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Report on

2017 Inspection of Marcum LLP (Headquartered in Melville, New York)

Issued by the

Public Company Accounting Oversight Board

November 1, 2018

2017 INSPECTION OF MARCUM LLP

Preface

In 2017, the Public Company Accounting Oversight Board ("PCAOB" or "the Board") conducted an inspection of the registered public accounting firm Marcum LLP ("the Firm") pursuant to the Sarbanes-Oxley Act of 2002 ("the Act").

Inspections are designed and performed to provide a basis for assessing the degree of compliance by a firm with applicable requirements related to auditing issuers. For a description of the procedures the Board's inspectors may perform to fulfill this responsibility, see Part I.D of this report (which also contains additional information concerning PCAOB inspections generally). The inspection included reviews of portions of selected issuer audits. These reviews were intended to identify whether deficiencies existed in the reviewed work, and whether such deficiencies indicated defects or potential defects in the Firm's system of quality control over audits. In addition, the inspection included a review of policies and procedures related to certain quality control processes of the Firm that could be expected to affect audit quality.

The Board is issuing this report in accordance with the requirements of the Act. The Board is releasing to the public Part I of the report, portions of Appendix A and Appendix B. Appendix A consists of the Firm's comments, if any, on a draft of the report. If the nonpublic portions of the report discuss criticisms of or potential defects in the Firm's system of quality control, those discussions also could eventually be made public, but only to the extent the Firm fails to address the criticisms to the Board's satisfaction within 12 months of the issuance of the report. Appendix B presents the text of the paragraphs of the auditing standards that are referenced in Part I.A in relation to the description of auditing deficiencies there.

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EXECUTIVE SUMMARY

This summary sets out certain key information from the 2017 inspection of Marcum LLP ("the Firm"). The inspection procedures included reviews of portions of ten issuer audits performed by the Firm. Four of the ten engagements were integrated audits of both internal control and the financial statements. Part I.C of this report provides certain demographic information about the audits inspected and Part I.D describes the general procedures applied in the PCAOB's 2017 inspections of annually inspected registered firms.

The inspection team identified matters that it considered to be deficiencies in the performance of the work it reviewed. In three audits, certain of the deficiencies identified were of such significance that it appeared to the inspection team that the Firm, at the time it issued its audit report, had not obtained sufficient appropriate audit evidence to support its opinion that the financial statements were presented fairly, in all material respects, in conformity with the applicable financial reporting framework and/or its opinion about whether the issuer had maintained, in all material respects, effective internal control over financial reporting ("ICFR"). In one audit, one of the deficiencies identified represented a failure to identify, or to address appropriately, a departure from Generally Accepted Accounting Principles ("GAAP") that appeared to the inspection team to be material, which related to the accounting for equity instruments with a beneficial conversion feature ("BCF"). These deficiencies are described in Part I.A of the report.

Effects of Audit Deficiencies on Audit Opinions

Of the three issuer audits that appear in Part I.A, a deficiency in one audit relates to testing controls for purposes of the ICFR opinion, and deficiencies in two audits relate to the substantive testing performed for purposes of the opinion on the financial statements, as noted in the table below.

	Number of Audits
Audits for which deficiencies included in Part I.A related to the ICFR audit only	<u>1 Audit</u> : Issuer C
Audits for which deficiencies included in Part I.A related to the financial statement audit only	<u>2 Audits</u> : Issuer A and B
Total	3

Identified Audit Deficiencies

The following table lists, in summary form, the types of deficiencies that are included in Part I.A of this report. A general description of each type is provided in the table; the description of each deficiency in Part I.A contains more specific information about the individual deficiency.

Issue	Part I.A Audits
Failure to sufficiently evaluate the appropriateness of the issuer's accounting method for one or more transactions or accounts	<u>1 Audit</u> : Issuer A
Failure to sufficiently evaluate significant assumptions or data used in developing an estimate	<u>1 Audit</u> : Issuer A
Failure to sufficiently test controls over or sufficiently test the accuracy and completeness of data or reports	<u>1 Audit</u> : Issuer B
Failure to identify and test any controls that addressed the risks related to a particular account or assertion	<u>1 Audit</u> : Issuer C

Areas in which Audit Deficiencies Were Identified

The following table lists, in summary form, the financial statement accounts or auditing areas in which the deficiencies that are included in Part I.A of this report occurred.

