ABC Biosystems, Inc.
Inventory and Cost of Goods Cycle
Narrative – Control Environment

Key Controls are **BOLD**	Controls Ref

I. Overview:

ABC Biosystems, Inc. (Company) develops, manufactures and markets a family of ProteinChip Systems products and services for clinical, research and process proteomics applications as well as a broad range of bioseparations media for protein purification and large scale production. Total consolidated revenue and consolidated gross profit (both net of intercompany revenue and profit) for the fiscal year ended December 31, 2003 was approximately $58.4 million and $30.6 million. During the second fiscal quarter of 2003, a litigation involving ABC Biosystems, Inc., Molecular Analytical Systems, Inc., LumiCyte, Inc., and T. William Hutchens was settled. The total cost of the litigation settlement amounted to $20.8 million, of which $7.3 million was attributed to periods prior to April 1, 2003 and expensed in the second quarter of 2003. $302 thousand, $303 thousand, and $302 thousand were amortized to cost of revenue (Royalties, AC 5150-00-xxx) for the second, third and fourth quarters of 2003, respectively, and the remaining $12.6 million will be amortized to cost of revenue in future periods through the second quarter of 2014.

The following chart shows the approximate amount of revenues and cost of revenues (in $1,000s) by product/revenue category generated by ABC Biosystems, Inc. US (ABC US), including intercompany revenues and cost of revenues, for the fiscal year ended December 31, 2003;

Product/Revenue Category	Revenue	Cost of Revenue	Gross Profit $	Gross Profit %
** Systems	$25,187	$8,410	$16,777	67%
** Chipware and Consumables	7,705	3,271	4,434	58%
** Process Chromatography	4,143	2,105	2,038	49%
Field Service and Maintenance	3,208	1,362	1,846	58%
Biomarker Discovery Centers	2,451	764	1,687	69%
Other Services	1,373	317	1,056	77%
Process Proteomics Services	45	36	9	20%
Nonrecurring litigation charge		7,257	(7,257)	N/A
Total	$44,112	$23,522	$20,590	47%

For systems product revenue, which were generated from the sales of its systems products, the major component of COGS were product standard cost (material and labor and overhead) and royalties.

For chipware and consumables revenue, which were generated from the sales of its chipware and consumables products, the major component of COGS were product standard cost (material and labor and overhead), royalties, scrap and rework, and amortization of capitalized variances.

For process chromatography, which were generated from the sales of its process chromatography products, the major component of COGS were product

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standard cost (material and labor and overhead). These products are manufactured by ABC US's French subsidiary and the intercompany revenue and cost of revenue are eliminated at consolidation. For field service and other revenue, which were generated mainly from maintenance revenue from its systems products, the major component of COGS were the cost of the field service department (32) and royalties. For Biomarker Discovery Center (BDC) revenue, which were generated mainly from validation/identification services, the major component of COGS were the cost of the BDC departments (15 & 16) and royalties. For other services revenue, which were generated mainly from training and consulting, the major component of COGS were attributable to a pre-determined cost (i.e. $750 per day for training or consulting and $800 per class per day). ** The associated cost of goods for these revenue are recognized through the cost of goods cycle that is described in the following narrative. The Company's Systems and Chipware/Consumables products are manufactured in Fremont, CA, while its Process Chromatography products are manufactured by its French subsidiary. At December 31, 2003, total consolidated net inventory was approximately $8.3million, of which approximately $5.0 million, $3.0 million and $0.3 million was on the books of the US parent company, France and Japan, respectively. The following narrative describes the inventory and cost of goods cycle pertaining only to ABC US. Inventory is valued at standard cost and reflects the lower of FIFO cost or market. It is maintained on the Company's MAS200 perpetual inventory system.	

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The following chart shows the Company's current accounting system general ledger accounts for inventory and its related perpetual inventory subsidiary ledger accounts. For all product lines except for Field Service, the perpetual inventory subsidiary ledger is organized by product lines. Field Service inventory subsidiary ledger is organized by warehouse locations.

Inventory Type	Product Line Description	GL AC Number	Perpetual Product Line
Pre-Production Inventory	Consumables	1505-00-C01	See Note below
Pre-Production Inventory	Systems	1505-00-P01	See Note below
Raw Materials	Consumables	1510-00-C01	CRAW,CZ01
Raw Materials	Field Service	1510-00-F01	F01,F02,F03,OS
Raw Materials	Systems	1510-00-P01	PRAW,POBS
Work In Process	Consumables	1520-00-C01	CWIP
Work In Process	Systems	1520-00-P01	PWIP
Finished Goods	Chromatography	1530-00-B01	B01
Finished Goods	Consumables	1530-00-C01	C01,CZW
Finished Goods	Systems	1530-00-P01	P01
Inventory Reserves	Chromatography	1560-00-B01	
Inventory Reserves	Consumables	1560-00-C01	
Inventory Reserves	Field Service	1560-00-F01	
Inventory Reserves	Systems	1560-00-P01	
Capitalized Variances	Consumables	1570-00-C01	
Capitalized Variances	Systems	1570-00-P01	

Note: Pre-production inventory are material parts that are projected to be used in the production of products, but are not assigned a part number within the Inventory sub-ledger at time of acquisition. Once a valid part number has been created for these items (through the New Product Order process as described below), these parts will be transferred into the applicable Raw Materials Inventory account via the inventory issue transaction whereby both the perpetual and the general ledger will automatically be updated (credit to 1505-00-C01 or 1505-00-P01 and an offsetting debit to 1510-00-C01 or 1505-00-P01, respectively).

