# SOLUTION

#### Chapter 15 Waterways

|  |  |  |  |  |  |  |  |
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| **WP2 (a)** | |  |  |  |  |  |  |
|  | JOB COST SHEET | | | | | |  |
|  | Job Number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | Quantity\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |  |
|  |  |  |  | Date Requested\_\_\_\_\_\_\_\_\_\_\_\_ | | |  |
|  | Item\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | Date Completed \_\_\_\_\_\_\_\_\_\_\_\_ |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Direct | Direct | Manufacturing Overhead | | |  |
|  | Date | Materials | Labor |  |
|  |  |  |  | Hours | Rate | Amount |  |
|  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |
|  | Cost Summary | |  |  |  |  |  |
|  | Direct materials | |  | $ |  |  |  |
|  | Direct labor | |  |  |  |  |  |
|  | Manufacturing overhead | | |  |  |  |  |
|  | Total Cost |  |  | $ |  |  |  |
|  | Unit Cost |  |  | $ |  |  |  |
|  |  |  |  |  |  |  |  |

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| **WP2 (a)** | |  |  |  |  |  |  |
|  | JOB COST SHEET | | | | | |  |
|  | Job Number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | Quantity\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |  |
|  |  |  |  | Date Requested\_\_\_\_\_\_\_\_\_\_\_\_ | | |  |
|  | Item\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | Date Completed \_\_\_\_\_\_\_\_\_\_\_\_ |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Direct | Direct | Manufacturing Overhead | | |  |
|  | Date | Materials | Labor |  |
|  |  |  |  | Hours | Rate | Amount |  |
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|  |  |  |  |  |  |  |  |
|  | Cost Summary | |  |  |  |  |  |
|  | Direct materials | |  | $ |  |  |  |
|  | Direct labor | |  |  |  |  |  |
|  | Manufacturing overhead | | |  |  |  |  |
|  | Total Cost |  |  | $ |  |  |  |
|  | Unit Cost |  |  | $ |  |  |  |
|  |  |  |  |  |  |  |  |

**Answer (a)**

|  |  |  |  |  |  |  |  |
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|  | JOB COST SHEET | | | | | |  |
|  | Job Number J57 | | | Quantity 237 units  Date Requested Dec 2 | | |  |
|  |  |  |  | Date Completed Dec 15 | | |  |
|  | Item special order parts | | |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Direct | Direct | Manufacturing Overhead | | |  |
|  | Date | Materials | Labor |  |
|  |  |  |  | Hours | Rate | Amount |  |
|  | 2-Dec | $ 3,374 |  |  |  |  |  |
|  | 3-Dec |  | $ 66 | 2 1/2 | $ 398\* | $ 995 |  |
|  | 8-Dec | 706 |  |  |  |  |  |
|  | 9-Dec |  | 66 | 3 | 398 | 1,194 |  |
|  | 14-Dec | 2,306 |  |  |  |  |  |
|  | 15-Dec |  | 66 | 3 | 398 | 1,194 |  |
|  |  |  |  |  |  |  |  |
|  | Cost Summary | |  |  |  |  |  |
|  | Direct materials | |  | $ 6,386 |  |  |  |
|  | Direct labor | |  | 198 |  |  |  |
|  | Manufacturing overhead | | | 3,383 |  |  |  |
|  | Total Cost |  |  | $ 9,967 |  |  |  |
|  | Unit Cost ($9,967/237 units) | | | $ 42.05 |  |  |  |
|  |  |  |  |  |  |  |  |

\*840,576 ÷ 2,112

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|  | JOB COST SHEET | | | | | |  |
|  | Job Number K52 | | | Quantity 142 units  Date Requested Dec 2 | | |  |
|  |  |  |  | Date Completed Dec 15 | | |  |
|  | Item special order parts | | |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Direct | Direct | Manufacturing Overhead | | |  |
|  | Date | Materials | Labor |  |
|  |  |  |  | Hours | Rate | Amount |  |
|  | 2-Dec | $ 1,687 |  |  |  |  |  |
|  | 3-Dec |  | $ 33 | 2 | $ 398\* | $ 796 |  |
|  | 8-Dec | 353 |  |  |  |  |  |
|  | 9-Dec |  | 33 | 2 | 398 | 796 |  |
|  | 14-Dec | 1,153 |  |  |  |  |  |
|  | 15-Dec |  | 33 | 2 | 398 | 796 |  |
|  |  |  |  |  |  |  |  |
|  | Cost Summary | |  |  |  |  |  |
|  | Direct materials | |  | $ 3,193 |  |  |  |
|  | Direct labor | |  | 99 |  |  |  |
|  | Manufacturing overhead | | | 2,388 |  |  |  |
|  | Total Cost |  |  | $ 5,680 |  |  |  |
|  | Unit Cost ($5,680/142 units) | | | $ 40.00 |  |  |  |
|  |  |  |  |  |  |  |  |

