

Court File No. & Estate No. CV-19-627184-00CL (31-2560674)
CV-19-627185-00CL (31-2560984)
and CV-19-627186-00CL (31-2560986)

**ONTARIO
SUPERIOR COURT OF JUSTICE
COMMERCIAL LIST**

IN THE MATTER OF THE BANKRUPTCY OF QUADRIGA FINTECH
SOLUTIONS CORP., WHITESIDE CAPITAL CORPORATION AND 0984750
B.C. LTD. D/B/A QUADRIGA CX AND QUADRIGA COIN EXCHANGE

SUPPLEMENTARY REPORT OF THE TRUSTEE

January 19, 2021

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INTRODUCTION

1. On November 5, 2020, Ernst & Young Inc. in its capacity as Trustee-in-Bankruptcy (the “**Trustee**”) of Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. D/b/a Quadriga CX and Quadriga Coin Exchange (“**Quadriga**”) filed a motion for various relief with respect to the Claims Process, including, among other things, fixing rates to convert claims of Affected Users denominated in various cryptocurrency units to Canadian dollars. In connection with the motion, the Trustee filed the Seventh Report dated November 5, 2020 (the “**Seventh Report**”).
2. Since the filing of the Seventh Report, BlockCAT Technologies Inc., a creditor of Quadriga, has filed responding materials seeking to establish different rates for converting claims of cryptocurrency units to Canadian dollars. This report (the “**Supplementary Report**”) is filed to provide the Court with further information that may be relevant to the Court’s determination of the rates for the conversion of cryptocurrency claims.
3. Capitalized terms in this Supplementary Report have the meaning ascribed to them in the Seventh Report unless otherwise stated.

TERMS OF REFERENCE

4. In preparing this Supplementary Report, the Trustee has relied upon unaudited financial information, the Companies’ limited books and records and financial information prepared by the Companies (the “**Information**”). The Trustee has not audited, reviewed or otherwise attempted to verify the accuracy or completeness of the Information in a manner that would wholly or partially comply with Generally Accepted Assurance

Standards pursuant to the *Chartered Professional Accountants Canada Handbook*, and accordingly the Trustee expresses no opinion or other form of assurance in respect of the Information.

5. Except as otherwise stated, the Trustee's understanding of factual matters expressed in this Supplementary Report concerning the Companies and their business is based on the Information, and not independent factual determinations made by the Trustee.
6. The Trustee has relied upon the information available to it from Quadriga, its independent contractors and other parties with historical involvement with Quadriga. The Trustee has attempted to independently review and corroborate the information received, where possible.
7. Unless otherwise stated, all monetary amounts contained herein are expressed in Canadian dollars.

INVESTIGATION OF QUADRIGA'S BUSINESS AND AFFAIRS

8. As part of the CCAA proceedings, the Monitor conducted an investigation into Quadriga's business and affairs and the conduct of its former Chief Executive Officer, Gerald Cotten. The Monitor's primary findings were set out in the Fifth Report of the Monitor dated June 19, 2019 (the "**Fifth Report**"), which was filed with the Nova Scotia Court and posted on the Monitor's website. A copy of the Fifth Report is attached hereto as **Appendix "A"**.
9. The Ontario Securities Commission ("**OSC**") also conducted a detailed review of Quadriga's business and affairs. The OSC's findings were largely consistent with the

Fifth Report and reported publicly on April 14, 2020 in its report: *QuadrigaCX: A Review by Staff of the Ontario Securities Commission* (the “**OSC Quadriga Report**”). A copy of the OSC Quadriga Report is attached hereto as **Appendix “B”**.

