



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

Mail Stop 3720

October 15, 2009

Rene Schena
Chairman and Chief Executive Officer
Arrayit Corporation
524 East Weddell Drive
Sunnyvale, CA 94089

Re: Arrayit Corporation
Preliminary Information Statement on Schedule 14C
Filed September 28, 2009
File No. 001-16381

Dear Ms. Schena:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your documents in response to these comments. If you disagree, 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 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.

Increase in Authorized Common Shares, page 4

1. We note your disclosure on page three that you have erroneously issued 153,246 shares of common stock in excess of your currently authorized shares. Please expand your disclosure on page four to disclose the transaction(s) in which you issued these additional shares of common stock. Please tell us why such event did not trigger a disclosure requirement pursuant to Form 8-K or in your periodic filings. Please revise your disclosure to address the potential consequences such actions may have on the company.

We may have further comments after review of your response.

Effect of the Increase of Authorized Shares, page 4

2. We note your statement that the number of shares of your common and preferred stock outstanding and the par value of the common and preferred stock “will remain the same following the effective time of the amendments until additional common shares are issued to convert the outstanding debt.” Please revise this disclosure to clarify, if true, that the only change that will occur upon your issuance of common shares will be an increase in the number of shares of common stock outstanding and such actions will not cause any changes to the number of outstanding shares of preferred stock or the par value of either class of stock.

Exchange of Common Shares for Existing Debt, page 5

3. Please revise your disclosure to indicate the conversion ratio for the debt and explain how you arrived at such conversion ratio. See Note A to Schedule 14C and Items 12(a) of Schedule 14A.

Effect of the Issuance of Stock in Exchange for Debt, page 5

4. We note your reference in the last sentence of the second paragraph in this section to \$2,736,700 in currently outstanding debt being convertible into 9,605,857 shares of common stock. Elsewhere in the document you reference that the debt is convertible into 9,765,857 shares. Please reconcile these statements.

Common Share Equivalents, page 7

5. This table indicates that there are 3,455,809 shares of your common stock outstanding; however your disclosure in the “Capitalization” section on this page indicates that there are 3,486,667 shares of common stock outstanding. We also note your statement on page three that you have issued 153,246 shares in excess of the 3,333,333 shares of common stock you are authorized to issue, which would result in 3,486,579 shares of common stock outstanding. Please explain these discrepancies and reconcile this disclosure.

* * * *

As appropriate, please amend your filing and respond to these comments through correspondence over EDGAR within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. 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

Ms. Rene Schena
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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 comment, please provide, in writing, a statement from the company acknowledging that

- the company is responsible for the adequacy and accuracy of the disclosure in the 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 filings; 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 filings or in response to our comments on your filings.

Please contact Jessica Plowgian, Attorney-Advisor, at (202) 551-3367, Kathleen Krebs, Special Counsel, at (202) 551-3810 or me at (202) 551-3810 with any other questions.

Sincerely,

/s Kathleen Krebs, for
Larry Spigel
Assistant Director

cc: Sonfield & Sonfield
via facsimile: (713) 877-1547