

---

# ***PROBILL — Evaluation Pack***

---

This evaluation pack will assist you in assessing ***PROBILL*** prior to purchasing a full user licence. (The cost of the pack will be credited against the cost of any ***PROCON*** software licence purchased within the following 90 days.)

Any commercial use of the evaluation system, or attempt to copy, transfer, adapt or reproduce the code, displays, or ideas contained within the program, contravenes the licence purchase agreement and will cause material damage to ***PROCON Construction Systems***.

The evaluation program has a number of restrictions and capacity limitations. These are:—

- It is useable for ***90 days*** only.
- Each job you enter may be accessed only ***SIX*** times.
- Report ***header*** cannot be changed.
- ***Capacity*** is limited to the tutorial size.
- ***Digitiser*** use can only be simulated.

Install the evaluation system on your hard disk by placing the program disk in drive A, then change to drive A by typing   
. Then type    
and follow the directions.

---

## Part B — Tutorial

### Preamble

If you have not yet installed **PROBILL** on your harddisk, read **Getting Started** in *Appendix 1*. (If you have the **DIGITIZER** version of the program, you should also read the digitizer installation instructions in *Appendix 11*.)

If you have not viewed the **PROCON** “slide show” **DEMONSTRATION** program describing **PROBILL**, you may wish to look at it *before* starting the tutorial.

### Running the Demo

When you install **PROBILL**, the demonstration is automatically copied to your harddisk. To run it just type `CD \PROCON` and press  to change to the directory, type **DEMO** and press . If the demonstration has been removed—or you wish to install it on another machine—place the program or demonstration disk in **drive A**, type  to change to that drive. Then type **DEMO**, press , and follow the instructions.

### The Tutorial

The tutorial assumes that the program is installed on **drive c:** and that you are using the directories created by the installation program. If this is not the case, you must interpret the following instructions appropriately. The tutorial introduces **PROBILL** and covers all the basic functions you will need to *set up a contract*, perform *escalation calculations*, handle *variations*, and produce *Progress Payment Certificates*. (If you do not work with contracts subject to escalation, you can skip that portion of the tutorial.) More advanced facilities can be explored when the need arises.

It is assumed that you understand the terminology of *Contract Billing*, have some knowledge of the *practical aspects* of contract administration, and have at least some basic acquaintance with the computer and operating system. If you are not familiar with the terminology of contract *Bills of Quantities*, *Schedules of Rates*, or *escalation formulae*, you should read *Appendix 3* before continuing.

If you have already used other **PROCON** software packages—such as the **PROBID Cost Estimating & Tendering System** or the **PROPLAN Project Scheduling System**—you should be able to run quickly through much of the early material, as the user’s interaction with each program is very similar.

The tutorial is designed to illustrate *principles* so the examples are deliberately non-specialist in nature. This does not mean that **PROBILL** is not applicable to more

specialised types of work—it is just that the tutorial must be comprehensible to a wide range of users.

**Starting PROBILL**

Type `CD \PROBILL\SYS` and press `[Enter]` to change to the **system** directory. Type `PROBILL` and press `[Enter]`. A logo appears with some system information and then...

**Menu System**

The **PROBILL** header line and menu system appear. The **Master menu** is currently active. It looks like this:–

PROBILL CONTRACT BILLING SYSTEM				System date: Wed, 15JUN94	
MASTER	UTILITY	EXPORT	ITEM	ESCALATION	HELP
<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     New Contract                      ConSolidation                      Print Reports                      List Contracts                      Edit Contract                      Remove Contract                      Data Directory                      Customisation                 </div>					

**PROBILL** is menu driven. The menus are “intelligent” and try to suggest the most appropriate continuation to you at all times. Currently this is the **Customisation** option—which allows you to *choose a printer, set currency formats*, and change other program parameters to suit your preferences.

**Selecting from Menus**

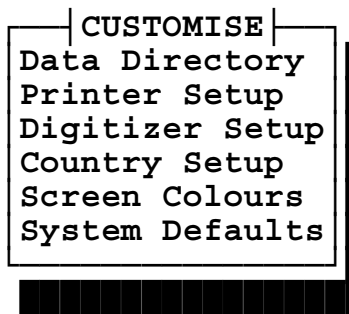
You do not have to accept a suggested menu option. An alternative choice may be made from the same menu in several different ways:–

- by keying the **highlighted letter** shown for the **desired choice**, or...
- by keying the **number** of the **desired choice**, or...
- by **moving the highlight** to the **choice** and pressing `[Enter]`.

`[Spacebar]` or `[↓]` move the highlight *down*. (If the keyboard does not have a separate cursor keypad, make sure `[Num Lock]` is off.) `[↑]` moves the highlight up. (The highlight “rolls around” if you go beyond the *top* or *bottom* selections.) `[PgUp]` and `[PgDn]` move directly to the *first* or *last* choice.

## Customising PROBILL

Hit **C** for **Customisation** and this selection list (“picklist”) appears:—



(The DIGITIZER option does not appear in all versions.)

**PROBILL** is essentially “ready to run” as installed, so the **Customisation** options are not examined in great depth in the tutorial. (*Appendix 8* in *Part D* of the manual covers **Customisation** in detail.)

However, you should at least provide **PROBILL** with some information on your printer. Use the **↑** and **↓** arrow keys to move the highlight to **Printer Setup**. Press **Enter** to select it. The following screen appears:—

```

PRINTER SETUP                                     System date: Wed, 15JUN94
Report Header  PROBILL - CONTRACT BILLING SYSTEM  Shade Headers? Yes
Device  PRN           Laser Printer? No           Printer  No Printer Selected
                Wide Paper? Yes           Lines/Page 66
                DECIMAL Control Codes for PRINT operation
Initialisation codes
Set PICA      pitch
Set ELITE     pitch
Set CONDENSED pitch
START BOLD printing
END   BOLD printing
F2 record  F10 cancel  F4 bring fwd  F3 blank fld  ↑↓  PgUp top  PgDn bottom
Header appears on printed reports                CAP NUM
  
```

The first *box* (called a “field”) is for the standard **Report Header**. Other fields allow you to specify the **type of printer** and **size of paper** you are using. While you may not *have* to change most of these values, we will practice *moving through the fields, requesting help and editing field contents*.

### Moving from Field to Field

Move around the screen—as you did with the menu—using **↓**, **↑**, **PgUp** and **PgDn**. The **Enter**—or **Tab**—key moves the cursor to the *next field*. Fields are originally solid white but open up and show “sidebars” once accessed. To catch your attention, the active field (the one containing the cursor) has highlighted sidebars.

## Field Information Messages

As you move from field to field, you will notice that specific information appears on the bottom line. Press **[PgUp]** to return to the first field—the **Report Header**.

## Help System—**[F1]**

**[F1]** is always the **HELP** key. Press it to obtain help with the current field. A window of information on the **Report Header** field appears in the centre of the screen. The *help system* explains that the **Report Header** appears on all printed reports and suggests that—in commercial versions of the program—you might use your organisation or department name here.

The *help system* allows you to **list** *key assignments* and *help topics*, **find** *help topics*, or **follow** a *hypertext chain* through the screens, etc. For more details hit **[F5]** while still within *help* and enter the keyword “**HELP**”—or see **Getting Help** on *page C-5*.

The **[Esc]**ape key **CANCELS** a function, so press it to remove the help window and return to the **Report Header** field.

## Field Editing

Spend a minute to familiarise yourself with text entry. To make editing as easy as possible, input is in a special “word processor” mode. **[←]** and **[→]** move the cursor *one character* left or right.

**[End]** moves to the *end of any text in the field*. If the cursor is already at the end of the text—or the field is blank—it moves to the *right edge of the field*. If pressed again, it moves to the *last field*. **[Home]** returns the cursor to the *left margin*. If pressed a second time, it moves to the *first field* on the screen.

**[Del]**ete *removes* the character under the cursor and moves text back to close the gap. **[Bksp]**—usually marked with a large left arrow—moves the *cursor and text to the left*—overwriting any character there. **[Ins]**ert toggles between *overstrike* and *insert* mode. The cursor is a full block—like this **█**—in insert mode.

**[Caps Lock]** can be toggled, enabling *upper case* characters to be typed without using the **[Shift]** keys. While it is engaged, a small **CAP** is shown in the bottom right corner of the screen and the cursor changes to a half block—like this **▣**.

Experiment with the edit keys. If you change a field, hit **[Esc]**ape to *restore its original contents*. Newly entered—or changed—text is “*highlighted*” (bright yellow on a colour monitor) to draw your attention to amendments. If you change several fields, you can use **[F10]**—the **CANCEL** key—to restore the complete screen.

## Single Character Fields

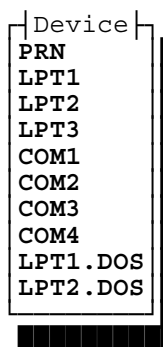
Press **[Enter]** to move to the **Shade Headers?** field. (This field setting determines whether the title line on reports is *background shaded*. Shading can improve the appearance of reports but not all printers do it effectively. More on this later...)

When a *single character field* offers several alternatives, use the **[Spacebar]** to roll through the choices and hit **[Enter]**—or just the *first letter* of your choice. (Upper or lower case responses are accepted so don't worry about **[Shift]** or **[Caps Lock]**.) Your selection *expands* to “**Yes**” or “**No**” and the cursor moves on to the next field.

## Selection Lists—**[F6]**

The **Device** field allows you to change the *print destination*. You could change this setting by typing in the new value. However, typing is *tedious* and *error prone*. As there are only a limited number of valid entries it is better to get **PROBILL** to list them.

To do this hit **[F6]**—the **SELECT** key (or the *left* mouse button). A small *picklist* opens near the field and lists all valid choices for this field. It looks like this:—



Hit **[Esc]** to *remove* the list *without* changing the field's contents. (The setting should always be left at **PRN** if your printer is connected to the standard parallel port—or if a serial port has been configured to emulate the parallel port.)

Don't know what a device is? It really doesn't matter. **PROBILL** can direct reports to printers on different “devices” or “ports”. **PRN** almost always works and is usually the *best* setting...

Press **[Enter]** (or the *right* mouse button) to move on to the **Laser Printer?** field.

## Laser Printers

Hit **[F6]** to pop up a *picklist*.

A *trivial* list when there are only *two* choices! But it illustrates the point that a picklist is *always* available from fields offering a limited range of choices...

You may choose from these simple lists in several ways. The *first letter* of a choice—from the highlight down—selects it. (So you can still select **Yes** by pressing **[Y]**.) The

highlight can be moved with  and . ( and ) reposition the window itself.) Pressing —or the *right* mouse button—transfers your choice into the field and removes the window. ape—or pressing the *left* and *right* mouse buttons together—cancels the function.

If you are using an **HP Laserjet** compatible printer, select es. Fields appear for the printer's **Paper Size**—usually the same as the **tray size**—and to indicate whether it supports **Scalable Fonts**.

If you have to change the paper tray size, hit  to list the various paper size options and choose a paper size. Leave the **Scalable Fonts?** field set to es unless you have an older laser printer. Then skip forward to **Recording a Screen**. **PROBILL** directly manages laser printers to relieve you of printer control worries...

### Printer Selection Field

If you set the **Laser Printer?** field to “**No**” the cursor moves on to the **Printer** field. Press —the **SELECT** key—to pop up a *picklist* of pre-defined printers.

You *can* provide **PROBILL** with all the page size and control code information for your printer by directly entering it in fields in the lower portion of this screen. However, selecting from a list is much easier. (If you *do* wish to provide these details yourself—perhaps because you have an unusual printer, or wish to add some special enhancements to reports—see **Printer Setup**, page D-23 for more information on these fields).

The list is too long to show *all* printers—even on a 50 line display. This is shown by an arrow at the *top* and *bottom* of the *right side* of the “frame”. Scroll through the list with the cursor keys. (The rectangular “scroll bar” shows the relative position of the current choice in the list by its position between the top and bottom of the frame. The figure at the *top left* of the window is the total number of choices in the selection list.) If you type the first few characters of a printer's name, the list sorts alphabetically and the highlight advances to the first choice matching the characters entered.

This list is actually “user definable”. You could change it or even delete it and create your own list covering only the printers your organisation uses. The list of *devices* mentioned earlier is another example. **User Defined lists** are discussed in more detail later...

