



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

Mail Stop 7010

February 25, 2009

Via U.S. mail and facsimile

Ms. Dana M. Kelley
Chief Financial Officer & Treasurer
American Pacific Corporation
3883 Howard Hughes Parkway, Suite 700
Las Vegas, Nevada 89169

RE: Form 10-K for the fiscal year ended September 30, 2008
Form 10-Q for the period ended December 31, 2008
Definitive Proxy Statement filed January 20, 2009
File No. 1-8137

Dear Ms. Kelley:

We have reviewed these filings and have the following comments. If you disagree with a comment, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

FORM 10-K FOR THE YEAR ENDED SEPTEMBER 30, 2008

General

1. Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings.

Item 1. Business, page 1

2. We note the disclosure in the first paragraph under “Customers and markets” on page 8 that the identities of your key customers are confidential. However, it appears that three of these customers represent more than 10 percent or more of your consolidated revenues. In this regard, we note the disclosure under Note 12 to your financial statements. Please tell us and disclose the identities of these three customers and any other customer that represents 10 percent or more of your consolidated revenues. Please note that a confidentiality agreement does not override the disclosure requirement set forth in Item 101(c)(vii) of Regulation S-K. Please refer to Section II.B.2. of Staff Legal Bulletin No. 1, which is available on our website at <http://www.sec.gov/interp/legalslbcf1r.htm>.

Item 1A. Risk Factors, page 19

A significant portion of our business depends on contracts with government..., page 21

3. Please tell us and disclose the percentage of your sales to the U.S. government and its prime contractors and subcontractors.

Management’s Discussion and Analysis

Results of Operations, page 38

4. You expect Fine Chemicals segment revenues to decline in 2009 and you expect the Grade 1 AP demand in fiscal 2009 to be less than fiscal 2008. We encourage you to continue to provide these types of disclosures which discuss expected trends in future periods. In a similar manner to your discussion of the Fine Chemicals segment, please quantify the expected impact of the decreasing demand for Grade 1 AP on your Specialty Chemicals segment revenue. Please also discuss the expected impact of these revenue trends on your gross profit and operating income as well as on your liquidity and capital resources. Refer to Items 303(a)(1), (2)(ii), and 3(ii) of Regulation S-K.

Liquidity and Capital Resources

Long Term Debt and Revolving Credit Facilities, page 46

5. You disclose your required and actual ratios for financial covenants under the Revolving Credit Facility. Please also consider disclosing the specific computations used to arrive at the actual ratios with corresponding reconciliations to US GAAP amounts, if necessary. Please confirm that you do not have any material debt covenants in your other debt agreements, including cross default provisions. If so, please also provide similar disclosures for these covenants as well. See Sections I.D

and IV.C of the SEC Interpretive Release No. 33-8350 and Question 10 of our FAQ Regarding the Use of Non-GAAP Financial Measures dated June 13, 2003.

6. Given your disclosures on page 47, please tell us why the Senior Notes do not appear as registered securities on the cover page of the Form 10-K. Please clarify why they would not be registered securities pursuant to Section 12 of the Securities Exchange Act of 1934.

Critical Accounting Policies, page 51

Impairment of Long-Lived Assets, page 52

7. You test your property, plant and equipment and amortizable intangible assets for recoverability when events or changes in circumstances indicate that their carrying amounts may not be recoverable. Please expand your disclosures to include the following:
 - Please disclose how you group your assets for purposes of considering whether an impairment exists. Refer to paragraph 4 of SFAS 144; and
 - Please discuss the significant estimates and assumptions used to determine estimated future undiscounted cash flows and fair value. You should discuss how sensitive the fair value estimates are to each of these significant estimates and assumptions used as well whether certain estimates and assumptions are more subjective than others.

Pension Benefits, page 53

8. We encourage you to provide a robust discussion of the current as well as expected ongoing impact of the current market conditions on each of the significant estimates and assumptions used in your determination of pension expense and plan assets as well as in your determination of whether additional cash contributions to plans will need to be made. You should discuss how sensitive your determination of pension expense is to each of the significant estimates and assumptions used as well whether certain estimates and assumptions are more subjective than others, including those which are more sensitive to current market conditions. Please also discuss the funding requirements relative to your accumulated benefit obligation and the implications to current and future liquidity from potential incremental cash payments to maintain funding requirements.

