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Securities and Exchange Commission
Division of Corporation Finance
100 First Street, N.E.
Mail Stop 4720
Washington, DC 20549

Attn: **Jim B. Rosenberg, Senior Assistant Chief Accountant**
Lisa Vanjoske, Assistant Chief Accountant
James Peklenk, Staff Accountant

Re: **Vertex Pharmaceuticals Incorporated**
Form 10-K for the Fiscal Year Ended December 31, 2011
Filed February 22, 2012
Form 10-Q for the Quarterly Period Ended March 31, 2012
Filed May 10, 2012
Form 8-K dated April 26, 2012
Filed April 26, 2012
Form 8-K dated February 2, 2012
Filed February 2, 2012
File No. 000-19319

Ladies and Gentlemen:

The purpose of this letter is to respond to the comments from the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") to Vertex Pharmaceuticals Incorporated (the "Company") set forth in the Staff's letter to Ian F. Smith dated June 26, 2012 (the "Comment Letter") regarding the Company's filings with the Commission referenced above. The comments from the Comment Letter are reproduced below together with the Company's responses to those comments.

Form 8-K filed February 2, 2012 and Form 8-K filed April 26, 2012

Exhibit 99.1

Comment 1

In these exhibits you present entire statements of operations to reconcile your GAAP earnings to non-GAAP earnings. Please represent to us that you will no longer present these tables in future Item 2.02 Forms 8-K or elsewhere. Please see Question 102.10 of our Compliance & Disclosure Interpretations for Non-GAAP Financial Measures (http://www.sec.gov/divisions/corpfin/guidance/-

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nongaapinterp.htm). Please also see Instruction 2 to Item 2.02 of Form 8-K which indicates that the provisions of Item 10(e)(1)(i) apply to these public disclosures.

Response 1

The Company confirms that in future earnings releases, Item 2.02 Forms 8-K and elsewhere, it will no longer present its GAAP/non-GAAP reconciliation in tables in the form that was included in its earnings releases for the three months and year ended December 31, 2011 and the three months ended March 31, 2012.

In preparing the Company's earnings releases and related tables and its Forms 8-K, the Company considered the importance of providing information to investors as clearly as possible, the relative prominence of the GAAP and non-GAAP financial measures included in its earnings releases, and the Staff's interpretive guidance in Question 102.10 of its Compliance & Disclosure Interpretations and related regulations. The Company provides non-GAAP net income (loss) excluding certain items, as a complement to results provided in accordance with GAAP, in order to help indicate underlying trends in the Company's business and to allow meaningful comparisons of current results with prior period results. The Company also uses non-GAAP financial measures to establish budgets and operational goals that are communicated internally and externally, and to manage the Company's business and to evaluate its performance. In particular, the Company believes that providing information regarding the Company's collaboration with Alios BioPharma, Inc., which is accounted for as a variable interest entity, in a line-item format enhances clarity and helps investors better understand how the Company accounts for this variable interest entity and how that accounting affects both the Company's GAAP income (loss) and non-GAAP income (loss). The Company has taken steps to avoid giving undue prominence to the non-GAAP financial measures by (1) having the table showing the GAAP statements of operations precede the tables showing the reconciliation of GAAP to non-GAAP financial information and (2) providing less detailed information on a line-item basis in the GAAP/non-GAAP reconciliation than the information provided in the GAAP statements of operations.

The Company proposes to modify its approach in future earnings releases by including tables in substantially the form included as Exhibit A to this letter presenting data for the three months ended March 31, 2012 and 2011. These tables reformat the tables to provide the non-GAAP information in a manner distinct from the format of Company's full statement of operations, and provide fewer line items than in the original earnings releases at issue. In this manner, the Company proposes to address the Staff's concern, expressed in Question 102.10 of its Compliance & Disclosure Interpretations, that the presentation of the non-GAAP reconciliation not attach undue prominence to the non-GAAP information, while preserving the benefit to investors of the insight provided by the non-GAAP information.

Form 10-K for the Fiscal Year Ended December 31, 2011
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Results Of Operations
Operating Costs and Expenses
Cost of product revenues, page 63

Comment 2

You state herein that you expensed most of the manufacturing costs of INCIVEK sold in 2011 as research and development expenses in periods prior to January 1, 2011 and expect your cost of INCIVEK to increase as a percentage of net sales in future periods. In your Form 10-Q for the quarterly period ended March 31, 2012, you indicate that you expensed most of the manufacturing costs of INCIVEK and KALYDECO sold in the first quarter as research and development expenses in prior periods and expect your cost of revenues to increase as a percentage of net sales in future periods. Please tell us the nature and amount of the manufacturing costs that you expensed as research and development expenses for each of the following periods:

- prior to January 1, 2011;
- the year ended December 31, 2011; and
- the quarter ended March 31, 2012.