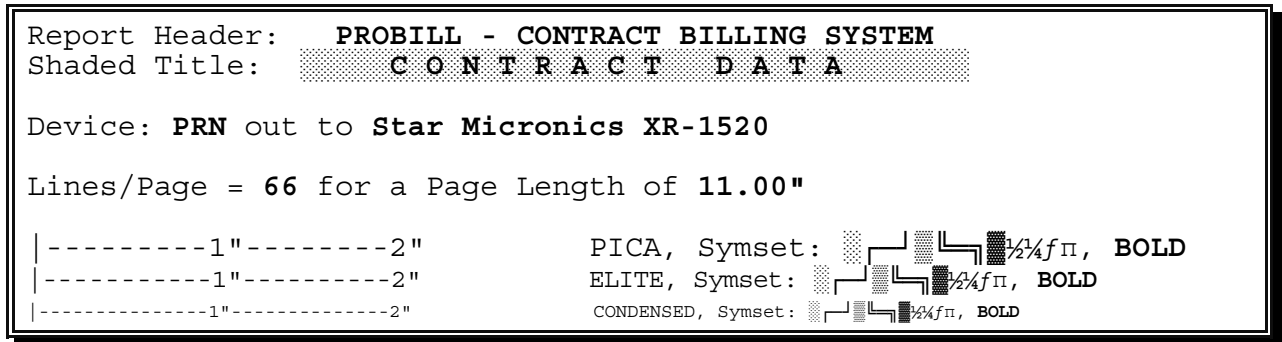
*Select* a printer. (If your printer is not included in the list, choose one of the **EPSON** printers. Most dot matrix printers can emulate the **EPSON FX** or **LQ** printer.) Lower fields are filled with the correct information for the printer you have chosen.

### Recording a Screen—

Press —the **RECORD** key—to save the changes made to this screen.

**IMPORTANT!** Screen changes are *not* saved until you hit  to **RECORD** them!

A prompt appears:— “Print a Test Sheet? (Y/N)”. Switch your printer *on* and respond es. The printer will print a *test page* that should look like this:—

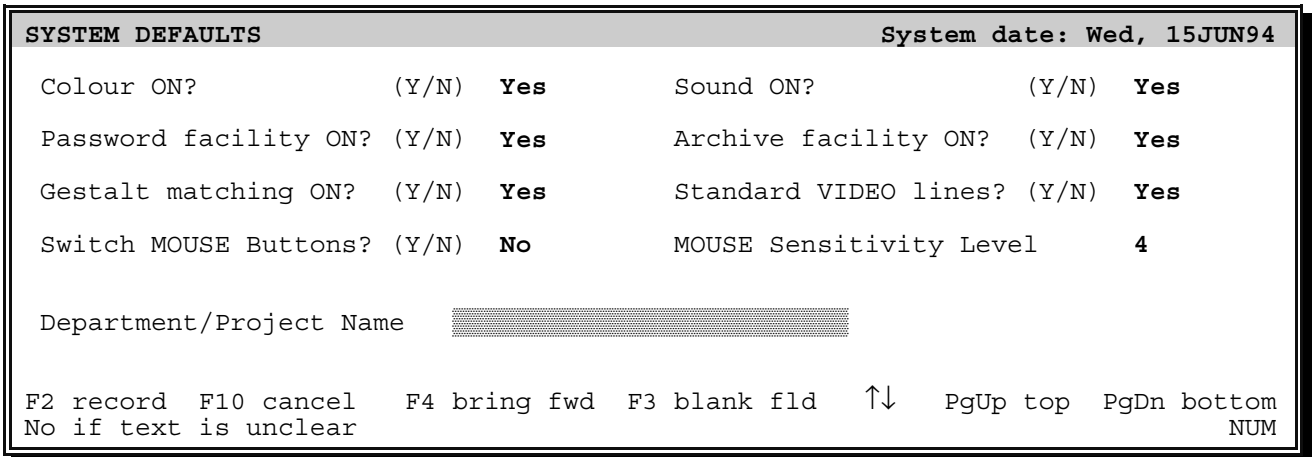


(Laser printer output is slightly different.) Check that the pitch setting commands are producing approximately the correct pitch, that the characters in the symbol set match those shown, and that the shaded header is legible. Confirm the settings are correct by answering es to the prompt. (If the printout shows the codes are *not* correct, select o to return to the screen. See *Printer Setup, page D-23* for more information.)

**PROBILL** returns to the **Master menu**. Select **Customisation** and then **System Defaults** from the picklist that appears.

**Changing System Defaults**

The **System Defaults** screen looks like this:—



(*System defaults, page D-34* explains all these fields in detail. In the tutorial, we will leave most at their default values.) Press gDn to move to the last field—the **Department/Project Name** field.

**Department or Project Name**

Sensible defaults avoid the need to key the same information into every new contract. For instance, assume all users belong to just one section—*Mechanical Engineering*.



Enter:– “Mech Engineering Division”. (A “beep” warns you that the cursor is at the end of the field.) Press [F2] to RECORD the changed screen. The Master menu returns.

## Creating a Contract

### Initial Setup 15JUN94

Hit [N] to select **New Contract**. A prompt appears for the “**New Contract Name**”. (Page A/1 of Appendix A—Schedule of Rates in Part D of the Manual—contains a sample contract document for a small job. Please refer to that now.)

### Contract Name & Password

Type in the contract name:– “**BULLAMAKANKA DAM - TUTORIAL EXAMPLE**” and press [Enter]. (The name appears on *Progress Payment Certificates*—so the full name should be given.) The **Password** option in **System defaults** was left *on* so you are prompted to enter a *password*. Leave the field *blank* and press [Enter].

A password restricts access to the job. Any word or phrase *could* be used. You would then be required to provide the password each time you accessed the job. Passwords should only be used if they are properly secured and there is no danger of forgetting them!

### Contract Details Screen

The **Contract Details** screen then appears for entry of some *general job details*.

<b>CONTRACT DETAILS</b>		System date: Wed, 15JUN94	
Department or Project Code	ME	Department	Mech Engineering Division
Job Number		Round Extended Amounts to	Cent
Approved Contract Value	\$		
Contractor			
Owner			
Markup(+) or Discount (-)	%	Percentage Retention	%
Maximum Retention	%	and/or	\$
Contract Name	BULLAMAKANKAáDAMáúáTUTORIALáEXAMPLE		Password
ADD Mode    Alt Notepad    Alt Jotter    Alt = PROCALC    Alt - Calendar F2 record    F10 cancel    F4 bring fwd    F3 blank fld    ↑↓    PgUp top    PgDn bottom Identify overall department OR project responsible <span style="float: right;">NUM</span>			

Change the **Department code** to **MD**—for **Mechanical Department**—and move down to the **Job Number** field and enter **M94/12345**. Bypass the next field and enter **943 851.83** in the **Approved Contract Value** field.

### Numeric Fields

The **Approved Contract Value** field only accepts *numeric* input. Other keys just produce warning beeps. Entry is “free form” and whole dollars may be entered without cents. Values may be *left* or *right justified* and spaces can be used to “set off” the thousands.

### Contractor's Name & Address

Move down to the **Contractor's name** and **address** fields, and type:–

```
FAR WESTERN GENERAL CONTRACTORS PTY LTD
112 Bogan Street
P.O. Box 4
NEVERTIRE NSW 2831
```

### More Field Editing

Unless your typing is unusually good, you will have found it difficult to type all this without some mistakes. To help you move around the fields and correct errors, try some of these edit commands:–

**Ctrl** with **←** or **→** jumps to the *previous* or *next* “word” in the field.

**Shift****F7** converts a character to *lower case* while **Shift****F8** makes it *UPPER case*.

**Shift****F9** *switches* the case of the character. In each instance, the cursor moves on to the next character, so *holding down one of these key combinations* quickly changes the case of *complete words or phrases*.

**Ctrl****End**—or **Ctrl****Enter**—*deletes all text* from the cursor to the end of the field.

### Cut & Paste—**Alt****D** - **Alt****I**

What about *rearranging the lines in the address*? Let's place the **post box number** *before* the **street address**—for a more conventional address layout. (Of course, you could just re-type the changed fields. However, this is a good time to introduce some of the more specialised edit functions.) Sets of *identical fields*—such as these address lines—can be *inserted* and *deleted* and “**Cut and Paste**” techniques used to actually *move* and *rearrange* the fields.

Move to the **post box line** and key **[Alt][D]** to *delete the line*. (**[Alt][D]** means hold down the **[Alt]** key and then press **[D]**. The **[Alt]** and **[Ctrl]** keys are used like the **[Shift]** key to extend the functionality of standard keys.) Lower lines move up to close the gap. The deleted line is saved in a “cut buffer” and can be recalled. Move up to the **street address line** and key **[Alt][I]** to *insert the cut buffer* before that line. The order of the lines has now been changed.

### Owner's Name & Address

Move down to the **Owner's name** field. Some entry is also required in this field...

### Mandatory Fields

Leave the name field *blank* and press **[Enter]**. Flashes and beeps warn you that this is a “*must enter*” field—it cannot remain blank.

The **Principal's name** and **address** is given on *page A/1* of *Appendix A* so you could type it in just as you did for the **Contractor**. However, let's assume that these details have been used on earlier jobs (either because, as the *Contractor*, you often work for this *Client*—or, as an *employee of the Owner*, this detail is the *same on every job*). Surely we should be able to avoid retyping this detail every time...

### User Defined Lists—**[F6]** & **[Shift][F6]**

Hit **[F6]** in the **name** or **address** fields. A *picklist* list appears containing several *Owners' names*. Select the **BULLAMAKANKA POWER & WATER COMMISSION** and the name and address will be transferred into the fields and the cursor will move on to the following field.

Names and addresses may be added to the list with **[Shift][F6]**. This is just *one* example of *one* type of “**User Defined list**” you can manage yourself. (Others are the **Printer** and **Device** lists used earlier.) *Many* **PROBILL** fields can have **User Defined lists** associated with them. (This feature is described in detail in *Appendix 12* in *Part D* of the manual.)

Before moving on to the other fields, let's assume that there are a few *contract payment conditions* you would also like to record. There are no specific fields for *general text* but you can use one of the **PROBILL** “tools”. Press **[Alt][N]** and...

### NOTEPAD—**[Alt][N]** or **[F11]**

A **NOTEPAD** appears over the primary screen. It allows you to attach “*free form*” notes to records. (The visible window is only part of the available **NOTEPAD**.) Text is entered

in much the same way as in single line fields. Hit **[F1]** for **HELP** on the extended editing and formatting functions. Then **[Esc]**ape from **HELP** and enter the following notes:—

Materials on Site paid at 100% of cost.  
Establishment items paid to 90% when work commences.

The **NOTEPAD** can be used for many purposes—as a reminder of *special payment provisions*; to record *problems encountered*; as a convenient way of appending “*tickler notes*” to reports sent to people involved in the contract—or as a *job diary*, or “*aide memoire*”.

Press **[F2]** to save the **NOTEPAD** and close the window.

### Markup or Discount

Bypass the **Markup/Discount** field. (This is rarely used in construction contracts. It applies a *general percentage increase or decrease* to the *calculated amounts payable*.)

### Retention Rate

The contract has a **retention rate** of 10% so enter 10 in this field. (*Retention*—or “*holdback*”—is an amount of money withheld from progress payments until the project is satisfactorily completed).

### Maximum Retention

The **total retention** is also “*capped*” at 5% of the approved contract value—so key 5 in the **Maximum Retention** field.

If a **Maximum Retention** is specified it is usually as a *percentage* or *dollar amount* (or *both*)—hence the two fields on this line. **PROBILL** can also handle much more complex formulae. (See *Appendix 4* for more details.)

Press **[F2]** to **RECORD** the screen. (If you have pressed **[Enter]** you will be queried “**Proceed? (Y/N)**”. Answering **[Y]**es to the prompt also **RECORDs** the screen.) **PROBILL** moves directly to **Add Items** mode—as it assumes that this is the next logical step.

**PROBILL** can be configured to automatically read in a standard list of *item groups*, *escalation classes*, and *formula* every time a new contract is created (See *Appendix 8—Customising PROBILL*.) However, the tutorial assumes that this has *not* been done and so we will have to create this detail as we go...

## Item Entry

### Add Items Mode

The **Item entry** screen looks like this:—

Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE				System date: Wed, 15JUN94	
#1	CODE	DESCRIPTION	CONTRACT DATA  Initial Setup 0 Items		
Group	<input type="text"/>	<input type="text"/>			
Section	<input type="text"/>	<input type="text"/>			
Item	<input type="text"/>	<input type="text"/>			
Measure Unit	<input type="text"/>	Contract Qty	<input type="text"/>	LM	Unit Rate \$ <input type="text"/> 0.00
Escalation Class	<input type="text"/>	Contract Amount \$		<input type="text"/>	

### Group Codes

Before entering items you should give some thought to the way in which they will be *subtotalled* and *sorted*. **PROBILL** allows you to organise **items** into **sections** and, in turn, sections into **groups**.