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Product line identifier on Perpetual Subsidiary Ledger:	Description
CRAW	Consumables Raw Materials
CZ01	Consumables Discontinued (Non-MRB) Raw Materials
PRAW	Systems Raw Materials
POBS	Systems Obsolete Raw Materials
CWIP	Consumables Work-In-Progress
PWIP	Systems Work-In-Progress
B01	Process Chromatography Finished Goods
C01	Consumables Finished Goods
P01	Systems Finished Goods
CZW	Consumables Discontinued Finished Goods
Warehouse location identifier on Perpetual Subsidiary Ledger:	Description
001	Main Warehouse
F01	Field Service Warehouse-Fremont
F02	Field Service Warehouse-France
F03	Field Service Warehouse-China
OS	Offsite Warehouse
W02	Chipware Kitting
MRB	Non-Conforming Inventory
PAL	Autoloaders
PCI	ProteinChip Interfaces
C03	Chips in China

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The chart below shows the Company's current accounting system general ledger accounts for cost of revenue;

Cost of Revenue Accounts: (xxx=Product Line)	Description
5100-00-xxx	Cost of Revenue-Material
5115-00-xxx	Cost of Revenue-Labor/Overhead
5150-00-xxx	Royalties
5190-00-xxx	Standards Adjustments-Materials
5191-00-xxx	Standards Adjustments-Labor, OH
5250-00-xxx	Upgrade Costs
5300-00-xxx	I/C Cost of Revenue
5301-00-xxx	I/C Cost of Revenue
5302-00-xxx	I/C Cost of Revenue
5303-00-xxx	I/C Cost of Revenue
5410-00-xxx	Cost of Revenue-Maintenance Contracts
5427-00-xxx	Cost of Revenue-ABI Fees
5710-00-xxx	Scrap & Rework
5810-00-xxx	Inventory Adjustments
5820-00-xxx	Purchase Price Variance
5830-00-xxx	Manufacturing Variance
5840-00-xxx	Under/Over Absorbed Overhead
5850-00-xxx	Applied Direct Costs
5870-00-xxx	Capitalized Variances to Cost of Revenue
5871-00-xxx	Amortization of Capitalized Variances
5890-00-xxx	Provision for Inventory Reserves
5891-00-xxx	Provision for Warranty Reserves
5910-00-xxx	Warehouse Costs
5924-00-xxx	Shipping/Freight In
5925-00-xxx	Shipping/Freight Out
5996-00-xxx	Miscellaneous Cost of Revenue

Note: See Tab 1 for the comprehensive listing of the ABC US's Chart of Accounts.

II. New Inventory Acquisition and/or Inventory Change Process:

Inventory parts/products are formally introduced or changes approved into inventory via the New Product Order/Engineering Change Order (NPO/ECO) Form where the inventory part is identified and subsequently approved or disapproved. New parts sometimes are immediately assigned a MAS200 part number as part of completing the NPO Form and therefore are posted to account 1510-00-xxx at time of acquisition. For other cases, as described above, parts are acquired and placed in account 1505-00-xxx and the assignment of a MAS200 part number occurs after the fact by virtue of approval of the NPO Form. Once the part number is approved, the material is transferred into the applicable raw material inventory account via an Inventory Issue or Inventory Adjustment and the applicable inventory account, 1510-00-xxx is debited and

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account 1505-00-xxx is credited. (see Tab 2 for sample of the applicable forms used). If approved, then the inventory is entered into the inventory system via the Bills of Materials (BOM) maintenance module in MAS200. The NPO/ECO Form is also used for processing inventory items that are changed for the following reason, and the BOM is revised. • Temporary deviation/change (time-limited, typically expires after a determined period) to a product/product documentation • Making a temporary deviation/change permanent • Permanent change to a product/document All proposed additions or revisions must be approved (see Tab 3 for list of authorized approvers, which is segregated by product categories, i.e. Systems versus Chipware versus Software). In summary, the following depicts the process; New/Change part/product => Review/Investigate => Approve => Implement In addition, for proposed revisions/changes, the following are addressed and actions determined prior to approval; • Extent of the change • Disposition of the impacted product/product documentation. The disposition options are as follows; use as is, new, rework or scrap. The Engineering and Production Planning departments are responsible for making the disposition selection. If the decision is to scrap/rework, the transaction performed through the Inventory Adjustment module will automatically debit to the cost of revenue account, 5710-00 and an offsetting credit to the applicable inventory account, 1510-00-xxx (raw material), 1520-00-xxx (WIP) or 1530-00-xxx (FG), both in the perpetual sub-ledger and the general ledger. Subsequent to the approval of the New Product Order or Engineering Change Order/Revision, the applicable change/add is processed in MAS200 whereby the Bills of Material for the impacted change or added part/product is entered and updated. III. Production Plan: The Company's products are produced based on an approved production plan to support its forecasted sales. The approved production plan determines the production build schedule and related material requirements. The process begins whereby the sales forecast is presented to a cross-functional group	4.4