Reconcile these amounts to the "drug supply cost" in comment 4 below and for any differences, provide us your analysis supporting classification as research and development expense. Also, for the year ended December 31, 2011 and the quarter ended March 31, 2012, tell us the amount of third-party royalties included in cost of product revenues for each period.

Response 2 (this response includes the Company's response to Comment 5 of the Comment Letter)

Drug supply costs

The "drug supply costs" in the Company's detailed table for its development expenses included as part of its discussion of "Results of Operations" included all external manufacturing costs expensed as research and development expenses during the periods. These drug supply costs consisted of:

(i) Commercial drug supply costs incurred in connection with manufacturing telaprevir (which the Company markets under the brand name INCIVEK) and ivacaftor (which it markets under the brand name KALYDECO) prior to the dates that the Company began capitalizing manufacturing costs for these drug candidates. The costs incurred in connection with manufacture of drug candidates consisted of (a) raw material and manufacturing costs, (b) costs incurred for the Company's third-party manufacturers to establish their infrastructure required to manufacture commercial supplies of the Company's products and (c) costs of validating these third-party manufacturers' systems, machinery and processes. The Company began capitalizing manufacturing costs for its first product, telaprevir (INCIVEK), on January 1, 2011 and for its second product, ivacaftor (KALYDECO), on January 1, 2012. After the Company began capitalizing manufacturing costs for each product, the Company continued to establish second sources of supply for the products and incurred costs for infrastructure and validation at third-party

manufacturers that did not meet the criteria for capitalization. These costs were expensed as research and development expenses.

(ii) Costs for manufacturing services the Company provided to its telaprevir research and development collaborators (both Mitsubishi Tanabe Pharma Corporation and Janssen Pharmaceutica, N.V. — see discussion below) through the Company's third-party manufacturing network in connection with the research and development collaborations.

The following table sets forth the Company's drug supply costs for the period from 2006 (when the Company began separately tracking drug supply costs) through the first quarter of 2012:

	2006-2008	2009	2010	Total for period prior to January 1, 2011	2011	Q1 2012
	(in thousands)					
Telaprevir (INCIVEK):						
Commercial drug supplies:						
Raw materials and manufacturing costs	$ 42,387	$ 10,849	$ 38,975	$ 92,211	$ —	$ —
Third-party manufacturing infrastructure costs	18,374	1,503	772	20,649	—	—
Third-party validation expenses	31,061	1,872	592	33,525	—	—
Costs for establishing second source of supply	—	—	—	—	3,762	1,070
Manufacturing services (collaborator supply)	28,350	6,170	22,922	57,442	28,258	6,376

Total INCIVEK costs	$ 120,172	$ 20,394	$ 63,261	$ 203,827	$ 32,020	$ 7,446
Ivacaftor (KALYDECO):						
Commercial drug supplies:						
Raw materials and manufacturing costs	$ —	$ —	$ —	$ —	$ 383	$ —
Third-party manufacturing infrastructure costs	182	81	27	290	401	—
Third-party validation expenses	—	1,116	2,614	3,730	1,329	—
Costs for establishing second source of supply	—	—	—	—	—	576
Total KALYDECO costs	$ 182	$ 1,197	$ 2,641	$ 4,020	$ 2,113	$ 576
Total drug supply costs	$ 120,354	$ 21,591	$ 65,902	$ 207,847	$ 34,133	$ 8,022

Basis for classification

Commercial Drug Supplies — telaprevir and ivacaftor

The Company applied guidance in ASC 330-10 and Statement of Financial Accounting Concepts No. 6, paragraph 25, in each period, to determine whether or not to capitalize the manufacturing costs related to its commercial supplies of telaprevir and ivacaftor (including raw materials and manufacturing costs). Due to the stage of development of its drug candidates and the uncertainty of realizing future economic benefit, and consistent with established industry practices, the Company expensed INCIVEK manufacturing costs as research and development expenses until January 1, 2011, and expensed KALYDECO manufacturing costs as research and development expenses until January 1, 2012. The Company determined that there was a high likelihood of marketing approval for INCIVEK effective on January 1, 2011 and for KALYDECO effective on January 1, 2012, and therefore began capitalizing the manufacturing costs related to the respective drug candidates as of such dates. Once the Company determined it was appropriate to begin capitalizing inventories for the applicable drug candidate, no drug supply costs related to the manufacture of the Company's commercial quantities of the applicable drug candidate were expensed as research and development expenses.