\*840,576 ÷ 2,112

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| **(b)** | GENERAL JOURNAL | | | | |
|  |  | |  | DEBIT | **CREDIT** |
| 12/1 | Raw Materials Inventory | | | 53,200 |  |
|  | Accounts Payable | | |  | 53,200 |
|  | *(Purchase of raw materials on account)* | | |  |  |
|  |  | |  |  |  |
| 12/2 | Work in Process Inventory | | | 5,061 |  |
|  | Raw Materials Inventory | | |  | 5,061 |
|  | *(To assign materials to jobs J57 & K52)* | | |  |  |
|  |  |  | |  |  |
| 12/2 | Work in Process Inventory | | | 40,000 |  |
|  | Manufacturing Overhead | |  | 3,000 |  |
|  | Raw Materials Inventory | | |  | 43,000 |
|  | *(To assign materials to jobs and overhead)* | | |  |  |
|  |  |  | |  |  |
| 12/3 | Work in Process Inventory | | | 99 |  |
|  | Factory Labor | | |  | 99 |
|  | *(To assign labor to jobs J57 & K52)* | | |  |  |
|  |  | | |  |  |
| 12/3 | Work in Process Inventory | | | 1,791 |  |
|  | Manufacturing Overhead | | |  | 1,791 |
|  | *(To assign overhead to jobs J57 & K52)* | | |  |  |
|  |  |  | |  |  |
| 12/8 | Work in Process Inventory | | | 1,059 |  |
|  | Raw Materials Inventory | | |  | 1,059 |
|  | *(To assign materials to jobs J57 & K52)* | | |  |  |
|  |  |  | |  |  |
| 12/9 | Work In Process Inventory | | | 99 |  |
|  | Factory Labor | | |  | 99 |
|  | *(To assign labor to jobs J57 & K52)* | | |  |  |
|  |  | | |  |  |
| 12/9 | Work in Process Inventory | | | 1,990 |  |
|  | Manufacturing Overhead | | |  | 1,990 |
|  | *(To assign overhead to jobs J57 & K52)* | | |  |  |
|  |  |  | |  |  |
| 12/12 | Factory Labor | | | 65,000 |  |
|  | Cash | | |  | 65,000 |
|  | *(To record factory labor costs and payment)* | | |  |  |
|  |  |  | |  |  |
| 12/13 | Manufacturing Overhead | | | 9,000 |  |
|  | Cash | | |  | 9,000 |
|  | *(To record payment of factory water bill)* | | |  |  |
|  |  |  | |  |  |
| 12/14 | Work in Process Inventory | | | 3,459 |  |
|  | Raw Materials Inventory | | |  | 3,459 |
|  | *(To assign materials to jobs J57 & K52)* | | |  |  |
|  |  | | |  |  |

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|  | **GENERAL JOURNAL** | |  |  |
|  |  | | DEBIT | **CREDIT** |
| 12/15 | Work In Process | | 99 |  |
|  | Factory Labor | |  | 99 |
|  | *(To assign labor to jobs J57 & K52* | |  |  |
|  |  | |  |  |
| 12/15 | Work in Process Inventory | | 1,990 |  |
|  | Manufacturing Overhead | |  | 1,990 |
|  | *(To assign overhead to jobs J57 & K52)* | |  |  |
|  |  | |  |  |
| 12/15 | Finished Goods Inventory | | 15,647 |  |
|  | Work in Process Inventory | |  | 15,647 |
|  | *(To record completion of jobs J57 & K52)* | |  |  |
|  |  |  |  |  |
| 12/18 | Finished Goods Inventory | | 50,000 |  |
|  | Work in Process Inventory | |  | 50,000 |
|  | *(To record completion of jobs)* | |  |  |
|  |  |  |  |  |
| 12/21 | Manufacturing Overhead | | 12,000 |  |
|  | Cash | |  | 12,000 |
|  | *(To record payment of factory electric bill)* | |  |  |
|  |  |  |  |  |
| 12/31 | Manufacturing Overhead | | 36,800 |  |
|  | Property Taxes Payable | |  | 12,000 |
|  | Prepaid Insurance | |  | 8,800 |
|  | Accumulated Depreciation | |  | 16,000 |
|  | *(To record overhead costs)* | |  |  |
|  |  |  |  |  |
| **(c)** 12/31 | Cost of Goods Sold | | 3,600 |  |
|  | Manufacturing Overhead\* | |  | 3,600 |
|  | *(To transfer underapplied overhead to cost of goods sold)* | |  |  |
|  |  | |  |  |

**(d)** Since production involved the use of machinery that required minimal labor, using machine hours as the cost driver for producing the sprinkler heads would more accurately reflect the overhead costs than would direct labor.

When the irrigation system is installed, this would require a great deal of labor and minimal machinery. Therefore, the cost driver for overhead costs would more likely be direct labor costs.