Subtotals will be given at both *section* and *group* level. **Groups**, **sections** and **items** may be sorted *alphabetically by code*. It is therefore important that you use a logical structure and coding scheme for groups, sections and items. *Page A/1 of Appendix A* in *Part D* is the *Schedule of Rates* for this contract. (It is not meant to be a good example of consistent item numbering—but it does illustrate some of the coding schemes you may encounter in practice.) This contract document has a *natural structure* so we should follow it. The **CIVIL ENGINEERING** and **BUILDING** divisions are logical *groups* which must be further subdivided into *sections*.

Press Home to move the cursor to the *first field*—the **Group code**. Enter **G1** and press Enter to move to the **Group description** field. Key in **CIVIL ENGINEERING WORK**.

### Section Codes

Press Enter again to move down to the **Section** line. Enter a section **code E000** and a section **description DRILLING & BLASTING**.

Obviously, when this is sensible—and produces correctly sorted groups and sections, you should follow the numbering given in the contract documents. (When keying in group, section, or item codes, be careful to distinguish between 0 and o, 1, 1 and I, etc.).

### Item Codes

Move down and enter the **Item code** **A1a** and **description** **DRILLING ESTABLISHMENT**.

*Group, section, and item codes may use any alphanumeric character. Case and position are both significant. Be sure the item code is “right justified” in the five character field like this, **| A1a|** rather than **|A1a |**, and has not been entered as **| a1A|**. (If the item code is *not* right justified return to the code field and hit **[Shift][F4]**—the **RIGHT JUSTIFY** command.)*

### Measure Unit

Enter the **Measure Unit**—“**LS**” (an abbreviation for *Lump Sum*). As it is a “*Lump Sum*” item, **PROBILL** will “fill in” a default value of **1** in the **Contract Quantity** field.

Note that the **Measure Unit** field is another “must fill” or mandatory field. You *must* provide *some* entry here or the program will prevent you from leaving the field.

### Contract Quantity

Leave the quantity value at **1**. Quantities can be in *any* position in the field. **PROBILL** saves quantities in the format you enter.

### Unit Rate

Key in the **Unit Rate** of **8700**. (You may enter integral rates without cents.)

At this stage, you will not be entering an **Escalation Class** so you have finished with this screen. Check the data—correcting it if necessary by moving around with **[↑]** and **[↓]**, and editing the fields. Note that the **Contract Amount** is calculated and displayed when you leave the **Unit rate** field so always check this figure against the listing for the item. It is a quick way of confirming that *both* the **quantity** and **unit rate** are correct.

Press **[F2]** to **RECORD** the screen. The item is saved—with a distinctive sound—and the fields blanked for entry of the next item. Many fields for the second item are similar to the first, so you should be able to “short cut” the typing...

### Bringforward Command—**[F4]**

Press **[F4]**. In **ADD** mode, this copies fields from the previous item. (If pressed in the *first* field, *all* fields are “brought forward”. In subsequent fields only the current field is copied.)

**BRINGFORWARD** is particularly handy when entering *repetitive* items. Editing a “template” is both *quicker*, and *less error prone*, than re-keying data. If you are interrupted, it also serves as a “bookmark” reminding you of your position in a list of items.

Amend the item details to:— D100 CHANNEL DRILL & BLAST, with a **Measure Unit** of m3, a **Contract Quantity** of 242140 and a **Unit Rate** of 0.98. Make sure the item code is *right justified* and that the *quantity* and *unit rate* are correct. (Check the *contract amount* against the figure \$237,297.20 from the *Schedule of Rates*.) To attach a note to the item, key [Alt][N] (or [F11]) and type in:—

Paid on basis of theoretical trench sections.  
40% paid when drilling complete.

Press [F2] to **RECORD** the note.

### Record Number & NOTEPAD Indicator

The record number—#2 N—appears at the *top left* of the screen. The “N” indicates that this item has a **NOTEPAD** entry. (If your display is set for 50 lines, the text remains visible in the lower part of the screen.) Now hit [F2] again to **RECORD** the item.

Press [F4] to **BRINGFORWARD** the *previous* item details and [↑] to move up to the **Section code** field. Hit [F8] to **INCREMENT** the code E000 to E001. Press [Enter] to move to the **Section description** and change it to read **TAILRACE EXCAVATION**.

Go on and enter *all* items in section E001. (See *Page A/1, Appendix A, Part D*.)

Then *start* on the items in the **BUILDING WORK** group—using a group code of G2...

If all this typing doesn't appeal to you—and you are confident you *fully* understand the key commands involved—you may take a shortcut by copying the tutorial files over from the distribution disk. To do this, [Esc]ape to the menu system. Hit [Ctrl][Home] to “shell” to DOS. Place the floppy disk in **drive A** and type **COPY A:\DATA\\*.\* \PROBILL\DATA**. Then type **EXIT** and press [Enter] to return to the menus. Hit [Alt][I] to move to the **Item menu** and [A] to return to **ADD** mode. Carefully read the following section on auto-incrementing item codes and resume the tutorial at the sub-heading **Switching Modes** on *page B-15*.

### Auto-increment Codes—[F5]

The drainage items in the **PLUMBING** section have codes with a *uniform increment* of “10”—running from A200 through A210, A220, etc. To save time when entering a sequential set of item codes, after entering the code for the *second* item in the section—A210—hit [F5] to toggle on an “*auto-increment*” mode.

An *increment*—equal to the *difference* between the *numeric portions* of the **current** and **previous** item codes—is shown to the right of the field as “δ10”. From then on, the code is *automatically incremented* for each new item. When you hit [F4] to **BRINGFORWARD** all fields from the last item, the cursor skips directly to the *item description* field.

The increment may be *fractional*, e.g., 1.00, 1.20, 1.40. Auto-incrementing works only with **item** codes—not **section** or **group** codes. (Of course, **F8** acts as a single increment key in *item*, *group*, or *section* code fields.)

Complete the **PLUMBING** items and hit **F5** to turn auto-increment *off*. Then enter the **ELECTRICAL** and **LANDSCAPING** items.

### Switching Modes—**F9**

Press **F9**—the mode **SWITCH** key. A one line “menu” appears at the bottom of the screen offering choices of:–

Progress items, Add items, Change, Delete or Browse.

with a default of **Browse** indicated by the reverse video highlighting and displayed letter “**B**”. You can always *select the default* by pressing **Enter**, return to the *original mode* by pressing **ESC** or *select another mode* by pressing the **first letter of your choice**—or move the highlight and press **Enter** as usual. Press **Enter** for the default—**Browse**.

Switching “modes” is an alternative to exiting and making a choice from the main menu system. Despite the route followed, the destination is the same!

### Browse Mode

**Browse mode** is a convenient *passive* way of viewing items. **Home** and **End** move to the *first* and *last* item respectively, while the arrow keys (and **F7**–**F8**) move *backwards* and *forwards* through the items. If you go past the first or last record, the record number “wraps around”.

### Record Date Stamping

The **Record Changed** field at the bottom right is maintained by **PROBILL**—it “date stamps” items when they are *created* or *modified*. (An incorrect system date would show as “**Invalid**”.) “Date stamping” helps you keep track of changes—another good reason to be sure your machine always has the correct date set!

Move to any item in section **E001**, hit **F5**, key in **D300** and **Enter** to search for that item. That record becomes the new point for browsing. Repeat the process but key in item code **Z50.2**.

This is certainly *not* the quickest way to *find* an item. **Change** mode is more convenient and also allows you to edit the item. But more on that later...



### Gestalt Pattern Matching

Item **z50.2** doesn't exist so **PROBILL** has shown **x50.2**! It *searched* for the item but couldn't find it. Knowing you thought it *did* exist, (you are in **Browse** mode not **Add** mode) **PROBILL** assumed that you had mistyped the code. It decided that—most likely—you meant to type **x50.2** and hit a **[Z]** instead of an **[X]**.

This “Gestalt” capability is used throughout **PROBILL** (unless turned *off* in the **Customisation, System defaults** screen) and makes finding *codes, classes, and keywords*, etc., easier. For example, key **[F1]** for **HELP** and **[F5]** to find a keyword. Enter “**ESTTT**”. **PROBILL** guesses you meant “**GESTALT MATCHING**” and provides help on that topic.

Suppose you want to *amend* an item? Perhaps *change* the **quantity** or **description**? **[Esc]**ape from **HELP** and *hit* **[F9]**—the mode **SWITCH** key—then **[C]** for **Change items**.

### Change Mode

The displayed item is the one last viewed in **Browse** mode. Move the cursor to the *item description*, edit it in some way, and *press* **[F2]** to **RECORD** the change. Amendments are as simple as that!

### Changing Codes

To change the *item code* itself—or its *group* or *section* code—just amend the entry and press **[F2]** to **RECORD** the change.

If the code change would cause duplication, **PROBILL** will veto it. Codes *must be unique*—although the *same item code* may be used in different **sections**—just as the same **section code** may be used in more than one **group**. (A full **group-section-item** code is required to *uniquely* identify each item.)

### Paging thru Items—**[F7]**-**[F8]**

Reverse any “experimental” changes you have made. In **Change** mode, you may still move through the items. Move the cursor to the *group, section, or item* code field. (**[PgUp]** returns to the first field.) **[F7]** and **[F8]** will “page” through the items.

### Delete Mode

**Delete** mode is like **Change** mode but, *before* deleting a record, you will be asked to confirm that you really do wish to delete the record.

If you have reached this point without *at least* one interruption you must work in a very quiet office! Usually *telephone calls*, *visits*, and other distractions will disturb your concentration. When these relate to the **current** item, the **NOTEPAD** provides a logical and convenient way to record the details. However, the current item would not be the appropriate place to attach general information. Fortunately, **PROBILL** has a similar facility for non-record specific “notes”...

**JOTTER**— [Alt] [J] or [Shift] [F11]

[Alt] [J] will “popup” a **JOTTER** which is specific to the *current contract* or—if no job is being worked on—just the **PROBILL** installation. Get rid of your paper scratch pads and use the **JOTTER** while working through the tutorial! Record *telephone messages*, use it as an “aide-memoire”, etc.

**Timestamping Notes**— [Alt] [T]

[Alt] [T] inserts the *time and date* in the **JOTTER** or **NOTEPAD** text so you may “timestamp” telephone messages, records of field work, etc.

**CALENDAR**— [Alt] [-] or [Shift] [F10]

While exploring these “system-wide” facilities, also take a look at the built-in **CALENDAR**. [Alt] [-] will popup a calendar for the *current month*. (This is accessible even from inside the **JOTTER**—all **PROCON** tools can be overlaid one on another.) The arrow keys allow you to move through the *months* and *years*.

Clearing your desk of calendars and other myriad scraps of paper makes it easier to find that other ubiquitous desktop tool—the *calculator*. Discarding it for something *more flexible and powerful* would be even better...

**PROCALC Formula Evaluator**— [Alt] [=] or [Shift] [F12]

**PROBILL** has a built-in *arithmetic expression evaluator*—**PROCALC**—with capabilities far surpassing any desktop calculator, and more flexibility and convenience than any spreadsheet. [Alt] [=] produces an input field into which *arithmetic formulae* may be entered. Formulae can include *parentheses*, *user variables*, *trigonometric*, *power*, *logarithmic*, *logical*, *date/time*, and other expressions, as well as specific “takeoff” functions. (As usual, [F6] lists all the functions and will transfer your selection into the calculation field.) As a simple example, let’s calculate the *tonnage of ballast in a conical stockpile*. Height is 13.500m, angle of repose 35 degrees and the loose density is 1600 kg/m<sup>3</sup>. Type in:—

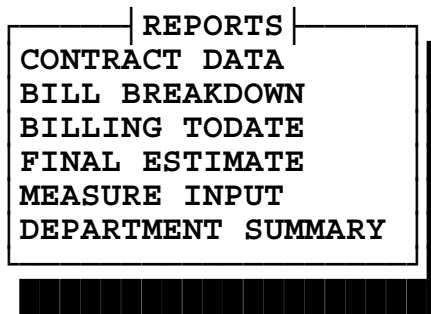
H=13.50:A=35:D= 1600/1000: D × H × ACIRC(2 \* H/TAN(RAD(A)))/3

and press **[Enter]** to switch to full screen mode and show the result of **8408.07** tonnes.

Let’s quickly look at a few examples of the types of calculations that can be performed—and documented—in **PROCALC**. Hit **[Alt][R]** restore. A picklist of previously saved, multi-line **PROCALC** “template sheets” appears. (The installation program copied these sample files into the **system** directory.) Select **EXAMPLE.PCL**. Page through the screens and key **[Alt][P]** to print the full file. If **PROCALC** is called from a *numeric* field with **[Alt][C]**, the result can be transferred into the field and the associated formula saved “behind” the field. **PROCALC** is also your “conduit” into the time saving world of automated quantity takeoff! The **DIGITIZER** version allows you to use **[Alt][Q]** from the **PROCALC** field to select a drawing scale, and takeoff *counts*, *lengths*, *areas*, and *volumes* directly from plans. (The **EVALUATION** pack allows you to “simulate” using a digitizer. Hit **[Alt][Q]** and follow the instructions displayed on the screen. Hit **[Esc]**ape to return to **PROCALC**.) More on these refinements later...