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consisting of representatives from Marketing, Production Operations, Materials Management and the VP of Operations to determine and approve the production plan necessary to support the sales forecast. The monthly production build plan is prepared for the upcoming month during the current quarter and as that month ends and prior to the start of the following month, the production planning group prepares an updated monthly production plan necessary to support the current quarter's sales forecast. This subsequent monthly production build plan is then reviewed and approved, as in the case in the prior month. In summary, the following depicts this process; Sales Forecast presented to Operations Group => Production Plan developed by Operations Group => Production Plan Distributed for Approval => Production Build Schedule Released to Material Management => Material Requirements Defined See Tab 4 for a sample of an approved production plan. Note: A representative from Finance is not currently a part of the production planning process. See Noted Deficiency Listing. IV. Production Build Schedule and Material Requirements: Based on the approved production build schedule, Work Orders (see Tab 5 for a sample of a Work Order) are created in MAS200 by Jerry Stenehjem, Materials Manager – Systems for Systems manufacturing and Inna Kupershmidt, Consumables Material Handler for Consumables manufacturing. In their absence, Simon George, Operation Service Manager, can also create Work Orders for either the Systems manufacturing or Consumables manufacturing. The creation of Work Orders determines what products are to be built and what materials are required to be issued for the production of such products. Currently, material requirements are manually prepared using the "Pick Sheet" (see Tab 6 for a sample of this form) inquiry module of the MAS200 Inventory Management module. The Pick Sheet inquiry shows the inventory materials requirement for the specified product (bill number), the total quantity on hand, the quantity on a Purchase Order buy and the resulting balance for the inventory material reduced to reflect the material required for the product inquired. Procurements for inventory materials which are required for the production of products and are not on hand, are made via a Purchase Requisition form (see Tab 7 for a sample form). All purchases of inventory require the approvals by the applicable department managers and above based on the dollar threshold of the purchase. See Expenditure Authorization List on Tab 8. V. Purchase Inventory: Based on the lack of inventory required for the production of products as	4.5

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determined by the approved production build plan, an approved Purchase Requisition Form to procure such inventory material is submitted to the Purchasing department. From this, the Purchasing department will transact the purchase and issue an approved Purchase Order (P.O.) (see Tab 9 for a sample P.O.) to the vendor. **Depending on the dollar limits of the purchases, approvals are necessary for the issuance of the Purchase Order. All inventory procurements must be processed with PO's.**	**4.6/4.7**
VI. Receive Inventory: Inventory materials are received by the Shipping and Receiving department. The following basic receiving duties are performed; • Visually inspect packages • Verify and sign for packages • Log receipts into Receiving Log • Verify contents against Packing List • Print a MAS200 receiving form	
A system generated receiving form is generated when a batch is opened to receive all materials into the MAS200. The receipts are posted into the system when the batch is closed. **The original packing slip and the receiving form are forwarded to the Accounts Payable department.**	4.8/4.9 **4.10**
When the receiving batch is closed, an automatic entry is posted into the MAS200 system debiting the applicable Raw Materials Inventory general ledger account (1510-00-xxx) and an offsetting credit to Accounts Payable clearing account (2115-00).	
VII. Incoming Inspection Quality Control (IQC): ABC US has a process in place to identify, segregate, evaluate, review and dispose of both defective/nonconforming raw materials procured and defective/nonconforming products manufactured. For receipts of raw materials procurement, materials are inspected via an Incoming Inspection Quality Control (IQC) process which is described below. For product manufacturing, prior to transferring the completed product into Finished Goods inventory, are also inspected for any defects/nonconformance. Materials, which are either procured or manufactured, that are found and determined to be defective/nonconforming, are processed via the Nonconforming Materials and Products process. In summary, the following depicts the process; QC Inspection => Defects Identified => Parts Segregated => Non Conformance	

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Report (NCR) filled out => Parts Evaluated => Disposition Determined. The disposition options for materials and or products that have been determined to be defective/nonconforming are (1) return to vendor, (2) No problem in fact exists (return inventory back to initial warehouse location, (3) Use as is, or (4) Return to Vendor for Rework/Repair. For products manufacturing, in the event that an inventory material fails as determined during the QC inspection, a fifth disposition method is available (Scrap). Both the Engineering and Production departments are responsible for making the determination and selection of the disposition method. No matter what disposition method is selected, an approved Non Conformance Report (NCR) form (see Tab 10 for a sample form) provides the vehicle for the movement of the impacted inventory into or out of the applicable Materials Review Board (MRB) inventory account (the perpetual sub-ledger designated with an MRB warehouse identifier).	4.11
Return to vendor – a. For credit: For materials which are to be returned to the vendor, an approved NCR form (for inventory materials) or a Materials Return Request form (see Tab 11 for a sample form) (for expense type goods) is submitted to the Purchasing department. The vendor is contacted and a Returns Material Authorization number is obtained and is noted on the form. In addition the Purchasing department issues a credit to the applicable inventory account (1510-00-xxx, 1520-00-xxx or 1530-00-xxx and an offsetting debit to the A/P clearing account (2115-00) via an Inventory Adjustment to the MAS200. This will automatically be posted into the perpetual sub-ledger and to the general ledger. A copy of the NCR or Material Return Request form is forwarded to the Accounts Payable department. The Accounts Payable department will monitor that the applicable credits are received from the vendor. Note: As the inventory materials have been returned to the vendor for credit, it would be appropriate to have the Accounts Payable department generate and issue a debit memo for the return. This is a noted deficiency. See Observed Deficiency Report. b. Vendor rework required: For materials which are to be returned to the vendor for repair or rework, an approved NCR form (for inventory materials) or a Materials Return Request form (for non-inventory type goods) is submitted to the Purchasing department. The vendor is contacted and notified of the pending return for rework. If applicable, a PO will be issued for any additional cost required for the rework. This transaction will be entered into the perpetual sub-ledger via an Inventory Issue transaction, moving the inventory from its original inventory location into the Offsite warehouse location. The Purchasing department logs and tracks these material returns (credits and rework) onto an Excel spreadsheet.	4.13