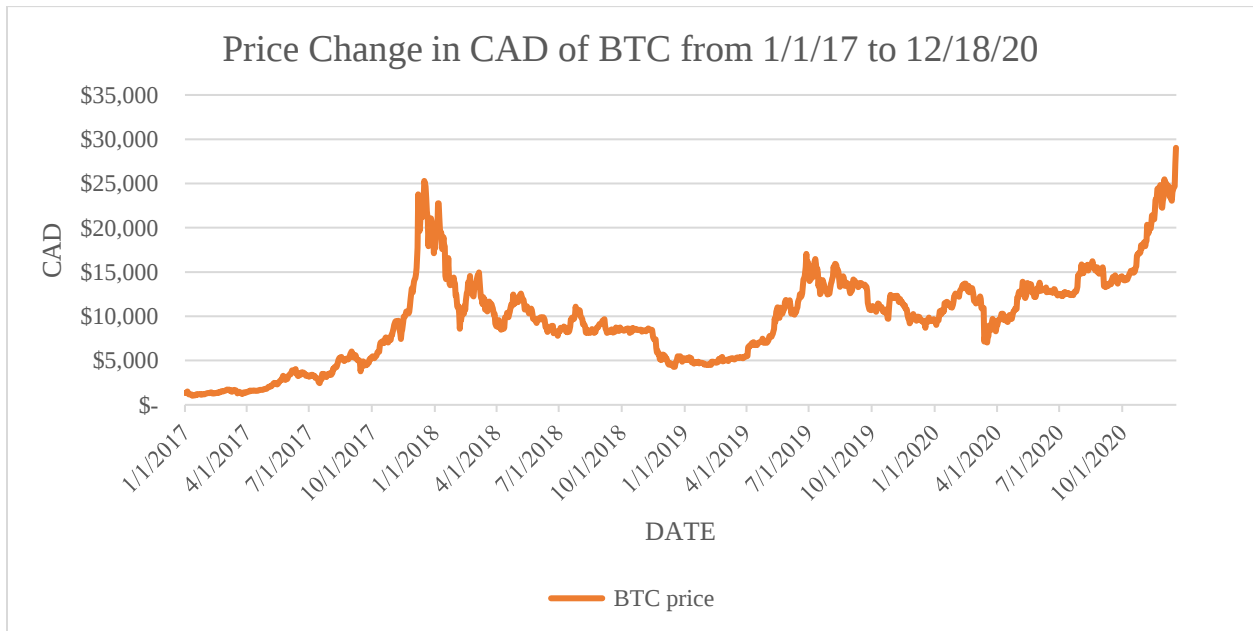
10. As set out in the OSC Quadriga Report, starting in early 2018, various Affected Users started complaining that Quadriga had been unable to fulfill withdrawal requests in a timely manner. The OSC Quadriga Report concluded at the time “Quadriga’s financial situation was dire and assets held on the platform were dwindling” and “Cotten was operating Quadriga like a revolving door” by only being able to fund withdrawal requests of Affected Users with new fiat and cryptocurrency deposited by other Affected Users.¹
11. This finding by the OSC is consistent with the Trustee’s review of Quadriga’s business and affairs. Based on the Trustee’s review of Quadriga’s internal records and correspondence, the Companies had been unable to complete certain withdrawal requests starting in early 2018 due to liquidity issues arising from the trading activities of Mr. Cotten and/or Quadriga as well as the freezing of approximately CAD\$25.7 million held by a third-party payment processor on behalf of Quadriga. The funds were frozen in January 2018 and subject to an interpleader motion which was only resolved at the end of 2018. The funds were not released for the benefit of Quadriga’s stakeholders until after the commencement of the CCAA proceedings.²