Area	Part I.A Audits
Equity	<u>1 Audit</u> : Issuer A
Revenue	<u>2 Audits</u> : Issuer B and C

PART I

INSPECTION PROCEDURES AND CERTAIN OBSERVATIONS

Members of the Board's staff ("the inspection team") conducted primary procedures¹ for the inspection from July 10, 2017 to July 28, 2017. The inspection team performed field work at the Firm's National Office and inspected issuers audited by three of the Firm's approximately 22 U.S. practice offices.²

A. Review of Audit Engagements

The inspection procedures included reviews of portions of ten issuer audits performed by the Firm.

The descriptions of the deficiencies in Part I.A of this report include, at the end of the description of each deficiency, references to specific paragraphs of the auditing standards that relate to those deficiencies. The text of those paragraphs is set forth in Appendix B to this report. The references in this sub-Part include only standards that most directly relate to the deficiencies and do not include all standards that apply to the deficiencies. Further, certain broadly applicable aspects of the auditing standards that may be relevant to a deficiency, such as provisions requiring due professional care, including the exercise of professional skepticism; the accumulation of sufficient appropriate audit evidence; and the performance of procedures that address risks, are not included in the references to the auditing standards in this sub-Part, unless the lack of compliance with these standards is the primary reason for the deficiency. These broadly applicable provisions are described in Part I.B of this report.

¹ For this purpose, the time span for "primary procedures" includes field work, other review of audit work papers, and the evaluation of the Firm's quality control policies and procedures through review of documentation and interviews of Firm personnel. The time span does not include (1) inspection planning, which may commence months before the primary procedures, and (2) inspection follow-up procedures, wrap-up, analysis of results, and the preparation of the inspection report, which generally extend beyond the primary procedures.

² This represents the Firm's total number of practice offices; however, approximately 12 of the Firm's practice offices have primary responsibility for issuer audit clients.

Certain of the deficiencies identified were of such significance that it appeared to the inspection team that the Firm, at the time it issued its audit report, had not obtained sufficient appropriate audit evidence to support its opinion that the financial statements were presented fairly, in all material respects, in conformity with the applicable financial reporting framework and/or its opinion about whether the issuer had maintained, in all material respects, effective ICFR. In other words, in these audits, the auditor issued an opinion without satisfying its fundamental obligation to obtain reasonable assurance about whether the financial statements were free of material misstatement and/or the issuer maintained effective ICFR.

The fact that one or more deficiencies in an audit reach this level of significance does not necessarily indicate that the financial statements are misstated or that there are undisclosed material weaknesses in ICFR. It is often not possible for the inspection team, based only on the information available from the auditor, to reach a conclusion on those points.

Whether or not associated with a disclosed financial reporting misstatement, an auditor's failure to obtain the reasonable assurance that the auditor is required to obtain is a serious matter. It is a failure to accomplish the essential purpose of the audit, and it means that, based on the audit work performed, the audit opinion should not have been issued.³

The audit deficiencies that reached this level of significance are described in Parts I.A.1 through I.A.3, below.

³ Inclusion in an inspection report does not mean that the deficiency remained unaddressed after the inspection team brought it to the firm's attention. Depending upon the circumstances, compliance with PCAOB standards may require the firm to perform additional audit procedures, or to inform a client of the need for changes to its financial statements or reporting on internal control, or to take steps to prevent reliance on its previously expressed audit opinions. The Board expects that firms will comply with these standards, and an inspection may include a review of the adequacy of a firm's compliance with these requirements, either with respect to previously identified deficiencies or deficiencies identified during that inspection. Failure by a firm to take appropriate actions, or a firm's misrepresentations in responding to an inspection report about whether it has taken such actions, could be a basis for Board disciplinary sanctions.