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Note: To ensure that inventory returned, whether for credit or for repair/rework are accurately tracked, as part of the inventory reconciliation, the Offsite warehouse location should be agreed to this manual log. This is a noted deficiency. See Observed Deficiency Report. VIII. Inventory Manufacturing Progression: For Production (Raw to WIP)- Materials are issued into production via release and issuance of raw materials against the Work Orders created/opened per the production build plan. Materials are issued against the Work Order as determined by the production build schedule. As material issues are updated on the MAS200 system, an automatic entry to debit the applicable Work In Process inventory account (1520-00-xxx) for the material standard cost of the materials issued with a corresponding credit to the applicable Raw Materials inventory account (1510-00-xxx) is posted in the system. Additionally, a Work Order Traveler form (see Tab 12 for a sample form) is generated and is issued along with the materials to production manufacturing. This traveler form will accompany the materials from issuance through product completion.	4.12
Per discussion with Simon George, Operations Service Manager, the report of all open work orders are reviewed by himself and by the Materials Manager – Systems and the Consumables Operations Specialist, frequently every month, but at a minimum, once a month at month end.	4.14
From Production (WIP to FG)- When production is completed, the finished goods product is sent to QC for tests and inspection. Products that successfully pass QC are then sent to Materials Management, where the applicable Work Order that was created to build such product, is closed and updated on the MAS200 system. In addition, a Production Entry is made for the completion of the product and the labor and overhead is applied to the completed finished goods product. As the Production Entry is made and updated, an automatic entry to apply labor and overhead is applied to the finished product and in addition, moves the product back into the applicable Finished Goods inventory account (1530-XX) with an offsetting credit to the applicable WIP inventory account (1520-XX) and a Manufacturing Labor allocation account (8950-xx-000, whereby xx represents 30 for the Systems production manufacturing and 35 for Consumables product manufacturing). Quality Control Inspection of ABC US Products- To ensure that defective or non-conforming materials are determined and	

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segregated from inventory, a quality control inspection is performed and the status is measured against applicable table specifications and instructions contained in the work instructions for each product. For materials that are found to be defective or non-conforming, an NCR form is written and the applicable defective or non-conforming material is placed into the applicable Materials Review Board (MRB) inventory account (designated with an MRB warehouse identifier), for evaluation and determination of its disposition. Currently, the MRB is comprised of Ed Konvalin, Jerry Stenehjem and Quyen Truong. The board members meet on a weekly basis to determine the disposition of such materials. The final decision and approval of the disposition option is recorded onto the NCR form. In addition to the four disposition methods as described in the IQC of incoming inventory parts, a fifth disposition method is available for inventory parts that fails QC inspection at this stage. This fifth disposition option is to scrap the material. Materials that have been determined to be scrap are transacted via an approved NCR Form. The following entry that will be posted via an Inventory Adjustment will be to debit the Scrap/Rework account, 5710-00-xxx and the offsetting credit to the applicable MRB inventory account, 1510-00-xxx (Raw), 1520-00-xxx (WIP) or 1530-00-xxx (FG). For completed systems products that do not successfully pass the initial QC test and inspection, are analyzed and retested. For consumables manufactured products that do not successfully pass the initial QC test and inspection, an NCR form is written for the defective or non-conforming part and will go through the Non Conforming Material and Product process, which moves the inventory from a sub-ledger location into an MRB sub-ledger. A majority of inventory that have been transferred into an MRB warehouse location are closely examined and are reserved for at 50%.	4.23
Other Material Transfers- For all other transfers and issues of inventory materials, an Inventory Materials Transfer/Issue Request form (see Tab 13 for a sample form) is filled out for the issuance of inventory materials for such transfer/request. Depending on the dollar value of the material being requested, appropriate approvals per the Expense Authorization List, must be obtained prior to issuance of the requested inventory material. The following transactions are normally processed via Material Transfer/Issue Request form; • Transfer of materials between inventory warehouse locations • Issue of materials to company employees such as its scientists (the cost for this type of inventory transfers are charged to the employee's departmental spending). Issues of materials for internal consumption are transacted via Inventory Issues whereby the perpetual sub-ledger and the general ledger are updated. The following is an example of raw materials	4.13

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inventory issued for internal consumption; Debit the Materials Issued From Inventory account, 8091-xx-000, whereby xx represents the acquiring employee's department and an offsetting credit to the applicable inventory account (1510-00-xxx, 1520-00-xxx or 1530-00-xxx). IX. Product sale: This following discussion on revenue recognition is presented here to explain how the Cost Accountant verifies the cost of goods is booked into the proper period. The controls that relate to this area should be documented in the Revenue & Receivables cycle. As a customer order is received, Sales Order Processing (SOP) enters the customer order into MAS200, generating a Pick Sheet. Copy of the Sales Order and the Pick Sheet is forwarded to Inventory Management where it is used to physically pick the finished goods. When the finished goods are picked, it is entered into the MAS200 and a Packing List is generated for the shipment. This entry will automatically reserve the finished goods inventory to that specific customer order. The finished goods product, along with the copy of the Pick Sheet, Sales Order and Packing List is forwarded to the Shipping & Receiving (S&R) department to physically ship the product. The S&R department will compare the product shipment with the Pick Sheet, Sales Order and the Packing List prior to shipping the product. The shipment is logged and the shipping tracking number is marked on the Packing List. Copy of the marked Packing List, Sales Order and Pick Sheet and the shipping tracking number is forwarded to Inventory Management whereby the shipping tracking information is entered into MAS200. The Packing List, Sales Order, Pick Sheet and shipping tracking number is forwarded to SOP whereby it will be invoiced. When the invoice is generated, the following entries will be posted; • Debit to Accounts Receivable account, 210-00 and an offsetting Credit to the applicable Revenue account, 4110-00-xxx. • Debit the applicable Cost of Revenue Account-Materials, 5110-00-xxx, Cost of Revenue Account-Labor & Overhead, 5115-00-xxx and an offsetting Credit to the applicable Inventory FG account, 1530-00-xxx. X. Customer Product Returns: Per discussion with the Hukam Gupta, Engineering Systems Manager, customer product returns normally are due to repair or refurbishment. All sales are final and non-refundable. In rare instances, the Company may issue a replacement product in which case the approval of Martin Verhoef, President of BioSystems Division is required. Customer product returns are brought back into ABC US via notification from its Field Tech Support, who fills out a North American Field	4.15