Manufacturing Services — telaprevir

The Company began clinical development of telaprevir in 2004. The Company considered the guidance in ASC 730-10 and determined that all amounts incurred in connection with the research and development of telaprevir should be expensed as incurred and should be classified as research and development expenses.

Subsequently, the Company entered into agreements to collaborate on the research and development of telaprevir with (i) Mitsubishi Tanabe Pharma Corporation ("Mitsubishi Tanabe"), a Japanese pharmaceutical company, in 2004, for certain countries in Asia and (ii) Janssen Pharmaceutica, N.V. ("Janssen"), a Johnson & Johnson company, in 2006, worldwide except for North America and Mitsubishi Tanabe's territories. The Company led the clinical development program for telaprevir, with Mitsubishi Tanabe and Janssen providing financial and other support pursuant to these collaboration arrangements.

In accordance with ASC 605-45 and ASC 730-10, the Company considered the nature and contractual terms of its arrangement with each collaborator and the nature of the Company's business operations to determine the classification of all costs, including manufacturing services provided by the Company, under these collaborations. The Company determined that because (i) the manufacturing services were performed in connection with the research and development collaboration arrangements pursuant to which the Company was sharing, among other things, the risks associated with developing telaprevir, and (ii) the Company is not otherwise engaged in the business of providing manufacturing services, the costs for manufacturing services should be reflected as research and development expenses (and included in drug supply costs) and corresponding revenues should be reflected as collaborative revenues. This accounting treatment for manufacturing services pursuant to the Company's collaboration agreements is consistent with the manner in which the Company accounts for all other costs associated with these collaborations.

Third-party royalties

The requested information regarding third-party royalties included in the cost of product revenues is set forth in the Company's response to Comment 3.

Comment 3

It appears your cost of product revenues (including third party royalty expense on net sales) was only 6.7% of net product revenues for year 2011 and 6.9% for the quarter ended March 31, 2012. Please tell us, by product (i.e. INCIVEK, KALYDECO) the amount of estimated revenues represented by inventory on hand at December 31, 2011 and March 31, 2012 for which manufacturing costs were expensed in prior periods as research and development expenses. Tell us when you expect to finish selling these inventories.

Response 3

The following table sets forth the Company's total cost of product revenues, broken out by cost of inventories and third-party royalties, as a percentage of total net product revenues for the year ended December 31, 2011 and the three months ended March 31, 2012:

	2011		Q1 2012	
	(in thousands, except percentages)			
Cost of inventories	$ 6,489	0.7%	$ 3,470	0.9%
Third-party royalties	57,136	6.0%	22,448	6.0%
Total	$ 63,625	6.7%	$ 25,918	6.9%

On January 1, 2011, when the Company began capitalizing its manufacturing costs for supply of telaprevir, its supply chain for telaprevir included previously expensed raw materials, work-in-process and finished goods, and on January 1, 2012, when the Company began capitalizing its manufacturing costs for supply of ivacaftor, its supply chain for ivacaftor included previously expensed raw materials and work-in-process (collectively, "Zero Cost Inventories"). The following table sets forth (i) the "inventory" value of these Zero Cost Inventories for each of INCIVEK and KALYDECO as of January 1, 2011, December 31, 2011 and March 31, 2012 and (ii) the projected estimated "inventory" value of Zero Cost Inventories of each of INCIVEK and KALYDECO as of December 31, 2012 and December 31, 2013:

	As of January 1, 2011	As of December 31, 2011	As of March 31, 2012	Estimated as of December 31, 2012	Estimated as of December 31, 2013
			(in thousands)		
Value of Zero Cost Inventory:					
INCIVEK	$ 84,000	$ 52,000	$ 39,000	$ 26,000	$ 10,000
KALYDECO	—	3,800	3,600	2,500	850

The Company valued the Zero Cost Inventories based on the manufacturing costs of each of the raw materials, work-in-process and finished goods.