## Printing Reports

Select **Print Reports** from the **Master menu**. A *report request screen* appears. The cursor drops to the **Report Name** field. (Ignore the fields on the line above this for the moment.) Hit **[F6]** for this picklist of *standard reports*:-



## Requesting Reports

Select **BILL BREAKDOWN** and press **[Enter]** to move to the **More Reports?** field. Hit **[Y]**es. The screen will look like this:-

```

Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE      System date: Wed, 15JUN94
Printer: Okidata Microline 393+

Batchfile Name ██████████ Report No 1
Report Name  |BILL BREAKDOWN| More Reports? Yes
Selection Mask L | ██████████ Sort the Report? Yes
Consolidate Completed Items? No Suppress Items Not Started? No
Summary Only? No Video, Printer or File? Print
Print Pitch? Pica Number of Copies |1|
Pause between Pages? No Header each Page? Yes
Show NOTEPAD text? Yes Show PROCALC lines? No
    
```

**Note:** This screen adjusts to suit the settings in **Customisation. Printer Setup**. (For example, if you are using a *laser* printer, the **Print Pitch** and **Header each Page?** fields will not appear...)

Hit **[F2]** to **RECORD** the report request. (You could print one report and request more later, but it is more convenient to specify and print a *set of reports* as a “batch”.) Select **CONTRACT DATA**, leave the **More Reports?** choice set to **[N]o**, and press **[F2]** again. **PROBILL** prints the two reports.

Check the **BILL BREAKDOWN** *totals* and *subtotals* against the figures given on *page 1* of *Appendix B*. If any item quantities *or* rates are incorrect, return to **Change Items** mode and correct them before proceeding further.

### Report Formatting Options

Return to the **Print Reports** screen. Report content may be *restricted* and the items may be *sorted*—or left in their original order. Reports sort by *item code* within **sections** and by *section code* within **groups**. *Groups* sort by **group code** and *page breaks* occur on each new group. (See *Appendix B* in *Part D* for some sample reports.) The other field choices are described in detail under **Print Reports**, *page C-29* in *Part C* of the manual. Normally you would accept most of the default values.

Print a **MEASURE INPUT** report. This is a *worksheet* or “*turnaround*” document that simplifies the task of **recording**—and **agreeing**—progress on the contract.

### Exit to DOS—**[Esc]** and **[Y]** or just **[Ctrl][End]**

It is time to cover program *exit* and *entry* procedures. Press **[Esc]**. A prompt appears asking you to confirm that you *do* wish to exit. Hit **[Y]**es. The **DOS** prompt reappears.

Queries of this type may be answered *positively* with **[Y]**, **[y]** or **[1]**, or *negatively* with **[N]**, **[n]**, **[0]** or **[Esc]**. The default reply may also be “toggled” with the arrow keys, the **[Spacebar]** or the mouse. (You may also exit directly to **DOS** with **[Ctrl][End]** or **[Alt][F4]**. Confirmation is not required.)

## Progress Reporting

### First Billing

1 JUL 94

The contract has now started, so you have *progress* to report and *variations* to add. The first **MEASURE INPUT** document (*Page 2* of *Appendix B* in *Part D* of the Manual) shows these handwritten notations for the billing to **30 June 1994**. *Re-run* the program by typing **PROBILL** and pressing **[Enter]**. (**PROBILL** automatically reloads

the contract you were working on when you exited.) Select **Add Items** from the **Item menu**.

Tip: Go there *quickly* when you know where you are going! **[Alt][I]** moves *directly* to the **Item menu** and **[A]** selects **Add**.

## Variations

First enter the additional items in the **VARIATION ORDERS** group. Note that a *section code* has *not* been assigned to these items. This is permissible. **PROBILL** treats a **blank section code** as just another *unique section* within the *group*.

Item **VR001** stems from a change in the drawings with the consequence that the contractor claimed—and was entitled to—*additional* compensation. After entering the item detail, hit **[Alt][N]** to access the **NOTEPAD** and take down some details on why this change has come about. Type in something like:—

```
Invert level of manhole S121 lowered to avoid existing gasmain.
Contractor's Field Memo 11722 of 15/6/94 refers.
Authorised and payment approved on Variation Record VR001.
```

## Materials on Site

Complete the entry of the other two *variation items*. (Note that the second item is a *deduction*—the **unit rate** is **negative**.) Then add the two items in the **MATERIALS ON SITE** group. Both items are in the same section—**PLUMBING MATERIAL**.

Of course any **MATERIALS ON SITE** item must have *zero* contract quantity (and final quantity). **Why? Make sure you understand this point!** Attach a note to this **Group** to remind other users of this fact. (Notes can be attached to **Groups** and **Sections** as well as **Items**. If you hit **[Alt][N]** from the **Group** code or description field, the note will be associated with the group.)

There are various ways to “measure” these items. Where the material is homogeneous—such as pipe—it is preferable to use physical units (**1m**, **Tn**, **m2**, etc.). Where it is a heterogeneous mix of small items—such as *pipe fittings*—it may be easier to tally it in **dollars**—a measure unit of **\$** and a **Unit Rate** of **1.00**. You can use **PROCALC**—tied to the **Quantity Todate** field—as a “tally sheet” to list out all the fittings and their prices extended to produce a total value of this material. Different *classes of materials* on site should be separated into different *sections*. This means subtotals are available for these classes.

When you have finished adding these items, key **[F9]** to **SWITCH** modes. Hit **[Home]** to go to the first choice—**Progress Items**—and **[Enter]** to select it.

**Billing Date**

A small window will appear with a prompt for: **THIS Billing Date**. Key in **30JUN94**.

Dates may be entered in several different ways. One is the “International” format using entries like **25SEP05** or **9jan06**. **PROBILL** has sophisticated date validation that allows wide latitude in entry, (e.g., **9 Jan 06**, **9JAN2006**, **09jan 06** will all be accepted as valid), while invalid dates such as **29FEB06**, **31NOV05**, etc., will *not* be accepted and you will be alerted by an error message. Dates may also be entered in **d/m/y**, **m/d/y** or **y/m/d numeric** format if you prefer—depending upon the numeric date setting in **Customisation**, **Country Setup**—they will still be displayed in International format.

**Progress Items Mode**

Press **[Enter]**. You are now in **Progress Item** mode. **PROBILL** will display the *last* item you were working on. Hit **[F8]** to “roll around” to the *first* item—**G1-E000- A1a**.

You “find” an existing item by entering the full code; “paging” through the records with **[F7]**–**[F8]**; moving to the **item code** field and using **[F6]** to pop up a *picklist*; or entering part of the code and hitting **[F5]** to force a Gestalt “best match”...

Press **[Enter]** to move down to the **Quantity Todate** field. Key in a “quantity” of **0.90**. (See the annotated **MEASURE INPUT** document on *Page 2* of *Appendix B*.) The screen will look like this:—

Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE			System date: Fri, 1JUL94		
#1	CODE	DESCRIPTION	<div style="border: 1px solid black; padding: 5px;">                     CONTRACT DATA                      Billing No 1                      To Thu 30JUN94                      NOT Consolidated                      19 Items                 </div>		
Group	<b>G1</b>	<b>CIVIL ENGINEERING WORK</b>			
Section	<b>E000</b>	<b>DRILLING &amp; BLASTING</b>			
Item	<b>A1a</b>	<b>DRILLING &amp; BLASTING</b>			
Enter Quantity Todate OR Period Quantity. Amend Final Quantity if changed					
Quantity Todate	<b>0.90</b>	LS	Quantity this Period	<b>0.9</b>	LS
Amount Todate	\$ 7830.00		Period Amount	\$ 7830.00	
Final Quantity	<b>1</b>	LS	Is Complete? (Y/N)	<b>No</b>	
At 30JUN94 item was 90.00% Complete			Record Changed 15JUN94		

Progress quantities may be entered as *cumulative* or *period* quantities—given one figure, **PROBILL** calculates and displays the other. Press **[F2]** to **RECORD** the progress information and **[F8]** to move forward to the next item—**D100 CHANNEL DRILL & BLAST**. Enter a **Quantity Todate** of **164000** and **RECORD** the item.

### Completed Items

The next item—**EXCAVATION ESTABLISHMENT**—is now “complete”.

Move to this item and *press* **[PgDn]** to drop to the **Is Complete?** field. *Hit* the **[Spacebar]** to toggle the choice to *Yes*, and **[F2]** to **RECORD** the item. Note that the **Quantity Todate** and **Quantity this Period** fields automatically “fill-in” with the **Final Quantity**. Press **[F8]** to move to the **CHANNEL EXCAVATION** item.

### PROCALC field version—**[Alt][C]** or **[F12]**

Press **[Enter]** to move to the **Quantity Todate** field and use **[Alt][C]** (or **[F12]**) to access the *field specific version* of **PROCALC**. Press **[↑]** to open up a multi-line window and type in *at least the last line* of the following details:—

```
[Channel X-Section dimensions are:
[  _____ |<----- 16.5m ----->|
[  _____ |                          |
[  4.2m       |                          |
[  _____ |                          |
[  _____ |<----- 8.1m ----->|
[-----]
[30 Jun 94 - Complete from Sta 863+25.000 to Sta 868+47.600
(868 47.600 - 863 25.000) [M] x (16.5 + 8.1)/2 x 4.2 [depth]
```

Text preceded with “[” is treated as a *comment*—until the end of the line or until “closed” with “]”. (So, if you don’t want to bother typing in *all* the detail, just enter the last line—the other lines are just documentation!) Illustrating the rationale behind the calculation in this way is quicker—and more professional—than hiding these details away in a notebook.

Press **[F2]** to **RECORD** the **PROCALC** screen and *tie* it to the *source field*. The calculated total—**26997.52**—is transferred back into the *quantity* field. As this is an artificially precise figure for an *interim* quantity, round it to **27000**. (This does *not* change the details saved in **PROCALC**.) This item also has a changed **Final Quantity**. Move to this field and enter **192000** and press **[F2]** to **RECORD**. (Entering this *final quantity* ensures that **PROBILL** can correctly calculate the changed *final contract value*.)

The next two items do not have entries against them in the **MEASURE INPUT** document, so they should be skipped. (Do *not* enter a zero progress quantity against work that has not started! The date an item was last “progressed” is shown on the **MEASURE INPUT** document. This provides a useful update history and you should *not* interfere with this—or waste time—by updating items that have not changed. The billing date is not necessarily the same as the date on which the item was changed. That date is shown on the screen.)

The **TREE CLEARING** and **DEMOLITION** items show *progress quantities* that are already slightly **over** the original *contract quantities*—an indication that the *final*

*quantities* should be reviewed. However, in this case it was decided to leave the figures “as is” until the exact final measure was agreed upon.

Note that the quantities have been recorded to *three decimal places*—an indication that some detailed measurement has been completed—and a reflection of the order of accuracy claimed for the measurements and area calculations. **PROBILL** accepts and retains the exact format of quantities entered by the user—including the computationally non-significant zero in 23.130. Hence the format can match the contract document or suggest accuracy of measurement.

When you have finished progressing both the original contract items and the newly entered **VARIATION** and **MATERIALS ON SITE** items, hit **[F9]** to **SWITCH** to **Browse** mode to check the changes you have made.

Press **[Esc]**ape to return to the menus. (We have not yet entered any escalation details—but will do so shortly. Normally escalation information would be provided before reports were printed.)

Select **Print Reports** from the **Master menu** and print a **MEASURE INPUT** document with the **NOTEPAD** and **PROCALC** details included. The new **MEASURE INPUT** document should be compared with the annotated old document to confirm that all *quantities* and *additions* have been *correctly* entered. There is no point in printing more reports until this is done! The worksheet is then put aside and used to record progress quantities for the *next* period. (Consequently, it is often called a “turnaround” document.)

### **Progress Payment Certificate**

Print a **BILL BREAKDOWN** and **BILLING TODATE**. The *last page* of the **BILLING** is a **PROGRESS PAYMENT CERTIFICATE**. This document contains all the information required for payment of the amount due.

Some typical reports from the tutorial are shown in *Appendix B*.

## **Escalation**

If a contract is subject to *escalation (Rise & Fall)*, you should let **PROBILL** handle these calculations and include the details within the billing. (If you do *not* have to deal with escalation in any of your contracts you can skip this part of the tutorial.)

