.
EVSURF	EVAPORATOR HEATING SURFACE
EVTH	EVAP TUBE THICKNESS
FACT#	FACTORY NUMBER
FAREA	FILTER AREA
FH#	HIGH GRADE FUGAL NUMBER
FHAREA	HIGH GRADE FUGAL AREA
FHDEP	HIGH GRADE FUGAL DEPTH
FHDIA	HIGH GRADE FUGAL DIAMETER
FHDVE	HIGH GRADE FUGAL DRIVE
FHMAKE	HIGH GRADE FUGAL MAKE
FHMASS	HIGH GRADE FUGAL MASSECUITE
FHPWR	HIGH GRADE FUGAL DRIVE POWER
FHSPD	HIGH GRADE FUGAL SPEED
FIL#	FILTER NUMBER

FL#	LOW GRADE FUGAL NUMBER
FLBANG	LOW GRADE FUGAL BASKET ANGLE
FLBIA	LOW GRADE FUGAL SCREEN AREA INCLINED
FLBMAX	LOW GRADE FUGAL BASKET MAXIMUM
FLBMIN	LOW GRADE FUGAL BASKET MINIMUM
FLBVA	LOW GRADE FUGAL SCREEN AREA VERTICAL
FLDEP	LOW GRADE FUGAL DEPTH
FLDIA	LOW GRADE FUGAL DIAMETER
FLMAKE	LOW GRADE FUGAL MAKE
FLMODE	LOW GRADE FUGAL TYPE
FLPWR	LOW GRADE FUGAL DRIVE POWER
FLSPD	LOW GRADE FUGAL SPEED
FTDIA	FLASH TANK DIAMETER
FTHGT	FLASH TANK HEIGHT
FTYPE	FILTER TYPE
GAUGE	LOCOMOTIVE GAUGE
GAUGEL	GAUGE OF LINE
GDE	PAN GRADE - HG OR LG
GS#	GENERATOR SET NUMBER
GSEX	GENERATOR SET PRIME MOVER EXHAUST
GSMAKE	GENERATOR SET MAKE
GSPM	GENERATOR SET PRIME MOVER
GSPR	GENERATOR SET PRIME MOVER PRESSURE
GSRTG	GENERATOR SET RATING
GSSH	GENERATOR SET PRIME MOVER SUPERHEAT
GSSPD	GENERATOR SET PRIME MOVER SPEED
GSVOL	GENERATOR SET VOLTAGE
HTVOL	HOLDING TANK VOLUME
JH#	JUICE HEATER - NUMBER
JHAREA	JUICE HEATER - AREA
JHDIA	JUICE HEATER TUBE DIAMETER
JHHT	JUICE HEATER HEATING MEDIUM
JHLEN	JUICE HEATER TUBE LENGTH
JHMATL	JUICE HEATER TUBE MATERIAL
JHPASS	JUICE HEATER NO OF PASSES
JHTUBE	JUICE HEATER NO. OF TUBES PER PASS
JHUSE	JUICE HEATER - MATERIAL HEATED
JLEN	SCREEN LENGTH
JS#	NUMBER OF SCREENS
JSAPER	SCREEN OPENING
JTTHCK	JUICE HEATER TUBE THICKNESS
JTYPE	JUICE SCREEN TYPE
JWID	SCREEN WIDTH
K2BL#	SECOND KNIVES BLADE NUMBER
K2CLR	SECOND KNIVES CLEARANCE
K2DVE	SECOND KNIVES DRIVE
K2PWR	SECOND KNIVES POWER
K2SPD	SECOND KNIVES SPEED
K2TYPE	SECOND KNIVES TYPE
KBL#	BLADE NUMBER

KCLR	CLEARANCE
KDVE	KNIVES DRIVE
KPWR	KNIVES POWER
KSPD	KNIVES SPEED
KTYPE	KNIVE TYPE
LBL#	NO. OF BLADES
LCLR	LEVELLER CLEARANCE
LDVE	DRIVE TYPE
LOCOS	NO. OF LOCOMOTIVES
LPWR	LEVELLER POWER
LSPD	LEVELLER SPEED
LTYPE	LEVELLER TYPE
MAA	MILL APRON FEEDER DIMENSION A
MAB	MILL APRON FEEDER DIMENSION B
MAC	MILL APRON FEEDER DIMENSION C
MAD	MILL APRON FEEDER DIMENSION D
MAE	MILL APRON FEEDER DIMENSION E
MAGV	VOLUME OF MAGMA STORAGE TANKS
MARL	MILL AVERAGE ROLL LIFT
MASS	LOCOMOTIVE MASS
MCA	MILL CHUTE DIMENSION A
MCB	MILL CHUTE DIMENSION B
MCC	MILL CHUTE DIMENSION C
MCD	MILL CHUTE DIMENSION D
MCLF	MILL CLOSED CHUTE DIMENSION F
MCLG	MILL CLOSED CHUTE DIMENSION G
MCLH	MILL CLOSED CHUTE DIMENSION H
MCLI	MILL CLOSED CHUTE DIMENSION I
MDIA	MILL NOMINAL DIAMETER OF ROLLS
MFRATE	MILL FIBRE RATE USED FOR THESE SETTINGS
MH#	NO. OF MASSECUITE RE-HEATERS
MHAREA	AREA OF RE-HEATERS
MHJ	MILL HINGED PLATE DIMENSION J
MHK	MILL HINGED PLATE DIMENSION K
MHL	MILL HINGED PLATE DIMENSION L
MHM	MILL HINGED PLATE DIMENSION M
MHR	MILL HYDRAULICS?
MHRL	MILL HYDRAULIC ROLL LOAD
MHRMX	MILL MAXIMUM LIFT OF TOP ROLL
MHTYPE	RE-HEATER TYPE
MILL#	MILL NUMBER (POSITION IN TRAIN)
MJDD	MILL DEL JUICE ROLL GROOVES DEPTH
MJDP	MILL DEL JUICE ROLL GROOVES PITCH
MJDW	MILL DEL JUICE ROLL GROOVES WIDTH
MJFD	MILL FEED JUICE ROLL GROOVES DEPTH
MJFP	MILL FEED JUICE ROLL GROOVES PITCH
MJFW	MILL FEED JUICE ROLL GROOVES WIDTH
MLEN	MILL NOMINAL LENGTH OF ROLLS
MOA	MILL OVER-FEED ROLL DIMENSION A
MOB	MILL OVER-FEED ROLL DIMENSION B

MOC	MILL OVER-FEED ROLL DIMENSION C
MOD	MILL OVER-FEED ROLL DIMENSION D
MODA	MILL DELIVERY ROLL GROOVES ANGLE
MODD	MILL DELIVERY ROLL GROOVES DEPTH
MODP	MILL DELIVERY ROLL GROOVES PITCH
MOFA	MILL FEED ROLL GROOVES ANGLE
MOFD	MILL FEED ROLL GROOVES DEPTH
MOFP	MILL FEED ROLL GROOVES PITCH
MOLVA	VOLUME OF A MOLASSES STORAGE TANKS
MOLVB	VOLUME OF B MOLASSES STORAGE TANKS
MOTA	MILL TOP ROLL GROOVES ANGLE
MOTD	MILL TOP ROLL GROOVES DEPTH
MOTP	MILL TOP ROLL GROOVES PITCH
MPA	PRESSURE FEEDER DIMENSION A
MPB	PRESSURE FEEDER DIMENSION B
MPC	PRESSURE FEEDER DIMENSION C
MPD	PRESSURE FEEDER DIMENSION D
MPDR	PRESSURE FEEDER DRIVE TYPE
MPE	PRESSURE FEEDER DIMENSION E
MPF	PRESSURE FEEDER DIMENSION F
MPGR	PRESSURE FEEDER TO MILL GEAR RATIO
MPWO	PRESSURE FEEDER WORK OPENING
MSOD	MILL SET OPENING DELIVERY
MSOF	MILL SET OPENING FEED
MSPD	MILL PERIPHERAL SPEED OF TOP ROLL
MTDIA	MILL TOP ROLL DIAMETER
MTPH	MILL TRASH PLATE OPENING HEEL
MTPT	MILL TRASH PLATE OPENING TOE
MTPWR	MILL TURBINE SPEED
MTSPD	MILL TURBINE SPEED
MUA	MILL UNDERFEED ROLL DIMENSION A
MUB	MILL UNDERFEED ROLL DIMENSION B
MUC	MILL UNDERFEED ROLL DIMENSION C
MUD	MILL UNDERFEED ROLL DIMENSION D
MUE	MILL UNDERFEED ROLL DIMENSION E
MUROLL	MILL UNDERFEED ROLL TYPE
MWOD	MILL WORK OPENING DELIVERY
MWOF	MILL WORK OPENING FEED
NAME	FACTORY NAME
P#	PAN REF #
PCDIA	PAN CONDENSER DIAMETER
PCHGT	PAN CONDENSER LENGTH
PDIA	PAN DIAMETER
PFJLD	PRESSURE FEEDER LOWER ROLL JUICE GVES DEPTH
PFJLP	PRESSURE FEEDER LOWER ROLL JUICE GVES PITCH
PFJLW	PRESSURE FEEDER LOWER ROLL JUICE GVES WIDTH
PFJUD	PRESSURE FEEDER UPPER ROLL JUICE GVES DEPTH
PFJUP	PRESSURE FEEDER UPPER ROLL JUICE GVES PITCH
PFJUW	PRESSURE FEEDER UPPER ROLL JUICE GVES WIDTH
PFOLA	PRESSURE FEEDER LOWER ROLL GROOVES ANGLE

PFOLD	PRESSURE FEEDER LOWER ROLL GROOVES DEPTH
PFOLP	PRESSURE FEEDER LOWER ROLL GROOVES PITCH
PFOUA	PRESSURE FEEDER UPPER ROLL GROOVES ANGLE
PFOUD	PRESSURE FEEDER UPPER ROLL GROOVES DEPTH
PFOUP	PRESSURE FEEDER UPPER ROLL GROOVES PITCH
PMATL	PAN MATERIAL
POWER	ENGINE POWER
PRAT	PAN SURFACE/VOLUME RATIO
PSTSP	PAN STIRRER SPEED
PSURF	PAN SURFACE AREA
PTYPE	PAN TYPE
PVOL	PAN VOLUME
RHAMP	RESISTANCE HEATER CURRENT
RHDIA	RESISTANCE HEATER DIAMETER
RHVLT	RESISTANCE HEATER VOLTAGE
SB#	SUGAR BIN NUMBER
SBCAP	SUGAR BIN CAPACITY
SBTOT	SUGAR BIN TOTAL CAPACITY
SCLEAR	SHREDDER TIP CLEARANCE
SDIA	SHREDDER DIAMETER
SDVE	SHREDDER DRIVE
SHAM#	SHREDDER HAMMER NUMBER
SLEN	SHREDDER LENGTH
SMASS	SHREDDER HAMMER MASS
SPAREA	BAGASSE SEPARATOR AREA
SPHGT	BAGASSE SEPARATOR SCREEN HEIGHT
SPOP	BAGASSE SEPARATOR SCREEN OPENING
SPPWR	BAGASSE SEPARATOR DRIVE POWER
SPTYPE	BAGASSE SEPARATOR TYPE
SPWDTH	BAGASSE SEPARATOR SCREEN WIDTH
SPWR	SHREDDER POWER
SSPD	SHREDDER SPEED
SSTMP	SHREDDER STEAM PRESSURE
STYPE	SHREDDER TYPE
SYRUPV	VOLUME OF SYRUP STORAGE TANKS
TGAUGE	TRUCK GAUGE
TRAIN#	TRAIN NUMBER (A OR B)
TRAML	LENGTH OF TRAMLINE
TRUCK	TRUCK TYPE
TRUCK#	TRUCK NUMBER
TYPE	LOCOMOTIVE TYPE
VBORE	VACUUM PUMP CYLINDER BORE
VCYL#	VACUUM PUMP NO. OF CYLINDERS
VDISPL	VACUUM PUMP DISPLACEMENT
VLEN	VACUUM PUMP STROKE
VMAKE	VACUUM PUMP MAKE
VP#	VACUUM PUMP NUMBER
VPWR	VACUUM PUMP POWER
VSPD	VACUUM PUMP SPEED
VTYPE	VACUUM PUMP TYPE

VUSE VACUUM PUMP USE

APPENDIX B: DATA-BASE SCHEMA.

```
1   $CONTROL:NOLIST,FIELD,ERRORS=10,ROOT,SET,TABLE;
2   BEGIN DATA BASE: PLANT1:GD:19;
3   LEVELS:;
4   ITEMS:
5         FACT# ,I1;     <<  FACTORY NUMBER                          >>
6         NAME,X16;      <<  FACTORY NAME                            >>
7         TRAIN#,X2;     <<  TRAIN NUMBER ( A OR B )                 >>
8         MILL# ,I1;     <<  MILL NUMBER ( POSITION IN TRAIN )       >>
9         ENTRY#,I1;     <<  ENTRY NUMBER                            >>
10        LOCOS,I1;      <<  NO. OF LOCOMOTIVES                      >>
11        TYPE,X8;       <<  LOCOMOTIVE TYPE                         >>
12        ENG,X8;        <<  ENGINE TYPE                             >>
13        POWER,I1;      <<  ENGINE POWER                            >>
14        MASS,I1;       <<  LOCOMOTIVE MASS                         >>
15        GAUGE,I1;      <<  LOCOMOTIVE GAUGE                        >>
16        TRUCK,X16;     <<  TRUCK   TYPE                            >>
17        TRUCK#,I1;     <<  TRUCK NUMBER                            >>
18        CAPAC,I1;      <<  TRUCK CAPACITY                          >>
19        TGAUGE,I1;     <<  TRUCK GAUGE                             >>
20        TRAML,I1;      <<  LENGTH OF TRAMLINE                      >>
21        GAUGEL,I1;     <<  GAUGE OF LINE                           >>
22        CROPP ,I1;     <<  PERCENTAGE OF CROP ON PRIVATE LINE      >>
23        CROPG ,I1;     <<  PERCENTAGE OF CROP ON GOVT.  LINE       >>
24        CROPR ,I1;     <<  PERCENTAGE OF CROP ON ROAD              >>
25        CPOS,X16;      <<  CARRIER POSITION                        >>
26        CTYPE,X32;     <<  CARRIER TYPE                            >>
27        CLEN,I1;       <<  CARRIER LENGTH                          >>
28        CWID,I1;       <<  CARRIER WIDTH                           >>
29        CINCL,I1;      <<  CARRIER INCLINATION                     >>
30        CSPD,I1;       <<  CARRIER SPEED                           >>
31        CDVE,X16;      <<  CARRIER DRIVE                           >>
32        CPWR,I1;       <<  CARRIER POWER                           >>
33        CFEED,X16;     <<  CARRIER FED FROM                        >>
34        CREM ,X30;     <<  REMARKS                                 >>
35        LTYPE,X10;     <<  LEVELLER TYPE                           >>
36        LBL#,I1;       <<  NO. OF BLADES                           >>
37        LCLR,I1;       <<  LEVELLER CLEARANCE                      >>
38        LSPD,I1;       <<  LEVELLER SPEED                          >>
39        LDVE,X10;      <<  DRIVE TYPE                              >>
40        LPWR,I1;       <<  LEVELLER POWER                          >>
41        KTYPE,X10;     <<  KNIVE TYPE                              >>
42        KBL#,I1;       <<  BLADE NUMBER                            >>
43        KCLR,I1;       <<  CLEARANCE                               >>
44        KSPD,I1;       <<  KNIVES  SPEED                           >>
45        KDVE,X10;      <<  KNIVES DRIVE                            >>
46        KPWR,I1 ;      <<  KNIVES  POWER                           >>
47        K2TYPE,X10;    <<  SECOND KNIVES TYPE                      >>
48        K2BL#,I1;      <<  SECOND KNIVES BLADE NUMBER              >>
49        K2CLR,I1;      <<  SECOND KNIVES CLEARANCE                 >>
50        K2SPD,I1;      <<  SECOND KNIVES  SPEED                    >>
```

```
51      K2DVE,X10;    <<  SECOND KNIVES DRIVE                        >>
52      K2PWR,I1 ;    <<  SECOND KNIVES  POWER                       >>
53      STYPE,X12;    <<  SHREDDER TYPE                              >>
54      SDIA,I1;      <<  SHREDDER DIAMETER                          >>
55      SLEN,I1;      <<  SHREDDER LENGTH                            >>
56      SCLEAR,I1;    <<  SHREDDER TIP CLEARANCE                     >>
57      SSPD,I1;      <<  SHREDDER SPEED                             >>
58      SMASS,I1;     <<  SHREDDER HAMMER MASS                       >>
59      SDVE,X10;     <<  SHREDDER DRIVE                             >>
60      SSTMP,I1;     <<  SHREDDER STEAM PRESSURE                    >>
61      SSTMT,I1;     <<  SHREDDER STEAM TEMPERATURE                 >>
62      SPWR,I1;      <<  SHREDDER POWER                             >>
63      MDIA ,I1;     <<  MILL NOMINAL DIAMETER OF ROLLS             >>
64      MLEN ,I1;     <<  MILL NOMINAL  LENGTH  OF ROLLS             >>
65      MSPD ,I1;     <<  MILL PERIPHERAL SPEED OF TOP ROLL          >>
66      MHR  ,X4;     <<  MILL HYDRAULICS?                           >>
67      MHRL ,I1;     <<  MILL HYDRAULIC ROLL LOAD                   >>
68      MSOF ,I1;     <<  MILL SET OPENING FEED                      >>
69      MSOD ,I1;     <<  MILL SET OPENING DELIVERY                  >>
70      MARL ,I1;     <<  MILL AVERAGE ROLL LIFT                     >>
71      MWOF ,I1;     <<  MILL WORK OPENING FEED                     >>
72      MWOD ,I1;     <<  MILL WORK OPENING DELIVERY                 >>
73      MRAT ,I1;     <<  MILL RATIO                                 >>
74      MHRMX,I1;     <<  MILL MAXIMUM LIFT OF TOP ROLL              >>
75      MTPT ,I1;     <<  MILL TRASH PLATE OPENING TOE               >>
76      MTPH ,I1;     <<  MILL TRASH PLATE OPENING HEEL              >>
77      MOTP ,I1;     <<  MILL TOP ROLL GROOVES PITCH                >>
78      MOTD ,I1;     <<  MILL TOP ROLL GROOVES DEPTH                >>
79      MOTA ,I1;     <<  MILL TOP ROLL GROOVES ANGLE                >>
80      MOFP ,I1;     <<  MILL FEED ROLL GROOVES PITCH               >>
81      MOFD ,I1;     <<  MILL FEED ROLL GROOVES DEPTH               >>
82      MOFA ,I1;     <<  MILL FEED ROLL GROOVES ANGLE               >>
83      MODP ,I1;     <<  MILL DELIVERY ROLL GROOVES PITCH           >>
84      MODD ,I1;     <<  MILL DELIVERY ROLL GROOVES DEPTH           >>
85      MODA ,I1;     <<  MILL DELIVERY ROLL GROOVES ANGLE           >>
86      MJTP ,I1;     <<  MILL TOP JUICE ROLL GROOVES PITCH          >>
87      MJTD ,I1;     <<  MILL TOP JUICE ROLL GROOVES DEPTH          >>
88      MJTW ,I1;     <<  MILL TOP JUICE ROLL GROOVES WIDTH          >>
89      MJFP ,I1;     <<  MILL FEED JUICE ROLL GROOVES PITCH         >>
90      MJFD ,I1;     <<  MILL FEED JUICE ROLL GROOVES DEPTH         >>
91      MJFW ,I1;     <<  MILL FEED JUICE ROLL GROOVES WIDTH         >>
92      MFRATE,I1;    <<  MILL FIBRE RATE USED FOR THESE SETTINGS    >>
93      MCA,I1;       <<  MILL CHUTE DIMENSION A                     >>
94      MCB,I1;       <<  MILL CHUTE DIMENSION B                     >>
95      MCC,I1;       <<  MILL CHUTE DIMENSION C                     >>
96      MCD,I1;       <<  MILL CHUTE DIMENSION D                     >>
97      MPA,I1;       <<  PRESSURE FEEDER DIMENSION A                >>
98      MPB,I1;       <<  PRESSURE FEEDER DIMENSION B                >>
99      MPC,I1;       <<  PRESSURE FEEDER DIMENSION C                >>
100     MPD,I1;       <<  PRESSURE FEEDER DIMENSION D                >>
```

```
101     MPE, I1;      <<  PRESSURE FEEDER DIMENSION E                >>
102     MPF, I1;      <<  PRESSURE FEEDER DIMENSION F                >>
103     MPWO, I1;     <<  PRESSURE FEEDER WORK OPENING               >>
104     MPGR, I1;     <<  PRESSURE FEEDER TO MILL GEAR RATIO         >>
105     MPDR, X6;     <<  PRESSURE FEEDER DRIVE TYPE                 >>
106     MAA , I1;     <<  MILL APRON FEEDER DIMENSION A              >>
107     MAB , I1;     <<  MILL APRON FEEDER DIMENSION B              >>
108     MAC , I1;     <<  MILL APRON FEEDER DIMENSION C              >>
109     MAD , I1;     <<  MILL APRON FEEDER DIMENSION D              >>
110     MAE , I1;     <<  MILL APRON FEEDER DIMENSION E              >>
111     MOA , I1;     <<  MILL OVER-FEED ROLL DIMENSION A            >>
112     MOB , I1;     <<  MILL OVER-FEED ROLL DIMENSION B            >>
113     MOC , I1;     <<  MILL OVER-FEED ROLL DIMENSION C            >>
114     MOD , I1;     <<  MILL OVER-FEED ROLL DIMENSION D            >>
115     MUA , I1;     <<  MILL UNDERFEED ROLL DIMENSION A            >>
116     MUB , I1;     <<  MILL UNDERFEED ROLL DIMENSION B            >>
117     MUC , I1;     <<  MILL UNDERFEED ROLL DIMENSION C            >>
118     MUD , I1;     <<  MILL UNDERFEED ROLL DIMENSION D            >>
119     MUE , I1;     <<  MILL UNDERFEED ROLL DIMENSION E            >>
120     MUROLL, X4;   <<  MILL UNDERFEED ROLL TYPE                   >>
121     MCLF, I1;     <<  MILL CLOSED CHUTE DIMENSION F              >>
122     MCLG, I1;     <<  MILL CLOSED CHUTE DIMENSION G              >>
123     MCLH, I1;     <<  MILL CLOSED CHUTE DIMENSION H              >>
124     MCLI, I1;     <<  MILL CLOSED CHUTE DIMENSION I              >>
125     MHJ , I1;     <<  MILL HINGED PLATE DIMENSION J              >>
126     MHK , I1;     <<  MILL HINGED PLATE DIMENSION K              >>
127     MHL , I1;     <<  MILL HINGED PLATE DIMENSION L              >>
128     MHM , I1;     <<  MILL HINGED PLATE DIMENSION M              >>
129     PFOUP, I1;    <<  PRESSURE FEEDER UPPER ROLL GROOVES PITCH   >>
130     PFOUD, I1;    <<  PRESSURE FEEDER UPPER ROLL GROOVES DEPTH   >>
131     PFOUA, I1;    <<  PRESSURE FEEDER UPPER ROLL GROOVES ANGLE   >>
132     PFJUP, I1;    <<  PRESSURE FEEDER UPPER ROLL JUICE GVES PITCH >>
133     PFJUD, I1;    <<  PRESSURE FEEDER UPPER ROLL JUICE GVES DEPTH >>
134     PFJUW, I1;    <<  PRESSURE FEEDER UPPER ROLL JUICE GVES WIDTH >>
135     PFOLP, I1;    <<  PRESSURE FEEDER LOWER ROLL GROOVES PITCH   >>
136     PFOLD, I1;    <<  PRESSURE FEEDER LOWER ROLL GROOVES DEPTH   >>
137     PFOLA, I1;    <<  PRESSURE FEEDER LOWER ROLL GROOVES ANGLE   >>
138     PFJLP, I1;    <<  PRESSURE FEEDER LOWER ROLL JUICE GVES PITCH >>
139     PFJLD, I1;    <<  PRESSURE FEEDER LOWER ROLL JUICE GVES DEPTH >>
140     PFJLW, I1;    <<  PRESSURE FEEDER LOWER ROLL JUICE GVES WIDTH >>
141     DMAKE, X12;   <<  DIFFUSER  MAKE                             >>
142     DWID, I1;     <<  DIFFUSER WIDTH                             >>
143     DLEN, I1;     <<  DIFFUSER LENGTH                            >>
144     DSPD, I1;     <<  DIFFUSER CARRIER SPEED                     >>
145     DPWR, I1;     <<  DIFFUSER DRIVE POWER                       >>
146     DPOSN, X24;   <<  DIFFUSER POSITION IN TRAIN                 >>
147     JTYPE, X16;   <<  JUICE SCREEN TYPE                          >>
148     JS#, I1;      <<  NUMBER OF SCREENS                          >>
149     JLEN, I1;     <<  SCREEN LENGTH                              >>
150     JWID, I1;     <<  SCREEN WIDTH                               >>
```

```
151        JSAPER, I1;     <<  SCREEN OPENING                          >>
152        HTVOL, I1;      <<  HOLDING TANK VOLUME                     >>
153        FTDIA, I1;      <<  FLASH TANK DIAMETER                     >>
154        FTHGT, I1;      <<  FLASH TANK HEIGHT                       >>
155        JH#, I1;        <<  JUICE HEATER  - NUMBER                  >>
156        JHUSE, X16;     <<  JUICE HEATER  - MATERIAL HEATED         >>
157        JHAREA, I1;     <<  JUICE HEATER  - AREA                    >>
158        JHHT, X16;      <<  JUICE HEATER HEATING MEDIUM             >>
159        JHPASS, I1;     <<  JUICE HEATER NO  OF PASSES              >>
16Ø        JHTUBE, I1;     <<  JUICE HEATER NO. OF TUBES PER PASS      >>
161        JHLEN, I1;      <<  JUICE HEATER TUBE LENGTH                >>
162        JHDIA, I1;      <<  JUICE HEATER TUBE DIAMETER              >>
163        JHMATL, X1Ø;    <<  JUICE HEATER TUBE MATERIAL              >>
164        JTTHCK, I1;     <<  JUICE HEATER TUBE THICKNESS             >>
165        CLPOS, X12;     <<  CLARIFIER POSITION                      >>
166        CLTYPE, X12;    <<  CLARIFIER  TYPE                         >>
167        CLTRAY, I1;     <<  CLARIFIER NUMBER OF TRAYS               >>
168        CLDIA, I1;      <<  CLARIFIER DIAMETER                      >>
169        CLAREA, I1;     <<  CLARIFIER AREA                          >>
17Ø        CLVOL, I1;      <<  CLARIFIER VOLUME                        >>
171        FTYPE, X16;     <<  FILTER TYPE                             >>
172        FIL#, I1;       <<  FILTER NUMBER                           >>
173        FAREA, I1;      <<  FILTER AREA                             >>
174        SPTYPE, X12;    <<  BAGASSE SEPARATOR TYPE                  >>
175        SPAREA, I1;     <<  BAGASSE SEPARATOR AREA                  >>
176        SPOP, I1;       <<  BAGASSE SEPARATOR SCREEN OPENING        >>
177        SPWDTH, I1;     <<  BAGASSE SEPARATOR SCREEN WIDTH          >>
178        SPHGT, I1;      <<  BAGASSE SEPARATOR SCREEN HEIGHT         >>
179        SPPWR, I1;      <<  BAGASSE SEPARATOR DRIVE POWER           >>
18Ø        EVAP#, I1;      <<  EVAPORATOR NUMBER IN SET                >>
181        EVDIA, I1;      <<  EVAPORATOR DIAMETER                     >>
182        EVSURF, I1;     <<  EVAPORATOR HEATING SURFACE              >>
183        EVLEN, I1;      <<  EVAP TUBE LENGTH                        >>
184        EVMATL, X1Ø;    <<  EVAP MATERIAL HEATED                    >>
185        EVOD, I1;       <<  EVAP TUBE O.D.                          >>
186        EVTH, I1;       <<  EVAP TUBE THICKNESS                     >>
187        EVCDIA, I1;     <<  EVAP CONDENSER DIAMETER                 >>
188        EVCHGT, I1;     <<  EVAP CONDENSER HEIGHT                   >>
189        EVBLD, X12;     <<  BLEED TO                                >>
19Ø  SETS;
191  <<                                                               >>
192  <<                  FACTORY NAMES                                >>
193  <<                                                               >>
194  NAME;               NAMES: : 19, M;
195  ENTRY;              FACT#(13),
196                      NAME;
197  CAPACITY;           35;
198  <<                                                               >>
199  <<                  MILL NUMBERS - AUTOMATIC MASTER              >>
2ØØ  <<                                                               >>
```

```
201  NAME:              NUMBS::19,A;
202  ENTRY:             MILL#(3);
203  CAPACITY:          6;
204  <<                                                          >>
205  <<                 TRAIN NUMBER - AUTOMATIC MASTER          >>
206  <<                                                          >>
207  NAME:              TRAINS::19,A;
208  ENTRY:             TRAIN#(8);
209  CAPACITY:          2;
210  <<                                                          >>
211  <<                 EVAPORATOR NUMBER - AUOMATIC MASTER      >>
212  <<                                                          >>
213  NAME:              EVAPS::19,A;
214  ENTRY:             ENTRY#(1);
215  CAPACITY:          7;
216  <<                                                          >>
217  <<                 ITEM ENTRY - AUTOMATIC MASTER            >>
218  <<                                                          >>
219  NAME:              ENTRYS::19,A;
220  ENTRY:             ENTRY#(9);
221  CAPACITY:          10;
222  <<                                                          >>
223  <<-------------------------------------------------------------->>
224  <<--------------- DETAIL DATA SETS ------------------------------>>
225  <<-------------------------------------------------------------->>
226  <<                                                          >>
227  <<                 TRANSPORT INFORMATION                    >>
228  <<                                                          >>
229  NAME:              TRANS::19,D;
230  ENTRY:
231                     FACT#(NAMES),
232                     ENTRY#(ENTRYS),
233                     LOCOS,
234                     TYPE,
235                     ENG,
236                     POWER,
237                     MASS,
238                     GAUGE,
239                     TRUCK,
240                     TRUCK#,
241                     CAPAC,
242                     TGAUGE,
243                     TRAML,
244                     GAUGEL,
245                     CROPP,
246                     CROPG,
247                     CROPR;
248  CAPACITY:          175;
249  <<                                                          >>
250  <<                 CARRIER DATA                             >>
```

```
<<                                                          >>
<<                  MILL FEEDING DEVICES                     >>
<<                                                          >>
NAME:               FEEDS::19,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    MILL#(NUMBS),
                    MCA,
                    MCB,
                    MCC,
                    MCD,
                    MPA,
                    MPB,
                    MPC,
                    MPD,
                    MPE,
                    MPF,
                    MPWO,
                    MPGR,
                    MPDR,
                    MAA ,
                    MAB ,
                    MAC ,
                    MAD ,
                    MAE ,
                    MOA ,
                    MOB ,
                    MOC ,
                    MOD ,
                    MUA ,
                    MUB ,
                    MUC ,
                    MUD ,
                    MUE ,
                    MUROLL,
                    MCLF,
                    MCLG,
                    MCLH,
                    MCLI,
                    MHJ ,
                    MHK ,
                    MHL ,
                    MHM ;
CAPACITY:           175;
<<                                                          >>
<<                  PRESSURE FEEDER GROOVING                 >>
<<                                                          >>
NAME:               PRESS::19,D;
ENTRY:
```

```
401                     FACT#(NAMES),
402                     TRAIN#(TRAINS),
403                     MILL#(NUMBS),
404                     PFOUP,
405                     PFOUD,
406                     PFOUA,
407                     PFJUP,
408                     PFJUD,
409                     PFJUW,
410                     PFOLP,
411                     PFOLD,
412                     PFOLA,
413                     PFJLP,
414                     PFJLD,
415                     PFJLW,
416  CAPACITY:          175;
417  <<                                                    >>
418  <<                 DIFFUSER DATA                      >>
419  <<                                                    >>
420  NAME:              DIFFUS::19,D;
421  ENTRY:
422                     FACT#(NAMES),
423                     TRAIN#(TRAINS),
424                     ENTRY#(ENTRYS),
425                     DMAKE,
426                     DWID,
427                     DLEN,
428                     DSPD,
429                     DPWR,
430                     DPOSN;
431  CAPACITY:          35;
432  <<                                                    >>
433  <<                 JUICE SCREENS                      >>
434  <<                                                    >>
435  NAME:              SCREEN::19,D;
436  ENTRY:
437                     FACT#(NAMES),
438                     ENTRY#(ENTRYS),
439                     JTYPE,
440                     JS#,
441                     JLEN,
442                     JWID,
443                     JSAPER,
444                     HTVOL,
445                     FTDIA,
446                     FTHGT;
447  CAPACITY:          100;
448  <<                                                    >>
449  <<                 JUICE HEATER DATA                  >>
450  <<                                                    >>
```

```
NAME:                HEATER::19,D;
ENTRY:
                     FACT#(NAMES),
                     ENTRY#(ENTRYS),
                     JH#,
                     JHUSE,
                     JHAREA,
                     JHHT,
                     JHPASS,
                     JHTUBE,
                     JHLEN,
                     JHDIA,
                     JHMATL,
                     JTTHCK;
CAPACITY:            150;
<<                                                          >>
<<                   CLARIFIER DATA                         >>
<<                                                          >>
NAME:                CLARIF::19,D;
ENTRY:
                     FACT#(NAMES),
                     ENTRY#(ENTRYS),
                     CLPOS,
                     CLTYPE,
                     CLTRAY,
                     CLDIA,
                     CLAREA,
                     CLVOL,
<<                                                          >>
<<                   FILTERS                                >>
<<                                                          >>
                     FTYPE,
                     FIL#,
                     FAREA;
CAPACITY:            140;
<<                                                          >>
<<                   BAGASSE SEPARATOR DATA                 >>
<<                                                          >>
NAME:                SEPAR::19,D;
ENTRY:
                     FACT#(NAMES),
                     ENTRY#(ENTRYS),
                     SPTYPE,
                     SPAREA,
                     SPOP,
                     SPWDTH,
                     SPHGT,
                     SPPWR;
CAPACITY:            105;
<<                                                          >>
```

```
<<                    EVAPORATING PLANT                                  >>
<<                                                                       >>
NAME:                 EVAP::19,D;
ENTRY:
                      FACT#(NAMES),
                      TRAIN#(TRAINS),
                      EVAP#(EVAPS),
                      ENTRY#(ENTRYS),
                      EVDIA,
                      EVSURF,
                      EVLEN,
                      EVMATL,
                      EVOD,
                      EVTH,
                      EVCDIA,
                      EVCHGT,
                      EVBLD;
CAPACITY:             600;
END.
```

```
1  $CONTROL:FIELD,NOLIST,ERRORS=10,ROOT,SET,TABLE;
2  BEGIN DATA BASE: PLANT2:GD:19;
3  LEVELS:;
4  ITEMS:
5        FACT# ,I1;     <<  FACTORY NUMBER                          >>
6        NAME,X16;      <<  FACTORY NAME                            >>
7        ENTRY#,I1;     <<  ENTRY NUMBER                            >>
8        GDE,X2;        <<  PAN GRADE  - HG OR LG                   >>
9        PTYPE,X18;     <<   PAN TYPE                               >>
10       P#,I1;         <<   PAN REF #                              >>
11       PMATL,X12;     <<   PAN MATERIAL                           >>
12       PDIA,I1;       <<   PAN DIAMETER                           >>
13       PVOL,I1;       <<   PAN VOLUME                             >>
14       PSURF,I1;      <<   PAN SURFACE AREA                       >>
15       PSTSP,I1;      <<   PAN STIRRER SPEED                      >>
16       PRAT,I1;       <<   PAN SURFACE/VOLUME RATIO               >>
17       PCDIA,I1;      <<   PAN CONDENSER DIAMETER                 >>
18       PCHGT,I1;      <<   PAN CONDENSER LENGTH                   >>
19       SYRUPV,I1;     <<  VOLUME OF SYRUP STORAGE TANKS           >>
20       MOLVA,I1;      <<   VOLUME OF A MOLASSES STORAGE TANKS     >>
21       MOLVB,I1;      <<   VOLUME OF B MOLASSES STORAGE TANKS     >>
22       MAGV,I1;       <<  VOLUME OF MAGMA STORAGE TANKS           >>
23       MH#,I1;        <<  NO. OF MASSECUITE RE-HEATERS            >>
24       MHAREA,I1;     <<  AREA OF RE-HEATERS                      >>
25       MHTYPE,X16;    <<  RE-HEATER TYPE                          >>
26       RHDIA,I1;      <<  RESISTANCE HEATER DIAMETER              >>
27       RHVLT,I1;      <<  RESISTANCE HEATER VOLTAGE               >>
28       RHAMP,I1;      <<  RESISTANCE HEATER CURRENT               >>
29       VP#,I1;        <<  VACUUM PUMP NUMBER                      >>
30       VMAKE,X16;     <<  VACUUM PUMP MAKE                        >>
31       VCYL#,X8;      <<  VACUUM PUMP NO. OF CYLINDERS            >>
32       VBORE,I1;      <<  VACUUM PUMP CYLINDER BORE               >>
33       VLEN ,I1;      <<  VACUUM PUMP STROKE                      >>
34       VDISPL,I1;     <<  VACUUM PUMP DISPLACEMENT                >>
35       VTYPE,X8;      <<  VACUUM PUMP TYPE                        >>
36       VSPD ,I1;      <<  VACUUM PUMP SPEED                       >>
37       VPWR ,I1;      <<  VACUUM PUMP POWER                       >>
38       VUSE ,X36;     <<  VACUUM PUMP USE                         >>
39       CSMAKE,X20;    <<  CRYSTALLIZER MAKE                       >>
40       CSGDE,X4;      <<  CRYSTALLIZER GRADE MATERIAL             >>
41       CS#  ,I1;      <<  CRYSTALLIZER NUMBER                     >>
42       CSVOL,I1;      <<  CRYSTALLIZER VOLUME                     >>
43       CSTYPE,X14;    <<  CRYSTALLIZER TYPE                       >>
44       CSAREA,I1;     <<  CRYSTALLIZER AREA                       >>
45       CSMODE,X10;    <<  CRYSTALLIZER MODE                       >>
46       FHMAKE,X12;    <<  HIGH GRADE FUGAL MAKE                   >>
47       FH#,I1;        <<  HIGH GRADE FUGAL NUMBER                 >>
48       FHMASS,X4;     <<  HIGH GRADE FUGAL MASSECUITE             >>
49       FHSPD ,I1;     <<  HIGH GRADE FUGAL SPEED                  >>
50       FHDIA ,I1;     <<  HIGH GRADE FUGAL DIAMETER               >>
```

```
51      FHDEP ,I1;    <<  HIGH GRADE FUGAL DEPTH                    >>
52      FHAREA,I1;    <<  HIGH GRADE FUGAL AREA                     >>
53      FHDVE ,X2;    <<  HIGH GRADE FUGAL DRIVE                    >>
54      FHPWR ,I1;    <<  HIGH GRADE FUGAL DRIVE POWER              >>
55      FLMAKE,X16;   <<  LOW  GRADE FUGAL MAKE                     >>
56      FLMODE,X12;   <<  LOW  GRADE FUGAL TYPE                     >>
57      FL#  ,I1;     <<  LOW  GRADE FUGAL NUMBER                   >>
58      FLSPD,I1;     <<  LOW  GRADE FUGAL SPEED                    >>
59      FLDIA,I1;     <<  LOW  GRADE FUGAL DIAMETER                 >>
60      FLDEP,I1;     <<  LOW  GRADE FUGAL DEPTH                    >>
61      FLBMAX,I1;    <<  LOW  GRADE FUGAL BASKET MAXIMUM           >>
62      FLBMIN,I1;    <<  LOW  GRADE FUGAL BASKET MINIMUM           >>
63      FLBANG,I1;    <<  LOW  GRADE FUGAL BASKET ANGLE             >>
64      FLBVA ,I1;    <<  LOW  GRADE FUGAL SCREEN AREA VERTICAL     >>
65      FLBIA ,I1;    <<  LOW  GRADE FUGAL SCREEN AREA INCLINED     >>
66      FLPWR ,I1;    <<  LOW  GRADE FUGAL DRIVE POWER              >>
67      DTYPE,X16;    <<  SUGAR DRYER TYPE                          >>
68      DLEN,I1;      <<  SUGAR DRYER LENGTH                        >>
69      DDIA,I1;      <<  SUGAR DRYER DIAMETER                      >>
70      DSPD,I1;      <<  SUGAR DRYER ROTATIONAL SPEED              >>
71      DPWR,I1;      <<  SUGAR DRYER DRIVE POWER                   >>
72      DFAN,X4;      <<  SUGAR DRYER FAN INSTALLED?                >>
73      DHTR,X4;      <<  SUGAR DRYER HEATER INSTALLED?             >>
74      DRAC,X4;      <<  SUGAR DRYER AIR-CONDITIONING?             >>
75      SB#,I1;       <<  SUGAR BIN NUMBER                          >>
76      SBCAP,I1;     <<  SUGAR BIN CAPACITY                        >>
77      SBTOT,I1;     <<  SUGAR BIN TOTAL CAPACITY                  >>
78      BOMAKE,X16;   <<  BOILER MAKE                               >>
79      BO#,I1;       <<  BOILER NUMBER                             >>
80      BOPRES,I1;    <<  BOILER PRESSURE                           >>
81      BOMCR ,I1;    <<  BOILER MCR                                >>
82      BOSHT ,I1;    <<  BOILER NOMINAL SUPERHEAT                  >>
83      BOBA  ,I1;    <<  BOILER AREA BOILER TUBES                  >>
84      BOFA  ,I1;    <<  BOILER AREA FURNACE                       >>
85      BOSA  ,I1;    <<  BOILER AREA SUPERHEATER                   >>
86      BOAA  ,I1;    <<  BOILER AREA AIRHEATER                     >>
87      BOEA  ,I1;    <<  BOILER AREA ECONOMISER                    >>
88      BOGTE,X24;    <<  BOILER GRATE TYPE                         >>
89      BOGA ,I1;     <<  BOILER GRATE AREA                         >>
90      BOWW ,X4;     <<  BOILER WATERWALLS?                        >>
91      BOSPR ,X4;    <<  BOILER SPREADER                           >>
92      BOIOB ,X4;    <<  BOILER OIL BURNERS?                       >>
93      BOICO ,X4;    <<  BOILER COAL FEEDERS?                      >>
94      BOIFD ,X4;    <<  BOILER FORCED DRAUGHT?                    >>
95      BOIARR,X18;   <<  BOILER SOOT ARRESTOR                      >>
96      BOISTD,I1;    <<  BOILER STACK DIAMETER                     >>
97      BOISTH,I1;    <<  BOILER STACK HEIGHT                       >>
98      BGBIN,X12;    <<  BAGASSE BIN TYPE                          >>
99      BGCAP,I1;     <<  BAGASSE BIN CAPACITY                      >>
100     BGPOS,X8;     <<  BAGASSE BIN POSITION IN CIRCUIT           >>
```

```
               CTTYP,X18;    <<   COOLING TOWER TYPE                          >>
               CTCELL,I1;    <<   COOLING TOWER NUMBER OF CELLS               >>
               CTCAP ,I1;    <<   COOLING TOWER CAPACITY                      >>
               CTPWR ,I1;    <<   COOLING TOWER FAN POWER                     >>
               EPRTG ,I1;    <<   RATING STEAM GENERATOR SETS                 >>
               EPIC  ,I1;    <<   RATING  I.C. GENERATOR SETS                 >>
               EPMR  ,I1;    <<   RATING  MOTORS                              >>
               EPMLD ,I1;    <<   MAXIMUM LOAD                                >>
               EPDMD ,I1;    <<   MAXIMUM DEMAND                              >>
               EPIRD ,I1;    <<   MAXIMUM IRRIGATION DEMAND                   >>
               EPEXP ,I1;    <<   EXPORT POWER                                >>
               EPSUR ,I1;    <<   SURPLUS POWER                               >>
               GSMAKE,X14;   <<   GENERATOR SET MAKE                          >>
               GS#   ,I1;    <<   GENERATOR SET NUMBER                        >>
               GSRTG ,I1;    <<   GENERATOR SET RATING                        >>
               GSVOL ,I1;    <<   GENERATOR SET VOLTAGE                       >>
               GSPM  ,X14;   <<   GENERATOR SET PRIME MOVER                   >>
               GSSPD,I1;     <<   GENERATOR SET PRIME MOVER SPEED             >>
               GSPR  ,I1;    <<   GENERATOR SET PRIME MOVER PRESSURE          >>
               GSSH  ,I1;    <<   GENERATOR SET PRIME MOVER SUPERHEAT         >>
               GSEX  ,I1;    <<   GENERATOR SET PRIME MOVER EXHAUST           >>
     SETS:
     <<                                                                       >>
     <<                      FACTORY NAMES                                    >>
     <<                                                                       >>
     NAME:                   NAME2::19,M;
     ENTRY:                  FACT#(10),
                             NAME;
     CAPACITY:               35;
     <<                                                                       >>
     <<                      ITEM ENTRY - AUTOMATIC MASTER                    >>
     <<                                                                       >>
     NAME:                   ENTRY2::19,A;
     ENTRY:                  ENTRY#(10);
     CAPACITY:               10;
     <<                                                                       >>
     <<                      PAN GRADE - AUTOMATIC MASTER                     >>
     <<                                                                       >>
     NAME:                   GRADE::19,A;
     ENTRY:                  GDE(1);
     CAPACITY:               2;
     <<                                                                        >>
     <<----------------------------------------------------------------------->>
     <<--------------- DETAIL DATA SETS  ------------------------------------->>
     <<----------------------------------------------------------------------->>
     <<                                                                        >>
     <<                      PANSTAGE DATA                                     >>
     <<                                                                        >>
     NAME:                   PANS::19,D;
     ENTRY:
```

```
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    GDE(GRADE),
                    PTYPE,
                    P#,
                    PMATL,
                    PDIA,
                    PVOL,
                    PSURF,
                    PSTSP,
                    PRAT,
                    PCDIA,
                    PCHGT;
CAPACITY:           700;
<<                                                          >>
<<                  PAN STOCK TANKS AND REHEATERS           >>
<<                                                          >>
NAME:               STOCK::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
<<                                                          >>
<<                  STOCK TANKS                             >>
<<                                                          >>
                    SYRUPV,
                    MOLVA,
                    MOLVB,
                    MAGV,
<<                                                          >>
<<                  REHEATERS                               >>
<<                                                          >>
                    MH#,
                    MHAREA,
                    MHTYPE,
                    RHDIA,
                    RHVLT,
                    RHAMP;
CAPACITY:           70;
<<                                                          >>
<<                  VACUUM PUMPS                            >>
<<                                                          >>
NAME:               PUMPS::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    VP#,
                    VMAKE,
                    VCYL#,
                    VBORE,
                    VLEN ,
```

```
                    VDISPL,
                    VTYPE,
                    VSPD ,
                    VPWR ,
                    VUSE ;
CAPACITY:           350;
<<                                                          >>
<<                  CRYSTALLIZER DATA                       >>
<<                                                          >>
NAME:               CRYST::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    CSMAKE,
                    CSGDE,
                    CS#,
                    CSVOL,
                    CSTYPE,
                    CSAREA,
                    CSMODE;
CAPACITY:           350;
<<                                                          >>
<<                  HIGH GRADE FUGALS                       >>
<<                                                          >>
NAME:               HGFUG::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    FHMAKE,
                    FH#,
                    FHMASS,
                    FHSPD ,
                    FHDIA ,
                    FHDEP ,
                    FHAREA,
                    FHDVE ,
                    FHPWR ;
CAPACITY:           140;
<<                                                          >>
<<                  LOW GRADE FUGALS                        >>
<<                                                          >>
NAME:               LGFUG::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    FLMAKE,
                    FLMODE,
                    FL#  ,
                    FLSPD,
                    FLDIA,
```

```
                    FLDEP,
                    FLBMAX,
                    FLBMIN,
                    FLBANG,
                    FLBVA ,
                    FLBIA ,
                    FLPWR ;
CAPACITY:           140;
<<                                                  >>
<<                  SUGAR DRYERS AND STORAGE        >>
<<                                                  >>
NAME:               DRYER::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
<<                                                  >>
<<                  DRYERS                          >>
<<                                                  >>
                    DTYPE,
                    DLEN,
                    DDIA,
                    DSPD,
                    DPWR,
                    DFAN,
                    DHTR,
                    DRAC,
<<                                                  >>
<<                  SUGAR STORAGE                   >>
<<                                                  >>
                    SB#,
                    SBCAP,
                    SBTOT;
CAPACITY:           70;
<<                                                  >>
<<                  STEAM GENERATION PLANT          >>
<<                                                  >>
NAME:               BOILER::19,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    BOMAKE,
                    BO#,
                    BOPRES,
                    BOMCR ,
                    BOSHT ,
                    BOBA  ,
                    BOFA  ,
                    BOSA  ,
                    BOAA  ,
                    BOEA  ,
```

