

Secondary data such as Bauer catalogue, manuals and literatures were also used to provide more information and hence enhance the understanding of Bauer's equipment and its businesses.

The following Bauer locations were surveyed and 100% feedback was received.

- ◆ Bauer Beijing, China
- ◆ Bauer Tianjin, China
- ◆ Bauer, Singapore
- ◆ Bauer, Hong Kong
- ◆ Bauer, Malaysia
- ◆ Bauer, Taiwan

The analysis of the survey results is divided into 3 sections which are as follows:

- i) Equipment and tools inventory management
- ii) Spare parts inventory management, and
- iii) Financial impact of stock holding

#### **4.1 Equipment and Tools Inventory Management**

The ways in which the inventory of the equipment and tools are managed and the problems encountered by the Bauer Far East locations are discussed and summarised as follows:

4.1.1 There is no standard inventory management system used for all the locations. Some locations keep their inventory by using Microsoft Excel spreadsheet, some are done manually and some developed

their owned inventory management system using Microsoft Office 97 to manage and track their inventory.

- 4.1.2 There is no standard part identification (ID) number for every equipment or tools. Each location assigned their own part ID number and some do not even have an ID. Storage locations are not assigned to the equipment or tools at some locations.
- 4.1.3 Certain tools are difficult to find and identify especially if they do not have proper tools IDs and storage locations recorded.
- 4.1.4 Equipment and tools can be located anywhere in the region. Taking for example, a Bauer boring rig together with the drilling tools when rented out to the client, can be located at the client's job site until they are returned to the Bauer yard. If the inventory is not properly recorded with proper IDs, it will require much time to locate. If there are many job sites in the region, this can be a very tedious job.
- 4.1.5 Only the specialist or the storekeeper knows the status of the equipment or tools based on their experience. Other members of the staff have difficulty in knowing where the tools are and their quantity. The system is too dependent on one or two persons to provide the necessary information. This will affect the flow of information and resulted in operational inefficiency. The sales of equipment or tools to other regions will also be affected if the information is not readily available.
- 4.1.6 Conditions of the used equipment or tools are not provided in the record which make it very difficult for the sales force to sell them if opportunity arises. A lot of time and cost are wasted to call the person in charge to verify the information.

4.1.7 No proper management report is available to highlight the status of the inventory. Management reports such as Obsolete Inventory Report, Condition Reports for each of the equipment and tools, and Availability Report are important for management decisions and the sales force.

## **4.2 Spare Parts Inventory Management**

As the basic information required for the spare parts is quite different from the equipment or tools, it is important that we analyse the spare parts inventory management system separately. The spare parts management in all the locations and their main problems encountered are as follows:

4.2.1 Similar to equipment and tool inventory management, there was no standard system for spare parts inventory management in all the locations. Each of the locations used their own method to keep track of the spare part inventory.

4.2.2 All Bauer spare parts which were bought from Bauer Germany have a Bauer part ID. For locally purchased parts, the part IDs are usually not assigned and if an ID is assigned, it is non-standard which makes it difficult to identify.

4.2.3 Prices of spare parts are not readily available to the sales force. In some cases, a quotation for spare parts to customer may take 1 or 2 days as prices can only be provided by the specialists or from Bauer Germany. A lot of time and effort are wasted due to this inefficiency. Redundant data and duplication of works are common as everybody tries to keep as much information as possible.

4.2.4 In some locations, there are no proper tracking of spare part inventories which make it very difficult to find an item when it is needed. Only the storekeepers know where the items are.

4.2.5 No proper management report is available to highlight the status of the inventory. Management reports such as Obsolete Inventory Report, Condition Reports of each of the equipment and tools, and Availability Report are important for management decisions and the sales force.

### 4.3 Financial Impact of Stock Holding

With the existing inventory management system, the amount of inventory holding as at April, 98 in each of the locations is as shown in Table 4.1.

**Table 4.1: Stock Holding as at April, 98 for BFE companies**

| <b>Locations</b>          | <b>Equip &amp; Tools<br/>(DM in '000)</b> | <b>Spare Parts<br/>(DM in '000)</b> | <b>Total Inventory<br/>(DM in '000)</b> |
|---------------------------|---|-------------------------------------|---|
| <b>China</b>              | 1,920                                     | 72                                  | <b>1,992</b>                            |
| <b>Singapore</b>          | 12,900                                    | 2,000                               | <b>14,900</b>                           |
| <b>Malaysia</b>           | 3,660                                     | 600                                 | <b>4,260</b>                            |
| <b>Hong Kong</b>          | 8,500                                     | 0                                   | <b>8,500</b>                            |
| <b>Taiwan</b>             | 1,500                                     | 192                                 | <b>1,692</b>                            |
| <b>Total (DM in '000)</b> | <b>28,480</b>                             | <b>2,864</b>                        | <b>31,344</b>                           |

As shown in table 4.1 above, Bauer Far East companies have a total stock holding of DM31.344 million, of which, DM28.480 for equipment and tools, and DM2.864 for spare parts.