The following table sets forth the estimated value of net product revenues represented by Zero Cost Inventories on hand at December 31, 2011 and March 31, 2012:

	December 31, 2011	March 31, 2012
	(in thousands)	
INCIVEK	$ 1,800,000	$ 1,400,000
KALYDECO	315,000	305,000

The estimate of net product revenues represented by Zero Cost Inventories on hand is based on, among other estimates, the Company's current standard costs and wholesale acquisition cost for INCIVEK and KALYDECO and an estimate of the applicable gross-to-net discount.

INCIVEK Zero Cost Inventory

The Company expects to finish selling approximately 90% of the INCIVEK Zero Cost Inventories before the end of 2013. Until the Company has sold all of the INCIVEK Zero Cost Inventory, the cost of supply related to INCIVEK product revenues will include both previously expensed manufacturing costs (which are not included in cost of product revenues) and capitalized manufacturing costs (which are included in cost of product revenues), with the previously expensed manufacturing costs representing an increasingly smaller portion of the overall cost of supply over time, as explained below.

The lengthy manufacturing process for INCIVEK includes multiple steps, including the procurement of multiple raw materials, drug substance manufacturing, pre-formulation manufacturing, drug product manufacturing, packaging and labeling. The Company accounts for its inventory on a first-in, first-out basis and capitalizes the costs of inventory as it moves through its manufacturing process. When the Company began capitalizing the cost of INCIVEK inventories on January 1, 2011, the INCIVEK Zero Cost Inventories were at various stages of production in the supply chain. For the portion of Zero Cost Inventories that were not finished goods, costs incurred after January 1, 2011 to complete the manufacturing process were capitalized, so that ultimately the cost of producing finished goods will be partially expensed (for the pre-January 1, 2011 costs) and partially capitalized (for the post-January 1, 2011 costs). As a result, (1) Zero Cost Inventories will not be reduced in a one-for-one correspondence to INCIVEK sales; and (2) Zero Cost Inventories will reflect a greater proportion of total supply costs for INCIVEK sold in the nearer term (reflecting the Zero Cost Inventories that were finished goods, or late in the manufacturing process), and a smaller proportion of supply costs for INCIVEK sold in later periods (reflecting the Zero Cost Inventories that were raw materials, or early in the manufacturing process). Portions of the Zero Cost Inventory from earlier stages of the production cycle, particularly raw materials, may not be incorporated into finished goods for several years. Until all of the INCIVEK Zero Cost Inventory moves through the INCIVEK supply chain, it will continue to affect the Company's cost of product revenues and gross margins, although to a lesser degree, as the amount of Zero Cost Inventory decreases as a proportion of the overall INCIVEK supply cost. The approximately $10 million in Zero Cost Inventory of INCIVEK that the Company estimates will remain as of the end of 2013 relates primarily to raw materials that the Company expensed prior to January 1, 2011.

KALYDECO Zero Cost Inventory

The Company expects that it will finish selling all, or substantially all, of the KALYDECO Zero Cost Inventory in 2014.

Effect of Zero Cost Inventory

The cost of product revenues (excluding third-party royalties) as a percentage of net product revenues, while reduced by the existence of Zero Cost Inventory, would remain in the low single digits even if the expenses related to Zero Cost Inventory for both INCIVEK and KALYDECO were fully reflected in the cost of product revenues. As a result, although the Company expects the cost of product revenues to increase as a percentage of net product revenues over the next several years, the Company does not believe that these increases will have a material effect on the Company's gross margins.

Critical Accounting Policies and Estimates

Revenue Recognition
Product Revenues, Net, page 71

Comment 4

Although you discuss certain the aspects of health care reform legislation that affect the company (page 23), you do not quantify its historical impact on your financial statements for year 2011, particularly as to "rebates" expensed, nor do you disclose an estimate or range of estimates for the impact

for year 2012. In this regard, please provide us proposed revised disclosure for year 2011 and for the quarterly period ended March 31, 2012 to be included in future periodic reports, indicating the amount of the reduction to revenues for the increased Medicaid rebate and for additional rebates associated with the Medicare Part D "donut hole". Also, include in your proposed revised disclosure the amount of the branded prescription drug fee, if any, you recorded in your statement of earnings in 2011, in which line item it is classified therein and highlight that this fee is not tax deductible. Finally, if you believe that the expected effects of health care reform legislation in 2012 and beyond will be materially different than the 2011 trends, include the expected effects in the proposed revised disclosure.