Financial Statements

Notes to the Financial Statements

Note 1. Summary of Significant Accounting Policies, page F-7

General

9. Your disclosures on page 40 and 41 indicate that depreciation and amortization expense is included in your cost of revenues and operating expenses line items. Please disclose in a footnote each line item(s) in which you include depreciation and amortization as well as the corresponding amounts included in each line item for each period presented.

Revenue Recognition, page F-7

10. Some of your perchlorate and fine chemicals products customers have requested that you store materials purchased from you in your facilities. Given that you disclose that almost all of your products sold by your fine chemicals segment are subject to customer acceptance periods, please disclose what consideration you give to the customer acceptance terms in determining when to record revenue related to your bill and hold transactions. Please also provide us with a comprehensive explanation of your consideration of each of the criteria and factor listed in SAB Topic 13:A.3.a. in determining when you should recognize revenue related to these bill and hold transactions. Please also disclose the dollar amounts of bill and hold transactions stored at your facilities as of each balance sheet date and the length of time these products are typically held by you before being shipped.
11. Please disclose your accounting policy related to pre-contract costs. In doing so, please disclose whether or not pre-contract costs related to unsuccessful contract bids are written off in the period you are informed you did not get the specific contract. If not, please disclose why not and discuss when they are expensed and your basis for that alternative treatment.
12. Please disclose your accounting policy related to claims and change orders. See paragraphs 61 through 65 of SOP 81-1.
13. Please disclose whether the unapproved change order/claim amounts included in your determination of revenue include a profit component. If so, please disclose how this component amount is determined and why you believe the inclusion of the profit component is appropriate under the circumstances.

Inventories, page F-9

14. Please provide the disclosures required by Rule 5-02.6 of Regulation S-X, which should include the method(s) used to determine cost for all of your inventories. If you use different inventory methods, please disclose which types of inventory you use each method for. Please disclose whether you use different methods for any similar types of inventory. If so, please disclose your basis for doing this.
15. Please disclose the nature of the deferred cost of revenues which are included as a component of inventories.

Note 9. Income Taxes, page F-20

16. Please address each of the following points in your disclosures:
 - Please provide a comprehensive discussion of the nature of the positive and negative evidence that you consider, how that evidence was weighted, and how you rely upon that evidence in determining whether to record a valuation allowance pursuant to paragraphs 17 through 25 of SFAS 109. You should discuss the significant estimates and assumptions used in your analysis. You should also discuss how you determine the amount of the valuation allowance to record;
 - Please disclose the amount of pre-tax income that you need to generate to realize the deferred tax assets;
 - Please include an explanation of the anticipated future trends included in your projections of future taxable income. Confirm to us that the anticipated future trends included in your assessment of the realizability of your deferred tax assets are the same anticipated future trends used in any assessment of your tangible and intangible assets for impairment; and
 - Please disclose that the deferred tax liabilities you are relying on in your assessment of the realizability of your deferred tax assets will reverse in the same period and jurisdiction and are of the same character as the temporary differences giving rise to the deferred tax assets.

Note 11. Commitments and Contingencies

Operating Leases, page F-25

17. Please disclose how you account for (a) step rent provisions and escalation clauses and (b) capital improvement funding and other lease concessions, which may be present in your leases. If, as we assume, they are taken into account in computing your minimum lease payments and the minimum lease payments are recognized on a straight-line basis over the minimum lease term, the note should so state. If our assumption is incorrect, please tell us how your accounting complies with SFAS 13 and FTB 88-1. Paragraph 5.n. of SFAS 13, as amended by SFAS 29, discusses how

lease payments that depend on an existing index or rate, such as the consumer price index or the prime interest rate, should be included in your minimum lease payments.