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                    BOGTE,
                    BOGA ,
                    BOWW ,
                    BOSPR ,
                    BOIOB ,
                    BOIFD ,
                    BOICO ,
                    BOIARR,
                    BOISTD,
                    BOISTH;
CAPACITY: 140;
<<                                                          >>
<<                  BAGASSE STORAGE AND COOLING TOWERS      >>
<<                                                          >>
NAME:               BINS: : 19, D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    BGBIN,
                    BGCAP,
                    BGPOS,
                    CTTYP,
                    CTCELL,
                    CTCAP ,
                    CTPWR ;
CAPACITY: 105;
<<                                                          >>
<<                  ELECTRICAL POWER PLANT                  >>
<<                                                          >>
NAME:               ELECT: : 19, D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    EPRTG ,
                    EPIC  ,
                    EPMR  ,
                    EPMLD ,
                    EPDMD ,
                    EPIRD ,
                    EPEXP ,
                    EPSUR ,
                    GSMAKE,
                    GS#   ,
                    GSRTG ,
                    GSVOL ,
                    GSPM ,
                    GSSPD,
                    GSPR ,
                    GSSH ,
                    GSEX ;
```

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351  CAPACITY:          140;
352  END.
```

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1  $CONTROL: LIST, FIELD, ERRORS=10, ROOT, SET, TABLE;
2  BEGIN DATA BASE: PL80A: GD: 25;
3  LEVELS: ;
4  ITEMS:
5        FACT# , I1;     <<  FACTORY NUMBER                          >>
6        NAME, X16;      <<  FACTORY NAME                            >>
7        TRAIN#, X2;     <<  TRAIN NUMBER ( A OR B )                 >>
8        MILL# , I1;     <<  MILL NUMBER ( POSITION IN TRAIN )       >>
9        ENTRY#, I1;     <<  ENTRY NUMBER                            >>
10       LOCOS, I1;      <<  NO. OF LOCOMOTIVES                      >>
11       TYPE, X8;       <<  LOCOMOTIVE TYPE                         >>
12       ENG, X8;        <<  ENGINE TYPE                             >>
13       POWER, I1;      <<  ENGINE POWER                            >>
14       MASS, I1;       <<  LOCOMOTIVE MASS                         >>
15       GAUGE, I1;      <<  LOCOMOTIVE GAUGE                        >>
16       TRUCK, X16;     <<  TRUCK   TYPE                            >>
17       TRUCK#, I1;     <<  TRUCK NUMBER                            >>
18       CAPAC, I1;      <<  TRUCK CAPACITY                          >>
19       TGAUGE, I1;     <<  TRUCK GAUGE                             >>
20       TRAML, I1;      <<  LENGTH OF TRAMLINE                      >>
21       GAUGEL, I1;     <<  GAUGE OF LINE                           >>
22       CROPP , I1;     <<  PERCENTAGE OF CROP ON PRIVATE LINE      >>
23       CROPG , I1;     <<  PERCENTAGE OF CROP ON GOVT.  LINE       >>
24       CROPR , I1;     <<  PERCENTAGE OF CROP ON ROAD              >>
25       CPOS, X16;      <<  CARRIER POSITION                        >>
26       CTYPE, X32;     <<  CARRIER TYPE                            >>
27       CLEN, I1;       <<  CARRIER LENGTH                          >>
28       CWID, I1;       <<  CARRIER WIDTH                           >>
29       CINCL, I1;      <<  CARRIER INCLINATION                     >>
30       CSPD, I1;       <<  CARRIER SPEED                           >>
31       CDVE, X16;      <<  CARRIER DRIVE                           >>
32       CPWR, I1;       <<  CARRIER POWER                           >>
33       CFEED, X16;     <<  CARRIER FED FROM                        >>
34       CREM , X30;     <<  REMARKS                                 >>
35       LTYPE, X10;     <<  LEVELLER TYPE                           >>
36       LBL#, I1;       <<  NO. OF BLADES                           >>
37       LCLR, I1;       <<  LEVELLER CLEARANCE                      >>
38       LSPD, I1;       <<  LEVELLER SPEED                          >>
39       LDVE, X10;      <<  DRIVE TYPE                              >>
40       LPWR, I1;       <<  LEVELLER POWER                          >>
41       KTYPE, X10;     <<  KNIVE TYPE                              >>
42       KBL#, I1;       <<  BLADE NUMBER                            >>
43       KCLR, I1;       <<  CLEARANCE                               >>
44       KSPD, I1;       <<  KNIVES  SPEED                           >>
45       KDVE, X10;      <<  KNIVES DRIVE                            >>
46       KPWR, I1 ;      <<  KNIVES  POWER                           >>
47       K2TYPE, X10;    <<  SECOND KNIVES TYPE                      >>
48       K2BL#, I1;      <<  SECOND KNIVES BLADE NUMBER              >>
49       K2CLR, I1;      <<  SECOND KNIVES CLEARANCE                 >>
50       K2SPD, I1;      <<  SECOND KNIVES  SPEED                    >>
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51      K2DVE,X10;    <<  SECOND KNIVES DRIVE                          >>
52      K2PWR,I1 ;    <<  SECOND KNIVES  POWER                         >>
53      STYPE,X12;    <<  SHREDDER TYPE                                >>
54      SDIA,I1;      <<  SHREDDER DIAMETER                            >>
55      SLEN,I1;      <<  SHREDDER LENGTH                              >>
56      SCLEAR,I1;    <<  SHREDDER TIP CLEARANCE                       >>
57      SSPD,I1;      <<  SHREDDER SPEED                               >>
58      SHAM#,I1;     <<  SHREDDER HAMMER NUMBER                       >>
59      SDVE,X10;     <<  SHREDDER DRIVE                               >>
60      SSTMP,I1;     <<  SHREDDER STEAM PRESSURE                      >>
61      SMASS,I1;     <<  SHREDDER HAMMER MASS                         >>
62      SPWR,I1;      <<  SHREDDER POWER                               >>
63      MDIA ,I1;     <<  MILL NOMINAL DIAMETER OF ROLLS               >>
64      MLEN ,I1;     <<  MILL NOMINAL  LENGTH  OF ROLLS               >>
65      MSPD ,I1;     <<  MILL PERIPHERAL SPEED OF TOP ROLL            >>
66      MHR  ,X4;     <<  MILL HYDRAULICS?                             >>
67      MHRL ,I1;     <<  MILL HYDRAULIC ROLL LOAD                     >>
68      MSOF ,I1;     <<  MILL SET OPENING FEED                        >>
69      MSOD ,I1;     <<  MILL SET OPENING DELIVERY                    >>
70      MARL ,I1;     <<  MILL AVERAGE ROLL LIFT                       >>
71      MWOF ,I1;     <<  MILL WORK OPENING FEED                       >>
72      MWOD ,I1;     <<  MILL WORK OPENING DELIVERY                   >>
73      MTDIA,I1;     <<  MILL TOP ROLL DIAMETER                       >>
74      MHRMX,I1;     <<  MILL MAXIMUM LIFT OF TOP ROLL                >>
75      MTPT ,I1;     <<  MILL TRASH PLATE OPENING TOE                 >>
76      MTPH ,I1;     <<  MILL TRASH PLATE OPENING HEEL                >>
77      MOTP ,I1;     <<  MILL TOP ROLL GROOVES PITCH                  >>
78      MOTD ,I1;     <<  MILL TOP ROLL GROOVES DEPTH                  >>
79      MOTA ,I1;     <<  MILL TOP ROLL GROOVES ANGLE                  >>
80      MOFP ,I1;     <<  MILL FEED ROLL GROOVES PITCH                 >>
81      MOFD ,I1;     <<  MILL FEED ROLL GROOVES DEPTH                 >>
82      MOFA ,I1;     <<  MILL FEED ROLL GROOVES ANGLE                 >>
83      MODP ,I1;     <<  MILL DELIVERY ROLL GROOVES PITCH             >>
84      MODD ,I1;     <<  MILL DELIVERY ROLL GROOVES DEPTH             >>
85      MODA ,I1;     <<  MILL DELIVERY ROLL GROOVES ANGLE             >>
86      MJDP ,I1;     <<  MILL DEL JUICE ROLL GROOVES PITCH            >>
87      MJDD ,I1;     <<  MILL DEL JUICE ROLL GROOVES DEPTH            >>
88      MJDW ,I1;     <<  MILL DEL JUICE ROLL GROOVES WIDTH            >>
89      MJFP ,I1;     <<  MILL FEED JUICE ROLL GROOVES PITCH           >>
90      MJFD ,I1;     <<  MILL FEED JUICE ROLL GROOVES DEPTH           >>
91      MJFW ,I1;     <<  MILL FEED JUICE ROLL GROOVES WIDTH           >>
92      MFRATE,I1;    <<  MILL FIBRE RATE USED FOR THESE SETTINGS      >>
93      MTSPD ,I1;    <<  MILL TURBINE SPEED                           >>
94      MTPWR ,I1;    <<  MILL TURBINE SPEED                           >>
95      MCA,I1;       <<  MILL CHUTE DIMENSION A                       >>
96      MCB,I1;       <<  MILL CHUTE DIMENSION B                       >>
97      MCC,I1;       <<  MILL CHUTE DIMENSION C                       >>
98      MCD,I1;       <<  MILL CHUTE DIMENSION D                       >>
99      MPA,I1;       <<  PRESSURE FEEDER DIMENSION A                  >>
100     MPB,I1;       <<  PRESSURE FEEDER DIMENSION B                  >>
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101     MPC, I1;      <<  PRESSURE FEEDER DIMENSION C                >>
102     MPD, I1;      <<  PRESSURE FEEDER DIMENSION D                >>
103     MPE, I1;      <<  PRESSURE FEEDER DIMENSION E                >>
104     MPF, I1;      <<  PRESSURE FEEDER DIMENSION F                >>
105     MPWO, I1;     <<  PRESSURE FEEDER WORK OPENING               >>
106     MPGR, I1;     <<  PRESSURE FEEDER TO MILL GEAR RATIO         >>
107     MPDR, X6;     <<  PRESSURE FEEDER DRIVE TYPE                 >>
108     MAA , I1;     <<  MILL APRON FEEDER DIMENSION A              >>
109     MAB , I1;     <<  MILL APRON FEEDER DIMENSION B              >>
110     MAC , I1;     <<  MILL APRON FEEDER DIMENSION C              >>
111     MAD , I1;     <<  MILL APRON FEEDER DIMENSION D              >>
112     MAE , I1;     <<  MILL APRON FEEDER DIMENSION E              >>
113     MOA , I1;     <<  MILL OVER-FEED ROLL DIMENSION A            >>
114     MOB , I1;     <<  MILL OVER-FEED ROLL DIMENSION B            >>
115     MOC , I1;     <<  MILL OVER-FEED ROLL DIMENSION C            >>
116     MOD , I1;     <<  MILL OVER-FEED ROLL DIMENSION D            >>
117     MUA , I1;     <<  MILL UNDERFEED ROLL DIMENSION A            >>
118     MUB , I1;     <<  MILL UNDERFEED ROLL DIMENSION B            >>
119     MUC , I1;     <<  MILL UNDERFEED ROLL DIMENSION C            >>
120     MUD , I1;     <<  MILL UNDERFEED ROLL DIMENSION D            >>
121     MUE , I1;     <<  MILL UNDERFEED ROLL DIMENSION E            >>
122     MUROLL, X4;   <<  MILL UNDERFEED ROLL TYPE                   >>
123     MCLF, I1;     <<  MILL CLOSED CHUTE DIMENSION F              >>
124     MCLG, I1;     <<  MILL CLOSED CHUTE DIMENSION G              >>
125     MCLH, I1;     <<  MILL CLOSED CHUTE DIMENSION H              >>
126     MCLI, I1;     <<  MILL CLOSED CHUTE DIMENSION I              >>
127     MHJ , I1;     <<  MILL HINGED PLATE DIMENSION J              >>
128     MHK , I1;     <<  MILL HINGED PLATE DIMENSION K              >>
129     MHL , I1;     <<  MILL HINGED PLATE DIMENSION L              >>
130     MHM , I1;     <<  MILL HINGED PLATE DIMENSION M              >>
131     PFOUP, I1;    <<  PRESSURE FEEDER UPPER ROLL GROOVES PITCH   >>
132     PFOUD, I1;    <<  PRESSURE FEEDER UPPER ROLL GROOVES DEPTH   >>
133     PFOUA, I1;    <<  PRESSURE FEEDER UPPER ROLL GROOVES ANGLE   >>
134     PFJUP, I1;    <<  PRESSURE FEEDER UPPER ROLL JUICE GVES PITCH >>
135     PFJUD, I1;    <<  PRESSURE FEEDER UPPER ROLL JUICE GVES DEPTH >>
136     PFJUW, I1;    <<  PRESSURE FEEDER UPPER ROLL JUICE GVES WIDTH >>
137     PFOLP, I1;    <<  PRESSURE FEEDER LOWER ROLL GROOVES PITCH   >>
138     PFOLD, I1;    <<  PRESSURE FEEDER LOWER ROLL GROOVES DEPTH   >>
139     PFOLA, I1;    <<  PRESSURE FEEDER LOWER ROLL GROOVES ANGLE   >>
140     PFJLP, I1;    <<  PRESSURE FEEDER LOWER ROLL JUICE GVES PITCH >>
141     PFJLD, I1;    <<  PRESSURE FEEDER LOWER ROLL JUICE GVES DEPTH >>
142     PFJLW, I1;    <<  PRESSURE FEEDER LOWER ROLL JUICE GVES WIDTH >>
143     DMAKE, X12;   <<  DIFFUSER  MAKE                             >>
144     DWID, I1;     <<  DIFFUSER WIDTH                             >>
145     DLEN, I1;     <<  DIFFUSER LENGTH                            >>
146     DSPD, I1;     <<  DIFFUSER CARRIER SPEED                     >>
147     DPWR, I1;     <<  DIFFUSER DRIVE POWER                       >>
148     DPOSN, X24;   <<  DIFFUSER POSITION IN TRAIN                 >>
149     JTYPE, X16;   <<  JUICE SCREEN TYPE                          >>
150     JS#, I1;      <<  NUMBER OF SCREENS                          >>
```

```
151         JLEN, I1;        <<  SCREEN LENGTH                          >>
152         JWID, I1;        <<  SCREEN WIDTH                           >>
153         JSAPER, I1;      <<  SCREEN OPENING                         >>
154         HTVOL, I1;       <<  HOLDING TANK VOLUME                    >>
155         FTDIA, I1;       <<  FLASH TANK DIAMETER                    >>
156         FTHGT, I1;       <<  FLASH TANK HEIGHT                      >>
157         JH#, I1;         <<  JUICE HEATER  - NUMBER                 >>
158         JHUSE, X16;      <<  JUICE HEATER  - MATERIAL HEATED        >>
159         JHAREA, I1;      <<  JUICE HEATER  - AREA                   >>
160         JHHT, X16;       <<  JUICE HEATER HEATING MEDIUM            >>
161         JHPASS, I1;      <<  JUICE HEATER NO  OF PASSES             >>
162         JHTUBE, I1;      <<  JUICE HEATER NO. OF TUBES PER PASS     >>
163         JHLEN, I1;       <<  JUICE HEATER TUBE LENGTH               >>
164         JHDIA, I1;       <<  JUICE HEATER TUBE DIAMETER             >>
165         JHMATL, X10;     <<  JUICE HEATER TUBE MATERIAL             >>
166         JTTHCK, I1;      <<  JUICE HEATER TUBE THICKNESS            >>
167         CLPOS, X12;      <<  CLARIFIER POSITION                     >>
168         CLTYPE, X12;     <<  CLARIFIER  TYPE                        >>
169         CLTRAY, I1;      <<  CLARIFIER NUMBER OF TRAYS              >>
170         CLDIA, I1;       <<  CLARIFIER DIAMETER                     >>
171         CLAREA, I1;      <<  CLARIFIER AREA                         >>
172         CLVOL, I1;       <<  CLARIFIER VOLUME                       >>
173         FTYPE, X16;      <<  FILTER TYPE                            >>
174         FIL#, I1;        <<  FILTER NUMBER                          >>
175         FAREA, I1;       <<  FILTER AREA                            >>
176         SPTYPE, X12;     <<  BAGASSE SEPARATOR TYPE                 >>
177         SPAREA, I1;      <<  BAGASSE SEPARATOR AREA                 >>
178         SPOP, I1;        <<  BAGASSE SEPARATOR SCREEN OPENING       >>
179         SPWDTH, I1;      <<  BAGASSE SEPARATOR SCREEN WIDTH         >>
180         SPHGT, I1;       <<  BAGASSE SEPARATOR SCREEN HEIGHT        >>
181         SPPWR, I1;       <<  BAGASSE SEPARATOR DRIVE POWER          >>
182         EVAP#, I1;       <<  EVAPORATOR NUMBER IN SET               >>
183         EVDIA, I1;       <<  EVAPORATOR DIAMETER                    >>
184         EVSURF, I1;      <<  EVAPORATOR HEATING SURFACE             >>
185         EVLEN, I1;       <<  EVAP TUBE LENGTH                       >>
186         EVMATL, X10;     <<  EVAP MATERIAL HEATED                   >>
187         EVOD, I1;        <<  EVAP TUBE O.D.                         >>
188         EVTH, I1;        <<  EVAP TUBE THICKNESS                    >>
189         EVCDIA, I1;      <<  EVAP CONDENSER DIAMETER                >>
190         EVCHGT, I1;      <<  EVAP CONDENSER HEIGHT                  >>
191         EVBLD, X12;      <<  BLEED TO                               >>
192     SETS:
193     <<                                                              >>
194     <<                   FACTORY NAMES                              >>
195     <<                                                              >>
196     NAME:                NAMES: : 25, M;
197     ENTRY:               FACT#(13),
198                          NAME;
199     CAPACITY:            35;
200     <<                                                              >>
```

```
<<                    MILL NUMBERS - AUTOMATIC MASTER                 >>
<<                                                                    >>
NAME:                 NUMBS::25,A;
ENTRY:                MILL#(3);
CAPACITY:             6;
<<                                                                    >>
<<                    TRAIN NUMBER - AUTOMATIC MASTER                 >>
<<                                                                    >>
NAME:                 TRAINS::25,A;
ENTRY:                TRAIN#(8);
CAPACITY:             2;
<<                                                                    >>
<<                    EVAPORATOR NUMBER - AUOMATIC MASTER             >>
<<                                                                    >>
NAME:                 EVAPS::25,A;
ENTRY:                ENTRY#(1);
CAPACITY:             7;
<<                                                                    >>
<<                    ITEM ENTRY - AUTOMATIC MASTER                   >>
<<                                                                    >>
NAME:                 ENTRYS::25,A;
ENTRY:                ENTRY#(9);
CAPACITY:             10;
<<                                                                    >>
<<-------------------------------------------------------------------->>
<<--------------- DETAIL DATA SETS ---------------------------------->>
<<-------------------------------------------------------------------->>
<<                                                                    >>
<<                    TRANSPORT INFORMATION                           >>
<<                                                                    >>
NAME:                 TRANS::25,D;
ENTRY:
                      FACT#(NAMES),
                      ENTRY#(ENTRYS),
                      LOCOS,
                      TYPE,
                      ENG,
                      POWER,
                      MASS,
                      GAUGE,
                      TRUCK,
                      TRUCK#,
                      CAPAC,
                      TGAUGE,
                      TRAML,
                      GAUGEL,
                      CROPP,
                      CROPG,
                      CROPR;
CAPACITY:             175;
```

```
<<                                                          >>
<<                  CARRIER DATA                             >>
<<                                                          >>
NAME:               CARR::25,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    ENTRY#(ENTRYS),
                    CPOS,
                    CTYPE,
                    CLEN,
                    CWID,
                    CINCL,
                    CSPD,
                    CDVE,
                    CPWR,
                    CFEED,
                    CREM,
CAPACITY:           105;
<<                                                          >>
<<                  KNIVES DATA                              >>
<<                                                          >>
NAME:               KNIVES::25,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    LTYPE,
                    LBL#,
                    LCLR,
                    LSPD,
                    LDVE,
                    LPWR,
                    KTYPE,
                    KBL#,
                    KCLR,
                    KSPD,
                    KDVE,
                    KPWR;
CAPACITY:           105;
<<                                                          >>
<<                  SHREDDER DATA                            >>
<<                                                          >>
NAME:               SHRED::25,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    ENTRY#(ENTRYS),
                    K2TYPE,
                    K2BL#,
                    K2CLR,
```

```
                    K2SPD,
                    K2DVE,
                    K2PWR,
                    STYPE,
                    SDIA,
                    SLEN,
                    SCLEAR,
                    SSPD,
                    SHAM#,
                    SDVE,
                    SSTMP,
                    SMASS,
                    SPWR;
CAPACITY:           70;
<<                                                          >>
<<                  MILL DATA - DETAIL DATA SET             >>
<<                                                          >>
NAME:               MILLS::25,D;
ENTRY:              FACT#(NAMES),
                    TRAIN#(TRAINS),
                    MILL#(NUMBS),
                    MDIA ,
                    MLEN ,
                    MSPD,
                    MHR  ,
                    MHRL ,
                    MSOF ,
                    MSOD ,
                    MARL ,
                    MWOF ,
                    MWOD ,
                    MTDIA,
                    MHRMX,
                    MTPT ,
                    MTPH ,
                    MOTP ,
                    MOTD ,
                    MOTA ,
                    MOFP ,
                    MOFD ,
                    MOFA ,
                    MODP ,
                    MODD ,
                    MODA ,
                    MJDP ,
                    MJDD ,
                    MJDW ,
                    MJFP ,
                    MJFD ,
                    MJFW ,
```

```
                    MFRATE,
                    MTSPD,
                    MTPWR;
CAPACITY:           175;
<<                                                          >>
<<                  MILL FEEDING DEVICES                     >>
<<                                                          >>
NAME:               FEEDS::25,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    MILL#(NUMBS),
                    MCA,
                    MCB,
                    MCC,
                    MCD,
                    MPA,
                    MPB,
                    MPC,
                    MPD,
                    MPE,
                    MPF,
                    MPWO,
                    MPGR,
                    MPDR,
                    MAA ,
                    MAB ,
                    MAC ,
                    MAD ,
                    MAE ,
                    MOA ,
                    MOB ,
                    MOC ,
                    MOD ,
                    MUA ,
                    MUB ,
                    MUC ,
                    MUD ,
                    MUE ,
                    MUROLL,
                    MCLF,
                    MCLG,
                    MCLH,
                    MCLI,
                    MHJ ,
                    MHK ,
                    MHL ,
                    MHM ;
CAPACITY:           175;
<<                                                          >>
```

```
<<                    PRESSURE FEEDER GROOVING                    >>
<<                                                                >>
NAME:                 PRESS::25,D;
ENTRY:
                      FACT#(NAMES),
                      TRAIN#(TRAINS),
                      MILL#(NUMBS),
                      PFOUP,
                      PFOUD,
                      PFOUA,
                      PFJUP,
                      PFJUD,
                      PFJUW,
                      PFOLP,
                      PFOLD,
                      PFOLA,
                      PFJLP,
                      PFJLD,
                      PFJLW,
CAPACITY:             175;
<<                                                                >>
<<                    DIFFUSER DATA                               >>
<<                                                                >>
NAME:                 DIFFUS::25,D;
ENTRY:
                      FACT#(NAMES),
                      TRAIN#(TRAINS),
                      ENTRY#(ENTRYS),
                      DMAKE,
                      DWID,
                      DLEN,
                      DSPD,
                      DPWR,
                      DPOSN;
CAPACITY:             35;
<<                                                                >>
<<                    JUICE SCREENS                               >>
<<                                                                >>
NAME:                 SCREEN::25,D;
ENTRY:
                      FACT#(NAMES),
                      ENTRY#(ENTRYS),
                      JTYPE,
                      JS#,
                      JLEN,
                      JWID,
                      JSAPER,
                      HTVOL,
                      FTDIA,
                      FTHGT;
```

```
CAPACITY:          100;
<<                                                    >>
<<                 JUICE HEATER DATA                  >>
<<                                                    >>
NAME:              HEATER::25,D;
ENTRY:
                   FACT#(NAMES),
                   ENTRY#(ENTRYS),
                   JH#,
                   JHUSE,
                   JHAREA,
                   JHHT,
                   JHPASS,
                   JHTUBE,
                   JHLEN,
                   JHDIA,
                   JHMATL,
                   JTTHCK;
CAPACITY:          150;
<<                                                    >>
<<                 CLARIFIER DATA                     >>
<<                                                    >>
NAME:              CLARIF::25,D;
ENTRY:
                   FACT#(NAMES),
                   ENTRY#(ENTRYS),
                   CLPOS,
                   CLTYPE,
                   CLTRAY,
                   CLDIA,
                   CLAREA,
                   CLVOL,
<<                                                    >>
<<                 FILTERS                            >>
<<                                                    >>
                   FTYPE,
                   FIL#,
                   FAREA;
CAPACITY:          140;
<<                                                    >>
<<                 BAGASSE SEPARATOR DATA             >>
<<                                                    >>
NAME:              SEPAR::25,D;
ENTRY:
                   FACT#(NAMES),
                   ENTRY#(ENTRYS),
                   SPTYPE,
                   SPAREA,
                   SPOP,
                   SPWDTH,
```

