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

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ANNUAL AUDITED REPORT
FORM X-17A-5
PART III

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FACING PAGE

Information Required of Brokers and Dealers Pursuant to Section 17 of the Securities Exchange Act of 1934 and Rule 17a-5 Thereunder

REPORT FOR THE PERIOD BEGINNING 01/01/10 (MM/DD/YY) AND ENDING 12/31/10 (MM/DD/YY)

A. REGISTRANT IDENTIFICATION

NAME OF BROKER-DEALER: Pico Quantitative Trading, LLC

OFFICIAL USE ONLY
FIRM I.D. NO.

ADDRESS OF PRINCIPAL PLACE OF BUSINESS: (Do not use P.O. Box No.)

120 Broadway, Suite 2010-01
(No. and Street)

New York	New York	10271
(City)	(State)	(Zip Code)

NAME AND TELEPHONE NUMBER OF PERSON TO CONTACT IN REGARD TO THIS REPORT

Kenneth Bradley — (646) 701-6129
(Area Code – Telephone Number)

B. ACCOUNTANT IDENTIFICATION

INDEPENDENT PUBLIC ACCOUNTANT whose opinion is contained in this Report*

EisnerAmper LLP
(Name – *if individual, state last, first, middle name*)

750 Third Avenue	New York	NY	10017
(Address)	(City)	(State)	(Zip Code)

CHECK ONE:

- [x] Certified Public Accountant
- [ ] Public Accountant
- [ ] Accountant not resident in United States or any of its possessions.

FOR OFFICIAL USE ONLY

**Claims for exemption from the requirement that the annual report be covered by the opinion of an independent public accountant must be supported by a statement of facts and circumstances relied on as the basis for the exemption. See Section 240.17a-5(e)(2)*

SEC 1410 (06-02)

Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

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OATH OR AFFIRMATION

I, Jarrod Yuster, swear (or affirm) that, to the best of my knowledge and belief the accompanying financial statement and supporting schedules pertaining to the firm of Pico Quantitative Trading, LLC, as of December 31, 20 10, are true and correct. I further swear (or affirm) that neither the company nor any partner, proprietor, principal officer or director has any proprietary interest in any account classified solely as that of a customer, except as follows:

LISA VALENTE
Notary Public - State of New York
NO. 01VA6219585
Qualified in Kings County
My Commission Expires 3/29/14

Lisa Valente
Notary Public

Jarrod Yuster
Signature

Managing Member
Title

This report ** contains (check all applicable boxes):

- [x] (a) Facing Page.
- [x] (b) Statement of Financial Condition.
- [ ] (c) Statement of Income (Loss).
- [ ] (d) Statement of Changes in Financial Condition.
- [ ] (e) Statement of Changes in Stockholders' Equity or Partners' or Sole Proprietors' Capital.
- [ ] (f) Statement of Changes in Liabilities Subordinated to Claims of Creditors.
- [ ] (g) Computation of Net Capital.
- [ ] (h) Computation for Determination of Reserve Requirements Pursuant to Rule 15c3-3.
- [ ] (i) Information Relating to the Possession or Control Requirements Under Rule 15c3-3.
- [ ] (j) A Reconciliation, including appropriate explanation of the Computation of Net Capital Under Rule 15c3-1 and the Computation for Determination of the Reserve Requirements Under Exhibit A of Rule 15c3-3.
- [ ] (k) A Reconciliation between the audited and unaudited Statements of Financial Condition with respect to methods of consolidation.
- [x] (l) An Oath or Affirmation.
- [ ] (m) A copy of the SIPC Supplemental Report.
- [ ] (n) A report describing any material inadequacies found to exist or found to have existed since the date of the previous audit.

***For conditions of confidential treatment of certain portions of this filing, see section 240.17a-5(e)(3).*

EISNERAMPER
ACCOUNTANTS & ADVISORS

PICO QUANTITATIVE TRADING LLC

(a wholly-owned subsidiary of Pico Quantitative Trading Holdings, LLC)

STATEMENT OF FINANCIAL CONDITION

DECEMBER 31, 2010

EisnerAmper LLP
750 Third Avenue
New York, NY 10017-2703
T 212.949.8700
F 212.891.4100

www.eisneramper.com

INDEPENDENT AUDITORS' REPORT

To the Member of
Pico Quantitative Trading LLC

We have audited the accompanying statement of financial condition of Pico Quantitative Trading LLC (the "Company") (a wholly-owned subsidiary of Pico Quantitative Trading Holdings LLC), as of December 31, 2010, that you are filing pursuant to Rule 17a-5 under the Securities Exchange Act of 1934. This financial statement is the responsibility of the Company's management. Our responsibility is to express an opinion on this financial statement based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statement is free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statement. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statement referred to above presents fairly, in all material respects, the financial position of Pico Quantitative Trading LLC as of December 31, 2010, in conformity with accounting principles generally accepted in the United States of America.