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Shipping Form (see Tab 14 for a sample form) for the requested return. The Cost Accountant is notified and is responsible for entering the transaction into MAS200 to place the return back into the inventory system. The following would be an entry to bring the return back into inventory; Debit the applicable Inventory Account (1530-00-xxx) with an offsetting credit to the applicable cost of revenue account (5110-00-xxx and 5115-00-xxx). If the return of the product is transacted via Inventory Adjustment module, there is no need for the manual entry mentioned above, as both the perpetual sub-ledger and the general ledger will be automatically updated for the transaction (post a debit to the applicable inventory account and an offsetting credit to a cost of revenue account). Per discussion with the Cost Accountant and the Engineering Systems Manager, ABC US normally is not in the business of shipping product demos to end user customers, rather the demos are issued to its field personnel to demo the product. In instances where demos are shipped to end users, other than a $0 dollar sales order for the shipment of the demo, no other contractual agreements are put into place that supports that the demo is owned by ABC US or address any compensation for late returns of these demos, i.e interest charges per day for every day that the scheduled return is late. This is a noted deficiency and is listed on the Observed Deficiency Report. XI. Standard Cost: The Company's inventory is valued at standard costs. Standard cost is comprised of material costs and labor and overhead. The standards are principally established at time of new part/product introduction. Material cost is derived from prices of the latest purchase or at prices negotiated on future purchases of such materials. Labor and overhead is derived from taking the projected total annual spending of the production department divided by the total projected unit production for the year to arrive at a burdened labor and overhead cost per unit. **Standard costs are reviewed periodically as follows: material standard costs are reviewed semi-annually, generally in April and October. Labor and overhead costs are reviewed on a quarterly basis, generally in March, June, September and December.** Per discussion with Jack Chen, Sr. Revenue and Cost Accounting Manager and Peter Cheung, Cost Accountant, a review, but no revisions, of the material standard costs had been performed on the overall inventory pool in the October timeframe, as the overall impact of such changes would have been immaterial.	4.2

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There is no formal written policy/procedure that addresses standard costs adjustments. However, based on information obtained, the following steps are taken in the performance of changing the standard costs;	
Material Standards Change – (Reviewed semi-annually)	4.2
The material component of Raw Materials, Work In Process (WIP) and Finished Goods (FG) are reviewed on a semi-annual basis.	
Semi-annually, the Cost Accountant generates an Inventory Valuation Report which lists all parts and their current standard cost, and which lists the last purchase price of each part (whenever that purchase occurred) and the difference between the last purchase price and the current standard cost;	
• Any material parts whose current material standard cost (latest) differ from its last purchase price, require that the standard cost for that item is changed as described below.	
The last three purchase prices for the applicable part will be looked at and the new standard determined based on either the average of the three prices or if the Purchasing department is aware of a new agreed upon price, that price will be used.	
• **Based on the results determined above, the Cost Accountant will submit a proposed materials standards change to the Sr. Revenue and Cost Accounting Manager and the Corporate Controller, for their review and approvals. ***	4.2
* Normally this would be a control point subject to testing, however, there has been no Raw Materials nor Labor and Overhead standard cost changes performed in over a year. See Deficiency #1 and #2 on the Observed Deficiency Report.	
After obtaining approval to make the materials standards change, the following steps are performed by the Cost Accountant;	
Changing the standards-	
If the inventory item is stated either in "lot" quantities or are "serial" status, the material standard cost update is performed manually via a manual Inventory Adjustment, whereby the old material standard cost of the inventory is manually eliminated and the new inventory cost is entered back into the system. Once the new standard cost is entered for the "lot" or "serial" items, the sub-ledger automatically creates a journal entry to debit/credit the applicable Inventory	

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accounts (1510-00-xxx, 1520-00-xxx or 1530-00-xxx) with an offsetting debit/credit to the Inventory Adjustments account (5810-00-xxx). For non "lot" and non "serial" inventory items, the following process to change the standard cost occur: • The Cost Accountant merely updates the new cost in the inventory sub-ledger for the new material standard cost component of Raw Material, Work In Process and Finished Goods inventory. • For these non "lot" and non "serial" inventory items, a manual journal entry is required; debit/credit the applicable Inventory account, 1510-00-xxx, 1520-00-xxx or 1530-00-xxx and with an offsetting debit/credit to the applicable Standards Adjustment – Materials account, 5190-00-xxx. • Additionally, after material standard cost changes have been made, the Cost Accountant prepares a reclassification journal entry to debit/credit the applicable Capitalized Variances to Cost of Revenue account, 5870-00-xxx for the corresponding credit/debit, respectively, of account 5190-00-xxx Standards Adjustment – Materials with an offsetting credit/debit, respectively, to the applicable Capitalized Variances account (1570-00-C01 for Consumables and 1570-00-P01 for Systems). • The capitalized variance account, (1570-00-xxx), which includes standards cost change (5190-00-xxx), purchase price variance (5820-00-xxx), manufacturing variance (5830-00-xxx) and over/under absorbed overhead (5840-00-xxx), would then be amortized on a monthly basis, based on inventory in FG and WIP over the cost of production output (raw materials consumed in WIP and manufacturing labor allocation 8950-xx-000) (See Tab 17 for a sample of the Capitalized Variance worksheets). Typically, the amortization period for capitalized variances of Chipware/Consumables is approximately three months and for Systems is approximately three to four months. The Cost Accountant will then prepare the amortization journal entry on a monthly basis; Debit/Credit to the applicable Capitalized Variance account (1570-00-C01 for Consumables and 1570-00-P01 for Systems) with an offsetting Debit/Credit to the Amortization of Capitalized Variance account, 5871-00-xxx. Verification of Standards Cost Revaluation- The Cost Accountant will verify that the standards change revaluation for reasonableness by reviewing an Excel report listing the comparison of the "pre" adjusted versus the "post" adjusted price of each item. Any unexpected overall	**4.2**