```
                    SPHGT,
                    SPPWR;
CAPACITY:           1Ø5;
<<                                                          >>
<<                  EVAPORATING PLANT                       >>
<<                                                          >>
NAME:               EVAP::25,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    EVAP#(EVAPS),
                    ENTRY#(ENTRYS),
                    EVDIA,
                    EVSURF,
                    EVLEN,
                    EVMATL,
                    EVOD,
                    EVTH,
                    EVCDIA,
                    EVCHGT,
                    EVBLD;
CAPACITY:           6ØØ;
END.
```

```
$CONTROL:FIELD,LIST,ERRORS=10,ROOT,SET,TABLE;
BEGIN DATA BASE: PL80B:GD:25;
LEVELS:;
ITEMS:
        FACT# ,I1;      <<  FACTORY NUMBER                          >>
        NAME,X16;       <<  FACTORY NAME                            >>
        ENTRY#,I1;      <<  ENTRY NUMBER                            >>
        GDE,X2;         <<  PAN GRADE  - HG OR LG                   >>
        PTYPE,X18;      <<   PAN TYPE                               >>
        P#,I1;          <<   PAN REF #                              >>
        PMATL,X12;      <<   PAN MATERIAL                           >>
        PDIA,I1;        <<   PAN DIAMETER                           >>
        PVOL,I1;        <<   PAN VOLUME                             >>
        PSURF,I1;       <<   PAN SURFACE AREA                       >>
        PSTSP,I1;       <<   PAN STIRRER SPEED                      >>
        PRAT,I1;        <<   PAN SURFACE/VOLUME RATIO               >>
        PCDIA,I1;       <<   PAN CONDENSER DIAMETER                 >>
        PCHGT,I1;       <<   PAN CONDENSER LENGTH                   >>
        SYRUPV,I1;      <<  VOLUME OF SYRUP STORAGE TANKS           >>
        MOLVA,I1;       <<   VOLUME OF A MOLASSES STORAGE TANKS     >>
        MOLVB,I1;       <<   VOLUME OF B MOLASSES STORAGE TANKS     >>
        MAGV,I1;        <<  VOLUME OF MAGMA STORAGE TANKS           >>
        MH#,I1;         <<  NO. OF MASSECUITE RE-HEATERS            >>
        MHAREA,I1;      <<  AREA OF RE-HEATERS                      >>
        MHTYPE,X16;     <<  RE-HEATER TYPE                          >>
        RHDIA,I1;       <<  RESISTANCE HEATER DIAMETER              >>
        RHVLT,I1;       <<  RESISTANCE HEATER VOLTAGE               >>
        RHAMP,I1;       <<  RESISTANCE HEATER CURRENT               >>
        VP#,I1;         <<  VACUUM PUMP NUMBER                      >>
        VMAKE,X16;      <<  VACUUM PUMP MAKE                        >>
        VCYL#,X8;       <<  VACUUM PUMP NO. OF CYLINDERS            >>
        VBORE,I1;       <<  VACUUM PUMP CYLINDER BORE               >>
        VLEN ,I1;       <<  VACUUM PUMP STROKE                      >>
        VDISPL,I1;      <<  VACUUM PUMP DISPLACEMENT                >>
        VTYPE,X8;       <<  VACUUM PUMP TYPE                        >>
        VSPD ,I1;       <<  VACUUM PUMP SPEED                       >>
        VPWR ,I1;       <<  VACUUM PUMP POWER                       >>
        VUSE ,X36;      <<  VACUUM PUMP USE                         >>
        CSMAKE,X20;     <<  CRYSTALLIZER MAKE                       >>
        CSGDE,X4;       <<  CRYSTALLIZER GRADE MATERIAL             >>
        CS#  ,I1;       <<  CRYSTALLIZER NUMBER                     >>
        CSVOL,I1;       <<  CRYSTALLIZER VOLUME                     >>
        CSTYPE,X14;     <<  CRYSTALLIZER TYPE                       >>
        CSAREA,I1;      <<  CRYSTALLIZER AREA                       >>
        CSMODE,X10;     <<  CRYSTALLIZER MODE                       >>
        FHMAKE,X12;     <<  HIGH GRADE FUGAL MAKE                   >>
        FH#,I1;         <<  HIGH GRADE FUGAL NUMBER                 >>
        FHMASS,X4;      <<  HIGH GRADE FUGAL MASSECUITE             >>
        FHSPD ,I1;      <<  HIGH GRADE FUGAL SPEED                  >>
        FHDIA ,I1;      <<  HIGH GRADE FUGAL DIAMETER               >>
```

```
                    K2PWR,
                    STYPE,
                    SDIA,
                    SLEN,
                    SCLEAR,
                    SSPD,
                    SMASS,
                    SDVE,
                    SSTMP,
                    SSTMT,
                    SPWR;
CAPACITY:           70;
<<                                                          >>
<<                  MILL DATA - DETAIL DATA SET             >>
<<                                                          >>
NAME:               MILLS::19,D;
ENTRY:              FACT#(NAMES),
                    TRAIN#(TRAINS),
                    MILL#(NUMBS),
                    MDIA ,
                    MLEN ,
                    MSPD ,
                    MHR  ,
                    MHRL ,
                    MSOF ,
                    MSOD ,
                    MARL ,
                    MWOF ,
                    MWOD ,
                    MRAT ,
                    MHRMX,
                    MTPT ,
                    MTPH ,
                    MOTP ,
                    MOTD ,
                    MOTA ,
                    MOFP ,
                    MOFD ,
                    MOFA ,
                    MODP ,
                    MODD ,
                    MODA ,
                    MJTP ,
                    MJTD ,
                    MJTW ,
                    MJFP ,
                    MJFD ,
                    MJFW ,
                    MFRATE;
CAPACITY:           175;
```

```
<<                                                                  >>
NAME:               CARR::19,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    ENTRY#(ENTRYS),
                    CPOS,
                    CTYPE,
                    CLEN,
                    CWID,
                    CINCL,
                    CSPD,
                    CDVE,
                    CPWR,
                    CFEED,
                    CREM,
CAPACITY:           105;
<<                                                                  >>
<<                  KNIVES DATA                                     >>
<<                                                                  >>
NAME:               KNIVES::19,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    LTYPE,
                    LBL#,
                    LCLR,
                    LSPD,
                    LDVE,
                    LPWR,
                    KTYPE,
                    KBL#,
                    KCLR,
                    KSPD,
                    KDVE,
                    KPWR;
CAPACITY:           105;
<<                                                                  >>
<<                  SHREDDER DATA                                   >>
<<                                                                  >>
NAME:               SHRED::19,D;
ENTRY:
                    FACT#(NAMES),
                    TRAIN#(TRAINS),
                    ENTRY#(ENTRYS),
                    K2TYPE,
                    K2BL#,
                    K2CLR,
                    K2SPD,
                    K2DVE,
```

```
51      FHDEP ,I1;    <<  HIGH GRADE FUGAL DEPTH                    >>
52      FHAREA,I1;    <<  HIGH GRADE FUGAL AREA                     >>
53      FHDVE ,X2;    <<  HIGH GRADE FUGAL DRIVE                    >>
54      FHPWR ,I1;    <<  HIGH GRADE FUGAL DRIVE POWER              >>
55      FLMAKE,X16;   <<  LOW  GRADE FUGAL MAKE                     >>
56      FLMODE,X12;   <<  LOW  GRADE FUGAL TYPE                     >>
57      FL#  ,I1;     <<  LOW  GRADE FUGAL NUMBER                   >>
58      FLSPD,I1;     <<  LOW  GRADE FUGAL SPEED                    >>
59      FLDIA,I1;     <<  LOW  GRADE FUGAL DIAMETER                 >>
60      FLDEP,I1;     <<  LOW  GRADE FUGAL DEPTH                    >>
61      FLBMAX,I1;    <<  LOW  GRADE FUGAL BASKET MAXIMUM           >>
62      FLBMIN,I1;    <<  LOW  GRADE FUGAL BASKET MINIMUM           >>
63      FLBANG,I1;    <<  LOW  GRADE FUGAL BASKET ANGLE             >>
64      FLBVA ,I1;    <<  LOW  GRADE FUGAL SCREEN AREA VERTICAL     >>
65      FLBIA ,I1;    <<  LOW  GRADE FUGAL SCREEN AREA INCLINED     >>
66      FLPWR ,I1;    <<  LOW  GRADE FUGAL DRIVE POWER              >>
67      DTYPE,X16;    <<  SUGAR DRYER TYPE                          >>
68      DLEN,I1;      <<  SUGAR DRYER LENGTH                        >>
69      DDIA,I1;      <<  SUGAR DRYER DIAMETER                      >>
70      DSPD,I1;      <<  SUGAR DRYER ROTATIONAL SPEED              >>
71      DPWR,I1;      <<  SUGAR DRYER DRIVE POWER                   >>
72      DFAN,X4;      <<  SUGAR DRYER FAN INSTALLED?                >>
73      DHTR,X4;      <<  SUGAR DRYER HEATER INSTALLED?             >>
74      DRAC,X4;      <<  SUGAR DRYER AIR-CONDITIONING?             >>
75      SB#,I1;       <<  SUGAR BIN NUMBER                          >>
76      SBCAP,I1;     <<  SUGAR BIN CAPACITY                        >>
77      SBTOT,I1;     <<  SUGAR BIN TOTAL CAPACITY                  >>
78      BOMAKE,X16;   <<  BOILER MAKE                               >>
79      BO#,I1;       <<  BOILER NUMBER                             >>
80      BOPRES,I1;    <<  BOILER PRESSURE                           >>
81      BOMCR ,I1;    <<  BOILER MCR                                >>
82      BOSHT ,I1;    <<  BOILER NOMINAL SUPERHEAT                  >>
83      BOBA  ,I1;    <<  BOILER AREA BOILER TUBES                  >>
84      BOFA  ,I1;    <<  BOILER AREA FURNACE                       >>
85      BOSA  ,I1;    <<  BOILER AREA SUPERHEATER                   >>
86      BOAA  ,I1;    <<  BOILER AREA AIRHEATER                     >>
87      BOEA  ,I1;    <<  BOILER AREA ECONOMISER                    >>
88      BOGTE,X24;    <<  BOILER GRATE TYPE                         >>
89      BOGA ,I1;     <<  BOILER GRATE AREA                         >>
90      BOWW ,X4;     <<  BOILER WATERWALLS?                        >>
91      BOSPR ,X4;    <<  BOILER SPREADER                           >>
92      BOICO ,X4;    <<  BOILER COAL FEEDERS?                      >>
93      BOIOB ,X4;    <<  BOILER OIL BURNERS?                       >>
94      BOIFD ,X4;    <<  BOILER FORCED DRAUGHT?                    >>
95      BOIARR,X18;   <<  BOILER SOOT ARRESTOR                      >>
96      BOISTD,I1;    <<  BOILER STACK DIAMETER                     >>
97      BOISTH,I1;    <<  BOILER STACK HEIGHT                       >>
98      BGBIN,X12;    <<  BAGASSE BIN TYPE                          >>
99      BGCAP,I1;     <<  BAGASSE BIN CAPACITY                      >>
100     BGPOS,X8;     <<  BAGASSE BIN POSITION IN CIRCUIT           >>
```

```
          CTTYP, X18;     <<  COOLING TOWER TYPE                         >>
          CTCELL, I1;     <<  COOLING TOWER NUMBER OF CELLS              >>
          CTCAP , I1;     <<  COOLING TOWER CAPACITY                     >>
          CTPWR , I1;     <<  COOLING TOWER FAN POWER                    >>
          EPRTG , I1;     <<  RATING STEAM GENERATOR SETS                >>
          EPIC  , I1;     <<  RATING  I.C. GENERATOR SETS                >>
          EPMR  , I1;     <<  RATING  MOTORS                             >>
          EPMLD , I1;     <<  MAXIMUM LOAD                               >>
          EPDMD , I1;     <<  MAXIMUM DEMAND                             >>
          EPIRD , I1;     <<  MAXIMUM IRRIGATION DEMAND                  >>
          EPEXP , I1;     <<  EXPORT POWER                               >>
          EPSUR , I1;     <<  SURPLUS POWER                              >>
          GSMAKE, X14;    <<  GENERATOR SET MAKE                         >>
          GS#   , I1;     <<  GENERATOR SET NUMBER                       >>
          GSRTG , I1;     <<  GENERATOR SET RATING                       >>
          GSVOL , I1;     <<  GENERATOR SET VOLTAGE                      >>
          GSPM  , X14;    <<  GENERATOR SET PRIME MOVER                  >>
          GSSPD, I1;      <<  GENERATOR SET PRIME MOVER SPEED            >>
          GSPR  , I1;     <<  GENERATOR SET PRIME MOVER PRESSURE         >>
          GSSH  , I1;     <<  GENERATOR SET PRIME MOVER SUPERHEAT        >>
          GSEX  , I1;     <<  GENERATOR SET PRIME MOVER EXHAUST          >>
SETS:
<<                                                                       >>
<<                    FACTORY NAMES                                      >>
<<                                                                       >>
NAME:                 NAME2::25, M;
ENTRY:                FACT#(10),
                      NAME;
CAPACITY:             35;
<<                                                                       >>
<<                    ITEM ENTRY - AUTOMATIC MASTER                      >>
<<                                                                       >>
NAME:                 ENTRY2::25, A;
ENTRY:                ENTRY#(10);
CAPACITY:             15;
<<                                                                       >>
<<                    PAN GRADE - AUTOMATIC MASTER                       >>
<<                                                                       >>
NAME:                 GRADE::25, A;
ENTRY:                GDE(1);
CAPACITY:             2;
<<                                                                       >>
<<---------------------------------------------------------------------->>
<<--------------- DETAIL DATA SETS  ------------------------------------>>
<<---------------------------------------------------------------------->>
<<                                                                       >>
<<                    PANSTAGE DATA                                      >>
<<                                                                       >>
NAME:                 PANS::25, D;
ENTRY:
```

```
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    GDE(GRADE),
                    PTYPE,
                    P#,
                    PMATL,
                    PDIA,
                    PVOL,
                    PSURF,
                    PSTSP,
                    PRAT,
                    PCDIA,
                    PCHGT;
CAPACITY:           700;
<<                                                          >>
<<                  PAN STOCK TANKS AND REHEATERS           >>
<<                                                          >>
NAME:               STOCK::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
<<                                                          >>
<<                  STOCK TANKS                             >>
<<                                                          >>
                    SYRUPV,
                    MOLVA,
                    MOLVB,
                    MAGV,
<<                                                          >>
<<                  REHEATERS                               >>
<<                                                          >>
                    MH#,
                    MHAREA,
                    MHTYPE,
                    RHDIA,
                    RHVLT,
                    RHAMP;
CAPACITY:           70;
<<                                                          >>
<<                  VACUUM PUMPS                            >>
<<                                                          >>
NAME:               PUMPS::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    VP#,
                    VMAKE,
                    VCYL#,
                    VBORE,
                    VLEN ,
```

```
                    VDISPL,
                    VTYPE,
                    VSPD ,
                    VPWR ,
                    VUSE ;
CAPACITY:           350;
<<                                                          >>
<<                  CRYSTALLIZER DATA                       >>
<<                                                          >>
NAME:               CRYST::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    CSMAKE,
                    CSGDE,
                    CS#,
                    CSVOL,
                    CSTYPE,
                    CSAREA,
                    CSMODE;
CAPACITY:           350;
<<                                                          >>
<<                  HIGH GRADE FUGALS                       >>
<<                                                          >>
NAME:               HGFUG::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    FHMAKE,
                    FH#,
                    FHMASS,
                    FHSPD ,
                    FHDIA ,
                    FHDEP ,
                    FHAREA,
                    FHDVE ,
                    FHPWR ;
CAPACITY:           140;
<<                                                          >>
<<                  LOW GRADE FUGALS                        >>
<<                                                          >>
NAME:               LGFUG::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    FLMAKE,
                    FLMODE,
                    FL#  ,
                    FLSPD,
                    FLDIA,
```

```
                    FLDEP,
                    FLBMAX,
                    FLBMIN,
                    FLBANG,
                    FLBVA ,
                    FLBIA ,
                    FLPWR ;
CAPACITY:           140;
<<                                                          >>
<<                  SUGAR DRYERS AND STORAGE                >>
<<                                                          >>
NAME:               DRYER::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
<<                                                          >>
<<                  DRYERS                                  >>
<<                                                          >>
                    DTYPE,
                    DLEN,
                    DDIA,
                    DSPD,
                    DPWR,
                    DFAN,
                    DHTR,
                    DRAC,
<<                                                          >>
<<                  SUGAR STORAGE                           >>
<<                                                          >>
                    SB#,
                    SBCAP,
                    SBTOT;
CAPACITY:           70;
<<                                                          >>
<<                  STEAM GENERATION PLANT                  >>
<<                                                          >>
NAME:               BOILER::25,D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    BOMAKE,
                    BO#,
                    BOPRES,
                    BOMCR ,
                    BOSHT ,
                    BOBA  ,
                    BOFA  ,
                    BOSA  ,
                    BOAA  ,
                    BOEA  ,
```

```
                    BOGTE,
                    BOGA ,
                    BOWW ,
                    BOICO ,
                    BOIOB ,
                    BOIFD ,
                    BOSPR ,
                    BOIARR,
                    BOISTD,
                    BOISTH;
CAPACITY: 140;
<<                                                          >>
<<                  BAGASSE STORAGE AND COOLING TOWERS      >>
<<                                                          >>
NAME:               BINS: : 25, D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    BGBIN,
                    BGCAP,
                    BGPOS,
                    CTTYP,
                    CTCELL,
                    CTCAP ,
                    CTPWR ;
CAPACITY: 105;
<<                                                          >>
<<                  ELECTRICAL POWER PLANT                  >>
<<                                                          >>
NAME:               ELECT: : 25, D;
ENTRY:
                    FACT#(NAME2),
                    ENTRY#(ENTRY2),
                    EPRTG ,
                    EPIC  ,
                    EPMR  ,
                    EPMLD ,
                    EPDMD ,
                    EPIRD ,
                    EPEXP ,
                    EPSUR ,
                    GSMAKE,
                    GS#   ,
                    GSRTG ,
                    GSVOL ,
                    GSPM ,
                    GSSPD,
                    GSPR ,
                    GSSH ,
                    GSEX ;
```

```
351  CAPACITY:          14Ø;
352  END.
```

APPENDIX C: 'DBDS' OUTPUT.

```
 1  FTN
 2        PROGRAM PDEN7
 3  C
 4  C
 5  C        +++   WRITTEN - GDD -  9 JUL 1980   ++++
 6  C        +++    LAST MODIFIED   9 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== PRESS =====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(16)
15       $          ,IDSET(3),IVALU(15)
16  C
17  C           DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
19  C  VARIABLE LIST
20        DATA LIST/15,1,3,4,125,126,127,128,129,130,131,132,133,134,135,
21       $              136/
22  C           LEVEL
23        DATA ILEVL/2H  ,2H  ,2H  /
24  C           DATA SET NAME - 'PRESS'
25        DATA IDSET/2HPR,2HES,2HS /
26  C
27        DATA IBAK/4010B/
28  C
29  C*********************************************************************
30  C
31  C
32  C
33  C*********************************************************************
34  C
35  C
36  C                 OPEN  DATA-BASE
37  C                 ---------------
38  C
39  C
40  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
41  C
42        IMODE=3
43        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
44  C
45  C   TEST FOR ERROR ON OPEN
46  C
47        IF( ISTAT(1).EQ.0 ) GOTO 100
48  C   ERROR
49        WRITE(1,1000) ISTAT(1)
50  1000  FORMAT(//"++ PDEN7 ++  ERROR",I5," ON DATA-BASE OPEN")
```

```
      GOTO 9999
C
C
C***********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,15
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-----------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     MILL FEEDER DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
 1125 FORMAT(" TRAIN #                             _")
      READ(1,4000) IVALU(2)
 4000 FORMAT(20A2)
C
      WRITE(1,1150)
 1150 FORMAT(" MILL  #                          _")
      READ(1,*) IVALU(3)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(4)
C
      WRITE(1,3010)
      READ(1,*) IVALU(5)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(6)
C
```

```
      WRITE(1,3060)
      READ(1,*) IVALU(10)
C
      WRITE(1,3070)
      READ(1,*) IVALU(11)
C
      WRITE(1,3080)
      READ(1,*) IVALU(12)
C
      WRITE(1,3030)
      READ(1,*) IVALU(7)
C
      WRITE(1,3040)
      READ(1,*) IVALU(8)
C
      WRITE(1,3050)
      READ(1,*) DUM1
      IVALU(9) = INT (10.*DUM1)
C
      WRITE(1,3090)
      READ(1,*) IVALU(13)
C
      WRITE(1,3100)
      READ(1,*) IVALU(14)
C
      WRITE(1,3110)
      READ(1,*) DUM1
      IVALU(15) = INT (10.*DUM1)
C
C ----------------------------------------------------------------------
C
3000  FORMAT (" PRESSURE FEEDER UPPER ROLL GROOVES PITCH        _" )
3010  FORMAT (" PRESSURE FEEDER UPPER ROLL GROOVES DEPTH        _" )
3020  FORMAT (" PRESSURE FEEDER UPPER ROLL GROOVES ANGLE .      _" )
3030  FORMAT (" PRESSURE FEEDER UPPER ROLL JUICE GVES PITCH     _" )
3040  FORMAT (" PRESSURE FEEDER UPPER ROLL JUICE GVES DEPTH     _" )
3050  FORMAT (" PRESSURE FEEDER UPPER ROLL JUICE GVES WIDTH     _" )
3060  FORMAT (" PRESSURE FEEDER LOWER ROLL GROOVES PITCH        _" )
3070  FORMAT (" PRESSURE FEEDER LOWER ROLL GROOVES DEPTH        _" )
3080  FORMAT (" PRESSURE FEEDER LOWER ROLL GROOVES ANGLE        _" )
3090  FORMAT (" PRESSURE FEEDER LOWER ROLL JUICE GVES PITCH     _" )
3100  FORMAT (" PRESSURE FEEDER LOWER ROLL JUICE GVES DEPTH     _" )
3110  FORMAT (" PRESSURE FEEDER LOWER ROLL JUICE GVES WIDTH     _" )
C
C
C----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
```

```
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN7 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C**********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN7 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDEN8
 3  C
 4  C
 5  C        +++   WRITTEN - GDD -  9 JUL 1980   ++++
 6  C        +++    LAST MODIFIED   9 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== DIFFUS ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(10)
15       $          ,IDSET(3),IVALU(25)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
19  C  VARIABLE LIST
20        DATA LIST/9,1,3,5,137,138,139,140,141,142/
21  C          LEVEL
22        DATA ILEVL/2H  ,2H  ,2H  /
23  C          DATA SET NAME - 'DIFFUS'
24        DATA IDSET/2HDI,2HFF,2HUS/
25  C
26        DATA IBAK/4010B/
27  C
28  C*********************************************************************
29  C
30  C
31  C
32  C*********************************************************************
33  C
34  C
35  C                  OPEN  DATA-BASE
36  C                  ---------------
37  C
38  C
39  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
40  C
41        IMODE=3
42        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
43  C
44  C   TEST FOR ERROR ON OPEN
45  C
46        IF( ISTAT(1).EQ.0 ) GOTO 100
47  C   ERROR
48        WRITE(1,1000) ISTAT(1)
49  1000  FORMAT(//"++ PDEN8 ++  ERROR",I5," ON DATA-BASE OPEN")
50        GOTO 9999
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
  100  DO 101 K=1,25
  101  IVALU(K) = 0
C
       WRITE(1,1100)
 1100  FORMAT(//"FACTORY NUMBER?                    _")
       IFACT=0
       READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
       IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C      GET DATA FOR DETAIL DATA SET
C
C      MILL FEEDER DATA
C
  120  IVALU(1)=IFACT
C
       WRITE(1,1125)
 1125  FORMAT(" TRAIN #                            _")
       READ(1,4000) IVALU(2)
 4000  FORMAT(20A2)
C
       WRITE(1,1150)
 1150  FORMAT(" ENTRY #                        _")
       READ(1,*) IVALU(3)
C
C
       WRITE(1,3000) (IBAK,K=1,6)
       READ(1,4000) (IVALU(K),K=4,9)
C
       WRITE(1,3010)
       READ(1,*) IVALU(10)
C
       WRITE(1,3020)
       READ(1,*)  IVALU(11)
C
       WRITE(1,3030)
```

```
      READ(1,*) IVALU(12)
C
      WRITE(1,3040)
      READ(1,*) IVALU(13)
C
      WRITE(1,3050) (IBAK,K=1,12)
      READ(1,4000) (IVALU(K),K=14,25)
C
C ---------------------------------------------------------------------
C
3000  FORMAT (" DIFFUSER  MAKE                 ************",6A2,"_" )
3010  FORMAT (" DIFFUSER WIDTH                 _" )
3020  FORMAT (" DIFFUSER LENGTH                _" )
3030  FORMAT (" DIFFUSER CARRIER SPEED         _" )
3040  FORMAT (" DIFFUSER DRIVE POWER           _" )
3050  FORMAT (" DIFFUSER POSITION IN TRAIN  ************************",
     $     12A2,"_" )
C
C
C---------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN8 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
```

```
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN8 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDEN9
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -  9 JUL 1980   ++++
 6  C       +++    LAST MODIFIED   9 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== SCREEN ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(12)
15       $          ,IDSET(3),IVALU(17)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
19  C  VARIABLE LIST
20        DATA LIST/10,1,5,143,144,145,146,147,148,149,150/
21  C          LEVEL
22        DATA ILEVL/2H  ,2H  ,2H  /
23  C          DATA SET NAME - 'SCREEN'
24        DATA IDSET/2HSC,2HRE,2HEN/
25  C
26        DATA IBAK/4010B/
27  C
28  C*********************************************************************
29  C
30  C
31  C
32  C*********************************************************************
33  C
34  C
35  C                 OPEN  DATA-BASE
36  C                 ---------------
37  C
38  C
39  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
40  C
41        IMODE=3
42        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
43  C
44  C   TEST FOR ERROR ON OPEN
45  C
46        IF( ISTAT(1).EQ.0 ) GOTO 100
47  C   ERROR
48        WRITE(1,1000) ISTAT(1)
49  1000  FORMAT(//"++ PDEN9 ++  ERROR",I5," ON DATA-BASE OPEN")
50        GOTO 9999
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,17
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     SCREEN DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                        _")
      READ(1,*) IVALU(2)
C
C
      WRITE(1,3000) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=3,10)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
      READ(1,*) IVALU(11)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(12)
C
      WRITE(1,3030)
      READ(1,*) IVALU(13)
C
      WRITE(1,3040)
```

```
      READ(1,*) DUM1
      IVALU(14) = INT (10.*DUM1)
C
      WRITE(1,3050)
      READ(1,*) IVALU(15)
C
      WRITE(1,3060)
      READ(1,*) IVALU(16)
C
      WRITE(1,3070)
      READ(1,*) IVALU(17)
C
C ------------------------------------------------------------------
C
3000  FORMAT (" JUICE SCREEN TYPE    ****************",8A2,"_")
3010  FORMAT (" NUMBER OF SCREENS                   _" )
3020  FORMAT (" SCREEN LENGTH                       _" )
3030  FORMAT (" SCREEN WIDTH                        _" )
3040  FORMAT (" SCREEN OPENING                      _" )
3050  FORMAT (" HOLDING TANK VOLUME                 _" )
3060  FORMAT (" FLASH TANK DIAMETER                 _" )
3070  FORMAT (" FLASH TANK HEIGHT                   _" )
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN9 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*******************************************************************
C
C
C           TERMINATE
C           ---------
```

```
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
 1700 FORMAT(////"++ PDEN9 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN10
 3  C
 4  C
 5  C        +++   WRITTEN - GDD -  9 JUL 1980   ++++
 6  C        +++    LAST MODIFIED   9 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== HEATER =====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(13)
15       $          ,IDSET(3),IVALU(30)
16  C
17  C           DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
19  C  VARIABLE LIST
20        DATA LIST/12,1,5,151,152,153,154,155,156,157,158,159,160/
21  C           LEVEL
22        DATA ILEVL/2H  ,2H  ,2H  /
23  C           DATA SET NAME - 'HEATER'
24        DATA IDSET/2HHE,2HAT,2HER/
25  C
26        DATA IBAK/4010B/
27  C
28  C*********************************************************************
29  C
30  C
31  C
32  C*********************************************************************
33  C
34  C
35  C                  OPEN  DATA-BASE
36  C                  ---------------
37  C
38  C
39  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
40  C
41        IMODE=3
42        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
43  C
44  C   TEST FOR ERROR ON OPEN
45  C
46        IF( ISTAT(1).EQ.0 ) GOTO 100
47  C   ERROR
48        WRITE(1,1000) ISTAT(1)
49  1000  FORMAT(//"++ PDN10 ++  ERROR",I5," ON DATA-BASE OPEN")
50        GOTO 9999
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,30
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     HEATER DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                        _")
      READ(1,*) IVALU(2)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(3)
C
      WRITE(1,3010) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=4,11)
 4000 FORMAT(20A2)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(12)
C
      WRITE(1,3030) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=13,20)
C
      WRITE(1,3040)
```

```
      READ(1,*) IVALU(21)
C
      WRITE(1,3050)
      READ(1,*) IVALU(22)
C
      WRITE(1,3060)
      READ(1,*) IVALU(23)
C
      WRITE(1,3070)
      READ(1,*) IVALU(24)
C
      WRITE(1,3080) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=25,29)
C
      WRITE(1,3090)
      READ(1,*) DUM1
      IVALU(30) = INT (10.*DUM1)
C
C ------------------------------------------------------------------
C
3000  FORMAT (" JUICE HEATER NUMBER                          _" )
3010  FORMAT (" JUICE HEATER  - MATERIAL HEATED  ****************",8A2,
     $        "_")
3020  FORMAT (" JUICE HEATER  - AREA                         _" )
3030  FORMAT (" JUICE HEATER HEATING MEDIUM      ****************",8A2,
     $        "_")
3040  FORMAT (" JUICE HEATER NO  OF PASSES                   _" )
3050  FORMAT (" JUICE HEATER NO. OF TUBES PER PASS           _" )
3060  FORMAT (" JUICE HEATER TUBE LENGTH                     _" )
3070  FORMAT (" JUICE HEATER TUBE DIAMETER                   _" )
3080  FORMAT (" JUICE HEATER TUBE MATERIAL       **********",5A2,"_" )
3090  FORMAT (" JUICE HEATER TUBE THICKNESS                  _" )
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN10 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
```

```
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN10 STOP ++"////)
C
C
      END
      END$
```

```
FTN
      PROGRAM PDN11
C
C
C       +++   WRITTEN - GDD -  9 JUL 1980   ++++
C       +++    LAST MODIFIED   9 JUL 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== CLARIF ====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(12)
     $         ,IDSET(3),IVALU(28)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
C  VARIABLE LIST
      DATA LIST/11,1,5,161,162,163,164,165,166,167,168,169/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'CLARIF'
      DATA IDSET/2HCL,2HAR,2HIF/
C
      DATA IBAK/4010B/
C
C*********************************************************************
C
C
C
C*********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDN11 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
  100  DO 101 K=1,28
  101  IVALU(K) = 0
C
       WRITE(1,1100)
 1100  FORMAT(//"FACTORY NUMBER?                    _")
       IFACT=0
       READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
       IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C      GET DATA FOR DETAIL DATA SET
C
C      CLARIFIER DATA
C
  120  IVALU(1)=IFACT
C
C
       WRITE(1,1150)
 1150  FORMAT(" ENTRY #                        _")
       READ(1,*) IVALU(2)
C
C
       WRITE(1,3000) (IBAK,K=1,6)
       READ(1,4000) (IVALU(K),K=3,8)
 4000  FORMAT(20A2)
C
       WRITE(1,3010) (IBAK,K=1,6)
       READ(1,4000) (IVALU(K),K=9,14)
C
       WRITE(1,3020)
       READ(1,*)  IVALU(15)
C
       WRITE(1,3030)
       READ(1,*) IVALU(16)
C
       WRITE(1,3040)
```

```
      READ(1,*) IVALU(17)
C
      WRITE(1,3050)
      READ(1,*) IVALU(18)
C
C
      WRITE(1,3060) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=19,26)
C
      WRITE(1,3070)
      READ(1,*) IVALU(27)
C
      WRITE(1,3080)
      READ(1,*) IVALU(28)
C
C ------------------------------------------------------------------
C
3000  FORMAT(" CLARIFIER POSITION  ************",6A2,"_")
3010  FORMAT(" CLARIFIER  TYPE  ************",6A2,"_")
3020  FORMAT(" CLARIFIER NUMBER OF TRAYS    _")
3030  FORMAT(" CLARIFIER DIAMETER           _")
3040  FORMAT(" CLARIFIER AREA               _")
3050  FORMAT(" CLARIFIER VOLUME             _")
3060  FORMAT(" FILTER TYPE  ****************",8A2,"_")
3070  FORMAT(" FILTER NUMBER                _")
3080  FORMAT(" FILTER AREA                  _")
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN11 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*******************************************************************
```

```
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
 1700 FORMAT(////"++ PDN11 STOP ++"////)
C
C
      END
      END$
```

```
FTN
      PROGRAM PDN12
C
C
C       +++   WRITTEN - GDD -  9 JUL 1980   ++++
C       +++    LAST MODIFIED   9 JUL 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== SEPAR ====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(9)
     $         ,IDSET(3),IVALU(13)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
C  VARIABLE LIST
      DATA LIST/8,1,5,170,171,172,173,174,175/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'SEPAR'
      DATA IDSET/2HSE,2HPA,2HR /
C
      DATA IBAK/4010B/
C
C***********************************************************************
C
C
C
C***********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDN12 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,13
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     BAGASSE SEPARATOR DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                        _")
      READ(1,*) IVALU(2)
C
C
      WRITE(1,3000) (IBAK,K=1,6)
      READ(1,4000) (IVALU(K),K=3,8)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
      READ(1,*) DUM1
      IVALU(9) = INT (10.*DUM1)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(10)
C
      WRITE(1,3030)
      READ(1,*) IVALU(11)
C
```

```
      WRITE(1,3040)
      READ(1,*) IVALU(12)
C
      WRITE(1,3050)
      READ(1,*) IVALU(13)
C
C
C ------------------------------------------------------------------
C
3000  FORMAT (" BAGASSE SEPARATOR TYPE   ************",6A2,"_" )
3010  FORMAT (" BAGASSE SEPARATOR AREA                    _" )
3020  FORMAT (" BAGASSE SEPARATOR SCREEN OPENING          _" )
3030  FORMAT (" BAGASSE SEPARATOR SCREEN WIDTH             _" )
3040  FORMAT (" BAGASSE SEPARATOR SCREEN HEIGHT            _" )
3050  FORMAT (" BAGASSE SEPARATOR DRIVE POWER              _" )
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN12 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
```

```
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN12 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN13
 3  C
 4  C
 5  C        +++   WRITTEN - GDD -  9 JUL 1980   ++++
 6  C        +++    LAST MODIFIED  10 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== EVAP ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(14)
15       $          ,IDSET(3),IVALU(22)
16  C
17  C           DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
19  C  VARIABLE LIST
20        DATA LIST/13,1,3,176,5,177,178,179,180,181,182,183,184,185/
21  C           LEVEL
22        DATA ILEVL/2H  ,2H  ,2H  /
23  C           DATA SET NAME - 'EVAP'
24        DATA IDSET/2HEV,2HAP,2H  /
25  C
26        DATA IBAK/4010B/
27  C
28  C*********************************************************************
29  C
30  C
31  C
32  C*********************************************************************
33  C
34  C
35  C                  OPEN  DATA-BASE
36  C                  ---------------
37  C
38  C
39  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
40  C
41        IMODE=3
42        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
43  C
44  C   TEST FOR ERROR ON OPEN
45  C
46        IF( ISTAT(1).EQ.0 ) GOTO 100
47  C   ERROR
48        WRITE(1,1000) ISTAT(1)
49  1000  FORMAT(//"++ PDN13 ++  ERROR",I5," ON DATA-BASE OPEN")
50        GOTO 9999
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,22
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     EVAPORATOR DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
1125  FORMAT(" TRAIN #                          _")
      READ(1,4000) IVALU(2)
4000  FORMAT(20A2)
C
      WRITE(1,1140)
1140  FORMAT(" EVAPORATOR #                     _")
      READ(1,*) IVALU(3)
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(4)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(5)
C
      WRITE(1,3010)
      READ(1,*) IVALU(6)
C
```