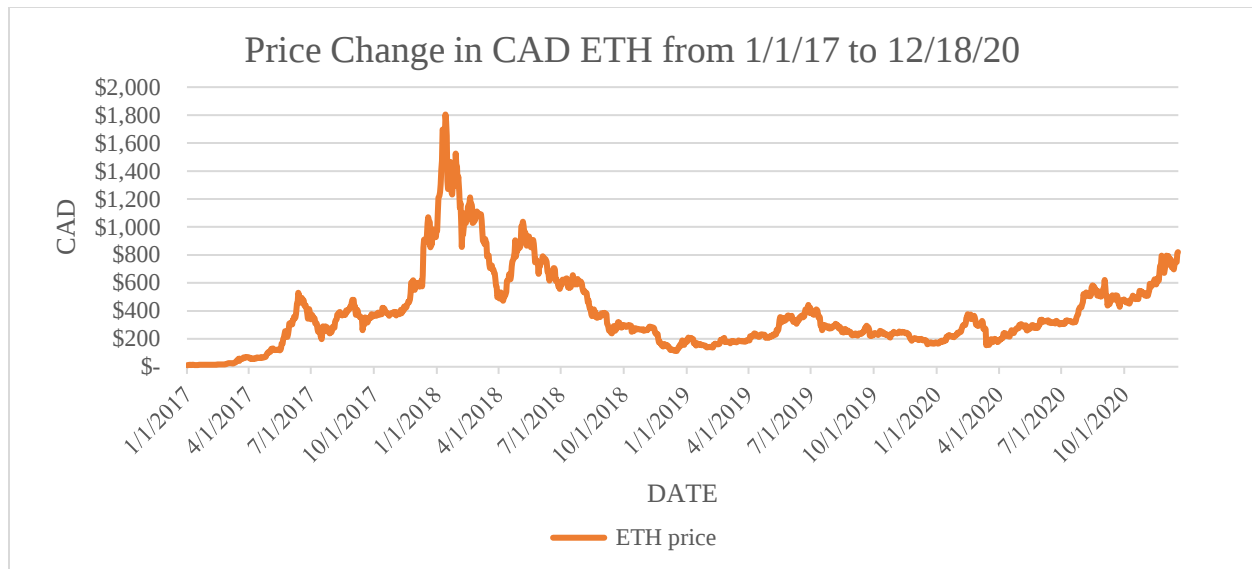
¹ OSC Quadriga Report, pp. 22 – 23.

² See Pre-Filing Report of the Monitor dated January 31, 2019 at paras. 28 – 29 for additional details regarding the interpleader motion.

CRYPTOCURRENCY PRICES

12. The Seventh Report provided the Court with a graph illustrating the fluctuating prices of Bitcoin and Ethereum, which were the two most frequently held cryptocurrencies on the Quadriga platform, from February 5, 2019 to April 15, 2019. As set out in Seventh Report, the price fluctuations of these cryptocurrencies and other cryptocurrencies traded on the Quadriga platform were highly volatile between February 5, 2019, the date on which the Initial Order was granted by the Nova Scotia Court under the CCAA, and the Date of Bankruptcy.
13. To provide further context to the Court on the continuing volatility of cryptocurrency, attached below is an amended graph of the prices of Bitcoin and Ethereum from January 1, 2017 to December 18, 2020 demonstrating how these currency values continue to fluctuate.





TRADING PRACTISES

14. The BlockCAT materials reference Mr. Steven's description or perception of trading practises at Quadriga and bitcoin exchanges generally. The Trustee believes it is worth noting the following in respect of actual trading practises at Quadriga based on the Trustee's review of available information. The Trustee notes that many Affected Users frequently traded or attempted to trade fiat and cryptocurrency on the Quadriga exchange until it was shut down by the Companies' management on January 28, 2019, shortly prior to the commencement of the CCAA proceedings. As such, the account composition and currency holdings of certain Affected Users accounts between fiat and cryptocurrency fluctuated until that date.

All of which is respectfully submitted this 19th day of January 2021.

ERNST & YOUNG INC.

Licensed Insolvency Trustee

acting its capacity as Trustee in Bankruptcy
of Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and
0984750 B.C. Ltd. and not in its personal capacity



Sharon S. Hamilton
Senior Vice President



George Kinsman
Senior Vice President

Appendix “A”

IN THE SUPREME COURT OF NOVA SCOTIA

IN THE MATTER OF:

Application by Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. dba Quadriga CX and Quadriga Coin Exchange (collectively referred to as the “Applicants”), for relief under the Companies’ Creditors Arrangement Act

FIFTH REPORT OF THE MONITOR

June 19, 2019

June 19, 2019

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Lawyers for the Monitor, Ernst & Young Inc.

IN THE SUPREME COURT OF NOVA SCOTIA**IN THE MATTER OF:**

Application by Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. dba Quadriga CX and Quadriga Coin Exchange (collectively referred to as the “Applicants”), for relief under the Companies’ Creditors Arrangement Act

FIFTH REPORT OF THE MONITOR**June 19, 2019****INTRODUCTION**

1. On February 5, 2019 (the “**Filing Date**”), Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. (“**Quadriga**” or the “**Company**”) d/b/a Quadriga CX and Quadriga Coin Exchange (collectively, the “**Applicants**”) were granted protection from their creditors by the Nova Scotia Supreme Court (the “**Court**”) under the *Companies’ Creditors Arrangement Act* (the “**CCAA**”). Pursuant to an Order of Justice Wood dated February 5, 2019 (the “**Initial Order**”), Ernst & Young Inc. (“**EY**”) was appointed as the monitor (the “**Monitor**”) of the Applicants in these CCAA proceedings.
2. On April 11, 2019, a Termination and Bankruptcy Assignment Order (the “**Termination Order**”) was issued by Justice Wood approving the process by which the Applicants’ CCAA proceedings would transition to bankruptcy proceedings (the “**Bankruptcy**”).