Let's assume that the **BULLAMAKANKA DAM - TUTORIAL EXAMPLE** contract contains an *escalation clause* entitling the contractor to price adjustment for changes in *general cost levels*. Most contracts apply a *single escalation formula* to all contract items—but this job is slightly more complicated. The dam involves both **Building**



and **Civil Engineering** work—which can have different rates of price change—so the contract specifies different formulae for each work type.

**Cost Indices**

The formulae do use some of the same *cost indices (components)* but combine them in different proportions.

The *cost components*—and their respective *base indices* and *current indices* for the first payment period are:—

	<u>Period</u>	<u>Date</u>	<u>Labour</u>	<u>Plant</u>	<u>Material</u>
BASE Index	Base	17MAR94	18.210F	1173.2F	128.90F
CURRENT Index	1	15JUN94	18.210F	1169.7F	134.54P

(F=Final Index    P=Preliminary Index)

**Weights**

The *proportions (weights)* of each component are:—

<u>WEIGHTING</u>	<u>Labour</u>	<u>Plant</u>	<u>Material</u>	<u>Fixed</u>
BUILDING	0.40	Nil	0.45	0.15
CIVIL	0.25	0.35	0.30	0.10

Of course, the escalation details could have been entered into **PROBILL** before you produced the first billing. The **Escalation Class** for each item could also have been entered when the items were first created. Fortunately, no essential data has been lost as you have not *consolidated* the period figures used in the first *progress billing*. As is often the case, the division of the contract for purposes of escalation corresponds with the *group* structure of the *Schedule of Rates*. **PROBILL** provides special “short cuts” that—in this case—will avoid the necessity to enter the **Escalation Class** item by item.

**Utility Menu**

Go to the **Utility menu** and select **Set Escn classes**. Fill in the screen fields as follows:—

```

Set ESCALATION CLASSES by MASKING                               System date: Fri, 1JUL94
Mask on the Group, Section and Item Codes
Group-Sec - Item No      New Escalation Class No
[G1] [????] [?????]      [CE]
    
```

**Masking**

You have specified a “mask” for the items you wish to select. **PROBILL** will check for a match by comparing each item’s *group-section-item* code with the characters in the mask. The question mark is “wild”—matching *any* character in that position. **G1** in the *group code* field—with question marks in the *section* and *item* code fields—selects *all* items in **G1**—the **CIVIL ENGINEERING** group. Specifying an *Escalation Class* **CE** assigns that class code to all items in group **G1**.

Press **[F2]** and **[Enter]** to confirm that you wish to proceed. *Repeat* the procedure to set the *class code* of the items in **G2**—the **BUILDING** group—to **BW**. Go to **Browse Item** mode to examine the items and confirm that this has happened.

Tip: In **Browse** mode, **[F6]** produces a *picklist* of items. (To shorten the list, first hit **[F5]** and type some characters into the *group-section-item* code. When you hit **[F6]** the list will only contain items with those characters in the same position. In this instance the spaces are treated as “wild” characters to form a “loose” mask.)

The **VARIATION** and **MATERIALS ON SITE** items still have blank **Escalation Class** code fields—we are assuming that they are not subject to escalation.

**Define Components**

Return to the menus and choose **Define Components** from the **Escalation menu**. (“**Components**” are *cost indices*.) A screen appears with fields for *sixteen component descriptions* and **Base Indices**. Enter **LABOUR** as the first component’s **description** and **18.21** as the **base index**. Then provide the **description** and **base indices** for the other two components. The screen should look like this:–

DEFINE INDEX COMPONENTS		System date: Fri, 1JUL94	
Define all indexed components used by any of the Escalation Classes			
COMPONENTS			
Description	Base Index	Description	Base Index
LABOUR	18.21		
PLANT	1173.2		
MATERIAL	128.90_		

F2 record F10 cancel F4 bring fwd F3 blank fld ↑↓ PgUp top PgDn bottom  
 Describe the cost index component NUM

Press **[F2]** to **RECORD** the screen. The **Escalation** menu returns.

**Update Current Indices**

Choose **Update Current Indices**. Press **[F6]** to popup a picklist of components and select **LABOUR**. Press **[Enter]** to move down to the index fields. The **Current Index** has *not* changed from the **Base Index** so hit **[F4]** to **BRINGFORWARD** that figure.

UPDATE CURRENT INDICES										System date: Fri, 1JUL94	
Component No	1	Description	LABOUR		INDICES		Base Index		18.21		
1	18.21	13	25	37	49	61					
2		14	26	38	50	62					
3		15	27	39	51	63					
4		16	28	40	52	64					
5		17	29	41	53	65					
6		18	30	42	54	66					
7		19	31	43	55	67					
8		20	32	44	56	68					
9		21	33	45	57	69					
10		22	34	46	58	70					
11		23	35	47	59	71					
12		24	36	48	60	72					

Shift F5 will carry this value forward    Shift F6 will blank from here forward

Escalation is not calculated for blank indices. If the latest index should be used then use Shift F5 to copy the value into all remaining fields.

F2 record    F10 cancel    F4 bring fwd    F3 blank fld    ↑↓    PgUp top    PgDn bottom  
 Enter the Current Index value    NUM

The contract specifies that the applicable current indices are those in effect some weeks before the billing date—here it is the **15JUN94**. Should you make entries in the following fields? It depends upon how escalation is to be calculated—and whether the current indices are available in time to be used in progress payments. This contract provides that the latest index may be used—and modified later if a new value becomes available. So hit **[Shift][F5]** to carry the value forward into the fields for all **72** periods. **PROBILL** will use this value for future periods until it is changed...

Hit **[F2]** to **RECORD** and **[F8]**—the **INCREMENT** key—to move on to the **PLANT** component. Press **[Enter]**. Key **1169.7** for the *current index* and **[Shift][F5]** to carry it forward through *all* the periods. (This index is **less** than the *base index*—there are rare occasions when costs do decline!) **RECORD** it and repeat the procedure for the **MATERIALS** component. Hit **[Esc]** to exit to the menu when complete.

**Add Escalation Classes**

Select **Add Escalation Classes**. Key **BW** for the *code* and enter **BUILDING CLASSIFICATION** in the *description* field. Enter *weightings* for the **LABOUR** and **MATERIAL** components. (See **Page B-24.**) Leave the **PLANT**

weighting *blank*—it is not used in the building classification formula. The screen will look like this:—

ADD ESCALATION CLASS		System date: Fri, 1JUL94	
Escalation Class	<b>B1</b>	Description	<b>BUILDING CLASSIFICATION</b>
COMPONENTS			
Description	Weighting	Description	Weighting
LABOUR	<b>0.4</b>		
PLANT			
MATERIAL	<b>0.45</b>		
Fixed Portion: <b>0.150</b>			
F2 record F10 cancel F4 bring fwd F3 blank fld ↑↓ PgUp top PgDn bottom NUM			
Enter the WEIGHTING for this cost component			

**Fixed Weighting**

Note that the **Fixed** portion is not entered *explicitly*—any difference between **ONE** and the *sum of the other weights* is treated as fixed. (The figure is updated at the bottom of the screen as the weights are entered.)

**RECORD** the screen. Enter **CE** and **CIVIL CLASSIFICATION** and the weights for the civil work components. (*Page B-24.*) Hit **F2** to **RECORD** this information and **Esc**ape to return to the **Escalation menu**. You have now entered *all base escalation* detail and the *current indices* for **Billing Number 1**. Select **Browse Escalation** to check the details.

**Run Escalation**

Select **Run Escalation** and you will be presented with the following screen:—

CALCULATE ESCALATION		System date: Fri, 1JUL94
Current Billing Number		<u>1</u>
Last Period Number for this Calculation		<b>1</b>
Escalate Latest period only or All periods? (L/A)		Latest
Video, Printer or File?		Print
Show PROCALC lines?		No
Save Escalation as Contract Items?		Yes
F2 record F10 cancel F4 bring fwd F3 blank fld ↑↓ PgUp top PgDn bottom Must NOT be greater than the Billing Number NUM		

Press **F2** to proceed and **PROBILL** will:—

- Determine the *period amounts* to be escalated for all classes;
- save the *amounts* for future recalculation—in case indices change;
- calculate the *escalation*;
- print a *calculation sheet* which can be appended to the **Progress Payment Certificate**, and
- save the *period escalation amount* as a “pay” item in the contract.

The item will be saved in a special group—“**rf**”—created for escalation items. (Later you may wish to use the **NOTEPAD** to append notes to the item, e.g., noting whether the indices are *preliminary* or *final*.)

Go to the **Master menu** and select **Print Reports**. Print an amended **BILLING TODATE**. It should now include the escalation item. We have assumed that the **VARIATION** items, the **MATERIALS ON SITE** and the **ESCALATION** itself will *not* be subject to escalation—no escalation classification was entered against the items. **PROBILL** is flexible in the treatment of these issues—*any* item can be escalated. All that is necessary is that an escalation class be assigned and the class defined from the **Escalation menu**.

## More Progress

### Second Billing

2 AUG 94

Go to the next **MEASURE INPUT** document (**Page 6** of **Appendix B—Billing No 2 to 31 July 1994**.) Further progress has been recorded. The entries are *quantities todate*. (You can record *period quantities* if you prefer—providing you are consistent.) Restart **PROBILL** if necessary. To prepare for the next billing you must *clear* all the previous period quantities.

## Amending Progress Quantities

Before this is done it is important to ensure that the *old* period quantities are correct. What if an error has been discovered in this billing and needs to be corrected? As this is common in practice let's experiment with an example. Perhaps the **GRADER RENTAL** hours should have been 212.5 instead of 112.5? How do you *correct* this error? If you enter a *period quantity* of 100 hours or a *quantity todate* of 212.5 hours, surely **PROBILL** will interpret it as **additional** progress on the item, and compute at least one of the quantities incorrectly (remember that one of the two quantities is always redundant—it must be *derived* from the other to maintain the integrity of the accumulation procedure.) Let's see what happens. Select **Progress Items** from the **Item menu** and press  when prompted for the new Billing Date. **This Is Most Important!** By using the *same date* of 30JUN94 you are indicating that this is *not* a new billing—you are just editing **June** data.

Move the cursor down to the **item code** field and hit  for a picklist. Lets *force* **PROBILL** to search through the text in the list for a “best match” for something like “**Grader Rental**”. Hit  and type “**rent**” into the **Search for** dialogue box. The **GRADER RENTAL** item will be highlighted. Press  to select it, and then amend the hours in the **quantity todate** field.

**PROBILL** will understand that this is a correction and not additional progress. You may change either of the quantities and the other will be adjusted appropriately when you exit from the field. The easiest way to examine this effect is with the **DECREMENT** and **INCREMENT** keys— and . They will subtract—or add—*one* to the quantity in the current field and update the other. When you have finished with this experiment restore the quantity to its original value of 112.5 and **RECORD** the item. Return to the menus.

## Consolidation

Go to the **Master menu** and select **ConSolidation**. You will be asked if you wish to make *archive copies* of the data files. Reply es. (Having archive copies on the data directory allows you to restore the status of the job files at the last billing.) When prompted, confirm that you wish to proceed with the consolidation by replying es. The period quantities are removed and **PROBILL** returns to the **Item menu**.

Select **Progress Items** from the **Item menu** to start Billing No 2 for **July**. Amend the billing date field to 31JUL94.

Tip: Hit  to increment the old date to 1JUL94 and type a 3 to make it 31JUL94.

If you look at the “marked up” **MEASURE INPUT** document you will notice that some items are now shown as *complete*—including the **TREE CLEARING** and **DEMOLITION & GRUBBING** items—despite the fact that their quantities have *not* changed from the last billing. Apparently the detailed measurements taken previously have now been accepted as correct and final. Setting the item to “*Complete*” would normally set the **quantity todate** equal to the **final quantity**. However, in this instance **PROBILL** recognises that the **quantity todate** is *already greater* than the **final quantity**, so

it will increase the **final quantity** accordingly. The **MATERIALS ON SITE** item for pipe fittings has a quantity todate of *zero*. (If all material deliveries of this type are finished, you may reduce the **quantity todate** to zero on this billing and delete the item on the subsequent billing.)

The updated cost indices for July 1994 are:—

	<u>Period</u>	<u>Date</u>	<u>Labour</u>	<u>Plant</u>	<u>Material</u>
BASE Index	Base	17MAR94	18.210F	1173.2F	128.90F
CURRENT Index	1	15JUN94	18.210F	1169.7F	134.37F
CURRENT Index	2	16JUL94	19.180F	1186.3F	137.19P

Note that the **Material** index, which was *preliminary* in **June**, has changed and is now *final*. As the contract provides that the **latest** indices are to be used, you should amend this **June** figure as well as enter the new **July** indices. The escalation should then be calculated for *all* periods—not just **July**.