```
      WRITE(1,3020)
      READ(1,*)  IVALU(7)
C
      WRITE(1,3030) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=8,12)
C
      WRITE(1,3040)
      READ(1,*) IVALU(13)
C
      WRITE(1,3050)
      READ(1,*) IVALU(14)
C
      WRITE(1,3060)
      READ(1,*) IVALU(15)
C
      WRITE(1,3070)
      READ(1,*) IVALU(16)
C
      WRITE(1,3080) (IBAK,K=1,6)
      READ(1,4000) (IVALU(K),K=17,22)
C
C ------------------------------------------------------------------
C
3000  FORMAT (" EVAPORATOR DIAMETER                          _" )
3010  FORMAT (" EVAPORATOR HEATING SURFACE                   _" )
3020  FORMAT (" EVAP TUBE LENGTH                             _" )
3030  FORMAT (" EVAP TUBE MATERIAL          **********",5A2,"_" )
3040  FORMAT (" EVAP TUBE O.D.                               _" )
3050  FORMAT (" EVAP TUBE THICKNESS                          _" )
3060  FORMAT (" EVAP CONDENSER DIAMETER                      _" )
3070  FORMAT (" EVAP CONDENSER HEIGHT                        _" )
3080  FORMAT (" EVAP BLEED TO               ************",6A2"_" )
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN13 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
```

```
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN13 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN20
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -  16 JUL 1980   ++++
 6  C       +++    LAST MODIFIED  16 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== PANS ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(15)
15       $          ,IDSET(3),IVALU(26)
16  C
17  C           DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
19  C
20  C   BACKSPACE
21  C
22        DATA IBAK/04010B/
23  C
24  C  VARIABLE LIST
25        DATA LIST/13,1,3,4,5,6,7,8,9,10,11,12,13,14/
26  C           LEVEL
27        DATA ILEVL/2H  ,2H  ,2H  /
28  C           DATA SET NAME - 'PANS'
29        DATA IDSET/2HPA,2HNS,2H  /
30  C
31  C*********************************************************************
32  C
33  C
34  C
35  C*********************************************************************
36  C
37  C
38  C                 OPEN  DATA-BASE
39  C                 ---------------
40  C
41  C
42  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
43  C
44        IMODE=3
45        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
46  C
47  C   TEST FOR ERROR ON OPEN
48  C
49        IF( ISTAT(1).EQ.0 ) GOTO 100
50  C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDN20 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
  100 DO 101 I=1,26
  101 IVALU(I) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     PANSTAGE DATA
C
  120 IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                             _")
      READ(1,*) IVALU(2)
C
      WRITE(1,1160) IBAK
 1160 FORMAT(" GRADE OF PAN ? **",A2,"_")
      READ(1,4000) IVALU(3)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
      READ(1,*) IVALU(13)
C
      WRITE(1,3000) (IBAK,K=1,9)
      READ(1,4000) (IVALU(K),K=4,12)
C
      WRITE(1,3020) (IBAK,K=1,6)
```

```
      READ(1,4000) (IVALU(K),K=14,19)
C
      WRITE(1,3030)
      READ(1,*) IVALU(20)
C
      WRITE(1,3040)
      READ(1,*) DUM
      IVALU(21) = INT (10.*DUM)
C
      WRITE(1,3050)
      READ(1,*) IVALU(22)
C
      WRITE(1,3060)
      READ(1,*) IVALU(23)
C
      WRITE(1,3070)
      READ(1,*) DUM
      IVALU(24) = INT (10.*DUM)
C
      WRITE(1,3080)
      READ(1,*) IVALU(25)
C
      WRITE(1,3090)
      READ(1,*) IVALU(26)
C
C ----------------------------------------------------------------------
C
3000  FORMAT("  PAN TYPE            ******************",9A2,"_")
3010  FORMAT("  PAN REF #                                          _")
3020  FORMAT("  PAN MATERIAL              ************",6A2,"_")
3030  FORMAT("  PAN DIAMETER                                       _")
3040  FORMAT("  PAN VOLUME                                         _")
3050  FORMAT("  PAN SURFACE AREA                                   _")
3060  FORMAT("  PAN STIRRER SPEED                                  _")
3070  FORMAT("  PAN SURFACE/VOLUME RATIO                           _")
3080  FORMAT("  PAN CONDENSER DIAMETER                             _")
3090  FORMAT("  PAN CONDENSER LENGTH                               _")
C
C
C----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
```

```
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN20 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN20 STOP ++"////)
C
C
      END
      END$
```

HEWLETT-PACKARD IMAGE/1000 DATA BASE DEFINITION PROCESSOR

```
$CONTROL: NOLIST, FIELD, ERRORS=10, ROOT, SET, TABLE;
```

SET NAME	TYPE	# ITEMS	# PATHS	DATA	MEDIA	CAPAC	CARTRIDGE
NAMES	M	002	13	0009	0083	0000000035	00019
NUMBS	A	001	03	0001	0023	0000000006	00019
TRAINS	A	001	08	0001	0053	0000000002	00019
EVAPS	A	001	01	0001	0011	0000000007	00019
ENTRYS	A	001	09	0001	0059	0000000010	00019
TRANS	D	017	02	0030	0011	0000000175	00019
CARR	D	013	03	0063	0015	0000000105	00019
KNIVES	D	014	02	0030	0011	0000000105	00019
SHRED	D	019	03	0036	0015	0000000070	00019
MILLS	D	033	03	0034	0015	0000000175	00019
FEEDS	D	039	03	0042	0015	0000000175	00019
PRESS	D	015	03	0015	0015	0000000175	00019
DIFFUS	D	009	03	0025	0015	0000000035	00019
SCREEN	D	010	02	0017	0011	0000000100	00019
HEATER	D	012	02	0030	0011	0000000150	00019
CLARIF	D	011	02	0028	0011	0000000140	00019
SEPAR	D	008	02	0013	0011	0000000105	00019
EVAP	D	013	04	0022	0019	0000000600	00019

SET NAME	SET NO	ITEM NAME	ITEM NO	TYPE	START WD	END WD	PATH?	SORT ITEM
NAMES	01	FACT#	001	I	0001	0001	YES	
		NAME	002	X	0002	0009		
NUMBS	02	MILL#	004	I	0001	0001	YES	
TRAINS	03	TRAIN#	003	X	0001	0001	YES	
EVAPS	04	ENTRY#	005	I	0001	0001	YES	
ENTRYS	05	ENTRY#	005	I	0001	0001	YES	
TRANS	06	FACT#	001	I	0001	0001	YES	
		ENTRY#	005	I	0002	0002	YES	
		LOCOS	006	I	0003	0003		
		TYPE	007	X	0004	0007		
		ENG	008	X	0008	0011		

51			POWER	009	I	0012	0012	
52			MASS	010	I	0013	0013	
53			GAUGE	011	I	0014	0014	
54			TRUCK	012	X	0015	0022	
55			TRUCK#	013	I	0023	0023	
56			CAPAC	014	I	0024	0024	
57			TGAUGE	015	I	0025	0025	
58			TRAML	016	I	0026	0026	
59			GAUGEL	017	I	0027	0027	
60			CROPP	018	I	0028	0028	
61			CROPG	019	I	0029	0029	
62			CROPR	020	I	0030	0030	
63								
64	CARR	07	FACT#	001	I	0001	0001	YES
65			TRAIN#	003	X	0002	0002	YES
66			ENTRY#	005	I	0003	0003	YES
67			CPOS	021	X	0004	0011	
68			CTYPE	022	X	0012	0027	
69			CLEN	023	I	0028	0028	
70			CWID	024	I	0029	0029	
71			CINCL	025	I	0030	0030	
72			CSPD	026	I	0031	0031	
73			CDVE	027	X	0032	0039	
74			CPWR	028	I	0040	0040	
75			CFEED	029	X	0041	0048	
76			CREM	030	X	0049	0063	
77								
78	KNIVES	08	FACT#	001	I	0001	0001	YES
79			TRAIN#	003	X	0002	0002	YES
80			LTYPE	031	X	0003	0007	
81			LBL#	032	I	0008	0008	
82			LCLR	033	I	0009	0009	
83			LSPD	034	I	0010	0010	
84			LDVE	035	X	0011	0015	
85			LPWR	036	I	0016	0016	
86			KTYPE	037	X	0017	0021	
87			KBL#	038	I	0022	0022	
88			KCLR	039	I	0023	0023	
89			KSPD	040	I	0024	0024	
90			KDVE	041	X	0025	0029	
91			KPWR	042	I	0030	0030	
92								
93	SHRED	09	FACT#	001	I	0001	0001	YES
94			TRAIN#	003	X	0002	0002	YES
95			ENTRY#	005	I	0003	0003	YES
96			K2TYPE	043	X	0004	0008	
97			K2BL#	044	I	0009	0009	
98			K2CLR	045	I	0010	0010	
99			K2SPD	046	I	0011	0011	
100			K2DVE	047	X	0012	0016	

101			K2PWR	048	I	0017	0017	
102			STYPE	049	X	0018	0023	
103			SDIA	050	I	0024	0024	
104			SLEN	051	I	0025	0025	
105			SCLEAR	052	I	0026	0026	
106			SSPD	053	I	0027	0027	
107			SMASS	054	I	0028	0028	
108			SDVE	055	X	0029	0033	
109			SSTMP	056	I	0034	0034	
110			SSTMT	057	I	0035	0035	
111			SPWR	058	I	0036	0036	
112								
113	MILLS	10	FACT#	001	I	0001	0001	YES
114			TRAIN#	003	X	0002	0002	YES
115			MILL#	004	I	0003	0003	YES
116			MDIA	059	I	0004	0004	
117			MLEN	060	I	0005	0005	
118			MSPD	061	I	0006	0006	
119			MHR	062	X	0007	0008	
120			MHRL	063	I	0009	0009	
121			MSOF	064	I	0010	0010	
122			MSOD	065	I	0011	0011	
123			MARL	066	I	0012	0012	
124			MWOF	067	I	0013	0013	
125			MWOD	068	I	0014	0014	
126			MRAT	069	I	0015	0015	
127			MHRMX	070	I	0016	0016	
128			MTPT	071	I	0017	0017	
129			MTPH	072	I	0018	0018	
130			MOTP	073	I	0019	0019	
131			MOTD	074	I	0020	0020	
132			MOTA	075	I	0021	0021	
133			MOFP	076	I	0022	0022	
134			MOFD	077	I	0023	0023	
135			MOFA	078	I	0024	0024	
136			MODP	079	I	0025	0025	
137			MODD	080	I	0026	0026	
138			MODA	081	I	0027	0027	
139			MJTP	082	I	0028	0028	
140			MJTD	083	I	0029	0029	
141			MJTW	084	I	0030	0030	
142			MJFP	085	I	0031	0031	
143			MJFD	086	I	0032	0032	
144			MJFW	087	I	0033	0033	
145			MFRATE	088	I	0034	0034	
146								
147	FEEDS	11	FACT#	001	I	0001	0001	YES
148			TRAIN#	003	X	0002	0002	YES
149			MILL#	004	I	0003	0003	YES
150			MCA	089	I	0004	0004	

151			MCB	090	I	0005	0005	
152			MCC	091	I	0006	0006	
153			MCD	092	I	0007	0007	
154			MPA	093	I	0008	0008	
155			MPB	094	I	0009	0009	
156			MPC	095	I	0010	0010	
157			MPD	096	I	0011	0011	
158			MPE	097	I	0012	0012	
159			MPF	098	I	0013	0013	
160			MPWO	099	I	0014	0014	
161			MPGR	100	I	0015	0015	
162			MPDR	101	X	0016	0018	
163			MAA	102	I	0019	0019	
164			MAB	103	I	0020	0020	
165			MAC	104	I	0021	0021	
166			MAD	105	I	0022	0022	
167			MAE	106	I	0023	0023	
168			MOA	107	I	0024	0024	
169			MOB	108	I	0025	0025	
170			MOC	109	I	0026	0026	
171			MOD	110	I	0027	0027	
172			MUA	111	I	0028	0028	
173			MUB	112	I	0029	0029	
174			MUC	113	I	0030	0030	
175			MUD	114	I	0031	0031	
176			MUE	115	I	0032	0032	
177			MUROLL	116	X	0033	0034	
178			MCLF	117	I	0035	0035	
179			MCLG	118	I	0036	0036	
180			MCLH	119	I	0037	0037	
181			MCLI	120	I	0038	0038	
182			MHJ	121	I	0039	0039	
183			MHK	122	I	0040	0040	
184			MHL	123	I	0041	0041	
185			MHM	124	I	0042	0042	
186								
187	PRESS	12	FACT#	001	I	0001	0001	YES
188			TRAIN#	003	X	0002	0002	YES
189			MILL#	004	I	0003	0003	YES
190			PFOUP	125	I	0004	0004	
191			PFOUD	126	I	0005	0005	
192			PFOUA	127	I	0006	0006	
193			PFJUP	128	I	0007	0007	
194			PFJUD	129	I	0008	0008	
195			PFJUW	130	I	0009	0009	
196			PFOLP	131	I	0010	0010	
197			PFOLD	132	I	0011	0011	
198			PFOLA	133	I	0012	0012	
199			PFJLP	134	I	0013	0013	
200			PFJLD	135	I	0014	0014	

201			PFJLW	136	I	0015	0015	
202								
203	DIFFUS	13	FACT#	001	I	0001	0001	YES
204			TRAIN#	003	X	0002	0002	YES
205			ENTRY#	005	I	0003	0003	YES
206			DMAKE	137	X	0004	0009	
207			DWID	138	I	0010	0010	
208			DLEN	139	I	0011	0011	
209			DSPD	140	I	0012	0012	
210			DPWR	141	I	0013	0013	
211			DPOSN	142	X	0014	0025	
212								
213	SCREEN	14	FACT#	001	I	0001	0001	YES
214			ENTRY#	005	I	0002	0002	YES
215			JTYPE	143	X	0003	0010	
216			JS#	144	I	0011	0011	
217			JLEN	145	I	0012	0012	
218			JWID	146	I	0013	0013	
219			JSAPER	147	I	0014	0014	
220			HTVOL	148	I	0015	0015	
221			FTDIA	149	I	0016	0016	
222			FTHGT	150	I	0017	0017	
223								
224	HEATER	15	FACT#	001	I	0001	0001	YES
225			ENTRY#	005	I	0002	0002	YES
226			JH#	151	I	0003	0003	
227			JHUSE	152	X	0004	0011	
228			JHAREA	153	I	0012	0012	
229			JHHT	154	X	0013	0020	
230			JHPASS	155	I	0021	0021	
231			JHTUBE	156	I	0022	0022	
232			JHLEN	157	I	0023	0023	
233			JHDIA	158	I	0024	0024	
234			JHMATL	159	X	0025	0029	
235			JTTHCK	160	I	0030	0030	
236								
237	CLARIF	16	FACT#	001	I	0001	0001	YES
238			ENTRY#	005	I	0002	0002	YES
239			CLPOS	161	X	0003	0008	
240			CLTYPE	162	X	0009	0014	
241			CLTRAY	163	I	0015	0015	
242			CLDIA	164	I	0016	0016	
243			CLAREA	165	I	0017	0017	
244			CLVOL	166	I	0018	0018	
245			FTYPE	167	X	0019	0026	
246			FIL#	168	I	0027	0027	
247			FAREA	169	I	0028	0028	
248								
249	SEPAR	17	FACT#	001	I	0001	0001	YES
250			ENTRY#	005	I	0002	0002	YES

```
                          SPTYPE    170    X    0003    0008
                          SPAREA    171    I    0009    0009
                          SPOP      172    I    0010    0010
                          SPWDTH    173    I    0011    0011
                          SPHGT     174    I    0012    0012
                          SPPWR     175    I    0013    0013

  EVAP          18        FACT#     001    I    0001    0001    YES
                          TRAIN#    003    X    0002    0002    YES
                          EVAP#     176    I    0003    0003    YES
                          ENTRY#    005    I    0004    0004    YES
                          EVDIA     177    I    0005    0005
                          EVSURF    178    I    0006    0006
                          EVLEN     179    I    0007    0007
                          EVMATL    180    X    0008    0012
                          EVOD      181    I    0013    0013
                          EVTH      182    I    0014    0014
                          EVCDIA    183    I    0015    0015
                          EVCHGT    184    I    0016    0016
                          EVBLD     185    X    0017    0022


NUMBER OF ERROR MESSAGES: 0000
NUMBER OF ITEMS: 185
NUMBER OF SETS: 18
ROOT FILE:  02187 WORDS,  00020 BLOCKS

CARTRIDGE NUMBER                          NUMBER BLOCKS REQUIRED
        00019                                   0000000743
 DATA SET FILES CREATED.
 ROOT FILE CREATED.
 END DATA BASE DEFINITION
```

51	STOCK	05	FACT#	001	I	0001	0001	YES
52			ENTRY#	003	I	0002	0002	YES
53			SYRUPV	015	I	0003	0003	
54			MOLVA	016	I	0004	0004	
55			MOLVB	017	I	0005	0005	
56			MAGV	018	I	0006	0006	
57			MH#	019	I	0007	0007	
58			MHAREA	020	I	0008	0008	
59			MHTYPE	021	X	0009	0016	
60			RHDIA	022	I	0017	0017	
61			RHVLT	023	I	0018	0018	
62			RHAMP	024	I	0019	0019	
63								
64	PUMPS	06	FACT#	001	I	0001	0001	YES
65			ENTRY#	003	I	0002	0002	YES
66			VP#	025	I	0003	0003	
67			VMAKE	026	X	0004	0011	
68			VCYL#	027	X	0012	0015	
69			VBORE	028	I	0016	0016	
70			VLEN	029	I	0017	0017	
71			VDISPL	030	I	0018	0018	
72			VTYPE	031	X	0019	0022	
73			VSPD	032	I	0023	0023	
74			VPWR	033	I	0024	0024	
75			VUSE	034	X	0025	0042	
76								
77	CRYST	07	FACT#	001	I	0001	0001	YES
78			ENTRY#	003	I	0002	0002	YES
79			CSMAKE	035	X	0003	0012	
80			CSGDE	036	X	0013	0014	
81			CS#	037	I	0015	0015	
82			CSVOL	038	I	0016	0016	
83			CSTYPE	039	X	0017	0023	
84			CSAREA	040	I	0024	0024	
85			CSMODE	041	X	0025	0029	
86								
87	HGFUG	08	FACT#	001	I	0001	0001	YES
88			ENTRY#	003	I	0002	0002	YES
89			FHMAKE	042	X	0003	0008	
90			FH#	043	I	0009	0009	
91			FHMASS	044	X	0010	0011	
92			FHSPD	045	I	0012	0012	
93			FHDIA	046	I	0013	0013	
94			FHDEP	047	I	0014	0014	
95			FHAREA	048	I	0015	0015	
96			FHDVE	049	X	0016	0016	
97			FHPWR	050	I	0017	0017	
98								
99	LGFUG	09	FACT#	001	I	0001	0001	YES
100			ENTRY#	003	I	0002	0002	YES

HEWLETT-PACKARD IMAGE/1000 DATA BASE DEFINITION PROCESSOR

$CONTROL:FIELD,NOLIST,ERRORS=10,ROOT,SET,TABLE;

SET NAME	TYPE	# ITEMS	# PATHS	DATA	MEDIA	CAPAC	CARTRIDGE
NAME2	M	002	10	0009	0065	0000000035	00019
ENTRY2	A	001	10	0001	0065	0000000010	00019
GRADE	A	001	01	0001	0011	0000000002	00019
PANS	D	013	03	0026	0015	0000000700	00019
STOCK	D	012	02	0019	0011	0000000070	00019
PUMPS	D	012	02	0042	0011	0000000350	00019
CRYST	D	009	02	0029	0011	0000000350	00019
HGFUG	D	011	02	0017	0011	0000000140	00019
LGFUG	D	014	02	0026	0011	0000000140	00019
DRYER	D	013	02	0023	0011	0000000070	00019
BOILER	D	022	02	0053	0011	0000000140	00019
BINS	D	009	02	0025	0011	0000000105	00019
ELECT	D	019	02	0031	0011	0000000140	00019

SET NAME	SET NO	ITEM NAME	ITEM NO	TYPE	START WD	END WD	PATH?	SORT ITEM
NAME2	01	FACT#	001	I	0001	0001	YES	
		NAME	002	X	0002	0009		
ENTRY2	02	ENTRY#	003	I	0001	0001	YES	
GRADE	03	GDE	004	X	0001	0001	YES	
PANS	04	FACT#	001	I	0001	0001	YES	
		ENTRY#	003	I	0002	0002	YES	
		GDE	004	X	0003	0003	YES	
		PTYPE	005	X	0004	0012		
		P#	006	I	0013	0013		
		PMATL	007	X	0014	0019		
		PDIA	008	I	0020	0020		
		PVOL	009	I	0021	0021		
		PSURF	010	I	0022	0022		
		PSTSP	011	I	0023	0023		
		PRAT	012	I	0024	0024		
		PCDIA	013	I	0025	0025		
		PCHGT	014	I	0026	0026		

```
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN6 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN6 STOP ++"////)
C
C
      END
      END$
```

```
3000  FORMAT( " MILL CHUTE DIMENSION A                _" )
3010  FORMAT( " MILL CHUTE DIMENSION B                _" )
3020  FORMAT( " MILL CHUTE DIMENSION C                _" )
3030  FORMAT( " MILL CHUTE DIMENSION D                _" )
3040  FORMAT( " PRESSURE FEEDER DIMENSION A           _" )
3050  FORMAT( " PRESSURE FEEDER DIMENSION B           _" )
3060  FORMAT( " PRESSURE FEEDER DIMENSION C           _" )
3070  FORMAT( " PRESSURE FEEDER DIMENSION D           _" )
3080  FORMAT( " PRESSURE FEEDER DIMENSION E           _" )
3090  FORMAT( " PRESSURE FEEDER DIMENSION F           _" )
3100  FORMAT( " PRESSURE FEEDER WORK OPENING          _" )
3110  FORMAT( " PRESSURE FEEDER TO MILL GEAR RATIO    _" )
3120  FORMAT( " PRESSURE FEEDER DRIVE TYPE            _" )
3130  FORMAT( " MILL APRON FEEDER DIMENSION A         _" )
3140  FORMAT( " MILL APRON FEEDER DIMENSION B         _" )
3150  FORMAT( " MILL APRON FEEDER DIMENSION C         _" )
3160  FORMAT( " MILL APRON FEEDER DIMENSION D         _" )
3170  FORMAT( " MILL APRON FEEDER DIMENSION E         _" )
3180  FORMAT(/" MILL OVER-FEED ROLL DIMENSION A       _" )
3190  FORMAT( " MILL OVER-FEED ROLL DIMENSION B       _" )
3200  FORMAT( " MILL OVER-FEED ROLL DIMENSION C       _" )
3210  FORMAT( " MILL OVER-FEED ROLL DIMENSION D       _" )
3220  FORMAT( " MILL UNDERFEED ROLL DIMENSION A       _" )
3230  FORMAT( " MILL UNDERFEED ROLL DIMENSION B       _" )
3240  FORMAT( " MILL UNDERFEED ROLL DIMENSION C       _" )
3250  FORMAT( " MILL UNDERFEED ROLL DIMENSION D       _" )
3260  FORMAT( " MILL UNDERFEED ROLL DIMENSION E       _" )
3270  FORMAT( " MILL UNDERFEED ROLL TYPE              ****",2A2,"_" )
3280  FORMAT( " MILL CLOSED CHUTE DIMENSION F         _" )
3290  FORMAT( " MILL CLOSED CHUTE DIMENSION G         _" )
3300  FORMAT( " MILL CLOSED CHUTE DIMENSION H         _" )
3310  FORMAT( " MILL CLOSED CHUTE DIMENSION I         _" )
3320  FORMAT( " MILL HINGED PLATE DIMENSION J         _" )
3330  FORMAT( " MILL HINGED PLATE DIMENSION K         _" )
3340  FORMAT( " MILL HINGED PLATE DIMENSION L         _" )
3350  FORMAT( " MILL HINGED PLATE DIMENSION M         _" )
C
C-----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
```

```
      WRITE(1,3200)
      READ(1,*) IVALU(26)
C
      WRITE(1,3210)
      READ(1,*) IVALU(27)
C
      WRITE(1,3220)
      READ(1,*) IVALU(28)
C
      WRITE(1,3230)
      READ(1,*) IVALU(29)
C
      WRITE(1,3240)
      READ(1,*) IVALU(30)
C
      WRITE(1,3250)
      READ(1,*) IVALU(31)
C
      WRITE(1,3260)
      READ(1,*) IVALU(32)
C
      WRITE(1,3270) (IBAK,K=1,2)
      READ(1,4000) IVALU(33),IVALU(34)
C
      WRITE(1,3280)
      READ(1,*) IVALU(35)
C
      WRITE(1,3290)
      READ(1,*) IVALU(36)
C
      WRITE(1,3300)
      READ(1,*) IVALU(37)
C
      WRITE(1,3310)
      READ(1,*) IVALU(38)
C
      WRITE(1,3320)
      READ(1,*) IVALU(39)
C
      WRITE(1,3330)
      READ(1,*) IVALU(40)
C
      WRITE(1,3340)
      READ(1,*) IVALU(41)
C
      WRITE(1,3350)
      READ(1,*) IVALU(42)
C
C ------------------------------------------------------------------
C
```

```
      WRITE(1,3030)
      READ(1,*) IVALU(7)
C
      WRITE(1,3040)
      READ(1,*) IVALU(8)
C
      WRITE(1,3050)
      READ(1,*) IVALU(9)
C
      WRITE(1,3060)
      READ(1,*) IVALU(10)
C
      WRITE(1,3070)
      READ(1,*) IVALU(11)
C
      WRITE(1,3080)
      READ(1,*) IVALU(12)
C
      WRITE(1,3090)
      READ(1,*) IVALU(13)
C
      WRITE(1,3100)
      READ(1,*) IVALU(14)
C
      IVALU(15) = 0
      IVALU(16) = 2H
      IVALU(17) = 2H
      IVALU(18) = 2H
C
      WRITE(1,3130)
      READ(1,*) IVALU(19)
C
      WRITE(1,3140)
      READ(1,*) IVALU(20)
C
      WRITE(1,3150)
      READ(1,*) IVALU(21)
C
      WRITE(1,3160)
      READ(1,*) IVALU(22)
C
      WRITE(1,3170)
      READ(1,*) IVALU(23)
C
      WRITE(1,3180)
      READ(1,*) IVALU(24)
C
      WRITE(1,3190)
      READ(1,*) IVALU(25)
C
```

```
      GOTO 9999
C
C
C***********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,42
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-----------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     MILL FEEDER DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
1125  FORMAT(" TRAIN #                          _")
      READ(1,4000) IVALU(2)
4000  FORMAT(20A2)
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                       _")
      READ(1,*) IVALU(3)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(4)
C
      WRITE(1,3010)
      READ(1,*) IVALU(5)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(6)
C
```

```
FTN
      PROGRAM PDEN6
C
C
C       +++   WRITTEN - GDD -  9 JUL 1990   ++++
C       +++    LAST MODIFIED   9 JUL 1990   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== FEEDS =====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(40)
     $         ,IDSET(3),IVALU(42)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
C  VARIABLE LIST
      DATA LIST/39,1,3,4,89,90,91,92,93,94,95,96,97,98,99,100,101,102,
     $      103,104,105,106,107,108,109,110,111,112,113,114,115,116,
     $      117,118,119,120,121,122,123,124/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'FEEDS'
      DATA IDSET/2HFE,2HED,2HS /
C
      DATA IBAK/4010B/
C
C***********************************************************************
C
C
C***********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDEN6 ++  ERROR",I5," ON DATA-BASE OPEN")
```

```
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN5 STOP ++"////)
C
C
      END
      END$
```

```
3140  FORMAT( " MILL FEED JUICE ROLL GROOVES DEPTH          _" )
3150  FORMAT( " MILL FEED JUICE ROLL GROOVES WIDTH          _" )
3160  FORMAT( " MILL DELIVERY JUICE ROLL GROOVES PITCH      _" )
3170  FORMAT( " MILL DELIVERY JUICE ROLL GROOVES DEPTH      _" )
3180  FORMAT( " MILL DELIVERY JUICE ROLL GROOVES WIDTH      _" )
3190  FORMAT(/" MILL SET OPENING FEED                        _" )
3200  FORMAT( " MILL SET OPENING DELIVERY                    _" )
3210  FORMAT( " MILL WORK OPENING FEED                       _" )
3220  FORMAT( " MILL WORK OPENING DELIVERY                   _" )
3230  FORMAT( " MILL TRASH PLATE OPENING TOE                 _" )
3240  FORMAT( " MILL TRASH PLATE OPENING HEEL                _" )
3250  FORMAT( " MILL HYDRAULICS?                        ****",2A2,"_" )
3260  FORMAT( " MILL HYDRAULIC ROLL LOAD                     _" )
3270  FORMAT( " MILL AVERAGE ROLL LIFT                       _" )
3280  FORMAT( " MILL MAXIMUM LIFT OF TOP ROLL                _" )
3290  FORMAT( " MILL FIBRE RATE USED FOR THESE SETTINGS      _" )
C
C-----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN5 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
```

```
151         READ(1,*) IVALU(23)
152   C
153         WRITE(1,3200)
154         READ(1,*) IVALU(24)
155   C
156         WRITE(1,3210)
157         READ(1,*) DUM1
158         IVALU(25) = INT ( 10.*DUM1 )
159   C
160         WRITE(1,3220)
161         READ(1,*) IVALU(26)
162   C
163         WRITE(1,3230)
164         READ(1,*) IVALU(27)
165   C
166         WRITE(1,3240)
167         READ(1,*) IVALU(28)
168   C
169         WRITE(1,3250) (IBAK,K=1,2)
170         READ(1,4000) IVALU(29),IVALU(30)
171   C
172         WRITE(1,3260)
173         READ(1,*) IVALU(31)
174   C
175         WRITE(1,3270)
176         READ(1,*) IVALU(32)
177   C
178         WRITE(1,3280)
179         READ(1,*) IVALU(33)
180   C
181         WRITE(1,3290)
182         READ(1,*) DUM1
183         IVALU(34) = INT ( 10.*DUM1 )
184   C
185   C ----------------------------------------------------------------
186   C
187   3000  FORMAT( " MILL NOMINAL DIAMETER OF ROLLS              _" )
188   3010  FORMAT( " MILL NOMINAL  LENGTH  OF ROLLS              _" )
189   3020  FORMAT( " MILL TOP ROLL NOMINAL DIAMETER              _" )
190   3030  FORMAT( " MILL PERIPHERAL SPEED OF TOP ROLL           _" )
191   3040  FORMAT( " MILL TOP ROLL GROOVES PITCH                  _" )
192   3050  FORMAT( " MILL TOP ROLL GROOVES DEPTH                  _" )
193   3060  FORMAT( " MILL TOP ROLL GROOVES ANGLE                  _" )
194   3070  FORMAT( " MILL FEED ROLL GROOVES PITCH                 _" )
195   3080  FORMAT( " MILL FEED ROLL GROOVES DEPTH                 _" )
196   3090  FORMAT( " MILL FEED ROLL GROOVES ANGLE                 _" )
197   3100  FORMAT( " MILL DELIVERY ROLL GROOVES PITCH            _" )
198   3110  FORMAT( " MILL DELIVERY ROLL GROOVES DEPTH            _" )
199   3120  FORMAT( " MILL DELIVERY ROLL GROOVES ANGLE            _" )
200   3130  FORMAT( " MILL FEED JUICE ROLL GROOVES PITCH          _" )
```

```
C
      WRITE(1,3040)
      READ(1,*) IVALU(8)
C
      WRITE(1,3050)
      READ(1,*) IVALU(9)
C
      WRITE(1,3060)
      READ(1,*) IVALU(10)
C
      WRITE(1,3070)
      READ(1,*) IVALU(11)
C
      WRITE(1,3080)
      READ(1,*) IVALU(12)
C
      WRITE(1,3090)
      READ(1,*) IVALU(13)
C
      WRITE(1,3100)
      READ(1,*) IVALU(14)
C
      WRITE(1,3110)
      READ(1,*) IVALU(15)
C
      WRITE(1,3120)
      READ(1,*) IVALU(16)
C
      WRITE(1,3130)
      READ(1,*) IVALU(17)
C
      WRITE(1,3140)
      READ(1,*) IVALU(18)
C
      WRITE(1,3150)
      READ(1,*) DUM1
C   SCALE
      IVALU(19) = INT ( 10.*DUM1 )
C
      WRITE(1,3160)
      READ(1,*) IVALU(20)
C
      WRITE(1,3170)
      READ(1,*) IVALU(21)
C
      WRITE(1,3180)
      READ(1,*) DUM1
      IVALU(22) = INT ( 10.*DUM1 )
C
      WRITE(1,3190)
```

```
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
100   DO 101 K=1,34
101   IVALU(K)=0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     MILL DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
1125  FORMAT(" TRAIN #                          _")
      READ(1,4000) IVALU(2)
4000  FORMAT(20A2)
C
      WRITE(1,1150)
1150  FORMAT(" MILL  #                       _")
      READ(1,*) IVALU(3)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(4)
C
      WRITE(1,3010)
      READ(1,*) IVALU(5)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(6)
C
      WRITE(1,3030)
      READ(1,*) IVALU(7)
```

```
FTN
      PROGRAM PDEN5
C
C
C       +++   WRITTEN - GDD -  9 JUL 1980   ++++
C       +++    LAST MODIFIED   9 JUL 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== MILLS =====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(34)
     $         ,IDSET(3),IVALU(34)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
C  VARIABLE LIST
      DATA LIST/33,1,3,4,59,60,69,61,73,74,75,76,77,78,79,80,81,85,
     $          86,87,82,83,84,64,65,67,68,71,72,62,63,66,70,88/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'MILLS'
      DATA IDSET/2HMI,2HLL,2HS /
C
      DATA IBAK/4010B/
C
C***********************************************************************
C
C***********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDEN5 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
```

```
201        END
202        END$
```

```
3080  FORMAT (" SHREDDER LENGTH              _")
3090  FORMAT (" SHREDDER TIP CLEARANCE       _")
3100  FORMAT (" SHREDDER SPEED               _")
3110  FORMAT (" SHREDDER HAMMER NUMBER       _")
3120  FORMAT (" SHREDDER HAMMER MASS         _")
3130  FORMAT (" SHREDDER DRIVE               **********",5A2,"_")
3140  FORMAT (" SHREDDER STEAM PRESSURE      _")
3150  FORMAT (" SHREDDER STEAM TEMPERATURE   _")
3160  FORMAT (" SHREDDER POWER               _")
C
C-----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN4 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN4 STOP ++"////)
C
C
```

```
C
      WRITE(1,3040) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=12,16)
C
      WRITE(1,3050)
      READ(1,*) IVALU(17)
C
      WRITE(1,3060) (IBAK,K=1,6)
      READ(1,4000) (IVALU(K),K=18,23)
C
      WRITE(1,3070)
      READ(1,*) IVALU(24)
C
      WRITE(1,3080)
      READ(1,*) IVALU(25)
C
      WRITE(1,3090)
      READ(1,*) IVALU(26)
C
      WRITE(1,3100)
      READ(1,*) IVALU(27)
C
      WRITE(1,3110)
      READ(1,*) IVALU(28)
C
      WRITE(1,3120)
      READ(1,*) IVALU(29)
C
      WRITE(1,3130) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=30,34)
C
      WRITE(1,3160)
      READ(1,*) IVALU(37)
C
C     WRITE(1,3140)
C     READ(1,*) IVALU(35)
C
C     WRITE(1,3150)
C     READ(1,*) IVALU(36)
C
C ------------------------------------------------------------------
C
3000  FORMAT (" SECOND KNIVES TYPE          **********",5A2,"_")
3010  FORMAT (" SECOND KNIVES BLADE NUMBER  _")
3020  FORMAT (" SECOND KNIVES CLEARANCE     _")
3030  FORMAT (" SECOND KNIVES  SPEED        _")
3040  FORMAT (" SECOND KNIVES DRIVE         **********",5A2,"_")
3050  FORMAT (" SECOND KNIVES  POWER        _")
3060  FORMAT (" SHREDDER TYPE               ************",6A2,"_")
3070  FORMAT (" SHREDDER DIAMETER           _")
```

```
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
100   DO 101 K=1,37
101   IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C---------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     SHREDDER DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
1125  FORMAT(" TRAIN #                          _")
      READ(1,4000) IVALU(2)
4000  FORMAT(20A2)
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                       _")
      READ(1,*) IVALU(3)
C
C
      WRITE(1,3000) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=4,8)
C
      WRITE(1,3010)
      READ(1,*) IVALU(9)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(10)
C
      WRITE(1,3030)
      READ(1,*) IVALU(11)
```

```
 1  FTN
 2        PROGRAM PDEN4
 3  C
 4  C
 5  C        +++   WRITTEN - GDD -  8 JUL 1980   ++++
 6  C        +++    LAST MODIFIED   8 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== SHRED =====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(21)
15       $          ,IDSET(3),IBUF(100),IVALU(37)
16  C
17  C           DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
19  C  VARIABLE LIST
20        DATA LIST/19,1,3,5,43,44,45,46,47,48,49,50,51,52,53,54,55,56,
21       $              57,58/
22  C           LEVEL
23        DATA ILEVL/2H  ,2H  ,2H  /
24  C           DATA SET NAME - 'SHRED'
25        DATA IDSET/2HSH,2HRE,2HD /
26  C
27        DATA IBAK/4010B/
28  C
29  C*********************************************************************
30  C
31  C*********************************************************************
32  C
33  C
34  C                  OPEN  DATA-BASE
35  C                  ---------------
36  C
37  C
38  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
39  C
40        IMODE=3
41        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
42  C
43  C   TEST FOR ERROR ON OPEN
44  C
45        IF( ISTAT(1).EQ.0 ) GOTO 100
46  C   ERROR
47        WRITE(1,1000) ISTAT(1)
48  1000  FORMAT(//"++ PDEN4 ++  ERROR",I5," ON DATA-BASE OPEN")
49        GOTO 9999
50  C
```