Proceedings”) under the *Bankruptcy and Insolvency Act* (the “**BIA**”). On April 15, 2019, each of the Applicants were assigned into bankruptcy.

PURPOSE

3. The purpose of the Fifth Report of the Monitor (the “**Fifth Report**”) is to provide the Court and stakeholders with an interim report on the Monitor’s investigations into the business and affairs of the Applicants and its previous sole director Gerald Cotten.
4. The investigation, realization and distribution process for the benefit of the affected users will continue to be pursued via the Bankruptcy Proceedings. Future reports associated with these activities will be completed by Ernst & Young Inc. acting in its capacity as Bankruptcy Trustee (the “**Trustee**”).
5. The Monitor has structured the Fifth Report as follows (all capitalized terms are as defined in the balance of the Fifth Report):

(a) Investigation Update

- i. Executive Summary;
- ii. Interim Investigation Procedures;
- iii. Overview of Quadriga Business;
- iv. Affected Users;
- v. Recoveries to Date;
- vi. Recovery Efforts on Devices and Accessible Information;

- vii. Security of the Operating Platform and AWS Data;
- viii. Books and Records;
- ix. Quadriga Operating Platform and Database;
- x. Blockchain Analysis;
- xi. Operational Issues;
- xii. Potentially Inappropriate Use of Affected Users' Funds;
- xiii. Gerald Cotten Platform Activities;
- xiv. Quadriga Profitability Comments; and
- xv. Next Steps in the Investigation

(b) Third Party Payment Processor Update

TERMS OF REFERENCE

6. In preparing this Fifth Report, the Monitor has relied upon unaudited financial information, the Company's books and records, financial information prepared by the Company (the "**Information**") and discussions with the Applicants' directors, senior management team, consultants ("**Management**") and legal advisors. The Monitor has not audited, reviewed or otherwise attempted to verify the accuracy or completeness of the Information in a manner that would wholly or partially comply with Generally Accepted Assurance Standards ("**GAAS**") pursuant to the *Chartered Professional Accountants Canada*

Handbook, and accordingly the Monitor expresses no opinion or other form of assurance in respect of the Information.

7. Except as otherwise stated, the Monitor's understanding of factual matters expressed in this Report concerning the Applicants and their business is based on the Information, and not independent factual determinations made by the Monitor.
8. The Monitor has relied upon the information available to it from Quadriga, its independent contractors and other parties with historical involvement with Quadriga. The Monitor has attempted to independently review and corroborate the information received, where possible. The Monitor notes the lack of formal books and records and inability to access certain encrypted devices have limited the Monitors review. Given Mr. Cotten's death, a key corporate representative was not available and the Monitor was not able to seek an explanation or justification, if any, for the preliminary observations and findings outlined herein. The comments below reflect the Monitor's current understanding and assessment of the information received to date. The Monitor notes further information could arise during the course of the Bankruptcy Proceedings, which may impact some of the observations below and the Monitor's understanding and assessment are necessarily preliminary. The Monitor believes it is important for the Court and Users to have the opportunity to review the results of the investigation to date. The Report is subject to the limitations expressed herein.
9. Unless otherwise stated, all monetary amounts contained herein are expressed in Canadian dollars.