To ensure that you understand the flexibility of **PROBILL**'s automatic escalation facility, decide how you would deal with:—

- A preliminary *base index* changing?
- A contract that only allows *final indices* to be used?
- A contract that requires use of the *latest indices* and *prohibits recalculation* when they change?
- A contract that only allows *published indices* to be used?
- A contract containing a class of items that have their prices adjusted for *exchange rate changes* in the *Japanese Yen*?
- *Exchange rate changes* in a *weighted composite* of the *Japanese Yen*, *Swiss Franc*, and *Sterling*?
- A contract that requires *escalation to be billed and shown separately* from the other contract items?
- A contract with *separable parts* having *different completion dates* and delays in agreement of final measurement? (A portion of the later progress payments is “capped”, for purposes of escalation, by the indices current on the completion date of the various separable parts.)

Select **Print Reports** and print a **MEASURE INPUT** document. Check it against the old document and then print the other reports.

**Suppress Unstarted Items**

When printing the **BILLING TODATE**, elect to **Suppress unstarted items**. This—and the option to **Consolidate completed items**—can reduce the *size* and *complexity* of large documents and make it easier to focus on just those items requiring attention. Note that the retention is now *less* than 10% of the amount certified—it has been “capped” at 5% of the **approved contract value**.

**Final Certificate**

**Third Billing**

5 SEP 94

After **consolidating** *billing number 2*, assume that the contract is complete at the next billing. Update progress to **31AUG94** and flag *all* items as **complete**. (The **MATERIALS ON SITE** items should have *both* **quantity todate** and **final quantity** set to zero.) Enter the indices for **August** and amend other indices that have changed from *Preliminary* to *Final*. The latest indices are:–

	<u>Period</u>	<u>Date</u>	<u>Labour</u>	<u>Plant</u>	<u>Material</u>
BASE Index	Base	17MAR94	18.210F	1173.2F	128.90F
CURRENT Index	1	15JUN94	18.210F	1169.7F	134.37F
CURRENT Index	2	16JUL94	19.180F	1186.3F	137.88F
CURRENT Index	3	17AUG94	19.755F	1204.0F	140.45P

Note that **PROBILL** adjusts the period “quantity” on earlier escalation items. The *quantity todate* always covers the *total period escalation*.

Print the **BILLING TODATE**. You will be asked if this is a *Final Certificate*. Confirm that it is and the billing will show the *release of retention*.

Now that you have completed the tutorial, read the **Part C—Reference** section for more detailed information on **PROBILL**’s capabilities.



# Schedule of Rates

Project: BULLAMAKANKA DAM - TUTORIAL EXAMPLE

Principal: BULLAMAKANKA POWER & WATER COMMISSION  
 P.O. Box 9999  
 455 Main Street  
 BULLAMAKANKA QLD 4999

Contract Value: \$943,851.83 Retention Rate: 10% Maximum Retention: 5%

Item	Description	Quantity	Unit	Extension
<b>CIVIL ENGINEERING WORK</b>				
<b>E000 DRILLING &amp; BLASTING</b>				
A1a	DRILLING ESTABLISHMENT	1	LS	8700.00
D100	CHANNEL DRILL & BLAST	242140	m3	0.98
E000 - Subtotal				\$ 245997.20
<b>E001 TAILRACE EXCAVATION</b>				
A1a	EXCAVATION ESTABLISHMENT	1	LS	20000.00
D100	CHANNEL EXCAVATION TO 3m DEEP	186300	m3	1.32
D200	CHANNEL EXCAVATION 3 TO 4m	46840	m3	2.10
D300	CHANNEL EXCAVATION OVER 4m	19000	m3	3.40
X40.0	TREE CLEARING	14.5	Ha	1450.00
X50.2	DEMOLITION & GRUBBING	22.7	Ha	2188.40
E001 - Subtotal				\$ 499581.68
CIVIL ENGINEERING WORK - Subtotal				\$ 745578.88
<b>BUILDING WORK</b>				
<b>1 PLUMBING</b>				
A200	STORM DRAINAGE 100mm	432	LM	12.60
A210	STORM DRAINAGE 150mm	655	LM	14.25
A220	STORM DRAINAGE 200mm	86	LM	18.00
1 - Subtotal				\$ 16324.95
<b>2 ELECTRICAL</b>				
Q4/10	NOMINATED SUBCONTRACT	100	%	1000.00
2 - Subtotal				\$ 10000.00
<b>3 LANDSCAPING</b>				
100	TOPSOILING	63400	m2	1.02
200	HYDRO SEEDING	576000	m2	0.03
3 - Subtotal				\$ 81948.00
BUILDING WORK - Subtotal				\$ 198272.95
CONTRACT TOTAL				\$ 943851.83

Initial BILL BREAKDOWN at 15 June 1994 - Page 1 of 2

9:40am 15JUN94		PROBILL - CONTRACT BILLING SYSTEM			Page 1
\$\$\$ BILL BREAKDOWN \$\$\$					
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE					Sorted
=====					
Group: G1 CIVIL ENGINEERING WORK					
Item No	Item Description	Contract Quantity	Contract Rate	CONTRACT AMOUNT	
=====					
Section: E000 DRILLING & BLASTING					
A1a	DRILLING ESTABLISHMENT	1 LS	8700.00	8700.00	
D100	CHANNEL DRILL & BLAST	242140 m3	0.98	237297.20	
-----					
Section: E000 2 Items				245997.20	
+++++					
Section: E001 TAILRACE EXCAVATION					
A1a	EXCAVATION ESTABLISHMENT	1 LS	20000.00	20000.00	
D100	CHANNEL EXCAVATION to 3m DEEP	186300 m3	1.32	245916.00	
D200	CHANNEL EXCAVATION 3 to 4m DEEP	46840 m3	2.10	98364.00	
D300	CHANNEL EXCAVATION OVER 4m	19000 m3	3.40	64600.00	
X40.0	TREE CLEARING	14.5 Ha	1450.00	21025.00	
X50.2	DEMOLITION & GRUBBING	22.7 Ha	2188.40	49676.68	
-----					
Section: E001 6 Items				499581.68	
=====					
Group: G1 8 Items				745578.88	
=====					

Initial BILL BREAKDOWN - Page 2 of 2

9:40am 15JUN94		PROBILL - CONTRACT BILLING SYSTEM			Page 2
\$\$\$ BILL BREAKDOWN \$\$\$					
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE					Sorted
=====					
Group: G2 BUILDING WORK					
Item No	Item Description	Contract Quantity	Contract Rate	CONTRACT AMOUNT	
=====					
Section: 1 PLUMBING					
A200	STORM DRAINAGE 100mm	432 LM	12.60	5443.20	
A210	STORM DRAINAGE 150mm	655 LM	14.25	9333.75	
A220	STORM DRAINAGE 200mm	86 LM	18.00	1548.00	
-----					
Section: 1 3 Items				16324.95	
+++++					
Section: 2 ELECTRICAL					
Q4/10	NOMINATED SUBCONTRACT	100 %	1000.00	100000.00	
-----					
Section: 2 1 Item				100000.00	
+++++					
Section: 3 LANDSCAPING					
100	TOPSOILING	63400 m2	1.02	64668.00	
200	HYDRO SEEDING	576000 m2	0.03	17280.00	
-----					
Section: 3 2 Items				81948.00	
=====					
Group: G2 6 Items				198272.95	
=====					
JOB TOTALS - 14 Items				943851.83	
=====					

Progress Worksheet for Period Ending 30 June 1994 - Billing No 1 - Page 1 of 2

Printed 9:40am 15JUN94		PROBILL - CONTRACT BILLING SYSTEM				Page 1			
		\$\$\$ MEASURE INPUT \$\$\$							
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE				Updated on 1/7/94		by L.Mott			
Group: G1 CIVIL ENGINEERING WORK									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: E000 DRILLING & BLASTING									
A1a	DRILLING ESTABLISHMENT	1 LS	LS	0.90	LS	1			
D100	CHANNEL DRILL & BLAST	242140 m3	m3	767,000	m3	2			
Paid on basis of theoretical trench sections. 40% paid when drilling complete.									
Section: E000 2 Items									
*****									
Section: E001 TAILRACE EXCAVATION									
A1a	EXCAVATION ESTABLISHMENT	1 LS	LS	1	LS	3			Yes Complete
D100	CHANNEL EXCAVATION to 3m DEEP	186300 m3	m3	To sum 86847.60	m3	4			Est Final 192,000m3
D200	CHANNEL EXCAVATION 3 to 4m DEEP	46840 m3	m3		m3	5			
D300	CHANNEL EXCAVATION OVER 4m	19000 m3	m3		m3	6			
X40.0	TREE CLEARING	14.5 Ha	Ha	74,573	Ha	7			Measure to be finalized
X50.2	DEMOLITION & GRUBBING	22.7 Ha	Ha	23,730	Ha	8			
Section: E001 6 Items									

Worksheet for Billing No 1 - Page 2 of 2

Printed 9:40am 15JUN94		PROBILL - CONTRACT BILLING SYS				Sorted			
		\$\$\$ MEASURE INPUT \$\$\$							
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE									
Group: G2 BUILDING WORK									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: 1 PLUMBING									
A200	STORM DRAINAGE 100mm	432 LM	LM		LM	9			
A210	STORM DRAINAGE 150mm	655 LM	LM		LM	10			
A220	STORM DRAINAGE 200mm	86 LM	LM		LM	11			
Section: 1 3 Items									
*****									
Section: 2 ELECTRICAL									
Q4/10	NOMINATED SUBCONTRACT	100 %	%		%	12			
Section: 2 1 Item									
*****									
Section: 3 LANDSCAPING									
100	TOPSOILING	63400 m2	m2		m2	13			
200	HYDRO SEEDING	576000 m2	m2		m2	14			
Section: 3 2 Items									

ADD THESE GROUPS & ITEMS to 30 JUNE 1994 BILLING

Group VO - VARIATION ORDERS

VR001 Revised drainage DRG 2003 Rev 4	1 LS	@	\$1480.00	COMPLETED!
VR002 Deduct For FAILED Density Tests	45 EA	@	<-50.00>	45 No
VR003 Grader Rental	500 HRS	@	55.00/Hr	112 1/2 Hrs

Group M - MATERIALS ON SITE

Section 1 - PLUMBING MATERIAL

1 Storm Drainage Pipe, 100mm		@	\$3.80/m	136 LM
99 Pipe Fittings (\$ Value)		(See TALLY SHEET)		\$1800

Escalation Calculation Report for Period Ending 30 June 1994

Contract: <b>BULLAMAKANKA DAM - TUTORIAL EXAMPLE</b>		System date: Fri, 1JUL94	
ESCALATION DETAILS for Period 1 - 30JUN94			
=====			
Component	1 - <b>LABOUR</b>	- Base Index =	18.210
Period	To	Current Index	(CI-BI)/BI
1 - 30JUN94		18.210	0.000000000
Component	2 - <b>PLANT</b>	- Base Index =	1173.200
Period	To	Current Index	(CI-BI)/BI
1 - 30JUN94		1169.700	-0.002983294
Component	3 - <b>MATERIAL</b>	- Base Index =	128.900
Period	To	Current Index	(CI-BI)/BI
1 - 30JUN94		134.540	0.043754849
=====			
Escalation Class: <b>BW - BUILDING CLASSIFICATION</b>			
Period 1 - 30JUN94			
Component		Weighting	WEIGHT x (CI-BI)/BI
1	<b>LABOUR</b>	0.400	0.000000000
3	<b>MATERIAL</b>	0.450	0.019689682
	Fixed Weight	0.150	-----
		Total Factor =	0.019689682
Escalation for Class <b>BW</b> is 0.019689682 x \$ 0.00 = \$ 0.00			
-----			
Escalation Class: <b>CE - CIVIL CLASSIFICATION</b>			
Period 1 - 30JUN94			
Component		Weighting	WEIGHT x (CI-BI)/BI
1	<b>LABOUR</b>	0.250	0.000000000
2	<b>PLANT</b>	0.350	-0.001044153
3	<b>MATERIAL</b>	0.300	0.013126455
	Fixed Weight	0.100	-----
		Total Factor =	0.012082302
Escalation for Class <b>CE</b> is 0.012082302 x \$ 295938.54 = \$ 3575.62			
=====			
<b>Period 1 - 30JUN94</b>		<b>TOTAL ESCALATION = \$ 3575.62</b>	
=====			

PROGRESS PAYMENT CERTIFICATE for Period Ending 30 June 1994

1:17pm 1JUL94	PROBILL - CONTRACT BILLING SYSTEM	Page 1
<b>P R O G R E S S P A Y M E N T C E R T I F I C A T E</b>		
Contract: <b>BULLAMAKANKA DAM - TUTORIAL EXAMPLE</b>		
Certificate No 1 covering work to 30JUN94		
Contractor:	<b>FAR WESTERN GENERAL CONTRACTORS PTY LTD</b> P.O. Box 4 112 Bogan Street NEVERTIRE NSW 2831	
Owner:	<b>BULLAMAKANKA POWER &amp; WATER COMMISSION</b> P.O. Box 9999 BULLAMAKANKA QLD 4999 Contact: Mr Joseph McArthy	
Contract Number:	<b>M94/12345</b>	
Approved Contract Value:	\$	<b>943851.83</b>
Final Contract Value:	\$	<b>981681.45</b>
Percent Complete:	<b>31.30%</b>	
Percentage Retention:	<b>10%</b>	
Maximum Retention:	<b>5%</b>	
=====		
GROSS BILLING TODATE	\$	307248.46
Less TOTAL RETENTION	\$	30724.85
TOTAL APPROVED PAYMENTS	\$	276523.61
PAYABLE THIS CERTIFICATE	\$	276523.61
=====		
Prepared by: .. <i>L.Mott</i> .../1/7/94.....	Approved by: ..John Drew, 2 July 94...	