EisnerAmper LLP
New York, New York
February 23, 2011

PICO QUANTITATIVE TRADING LLC

Contents

Pico Quantitative Trading LLC

Statement of Financial Condition
December 31, 2010

ASSETS		
Cash	$	1,318,314
Due from broker		663,635
Computer equipment		26,280
Accumulated depreciation		(10,160)
		16,120
Other		94,731
Total Assets	$	2,092,800
LIABILITIES AND MEMBER'S EQUITY		
Liabilities:		
Due to Parent		90,873
Accrued expenses and other liabilities		114,377
		205,250
COMMITMENTS AND CONTINGENT LIABILITIES (Note E)		
Member's equity		1,887,550
Total Liabilities and Member's Equity	$	2,092,800

NOTE A - ORGANIZATION

Pico Quantitative Trading Holdings LLC, a Delaware corporation (the "Parent") purchased dormant broker-dealer E-Brokerage LLC on October 5, 2009. E-Brokerage LLC was formed under the Limited Liability Company laws of New York State in August 2001. E-Brokerage LLC's name was changed to Pico Quantitative Trading, LLC (the "Company") on October 8, 2009. The Company's operating agreement states the Company shall continue until October 31, 2021 unless the term is extended by the Class A majority. The Company is a wholly-owned subsidiary of Pico Quantitative Trading Holdings, LLC.

Pico Quantitative Trading LLC is a single member LLC broker-dealer registered with the Securities and Exchange Commission ("SEC") and is a member of the Financial Industry Regulatory Authority ("FINRA"). In November 2009, the Company began its agency-only brokerage operation that specializes in providing services to multi-asset electronic trading clients. The Company is a member of NYSE Arca and EDGA Exchange, Inc. and EDGX Exchange, Inc.

NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The Company is a securities broker-dealer referring electronic trading clients consisting of broker-dealers and quantitative hedge funds to execution and clearing brokers. The Company earns commission revenue from the execution and clearing brokers for this service as well technology hosting fees for certain clients. The Company receives exchange rebates and certain expenses related to referred client trading activities, which are refunded or charged to the clients.

Use of Estimates

The preparation of this financial statement in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statement. Actual results could differ from those estimates.

Commissions and Other Revenues

Commissions and related clearing expenses are recorded on a trade-date basis as securities transactions occur.

Technology hosting fees are monthly fees paid by customers to access and use the Company's trading platform and risk analysis system.

The exchanges pay rebates and certain fees related to referred client trading activities, which are refunded or charged to the clients.

Income Taxes

The Company is a single-member LLC and a disregarded entity for tax purposes; therefore, no tax provision has been made in the accompanying financial statement. For further discussion, see Note D – Income Taxes in the notes to this financial statement.

Depreciation

Depreciation is provided on a straight-line basis using estimated useful lives of three years.

Cash and Cash Equivalents

Cash and cash equivalents are highly liquid investments, with original maturities of less than three months that are not held for sale in the ordinary course of business. The Company at times maintains cash in deposit accounts in excess of Federal Deposit Insurance Corporation limits.

NOTE C – RELATED PARTY TRANSACTIONS

The Company is a wholly-owned subsidiary of the Parent and shares common management. The Company has an expense sharing arrangement with the Parent. Under the provisions of the expense sharing arrangement certain expenses are paid by the Parent and allocated to the Company. At December 31, 2010, the Company had $90,873 of payable to its Parent.

The Parent leases office space from the clearing broker, a subsidiary of a member of the Parent, on a month–to–month basis and the Parent allocates all of the expenses relating to this lease to the Company.

The Company is charged data hosting fees by the clearing broker. The clearing broker is a subsidiary of a member of the Parent.

NOTE D – INCOME TAXES

The Company is included in the federal income tax return filed by the Parent. Accordingly, taxable income and losses of the Company are reported on the income tax returns of the Parent's members and no liability has been recorded.