```
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN3 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN3 STOP ++"////)
C
C
      END
      END$
```

```
C   SCALE
      IVALU(16) = INT (10.*DUM1)
C
      WRITE(1,3060) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=17,21)
C
      WRITE(1,3070)
      READ(1,*) IVALU(22)
C
      WRITE(1,3080)
      READ(1,*) IVALU(23)
C
      WRITE(1,3090)
      READ(1,*) IVALU(24)
C
      WRITE(1,3100)
      READ(1,4000) (IVALU(K),K=25,29)
C
      WRITE(1,3110)
      READ(1,*) DUM1
C   SCALE
      IVALU(30) = INT (10.*DUM1)
C
C ----------------------------------------------------------------------
C
3000  FORMAT (" LEVELLER TYPE     **********",5A2,"_")
3010  FORMAT (" NO. OF BLADES                _")
3020  FORMAT (" LEVELLER CLEARANCE           _")
3030  FORMAT (" LEVELLER SPEED               _")
3040  FORMAT (" DRIVE TYPE        **********",5A2,"_")
3050  FORMAT (" LEVELLER POWER               _")
3060  FORMAT (" KNIVE TYPE        **********",5A2,"_")
3070  FORMAT (" BLADE NUMBER                 _")
3080  FORMAT (" CLEARANCE                    _")
3090  FORMAT (" KNIVES  SPEED                _")
3100  FORMAT (" KNIVES DRIVE                 _")
3110  FORMAT (" KNIVES  POWER                _")
C
C----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
```

```
C
C
C                ENTRY  MODE
C                ----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,31
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-----------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     KNIVES  DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
 1125 FORMAT(" TRAIN #                             _")
      READ(1,4000) IVALU(2)
 4000 FORMAT(20A2)
C
C
      WRITE(1,3000) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=3,7)
C
      WRITE(1,3010)
      READ(1,*) IVALU(8)
C
      WRITE(1,3020)
      READ(1,*) IVALU(9)
C
      WRITE(1,3030)
      READ(1,*)  IVALU(10)
C
      WRITE(1,3040) (IBAK,K=1,5)
      READ(1,4000) (IVALU(K),K=11,15)
C
      WRITE(1,3050)
      READ(1,*)  DUM1
```

```
FTN
      PROGRAM PDEN3
C
C
C       +++   WRITTEN - GDD -  8 JUL 1980   ++++
C       +++    LAST MODIFIED   8 JUL 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(16)
     $          ,IDSET(3),IBUF(100),IVALU(31)
C
C           DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
C  VARIABLE LIST
      DATA LIST/14,1,3,31,32,33,34,35,36,37,38,39,40,41,42/
C           LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C           DATA SET NAME - 'KNIVES'
      DATA IDSET/2HKN,2HIV,2HES/
C
      DATA IBAK/04010B/
C
C***********************************************************************
C
C***********************************************************************
C
C
C                  OPEN  DATA-BASE
C                  ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDEN3 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C***********************************************************************
```

```
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN2 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN2 STOP ++"////)
C
C
      END
      END$
```

```
C  SCALE
      IVALU(28) = INT (10.*DUM1)
C
      WRITE(1,3030)
      READ(1,*)  DUM1
C  SCALE
      IVALU(29) = INT (1000.*DUM1)
C
      WRITE(1,3040)
      READ(1,*)  IVALU(30)
C
      WRITE(1,3050)
      READ(1,*)  IVALU(31)
C
      WRITE(1,3060) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=32,39)
C
      WRITE(1,3070)
      READ(1,*) IVALU(40)
C
C
      WRITE(1,3080) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=41,48)
C
      WRITE(1,3090) (IBAK,K=1,15)
      READ(1,4000) (IVALU(K),K=49,63)
C
C ------------------------------------------------------------------
3000  FORMAT (" CARRIER POSITION ****************",8A2,"_")
3010  FORMAT (" CARRIER TYPE ",32(1H*),16A2,"_")
3020  FORMAT (" CARRIER LENGTH                    _")
3030  FORMAT (" CARRIER WIDTH                     _")
3040  FORMAT (" CARRIER INCLINATION               _")
3050  FORMAT (" CARRIER SPEED                     _")
3060  FORMAT (" CARRIER DRIVE ",16(1H*),8A2,"_")
3070  FORMAT (" CARRIER POWER                     _")
3080  FORMAT (" CARRIER FED FROM ",16(1H*),8A2,"_")
3090  FORMAT (" REMARKS ",30(1H*),15A2,"_")
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
```

```
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET YEAR
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,63
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     CARRIER DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1125)
1125  FORMAT(" TRAIN #                          _")
      READ(1,4000) IVALU(2)
4000  FORMAT(20A2)
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(3)
C
C
      WRITE(1,3000) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=4,11)
C
      WRITE(1,3010) (IBAK,K=1,16)
      READ(1,4000) (IVALU(K),K=12,27)
C
      WRITE(1,3020)
      READ(1,*) DUM1
```

```
 1  FTN
 2        PROGRAM PDEN2(3,20), GDD JUL 80
 3  C
 4  C
 5  C        +++   WRITTEN - GDD -  8 JUL 1980   ++++
 6  C        +++    LAST MODIFIED   8 JUL 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C
12  C
13        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(14)
14       $          ,IDSET(3),IBUF(100),IVALU(63)
15  C
16  C          DATA-BASE
17        DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
18  C
19  C  BACKSPACE
20  C
21        DATA IBAK/4010B/
22  C  VARIABLE LIST
23        DATA LIST/13,1,3,5,21,22,23,24,25,26,27,28,29,30/
24  C          LEVEL
25        DATA ILEVL/2H  ,2H  ,2H  /
26  C          DATA SET NAME - 'CARR'
27        DATA IDSET/2HCA,2HRR,2H  /
28  C          CONTROL VARIABLES
29  C
30  C*********************************************************************
31  C
32  C*********************************************************************
33  C
34  C
35  C                 OPEN  DATA-BASE
36  C                 ---------------
37  C
38  C
39  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
40  C
41        IMODE=3
42        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
43  C
44  C   TEST FOR ERROR ON OPEN
45  C
46        IF( ISTAT(1).EQ.0 ) GOTO 100
47  C   ERROR
48        WRITE(1,1000) ISTAT(1)
49  1000  FORMAT(//"++ PDEN2 ++  ERROR",I5," ON DATA-BASE OPEN")
50        GOTO 9999
```

```
3070  FORMAT (" TRUCK NUMBER                          _")
3080  FORMAT (" TRUCK CAPACITY                        _")
3090  FORMAT (" TRUCK GAUGE                           _")
3100  FORMAT (" LENGTH OF TRAMLINE                    _")
3110  FORMAT (" GAUGE OF LINE                         _")
3120  FORMAT (" PERCENTAGE OF CROP ON PRIVATE LINE    _")
3130  FORMAT (" PERCENTAGE OF CROP ON GOVT.  LINE     _")
3140  FORMAT (" PERCENTAGE OF CROP ON ROAD            _")
C
C-----------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDEN1 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDEN1 STOP ++"////)
C
C
      END
```

```
C  SCALE
      IVALU(13)= INT(DUM1*10.)
C
      WRITE(1,3050)
      READ(1,*)  IVALU(14)
C
      WRITE(1,3070)
      READ(1,*) IVALU(23)
C
      WRITE(1,3060) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=15,22)
C
      WRITE(1,3080)
      READ(1,*)  DUM1
C   SCALE
      IVALU(24) = INT(DUM1*10.)
C
      WRITE(1,3090)
      READ(1,*)  IVALU(25)
C
      WRITE(1,3100)
      READ(1,*)  IVALU(26)
C
      WRITE(1,3110)
      READ(1,*)  IVALU(27)
C
      WRITE(1,3120)
      READ(1,*)  DUM1
C   SCALE
      IVALU(28) = INT(DUM1*10.)
C
      WRITE(1,3130)
      READ(1,*)  DUM1
C   SCALE
      IVALU(29) = INT (DUM1*10.)
C
      WRITE(1,3140)
      READ(1,*) DUM1
C   SCALE
      IVALU(30) = INT (DUM1*10.)
C
C ------------------------------------------------------------------
C
3000  FORMAT (" NO. OF LOCOMOTIVES                    _")
3010  FORMAT (" LOCOMOTIVE TYPE                 ********",4A2,"_")
3020  FORMAT (" ENGINE TYPE                     ********",4A2,"_")
3030  FORMAT (" ENGINE POWER                          _")
3040  FORMAT (" LOCOMOTIVE MASS                       _")
3050  FORMAT (" LOCOMOTIVE GAUGE                      _")
3060  FORMAT (" TRUCK   TYPE            ****************",8A2,"_")
```

```
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET YEAR
C
C   GET FACTORY NUMBER
C
 100  DO 101 K=1,34
 101  IVALU(K) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?",17X,"_")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     TRANSPORT DATA
C
 120  IVALU(1)=IFACT
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #  _")
      READ(1,*) IVALU(2)
C
C
      WRITE(1,3010) (IBAK,K=1,4)
      READ(1,4000) (IVALU(K),K=4,7)
 4000 FORMAT (10A2)
C
      WRITE(1,3000)
      READ(1,*) IVALU(3)
C
      WRITE(1,3020) (IBAK,K=1,4)
      READ(1,4000) (IVALU(K),K=8,11)
C
      WRITE(1,3030)
      READ(1,*)  IVALU(12)
C
      WRITE(1,3040)
      READ(1,*)  DUM1
```

```
FTN
      PROGRAM PDEN1
C
C
C       +++   WRITTEN - GDD -  7 JUL 1980   ++++
C       +++    LAST MODIFIED   7 JUL 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(18)
     $         ,IDSET(3),IBUF(100),IVALU(30)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT1,2H:G,2HD:,2H9 /
      DATA IBAK/4010B/
C  VARIABLE LIST
      DATA LIST/17,1,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAMES
      DATA IDSET/2HTR,2HAN,2HS /
C          CONTROL VARIABLES
      DATA IANS/2HNO/,IBL/2H  /
C
C***********************************************************************
C
C***********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDEN1 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
```

APPENDIX D: DATA ENTRY PROGRAMS.

```
151
152   BINS        12      FACT#      001      I      0001      0001     YES
153                       ENTRY#     003      I      0002      0002     YES
154                       BGBIN      094      X      0003      0008
155                       BGCAP      095      I      0009      0009
156                       BGPOS      096      X      0010      0013
157                       CTTYP      097      X      0014      0022
158                       CTCELL     098      I      0023      0023
159                       CTCAP      099      I      0024      0024
160                       CTPWR      100      I      0025      0025
161
162   ELECT       13      FACT#      001      I      0001      0001     YES
163                       ENTRY#     003      I      0002      0002     YES
164                       EPRTG      101      I      0003      0003
165                       EPIC       102      I      0004      0004
166                       EPMR       103      I      0005      0005
167                       EPMLD      104      I      0006      0006
168                       EPDMD      105      I      0007      0007
169                       EPIRD      106      I      0008      0008
170                       EPEXP      107      I      0009      0009
171                       EPSUR      108      I      0010      0010
172                       GSMAKE     109      X      0011      0017
173                       GS#        110      I      0018      0018
174                       GSRTG      111      I      0019      0019
175                       GSVOL      112      I      0020      0020
176                       GSPM       113      X      0021      0027
177                       GSSPD      114      I      0028      0028
178                       GSPR       115      I      0029      0029
179                       GSSH       116      I      0030      0030
180                       GSEX       117      I      0031      0031
181
182
183  NUMBER OF ERROR MESSAGES: 0000
184  NUMBER OF ITEMS: 117
185  NUMBER OF SETS: 13
186  ROOT FILE:  01438 WORDS,  00014 BLOCKS
187
188  CARTRIDGE NUMBER                          NUMBER BLOCKS REQUIRED
189          00025                                  0000000765
190   DATA SET FILES CREATED.
191   ROOT FILE CREATED.
192   END DATA BASE DEFINITION
```

101			ENTRY#	003	I	0002	0002	YES
102			FLMAKE	051	X	0003	0010	
103			FLMODE	052	X	0011	0016	
104			FL#	053	I	0017	0017	
105			FLSPD	054	I	0018	0018	
106			FLDIA	055	I	0019	0019	
107			FLDEP	056	I	0020	0020	
108			FLBMAX	057	I	0021	0021	
109			FLBMIN	058	I	0022	0022	
110			FLBANG	059	I	0023	0023	
111			FLBVA	060	I	0024	0024	
112			FLBIA	061	I	0025	0025	
113			FLPWR	062	I	0026	0026	
114								
115	DRYER	10	FACT#	001	I	0001	0001	YES
116			ENTRY#	003	I	0002	0002	YES
117			DTYPE	063	X	0003	0010	
118			DLEN	064	I	0011	0011	
119			DDIA	065	I	0012	0012	
120			DSPD	066	I	0013	0013	
121			DPWR	067	I	0014	0014	
122			DFAN	068	X	0015	0016	
123			DHTR	069	X	0017	0018	
124			DRAC	070	X	0019	0020	
125			SB#	071	I	0021	0021	
126			SBCAP	072	I	0022	0022	
127			SBTOT	073	I	0023	0023	
128								
129	BOILER	11	FACT#	001	I	0001	0001	YES
130			ENTRY#	003	I	0002	0002	YES
131			BOMAKE	074	X	0003	0010	
132			BO#	075	I	0011	0011	
133			BOPRES	076	I	0012	0012	
134			BOMCR	077	I	0013	0013	
135			BOSHT	078	I	0014	0014	
136			BOBA	079	I	0015	0015	
137			BOFA	080	I	0016	0016	
138			BOSA	081	I	0017	0017	
139			BOAA	082	I	0018	0018	
140			BOEA	083	I	0019	0019	
141			BOGTE	084	X	0020	0031	
142			BOGA	085	I	0032	0032	
143			BOWW	086	X	0033	0034	
144			BOICO	088	X	0035	0036	
145			BOIOB	089	X	0037	0038	
146			BOIFD	090	X	0039	0040	
147			BOSPR	087	X	0041	0042	
148			BOIARR	091	X	0043	0051	
149			BOISTD	092	I	0052	0052	
150			BOISTH	093	I	0053	0053	

51							
52	STOCK	05	FACT#	001	I	0001	0001	YES
53			ENTRY#	003	I	0002	0002	YES
54			SYRUPV	015	I	0003	0003	
55			MOLVA	016	I	0004	0004	
56			MOLVB	017	I	0005	0005	
57			MAGV	018	I	0006	0006	
58			MH#	019	I	0007	0007	
59			MHAREA	020	I	0008	0008	
60			MHTYPE	021	X	0009	0016	
61			RHDIA	022	I	0017	0017	
62			RHVLT	023	I	0018	0018	
63			RHAMP	024	I	0019	0019	
64								
65	PUMPS	06	FACT#	001	I	0001	0001	YES
66			ENTRY#	003	I	0002	0002	YES
67			VP#	025	I	0003	0003	
68			VMAKE	026	X	0004	0011	
69			VCYL#	027	X	0012	0015	
70			VBORE	028	I	0016	0016	
71			VLEN	029	I	0017	0017	
72			VDISPL	030	I	0018	0018	
73			VTYPE	031	X	0019	0022	
74			VSPD	032	I	0023	0023	
75			VPWR	033	I	0024	0024	
76			VUSE	034	X	0025	0042	
77								
78	CRYST	07	FACT#	001	I	0001	0001	YES
79			ENTRY#	003	I	0002	0002	YES
80			CSMAKE	035	X	0003	0012	
81			CSGDE	036	X	0013	0014	
82			CS#	037	I	0015	0015	
83			CSVOL	038	I	0016	0016	
84			CSTYPE	039	X	0017	0023	
85			CSAREA	040	I	0024	0024	
86			CSMODE	041	X	0025	0029	
87								
88	HGFUG	08	FACT#	001	I	0001	0001	YES
89			ENTRY#	003	I	0002	0002	YES
90			FHMAKE	042	X	0003	0008	
91			FH#	043	I	0009	0009	
92			FHMASS	044	X	0010	0011	
93			FHSPD	045	I	0012	0012	
94			FHDIA	046	I	0013	0013	
95			FHDEP	047	I	0014	0014	
96			FHAREA	048	I	0015	0015	
97			FHDVE	049	X	0016	0016	
98			FHPWR	050	I	0017	0017	
99								
100	LGFUG	09	FACT#	001	I	0001	0001	YES

HEWLETT-PACKARD IMAGE/1000 DATA BASE DEFINITION PROCESSOR

$CONTROL: FIELD, NOLIST, ERRORS=10, ROOT, SET, TABLE;

SET NAME	TYPE	# ITEMS	# PATHS	DATA	MEDIA	CAPAC	CARTRIDGE
NAME2	M	002	10	0009	0065	0000000035	00025
ENTRY2	A	001	10	0001	0065	0000000015	00025
GRADE	A	001	01	0001	0011	0000000002	00025
PANS	D	013	03	0026	0015	0000000700	00025
STOCK	D	012	02	0019	0011	0000000070	00025
PUMPS	D	012	02	0042	0011	0000000350	00025
CRYST	D	009	02	0029	0011	0000000350	00025
HGFUG	D	011	02	0017	0011	0000000140	00025
LGFUG	D	014	02	0026	0011	0000000140	00025
DRYER	D	013	02	0023	0011	0000000070	00025
BOILER	D	022	02	0053	0011	0000000140	00025
BINS	D	009	02	0025	0011	0000000105	00025
ELECT	D	019	02	0031	0011	0000000140	00025

SET NAME	SET NO	ITEM NAME	ITEM NO	TYPE	START WD	END WD	PATH?	SORT ITEM
NAME2	01	FACT#	001	I	0001	0001	YES	
		NAME	002	X	0002	0009		
ENTRY2	02	ENTRY#	003	I	0001	0001	YES	
GRADE	03	GDE	004	X	0001	0001	YES	
PANS	04	FACT#	001	I	0001	0001	YES	
		ENTRY#	003	I	0002	0002	YES	
		GDE	004	X	0003	0003	YES	
		PTYPE	005	X	0004	0012		
		P#	006	I	0013	0013		
		PMATL	007	X	0014	0019		
		PDIA	008	I	0020	0020		
		PVOL	009	I	0021	0021		
		PSURF	010	I	0022	0022		
		PSTSP	011	I	0023	0023		
		PRAT	012	I	0024	0024		
		PCDIA	013	I	0025	0025		
		PCHGT	014	I	0026	0026		

```
251
252   SEPAR       17      FACT#      001      I      0001      0001      YES
253                       ENTRY#     005      I      0002      0002      YES
254                       SPTYPE     172      X      0003      0008
255                       SPAREA     173      I      0009      0009
256                       SPOP       174      I      0010      0010
257                       SPWDTH     175      I      0011      0011
258                       SPHGT      176      I      0012      0012
259                       SPPWR      177      I      0013      0013
260
261   EVAP        18      FACT#      001      I      0001      0001      YES
262                       TRAIN#     003      X      0002      0002      YES
263                       EVAP#      178      I      0003      0003      YES
264                       ENTRY#     005      I      0004      0004      YES
265                       EVDIA      179      I      0005      0005
266                       EVSURF     180      I      0006      0006
267                       EVLEN      181      I      0007      0007
268                       EVMATL     182      X      0008      0012
269                       EVOD       183      I      0013      0013
270                       EVTH       184      I      0014      0014
271                       EVCDIA     185      I      0015      0015
272                       EVCHGT     186      I      0016      0016
273                       EVBLD      187      X      0017      0022
274
275
276  NUMBER OF ERROR MESSAGES: 0000
277  NUMBER OF ITEMS: 187
278  NUMBER OF SETS: 18
279  ROOT FILE:  02204 WORDS,  00020 BLOCKS
280
281  CARTRIDGE NUMBER                          NUMBER BLOCKS REQUIRED
282          00025                                   0000000746
283   DATA SET FILES CREATED.
284   ROOT FILE CREATED.
285   END DATA BASE DEFINITION
```

201			PFOLA	135	I	0012	0012	
202			PFJLP	136	I	0013	0013	
203			PFJLD	137	I	0014	0014	
204			PFJLW	138	I	0015	0015	
205								
206	DIFFUS	13	FACT#	001	I	0001	0001	YES
207			TRAIN#	003	X	0002	0002	YES
208			ENTRY#	005	I	0003	0003	YES
209			DMAKE	139	X	0004	0009	
210			DWID	140	I	0010	0010	
211			DLEN	141	I	0011	0011	
212			DSPD	142	I	0012	0012	
213			DPWR	143	I	0013	0013	
214			DPOSN	144	X	0014	0025	
215								
216	SCREEN	14	FACT#	001	I	0001	0001	YES
217			ENTRY#	005	I	0002	0002	YES
218			JTYPE	145	X	0003	0010	
219			JS#	146	I	0011	0011	
220			JLEN	147	I	0012	0012	
221			JWID	148	I	0013	0013	
222			JSAPER	149	I	0014	0014	
223			HTVOL	150	I	0015	0015	
224			FTDIA	151	I	0016	0016	
225			FTHGT	152	I	0017	0017	
226								
227	HEATER	15	FACT#	001	I	0001	0001	YES
228			ENTRY#	005	I	0002	0002	YES
229			JH#	153	I	0003	0003	
230			JHUSE	154	X	0004	0011	
231			JHAREA	155	I	0012	0012	
232			JHHT	156	X	0013	0020	
233			JHPASS	157	I	0021	0021	
234			JHTUBE	158	I	0022	0022	
235			JHLEN	159	I	0023	0023	
236			JHDIA	160	I	0024	0024	
237			JHMATL	161	X	0025	0029	
238			JTTHCK	162	I	0030	0030	
239								
240	CLARIF	16	FACT#	001	I	0001	0001	YES
241			ENTRY#	005	I	0002	0002	YES
242			CLPOS	163	X	0003	0008	
243			CLTYPE	164	X	0009	0014	
244			CLTRAY	165	I	0015	0015	
245			CLDIA	166	I	0016	0016	
246			CLAREA	167	I	0017	0017	
247			CLVOL	168	I	0018	0018	
248			FTYPE	169	X	0019	0026	
249			FIL#	170	I	0027	0027	
250			FAREA	171	I	0028	0028	

151			TRAIN#	003	X	0002	0002	YES
152			MILL#	004	I	0003	0003	YES
153			MCA	091	I	0004	0004	
154			MCB	092	I	0005	0005	
155			MCC	093	I	0006	0006	
156			MCD	094	I	0007	0007	
157			MPA	095	I	0008	0008	
158			MPB	096	I	0009	0009	
159			MPC	097	I	0010	0010	
160			MPD	098	I	0011	0011	
161			MPE	099	I	0012	0012	
162			MPF	100	I	0013	0013	
163			MPWO	101	I	0014	0014	
164			MPGR	102	I	0015	0015	
165			MPDR	103	X	0016	0018	
166			MAA	104	I	0019	0019	
167			MAB	105	I	0020	0020	
168			MAC	106	I	0021	0021	
169			MAD	107	I	0022	0022	
170			MAE	108	I	0023	0023	
171			MOA	109	I	0024	0024	
172			MOB	110	I	0025	0025	
173			MOC	111	I	0026	0026	
174			MOD	112	I	0027	0027	
175			MUA	113	I	0028	0028	
176			MUB	114	I	0029	0029	
177			MUC	115	I	0030	0030	
178			MUD	116	I	0031	0031	
179			MUE	117	I	0032	0032	
180			MUROLL	118	X	0033	0034	
181			MCLF	119	I	0035	0035	
182			MCLG	120	I	0036	0036	
183			MCLH	121	I	0037	0037	
184			MCLI	122	I	0038	0038	
185			MHJ	123	I	0039	0039	
186			MHK	124	I	0040	0040	
187			MHL	125	I	0041	0041	
188			MHM	126	I	0042	0042	
189								
190	PRESS	12	FACT#	001	I	0001	0001	YES
191			TRAIN#	003	X	0002	0002	YES
192			MILL#	004	I	0003	0003	YES
193			PFOUP	127	I	0004	0004	
194			PFOUD	128	I	0005	0005	
195			PFOUA	129	I	0006	0006	
196			PFJUP	130	I	0007	0007	
197			PFJUD	131	I	0008	0008	
198			PFJUW	132	I	0009	0009	
199			PFOLP	133	I	0010	0010	
200			PFOLD	134	I	0011	0011	

101			K2DVE	047	X	0012	0016	
102			K2PWR	048	I	0017	0017	
103			STYPE	049	X	0018	0023	
104			SDIA	050	I	0024	0024	
105			SLEN	051	I	0025	0025	
106			SCLEAR	052	I	0026	0026	
107			SSPD	053	I	0027	0027	
108			SHAM#	054	I	0028	0028	
109			SDVE	055	X	0029	0033	
110			SSTMP	056	I	0034	0034	
111			SMASS	057	I	0035	0035	
112			SPWR	058	I	0036	0036	
113								
114	MILLS	10	FACT#	001	I	0001	0001	YES
115			TRAIN#	003	X	0002	0002	YES
116			MILL#	004	I	0003	0003	YES
117			MDIA	059	I	0004	0004	
118			MLEN	060	I	0005	0005	
119			MSPD	061	I	0006	0006	
120			MHR	062	X	0007	0008	
121			MHRL	063	I	0009	0009	
122			MSOF	064	I	0010	0010	
123			MSOD	065	I	0011	0011	
124			MARL	066	I	0012	0012	
125			MWOF	067	I	0013	0013	
126			MWOD	068	I	0014	0014	
127			MTDIA	069	I	0015	0015	
128			MHRMX	070	I	0016	0016	
129			MTPT	071	I	0017	0017	
130			MTPH	072	I	0018	0018	
131			MOTP	073	I	0019	0019	
132			MOTD	074	I	0020	0020	
133			MOTA	075	I	0021	0021	
134			MOFP	076	I	0022	0022	
135			MOFD	077	I	0023	0023	
136			MOFA	078	I	0024	0024	
137			MODP	079	I	0025	0025	
138			MODD	080	I	0026	0026	
139			MODA	081	I	0027	0027	
140			MJDP	082	I	0028	0028	
141			MJDD	083	I	0029	0029	
142			MJDW	084	I	0030	0030	
143			MJFP	085	I	0031	0031	
144			MJFD	086	I	0032	0032	
145			MJFW	087	I	0033	0033	
146			MFRATE	088	I	0034	0034	
147			MTSPD	089	I	0035	0035	
148			MTPWR	090	I	0036	0036	
149								
150	FEEDS	11	FACT#	001	I	0001	0001	YES

51			ENG	008	X	0008	0011	
52			POWER	009	I	0012	0012	
53			MASS	010	I	0013	0013	
54			GAUGE	011	I	0014	0014	
55			TRUCK	012	X	0015	0022	
56			TRUCK#	013	I	0023	0023	
57			CAPAC	014	I	0024	0024	
58			TGAUGE	015	I	0025	0025	
59			TRAML	016	I	0026	0026	
60			GAUGEL	017	I	0027	0027	
61			CROPP	018	I	0028	0028	
62			CROPG	019	I	0029	0029	
63			CROPR	020	I	0030	0030	
64								
65	CARR	07	FACT#	001	I	0001	0001	YES
66			TRAIN#	003	X	0002	0002	YES
67			ENTRY#	005	I	0003	0003	YES
68			CPOS	021	X	0004	0011	
69			CTYPE	022	X	0012	0027	
70			CLEN	023	I	0028	0028	
71			CWID	024	I	0029	0029	
72			CINCL	025	I	0030	0030	
73			CSPD	026	I	0031	0031	
74			CDVE	027	X	0032	0039	
75			CPWR	028	I	0040	0040	
76			CFEED	029	X	0041	0048	
77			CREM	030	X	0049	0063	
78								
79	KNIVES	08	FACT#	001	I	0001	0001	YES
80			TRAIN#	003	X	0002	0002	YES
81			LTYPE	031	X	0003	0007	
82			LBL#	032	I	0008	0008	
83			LCLR	033	I	0009	0009	
84			LSPD	034	I	0010	0010	
85			LDVE	035	X	0011	0015	
86			LPWR	036	I	0016	0016	
87			KTYPE	037	X	0017	0021	
88			KBL#	038	I	0022	0022	
89			KCLR	039	I	0023	0023	
90			KSPD	040	I	0024	0024	
91			KDVE	041	X	0025	0029	
92			KPWR	042	I	0030	0030	
93								
94	SHRED	09	FACT#	001	I	0001	0001	YES
95			TRAIN#	003	X	0002	0002	YES
96			ENTRY#	005	I	0003	0003	YES
97			K2TYPE	043	X	0004	0008	
98			K2BL#	044	I	0009	0009	
99			K2CLR	045	I	0010	0010	
100			K2SPD	046	I	0011	0011	

HEWLETT-PACKARD IMAGE/1000 DATA BASE DEFINITION PROCESSOR

```
$CONTROL:NOLIST,FIELD,ERRORS=10,ROOT,SET,TABLE;
```

SET NAME	TYPE	# ITEMS	# PATHS	DATA	MEDIA	CAPAC	CARTRIDGE
NAMES	M	002	13	0009	0083	0000000035	00025
NUMBS	A	001	03	0001	0023	0000000006	00025
TRAINS	A	001	08	0001	0053	0000000002	00025
EVAPS	A	001	01	0001	0011	0000000007	00025
ENTRYS	A	001	09	0001	0059	0000000010	00025
TRANS	D	017	02	0030	0011	0000000175	00025
CARR	D	013	03	0063	0015	0000000105	00025
KNIVES	D	014	02	0030	0011	0000000105	00025
SHRED	D	019	03	0036	0015	0000000070	00025
MILLS	D	035	03	0036	0015	0000000175	00025
FEEDS	D	039	03	0042	0015	0000000175	00025
PRESS	D	015	03	0015	0015	0000000175	00025
DIFFUS	D	009	03	0025	0015	0000000035	00025
SCREEN	D	010	02	0017	0011	0000000100	00025
HEATER	D	012	02	0030	0011	0000000150	00025
CLARIF	D	011	02	0028	0011	0000000140	00025
SEPAR	D	008	02	0013	0011	0000000105	00025
EVAP	D	013	04	0022	0019	0000000600	00025

SET NAME	SET NO	ITEM NAME	ITEM NO	TYPE	START WD	END WD	PATH?	SORT ITEM
NAMES	01	FACT#	001	I	0001	0001	YES	
		NAME	002	X	0002	0009		
NUMBS	02	MILL#	004	I	0001	0001	YES	
TRAINS	03	TRAIN#	003	X	0001	0001	YES	
EVAPS	04	ENTRY#	005	I	0001	0001	YES	
ENTRYS	05	ENTRY#	005	I	0001	0001	YES	
TRANS	06	FACT#	001	I	0001	0001	YES	
		ENTRY#	005	I	0002	0002	YES	
		LOCOS	006	I	0003	0003		
		TYPE	007	X	0004	0007		

```
151   BINS        12      FACT#      001      I      0001      0001     YES
152                       ENTRY#     003      I      0002      0002     YES
153                       BGBIN      094      X      0003      0008
154                       BGCAP      095      I      0009      0009
155                       BGPOS      096      X      0010      0013
156                       CTTYP      097      X      0014      0022
157                       CTCELL     098      I      0023      0023
158                       CTCAP      099      I      0024      0024
159                       CTPWR      100      I      0025      0025
160
161   ELECT       13      FACT#      001      I      0001      0001     YES
162                       ENTRY#     003      I      0002      0002     YES
163                       EPRTG      101      I      0003      0003
164                       EPIC       102      I      0004      0004
165                       EPMR       103      I      0005      0005
166                       EPMLD      104      I      0006      0006
167                       EPDMD      105      I      0007      0007
168                       EPIRD      106      I      0008      0008
169                       EPEXP      107      I      0009      0009
170                       EPSUR      108      I      0010      0010
171                       GSMAKE     109      X      0011      0017
172                       GS#        110      I      0018      0018
173                       GSRTG      111      I      0019      0019
174                       GSVOL      112      I      0020      0020
175                       GSPM       113      X      0021      0027
176                       GSSPD      114      I      0028      0028
177                       GSPR       115      I      0029      0029
178                       GSSH       116      I      0030      0030
179                       GSEX       117      I      0031      0031
180
181
182  NUMBER OF ERROR MESSAGES: 0000
183  NUMBER OF ITEMS: 117
184  NUMBER OF SETS: 13
185  ROOT FILE:  01438 WORDS,  00014 BLOCKS
186
187  CARTRIDGE NUMBER                          NUMBER BLOCKS REQUIRED
188          00019                                  0000000763
189   DATA SET FILES CREATED.
190   ROOT FILE CREATED.
191   END DATA BASE DEFINITION
```

101			FLMAKE	051	X	0003	0010	
102			FLMODE	052	X	0011	0016	
103			FL#	053	I	0017	0017	
104			FLSPD	054	I	0018	0018	
105			FLDIA	055	I	0019	0019	
106			FLDEP	056	I	0020	0020	
107			FLBMAX	057	I	0021	0021	
108			FLBMIN	058	I	0022	0022	
109			FLBANG	059	I	0023	0023	
110			FLBVA	060	I	0024	0024	
111			FLBIA	061	I	0025	0025	
112			FLPWR	062	I	0026	0026	
113								
114	DRYER	10	FACT#	001	I	0001	0001	YES
115			ENTRY#	003	I	0002	0002	YES
116			DTYPE	063	X	0003	0010	
117			DLEN	064	I	0011	0011	
118			DDIA	065	I	0012	0012	
119			DSPD	066	I	0013	0013	
120			DPWR	067	I	0014	0014	
121			DFAN	068	X	0015	0016	
122			DHTR	069	X	0017	0018	
123			DRAC	070	X	0019	0020	
124			SB#	071	I	0021	0021	
125			SBCAP	072	I	0022	0022	
126			SBTOT	073	I	0023	0023	
127								
128	BOILER	11	FACT#	001	I	0001	0001	YES
129			ENTRY#	003	I	0002	0002	YES
130			BOMAKE	074	X	0003	0010	
131			BO#	075	I	0011	0011	
132			BOPRES	076	I	0012	0012	
133			BOMCR	077	I	0013	0013	
134			BOSHT	078	I	0014	0014	
135			BOBA	079	I	0015	0015	
136			BOFA	080	I	0016	0016	
137			BOSA	081	I	0017	0017	
138			BOAA	082	I	0018	0018	
139			BOEA	083	I	0019	0019	
140			BOGTE	084	X	0020	0031	
141			BOGA	085	I	0032	0032	
142			BOWW	086	X	0033	0034	
143			BOSPR	087	X	0035	0036	
144			BOIOB	088	X	0037	0038	
145			BOIFD	090	X	0039	0040	
146			BOICO	089	X	0041	0042	
147			BOIARR	091	X	0043	0051	
148			BOISTD	092	I	0052	0052	
149			BOISTH	093	I	0053	0053	
150								

```
FTN
      PROGRAM PDN21
C
C
C       +++   WRITTEN - GDD -  16 JUL 1980   ++++
C       +++    LAST MODIFIED  16 JUL 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== STOCK ====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(13)
     $         ,IDSET(3),IVALU(19)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
C
C   BACKSPACE
C
      DATA IBAK/04010B/
C
C  VARIABLE LIST
      DATA LIST/12,1,3,15,16,17,18,19,20,21,22,23,24/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'STOCK'
      DATA IDSET/2HST,2HOC,2HK /
C
C***********************************************************************
C
C
C
C***********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDN21 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                ------------
C
C   GET FACTORY NUMBER
C
  100 DO 101 I=1,19
  101 IVALU(I) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     STOCK TANKS & MASSECUITE REHEATER DATA
C
  120 IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                             _")
      READ(1,*) IVALU(2)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(3)
C
      WRITE(1,3010)
      READ(1,*) IVALU(4)
C
      WRITE(1,3020)
      READ(1,*) IVALU(5)
C
      WRITE(1,3030)
      READ(1,*) IVALU(6)
```

```
C
      WRITE(1,3040)
      READ(1,*) IVALU(7)
C
      WRITE(1,3050)
      DUM=0.0
      READ(1,*) DUM
      IVALU(8) = INT (10.*DUM)
C
      WRITE(1,3060) (IBAK,K=1,8)
      READ(1,4000) (IVALU(K),K=9,16)
4000  FORMAT(20A2)
C
      WRITE(1,3070)
      READ(1,*) IVALU(17)
C
      WRITE(1,3080)
      READ(1,*) IVALU(18)
C
      WRITE(1,3090)
      READ(1,*) IVALU(19)
C
C ------------------------------------------------------------------
C
3000  FORMAT(" VOLUME OF SYRUP STORAGE TANKS                    _")
3010  FORMAT(" VOLUME OF A MOLASSES STORAGE TANKS               _")
3020  FORMAT(" VOLUME OF B MOLASSES STORAGE TANKS               _")
3030  FORMAT(" VOLUME OF MAGMA STORAGE TANKS                    _")
3040  FORMAT(" NO. OF MASSECUITE RE-HEATERS                     _")
3050  FORMAT(" AREA OF RE-HEATERS                               _")
3060  FORMAT(" RE-HEATER TYPE    ****************",8A2,"_")
3070  FORMAT(" RESISTANCE HEATER DIAMETER                       _")
3080  FORMAT(" RESISTANCE HEATER VOLTAGE                        _")
3090  FORMAT(" RESISTANCE HEATER CURRENT                        _")
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
```

