



DIVISION OF  
CORPORATION FINANCE

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

March 10, 2011

Via U S Mail and FAX [ (408) 744-1711 ]

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, 2009**  
**Filed on March 31, 2010**  
**File No. 001-16381**

Dear Ms. Schena:

We have reviewed the information and proposed disclosures filed on February 24, 2011, and have the following additional comments. Where indicated, we think you should amend your filing or revise your documents in response to these comments in all future filings with the Commission. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. After reviewing this information, we may 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 fiscal year ended December 31, 2009

Item 8. Financial Statements

Note 14. Commitments and Contingencies, page 50

1. We refer to your response to prior comment 3. We see the significance of the amounts accrued related to lawsuits. In an amendment, please expand Note 14 for the following matters:
  - Please describe the nature of each significant component of the litigation accrual, including a brief description of the underlying matter litigated and the nature of the counterparty. Clarify the nature of the “contract disputes” referred to in your response.
  - Clarify the status of the Oxford Gene patent dispute.
  - Clarify how the individual amounts recorded were determined.
  - Clarify the payment requirements of the components, including whether you are current or in arrears with payment requirements. In that regard, also clarify what you mean when you indicate that the Hogan Holmes & Usoz matter is “contingent on a payment schedule.”
  - Describe the accounting policy applied with respect to accrued legal fees. Refer to FASB ASC 450-20-S99-2.
  - Describe the accounting policy applied with respect to judgment interest.

Refer to FASB ASC 450-20-50 for guidance. In response to this comment, please show us what you intend to disclose.

2. As a related matter, we see that you briefly refer to the litigation accrual in MD&A under liquidity and capital resources. However, we see no discussion of the status of the litigation matters accrued for, their underlying cash requirements or the potential impact of the litigation matters on your business or liquidity. Please tell us why you believe your liquidity disclosure is complete under the requirements of Item 303(a)(1) of Regulation S-K or provide us proposed revised disclosure. For further guidance on MD&A, also refer to Section IV of Securities Act Release 33-8350 “Interpretation: Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations.

Item 10. Directors, Executive Officers, page 55

3. We will continue to evaluate your responses to prior comments 17 and 20-23 in our letter dated November 30, 2010 after you revise your filing, as indicated in your responses.

Ms. Rene A. Schena  
Arrayit Corporation  
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Section 16(a) . . . , page 56

4. Please expand your response to prior comment 19 to clarify when your chief financial officer filed the statement required by Section 16 of the Exchange Act for the stock award disclosed on page 57.

Item 15. Exhibits, page 59

5. Please expand your response to prior comment 6 to clarify when you intend to decide whether to request confidential treatment or file an unredacted copy of the agreement.

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

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 Louis Rambo at (202) 551-3289 or Geoffrey Kruczek, Senior Attorney, at (202) 551-3641 with any other questions. You may also contact me at (202) 551-3676.

Sincerely,

Brian R. Cascio  
Accounting Branch Chief