Audit Deficiencies

A.1. Issuer A

In this audit, the Firm failed in the following respects to obtain sufficient appropriate audit evidence to support its audit opinion on the financial statements –

- The Firm failed to identify, or to address appropriately, a departure from GAAP that appeared to the inspection team to be material, which related to the accounting for equity instruments with a BCF. Specifically, the issuer entered into agreements with certain investors for the issuance of equity instruments, with a conversion provision that was contingent on subsequent approval of its shareholders. The agreements, however, specified all significant terms including the conversion price, conversion ratio, stated value of the equity instruments, and the timing of the shareholder vote to approve the conversion provision. The issuer used the date that the conversion provision was approved by the shareholders as the commitment date for the measurement of the BCF. The Firm, failed to identify, and appropriately address, that the issuer's accounting was not in accordance with the provisions of Financial Accounting Standards Board Accounting Standards Codification Subtopic 470-20, *Debt-Debt with Conversion and Other Options*, because (1) the commitment date for the transaction was the date that the issuer entered into the agreements with the investors (the date that all significant terms were specified), (2) a contingent BCF existed at that date because the issuer could not control the outcome of the required shareholder vote, and (3) the contingent beneficial conversion feature should have been measured using the commitment date stock price. (AS 2810.30)
- The Firm failed to perform sufficient procedures to test the effective conversion price used to compute the intrinsic value of a BCF. Specifically, when allocating the proceeds received from an equity transaction involving the issuance of two different categories of stock, the Firm failed to evaluate the reasonableness of the issuer's assumption that the fair value of the first category of stock sold approximated the fair value of the second category of stock sold, even though the first category of stock contained certain restrictions and had voting rights that were different than those of the second category. (AS 2301.11; AS 2502.26, .28, and .36)

A.2. Issuer B

In this audit, the Firm failed to obtain sufficient appropriate audit evidence to support its audit opinion on the financial statements, as it failed to perform sufficient procedures to test revenue. For the year under audit, the issuer disclosed in the notes to its financial statements that a portion of its revenue was recognized when a user action in an electronic environment occurred, and all other revenue recognition criteria had been met. The Firm identified a fraud risk involving improper revenue recognition.

For the portion of revenue recognized upon the occurrence of user actions in an electronic environment, the Firm's procedures to test that portion of revenue included (1) vouching a sample of revenue transactions recorded in the general ledger throughout the year to activity data from outside service providers that compiled user actions that occurred in an electronic environment based on the issuer's product offering and (2) vouching cash receipts related to those selected revenue transactions to their corresponding bank statements. In addition, for one of the issuer's subsidiaries that comprised the majority of the issuer's revenue recognized upon the occurrence of user actions in an electronic environment, the Firm also (1) vouched those selected revenue transactions to evidence of the issuer's product offering arrangements, recalculated the anticipated revenue to be earned for each selected transaction, and compared the amount of that anticipated revenue to the actual revenue billed to the customer and (2) reconciled all cash receipts from the monthly bank statements to the amount of cash receipts posted to the issuer's general ledger for the same period, as well as to the entire amount of revenue recognized during the year under audit.

The Firm failed to perform sufficient procedures to test revenue. Specifically, the Firm failed to perform procedures to test controls over or test the accuracy and completeness of activity data produced by the service providers related to user actions in an electronic environment that was used as audit evidence in performing its substantive testing over revenue as described above. (AS 1105.10; AS 2301.08, .13, and .17)

A.3. Issuer C

In this audit, the Firm failed to obtain sufficient appropriate audit evidence to support its audit opinion on the effectiveness of ICFR, as its procedures to test controls over revenue were insufficient. The Firm's procedures to test the design and operating effectiveness of controls related to revenue consisted of testing controls over one component of the issuer's revenue. The Firm failed to perform procedures to identify and test the design and operating effectiveness of controls for the other components of

the issuer's revenue that were multiple times the Firm's established level of materiality and presented a reasonable possibility of material misstatement. (AS 2201.39)

B. Auditing Standards

Each deficiency described in Part I.A above could relate to several provisions of the standards that govern the conduct of audits. The paragraphs of the standards that are cited for each deficiency are those that most directly relate to the deficiency. The deficiencies also may relate, however, to other paragraphs of those standards and to other auditing standards, including those concerning due professional care, responses to risk assessments, and audit evidence.