```
151  1600  FORMAT(//"++ PDN21 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
152  C
153  C   GET NEXT ENTRY
154  C
155        GOTO 100
156  C
157  C
158  C*********************************************************************
159  C
160  C
161  C            TERMINATE
162  C            ---------
163  C
164  C
165   9999 CALL DBUNL (ISTAT)
166        IMODE=0
167  C
168  C   CLOSE DATA-BASE
169  C
170        IMODE=1
171        CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
172  C
173        WRITE(1,1700)
174  1700  FORMAT(////"++ PDN21 STOP ++"////)
175  C
176  C
177        END
178        END$
```

```
 1  FTN
 2        PROGRAM PDN22
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -   1 SEP 1980   ++++
 6  C       +++    LAST MODIFIED   1 SEP 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== PUMPS ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(13)
15       $         ,IDSET(3),IVALU(42)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
19  C
20  C   BACKSPACE
21  C
22        DATA IBAK/04010B/
23  C
24  C  VARIABLE LIST
25        DATA LIST/12,1,3,25,26,27,28,29,30,31,32,33,34/
26  C          LEVEL
27        DATA ILEVL/2H  ,2H  ,2H  /
28  C          DATA SET NAME - 'PUMPS'
29        DATA IDSET/2HPU,2HMP,2HS /
30  C
31  C*********************************************************************
32  C
33  C
34  C
35  C*********************************************************************
36  C
37  C
38  C                 OPEN  DATA-BASE
39  C                 ---------------
40  C
41  C
42  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
43  C
44        IMODE=3
45        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
46  C
47  C   TEST FOR ERROR ON OPEN
48  C
49        IF( ISTAT(1).EQ.0 ) GOTO 100
50  C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDN22 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 I=1,42
 101  IVALU(I) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     PUMP DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(2)
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(3)
C
      WRITE(1,3010) (IBAK,K=4,11)
      READ(1,4000) (IVALU(K),K=4,11)
 4000 FORMAT(20A2)
C
      WRITE(1,3020) (IBAK,K=12,15)
      READ(1,4000) (IVALU(K),K=12,15)
C
      WRITE(1,3030)
```

```
      READ(1,*) IVALU(16)
C
      WRITE(1,3040)
      READ(1,*) IVALU(17)
C
      WRITE(1,3050)
      READ(1,*) IVALU(18)
C
      WRITE(1,3060) (IBAK,K=19,22)
      READ(1,4000) (IVALU(K),K=19,22)
C
      WRITE(1,3070)
      READ(1,*) IVALU(23)
C
      WRITE(1,3080)
      READ(1,*) IVALU(24)
C
      WRITE(1,3090) (IBAK,K=25,42)
      READ(1,4000) (IVALU(K),K=25,42)
C
C ------------------------------------------------------------------
C
3000  FORMAT(" VACUUM PUMP REFERENCE NUMBER                    _")
3010  FORMAT(" TYPE                          ****************",8A2,"_")
3020  FORMAT(" NO OF CYLINDERS                          ********",4A2,"_")
3030  FORMAT(" BORE                                            _")
3040  FORMAT(" LENGTH OF STROKE                                _")
3050  FORMAT(" DISPLACEMENT                                    _")
3060  FORMAT(" ROTARY,SINGLE OR DOUBLE ACTING ********",4A2,"_")
3070  FORMAT(" REV/MIN OR STROKES/MIN                          _")
3080  FORMAT(" DRIVE KW                                        _")
3090  FORMAT(" CONNECTED TO WHAT VESSEL? ",18("**"),18A2, "_")
C
C
C------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN22 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
```

```
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN22 STOP ++"////)
C
C
      END
      END$
```

```
FTN
      PROGRAM PDN23
C
C
C       +++   WRITTEN - GDD -  1 SEP 1980   ++++
C       +++    LAST MODIFIED  1 SEP 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== CRYST ====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(10)
     $         ,IDSET(3),IVALU(29)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
C
C   BACKSPACE
C
      DATA IBAK/04010B/
C
C  VARIABLE LIST
      DATA LIST/9,1,3,35,36,37,38,39,40,41/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'CRYST'
      DATA IDSET/2HCR,2HYS,2HT /
C
C***********************************************************************
C
C
C
C***********************************************************************
C
C
C                    OPEN  DATA-BASE
C                    ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDN23 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
  100 DO 101 I=1,29
  101 IVALU(I) = 0
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     CRYSTALLIZER DATA
C
  120 IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                             _")
      READ(1,*) IVALU(2)
C
      WRITE(1,3000) (IBAK,K=3,12)
      READ(1,4000)(IVALU(K),K=3,12)
 4000 FORMAT(20A2)
C
      WRITE(1,3010) (IBAK,K=13,14)
      READ(1,4000) IVALU(13),IVALU(14)
C
      WRITE(1,3020)
      READ(1,*) IVALU(15)
C
C
      WRITE(1,3030)
```

```
      READ(1,*) IVALU(16)
C
      WRITE(1,3040) (IBAK,K=17,23)
      READ(1,4000) (IVALU(K),K=17,23)
C
      WRITE(1,3050)
      READ(1,*) IVALU(24)
C
      WRITE(1,3060) (IBAK,K=25,29)
      READ(1,4000) (IVALU(K),K=25,29)
C
C ---------------------------------------------------------------------
C
3000  FORMAT(" CRYSTALLIZER TYPE   ********************",10A2,"_")
3010  FORMAT(" GRADE OF MASSECUITE                  ****",2A2,"_")
3020  FORMAT(" NUMBER IN GROUP                            _")
3030  FORMAT(" TOTAL VOLUME                               _")
3040  FORMAT(" ROTATING OR RECIPROCATING **************",7A2,"_")
3050  FORMAT(" TOTAL AREA FOR EACH GROUP                  _")
3060  FORMAT(" BATCH OR CONTINUOUS                **********",5A2,"_")
C
C---------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN23 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
```

```
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN23 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN24
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -   2 SEP 1980   ++++
 6  C       +++    LAST MODIFIED   2 SEP 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== HGFUG ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(12)
15       $          ,IDSET(3),IVALU(17)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
19  C
20  C   BACKSPACE
21  C
22        DATA IBAK/04010B/
23  C
24  C  VARIABLE LIST
25        DATA LIST/11,1,3,42,43,44,45,46,47,48,49,50/
26  C          LEVEL
27        DATA ILEVL/2H  ,2H  ,2H  /
28  C          DATA SET NAME - 'HGFUG'
29        DATA IDSET/2HHG,2HFU,2HG /
30  C
31  C*********************************************************************
32  C
33  C
34  C
35  C*********************************************************************
36  C
37  C
38  C                  OPEN  DATA-BASE
39  C                  ---------------
40  C
41  C
42  C.  OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
43  C
44        IMODE=3
45        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
46  C
47  C   TEST FOR ERROR ON OPEN
48  C
49        IF( ISTAT(1).EQ.0 ) GOTO 100
50  C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDN24 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 I=1,17
 101  IVALU(I) = 0
C
      WRITE(1,1099)
 1099 FORMAT(//" HIGH GRADE FUGAL DATA"/
     =       " ---------------------")
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C---------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     HIGH GRADE FUGAL DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(2)
C
C
C
      WRITE(1,3000) (IBAK,K=3,8)
      READ(1,4000) (IVALU(K),K=3,8)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
      READ(1,*) IVALU(9)
```

```
C
      WRITE(1,3020) (IBAK,K=10,11)
      READ(1,4000) (IVALU(K),K=10,11)
C
      WRITE(1,3030)
      READ(1,*) IVALU(12)
C
      WRITE(1,3040)
      READ(1,*) IVALU(13)
C
      WRITE(1,3050)
      READ(1,*) IVALU(15)
C
      WRITE(1,3060)
      READ(1,*) DUM
      IVALU(15) = INT (10.*DUM)
C
      WRITE(1,3070) IBAK
      READ(1,4000) IVALU(16)
C
      WRITE(1,3080)
      READ(1,*) IVALU(17)
C
C
C ----------------------------------------------------------------
C
3000  FORMAT(" FUGAL TYPE                    ************",6A2,"_")
3010  FORMAT(" NUMBER IN GROUP                                 _")
3020  FORMAT(" GRADE OF MASSECUITE TREATED       ****",2A2,"_")
3030  FORMAT(" RPM                                             _")
3040  FORMAT(" DIAMETER                                        _")
3050  FORMAT(" DEPTH                                           _")
3060  FORMAT(" TOTAL SCREEN AREA                               _")
3070  FORMAT(" TRANSMISSION A.C OR D.C DRIVE              **",A2,"_")
3080  FORMAT(" KW FOR THE GROUP                                _")
C
C
C----------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
```

```
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN24 ++ ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ----------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN24 STOP ++"////)
C
C
      END
      END$
```

```
FTN
      PROGRAM PDN25
C
C
C       +++   WRITTEN - GDD -  2 SEP 1980   ++++
C       +++  MODIFIED - GDD -  2 SEP 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== LGFUG ====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(15)
     $         ,IDSET(3),IVALU(26)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
C
C   BACKSPACE
C
      DATA IBAK/04010B/
C
C  VARIABLE LIST
      DATA LIST/14,1,3,51,52,53,54,55,56,57,58,59,60,61,62/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'LGFUG'
      DATA IDSET/2HLG,2HFU,2HG /
C
C***********************************************************************
C
C
C
C***********************************************************************
C
C
C                  OPEN  DATA-BASE
C                  ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDN25 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C***********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
  100 DO 101 I=1,26
  101 IVALU(I) = 0
C
      WRITE(1,1099)
 1099 FORMAT(//" LOW  GRADE FUGAL DATA"/
     =       " ---------------------")
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-----------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     HIGH GRADE FUGAL DATA
C
  120 IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                            _")
      READ(1,*) IVALU(2)
C
C
C
      WRITE(1,3000) (IBAK,K=3,10)
      READ(1,4000) (IVALU(K),K=3,10)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)(IBAK,K=11,16)
      READ(1,4000) (IVALU(K),K=11,16)
```

```
C
      WRITE(1,3020)
      READ(1,*)  IVALU(17)
C
      WRITE(1,3030)
      READ(1,*) IVALU(18)
C
      WRITE(1,3040)
      READ(1,*) IVALU(19)
C
      WRITE(1,3050)
      READ(1,*) IVALU(20)
C
      WRITE(1,3060)
      READ(1,*) IVALU(21)
C
      WRITE(1,3070)
      READ(1,*) IVALU(22)
C
      WRITE(1,3080)
      READ(1,*) IVALU(23)
C
      WRITE(1,3090)
      READ(1,*) DUM
      IVALU(24) = INT(10*DUM)
C
      WRITE(1,3100)
      READ(1,*) DUM
      IVALU(25) = INT(10*DUM)
C
      WRITE(1,3110)
      READ(1,*) IVALU(26)
C
C ------------------------------------------------------------------
C
3000  FORMAT("  FUGAL TYPE              ****************",8A2,"_")
3010  FORMAT("  BATCH OR CONTINUOUS        *************",6A2,"_")
3020  FORMAT("  NUMBER IN GROUP                         _")
3030  FORMAT("  RPM                                      _")
3040  FORMAT("  DIAMETER                                 _")
3050  FORMAT("  DEPTH                                    _")
3060  FORMAT("  MAX DIA BASKET                           _")
3070  FORMAT("  MIN DIA BASKET                           _")
3080  FORMAT("  BASKET ANGLE                             _")
3090  FORMAT("  VERTICAL SCREEN AREA                     _")
3100  FORMAT("  INCLINED SCREEN AREA                     _")
3110  FORMAT("  kW FOR THE GROUP                         _")
C
C
C------------------------------------------------------------------
```

```
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN25 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*************************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN25 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN26
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -  2 SEP 1980   ++++
 6  C       +++  MODIFIED - GDD -  2 SEP 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== DRYER =====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(14)
15       $          ,IDSET(3),IVALU(23)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
19  C
20  C   BACKSPACE
21  C
22        DATA IBAK/04010B/
23  C
24  C  VARIABLE LIST
25        DATA LIST/13,1,3,63,64,65,66,67,68,69,70,71,72,73/
26  C          LEVEL
27        DATA ILEVL/2H ,2H  ,2H  /
28  C          DATA SET NAME - 'DRYER'
29        DATA IDSET/2HDR,2HYE,2HR /
30  C
31  C*********************************************************************
32  C
33  C
34  C
35  C*********************************************************************
36  C
37  C
38  C                 OPEN  DATA-BASE
39  C                 ---------------
40  C
41  C
42  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
43  C
44         IMODE=3
45         CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
46  C
47  C   TEST FOR ERROR ON OPEN
48  C
49         IF( ISTAT(1).EQ.0 ) GOTO 100
50  C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDN26 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C***********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 I=1,23
 101  IVALU(I) = 0
C
      WRITE(1,1099)
 1099 FORMAT(//" DRYER DATA"/
     =          " ----------")
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-----------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     HIGH GRADE FUGAL DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(2)
C
C
C
      WRITE(1,3000) (IBAK,K=3,10)
      READ(1,4000) (IVALU(K),K=3,10)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
      READ(1,*) IVALU(11)
```

```
C
      WRITE(1,3020)
      READ(1,*)  IVALU(12)
C
      WRITE(1,3030)
      READ(1,*) DUM
      IVALU(13) = INT (10*DUM)
C
      WRITE(1,3040)
      READ(1,*) IVALU(14)
C
      WRITE(1,3050) (IBAK,K=1,2)
      READ(1,4000) IVALU(15),IVALU(16)
C
      WRITE(1,3060) (IBAK,K=1,2)
      READ(1,4000) IVALU(17),IVALU(18)
C
      WRITE(1,3070) (IBAK,K=1,2)
      READ(1,4000) IVALU(19),IVALU(20)
C
      WRITE(1,3080)
      READ(1,*) IVALU(21)
C
      WRITE(1,3090)
      READ(1,*) IVALU(22)
C
      WRITE(1,3100)
      READ(1,*) IVALU(23)
C ------------------------------------------------------------------
C
3000  FORMAT("  DRYER TYPE            ****************",8A2,"_")
3010  FORMAT("  DRUM LENGTH                          _")
3020  FORMAT("  DRUM DIAMETER                        _")
3030  FORMAT("  RPM                                  _")
3040  FORMAT("  kW                                   _")
3050  FORMAT("  IS FAN INSTALLED                 ****",2A2,"_")
3060  FORMAT("  IS AIR HEATER INSTALLED          ****",2A2,"_")
3070  FORMAT("  IS AIR CONDIT INSTALLED          ****",2A2,"_")
3080  FORMAT(" SUGAR STORAGE - NO OF BINS             _")
3090  FORMAT(" CAPACITY OF EACH BIN                   _")
3100  FORMAT("  TOTAL MILL STORAGE CAPACITY           _")
C
C
C-----------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
```

```
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN26 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN26 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN27
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -  2 SEP 1980   ++++
 6  C       +++  MODIFIED - GDD -  2 SEP 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== BOILER ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(23)
15       $          ,IDSET(3),IVALU(53)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
19  C
20  C   BACKSPACE
21  C
22        DATA IBAK/04010B/
23  C
24  C  VARIABLE LIST
25        DATA LIST/22,1,3,74,75,76,77,78,79,80,81,82,83,84,85
26       =                        ,86,87,88,89,90,91,92,93/
27  C          LEVEL
28        DATA ILEVL/2H  ,2H  ,2H  /
29  C          DATA SET NAME - 'BOILER'
30        DATA IDSET/2HBO,2HIL,2HER/
31  C
32  C*********************************************************************
33  C
34  C
35  C
36  C*********************************************************************
37  C
38  C
39  C                 OPEN  DATA-BASE
40  C                 ---------------
41  C
42  C
43  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
44  C
45        IMODE=3
46        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
47  C
48  C   TEST FOR ERROR ON OPEN
49  C
50        IF( ISTAT(1).EQ.0 ) GOTO 100
```

```
C   ERROR
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDN27 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 I=1,53
 101  IVALU(I) = 0
C
      WRITE(1,1099)
 1099 FORMAT(//" BOILER DATA"/
     =          " -----------")
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     BOILER DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(2)
C
C
C
      WRITE(1,3000) (IBAK,K=3,10)
      READ(1,4000) (IVALU(K),K=3,10)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
```

```
      READ(1,*) IVALU(11)
C
      WRITE(1,3020)
      READ(1,*)  IVALU(12)
C
      WRITE(1,3030)
      READ(1,*) DUM
      IVALU(13)=INT ((DUM+5)/10)
C
      WRITE(1,3040)
      READ(1,*) IVALU(14)
C
      WRITE(1,3050)
      READ(1,*) IVALU(15)
C
      WRITE(1,3060)
      READ(1,*) IVALU(16)
C
      WRITE(1,3070)
      READ(1,*) IVALU(17)
C
      WRITE(1,3080)
      READ(1,*) IVALU(18)
C
      WRITE(1,3090)
      READ(1,*) IVALU(19)
C
      WRITE(1,3100) (IBAK,K=20,31)
      READ(1,4000) (IVALU(K),K=20,31)
C
      WRITE(1,3110)
      READ(1,*) IVALU(32)
C
      WRITE(1,3120) IBAK,IBAK
      READ(1,4000) (IVALU(K),K=33,34)
C
      WRITE(1,3130) IBAK,IBAK
      READ(1,4000) IVALU(35),IVALU(36)
C
      WRITE(1,3145) IBAK,IBAK,IBAK
 3145 FORMAT("  SPREADER OR STOKER   ******",3A2,"_")
      READ(1,4000) IRUBB
C
      WRITE(1,3140) IBAK,IBAK
      READ(1,4000) IVALU(37),IVALU(38)
C
      WRITE(1,3150) IBAK,IBAK
      READ(1,4000) IVALU(39),IVALU(40)
C
      IVALU(41)=2H
```

```
      IVALU(42)=2H
C
      WRITE(1,3160) (IBAK,K=43,51)
      READ(1,4000) (IVALU(K),K=43,51)
C
      WRITE(1,3170)
      READ(1,*) IVALU(52)
C
      WRITE(1,3180)
      READ(1,*) DUM
      IVALU(53) = INT(10*DUM)
C
C ----------------------------------------------------------------
C
3000  FORMAT("  TYPE OR MAKER          ****************",8A2,"_")
3010  FORMAT("  NO OF SIMLIAR UNITS IN GROUP          _")
3020  FORMAT("  ALLOWABLE WORKING PRESSURE            _")
3030  FORMAT("  M.C.R                                  _")
3040  FORMAT("  NOMINAL SUPERHEAT                      _")
3050  FORMAT("  BOILER BANK AREA                       _")
3060  FORMAT("  FURNACE WATER WALLS                    _")
3070  FORMAT("  SUPERHEATER AREA                       _")
3080  FORMAT("  AIR HEATER AREA                        _")
3090  FORMAT("  ECONOMISER AREA                        _")
3100  FORMAT("  TYPE OF GRATE ************************",12A2,"_")
3110  FORMAT("  GRATE AREA PER UNIT                     _")
3120  FORMAT("  WATER WALLS                       ****",2A2"_")
3130  FORMAT("  DUMPING OR MOVING GRATE           ****",2A2"_")
3140  FORMAT("  OIL BURNERS                       ****",2A2"_")
3150  FORMAT("  FORCED DRAUGHT                    ****",2A2"_")
3160  FORMAT("  SOOT ARRESTORS TYPE ******************",9A2"_")
3170  FORMAT("  STACK DIAMETER                        _")
3180  FORMAT("  STACK HEIGHT                           _")
C
C
C----------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN27 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
```

```
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C***********************************************************************
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN27 STOP ++"////)
C
C
      END
      END$
```

```
FTN
      PROGRAM PDN28
C
C
C       +++  WRITTEN - GDD -  2 SEP 1980   ++++
C       +++  MODIFIED - GDD -  2 SEP 1980   ++++
C
C  PLANT DATA DATA ENTRY PROGRAMME
C
C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
C    =============== BINS ====================
C
C
      DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(10)
     $         ,IDSET(3),IVALU(25)
C
C          DATA-BASE
      DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
C
C   BACKSPACE
C
      DATA IBAK/04010B/
C
C  VARIABLE LIST
      DATA LIST/ 9,1,3,94,95,96,97,98,99,100/
C          LEVEL
      DATA ILEVL/2H  ,2H  ,2H  /
C          DATA SET NAME - 'BINS'
      DATA IDSET/2HBI,2HNS,2H  /
C
C*********************************************************************
C
C
C
C*********************************************************************
C
C
C                 OPEN  DATA-BASE
C                 ---------------
C
C
C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
C
      IMODE=3
      CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
C
C   TEST FOR ERROR ON OPEN
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C   ERROR
```

```
      WRITE(1,1000) ISTAT(1)
 1000 FORMAT(//"++ PDN28 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C***********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
  100 DO 101 I=1,25
  101 IVALU(I)= 0
C
      WRITE(1,1099)
 1099 FORMAT(//" BAGASSE STORAGE"/
     =          " ---------------")
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-----------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     BINS DATA
C
  120 IVALU(1)=IFACT
C
C
      WRITE(1,1150)
 1150 FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(2)
C
C
C
      WRITE(1,3000) (IBAK,K=3,8)
      READ(1,4000) (IVALU(K),K=3,8)
 4000 FORMAT(20A2)
C
      WRITE(1,3010)
      READ(1,*) IVALU(9)
```

```
C
      WRITE(1,3020) (IBAK,K=10,13)
      READ(1,4000) (IVALU(K),K=10,13)
C
      WRITE(1,3030)  (IBAK,K=14,22)
      READ(1,4000) (IVALU(K),K=14,22)
C
      WRITE(1,3040)
      READ(1,*) IVALU(23)
C
      WRITE(1,3050)
      READ(1,*) IVALU(24)
C
      WRITE(1,3060)
      READ(1,*) IVALU(25)
C
C
C ---------------------------------------------------------------------
C
3000  FORMAT("  BAGASSE BIN TYPE          ************",6A2,"_")
3010  FORMAT("  TONNES                                  _")
3020  FORMAT("  POSITIONIN CIRCUIT           ********",4A2,"_")
3030  FORMAT("  COOLING TOWER MAKE ******************",9A2,"_")
3040  FORMAT("  NUMBER OF CELLS                         _")
3050  FORMAT("  WATER CAPACITY                          _")
3060  FORMAT("  FAN POWER                               _")
C
C
C---------------------------------------------------------------------
C
C   PUT DATA IN DATA-BASE
C
      IMODE=1
      CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
C
C   TEST FOR ERROR IN PUT
C
      IF( ISTAT(1).EQ.0 ) GOTO 100
C
C   ERROR
C
      WRITE(1,1600) ISTAT(1),IDSET
1600  FORMAT(//"++ PDN28 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
C
C   GET NEXT ENTRY
C
      GOTO 100
C
C
C*********************************************************************
```

```
C
C
C           TERMINATE
C           ---------
C
C
 9999 CALL DBUNL (ISTAT)
      IMODE=0
C
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
 1700 FORMAT(////"++ PDN28 STOP ++"////)
C
C
      END
      END$
```

```
 1  FTN
 2        PROGRAM PDN29
 3  C
 4  C
 5  C       +++   WRITTEN - GDD -  2 SEP 1980   ++++
 6  C       +++  MODIFIED - GDD -  2 SEP 1980   ++++
 7  C
 8  C  PLANT DATA DATA ENTRY PROGRAMME
 9  C
10  C    PROGRAM FOR ENTERING DATA IN DETAIL DATA SET
11  C    =============== ELECT ====================
12  C
13  C
14        DIMENSION IBASE(7),ILEVL(3),ISTAT(10),LIST(20)
15       $          ,IDSET(3),IVALU(31)
16  C
17  C          DATA-BASE
18        DATA IBASE/2H  ,2HPL,2HAN,2HT2,2H:G,2HD:,2H9 /
19  C
20  C   BACKSPACE
21  C
22        DATA IBAK/04010B/
23  C
24  C  VARIABLE LIST
25        DATA LIST/19,1,3,101,102,103,104,105,106,107,108,109,
26       =                  110,111,112,113,114,115,116,117/
27  C          LEVEL
28        DATA ILEVL/2H  ,2H  ,2H  /
29  C          DATA SET NAME - 'ELECT'
30        DATA IDSET/2HEL,2HEC,2HT /
31  C
32  C*********************************************************************
33  C
34  C
35  C
36  C*********************************************************************
37  C
38  C
39  C                 OPEN  DATA-BASE
40  C                 ---------------
41  C
42  C
43  C   OPEN DATA-BASE   (EXCLUSIVE READ/WRITE)
44  C
45        IMODE=3
46        CALL DBOPN( IBASE,ILEVL,IMODE,ISTAT )
47  C
48  C   TEST FOR ERROR ON OPEN
49  C
50        IF( ISTAT(1).EQ.0 ) GOTO 100
```

```
C   ERROR
      WRITE(1,1000) ISTAT(1)
1000  FORMAT(//"++ PDN29 ++  ERROR",I5," ON DATA-BASE OPEN")
      GOTO 9999
C
C
C*********************************************************************
C
C
C                ENTRY  MODE
C                -----------
C
C   GET FACTORY NUMBER
C
 100  DO 101 I=1,31
 101  IVALU(I) = 0
C
      WRITE(1,1099)
 1099 FORMAT(//" ELECTRIC POWER "/
     =          " --------------")
C
      WRITE(1,1100)
 1100 FORMAT(//"FACTORY NUMBER?                    _")
      IFACT=0
      READ(1,*) IFACT
C
C  TEST FOR END OF ENTRY MODE
C
      IF( IFACT.EQ.0 ) GOTO 9999
C
C-------------------------------------------------------------------
C
C     GET DATA FOR DETAIL DATA SET
C
C     ELECTRICAL DATA
C
 120  IVALU(1)=IFACT
C
C
      WRITE(1,1150)
1150  FORMAT(" ENTRY #                          _")
      READ(1,*) IVALU(2)
C
C
C
      WRITE(1,3000)
      READ(1,*) IVALU(3)
C
      WRITE(1,3010)
      READ(1,*) IVALU(4)
```

```
C
      WRITE(1,3020)
      READ(1,*) IVALU(5)
C
      WRITE(1,3030)
      READ(1,*) IVALU(5)
C
      WRITE(1,3040)
      READ(1,*) IVALU(7)
C
      WRITE(1,3050)
      READ(1,*) IVALU(8)
C
      WRITE(1,3060)
      READ(1,*) IVALU(9)
C
      WRITE(1,3070)
      READ(1,*) IVALU(10)
C
      WRITE(1,3080) (IBAK,K=11,17)
      READ(1,4000) (IVALU(K),K=11,17)
 4000 FORMAT(20A2)
C
      WRITE(1,3090)
      READ(1,*) IVALU(18)
C
      WRITE(1,3100)
      READ(1,*) IVALU(19)
C
      WRITE(1,3110)
      READ(1,*) IVALU(20)
C
      WRITE(1,3120)  (IBAK,K=21,27)
      READ(1,4000) (IVALU(K),K=21,27)
C
      WRITE(1,3130)
      READ(1,*) IVALU(28)
C
      WRITE(1,3140)
      READ(1,*) IVALU(29)
C
      WRITE(1,3150)
      READ(1,*) IVALU(30)
C
      WRITE(1,3160)
      READ(1,*) IVALU(31)
C
C ------------------------------------------------------------------
C
3000  FORMAT("  TOTAL RATING OF SETS                    ")
```

```
151  3010  FORMAT("  TOTAL RATING OF INT COMB SETS        _")
152  3020  FORMAT("  TOTAL NAMEPLATE RATING OF MOTORS     _")
153  3030  FORMAT("  MAXIMUM LOAD ON FACTORY GEN PLANT    _")
154  3040  FORMAT("  MAXIMUM POWER DEMAND                 _")
155  3050  FORMAT("  MAX POWER DEMAND OF IRRIGATION       _")
156  3060  FORMAT("  ARE YOU EXPORTING                    _")
157  3070  FORMAT("  MAXIMUM SURPLUS EXPORTED             _")
158  3080  FORMAT(//" DETAILS OF GENERATING PLANT "/
159       =        "  MAKER OF PRIME MOVER  **************",7A2,"_")
160  3090  FORMAT("  NUMBER IN GROUP                      _")
161  3100  FORMAT("  RATING PER UNIT                      _")
162  3110  FORMAT("  VOLTS                                _")
163  3120  FORMAT("  PRIME MOVER          **************",7A2,"_")
164  3130  FORMAT("  SPEED OF PRIME MOVER                 _")
165  3140  FORMAT("  kPa BEFORE STOP VALVE                _")
166  3150  FORMAT("  S.H. C BEFORE STOP VALVE             _")
167  3160  FORMAT("  EXHAUST kPa                          _")
168  C
169  C
170  C-----------------------------------------------------------------------
171  C
172  C   PUT DATA IN DATA-BASE
173  C
174         IMODE=1
175         CALL DBPUT( IBASE,IDSET,IMODE,ISTAT,LIST,IVALU)
176  C
177  C   TEST FOR ERROR IN PUT
178  C
179         IF( ISTAT(1).EQ.0 ) GOTO 100
180  C
181  C   ERROR
182  C
183         WRITE(1,1600) ISTAT(1),IDSET
184  1600   FORMAT(//"++ PDN29 ++  ERROR",I5," ON PUT IN SET '",3A2,"'")
185  C
186  C   GET NEXT ENTRY
187  C
188         GOTO 100
189  C
190  C
191  C***********************************************************************
192  C
193  C
194  C            TERMINATE
195  C            ---------
196  C
197  C
198   9999 CALL DBUNL (ISTAT)
199         IMODE=0
200  C
```

