



DIVISION OF
CORPORATION FINANCE

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

August 31, 2011

Via E-Mail

Ms. Rene A. Schena
Chief Executive Officer
Arrayit Corporation
524 East Weddell Drive
Sunnyvale, California 94089

Re: Arrayit Corporation
Form 10-K for the fiscal year ended December 31, 2010
Filed on April 15, 2011
Form 10-Q for the quarter ended March 31, 2011
Filed on August 5, 2011
Form 10-Q/A for the quarter ended June 30, 2011
Filed on August 29, 2011
File No. 001-16381

Dear Ms. Schena:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the fiscal year ended December 31, 2010

1. We note the numerous statements in your response letters dated January 13 and February 23, 2011 that you would address our comments in future filings. However, given your disclosure in this document, it is unclear how you addressed those comments in this filing. Please tell us how you have complied with each of our comments issued in our letters to you dated November 30, 2010, January 25, 2011 and March 10, 2011. When

you respond to this letter, include in your response a document that explains where you revised your disclosure and which comment such revision was intended to address.

2. As a related matter, please respond to our letter dated March 10, 2011.

Item 1.B. Unresolved Staff Comments

3. Please do not imply that the staff comment process means that the Commission reviewed your disclosure or issued comments. Please also tell us, with a view toward amended disclosure, when you provided answers to our comment letter dated March 10, 2011.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 14

Comparison of Operating Results, page 16

4. In future filings please discuss and compare the components of the full amount of selling, general and administrative expense. In that regard, the current discussion appears to be limited to a component of those costs identified as "recurring" or "normal course" rather than the full amount.

Item 9A(T). Controls and Procedures, page 38

5. We refer to your response to prior comment 16 from our letter dated November 30, 2010. We see that the first and second paragraphs of the disclosure continue to present inconsistent information about whether you utilized a recognized framework in the evaluation of internal control over financial reporting. Please note that your annual evaluation of internal control over financial reporting must utilize a suitable, recognized control framework that is established by a body or group that has followed due-process procedures, including the broad distribution of the framework for public comment. Please appropriately apply the requirement in an amended filing. Refer to Exchange Act Rule 13a-15(c) and Item 308(a) of Regulation S-K.

Exhibits 32.1 and 32.2

6. Both of these exhibits refer to an incorrect report – the period ending December 31, 2009. Please file a full amendment, including all required exhibits.

Form 10-Q for the quarter ended March 31, 2011

Item 4. Controls and Procedures, page 23

7. The second paragraph indicates that your chief executive also serves as your chief financial officer. Please reconcile with the identities of the individuals who provided the certifications to this filing.

Exhibits 32.1 and 32.2

8. Both of these exhibits refer to an incorrect periodic report – the period ending September 30, 2010. Please file a full amendment, including all required exhibits.

Form 10-Q/A for the quarter ended June 30, 2011

Item 1. Financial Statements

Note 15. Commitments and Contingencies, page 17

9. Please tell us about the impact of the April 20, 2010 court decision on the \$1.1 million initially awarded to Pediatrix. Clarify the accounting for the \$1.1 million award to Pediatrix and explain the factors you considered in assessing whether you have a liability that is both probable and subject to reasonable estimation as provided in FASB Codification Topic 450.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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 responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- 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.

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You may contact Jeanne Bennett at (202) 551-3606 or Gary Todd, Reviewing Accountant, at (202) 551-3605 if you have questions regarding comments on the financial statements and related matters. Please contact Geoffrey Kruczek, Senior Attorney, at (202) 551-3641 with any other questions. You may also contact me at (202) 551-3676.

Sincerely,

/s/Gary Todd for

Brian R. Cascio
Accounting Branch Chief