INVESTIGATION UPDATE

Executive Summary

10. The Monitor's preliminary investigation identified the following principal concerns which it believes contributed to the current situation facing Quadriga and its Users:
- (a) Quadriga's operating infrastructure appears to have been significantly flawed from a financial reporting and operational control perspective. Activities were largely directed by a single individual, Mr. Cotten and as a result, typical segregation of duties and basic internal controls did not appear to exist;
 - (b) No accounting records have been identified by the Monitor and there appears to have been no segregation of assets between Quadriga Funds and User Funds. Funds received from and held by Quadriga on behalf of Users appear to have been used by Quadriga for a number of purposes other than to fund User withdrawals. With its available infrastructure, Quadriga does not appear to have had visibility into its profitability, if any;
 - (c) The Company appears to have engaged in significant "cash" transactions. The Monitor has been unable to verify if cash deposits were deposited into accounts containing User Funds and or properly recorded;
 - (d) The Monitor has been unable to locate basic corporate records including the location and security passwords associated with Quadriga's Fiat and Cryptocurrency inventories between TPPs, bank accounts, wallet addresses and third-party exchanges. In addition, the Monitor understands passwords were held

by a single individual, Mr. Cotten and it appears that Quadriga failed to ensure adequate safeguard procedures were in place to transfer passwords and other critical operating data to other Quadriga representatives should a critical event materialize (such as the death of key management personnel);

- (e) The Company relied extensively upon the services of TPPs to administer its fiat treasury functions. Adequate governance arrangements, oversight or reporting functions in relation to Fiat maintained by these third parties does not appear to have been in place;
- (f) User Cryptocurrency was not maintained exclusively in Quadriga's hot and cold wallets. Significant volumes of Cryptocurrency were transferred off Platform outside Quadriga to competitor exchanges into personal accounts controlled by Mr. Cotten. It appears that User Cryptocurrency was traded on these exchanges and in some circumstances used as security for a margin trading account established by Mr. Cotten. Trading losses incurred and incremental fees charged by exchanges appear to have adversely affected Quadriga's Cryptocurrency reserves. In addition, substantial amounts of Cryptocurrency were transferred to wallet holders whose identity the Monitor has been unable to confirm;
- (g) Mr. Cotten created Identified Accounts under aliases where it appears that Unsupported Deposits were deposited and used to trade within the Platform resulting in inflated revenue figures, artificial trades with Users and ultimately the withdrawal of Cryptocurrency deposited by Users; and

- (h) Substantial Funds were transferred to Mr. Cotten personally and other related parties. The Monitor has not located any support justifying these transfers.

Interim Investigation Procedures

11. The investigation into Quadriga's business and affairs has been challenging due to the limited books and records available to review, limited parties with institutional knowledge, reporting limitations within the Platform, the complexities of blockchain analysis coupled with limited reliable data, and Quadriga's reliance upon TPPs to facilitate the Fiat treasury functions through multiple service providers, all combined with the volume of transactions processed by the Company.
12. The Monitor continues its efforts to assemble supporting documentation and information necessary to analyze Quadriga's business and affairs. To date, the Monitor has:
 - (a) taken possession of an inventory of devices belonging to Mr. Cotten reportedly used in the day to day management of the business. Certain of these devices have been accessed by the Monitor and a preliminary analysis of the contents conducted. In other cases, the devices are encrypted and as a result, the Monitor has been unable to access the content;
 - (b) been unable to locate any traditional books and records, including accounting records documenting Quadriga's financial results and operations following 2016. Quadriga appears not to have maintained a general ledger or traditional accounting records since at least 2016;

- (c) obtained access to certain of Mr. Cotten's e-mail and other communication records.
The Monitor understands Mr. Cotten used multiple communication methods and services, including encrypted e-mail services and chat communications which cannot be accessed;
- (d) held preliminary discussions with two of the Directors and with certain of the primary independent contractors having institutional knowledge of Quadriga's business and affairs;
- (e) preserved the Platform, including all transactional details maintained therein necessary to evaluate User claims;
- (f) assembled and analyzed Fiat transaction records from certain TPPs. Efforts by the Trustee to secure additional TPP information including bank account statements from various financial institutions involved with the Quadriga business are ongoing;
- (g) assembled and analyzed Cryptocurrency records and performed preliminary blockchain analysis using information obtained from the Platform and independent third-party exchanges where Mr. Cotten maintained accounts. Efforts by the Trustee to obtain additional transaction details with unresponsive third-party exchanges linked to the Quadriga business and accounts maintained by Mr. Cotten are continuing;
- (h) reviewed the initial investigative report prepared by an external consultant following Mr. Cotten's death;

- (i) held preliminary discussions with Mr. Cotten's widow, Jennifer Robertson, in relation to assets under her control now subject to the Asset Preservation Order; and
- (j) responded to communications from regulatory agencies and communicated the Monitor's interim information and assessments to law enforcement and regulatory officials and cooperated with agency requests where made.