```
C   CLOSE DATA-BASE
C
      IMODE=1
      CALL DBCLS( IBASE,IDSET,IMODE,ISTAT )
C
      WRITE(1,1700)
1700  FORMAT(////"++ PDN29 STOP ++"////)
C
C
      END
      END$
```

APPENDIX E: REPORTING PROCEDURES.

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"TRANSPORT FLEET",33;
 4  H2,"FACTORY",18;
 5  H2,"LOCOMOTIVES",55;
 6  H2,"CANE TRUCKS",93;
 7  H2,"FACTORY",125;
 8  H3,"NO",15;
 9  H3,"NO OF",24;
10  H3,"TYPE",31;
11  H3,"ENGINE",42;
12  H3,"POWER",50;
13  H3,"MASS",58;
14  H3,"GAUGE",65;
15  H3,"CONSTRUCTION",85;
16  H3,"NUMBER",97;
17  H3,"CAPACITY",107;
18  H3,"GAUGE",115;
19  H3,"NO",122;
20  H4,"UNITS",24;
21  H4,"kW",48;
22  H4,"tonne",59;
23  H4,"mm",64;
24  H4,"tonne",105;
25  H4,"mm",113,SPACE A1;
26  E1,"ZZZZZZ";
27  E2,"ZZZZZ.Z";
28  E3,"ZZZZ9";
29  S1,ENTRY#;
30  S2,FACT#;
31  G2," ",10,SPACE B1;
32  D,FACT#,15,E3;
33  D,LOCOS,22,E1;
34  D,TYPE,33;
35  D,ENG ,44;
36  D,POWER,50,E1;
37  D,MASS ,58,E2;
38  D,GAUGE,64,E1;
39  D,TRUCK,90;
40  D,TRUCK#,96,E1;
41  D,CAPAC,104,E2;
42  D,TGAUGE,114,E1;
43  D,FACT#,122,E1;
44  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"CROP DELIVERY",40;
 4  H2,"FACTORY",46;
 5  H2,"TRAMLINE",58;
 6  H2,"CROP DELIVERY, %",86;
 7  H2,"FACTORY",103;
 8  H3,"NO",43;
 9  H3,"LENGTH",54;
10  H3,"GAUGE",60;
11  H3,"PRIVATE",70;
12  H3,"GOVT.",79;
13  H3,"ROAD",89;
14  H3,"NO",100;
15  H4,"km",52;
16  H4,"mm",58;
17  H4,"TRAM",68;
18  H4,"RAILWAY",80;
19  H4,"TRANSPORT",91,SPACE A2;
20  E1,"ZZZZZZ";
21  E2,"ZZZZZ.Z";
22  E3,"ZZZZ9";
23  S1,ENTRY#;
24  S2,FACT#;
25  D,FACT#,43,E3;
26  D,TRAML,52,E1;
27  D,GAUGEL,59,E1;
28  D,CROPP,68,E2;
29  D,CROPG,79,E2;
30  D,CROPR,89,E2;
31  D,FACT#,100,E1;
32  END;
```

```
 1  REPORT;
 2  H1, "$$", 2;
 3  H1, "CARRIERS", 29;
 4  H2, "FACTORY", 24;
 5  H2, "POSITION", 35;
 6  H2, "TYPE", 51;
 7  H2, "LENGTH", 81;
 8  H2, "WIDTH", 89;
 9  H2, "MAXIMUM", 98;
10  H2, "AV. ", 104;
11  H2, "FACTORY", 116;
12  H3, "NO", 21;
13  H4, "metre", 81;
14  H4, "mm", 88;
15  H3, "INCLIN", 97;
16  H4, "deg", 96;
17  H3, "SPEED", 105;
18  H3, "NO", 113;
19  H4, "mm/s", 104, SPACE A1;
20  E1, "ZZZZZZ";
21  E2, "ZZZZZ.Z";
22  E3, "ZZZZ9";
23  S1, ENTRY#;
24  S2, TRAIN#;
25  S3, FACT#;
26  G2, " ", 10, SPACE B1;
27  D, FACT#, 21, E3;
28  D, CPOS, 41;
29  D, CTYPE, 74;
30  D, CLEN, 81, E2;
31  D, CWID, 86, E1;
32  D, CINCL, 95, E1;
33  D, CSPD, 104, E1;
34  D, FACT#, 113, E1;
35  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"CARRIERS - Continued",35;
 4  H2,"FACTORY",27;
 5  H2,"TYPE OF",39;
 6  H2,"POWER",52;
 7  H2,"CANE FED BY",65;
 8  H2,"REMARKS",88;
 9  H2,"FACTORY",116;
10  H3,"NO",24;
11  H3,"DRIVE",38;
12  H3,"kW",5Ø;
13  H3,"NO",113,SPACE A1;
14  E1,"ZZZZZZ";
15  E2,"ZZZZ9";
16  S1,ENTRY#;
17  S2,TRAIN#;
18  S3,FACT#;
19  G2," ",1Ø,SPACE B1;
2Ø  D,FACT#,23,E2;
21  D,CDVE,44;
22  D,CPWR ,5Ø,E1;
23  D,CFEED,7Ø;
24  D,CREM,1Ø3;
25  D,FACT#,113,E1;
26  END;
```

```
REPORT;
H1,"PREPARATION EQUIPMENT",37;
H2,"FACTORY",13;
H2,"LEVELLER",39;
H2,"FIRST KNIVES",95;
H2,"FACTORY",129;
H3,"NO",10;
H3,"TYPE",19;
H3,"NO OF",29;
H3,"CLEAR",36;
H3,"SPEED",42;
H3,"DRIVE",51;
H3,"POWER",62;
H3,"TYPE",74;
H3,"NO OF",86;
H3,"CLEAR",93;
H3,"SPEED",99;
H3,"DRIVE",107;
H3,"POWER",119;
H3,"NO",126;
H4,"BLADES",30;
H4,"mm",35;
H4,"rpm",41;
H4,"kW",61;
H4,"BLADES",87;
H4,"mm",92;
H4,"rpm",98;
H4,"kW",117,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZ.Z";
E3,"ZZZZ9";
S1,TRAIN#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,10,E3;
D,LTYPE,23;
D,LBL#,28,E1;
D,LCLR,34,E1;
D,LSPD,39,E1;
D,LDVE,55;
D,LPWR,61,E2;
D,KTYPE,80;
D,KBL#,86,E1;
D,KCLR,92,E1;
D,KSPD,98,E1;
D,KDVE,111;
D,KPWR,118,E2;
D,FACT#,126,E1;
END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"PREPARATION EQUIPMENT - Continued",43;
 4  H2,"FACTORY",8;
 5  H2,"SECOND KNIVES SET",46;
 6  H2,"SHREDDER",96;
 7  H3,"NO",5;
 8  H3,"TYPE",14;
 9  H3,"NO OF",24;
10  H3,"CLEAR",31;
11  H3,"SPEED",37;
12  H3,"DRIVE",46;
13  H3,"POWER",58;
14  H3,"TYPE",67;
15  H3,"DIA",76;
16  H3,"LENGTH",85;
17  H3,"CLEAR",91;
18  H3,"SPEED",97;
19  H3,"HAMMERS",110;
20  H3,"DRIVE",120;
21  H3,"POWER",131;
22  H4,"NUMBER",105;
23  H4,"MASS,kG",113;
24  H4,"BLADES",25;
25  H4,"mm",30;
26  H4,"rpm",36;
27  H4,"kW",56;
28  H4,"mm",76;
29  H4,"mm",83;
30  H4,"mm",90;
31  H4,"rpm",96;
32  H4,"kW",129,SPACE A1;
33  E1,"ZZZZZZ";
34  E2,"ZZZZZ.Z";
35  E3,"ZZZZ9";
36  S1,ENTRY#;
37  S2,TRAIN#;
38  S3,FACT#;
39  D,FACT#,5,E3;
40  D,K2TYPE,18;
41  D,K2BL#,23,E1;
42  D,K2CLR,29,E1;
43  D,K2SPD,35,E1;
44  D,K2DVE,50;
45  D,K2PWR,56,E1;
46  D,STYPE,72;
47  D,SDIA,77,E1;
48  D,SLEN,84,E1;
49  D,SCLEAR,90,E1;
50  D,SSPD,96,E1;
```

```
51  D,SHAM#,103,E1;
52  D,SMASS,110,E2;
53  D,SDVE,123;
54  D,SPWR,130,E1;
55  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"No. # MILL",32;
 4  H2,"FACTORY",8;
 5  H2,"NOMINAL",17;
 6  H2,"DIA",24;
 7  H2,"PER'L",31;
 8  H2,"ORDINARY GROOVES",78;
 9  H2,"JUICE GROOVES",117;
10  H3," NO",5;
11  H3,"DIA",12;
12  H3,"LEN",18;
13  H3,"TOP",24;
14  H3,"SPEED",31;
15  H3,"TOP",42;
16  H3,"FEED",63;
17  H3,"FEED",105;
18  H3,"DELIVERY",85;
19  H3,"DELIVERY",123;
20  H4,"PITCH DEPTH ANGLE",50;
21  H4,"PITCH DEPTH ANGLE",71;
22  H4,"PITCH DEPTH ANGLE",90;
23  H4,"PITCH DEPTH WIDTH",110;
24  H4,"PITCH DEPTH WIDTH",130;
25  H5," mm     mm      mm  mm/e",30;
26  H5," mm     mm     deg",49;
27  H5," mm     mm     deg",70;
28  H5," mm     mm     deg",89;
29  H5," mm     mm     mm",108;
30  H5," mm     mm     mm",128,SPACE A1;
31  E1,"ZZZZZZ";
32  E2,"ZZZZZ.Z";
33  E3,"ZZZZ9";
34  S1,MILL#;
35  S2,TRAIN#;
36  S3,FACT#;
37  D,FACT#,5,E3;
38  D,MDIA  ,12,E1;
39  D,MLEN  ,18,E1;
40  D,MTDIA,24,E1;
41  D,MSPD  ,30,E1;
42  D,MOTP  ,36,E1;
43  D,MOTD  ,42,E1;
44  D,MOTA  ,48,E1;
45  D,MOFP  ,57,E1;
46  D,MOFD  ,63,E1;
47  D,MOFA  ,69,E1;
48  D,MODP  ,76,E1;
49  D,MODD  ,82,E1;
50  D,MODA  ,88,E1;
```

```
51  D,MJFP  ,96,E1;
52  D,MJFD  ,102,E1;
53  D,MJFW  ,109,E2;
54  D,MJDP  ,116,E1;
55  D,MJDD  ,122,E1;
56  D,MJDW  ,129,E2;
57  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"No. # MILL",32;
 4  H2,"FACTORY",14;
 5  H2,"NOMINAL",23;
 6  H2,"SET",35;
 7  H2,"WORK",52;
 8  H2,"TRASH",67;
 9  H2,"HYDRAULIC ROLL",92;
10  H2,"FIBRE",106;
11  H2,"DRIVE",118;
12  H2,"FACTORY",129;
13  H3,"NO",11;
14  H4,"DIA",18;
15  H4,"LEN",24;
16  H3,"OPENINGS",38;
17  H3,"OPENINGS",54;
18  H3,"PLATE",67;
19  H4,"ROLL",78;
20  H4,"LOAD",83;
21  H3,"WO",90;
22  H3,"MAX",97;
23  H3,"RATE",105;
24  H3,"SPEED",113;
25  H3,"POWER",121;
26  H3,"NO",126;
27  H4,"FEED",33;
28  H4,"DEL",39;
29  H4,"FEED",49;
30  H4,"DEL",55;
31  H4,"TOE",63;
32  H4,"HEEL",69;
33  H4,"INCR",91;
34  H4,"INCR",97;
35  H5,"mm",17;
36  H5,"mm",24;
37  H5,"mm",33;
38  H5,"mm",38;
39  H5,"mm",48;
40  H5,"mm",54;
41  H5,"mm",63;
42  H5,"mm",68;
43  H5,"kN",82;
44  H5,"mm",90;
45  H5,"mm",96;
46  H5,"t/h",105;
47  H5,"rpm",112;
48  H5,"kW",120,SPACE A1;
49  E1,"ZZZZZZ";
50  E2,"ZZZZZ.Z";
```

```
51  E3,"ZZZZZZ-";
52  E4,"ZZZZ9";
53  S1,MILL#;
54  S2,TRAIN#;
55  S3,FACT#;
56  D,FACT# ,11,E4;
57  D,MDIA ,18,E1;
58  D,MLEN,24,E1;
59  D,MSOF  ,32,E3;
60  D,MSOD  ,39,E3;
61  D,MWOF  ,48,E2;
62  D,MWOD  ,54,E1;
63  D,MTPT  ,63,E1;
64  D,MTPH  ,69,E1;
65  D,MHR   ,78;
66  D,MHRL  ,83,E1;
67  D,MARL  ,90,E1;
68  D,MHRMX ,97,E1;
69  D,MFRATE,105,E2;
70  D,MTSPD ,112,E1;
71  D,MTPWR ,120,E1;
72  D,FACT#,126,E4;
73  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"No. # MILL FEEDING DEVICES",38;
 4  H2,"FACTORY",18;
 5  H2,"CHUTE",28;
 6  H2,"PRESSURE FEEDER",67;
 7  H2,"APRON FEEDER",104;
 8  H2,"FACTORY",125;
 9  H3,"NO",15;
10  H3,"A",23;
11  H3,"B",28;
12  H3,"C",34;
13  H3,"D",40;
14  H3,"A",46;
15  H3,"B",53;
16  H3,"C",59;
17  H3,"D",65;
18  H3,"E",71;
19  H3,"F",77;
20  H3,"WO",84;
21  H3,"A",89;
22  H3,"B",96;
23  H3,"C",101;
24  H3,"D",107;
25  H3,"E",113;
26  H3,"NO",122;
27  H4,"mm",24;
28  H4,"mm",29;
29  H4,"deg",35;
30  H4,"mm",41;
31  H4,"mm",47;
32  H4,"deg",54;
33  H4,"mm",60;
34  H4,"mm",66;
35  H4,"mm",72;
36  H4,"mm/s",79;
37  H4,"mm",84;
38  H4,"mm",90;
39  H4,"deg",96;
40  H4,"mm",102;
41  H4,"mm",108;
42  H4,"mm/s",115,SPACE A1;
43  E1,"ZZZZZZ";
44  E2,"ZZZZ9";
45  E3,"ZZZZZ-";
46  S1,MILL#;
47  S2,TRAIN#;
48  S3,FACT#;
49  D,FACT#,15,E2;
50  D,MCA   ,23,E1;
```

```
51  D,MCB   ,29,E1;
52  D,MCC   ,35,E1;
53  D,MCD   ,42,E3;
54  D,MPA   ,48,E1;
55  D,MPB   ,54,E1;
56  D,MPC   ,60,E1;
57  D,MPD   ,66,E1;
58  D,MPE   ,72,E1;
59  D,MPF   ,78,E1;
60  D,MPWO  ,84,E1;
61  D,MAA   ,90,E1;
62  D,MAB   ,96,E1;
63  D,MAC  ,102,E1;
64  D,MAD  ,108,E1;
65  D,MAE  ,114,E1;
66  D,FACT#,122,E1;
67  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"No. # MILL FEEDING DEVICES",38;
 4  H2,"FACTORY",13;
 5  H2,"OVERFEED ROLL",31;
 6  H2,"UNDERFEED ROLL",61;
 7  H2,"CLOSED CHUTE",90;
 8  H2,"HINGED PLATE",114;
 9  H2,"FACTORY",130;
10  H3,"NO",10;
11  H3,"A",17;
12  H3,"B",23;
13  H3,"C",29;
14  H3,"D",35;
15  H3,"A",41;
16  H3,"B",46;
17  H3,"C",53;
18  H3,"D",60;
19  H3,"E",65;
20  H3,"ROLL",72;
21  H3,"F",77;
22  H3,"G",83;
23  H3,"H",89;
24  H3,"I",94;
25  H3,"J",102;
26  H3,"K",107;
27  H3,"L",113;
28  H3,"M",119;
29  H3,"NO",127;
30  H4,"mm",18;
31  H4,"mm",24;
32  H4,"mm/s",30;
33  H4,"mm",36;
34  H4,"mm",42;
35  H4,"mm",47;
36  H4,"mm/s",55;
37  H4,"mm",61;
38  H4,"mm",66;
39  H4,"mm",78;
40  H4,"mm",83;
41  H4,"mm",89;
42  H4,"mm",95;
43  H4,"mm",102;
44  H4,"mm",108;
45  H4,"mm",114;
46  H4,"mm",119,SPACE A1;
47  E1,"ZZZZZZ";
48  E2,"ZZZZ9";
49  S1,MILL#;
50  S2,TRAIN#;
```

```
S3,FACT#;
D,FACT#,10,E2;
D,MOA   ,18,E1;
D,MOB   ,24,E1;
D,MOC   ,29,E1;
D,MOD   ,36,E1;
D,MUA   ,42,E1;
D,MUB   ,48,E1;
D,MUC   ,54,E1;
D,MUD   ,60,E1;
D,MUE   ,66,E1;
D,MUROLL,72;
D,MCLF  ,78,E1;
D,MCLG  ,84,E1;
D,MCLH  ,89,E1;
D,MCLI  ,96,E1;
D,MHJ   ,102,E1;
D,MHK   ,108,E1;
D,MHL   ,114,E1;
D,MHM   ,120,E1;
D,FACT#,127,E1;
END;
```

```
REPORT;
H1,"$$",2;
H1,"No. # MILL PRESSURE FEEDER GROOVING",39;
H2,"FACTORY",25;
H2,"ORDINARY GROOVES",55;
H2,"JUICE GROOVES",92;
H2,"FACTORY",117;
H3,"NO",22;
H3,"UPPER ROLLER",43;
H3,"LOWER ROLLER",62;
H3,"UPPER ROLLER",81;
H3,"LOWER ROLLER",102;
H3,"NO",114;
H4,"PITCH",33;
H4,"PITCH",52;
H4,"PITCH",71;
H4,"PITCH",93;
H4,"DEPTH",39;
H4,"DEPTH",58;
H4,"DEPTH",78;
H4,"DEPTH",100;
H4,"ANGLE",45;
H4,"ANGLE",64;
H4,"WIDTH",85;
H4,"WIDTH",107;
H5,"mm",32;
H5,"mm",38;
H5,"mm",51;
H5,"mm",57;
H5,"mm",70;
H5,"mm",76;
H5,"mm",83;
H5,"mm",91;
H5,"mm",97;
H5,"mm",106;
H5,"deg",43;
H5,"deg",63,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZ.Z";
E3,"ZZZZ9";
S1,MILL#;
S2,TRAIN#;
S3,FACT#;
D,FACT#,21,E3;
D,PFOUP  ,32,E1;
D,PFOUD  ,38,E1;
D,PFOUA  ,44,E1;
D,PFOLP  ,51,E1;
D,PFOLD  ,57,E1;
D,PFOLA  ,63,E1;
```

```
51  D,PFJUP  ,70,E1;
52  D,PFJUD  ,76,E1;
53  D,PFJUW  ,84,E2;
54  D,PFJLP  ,92,E1;
55  D,PFJLD  ,98,E1;
56  D,PFJLW ,106,E2;
57  D,FACT# ,113,E3;
58  END;
```

```
REPORT;
H1,"$$",2;
H1,"DIFFUSERS",31;
H2,"FACTORY",35;
H2,"MAKE",42;
H2,"WIDTH",56;
H2,"LENGTH",64;
H2,"SPEED",71;
H2,"POWER",78;
H2,"POSITION IN TRAIN",98;
H3,"NO",32;
H3,"mm",54;
H3,"metre",64;
H3,"mm/s",71;
H3,"kW",76,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,32,E2;
D,TRAIN#,34;
D,DMAKE,59;
D,DWID,56,E1;
D,DLEN,62,E1;
D,DSPD ,69,E1;
D,DPWR,76,E1;
D,DPOSN,104;
END;
```

```
REPORT;
H1,"$$",2;
H1,"JUICE SCREENS, etc",34;
H2,"FACTORY",28;
H2,"JUICE SCREENS",59;
H2,"HOLDING",81;
H2,"FLASH TANK",95;
H2,"FACTORY",106;
H3,"NO",25;
H3,"TYPE",36;
H4,"NO",50;
H3,"SCREEN",58;
H3,"SIZE",63;
H3,"SCREEN",73;
H3,"TANK",79;
H3,"DIA",88;
H3,"HEIGHT",96;
H3,"NO",103;
H4,"LENGTH",58;
H4,"WIDTH",64;
H4,"OPENING",73;
H4,"VOLUME",81;
H5,"mm",56;
H5,"mm",63;
H5,"mm",70;
H5,"cu m",80;
H5,"mm",88;
H5,"mm",94,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZ9.9";
E3,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,25,E3;
D,JTYPE,46;
D,JS#,50,E3;
D,JLEN,58,E1;
D,JWID ,64,E1;
D,JSAPER,71,E2;
D,HTVOL,79,E1;
D,FTDIA,89,E1;
D,FTHGT,95,E1;
D,FACT#,103,E3;
END;
```

```
REPORT;
H1,"$$",2;
H1,"JUICE HEATERS",33;
H2,"FACTORY",17;
H2,"JUICE HEATERS",57;
H2,"TUBES",89;
H2,"FACTORY",126;
H3,"NO",14;
H3,"NO",21;
H3,"MATERIAL HEATED",39;
H3,"AREA",48;
H3,"HOW HEATED",61;
H3,"NO OF",75;
H3,"PER",80;
H3,"LENGTH",88;
H3,"DIAM",94;
H3,"MATERIAL",104;
H3,"THICKNESS",116;
H3,"NO",123;
H4,"sq m",48;
H4,"PASSES",76;
H4,"PASS",81;
H4,"mm",86;
H4,"mm",93;
H4,"mm",113,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZ.Z";
E3,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,14,E3;
D,JH#  ,21,E1;
D,JHUSE,41;
D,JHAREA,47,E1;
D,JHHT ,67;
D,JHPASS,74,E3;
D,JHTUBE,80,E3;
D,JHLEN,87,E1;
D,JHDIA,93,E1;
D,JHMATL,106;
D,JTTHCK,113,E2;
D,FACT#,123,E3;
END;
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```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"CLARIFICATION PLANT",36;
 4  H2,"FACTORY",18;
 5  H2,"CLARIFIERS",4Ø;
 6  H2,"MUD FILTERS",1Ø6;
 7  H2,"FACTORY",124;
 8  H3,"NO",15;
 9  H3,"NO OF",56;
1Ø  H3,"DIAM",63;
11  H3,"TRAY",73;
12  H3,"TOTAL",79;
13  H3,"TOTAL",114;
14  H3,"NO",121;
15  H4,"POSITION",28;
16  H4,"TRAYS",56;
17  H4,"AREA",73;
18  H4,"VOLUME",8Ø;
19  H4,"TYPE",89;
2Ø  H4,"NO",1Ø6;
21  H4,"AREA",113;
22  H5,"mm",62;
23  H5,"sq m",73;
24  H5,"cu m",79;
25  H5,"sq m",113,SPACE A1;
26  E1,"ZZZZZZ";
27  E2,"ZZZZ9";
28  S1,ENTRY#;
29  S2,FACT#;
3Ø  G2," ",1Ø,SPACE B1;
31  D,FACT#,15,E2;
32  D,CLPOS,32;
33  D,CLTYPE,48;
34  D,CLTRAY,54,E1;
35  D,CLDIA,63,E1;
36  D,CLAREA,72,E1;
37  D,CLVOL,78,E1;
38  D,FTYPE,1ØØ;
39  D,FIL#,1Ø6,E1;
4Ø  D,FAREA,112,E1;
41  D,FACT#,121,E2;
42  END;
```

```
REPORT;
H1,"$$",2;
H1,"BAGASSE SEPARATORS",35;
H2,"FACTORY",50;
H2,"TYPE",55;
H2,"SCREEN",70;
H2,"SCREEN",78;
H2,"WIDTH",84;
H2,"HEIGHT",91;
H2,"FAN",97;
H2,"FACTORY",108;
H3,"NO",47;
H3,"AREA",69;
H3,"OPENING",78;
H3,"POWER",98;
H3,"NO",105;
H4,"sq m",69;
H4,"mm",76;
H4,"mm",83;
H4,"mm",89;
H4,"kW",96,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZ.9";
E3,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,47,E3;
D,SPTYPE,62;
D,SPAREA,69,E2;
D,SPOP  ,76,E1;
D,SPWDTH,84,E1;
D,SPHGT,90,E1;
D,SPPWR,96,E1;
D,FACT#,105,E3;
END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"EVAPORATING PLANT",35;
 4  H2,"FACTORY",20;
 5  H2,"EFFECT",27;
 6  H2,"DIA OF",35;
 7  H2,"HEATING",43;
 8  H2,"TUBES",78;
 9  H2,"CONDENSER",95;
10  H2,"VAPOUR",110;
11  H2,"FACTORY",123;
12  H3,"NO",17;
13  H3,"NO",25;
14  H3,"VESSEL",35;
15  H3,"SURFACE",43;
16  H3,"LENGTH",54;
17  H3,"MATERIAL",65;
18  H3,"O.D.",75;
19  H3,"THICKNESS",85;
20  H3,"DIA",89;
21  H3,"HEIGHT",97;
22  H3,"BLEED",109;
23  H3,"NO",120;
24  H4,"mm",33;
25  H4,"sq m",41;
26  H4,"mm",52;
27  H4,"mm",74;
28  H4,"mm",81;
29  H4,"mm",89;
30  H4,"mm",95;
31  H4,"TO",107,SPACE A1;
32  E1,"ZZZZZZ";
33  E2,"ZZZZ.ZZ";
34  E3,"ZZZZ9";
35  S1,ENTRY#;
36  S2,EVAP#;
37  S3,TRAIN#;
38  S4,FACT#;
39  G3," ",10,SPACE B1;
40  D,FACT#,17,E3;
41  D,EVAP#,25,E3;
42  D,EVDIA,35,E1;
43  D,EVSURF,41,E1;
44  D,EVLEN  ,53,E1;
45  D,EVMATL,67;
46  D,EVOD,74,E1;
47  D,EVTH,82,E2;
48  D,EVCDIA,90,E1;
49  D,EVCHGT,97,E1;
50  D,EVBLD,113;
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51  D,FACT#,120,E3;
52  END;
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```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"VACUUM PANS",30;
 4  H2,"FACTORY",23;
 5  H2,"VACUUM PAN",54;
 6  H2,"CONDENSER",98;
 7  H2,"FACTORY",111;
 8  H3,"NO",20;
 9  H3,"TYPE",28;
10  H3,"REF NO",49;
11  H3,"MATERIAL",59;
12  H3,"DIAM",66;
13  H3,"VOLUME",74;
14  H3,"HEATING",82;
15  H3,"HS/",97;
16  H3,"DIA",92;
17  H3,"HEIGHT",100;
18  H3,"NO",108;
19  H4,"SURFACE",82;
20  H4,"VOL",87;
21  H4,"OF BODY",101;
22  H5,"mm",65;
23  H5,"cu m",73;
24  H5,"sq m",80;
25  H5,"1/m",87;
26  H5,"mm",92;
27  H5,"mm",98, SPACE A1;
28  E1,"ZZZZZZ";
29  E2,"ZZZZZ.Z";
30  E3,"ZZZZ9";
31  S1,P#;
32  S2,GDE;
33  S3,FACT#;
34  G3," ",10,SPACE B1;
35  D,FACT#,20,E3;
36  D,PTYPE,41;
37  D,P#,47,E1;
38  D,PMATL,61;
39  D,PDIA,66,E3;
40  D,PVOL,73,E2;
41  D,PSURF,80,E1;
42  D,PRAT,87,E2;
43  D,PCDIA,93,E1;
44  D,PCHGT,99,E1;
45  D,FACT#,108,E3;
46  END;
```

```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"PAN STOCK TANKS and MASSECUITE REHEATERS",40;
 4  H2,"FACTORY",30;
 5  H2,"PAN STOCK TANKS",50;
 6  H2,"MASSECUITE HEATERS",93;
 7  H2,"FACTORY",121;
 8  H3,"NO",27;
 9  H3,"SYRUP",35;
10  H3,"A MOL",41;
11  H3,"B MOL",47;
12  H3,"MAGMA",54;
13  H3,"WATER HEATED",76;
14  H3,"RESISTANCE HEATED",110;
15  H3,"NO",118;
16  H4,"NO",64;
17  H4,"AREA",72;
18  H4,"TYPE",79;
19  H4,"DIAM",96;
20  H4,"VOLTAGE",104;
21  H4,"CURRENT",112;
22  H5,"cu m",35;
23  H5,"cu m",41;
24  H5,"cu m",47;
25  H5,"cu m",54;
26  H5,"eq m",72;
27  H5,"mm",95;
28  H5,"volte",103;
29  H5,"ampe",110,SPACE A1;
30  E1,"ZZZZZZ";
31  E2,"ZZZZZ.Z";
32  E3,"ZZZZ9";
33  S1,ENTRY#;
34  S2,FACT#;
35  G2," ",10,SPACE B1;
36  D,FACT#,27,E3;
37  D,SYRUPV,34,E1;
38  D,MOLVA ,40,E1;
39  D,MOLVB ,46,E1;
40  D,MAGV  ,52,E1;
41  D,MH#,64,E1;
42  D,MHAREA,71,E2;
43  D,MHTYPE,91;
44  D,RHDIA,97,E1;
45  D,RHVLT,103,E1;
46  D,RHAMP,109,E1;
47  D,FACT#,118,E3;
48  END;
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```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"VACUUM PUMPS",30;
 4  H2,"FACTORY",8;
 5  H2,"NO",12;
 6  H2,"MAKE",24;
 7  H2,"NO OF CYL",41;
 8  H2,"BORE",48;
 9  H2,"STROKE",55;
10  H2,"DISPL",61;
11  H2,"TYPE",67;
12  H2,"SPEED",77;
13  H2,"POWER",83;
14  H2,"CONNECTED TO",96;
15  H2,"FACTORY",128;
16  H3,"NO",5;
17  H3,"OFF",13;
18  H3,"mm",47;
19  H3,"mm",53;
20  H3,"L/s",60;
21  H3,"rpm",76;
22  H3,"kW",82;
23  H3,"NO",125,SPACE A1;
24  E1,"ZZZZZZ";
25  E2,"ZZZZ9";
26  S1,ENTRY#;
27  S2,FACT#;
28  G2,"  ",10,SPACE B1;
29  D,FACT#,5,E2;
30  D,VP#,12,E1;
31  D,VMAKE,32;
32  D,VCYL#,42,EZ;
33  D,VBORE,48,E1;
34  D,VLEN,54,E1;
35  D,VDISPL,60,E1;
36  D,VTYPE,70;
37  D,VSPD,76,E1;
38  D,VPWR,82,E1;
39  D,VUSE,120;
40  D,FACT#,125,E2;
41  END;
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```
REPORT;
H1,"$$",2;
H1,"CRYSTALLIZERS",32;
H2,"FACTORY",28;
H2,"CRYSTALLIZER",42;
H2,"MAKE",47;
H2,"GRADE",54;
H2,"NO",60;
H2,"TOTAL",68;
H2,"WATER COOLED SURFACE",90;
H2,"OPERATING",102;
H2,"FACTORY",114;
H3,"NO",25;
H3,"OF",53;
H3,"IN",60;
H3,"VOL",67;
H3,"AREA FOR",91;
H3,"MODE",100;
H3,"NO",111;
H4,"MASSE",54;
H4,"GROUP",62;
H4,"cu m",67;
H4,"TYPE",76;
H4,"EACH GROUP",92;
H5,"eq m",89,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,52,E2;
D,CSMAKE,50;
D,CSGDE,54;
D,CS#,60,E1;
D,CSVOL,66,E1;
D,CSTYPE,84;
D,CSAREA,90,E1;
D,CSMODE,104;
D,FACT#,111,E2;
END;
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```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"HIGH GRADE CENTRIFUGALS",35;
 4  H2,"FACTORY",40;
 5  H2,"TYPE OR MAKE",53;
 6  H2,"NO",57;
 7  H2,"MASSE",64;
 8  H2,"SPEED",70;
 9  H2,"DIAM",76;
10  H2,"DEPTH",82;
11  H2,"TOTAL",90;
12  H2,"DRIVE",96;
13  H2,"TOTAL",103;
14  H2,"FACTORY",113;
15  H3,"NO",37;
16  H3,"OFF",58;
17  H3,"GRADE",64;
18  H3,"SCREEN",90;
19  H3,"POWER",103;
20  H3,"NO",110;
21  H4,"AREA",89;
22  H5,"rpm",69;
23  H5,"mm",75;
24  H5,"mm",81;
25  H5,"sq m",90;
26  H5,"kW",101,SPACE A1;
27  E1,"ZZZZZZ";
28  E2,"ZZZZ9.9";
29  E3,"ZZZZ9";
30  S1,ENTRY#;
31  S2,FACT#;
32  G2," ",10,SPACE B1;
33  D,FACT#,37,E3;
34  D,FHMAKE,52;
35  D,FH#,57,E3;
36  D,FHMASS,64;
37  D,FHSPD,70,E1;
38  D,FHDIA,76,E1;
39  D,FHDEP,82,E1;
40  D,FHAREA,89,E2;
41  D,FHDVE,95;
42  D,FHPWR,102,E1;
43  D,FACT#,110,E3;
44  END;
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```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"LOW GRADE CENTRIFUGALS",35;
 4  H2,"FACTORY",24;
 5  H2,"MAKE",32;
 6  H2,"TYPE",48;
 7  H2,"NO",61;
 8  H3,"SPEED",69;
 9  H2,"BASKET",81;
10  H2,"SCREEN",98;
11  H2,"POWER",108;
12  H2,"FACTORY",118;
13  H3,"NO",21;
14  H3,"IN",61;
15  H3,"MAX",74;
16  H3,"MIN",79;
17  H3,"HALF",86;
18  H4,"ANGLE",87;
19  H3,"AREA",97;
20  H3,"FOR",107;
21  H3,"NO",115;
22  H4,"GROUP",63;
23  H4,"DIA",74;
24  H4,"DIA",79;
25  H4,"VERT",93;
26  H4,"INCL",101;
27  H4,"GROUP",108;
28  H5,"rpm",68;
29  H5,"mm",73;
30  H5,"mm",79;
31  H5,"deg",86;
32  H5,"sq m",93;
33  H5,"sq m",101;
34  H5,"kW",107,SPACE A1;
35  E1,"ZZZZZZ";
36  E2,"ZZZZ9.9";
37  E3,"ZZZZ9";
38  S1,ENTRY#;
39  S2,FACT#;
40  G2," ",10,SPACE B1;
41  D,FACT#,21,E3;
42  D,FLMAKE,43;
43  D,FLMODE,56;
44  D,FL#,61,E3;
45  D,FLSPD,68,E1;
46  D,FLBMAX,74,E1;
47  D,FLBMIN,81,E1;
48  D,FLBANG,86,E1;
49  D,FLBVA,93,E2;
50  D,FLBIA,100,E2;
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51  D,FLPWR,107,E1;
52  D,FACT#,115,E3;
53  END;
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```
REPORT;
H1,"$$",2;
H1,"SUGAR DRYERS and SUGAR STORAGE",38;
H2,"FACTORY",28;
H2,"DRYER TYPE",39;
H2,"DRUM  SIZE",58;
H2,"DRUM",65;
H2,"DRIVE",72;
H2,"FAN",76;
H2,"AIR",82;
H2,"AIR",88;
H2,"BIN STORAGE",107;
H2,"FACTORY",124;
H3,"NO",25;
H3,"LENGTH",53;
H3,"DIAM",58;
H3,"SPEED",66;
H3,"POWER",72;
H3,"HEATER",83;
H3,"CONDN",89;
H3,"NO OF",98;
H3,"CAPACITY",107;
H3,"TOTAL",114;
H3,"NO",121;
H4,"BINS",97;
H4,"PER BIN",106;
H4,"tonne",114,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZ.Z";
E3,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,25,E3;
D,DTYPE,46;
D,DLEN,52,E1;
D,DDIA,58,E1;
D,DSPD,65,E2;
D,DPWR,71,E1;
D,DFAN,77;
D,DHTR,83;
D,DRAC,89;
D,SB#,96,E1;
D,SBCAP,105,E1;
D,SBTOT,114,E1;
D,FACT#,121,E3;
END;
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```
REPORT;
H1,"$$",2;
H1,"STEAM GENERATING PLANT",35;
H2,"FACTORY",24;
H2,"BOILER MAKE",37;
H2,"NO OF",48;
H2,"PRESS",55;
H2,"MCR",59;
H2,"S/HEAT",68;
H2,"HEATING SURFACE PER UNIT,sq m",103;
H2,"FACTORY",118;
H3,"NO",21;
H3,"SIMILAR",49;
H3,"kPa",54;
H3,"kg/h",60;
H3,"C",66;
H3,"BOILER",75;
H3,"WATER",81;
H3,"SUPER",88;
H3,"AIR",95;
H3,"ECONOMIZER",108;
H3,"NO",115;
H4,"UNITS",48;
H4,"gauge",55;
H4,"BANK",74;
H4,"WALLS",81;
H4,"HEATER",89;
H4,"HEATER",97,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZZ0";
E3,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,21,E3;
D,BOMAKE,42;
D,BO#,47,E3;
D,BOPRES,54,E1;
D,BOMCR,61,E2;
D,BOSHT,66,E3;
D,BOBA,74,E1;
D,BOFA,80,E1;
D,BOSA,87,E1;
D,BOAA,96,E1;
D,BOEA,105,E1;
D,FACT#,115,E3;
END;
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REPORT;
H1,"$$",2;
H1,"STEAM GENERATING PLANT",35;
H2,"FACTORY",11;
H2,"TYPE OF GRATE",27;
H2,"GRATE",45;
H2,"IS BOILER EQUIPPED WITH",79;
H2,"FACTORY",132;
H3,"NO",8;
H3,"AREA",44;
H3,"WATER",51;
H3,"SPREADER",62;
H3,"COAL",69;
H3,"OIL",77;
H3,"FORCED",86;
H3,"SOOT ARRESTOR",103;
H3,"STACK",118;
H3,"NO",129;
H4,"eq m",44;
H4,"WALLS",51;
H4,"STOKER",61;
H4,"FIRING",70;
H4,"BURNER",79;
H4,"DRAUGHT",87;
H4,"TYPE",98;
H4,"DIAM",114;
H4,"HEIGHT",122;
H5,"mm",113;
H5,"metre",122,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZZ.Z";
E3,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,8,E3;
D,BOGTE ,37;
D,BOGA,43,E3;
D,BOWW,51;
D,BOSPR,59;
D,BOICO,69;
D,BOIOB,77;
D,BOIFD,85;
D,BOIARR,108;
D,BOISTD,114,E1;
D,BOISTH,121,E2;
D,FACT#,129,E3;
END;
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```
REPORT;
H1,"$$",2;
H1,"BAGASSE STORAGE and COOLING TOWERS",40;
H2,"FACTORY",24;
H2,"TYPE OF BIN",37;
H2,"CAPACITY",46;
H2,"POSITION",55;
H2,"TYPE OF TOWER",71;
H2,"NO OF",84;
H2,"FLOW",90;
H2,"FAN",97;
H2,"FACTORY",109;
H3,"NO",21;
H3,"IN",51;
H3,"CELLS",84;
H3,"RATE",90;
H3,"POWER",98;
H3,"NO",106;
H4,"tonne",45;
H4,"CIRCUIT",54;
H4,"L/s",89;
H4,"kW",96,SPACE A1;
E1,"ZZZZZZ";
E2,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
G2," ",10,SPACE B1;
D,FACT#,21,E2;
D,BGBIN,38;
D,BGCAP,44,E1;
D,BGPOS,55;
D,CTTYP,76;
D,CTCELL,82,E1;
D,CTCAP,90,E1;
D,CTPWR,96,E1;
D,FACT#,106,E2;
END;
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```
REPORT;
H1,"$$",2;
H1,"ELECTRICAL LOAD",34;
H2,"FACTORY",45;
H2,"TOTAL",53;
H2,"LOAD",77;
H2,"FACTORY",107;
H3,"NO",42;
H3,"RATING",54;
H3,"CONNECTED",66;
H3,"MAX",72;
H3,"FACTORY",82;
H3,"MAX",87;
H3,"MAX",95;
H3,"NO",104;
H4,"STEAM",50;
H4,"IC",55;
H4,"LOAD",63;
H4,"GENER",73;
H4,"DEMAND",81;
H4,"IRRIG",88;
H4,"SURPLUS",97;
H5,"kW",48;
H5,"kW",55;
H5,"kW",62;
H5,"kW",71;
H5,"kW",79;
H5,"kW",87;
H5,"kW",94,SPACE A2;
E1,"ZZZZZZ";
E2,"ZZZZ9";
S1,ENTRY#;
S2,FACT#;
D,FACT#,42,E2;
D,EPRTG,50,E1;
D,EPIC ,56,E1;
D,EPMLD,63,E1;
D,EPMR ,72,E1;
D,EPDMD,80,E1;
D,EPIRD,87,E1;
D,EPSUR,95,E1;
D,FACT#,104,E2;
END;
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```
 1  REPORT;
 2  H1,"$$",2;
 3  H1,"ELECTRICAL POWER PLANT",35;
 4  H2,"FACTORY",22;
 5  H2,"MAKE OF PRIME",37;
 6  H2,"NO OF",45;
 7  H2,"RATING",52;
 8  H2,"NOM",57;
 9  H2,"PRIME MOVER",71;
10  H2,"SPEED",81;
11  H2,"INLET STEAM",96;
12  H2,"EXHAUST STEAM",111;
13  H2,"FACTORY",121;
14  H3,"NO",19;
15  H3,"MOVER",32;
16  H3,"SETS",44;
17  H3,"PER",50;
18  H3,"VOLTS",58;
19  H3,"TYPE",68;
20  H3,"PRESSURE",90;
21  H3,"S/HEAT",97;
22  H3,"PRESSURE",108;
23  H3,"NO",118;
24  H4,"SET",50;
25  H4,"rpm",80;
26  H4,"kPA",88;
27  H4,"deg C",96;
28  H4,"kPa",106,SPACE A1;
29  E1,"ZZZZZZ";
30  E2,"ZZZZ9";
31  S1,ENTRY#;
32  S2,FACT#;
33  G2," ",10,SPACE B1;
34  D,FACT#,19,E2;
35  D,GSMAKE,38;
36  D,GS#  ,43,E2;
37  D,GSRTG,50,E1;
38  D,GSVOL,57,E1;
39  D,GSPM,74;
40  D,GSSPD,81,E1;
41  D,GSPR ,89,E1;
42  D,GSSH ,95,E1;
43  D,GSEX ,105,E1;
44  D,FACT#,118,E2;
45  END;
```