Key Controls are **BOLD**	Controls Ref
changes will be reviewed and corrected. Note: The Cost Accountant will download the "pre" adjusted inventory valuation report of all materials to Excel prior to making any standard cost changes. As stated above, normally this would be a control point subject to testing, however, there has been no Raw Materials nor Labor and Overhead standard cost changes performed in over a year. See Deficiency #1 and #2 on the Observed Deficiency Report. As stated above, although there had been no material standards cost revision on the overall inventory pool in over a year. As a mitigating control, the Cost Accountant does perform a review on zero standard material parts as part of the inventory reconciliations on a monthly basis. (see Tab 4.18 in the Internal Control Document binder for a sample of the reconciliation). There had been standards updated for inventory parts that had incorrect material standards costs. The resulting standards change adjustments had been processed as described above. For these material standards cost adjustments, the resulting impact was capitalized and amortized on a monthly basis, based on production output, effective the month of the standards cost adjustment. Note: In order to ensure that all inventory is stated to reflect the current material standards cost, such costs of the overall inventory pool should be reviewed and revised to reflect the latest purchase prices and should be done through the material standards cost revision process as described above. This is an observed deficiency and is listed on the Observed Deficiency Report. Labor and Overhead Standards Change - The Labor and Overhead Standard rates are determined prior to the beginning of the new fiscal year that is necessary to support the projected annual operating plan, based on the following steps; For Systems Manufacturing Labor and Overhead rate, the operating expense budgets of the system manufacturing production department (30), allocated a portion of the shipping, receiving and purchasing departments' (39) total spending, allocated a portion of the total employee benefits (87), allocated a portion of the information technology's department's (84) total spending and allocated a portion of the facilities department's (89) total spending, all such allocations based on headcount, divided by the total projected system units to be produced for the year. For Chipware and Consumables Manufacturing Labor and Overhead rate, the operating expense budgets of the chipware and consumables manufacturing production department (35), allocated a portion of the shipping, receiving and	

Key Controls are **BOLD**	Controls Ref
purchasing departments' (39) total spending, allocated a portion of the total employee benefits (87), allocated a portion of the information technology's department's (84) total spending and allocated a portion of the facilities department's (89) total spending, all such allocations based on headcount, divided by the total projected chipware and consumable units to be produced for the year. This projected labor and overhead standard rate is reviewed on a quarterly basis, using information from the monthly Labor and Overhead Rate Analysis report (see Tab 15 for a sample of the report), which is updated at each month-end by the Cost Accountant. Per discussion with both Jack Chen, Sr. Revenue and Cost Accounting Manager and Peter Cheung, Cost Accountant, although there was a review of the labor and overhead rates back in December of 2003, there had not been a revision of the current labor and overhead rates, as they had determined that the impact of any change to the rate would have been immaterial. As mentioned previously, there is no formal written policy/procedure that addresses standard costs adjustments. However, based on information obtained, the following steps are taken in the performance of changing the labor and overhead rate standard costs; Based on the latest Labor & Overhead Analysis, adjust the labor and overhead standard rate when the current labor and overhead standard rate differs materially from the actual rates being incurred. The determination to change these standards is approved by both the Sr. Revenue and Cost Accounting Manager and Corporate Controller. After obtaining approval to make the labor and overhead standards change, the following steps are performed by the Cost Accountant; For Systems products, labor and Overhead is applied to both WIP and Finished Goods (accounts 1520-00-P01 and 1530-00-P01, respectively). For Chipware products, labor and overhead is applied only to Finished Goods products (account 1530-00-C01). Systems WIP labor and Overhead- For Systems WIP inventory, the labor and overhead standard cost allocation is accrued monthly on a top-side journal entry (i.e. the labor and overhead is not booked to the inventory sub-ledger system). For Finished Goods inventory, the labor and overhead standard cost element is posted directly into the sub-ledger.	

Key Controls are **BOLD**	Controls Ref
The calculation to adjust the labor and overhead element of Systems WIP is calculated by taking the number of instruments (systems) in the WIP account, multiplied by the percentage of WIP material cost as a percentage of the material cost for a completed system unit, multiplied by the standard overhead rate for such system. The manual entry to record the monthly top-side adjustment is as follows; Debit/Credit WIP FG account, 1520-00-P01 with an offsetting Credit/Debit to Manufacturing Labor OH allocation account, 8950-30-000. Finished Goods Labor and Overhead (Systems and Chipware)- For finished good products that are already in the sub-ledger FG category, the labor and overhead standard change is performed manually via the Inventory Adjustment, whereby the old labor and overhead standard cost of the inventory is manually eliminated and the new labor and overhead standard of the inventory is entered back into the system. Once the new standard cost is entered, the sub-ledger automatically creates a journal entry to debit/credit the applicable Inventory accounts (1520-00-xxx) with an offsetting debit/credit to the Inventory Adjustment account (5810-00-xxx). A manual entry is prepared by the Cost Accountant to reclassify the standards change with the following entry; Debit/Credit to account 5810-00-xxx and an offsetting debit/credit to 5191-00-xxx. In addition, the standards change is capitalized as described in the section addressing the standards change for FG products that are complete but not recorded into the FG sub-ledger section below. For finished goods products that are physically completed at the time of the labor and overhead standards change, but not in the sub-ledger system FG category, the labor and overhead rates for such products are changed via the following steps; • The Cost Accountant merely updates the new cost in the inventory sub-ledger for the new labor and overhead standard cost component of Finished Goods inventory. • A manual journal entry is required and prepared to; Debit/Credit the applicable Inventory account, 1530-00-xxx and an offsetting Debit/Credit to the Standards Adjustment – Labor and Overhead account, 5191-00. • Additionally, after labor and overhead standard cost changes have been made, the Cost Accountant prepares a reclassification journal entry to Debit/Credit the Capitalized Variances to Cost of Revenue account, 5870-00-xxx for the corresponding Credit/Debit, respectively, of account 5191-00 – Standards Adjustment – Labor and Overhead with an offsetting	