BILLING TODATE at 30 June 1994 - Page 1 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 1	
Billing to 30JUN94		### BILLING TODATE ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE									
-----									
Group: G1 CIVIL ENGINEERING WORK									
Item No	Item Description	Contract Rate	Final Quantity	FINAL AMOUNT	Period Quantity	PERIOD AMOUNT	Quantity Todate	AMOUNT TODATE	
-----									
Section: E000 DRILLING & BLASTING									
Ala	DRILLING ESTABLISHMENT	8700.00	1 LS	8700.00	0.9 LS	7830.00	0.90 LS	7830.00	
D100	CHANNEL DRILL & BLAST	0.98	242140 m3	237297.20	164000 m3	160720.00	164000 m3	160720.00	
-----									
Section: E000 2 Items				245997.20		168550.00		168550.00	
-----									
Section: E001 TAILRACE EXCAVATION									
Ala	EXCAVATION ESTABLISHMENT	20000.00	1 LS	20000.00	1 LS	20000.00	1 LS	20000.00	
D100	CHANNEL EXCAVATION to 3m DEEP	1.32	192000 m3	253440.00	27000 m3	35640.00	27000 m3	35640.00	
[Channel X-Section dimensions are:- {----- 16.5m -----} { 4.2m \ Area = (16.5+8.1)/2 x 4.2 {----- } [-----] [30 Jun 94 - Complete from Sta 863+25.00 to Sta 868+47.600 (868 47.600 - 863 25.000) (m) x (16.5 + 8.1)/2 x 4.2 [depth] = 26997.52									
D200	CHANNEL EXCAVATION 3 to 4m DEEP	2.10	46840 m3	98364.00	m3		m3		
D300	CHANNEL EXCAVATION OVER 4m	3.40	19000 m3	64600.00	m3		m3		
X40.0	TREE CLEARING	1450.00	14.5 Ha	21025.00	14.573 Ha	21130.85	14.573 Ha	21130.85	
X50.2	DEMOLITION & GRUBBING	2188.40	22.7 Ha	49676.68	23.13 Ha	50617.69	23.130 Ha	50617.69	
-----									
Section: E001 6 Items				507105.68		127388.54		127388.54	
-----									
Group: G1 8 Items				753102.88		295938.54		295938.54	
-----									

BILLING TODATE - Page 3 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 3	
Billing to 30JUN94		### BILLING TODATE ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE									
-----									
Group: M MATERIALS ON SITE									
Item No	Item Description	Contract Rate	Final Quantity	FINAL AMOUNT	Period Quantity	PERIOD AMOUNT	Quantity Todate	AMOUNT TODATE	
-----									
Section: 1 PLUMBING MATERIAL									
1	Storm drainage pipe 100mm	3.80	0 LM		136 LM	516.80	136 LM	516.80	
99	Pipe fittings	1.00	0 \$		1800 \$	1800.00	1800 \$	1800.00	
[Tally Sheet for Pipe fitting Material on Site [Stocktake taken on 30/6/94 by John O'Brien 15 [No - 90 deg bends 100mm] @ 58.00 [\$ /ea] = 870.00 8 [No - 45 deg bends 100mm] @ 55.00 [\$ /ea] = 440.00 11 [No - Sleeves 100mm] @ 28.00 [\$ /ea] = 308.00 7 [No - Caps 100mm] @ 26.00 [\$ /ea] = 182.00 TOTAL = 1800.00									
-----									

BILLING TODATE - Page 4 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 4	
Billing to 30JUN94		### BILLING TODATE ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE									
-----									
Group: VO VARIATION ORDERS									
Item No	Item Description	Contract Rate	Final Quantity	FINAL AMOUNT	Period Quantity	PERIOD AMOUNT	Quantity Todate	AMOUNT TODATE	
-----									
VR001	Revised Drainage Drg 2003 Rev 4	1480.00	1 LS	1480.00	1 LS	1480.00	1 LS	1480.00	
Invert level of manhole S121 lowered to avoid existing gasmain. Contractor's Field Memo 11722 of 15/6/94 refers. Authorised and payment approved on Variation Record VR001.									
VR002	Deduct for failed density tests	-50.00	45 EA	-2250.00	45 EA	-2250.00	45 EA	-2250.00	
The contractor has to pay the cost of repeat testing whenever a compaction density test fails. (See Special Conditions X-12 para 14.)									
VR003	Grader Rental	55.00	500 Hr	27500.00	112.5 Hr	6187.50	112.5 Hr	6187.50	
-----									

BILLING TODATE - Page 5 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 5	
Billing to 30JUN94		### BILLING TODATE ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE									
-----									
Group: rf CONTRACT ESCALATION									
Item No	Item Description	Contract Rate	Final Quantity	FINAL AMOUNT	Period Quantity	PERIOD AMOUNT	Quantity Todate	AMOUNT TODATE	
-----									
1	ESCALATION FOR PERIOD 1	1.00	3575.62 \$	3575.62	3575.62 \$	3575.62	3575.62 \$	3575.62	
-----									
1 Item				3575.62		3575.62		3575.62	
-----									
Group: rf 1 Item				3575.62		3575.62		3575.62	
-----									
JOB TOTALS - 20 Items				981681.45		307248.46		307248.46	
-----									

Projected Final Liability at 30 June 1994 - Page 1 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM				Page 1	
Billing to 30JUN94		### FINAL ESTIMATE ###				Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE						Sorted	
=====							
Group:	G1	CIVIL ENGINEERING WORK					
Item		Contract	Contract	CONTRACT	Final	FINAL	Percent
No	Item Description	Rate	Quantity	AMOUNT	Quantity	AMOUNT	Increase
=====							
Section: E000		DRILLING & BLASTING					
A1a	DRILLING ESTABLISHMENT	8700.00	1 LS	8700.00		8700.00	
D100	CHANNEL DRILL & BLAST	0.98	242140 m3	237297.20		237297.20	
=====							
Section: E000		2 Items		245997.20		245997.20	
+++++							
Section: E001		TAILRACE EXCAVATION					
A1a	EXCAVATION ESTABLISHMENT	20000.00	1 LS	20000.00		20000.00	
D100	CHANNEL EXCAVATION to 3m DEEP	1.32	186300 m3	245916.00	192000 m3	253440.00	3.06
D200	CHANNEL EXCAVATION 3 to 4m DEEP	2.10	46840 m3	98364.00		98364.00	
D300	CHANNEL EXCAVATION OVER 4m	3.40	19000 m3	64600.00		64600.00	
X40.0	TREE CLEARING	1450.00	14.5 Ha	21025.00		21025.00	
X50.2	DEMOLITION & GRUBBING	2188.40	22.7 Ha	49676.68		49676.68	
=====							
Section: E001		6 Items		499581.68		507105.68	1.51
Group: G1		8 Items		745578.88		753102.88	1.01
=====							

Projected Final Liability - Page 3 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM				Page 3	
Billing to 30JUN94		### FINAL ESTIMATE ###				Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE						Sorted	
=====							
Group:	M	MATERIALS ON SITE					
Item		Contract	Contract	CONTRACT	Final	FINAL	Percent
No	Item Description	Rate	Quantity	AMOUNT	Quantity	AMOUNT	Increase
=====							
Section: 1		PLUMBING MATERIAL					
1	Storm drainage pipe 100mm	3.80	0 LM		0 LM		
99	Pipe fittings	1.00	0 \$		0 \$		
=====							
Section: 1		2 Items					
Group: M		2 Items					
=====							

Projected Final Liability - Page 4 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM				Page 4	
Billing to 30JUN94		### FINAL ESTIMATE ###				Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE						Sorted	
=====							
Group:	VO	VARIATION ORDERS					
Item		Contract	Contract	CONTRACT	Final	FINAL	Percent
No	Item Description	Rate	Quantity	AMOUNT	Quantity	AMOUNT	Increase
=====							
VR001	Revised Drainage Drg 2003 Rev 4	1480.00	1 LS	1480.00		1480.00	
VR002	Deduct for failed density tests	-50.00	45 EA	-2250.00		-2250.00	
VR003	Grader Rental	55.00	500 Hr	27500.00		27500.00	
=====							
		3 Items		26730.00		26730.00	
Group: VO		3 Items		26730.00		26730.00	
=====							

Projected Final Liability - Page 5 of 5

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM				Page 5	
Billing to 30JUN94		### FINAL ESTIMATE ###				Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE						Sorted	
=====							
Group:	rf	CONTRACT ESCALATION					
Item		Contract	Contract	CONTRACT	Final	FINAL	Percent
No	Item Description	Rate	Quantity	AMOUNT	Quantity	AMOUNT	Increase
=====							
1	ESCALATION FOR PERIOD 1	1.00	0.00 \$		3575.62 \$	3575.62	
=====							
		1 Item				3575.62	
Group: rf		1 Item				3575.62	
=====							
JOB TOTALS - 20 Items				970581.83		981681.45	1.14
=====							

Progress Worksheet for Period Ending 31 July 1994 - Billing No 2 - Page 1 of 4

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 1	
Billing to 30JUN94		### MEASURE INPUT ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Updated on 2/8/94 by L.Moff						Sorted	
Group: G1 CIVIL ENGINEERING WORK									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: E000 DRILLING & BLASTING									
A1a	DRILLING ESTABLISHMENT	1 LS	0.90 LS	Complete	LS	90.00	1	30JUN94	
D100	CHANNEL DRILL & BLAST	242140 m3	164000 m3	238,000	m3	67.73	2	30JUN94	
Section: E000 2 Items									
*****									
Section: E001 TAILRACE EXCAVATION									
A1a	EXCAVATION ESTABLISHMENT	1 LS	1 LS	To Sta 89810.0	LS	100.00	3	30JUN94	Yes
D100	CHANNEL EXCAVATION TO 3m DEEP	192000 m3	27000 m3	14.06	m3	14.06	4	30JUN94	
[Channel X-Section dimensions are:- <div style="text-align: center;"> </div>									
[30 Jun 94 - Complete from Sta 863+25.00 to Sta 868+47.600 Sta 89810.0 (868 47.600 - 863 25.000) (m) x (16.5 + 4.2) / 2 x 4.2 (depth) = 26997.52									
D200	CHANNEL EXCAVATION 3 to 4m DEEP	46840 m3	m3	43,000	m3		5		
D300	CHANNEL EXCAVATION OVER 4m	19000 m3	m3	18,000	m3		6		
X40.0	TREE CLEARING	14.5 Ha	14.573 Ha	Complete	Ha	100.50	7	30JUN94	???
X50.2	DEMOLITION & GRUBBING	22.7 Ha	23.130 Ha	Complete	Ha	101.89	8	30JUN94	???