Response 4

The increased rebates for Medicaid and associated with the Medicare Part D "donut hole" did not have an historical impact on the Company's 2011 financial statements because the Company began marketing its first product, INCIVEK, in May 2011, after the increases became effective. The Company's rebates associated with the donut hole were approximately $1.4 million and $1.7 million, respectively, for 2011 and the first quarter of 2012, and the Company expects these rebates to be approximately $3 million for 2012.

The Company was not required to account for a branded prescription drug fee for 2011 pursuant to ASC 720-50 because it did not pay the fee, which is based on product sales in prior periods (in this case 2010), and the Company did not launch its first product until May 2011. The Company expects that the branded prescription drug fee will be less than $2.0 million for 2012 (on account of partial year sales of INCIVEK in 2011), and will be proportionately greater in 2013 (on account of full year sales of INCIVEK in 2012). The Company does not pay a branded prescription drug fee for KALYDECO, due to KALYDECO's status as an Orphan Drug.

The Company proposes to include the following disclosure in its 2012 Annual Report on Form 10-K:

"In 2012 and 2011, the Company's rebates associated with the Medicare Part D "donut hole" were $__ million and $1.4 million, respectively. In 2012 and 2011, the Company recorded $__ million and $0, respectively, in sales, general and administrative expenses related to the branded prescription drug fee established pursuant to the ACA. The branded prescription drug fee is not tax deductible."

Research and Development Expenses, page 76

Comment 5

It appears from the Table (page 65) that you expensed, as R&D Expenses, "drug supply costs" of $8.0 million, $34.1 million, $65.9 million and $21.6 million in the quarter ended March 31, 2012 and the years 2011, 2010 and 2009 respectively. You further state that "Our total development expenses have been affected by the variable level of drug supply costs, which include costs of raw materials and work in process that are incurred before we begin capitalizing inventories for a drug candidate and costs of manufacturing services that we provided our collaborators through our third-party manufacturing network." Please tell us, citing specific authoritative literature, the basis for classifying "drug supply costs" as R&D expenses. Quantify and address in your analysis each type or category of cost.

Response 5

Please refer to the Company's response to Comment 2, in which the Company addresses Comment 5.

The Company hereby confirms that in future filings the Company will enhance its overall disclosures by complying with the comments provided by the Commission in the manner set forth in the responses above, subject in all cases to any changes with respect to the facts underlying the Company's disclosures.

In addition, the Company acknowledges that:

1) the Company is responsible for the adequacy and accuracy of the disclosure in its filings;

2) Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to its filings; and

3) the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please contact me at 617-444-0878 in the event that you have any questions or concerns with respect to this matter. In the event that I am not available, please contact my colleague, Valerie L. Andrews, Vice President and General Counsel, at 617-444-6227.

Very truly yours,

/s/ Kenneth L. Horton
Kenneth L. Horton
Executive Vice President and Chief Legal Officer

Exhibit A

Reconciliation of GAAP to Non-GAAP Financial Information
(in thousands, except per share amounts)
(unaudited)

Three Months Ended March 31, 2012	GAAP	Adjustments: Alios Transaction	Adjustments: Stock-based Compensation Expense	Adjustments: September 2009 Financial Transactions	Adjustments: Restructuring Expense	Non-GAAP
Income from operations	$ 91,649	$ 5,086	$ 27,627	$ —	$ 360	$ 124,722
Other income and expenses	(3,741)	(62)	—	—	—	(3,803)
Income before provision for income taxes	87,908	5,024	27,627	—	360	120,919
Provision for income taxes	32	2,280	—	—	—	2,312
Net income	87,876	2,744	27,627	—	360	118,607
Net loss attributable to noncontrolling interest (Alios)	(3,714)	3,714	—	—	—	—
Net income attributable to Vertex	$ 91,590	$ (970)	$ 27,627	$ —	$ 360	$ 118,607
Net income per diluted share attributable to Vertex common shareholders	$ 0.43					$ 0.55

Three Months Ended March 31, 2011	GAAP	Adjustments: Alios Transaction	Adjustments: Stock-based Compensation Expense	Adjustments: September 2009 Financial Transactions	Adjustments: Restructuring Expense	Non-GAAP
Loss from operations	$ (159,899)	$ —	$ 27,879	$ (50,000)	$ 760	$ (181,260)
Other income and expenses	(16,197)	—	—	13,532	—	(2,665)
Net loss attributable to Vertex	$ (176,096)	$ —	$ 27,879	$ (36,468)	$ 760	$ (183,925)
Net loss per diluted share attributable to Vertex common shareholders	$ (0.87)					$ (0.91)