In accordance with ASC 740, management is required to determine whether a tax position of the Company is more likely than not to be sustained upon examination by the applicable taxing authority, including resolution of any related appeals or litigation processes, based on the technical merits of the position. The tax benefit to be recognized is measured as the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. De-recognition of a tax benefit previously recognized could result in the Company recording a tax liability that would reduce net assets. This policy also provides guidance on thresholds, measurement, de-recognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition that is intended to provide better financial statement comparability among different entities. It must be applied to all existing tax positions upon initial adoption and the cumulative effect, if any, is to be reported as an adjustment to net assets as of January 1, 2009. Based on its analysis, Management has determined that the adoption of this policy did not have a material impact on the Company's financial statements upon adoption. However, Management's conclusions regarding this policy may be subject to review and adjustment at a later date based on factors including, but not limited to, ongoing analyses of and changes to tax laws, regulations and interpretations thereof. No interest expense or penalties have been assessed for the year ended December 31, 2010. All years remain open to examination by the taxing authorities.

NOTE E – COMMITMENTS AND CONTINGENT LIABILITIES

In the normal course of its business, the Company indemnifies and guarantees certain service providers, such as clearing and custody agents, trustees and administrators, against specified potential losses in connection with their acting as an agent of, or providing services to, the Company or its affiliates. The Company also indemnifies some clients against potential losses incurred in the event specified third-party service providers, including sub-custodians and third-party brokers, improperly execute transactions. The maximum potential amount of future payments that the Company could be required to make under these indemnifications cannot be estimated. However, the Company believes that it is unlikely it will have to make material payments under these arrangements and has not recorded any contingent liability in the statement of financial condition for these indemnifications.

The Company provides representations and warranties to counterparties in connection with a variety of commercial transactions and occasionally indemnifies them against potential losses caused by the breach of those representations and warranties. The Company may also provide standard indemnifications to some counterparties to protect them in the event additional taxes are owed or payments are withheld, due either to a change in or adverse application of certain tax laws. These indemnifications generally are standard contractual terms and are entered into in the normal course of business. The maximum potential amount of future payments that the Company could be required to make under these indemnifications cannot be estimated. However, the Company believes that it is unlikely it will have to make material payments under these arrangements and has not recorded any contingent liability in the statement of financial condition for these indemnifications.

NOTE F – NET CAPITAL REQUIREMENTS

The Company is subject to the Securities and Exchange Commission Uniform Net Capital Rule (SEC Rule 15c3-1). The Company computes its net capital under the basic method permitted by the rule, which requires that the minimum net capital be equal to the greater of $100,000 or 6-2/3% of aggregate indebtedness. As of December 31, 2010, the Company had net capital of $1,685,532 which was $1,585,532 in excess of its required net capital of $100,000.

NOTE G – EXEMPTION FROM RULE 15C3-3

The Company is exempt from the Securities and Exchange Commission Rule 15c3-3 pursuant to the exemption provision under subparagraph (k)(2)(ii) and, therefore, is not required to maintain a "Special Reserve Bank Account for Exclusive Benefit of Customers".

NOTE H – OFF-BALANCE-SHEET RISK AND CREDIT RISK

In the normal course of business, the Company's customer activities involve the execution, settlement, and financing of various customer securities transactions. These activities may expose the Company to off-balance-sheet risk in the event the customer or other broker is unable to fulfill its contracted obligations and the Company has to purchase or sell the financial instrument underlying the contract at a loss.

The Company is engaged in various brokerage activities in which counterparties primarily include broker-dealers, banks, and other financial institutions. In the event counterparties do not fulfill their obligations, the Company may be exposed to risk. The risk of default depends on the creditworthiness of the counterparty or issuer of the instrument.

The depository operations for the Company's cash balances are provided by one broker.

NOTE I – CO–EMPLOYEE AGREEMENT

The Company has a client service agreement with a Co-employer (defined in the client service agreement), a nonrelated entity. The Company's employees are on the Co-employer's payroll and withholding system which is responsible for providing the payroll and tax withholdings payments and reports for the Company's employees. In exchange, the Co-employer receives an administrative fee.

NOTE J – PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS

The Company adopted the Co-employer Retirement Savings Plan covering voluntary contributions by employees of the Company under the 401(k) and the Company matching contributions under the 401(m) feature of the Retirement Plan.

The Company is obligated under sections 414(m), (n) and (o) of the Internal Revenue Code to treat the Company's co-employees as its employees for purposes of any qualified retirement plan or welfare benefit plan sponsored by the Company.

Currently, the Company does not plan to make employer matching contributions.