Many audit deficiencies involve a lack of due professional care. Paragraphs .02, .05, and .06 of AS 1015, *Due Professional Care in the Performance of Work*, require the independent auditor to plan and perform his or her work with due professional care and set forth aspects of that requirement. AS 1015.07-.09 and paragraph .07 of AS 2301, *The Auditor's Responses to the Risks of Material Misstatement*, specify that due professional care requires the exercise of professional skepticism. These standards state that professional skepticism is an attitude that includes a questioning mind and a critical assessment of the appropriateness and sufficiency of audit evidence.

AS 2301.03, .05, and .08 require the auditor to design and implement audit responses that address the risks of material misstatement. Paragraph .04 of AS 1105, *Audit Evidence*, requires the auditor to plan and perform audit procedures to obtain sufficient appropriate audit evidence to provide a reasonable basis for the audit opinion. Sufficiency is the measure of the quantity of audit evidence, and the quantity needed is affected by the risk of material misstatement (in the audit of financial statements) or the risk associated with the control (in the audit of ICFR) and the quality of the audit evidence obtained. The appropriateness of evidence is measured by its quality; to be appropriate, evidence must be both relevant and reliable in providing support for the related conclusions.

The paragraphs of the standards that are described immediately above are not cited in Part I.A, unless those paragraphs are the most directly related to the relevant deficiency.

B.1. List of Specific Auditing Standards Referenced in Part I.A

The table below lists the specific auditing standards that are referenced in Part I.A of this report, cross-referenced to the issuer audits for which each standard is cited. For each auditing standard, the table also provides the number of distinct deficiencies

for which the standard is cited for each of the relevant issuer audits. This information identifies only the number of times that the standard is referenced, regardless of whether the reference includes multiple paragraphs or relates to multiple financial statement accounts.

PCAOB Auditing Standards	Audits	Number of Deficiencies per Audit
AS 1105, <i>Audit Evidence</i>	Issuer B	1
AS 2201, <i>An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements</i>	Issuer C	1
AS 2301, <i>The Auditor's Responses to the Risks of Material Misstatement</i>	Issuer A Issuer B	1 1
AS 2502, <i>Auditing Fair Value Measurements and Disclosures</i>	Issuer A	1
AS 2810, <i>Evaluating Audit Results</i>	Issuer A	1

B.2. Financial Statement Accounts or Auditing Areas Related to Identified Audit Deficiencies

The table below lists the financial statement accounts or auditing areas related to the deficiencies included in Part I.A of this report and identifies the audits described in Part I.A where deficiencies relating to the respective areas were observed.

	AS 1105	AS 2201	AS 2301	AS 2502	AS 2810
Equity			A	A	A
Revenue	B	C	B		

B.3. Audit Deficiencies by Industry

The table below lists the industries⁴ of the issuers for which audit deficiencies were discussed in Part I.A of this report and cross references the issuers to the specific auditing standards related to the deficiencies.⁵

	AS 1105	AS 2201	AS 2301	AS 2502	AS 2810
Health Care		C	A	A	A
Information Technology	B		B		

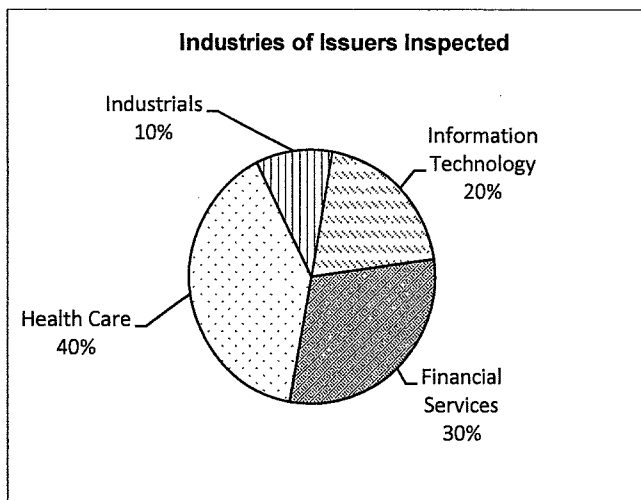
⁴ The majority of industry sector data is based on Global Industry Classification Standard ("GICS") data obtained from Standard & Poor's ("S&P"). In instances where GICS for an issuer is not available from S&P, classifications are assigned based upon North American Industry Classification System data.