FORM 10-Q FOR THE QUARTER ENDED DECEMBER 31, 2008

General

18. Please address the above comments in your interim filings as well.

Financial Statements

Notes to Financial Statements

Note 8. Commitments and Contingencies

Environmental Matters, page 12

Review of Perchlorate Toxicity by the EPA, page 12

19. Certain states have conducted risk assessments and have set preliminary perchlorate levels from 1 to 14 ppb. The EPA established an interim health advisory of 15 ppb following the end of the comment period on EPA's October 2008 determination. The outcome of the federal EPA action, as well as any similar state regulatory action, will influence the number, if any, of potential sites that may be subject to remediation action. Please expand your disclosure to clarify what impact these recent developments, including the preliminary perchlorate levels set by certain states and the EPA's interim health advisory, have had on your assessment of the risk of loss and whether any amounts should be accrued. You should also provide the disclosures required by paragraphs 9 and 10 of SFAS 5, as applicable.

Management's Discussion and Analysis

Results of Operations

Revenues, page 24

20. Given the 24% decrease in your fine chemicals revenues, please clearly quantify the portion of the net decrease due to a decline in revenues from anti-viral products as well as the offsetting increase related to your oncology and central nervous system products. The disclosures in your Form 10-K for the year ended September 30, 2008 indicate that you expect the fine chemicals segment revenues to decrease by 10% in fiscal 2009. Given the 24% decrease in the first quarter of 2009, please clarify in

your disclosures whether you are expecting a more significant decrease than originally expected and the corresponding business reasons.

Liquidity and Capital Resources, page 27

21. You believe that your cash flows from operations, existing cash balances, and existing or future debt arrangements will be adequate for the foreseeable future to satisfy the needs of your operations on both a short-term and long-term basis. Please provide a comprehensive discussion of the significant changes in your sources and uses of cash from period to period and the impact of these changes on your liquidity and capital resources. In light of these changes, please also discuss how you determined that these sources of cash will still be sufficient to meet your cash and liquidity requirements on both a short-term and long-term basis. Please also disclose if you expect any alternative sources of funding to be available in the future. Your discussion should address the following items as well as any other significant changes:
- Please address your consideration of the 16% decline in net cash provided by operating activities during the year ended September 30, 2008 compared to the year ended September 30, 2007 as well as the 62% decline in net cash provided by operating activities during the three months ended December 31, 2008 compared to the three months ended December 31, 2007; and
 - Please address your consideration of the decrease in revenues during the quarter ended September 30, 2008, the decrease in expected revenues for fiscal 2009, and the decrease in total backlog from December 31, 2008 to December 31, 2007.
22. Please disclose the expected amounts of future spending on capital expenditures, including whether the portions of the expected amounts are related to growth or maintenance.

DEFINITIVE PROXY STATEMENT FILED JANUARY 20, 2009

Executive Compensation, page 17

23. We note the disclosure under Note 10 to your annual financial statements, as set forth in your Form 10-K. Please advise us as to why you have not provided the disclosure required by Item 402(h) of Regulation S-K.

Compensation Discussion and Analysis, page 18

Benchmarking, page 19

24. Please tell us and disclose how the elements of your compensation program, as discussed beginning on page 21, measure against the peer group.

Annual Incentives, page 22

25. We note that you have not provided a quantitative discussion of the terms of the performance targets to be achieved in order for your named executive officers to earn a cash bonus. Please tell us and disclose the specific targets used to determine cash bonus amounts. To the extent you believe that disclosure of the targets is not required because it would result in competitive harm such that the targets could be excluded under Instruction 4 to Item 402(b) of Regulation S-K, please provide to us on a supplemental basis a detailed explanation for such conclusion, and note that we may have additional comments.

* * * *

Please respond to these comments within 10 business days, or tell us when you will provide us with a response. Please provide us with a supplemental response letter that keys your responses to our comments and provides any requested supplemental information. Detailed letters greatly facilitate our review. Please file your supplemental response on EDGAR as a correspondence file. Please understand that we may have additional comments after reviewing your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain that they have provided all information investors require for an informed decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in their filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Ms. Dana M. Kelley

February 25, 2009

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You may contact Andrew Schoeffler, Staff Attorney, at (202) 551-3748 if you have any questions regarding legal matters. Please contact Nudrat Salik, Staff Accountant, at (202) 551-3692 or, in her absence, the undersigned at (202) 551-3769 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Rufus Decker
Accounting Branch Chief