Worksheet for Billing No 2 - Page 2 of 4

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 2	
Billing to 30JUN94		### MEASURE INPUT ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Sorted						Sorted	
Group: G2 BUILDING WORK									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: 1 PLUMBING									
A200	STORM DRAINAGE 100mm	432 LM	LM	366.8	LM		9		
A210	STORM DRAINAGE 150mm	655 LM	LM	Complete	LM		10		
A220	STORM DRAINAGE 200mm	86 LM	LM	Complete	LM		11		
Section: 1 3 Items									
*****									
Section: 2 ELECTRICAL									
Q4/10	NOMINATED SUBCONTRACT	100 %	%	31,620	%		12		
Section: 2 1 Item									
*****									
Section: 3 LANDSCAPING									
100	TOPSOILING	63400 m2	m2		m2		13		
200	HYDRO SEEDING	576000 m2	m2		m2		14		

Worksheet for Billing No 2 - Page 3 of 4

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 3	
Billing to 30JUN94		### MEASURE INPUT ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Sorted						Sorted	
Group: M MATERIALS ON SITE									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: 1 PLUMBING MATERIAL									
1	Storm drainage pipe 100mm	0 LM	136 LM	30	LM		18	30JUN94	
99	Pipe fittings	0 \$	1800 \$	Will	\$		19	30JUN94	

Worksheet for Billing No 2 - Page 4 of 4

Printed 1:17pm 1JUL94		PROBILL - CONTRACT BILLING SYSTEM						Page 4	
Billing to 30JUN94		### MEASURE INPUT ###						Billing No 1	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Sorted						Sorted	
Group: VO VARIATION ORDERS									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
VR001	Revised Drainage Drg 2003 Rev 4	1 LS	1 LS		LS	100.00	15	30JUN94	Yes <u>OK</u>
Invert level of manhole S121 lowered to avoid existing gasmain. Contractor's Field Memo 11722 of 15/6/94 refers. Authorised and payment approved on Variation Record VR001.									
VR002	Deduct for failed density tests	4# EA	45 EA	62	EA	100.00	16	30JUN94	<u>FINAL = 62</u>
The contractor has to pay the cost of repeat testing whenever a compaction density test fails. (See Special Conditions X-12 para 14.)									
VR003	Grader Rental	500 Hr	112.5 Hr	249	Hr	22.50	17	30JUN94	

Escalation Calculation Report for Period Ending 31 July 1994

Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		System date: Tue, 2AUG94	
ESCALATION DETAILS for Period 1 - 30JUN94 to Period 2 - 31JUL94			
=====			
Component	1 - LABOUR	- Base Index =	18.210
Period	To	Current Index	(CI-BI)/BI
1	30JUN94	18.210	0.000000000
2	31JUL94	19.180	0.053267435
Component	2 - PLANT	- Base Index =	1173.200
Period	To	Current Index	(CI-BI)/BI
1	30JUN94	1169.700	-0.002983294
2	31JUL94	1186.300	0.011166042
Component	3 - MATERIAL	- Base Index =	128.900
Period	To	Current Index	(CI-BI)/BI
1	30JUN94	134.370	0.042435997
2	31JUL94	137.190	0.064313421
=====			
Escalation Class: BW - BUILDING CLASSIFICATION			
Period 1 - 30JUN94			
Component	Weighting	WEIGHT x (CI-BI)/BI	
1 LABOUR	0.400	0.000000000	
3 MATERIAL	0.450	0.019096199	
Fixed Weight	0.150	-----	
	Total Factor =	0.019096199	
Escalation for Class BW is	0.019096199 x \$	0.00 = \$	0.00
Period 2 - 31JUL94			
Component	Weighting	WEIGHT x (CI-BI)/BI	
1 LABOUR	0.400	0.021306974	
3 MATERIAL	0.450	0.028941040	
Fixed Weight	0.150	-----	
	Total Factor =	0.050248014	
Escalation for Class BW is	0.050248014 x \$	47123.43 = \$	2367.86
-----			
Escalation Class: CE - CIVIL CLASSIFICATION			
Period 1 - 30JUN94			
Component	Weighting	WEIGHT x (CI-BI)/BI	
1 LABOUR	0.250	0.000000000	
2 PLANT	0.350	-0.001044153	
3 MATERIAL	0.300	0.012730799	
Fixed Weight	0.100	-----	
	Total Factor =	0.011686646	
Escalation for Class CE is	0.011686646 x \$	295938.54 = \$	3458.53
Period 2 - 31JUL94			
Component	Weighting	WEIGHT x (CI-BI)/BI	
1 LABOUR	0.250	0.013316859	
2 PLANT	0.350	0.003908115	
3 MATERIAL	0.300	0.019294026	
Fixed Weight	0.100	-----	
	Total Factor =	0.036519000	
Escalation for Class CE is	0.036519000 x \$	424890.00 = \$	15516.56
=====			
Period 1 - 30JUN94	TOTAL ESCALATION = \$		3458.53
2 - 31JUL94			17884.42
=====			



## FINAL PAYMENT CERTIFICATE

3:39pm 5SEP94	PROBILL - CONTRACT BILLING SYSTEM	Page 1
<b>F I N A L P A Y M E N T C E R T I F I C A T E</b>		
Contract: <b>BULLAMAKANKA DAM - TUTORIAL EXAMPLE</b>		
=====		
Certificate No 3 covering work to 31AUG94		
Contractor: <b>FAR WESTERN GENERAL CONTRACTORS PTY LTD</b> P.O. Box 4 112 Bogan Street NEVERTIRE NSW 2831		
Owner: <b>BULLAMAKANKA POWER &amp; WATER COMMISSION</b> P.O. Box 9999 455 Main Street BULLAMAKANKA QLD 4999 Contact: Mr Joseph McArthy		
Contract Number: <b>M94/12345</b>		
Approved Contract Value: \$ <b>943851.83</b>		
Final Contract Value: \$ <b>1013574.41</b>		
Percent Complete: <b>100.00%</b>		
Percentage Retention: <b>10%</b>		
Maximum Retention: <b>5%</b>		
=====		
GROSS BILLING TODATE \$ 1013574.41		
Less PREVIOUS PAYMENTS \$ 754291.33		
PAYABLE THIS CERTIFICATE \$ 259283.08		
=====		
Prepared by: <i>..L.McH..5/9/94.....</i> Approved by: <b>.John Drew, 5 Sep 94.</b>		

## PROJECT or DEPARTMENT SUMMARY Report

Printed 10:10am 3SEP94		NEVERTIRE CONSTRUCTION COMPANY PTY LTD					Page 1	
		### DEPARTMENT SUMMARY ###						
Department: <b>MD WAREHOUSE BUILDING, CLYDE</b>								
Sorted								
Contract Number	Contract Name	Bill No	Bill Date	CONTRACT VALUE	FINAL ESTIMATE	PERIOD AMOUNT	AMOUNT TODATE	
=====								
M94/00872	CLYDE WAREHOUSE - SITE SERVICES	14	30JUN93	29742.00	29742.00		29742.00	
M94/10091	CLYDE WAREHOUSE - STEEL STRUCTURE	6	22DEC93	650633.50	759367.00	2849.53	759367.00	
M94/11763	CLYDE WAREHOUSE - ELECTRICAL WORK	9	29AUG94	98081.00	99728.13	17825.08	93482.38	
M94/11777	CLYDE WAREHOUSE - CONCRETE SUB	21	31AUG94	2429000.00	2380244.00		2380244.00	
M94/12345	CLYDE WAREHOUSE - ROOFING CONTRACT	3	14JUL94	170670.88	187645.23	37489.65	102763.89	
M94/13411	CLYDE WAREHOUSE - BRICKWORK	1	30AUG94	3842946.00	3842946.00	376043.64	376043.64	
M94/13427	CLYDE WAREHOUSE - MECH SERVICES SUB			112000.00	112000.00			
=====								
DEPARTMENT TOTALS - 7 Jobs				7333073.38	7411672.36	434207.90	3741642.91	
=====								

Progress Worksheet for Period Ending 31 August 1994 - Final Certificate - Page 1 of 5

Printed 3:07pm 2AUG94		PROBILL - CONTRACT BILLING SYSTEM						Page 1	
Billing to 31JUL94		### MEASURE INPUT ###						Billing No 2	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Updated on 5/9/94 by L.Matt							
Group: G1 CIVIL ENGINEERING WORK									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: E000 DRILLING & BLASTING									
A1a	DRILLING ESTABLISHMENT	1 LS	1 LS		100.00	1	31JUL94	Yes	
D100	CHANNEL DRILL & BLAST	242140 m3	236000 m3		97.46	2	31JUL94		
Paid on basis of theoretical trench sections. 40% paid when drilling complete.									
Section: E000 2 Items									
*****									
Section: E001 TAILRACE EXCAVATION									
A1a	EXCAVATION ESTABLISHMENT	1 LS	1 LS		100.00	3	30JUN94	Yes	
D100	CHANNEL EXCAVATION to 3m DEEP	192000 m3	180000 m3		93.75	4	31JUL94		
[Channel X-Section dimensions are:- [-----] <----- 16.5m -----> [ 4.2m \ / ] Area = (16.5+8.1)/2 x 4.2 [-----] [31 Jul 94 - Complete from Sta 863+25.00 to Sta 898+10.600 (898 10.000 - 863 25.000) (m) x (16.5 + 8.1)/2 x 4.2 (depth) = 180035.10									
D200	CHANNEL EXCAVATION 3 to 4m DEEP	46840 m3	43000 m3		91.80	5	31JUL94		
D300	CHANNEL EXCAVATION OVER 4m	19000 m3	18000 m3		94.74	6	31JUL94		
X40.0	TREE CLEARING	14.573 Ha	14.573 Ha		100.00	7	31JUL94	Yes	
X50.2	DEMOLITION & GRUBBING	23.130 Ha	23.130 Ha		100.00	8	31JUL94	Yes	
Section: E001 6 Items									

Worksheet for Final Certificate - Page 2 of 5

Printed 3:07pm 2AUG94		PROBILL - CONTRACT BILLING SYSTEM						Page 2	
Billing to 31JUL94		### MEASURE INPUT ###						Billing No 2	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Sorted							
Group: G2 BUILDING WORK									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: 1 PLUMBING									
A200	STORM DRAINAGE 100mm	432 LM	366.8 LM		84.91	9	31JUL94		
A210	STORM DRAINAGE 150mm	655 LM	655 LM		100.00	10	31JUL94	Yes	
A220	STORM DRAINAGE 200mm	86 LM	86 LM		100.00	11	31JUL94	Yes	
Section: 1 3 Items									
*****									
Section: 2 ELECTRICAL									
Q4/10	NOMINATED SUBCONTRACT	100 %	31.620 %		31.62	12	31JUL94		
Section: 2 1 Item									
*****									
Section: 3 LANDSCAPING									
100	TOPSOILING	63400 m2	m2			13			
200	HYDRO SEEDING	576000 m2	m2			14			
Section: 3 2 Items									
Group: G2 6 Items									

Worksheet for Final Certificate - Page 3 of 5

Printed 3:07pm 2AUG94		PROBILL - CONTRACT BILLING SYSTEM						Page 3	
Billing to 31JUL94		### MEASURE INPUT ###						Billing No 2	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE		Sorted							
Group: M MATERIALS ON SITE									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
Section: 1 PLUMBING MATERIAL									
1	Storm drainage pipe 100mm	0 LM	30 LM			18	31JUL94		
Materials on site items always have ZERO Contract quantity. The job starts with no MOS and ends up with no MOS. MOS items can be measured in various ways. Where practical, a physical measure (LM, Tn, m2, etc.) is preferable as it is easier to enter and audit.									
99	Pipe fittings	0 \$	\$			19	31JUL94		
Pipe fittings are a typical example of a MOS item that can probably only be sensibly "measured" in dollar terms. You may want to use a PROCALC tally sheet to simplify the calculation of the value of the item at the end of each month.									
Section: 1 2 Items									

Worksheet for Final Certificate - Page 4 of 5

Printed 3:07pm 2AUG94		PROBILL - CONTRACT BILLING SYSTEM						Page 4	
Billing to 31JUL94		### MEASURE INPUT ###						Billing No 2	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE								Sorted	
Group: VO VARIATION ORDERS									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
VR001	Revised Drainage Drg 2003 Rev 4 Invert level of manhole S121 lowered to avoid existing gasmain. Contractor's Field Memo 11722 of 15/6/94 refers. Authorised and payment approved on Variation Record VR001.	1 LS	1 LS		100.00	15	30JUN94	Yes	
VR002	Deduct for failed density tests The contractor has to pay the cost of repeat testing whenever a compaction density test fails. (See Special Conditions X-12 para 14.)	62 EA	62 EA		100.00	16	31JUL94		
VR003	Grader Rental	500 Hr	249 Hr		49.80	17	31JUL94		
3 Items									

Worksheet for Final Certificate - Page 5 of 5

Printed 3:07pm 2AUG94		PROBILL - CONTRACT BILLING SYSTEM						Page 5	
Billing to 31JUL94		### MEASURE INPUT ###						Billing No 2	
Contract: BULLAMAKANKA DAM - TUTORIAL EXAMPLE								Sorted	
Group: rf CONTRACT ESCALATION									
Item No	Item Description	Final Quantity	Quantity To date	*** UPDATED *** *** QUANTITY ***	Percent Comp	Rec No	Last Update	Item Complete	REMARKS
1	ESCALATION FOR PERIOD 1	3458.53	3458.53		100.00	20	30JUN94		
2	ESCALATION FOR PERIOD 2	17884.42	17884.42		100.00	21	31JUL94		
2 Items									