Key Controls are **BOLD**	Controls Ref
Credit/Debit, respectively, to the applicable Capitalized Variances account (1570-00-C01 for Consumables and 1570-00-P01 for Systems). • A manual entry is prepared by the Cost Accountant to capitalize the standards change with the following entry; Debit/Credit to account 5870-00-xxx and an offsetting debit/credit to 1570-00-xxx. The capitalized variance account which includes standards cost change (5190-00-xxx), purchase price variance (5820-00-xxx), manufacturing variance (5830-00-xxx) and over/under absorbed overhead (5840-00-xxx) would then be amortized on a monthly basis, based on inventory in FG and WIP over the cost of production output (raw materials consumed in WIP and manufacturing labor allocation 8950-xx-000). Typically, the amortization period for capitalized variances of Chipware/Consumables is approximately three months and for Systems is approximately three to four months. The Cost Accountant will then prepare the amortization journal entry on a monthly basis; o Debit/Credit to the applicable Capitalized Variance account (1570-00-C01 for Consumables and 1570-00-P01 for Systems) with an offsetting Debit/Credit to the Amortization of Capitalized Variance account, 5871-00-xxx. Note: In order to ensure that all inventory is stated to reflect the current costs of production, the labor and overhead standard costs should be reviewed and revised to reflect the most current labor and overhead rates and should be done through the labor and overhead standards cost revision process as described above. This is an observed deficiency and is listed on the Observed Deficiency Report. XII. Cycle and Physical Counts: **Each month end, the Consumables inventory is physically counted. For Field Service and Systems inventory, a cycle count is conducted and is validated with a physical count at quarter-end.** The results are analyzed and adjustments made as necessary. (i.e. if the actual count is higher than the perpetual or general ledger, then an entry will be posted as follows; Debit the applicable Inventory Account (1510-00-xxx for Raw, 1520-00-xxx for WIP or 1510-00-xxx for FG) with an offsetting credit to the Inventory Adjustment account 5810-00-xxx. XIII. Period End Accounting:	**4.16/4.17**

Key Controls are **BOLD**	Controls Ref
At each month-end close, the Cost Accountant performs the following procedures;	
• **Data on revenue and cost of goods sold, by customer, is downloaded from MAS200 and a gross margin analysis by customer is performed. Additional information is obtained from the Sr. Revenue and Cost Accounting Manager via the Quarterly Revenue Estimate Report (see Tab 15 for a sample form), which lists the customers from systems shipments with the list of customers with cost of goods sold recorded.** At times, not all shipments are recognizable at time of shipment and this information is captured via this report.	**4.20**
• **Gross margins analysis by product is prepared and reviewed by management.**	**4.22**
• **Prepares inventory account reconciliations and make adjustments as necessary.**	**4.18**
• If applicable, record cost of revenue for Biomarker Discovery Center revenue.	
• If applicable, record cost of revenue for Other Services revenue.	
• If applicable, record labor loans from/to the Field Service departments (32) are posted into/out of the production manufacturing departments (30 and 35 for Systems and Consumables, respectively).	
• After all applicable labor loans have been posted into/out of the production manufacturing departments, allocations for Shipping/Receiving/Purchasing (39), Employee Benefits (87), IT (84 and Facilities (89) are posted into the production manufacturing departments (30 and 35 for Systems and Consumables, respectively) for their applicable portion of those departmental costs by the General Accounting department.	
• The net balance of each of the two production manufacturing departments (30 & 35) is reclassified to over/under absorption in other cost of sales (if net balance is a credit/debit, respectively). An example of such reclassifying entry would be as follows in cases where the net balance of department 30 would be a credit balance; Debit Manufacturing Labor Allocation, account # 8950-30-000 with an offsetting credit to Under/Over Absorbed Overhead, account # 5840-00-P01.	
• Allocates departmental spending of the two other production manufacturing departments (31 & 32 for Manufacturing Engineering and Field Service, respectively) total pre-allocated balances as follows;	