APPENDIX F: PROCEDURES FOR REPORT.

```
1  DATA-BASE=PL80A:GD;
2  ;
3  8;
4  XEQ=PROCF;
5  EXIT;
```

```
SELECT-FILE=SELFIL;
LIST=1;
FIND NAMES.FACT# INE "Ø" END;
LIST=6;
REPORT NAME=$PGEØ;
LIST=1;
FIND TRANS.FACT# INE "Ø" END;
LIST=6;
REPORT NAME=$PGE1;
LIST=1;
FIND TRANS.FACT# INE "Ø" AND TRANS.TRAML INE "Ø" END;
LIST=6;
REPORT NAME=$PGE2;
LIST=1;
FIND CARR.FACT# INE "Ø" END;
LIST=6;
REPORT NAME=$PGE3;
REPORT NAME=$PGE4;
LIST=1;
FIND KNIVES.FACT# INE "Ø" END;
LIST=6;
REPORT NAME=$PGE5;
LIST=1;
FIND SHRED.FACT# INE "Ø" END;
LIST=6;
REPORT NAME=$PGE6;
LIST=1;
FIND MILLS.FACT# INE "Ø" AND MILLS.MILL# IE "1" END;
LIST=6;
REPORT NAME=$PGE7;
REPORT NAME=$PGE8;
LIST=1;
FIND MILLS.FACT# INE "Ø" AND MILLS.MILL# IE "2" END;
LIST=6;
REPORT NAME=$PGE7;
REPORT NAME=$PGE8;
LIST=1;
FIND MILLS.FACT# INE "Ø" AND MILLS.MILL# IE "3" END;
LIST=6;
REPORT NAME=$PGE7;
REPORT NAME=$PGE8;
LIST=1;
FIND MILLS.FACT# INE "Ø" AND MILLS.MILL# IE "4" END;
LIST=6;
REPORT NAME=$PGE7;
REPORT NAME=$PGE8;
LIST=1;
FIND MILLS.FACT# INE "Ø" AND MILLS.MILL# IE "5" END;
LIST=6;
REPORT NAME=$PGE7;
```

```
REPORT NAME=$PGE8;
LIST=1;
FIND MILLS.FACT# INE "Ø" AND MILLS.MILL# IE "6" END;
LIST=6;
REPORT NAME=$PGE7;
REPORT NAME=$PGE8;
LIST=1;
FIND FEEDS.FACT# INE "Ø" AND FEEDS.MILL# IE "1" END;
LIST=6;
REPORT NAME=$PGE9;
REPORT NAME=$PGE1Ø;
LIST=1;
FIND FEEDS.FACT# INE "Ø" AND FEEDS.MILL# IE "2" END;
LIST=6;
REPORT NAME=$PGE9;
REPORT NAME=$PGE1Ø;
LIST=1;
FIND FEEDS.FACT# INE "Ø" AND FEEDS.MILL# IE "3" END;
LIST=6;
REPORT NAME=$PGE9;
REPORT NAME=$PGE1Ø;
LIST=1;
FIND FEEDS.FACT# INE "Ø" AND FEEDS.MILL# IE "4" END;
LIST=6;
REPORT NAME=$PGE9;
REPORT NAME=$PGE1Ø;
LIST=1;
FIND FEEDS.FACT# INE "Ø" AND FEEDS.MILL# IE "5" END;
LIST=6;
REPORT NAME=$PGE9;
REPORT NAME=$PGE1Ø;
LIST=1;
FIND FEEDS.FACT# INE "Ø" AND FEEDS.MILL# IE "6" END;
LIST=6;
REPORT NAME=$PGE9;
REPORT NAME=$PGE1Ø;
LIST=1;
FIND PRESS.FACT# INE "Ø" AND PRESS.MILL# IE "1" END;
LIST=6;
REPORT NAME=$PGE11;
LIST=1;
FIND PRESS.FACT# INE "Ø" AND PRESS.MILL# IE "2" END;
LIST=6;
REPORT NAME=$PGE11;
LIST=1;
FIND PRESS.FACT# INE "Ø" AND PRESS.MILL# IE "3" END;
LIST=6;
REPORT NAME=$PGE11;
LIST=1;
FIND PRESS.FACT# INE "Ø" AND PRESS.MILL# IE "4" END;
```

```
101  LIST=6;
102  REPORT NAME=$PGE11;
103  LIST=1;
104  FIND PRESS.FACT# INE "Ø" AND PRESS.MILL# IE "5" END;
105  LIST=6;
106  REPORT NAME=$PGE11;
107  LIST=1;
108  FIND PRESS.FACT# INE "Ø" AND PRESS.MILL# IE "6" END;
109  LIST=6;
110  REPORT NAME=$PGE11;
111  LIST=1;
112  FIND DIFFUS.FACT# INE "Ø" END;
113  LIST=6;
114  REPORT NAME=$PGE12;
115  LIST=1;
116  FIND SCREEN.FACT# INE "Ø" END;
117  LIST=6;
118  REPORT NAME=$PGE13;
119  LIST=1;
120  FIND HEATER.FACT# INE "Ø" END;
121  LIST=6;
122  REPORT NAME=$PGE14;
123  LIST=1;
124  FIND CLARIF.FACT# INE "Ø" END;
125  LIST=6;
126  REPORT NAME=$PGE15;
127  LIST=1;
128  FIND SEPAR.FACT# INE "Ø" END;
129  LIST=6;
130  REPORT NAME=$PGE16;
131  LIST=1;
132  FIND EVAP.FACT# INE "Ø" END;
133  LIST=6;
134  REPORT NAME=$PGE17;
135  LIST=1;
```

```
1  DATA-BASE=PL80B:GD;
2  ;
3  8;
4  XEQ=PROCF2;
5  EXIT;
```

```
 1  SELECT-FILE=SELFIL;
 2  LIST=1;
 3  FIND PANS.FACT# INE "Ø" END;
 4  LIST=6;
 5  REPORT NAME=$PGE2Ø;
 6  LIST=1;
 7  FIND STOCK.FACT# INE "Ø" END;
 8  LIST=6;
 9  REPORT NAME=$PGE21;
10  LIST=1;
11  FIND PUMPS.FACT# INE "Ø" END;
12  LIST=6;
13  REPORT NAME=$PGE22;
14  LIST=1;
15  FIND CRYST.FACT# INE "Ø" END;
16  LIST=6;
17  REPORT NAME=$PGE23;
18  LIST=1;
19  FIND HGFUG.FACT# INE "Ø" END;
20  LIST=6;
21  REPORT NAME=$PGE24;
22  LIST=1;
23  FIND LGFUG.FACT# INE "Ø" END;
24  LIST=6;
25  REPORT NAME=$PGE25;
26  LIST=1;
27  FIND DRYER.FACT# INE "Ø" END;
28  LIST=6;
29  REPORT NAME=$PGE26;
30  LIST=1;
31  FIND BOILER.FACT# INE "Ø" END;
32  LIST=6;
33  REPORT NAME=$PGE27;
34  REPORT NAME=$PGE28;
35  LIST=1;
36  FIND BINS.FACT# INE "Ø" END;
37  LIST=6;
38  REPORT NAME=$PGE29;
39  LIST=1;
40  FIND ELECT.FACT# INE "Ø" END;
41  LIST=6;
42  REPORT NAME=$PGE31;
43  LIST=1;
44  FIND ELECT.FACT# INE "Ø" AND ELECT.EPRTG INE "Ø" END;
45  LIST=6;
46  REPORT NAME=$PGE3Ø;
47  LIST=1;
```

APPENDIX G: SOURCE CODE FOR 'PDLST'.

```
FTN
      PROGRAM PDLST
C
C  PROGRAM TO PRINT PLANT DATA REPORT ON 9872 PLOTTER.
C  WRITTEN : GDD  1981-03-04
C  MODIFIED: GDD  1981-04-10
C
      INTEGER NAMF(3),IDCB(144),IDCB1(144),IGCB(192),IBUF(66)
     $       ,IBUFI(25),IBUFP(33)
      LOGICAL LARGE
      EQUIVALENCE(IBUFP(2),NAMF(1)),(IBUFP(6),ICR)
C
C   GET RUN STRING & PARSE FOR FILE NAME .
C   IF FILE NAME NOT PASSED TO PROGRAM GET FROM VDU.
C
      ILEN=25
      CALL GETST(IBUFI,ILEN,ILOG)
      ICON=2*ILOG
      CALL PARSE(IBUFI,ICON,IBUFP)
      IF(NAMF(1).NE.0) GOTO 52
   50     WRITE(1,1000)
 1000     FORMAT("FILE?  _")
          CALL CLEAR(NAMF,3)
          READ(1,2000) NAMF
 2000     FORMAT(3A2)
          IF(NAMF.EQ.2H  ) GOTO 999
             WRITE(1,1010)
 1010        FORMAT("CARTRIDGE NO?  _")
             ICR=0
             READ(1,*) ICR
C
C   SET LOGICAL UNIT NUMBER AND ID FOR PLOTTER
C
   52 LU=12
      ID=1
C   INITIALIZE
      CALL PLOTR(IGCB,ID,1,LU)
      CALL PEN(IGCB,1)
      CALL LIMIT(IGCB,0.,500.,0.,325.)
C   SET CHARACTER SIZE
      SIZE=1.50
      AR=0.325
      SLOPE=0.0
      CALL CSIZE(IGCB,SIZE,AR,SLOPE,0)
      CALL MOVE(IGCB,76.0,98.0)
C
C  GET ASCII FROM FILE
C
      CALL OPEN(IDCB,IERR,NAMF,IOPTN,ISECU,ICR)
      IF(IERR.GE.0) GOTO 55
```

```
51            WRITE(1,1020) IERR,NAMF
52   1020     FORMAT(" ERROR ",I5," ON OPEN - FILE "3A2)
53            GOTO 50
54    55   CALL CLEAR(IBUF,66)
55         CALL READF(IDCB,IERR,IBUF,66,LEN)
56         IF(IERR.GE.0) GOTO 60
57            WRITE(1,1030) IERR,NAMF
58   1030     FORMAT(" ERROR ",I5," ON READ - FILE "3A2)
59            GOTO 999
60    60   IF(LEN.EQ.-1) GOTO 999
61  C
62  C   TEST FOR LARGE CHARACTERS - '$$' AS FIRST AND SECOND CHARACTERS
63  C
64         LARGE=.FALSE.
65         IF(IBUF(1).NE.2H$$) GOTO 58
66            LARGE=.TRUE.
67            IBUF(1)=2H
68            CALL CSIZE(IGCB,2.15,0.7,0.0,0)
69            CALL GFONT(IGCB,6HFONT3 ,0,0,IDCB1)
70  C
71  C   TEST FOR FORM FEED - '$$' AS THIRD AND FOURTH CHARACTERS.
72  C
73    58   IF(IBUF(2).NE.2H$$) GOTO 64
74            IBUF(2)=2H
75            CALL MOVE(IGCB,76.0,0.0)
76            WRITE(12,1040)
77   1040     FORMAT("AH")
78            CALL MOVE(IGCB,76.0,98.0)
79  C
80  C   SEARCH FOR LAST NON-BLANK
81  C
82    64   DO 61 KS=66,2,-1
83         IF(IBUF(KS).NE.2H  ) GOTO 62
84    61   CONTINUE
85    62   KS2=KS*2
86         CALL GTEXT(IGCB,IBUF,1,KS2,IDCB1)
87         IF(.NOT.LARGE) GOTO 55
88            CALL GFONT(IGCB,0,0,0,IDCB1)
89            CALL CSIZE(IGCB,SIZE,AR,SLOPE,0)
90            CALL MOVEI(IGCB,0.0,-1.75)
91            GO TO 55
92  C
93  C   TERMINATE
94  C
95   999   CALL CLOSE(IDCB)
96         CALL PEN(IGCB,0)
97         CALL PLOTR(IGCB,ID,0)
98         END
99         END$
```

APPENDIX H: SOURCE CODE FOR 'TEXT1'.

```
 1  FTN4X
 2        PROGRAM TEXT1
 3
 4
 5
 6
 7
 8  C
 9  C  PROGRAM TO LIST ASCII TEXT ON THE 9872 PLOTTER.
10  C  WRITTEN : GDD  1981-04-13
11  C  MODIFIED: GDD  1981-04-13
12  C
13  C  ASCII is written using the hardware character set in 9872 unless
14  C  first 2 characters in the line are $$. In this case FONT3
15  C  character set of GRAPHICS-1000 is used. Characters in this
16  C  mode are also larger than the normal.
17  C  To generate a formfeed the third and fourth characters of the
18  C  line should be $$.
19  C
20  C  $$$$   1              (A4 sheet fed and large character written)
21  C  $$     INTRO          (written on next line with large characters)
22  C  This program          (hardware character set)
23  C
24
25
26
27
28
29
30         INTEGER NAMF(3),IDCB(144),IDCB1(144),IGCB(192),IBUF(66)
31       $        ,IBUFI(25),IBUFP(33)
32         LOGICAL LARGE
33         EQUIVALENCE(IBUFP(2),NAMF(1)),(IBUFP(6),ICR)
34  C
35  C   GET RUN STRING & PARSE FOR FILE NAME .
36  C   IF FILE NAME NOT PASSED TO PROGRAM GET FROM VDU.
37  C
38         ILEN=25
39         CALL GETST(IBUFI,ILEN,ILOG)
40         ICON=2*ILOG
41         CALL PARSE(IBUFI,ICON,IBUFP)
42         IF(NAMF(1).NE.0) GOTO 52
43    50      WRITE(1,1000)
44   1000     FORMAT("FILE?  _")
45            CALL CLEAR(NAMF,3)
46            READ(1,2000) NAMF
47   2000     FORMAT(3A2)
48            IF(NAMF.EQ.2H  ) GOTO 999
49               WRITE(1,1010)
50   1010        FORMAT("CARTRIDGE NO?  _")
```

```
              ICR=0
              READ(1,*) ICR
C
C   SET LOGICAL UNIT NUMBER AND ID FOR PLOTTER
C
   52  LU=12
       ID=1
C   INITIALIZE
       CALL PLOTR(IGCB,ID,1,LU)
       CALL PEN(IGCB,1)
       CALL LIMIT(IGCB,20.,520.0,0.,325.)
C   SET CHARACTER SIZE
       SIZE=2.0
       AR=0.40
       SLOPE=0.0
       CALL CSIZE(IGCB,SIZE,AR,SLOPE,0)
       CALL MOVE(IGCB,76.0,98.0)
C
C  GET ASCII FROM FILE
C
       CALL OPEN(IDCB,IERR,NAMF,IOPTN,ISECU,ICR)
       IF(IERR.GE.0) GOTO 55
          WRITE(1,1020) IERR,NAMF
 1020     FORMAT(" ERROR ",I5," ON OPEN - FILE "3A2)
          GOTO 50
   55  CALL CLEAR(IBUF,66)
       CALL READF(IDCB,IERR,IBUF,66,LEN)
       IF(IERR.GE.0) GOTO 60
          WRITE(1,1030) IERR,NAMF
 1030     FORMAT(" ERROR ",I5," ON READ - FILE "3A2)
          GOTO 999
  60   IF(LEN.EQ.-1) GOTO 999
C
C   TEST FOR LARGE CHARACTERS - '$$' AS FIRST AND SECOND CHARACTERS
C
       LARGE=.FALSE.
       IF(IBUF(1).NE.2H$$) GOTO 58
          LARGE=.TRUE.
          IBUF(1)=2H
          CALL CSIZE(IGCB,2.00,0.7,0.0,0)
          CALL GFONT(IGCB,6HFONT3 ,0,0,IDCB1)
C
C   TEST FOR FORM FEED - '$$' AS THIRD AND FOURTH CHARACTERS.
C
   58  IF(IBUF(2).NE.2H$$) GOTO 64
          IBUF(2)=2H
          CALL MOVE(IGCB,76.0,.0)
          WRITE(12,1040)
 1040     FORMAT("AH")
          CALL MOVE(IGCB,76.0,98.0)
```

```
C
C   SEARCH FOR LAST NON-BLANK
C
 64   DO 61 KS=66,2,-1
      IF(IBUF(KS).NE.2H  ) GOTO 62
 61   CONTINUE
 62   KS2=KS*2
      CALL GTEXT(IGCB,IBUF,1,KS2,IDCB1)
      IF(.NOT.LARGE) GOTO 55
         CALL GFONT(IGCB,0,0,0,IDCB1)
         CALL CSIZE(IGCB,SIZE,AR,SLOPE,0)
         CALL MOVEI(IGCB,0.0,-1.)
         GO TO 55
C
C   TERMINATE
C
 999  CALL CLOSE(IDCB)
      CALL PEN(IGCB,0)
      CALL PLOTR(IGCB,ID,0)
      END
      END$
```

APPENDIX I: PROCEDURES FOR FORMS.

```
DATA-BASE=PLANT1: GD;
;
8;
XEQ=PD8001;
DATA-BASE=PLANT2: GD;
;
8;
XEQ=PD8A01;
DATA-BASE=PLANT1: GD;
;
8;
XEQ=PD8002;
DATA-BASE=PLANT2: GD;
;
8;
XEQ=PD8A02;
DATA-BASE=PLANT1: GD;
;
8;
XEQ=PD8003;
DATA-BASE=PLANT2: GD;
;
8;
XEQ=PD8A03;
DATA-BASE=PLANT1: GD;
;
8;
XEQ=PD8004;
DATA-BASE=PLANT2: GD;
;
8;
XEQ=PD8A04;
DATA-BASE=PLANT1: GD;
;
8;
XEQ=PD8005;
DATA-BASE=PLANT2: GD;
;
8;
XEQ=PD8A05;
DATA-BASE=PLANT1: GD;
;
8;
XEQ=PD8006;
DATA-BASE=PLANT2: GD;
;
8;
XEQ=PD8A06;
DATA-BASE=PLANT1: GD;
;
```

```
51  8;
52  XEQ=PD8Ø07;
53  DATA-BASE=PLANT2: GD;
54  ;
55  8;
56  XEQ=PD8A07;
57  DATA-BASE=PLANT1: GD;
58  ;
59  8;
60  XEQ=PD8Ø08;
61  DATA-BASE=PLANT2: GD;
62  ;
63  8;
64  XEQ=PD8A08;
65  DATA-BASE=PLANT1: GD;
66  ;
67  8;
68  XEQ=PD8Ø09;
69  DATA-BASE=PLANT2: GD;
70  ;
71  8;
72  XEQ=PD8A09;
73  DATA-BASE=PLANT1: GD;
74  ;
75  8;
76  XEQ=PD8Ø10;
77  DATA-BASE=PLANT2: GD;
78  ;
79  8;
80  XEQ=PD8A10;
81  DATA-BASE=PLANT1: GD;
82  ;
83  8;
84  XEQ=PD8Ø11;
85  DATA-BASE=PLANT2: GD;
86  ;
87  8;
88  XEQ=PD8A11;
89  DATA-BASE=PLANT1: GD;
90  ;
91  8;
92  XEQ=PD8Ø12;
93  DATA-BASE=PLANT2: GD;
94  ;
95  8;
96  XEQ=PD8A12;
97  DATA-BASE=PLANT1: GD;
98  ;
99  8;
100 XEQ=PD8Ø13;
```

```
101  DATA-BASE=PLANT2: GD;
102  ;
103  8;
104  XEQ=PD8A13;
105  DATA-BASE=PLANT1: GD;
106  ;
107  8;
108  XEQ=PD8014;
109  DATA-BASE=PLANT2: GD;
110  ;
111  8;
112  XEQ=PD8A14;
113  DATA-BASE=PLANT1: GD;
114  ;
115  8;
116  XEQ=PD8015;
117  DATA-BASE=PLANT2: GD;
118  ;
119  8;
120  XEQ=PD8A15;
121  DATA-BASE=PLANT1: GD;
122  ;
123  8;
124  XEQ=PD8016;
125  DATA-BASE=PLANT2: GD;
126  ;
127  8;
128  XEQ=PD8A16;
129  DATA-BASE=PLANT1: GD;
130  ;
131  8;
132  XEQ=PD8017;
133  DATA-BASE=PLANT2: GD;
134  ;
135  8;
136  XEQ=PD8A17;
137  DATA-BASE=PLANT1: GD;
138  ;
139  8;
140  XEQ=PD8018;
141  DATA-BASE=PLANT2: GD;
142  ;
143  8;
144  XEQ=PD8A18;
145  DATA-BASE=PLANT1: GD;
146  ;
147  8;
148  XEQ=PD8019;
149  DATA-BASE=PLANT2: GD;
150  ;
```

```
151  8;
152  XEQ=PD8A19;
153  DATA-BASE=PLANT1: GD;
154  ;
155  8;
156  XEQ=PD8020;
157  DATA-BASE=PLANT2: GD;
158  ;
159  8;
160  XEQ=PD8A20;
161  DATA-BASE=PLANT1: GD;
162  ;
163  8;
164  XEQ=PD8021;
165  DATA-BASE=PLANT2: GD;
166  ;
167  8;
168  XEQ=PD8A21;
169  DATA-BASE=PLANT1: GD;
170  ;
171  8;
172  XEQ=PD8022;
173  DATA-BASE=PLANT2: GD;
174  ;
175  8;
176  XEQ=PD8A22;
177  DATA-BASE=PLANT1: GD;
178  ;
179  8;
180  XEQ=PD8023;
181  DATA-BASE=PLANT2: GD;
182  ;
183  8;
184  XEQ=PD8A23;
185  DATA-BASE=PLANT1: GD;
186  ;
187  8;
188  XEQ=PD8024;
189  DATA-BASE=PLANT2: GD;
190  ;
191  8;
192  XEQ=PD8A24;
193  DATA-BASE=PLANT1: GD;
194  ;
195  8;
196  XEQ=PD8025;
197  DATA-BASE=PLANT2: GD;
198  ;
199  8;
200  XEQ=PD8A25;
```

```
201  DATA-BASE=PLANT1:GD;
202  ;
203  8;
204  XEQ=PD8Ø26;
205  DATA-BASE=PLANT2:GD;
206  ;
207  8;
208  XEQ=PD8A26;
209  DATA-BASE=PLANT1:GD;
210  ;
211  8;
212  XEQ=PD8Ø27;
213  DATA-BASE=PLANT2:GD;
214  ;
215  8;
216  XEQ=PD8A27;
217  DATA-BASE=PLANT1:GD;
218  ;
219  8;
220  XEQ=PD8Ø28;
221  DATA-BASE=PLANT2:GD;
222  ;
223  8;
224  XEQ=PD8A28;
225  DATA-BASE=PLANT1:GD;
226  ;
227  8;
228  XEQ=PD8Ø29;
229  DATA-BASE=PLANT2:GD;
230  ;
231  8;
232  XEQ=PD8A29;
233  DATA-BASE=PLANT1:GD;
234  ;
235  8;
236  XEQ=PD8Ø3Ø;
237  DATA-BASE=PLANT2:GD;
238  ;
239  8;
240  XEQ=PD8A3Ø;
241  EXIT;
```

```
SELECT-FILE=SELFIL;
LIST=1;
FIND NAMES.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE0;
LIST=1;
FIND TRANS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE1;
LIST=1;
FIND TRANS.FACT# IE "1" AND TRANS.TRAML INE "0" END;
LIST=6;
REPORT NAME=#PGE2;
LIST=1;
FIND CARR.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE3;
REPORT NAME=#PGE4;
LIST=1;
FIND KNIVES.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE5;
LIST=1;
FIND SHRED.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE6;
LIST=1;
FIND MILLS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE7;
REPORT NAME=#PGE8;
LIST=1;
FIND FEEDS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE9;
REPORT NAME=#PGE10;
LIST=1;
FIND PRESS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE11;
LIST=1;
FIND SCREEN.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE13;
LIST=1;
FIND HEATER.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE14;
LIST=1;
FIND CLARIF.FACT# IE "1" END;
```

```
51  LIST=6;
52  REPORT NAME=#PGE15;
53  LIST=1;
54  FIND SEPAR.FACT# IE "1" END;
55  LIST=6;
56  REPORT NAME=#PGE16;
57  LIST=1;
58  FIND EVAP.FACT# IE "1" END;
59  LIST=6;
60  REPORT NAME=#PGE17;
61  LIST=1;
```

```
SELECT-FILE=SELFIL;
LIST=1;
FIND PANS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE20;
LIST=1;
FIND STOCK.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE21;
LIST=1;
FIND PUMPS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE22;
LIST=1;
FIND CRYST.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE23;
LIST=1;
FIND HGFUG.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE24;
LIST=1;
FIND LGFUG.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE25;
LIST=1;
FIND DRYER.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE26;
LIST=1;
FIND BOILER.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE27;
REPORT NAME=#PGE28;
LIST=1;
FIND BINS.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE29;
LIST=1;
FIND ELECT.FACT# IE "1" END;
LIST=6;
REPORT NAME=#PGE31;
LIST=1;
FIND ELECT.FACT# IE "1" AND ELECT.EPRTG INE "0" END;
LIST=6;
REPORT NAME=#PGE30;
LIST=1;
```

```
 1  SELECT-FILE=SELFIL;
 2  LIST=1;
 3  FIND PANS.FACT# IE "1" END;
 4  LIST=6;
 5  REPORT NAME=#PGE20;
 6  LIST=1;
 7  FIND STOCK.FACT# IE "1" END;
 8  LIST=6;
 9  REPORT NAME=#PGE21;
10  LIST=1;
11  FIND PUMPS.FACT# IE "1" END;
12  LIST=6;
13  REPORT NAME=#PGE22;
14  LIST=1;
15  FIND CRYST.FACT# IE "1" END;
16  LIST=6;
17  REPORT NAME=#PGE23;
18  LIST=1;
19  FIND HGFUG.FACT# IE "1" END;
20  LIST=6;
21  REPORT NAME=#PGE24;
22  LIST=1;
23  FIND LGFUG.FACT# IE "1" END;
24  LIST=6;
25  REPORT NAME=#PGE25;
26  LIST=1;
27  FIND DRYER.FACT# IE "1" END;
28  LIST=6;
29  REPORT NAME=#PGE26;
30  LIST=1;
31  FIND BOILER.FACT# IE "1" END;
32  LIST=6;
33  REPORT NAME=#PGE27;
34  REPORT NAME=#PGE28;
35  LIST=1;
36  FIND BINS.FACT# IE "1" END;
37  LIST=6;
38  REPORT NAME=#PGE29;
39  LIST=1;
40  FIND ELECT.FACT# IE "1" END;
41  LIST=6;
42  REPORT NAME=#PGE31;
43  LIST=1;
44  FIND ELECT.FACT# IE "1" AND ELECT.EPRTG INE "0" END;
45  LIST=6;
46  REPORT NAME=#PGE30;
47  LIST=1;
```

```
 1  SELECT-FILE=SELFIL;
 2  LIST=1;
 3  FIND NAMES.FACT# IE "30" END;
 4  LIST=6;
 5  REPORT NAME=#PGE0;
 6  LIST=1;
 7  FIND TRANS.FACT# IE "30" END;
 8  LIST=6;
 9  REPORT NAME=#PGE1;
10  LIST=1;
11  FIND TRANS.FACT# IE "30" AND TRANS.TRAML INE "0" END;
12  LIST=6;
13  REPORT NAME=#PGE2;
14  LIST=1;
15  FIND CARR.FACT# IE "30" END;
16  LIST=6;
17  REPORT NAME=#PGE3;
18  REPORT NAME=#PGE4;
19  LIST=1;
20  FIND KNIVES.FACT# IE "30" END;
21  LIST=6;
22  REPORT NAME=#PGE5;
23  LIST=1;
24  FIND SHRED.FACT# IE "30" END;
25  LIST=6;
26  REPORT NAME=#PGE6;
27  LIST=1;
28  FIND MILLS.FACT# IE "30" END;
29  LIST=6;
30  REPORT NAME=#PGE7;
31  REPORT NAME=#PGE8;
32  LIST=1;
33  FIND FEEDS.FACT# IE "30" END;
34  LIST=6;
35  REPORT NAME=#PGE9;
36  REPORT NAME=#PGE10;
37  LIST=1;
38  FIND PRESS.FACT# IE "30" END;
39  LIST=6;
40  REPORT NAME=#PGE11;
41  LIST=1;
42  FIND SCREEN.FACT# IE "30" END;
43  LIST=6;
44  REPORT NAME=#PGE13;
45  LIST=1;
46  FIND HEATER.FACT# IE "30" END;
47  LIST=6;
48  REPORT NAME=#PGE14;
49  LIST=1;
50  FIND CLARIF.FACT# IE "30" END;
```

```
51  LIST=6;
52  REPORT NAME=#PGE15;
53  LIST=1;
54  FIND SEPAR.FACT# IE "30" END;
55  LIST=6;
56  REPORT NAME=#PGE16;
57  LIST=1;
58  FIND EVAP.FACT# IE "30" END;
59  LIST=6;
60  REPORT NAME=#PGE17;
61  LIST=1;
```

```
 1  SELECT-FILE=SELFIL;
 2  LIST=1;
 3  FIND PANS.FACT# IE "30" END;
 4  LIST=6;
 5  REPORT NAME=#PGE20;
 6  LIST=1;
 7  FIND STOCK.FACT# IE "30" END;
 8  LIST=6;
 9  REPORT NAME=#PGE21;
10  LIST=1;
11  FIND PUMPS.FACT# IE "30" END;
12  LIST=6;
13  REPORT NAME=#PGE22;
14  LIST=1;
15  FIND CRYST.FACT# IE "30" END;
16  LIST=6;
17  REPORT NAME=#PGE23;
18  LIST=1;
19  FIND HGFUG.FACT# IE "30" END;
20  LIST=6;
21  REPORT NAME=#PGE24;
22  LIST=1;
23  FIND LGFUG.FACT# IE "30" END;
24  LIST=6;
25  REPORT NAME=#PGE25;
26  LIST=1;
27  FIND DRYER.FACT# IE "30" END;
28  LIST=6;
29  REPORT NAME=#PGE26;
30  LIST=1;
31  FIND BOILER.FACT# IE "30" END;
32  LIST=6;
33  REPORT NAME=#PGE27;
34  REPORT NAME=#PGE28;
35  LIST=1;
36  FIND BINS.FACT# IE "30" END;
37  LIST=6;
38  REPORT NAME=#PGE29;
39  LIST=1;
40  FIND ELECT.FACT# IE "30" END;
41  LIST=6;
42  REPORT NAME=#PGE31;
43  LIST=1;
44  FIND ELECT.FACT# IE "30" AND ELECT.EPRTG INE "0" END;
45  LIST=6;
46  REPORT NAME=#PGE30;
47  LIST=1;
```

APPENDIX J: TITLE PAGES.

$$ CONTENTS

$$

$$$$ 1

$$ KEY TO MILL NUMBERS

No.	FACTORY

51							
52	1	..	..	..	..	..	MOSSMAN
53	2	..	..	..	..	..	HAMBLEDON
54	3	..	..	..	..	..	MULGRAVE
55	4	..	..	..	..	..	BABINDA
56	5	..	..	..	..	..	GOONDI
57	6	..	..	..	..	..	MOURILYAN
58	7	..	..	..	..	..	SOUTH JOHNSTONE
59	8	..	..	..	..	..	TULLY
60	9	..	..	..	..	..	VICTORIA
61	10	..	..	..	..	..	MACKNADE
62	11	..	..	..	..	..	INVICTA
63	12	..	..	..	..	..	PIONEER
64	13	..	..	..	..	..	KALAMIA
65	14	..	..	..	..	..	INKERMAN
66	15	..	..	..	..	..	PROSERPINE
67	16	..	..	..	..	..	FARLEIGH
68	17	..	..	..	..	..	RACECOURSE
69	18	..	..	..	..	..	PLEYSTOWE
70	19	..	..	..	..	..	MARIAN
71	20	..	..	..	..	..	CATTLE CREEK
72	21	..	..	..	..	..	NORTH ETON
73	22	..	..	..	..	..	PLANE CREEK
74	23	..	..	..	..	..	FAIRYMEAD
75	24	..	..	..	..	..	QUNABA
76	25	..	..	..	..	..	MILLAQUIN
77	26	..	..	..	..	..	BINGERA
78	27	..	..	..	..	..	ISIS
79	28	..	..	..	..	..	MARYBOROUGH
80	29	..	..	..	..	..	MORETON
81	30	..	..	..	..	..	ROCKY POINT

APPENDIX K: PROCEDURE FOR SUMMARY.

```
DATA-BASE=PL80A:GD;;8;
SELECT-FILE=SELFIL;
FIND TRANS.FACT# INE "0" END;
LIST=6;
REPORT;
H1," ",10;
H2,"FACTORY",10;
H2,"LOCOMOTIVES",25;
H2,"CANE TRUCK#",40;
H2,"TRAM LINE, km",57,SPACE A1;
S1,FACT#;
G1,FACT#,8,EZ;
T1,LOCOS,20,EZ,ADD;
T1,TRUCK#,35,EZ,ADD;
T1,TRAML ,50,EZ,ADD;
TF,"STATE",6,SPACE B1;
TF,LOCOS,20,EZ,ADD;
TF,TRUCK#,35,EZ,ADD;
TF,TRAML ,50,EZ,ADD;
END;
LIST=1;
FIND MILLS.FACT# INE "0" END;
LIST=6;
REPORT;
H1," ",10;
H2,"FACTORY",10;
H2,"NO OF MILLS",25,SPACE A1;
S1,FACT#;
G1,FACT#,8,EZ;
T1,FACT#,20,EZ,COUNT;
TF,"STATE",6,SPACE B1;
TF,FACT#,20,EZ,COUNT;
END;
LIST=1;
FIND HEATER.FACT# INE "0" END;
LIST=6;
REPORT;
H1," ",10;
H2,"FACTORY",10;
H2,"NO OF HEATERS",27,SPACE A1;
S1,FACT#;
G1,FACT#,8,EZ;
T1,JH#,20,EZ,ADD;
TF,"STATE",6,SPACE B1;
TF,JH#,20,EZ,ADD;
END;
LIST=1;
FIND EVAP.FACT# INE "0" END;
LIST=6;
REPORT;
```

```
51  H1," ",10;
52  H2,"FACTORY",10;
53  H2,"NO OF EVAPORATORS",30,SPACE A1;
54  S1,FACT#;
55  G1,FACT#,8,EZ;
56  T1,FACT#,20,EZ,COUNT;
57  TF,"STATE",6,SPACE B1;
58  TF,FACT#,20,EZ,COUNT;
59  END;
60  DATA-BASE=PL80B:GD;;8;
61  LIST=1;
62  FIND PANS.FACT# INE "0" AND PANS.GDE IE "HG" END;
63  LIST=6;
64  REPORT;
65  H1," ",10;
66  H2,"FACTORY",10;
67  H2,"NO OF H.G. PANS",30,SPACE A1;
68  S1,FACT#;
69  G1,FACT#,8,EZ;
70  T1,FACT#,20,EZ,COUNT;
71  TF,"STATE",6,SPACE B1;
72  TF,FACT#,20,EZ,COUNT;
73  END;
74  LIST=1;
75  FIND PANS.FACT# INE "0" AND PANS.GDE IE "LG" END;
76  LIST=6;
77  REPORT;
78  H1," ",10;
79  H2,"FACTORY",10;
80  H2,"NO OF L.G. PANS",30,SPACE A1;
81  S1,FACT#;
82  G1,FACT#,8,EZ;
83  T1,FACT#,20,EZ,COUNT;
84  TF,"STATE",6,SPACE B1;
85  TF,FACT#,20,EZ,COUNT;
86  END;
87  LIST=1;
88  FIND CRYST.FACT# INE "0" END;
89  LIST=6;
90  REPORT;
91  H1," ",10;
92  H2,"FACTORY",10;
93  H2,"NO OF CRYSTALLIZERS",33,SPACE A1;
94  S1,FACT#;
95  G1,FACT#,8,EZ;
96  T1,CS#,20,EZ,ADD;
97  TF,"STATE",6,SPACE B1;
98  TF,CS#,20,EZ,ADD;
99  END;
100 LIST=1;
```

```
101  FIND HGFUG.FACT# INE "0" END;
102  LIST=6;
103  REPORT;
104  H1," ",10;
105  H2,"FACTORY",10;
106  H2,"NO OF H.G. FUGALS",30,SPACE A1;
107  S1,FACT#;
108  G1,FACT#,8,EZ;
109  T1,FH#,20,EZ,ADD;
110  TF,"STATE",6,SPACE B1;
111  TF,FH#,20,EZ,ADD;
112  END;
113  LIST=1;
114  FIND LGFUG.FACT# INE "0" AND LGFUG.FLMODE IE "CONTINUOUS" END;
115  LIST=6;
116  REPORT;
117  H1," ",10;
118  H2,"FACTORY",10;
119  H2,"NO OF CONTINUOUS L.G. FUGALS",40,SPACE A1;
120  S1,FACT#;
121  G1,FACT#,8,EZ;
122  T1,FL#,20,EZ,ADD;
123  TF,"STATE",6,SPACE B1;
124  TF,FL#,20,EZ,ADD;
125  END;
126  LIST=1;
127  FIND LGFUG.FACT# INE "0" AND LGFUG.FLMODE IE "BATCH" END;
128  LIST=6;
129  REPORT;
130  H1," ",10;
131  H2,"FACTORY",10;
132  H2,"NO OF BATCH L.G. FUGALS",35,SPACE A1;
133  S1,FACT#;
134  G1,FACT#,8,EZ;
135  T1,FL#,20,EZ,ADD;
136  TF,"STATE",6,SPACE B1;
137  TF,FL#,20,EZ,ADD;
138  END;
139  LIST=1;
140  FIND BOILER.FACT# INE "0" END;
141  LIST=6;
142  REPORT;
143  H1," ",10;
144  H2,"FACTORY",10;
145  H2,"NO OF BOILERS",26,SPACE A1;
146  S1,FACT#;
147  G1,FACT#,8,EZ;
148  T1,BO#,20,EZ,ADD;
149  TF,"STATE",6,SPACE B1;
150  TF,BO#,20,EZ,ADD;
```

```
151  END;
152  LIST=1;
153  FIND ELECT.GS# INE "0" END;
154  LIST=6;
155  REPORT;
156  H1," ",10;
157  H2,"FACTORY",10;
158  H2,"NO OF GENERATING SETS",32,SPACE A1;
159  S1,FACT#;
160  G1,FACT#,8,EZ;
161  T1,GS#,20,EZ,ADD;
162  TF,"STATE",6,SPACE B1;
163  TF,GS#,20,EZ,ADD;
164  END;
165  EXIT;
```