⁵ Where identifying the industry of the issuer may enhance the understanding of the description of a deficiency in Part I.A, industry information is also provided there, unless doing so would have the effect of making the issuer identifiable.

C. Data Related to the Issuer Audits Selected for Inspection

C.1. Industries of Issuers Inspected

The chart below categorizes the ten issuers whose audits were inspected in 2017, based on the issuer's industry.⁶



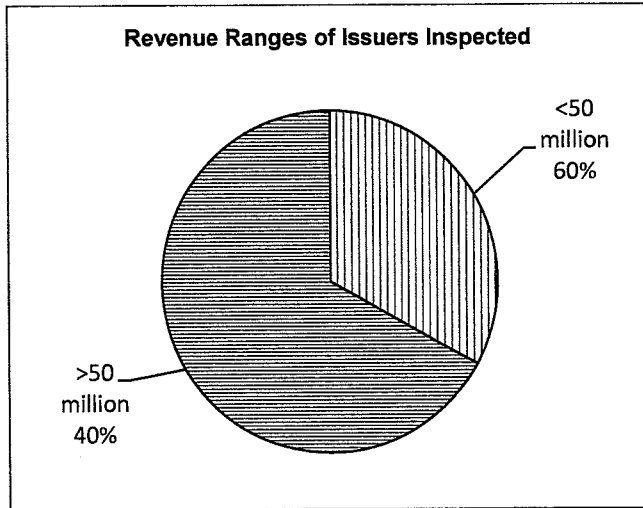
Industry	Number of Audits Inspected	Percentage
Financial Services	3	30%
Health Care	4	40%
Industrials	1	10%
Information Technology	2	20%

C.2. Revenue Ranges of Issuers Inspected

The chart below categorizes, based upon revenue, the ten issuers whose audits were inspected in 2017.⁷ This presentation of revenue data is intended to provide information about the size of issuer audits that were inspected and is not indicative of whether the inspection included a review of the Firm's auditing of revenue in the issuer audits selected for review.

⁶ See Footnote 3 for additional information on how industry sectors were classified.

⁷ The revenue amounts reflected in the chart are for the issuer's fiscal year end that corresponds to the audit inspected by the PCAOB. The revenue amounts were obtained from S&P and reflect a standardized approach to presenting revenue amounts.



Revenue (in US\$)	Number of Audits Inspected	Percentage
<50 million	6	60%
>50 million	4	40%

D. Information Concerning PCAOB Inspections that is Generally Applicable to Annually Inspected Firms

Board inspections include reviews of certain portions of selected audit work performed by the inspected firm and reviews of certain aspects of the firm's quality control system. The inspections are designed to identify deficiencies in audit work and defects or potential defects in the firm's system of quality control related to the firm's audits. The focus on deficiencies, defects, and potential defects necessarily carries through to reports on inspections and, accordingly, Board inspection reports are not intended to serve as balanced report cards or overall rating tools. Further, the inclusion in an inspection report of certain deficiencies, defects, and potential defects should not be construed as an indication that the Board has made any determination about other aspects of the inspected firm's systems, policies, procedures, practices, or conduct not included within the report.

D.1. Reviews of Audit Work

Inspections include reviews of portions of selected audits of financial statements and, where applicable, audits of ICFR. The inspection team selects the audits, and the specific portions of those audits, that it will review, and the inspected firm is not allowed an opportunity to limit or influence the selections. For each specific portion of the audit that is selected, the inspection team reviews the engagement team's work papers and interviews engagement personnel regarding those portions. If the inspection team identifies a potential issue that it is unable to resolve through discussion with the firm and any review of additional work papers or other documentation, the inspection team ordinarily provides the firm with a written comment form on the matter and the firm is

allowed the opportunity to provide a written response to the comment form. If the response does not resolve the inspection team's concerns, the matter is considered a deficiency and is evaluated for inclusion in the inspection report. Identified deficiencies in the audit work that exceed a significance threshold (which is described in Part I.A of the inspection report) are summarized in the public portion of the inspection report.⁸