Key Controls are **BOLD**	Controls Ref
▪ For department 31, Manufacturing Engineering, 75% is allocated to Over/Under Absorption in other cost of sales and 25% is cross-charged to the G4 project. (The G4 project is the project for the development of the new generation ProteinChip Biosystems product. The allocation percentages were determined at the start of the fiscal year 2003 based on the assumption that the G4 project would be in production in April 2004 and that the remainder would be attributable to the deparment working in support of production at 75%. ▪ For department 32, Field Service, 34% is charged to Over/Under Absorption (other cost of sales) and 66% is charged to Management Allocation (operating expense). The percentages were determined based on the assumption that the employees in the department would be working in support of production at 34%. Additionally, Hukam Gupta, Engineering Service Manager, costs are captured in this department and that also added to the determination of these percentages.	
• **Analyzes the following variance accounts with the applicable functional group managers and obtain explanations and/or proposed corrections/adjustments;** **Scrap and rework (AC 5710-00-xxx)** **Inventory Adjustments (AC 5810-00-xxx)** **Purchase Price Variance (AC 5820-00-xxx)** **Manufacturing Variance (AC 5830-00-xxx)** **Over/Under Overhead Absorption (AC 5840-00-xxx)** The Inventory Adjustments, Purchase Price Variance, Manufacturing Variance and Over/Under Overhead Absorption accounts are capitalized, as described in the Standards Change Adjustment section of this narrative.	**4.19**
• Updates the monthly Standard Labor and Overhead Rates Analysis, which is used as a basis for determining the quarterly labor and overhead standards review.	
• **Conducts/orchestrates the periodic cycle/physical inventory counts and record adjustments as necessary.** (see above)	**4.16/4.17**
• Based on a Materials Issued From Inventory report, which shows the type of inventory consumed and the applicable employee's department consuming the inventory of account 8091, the sales/use taxes for inventory materials consumed internally are accrued.	
• There are primarily three types of Royalties that are recorded into cost of revenue. These royalties stem from (1) the acquisition of MAS license in	

Key Controls are **BOLD**	Controls Ref
connection with the litigation settlement with Molecular Analytical Systems, Inc. (MAS), LumiCyte, Inc., and T. William Hutchens, (2) sale of interface units which are incorporated in ABC US's ProteinChip Biosystems products, and (3) sale of Biomarker Pattern software which are incorporated in the ABC Express software products. o MAS license - during the second fiscal quarter of 2003, a litigation with MAS, Lumicyte and T. Williams Hutchens was settled whereby ABC acquired the MAS license rights for approximately $20.8 million of which $3.0 million was paid in cash, approximately $7.8 million was issued in the form of stock issuance of ABC's common stock and an amount not to exceed $10.0 million in aggregate for sales by ABC US through the second fiscal quarter of 2014. Approximately $101 thousand is amortized into royalties cost of revenue account, # 5150-00-xxx per month. The amount is allocated to each product line based on the percentage of sales for that product line for the month. o Interface units – for each interface unit sold by ABC(incorporated in its ProteinChip Biosystem product), a royalty fee of $7,500 is incurred. Currently, the part number for this interface unit is # Z300-0002 and is payable on a quarterly basis to Applied Biosystems. The royalty cost of revenue is recorded to ABI fees account, 5427-00-xxx. Unlike the MAS royalties, the royalties on the sale of the interface units are directly attributable to product lines and are not allocated based on percentage of sales. o Biomarker Pattern software – for each Biomarker Pattern software sold by ABC US (incorporated in its ABC Express product), a royalty fee of $2,500 is incurred. Currently, the part number for this Biomarker Pattern software is #S200-0002 and is payable on a quarterly basis to Salford Software. The royalty cost of revenue is recorded also to the ABI fees account, 5427-00-xxx. Unlike the MAS royalties, the royalties on the sale of the Biomarker Pattern software are also directly attributable to product lines and are not allocated based on percentage of sales. • **On a quarterly basis, prepares an analysis of Excess and Obsolete inventory reserves.**	**4.3**
Excess – o **For Systems inventory, excess is determined by comparing the inventory on hand to the projected inventory needs based on forecasted units to be built during the next four months, whereby the raw materials requirements are aggregated using a "phantom" blow through (both raw materials and autoloaders/PBSIIc materials). The excess of raw materials**	

Key Controls are **BOLD**	Controls Ref
(both autoloaders and PBSIIc inventory) not being required by this "phantom" blow through assumption, over quantity on hand, is reserved at 50%. For raw materials (non-autoloaders and non-PBSIIc), are reserved based on the following; if inventory >=365 days old, it is 100% reserved, if inventory is >=275 days old, it is 75% reserved and if inventory is >=180 days old, it is 50% reserved. o **For Consumables, excess is determined by comparing the inventory on hand, by part number, to the usage rate over the past twelve months. The difference between the inventory on hand over the usage rate, is reserved at 50%.** o **For Field Service inventory, 10% of inventory value is reserved as excess.** **Obsolete –** o **Inventory materials that are categorized as consumable discontinued raw materials (CZ01), systems obsolete raw materials (POBS) and consumables discontinued finished goods (CZW) are 100% reserved.**	
The analysis on excess and obsolete as prepared by the Cost Accountant and concurrence by the Materials Management, is reviewed and approved by the Sr. Revenue and Cost Accounting Manager and the Corporate Controller. The Cost Accountant records the excess and obsolete reserves by posting a debit/credit to the Provision For Inventory Reserves account, 5890-00-xxx and an offsetting debit/credit to the Inventory Reserves account, 1560-00-xxx. Note: The criteria used in setting the excess reserves requirements (for both systems and consumables) assume that the forecast is 100% achieved. It would be more reasonable to reserve an additional amount based on what percent of the forecast has been historically closed. This is a noted deficiency. See Observed Deficiency Report. ABCpurchases its Process Chromatography products from its French subsidiary, BioSepra. The purchase price is based on a transfer price, which at the time of this audit period, was 50% off of the current list price. XIV. Safeguarding of Assets: Usernames and passwords are required to access the inventory system and are	4.25

Key Controls are **BOLD**	Controls Ref
granted only to the following employees as listed on a report contained in Tab _____. Generally, the inventory duties of planning, purchasing, receiving, storing and shipping are performed by different departments or individuals. Moving and recording the inventory movement on the perpetual inventory system are performed by the Operations/Inventory Management personnel. The setting of standard costs in the perpetual inventory system are performed by the Accounting personnel. Raw materials inventory are stored in a locked warehouse, however, both WIP and FG inventory, are not stored in a locked warehouse. This is a noted deficiency. See Observed Deficiency Report.	4.24 4.26