Audit deficiencies that the inspection team may identify include a firm's failure to identify, or to address appropriately, financial statement misstatements, including failures to comply with disclosure requirements,⁹ as well as a firm's failure to perform, or to perform sufficiently, certain necessary tests of controls, and substantive audit procedures. An inspection of an annually inspected firm does not involve the review of all of the firm's audits, nor is it designed to identify every deficiency in the reviewed audits. Accordingly, a Board inspection report should not be understood to provide any assurance that a firm's audit work, or the relevant issuers' financial statements or reporting on ICFR, are free of any deficiencies not specifically described in an inspection report.

In reaching its conclusions about whether a deficiency exists, an inspection team considers whether audit documentation or any other evidence that a firm might provide to the inspection team supports the firm's contention that it performed a procedure, obtained evidence, or reached an appropriate conclusion. In some cases, the

⁸ The discussion in this report of any deficiency observed in a particular audit reflects information reported to the Board by the inspection team and does not reflect any determination by the Board as to whether the Firm has engaged in any conduct for which it could be sanctioned through the Board's disciplinary process. In addition, any references in this report to violations or potential violations of law, rules, or professional standards are not a result of an adversarial adjudicative process and do not constitute conclusive findings for purposes of imposing legal liability.

⁹ When it comes to the Board's attention that an issuer's financial statements appear not to present fairly, in a material respect, the financial position, results of operations, or cash flows of the issuer in conformity with the applicable financial reporting framework, the Board's practice is to report that information to the Securities and Exchange Commission ("SEC" or "the Commission"), which has jurisdiction to determine proper accounting in issuers' financial statements. Any description in this report of financial statement misstatements or failures to comply with SEC disclosure requirements should not be understood as an indication that the SEC has considered or made any determination regarding these issues unless otherwise expressly stated.

conclusion that a firm did not perform a procedure may be based on the absence of documentation and the absence of persuasive other evidence, even if the firm claimed to have performed the procedure. AS 1215 *Audit Documentation*, provides that, in various circumstances including PCAOB inspections, a firm that has not adequately documented that it performed a procedure, obtained evidence, or reached an appropriate conclusion must demonstrate with persuasive other evidence that it did so, and that oral assertions and explanations alone do not constitute persuasive other evidence. In the case of every matter cited in the public portion of a final inspection report, the inspection team has carefully considered any contention by the firm that it did so but just did not document its work, and the inspection team has concluded that the available evidence does not support the contention that the firm sufficiently performed the necessary work.

The Board cautions against extrapolating from the results presented in the public portion of a report to broader conclusions about the frequency of deficiencies throughout the firm's practice. Individual audits and areas of inspection focus are most often selected on a risk-weighted basis and not randomly. Areas of focus vary among selected audits, but often involve audit work on the most difficult or inherently uncertain areas of financial statements. Thus, the audit work is generally selected for inspection based on factors that, in the inspection team's view, heighten the possibility that auditing deficiencies are present, rather than through a process intended to identify a representative sample.

D.2. Review of a Firm's Quality Control System

QC 20, *System of Quality Control for a CPA Firm's Accounting and Auditing Practice*, provides that an auditing firm has a responsibility to ensure that its personnel comply with the applicable professional standards. This standard specifies that a firm's system of quality control should encompass the following elements: (1) independence, integrity, and objectivity; (2) personnel management; (3) acceptance and continuance of issuer audit engagements; (4) engagement performance; and (5) monitoring.

The inspection team's assessment of a firm's quality control system is derived both from the results of its procedures specifically focused on the firm's quality control policies and procedures, and also from inferences that can be drawn from deficiencies in the performance of individual audits. Audit deficiencies, whether alone or when aggregated, may indicate areas where a firm's system has failed to provide reasonable assurance of quality in the performance of audits. Even deficiencies that do not result in an insufficiently supported audit opinion may indicate a defect or potential defect in a