Overview of Quadriga Business

- 13. The nature of Quadriga's business has been described in earlier Reports and affidavits filed in the CCAA proceedings. As noted in this Fifth Report, the manner in which the Quadriga business in practice operated differed from the preliminary description. Below is the Monitor's understanding of the overall Quadriga business model.
- 14. Quadriga operated a cryptocurrency exchange platform allowing Users to store, buy and sell various cryptocurrencies from its online operating platform (the "**Platform**") through its website at www.quadrigacx.com. Users could transact in Canadian dollars, US dollars (collectively "**Fiat**"), Bitcoin, Bitcoin Cash S.V., Bitcoin Cash, Bitcoin Gold, Litecoin and Ethereum (collectively "**Cryptocurrency**"). Quadriga earned transaction fees as a percentage of all Fiat transactions and Cryptocurrency trades on the Platform. Users were not charged a fee to deposit or withdraw Cryptocurrency to or from the Platform.
- 15. The Platform allowed Quadriga users (the "**Users**") to create accounts on the Platform (the "**Accounts**") and deposit Fiat and Cryptocurrency (collectively "**Funds**") into those Accounts with Quadriga. Deposits were initiated by Users logging into his/her Account,

creating a deposit transaction and sending Funds to Quadriga via one of the approved Quadriga deposit methods. A Quadriga representative would then manually verify the receipt of Funds and note the deposit as having been received in the Platform. The Users' Account was then credited with the applicable currency. Users could then place buy or sell orders on the Platform to trade Fiat for Cryptocurrency, exchange Cryptocurrency for another Cryptocurrency, or trade Cryptocurrency for Fiat. If a counterparty for an order was found within the Platform a trade would occur resulting in the Users' respective Fiat and Cryptocurrency Account holdings being debited and/or credited with applicable Funds less transaction fees.

16. The terms and conditions on Quadriga's website governing the use of the Platform are attached as **Appendix "A"**.

Fiat Transactions

17. Due to the nature of its business, Quadriga was limited in its ability to open or maintain bank accounts in its name and had to rely upon third party payment processors ("TPPs") to administer its Fiat treasury functions including storing Fiat deposited by Users. Quadriga entered into arrangements with a number of different parties that acted as TPPs. Users could deposit and withdraw Fiat through several processing options including cash transactions, bank wires, electronic fund transfers, credit card postings and postal money orders, generally all managed through TPP accounts. Custody of User Fiat was maintained within the TPP bank accounts.
18. Upon creating a Fiat deposit transaction on the Platform and sending Funds, users would generally upload support documentation associated with the Fiat deposit to the Platform.

The support documentation was tagged to the particular deposit transaction. This appeared to allow Quadriga representatives to determine to which TPP account the Fiat was sent and to verify receipt. Support documentation uploaded by Users for Fiat deposits typically included either originating bank account details, e-mail correspondence, credit card information, customer addresses, tracking numbers, voucher codes, copies of bank drafts, wire details or other bank verification support as applicable.

19. In reviewing a small selected sample of User deposit records on the Platform, the Monitor identified various User Fiat deposits where no supporting documentation appears to have been uploaded. In the majority of those instances, deposits were recorded as having been made via “Cash deposits” or “Admin Adjustments”. The Monitor also identified other instances where Account deposits were made through methods where supporting documentation should have been available, such as wire confirmation or e-transfers, but no supporting documentation was located in the Platform. As a result, it has not been possible for the Monitor to verify whether the deposits were actually made or to which TPP accounts funds were deposited. The Platform does not maintain supporting documentation or information for Fiat withdrawals.
20. Different TPPs provided different processing options for the Company. Certain TPPs were payment processing companies offering services to Quadriga pursuant to written agreements while other TPPs were simply independent contractors involved with Quadriga who agreed to use their personal or corporate bank accounts to process Quadriga transactions, often without any formal written agreement in place. The Monitor has also identified several personal bank accounts and credit card accounts in the name of Mr. Cotten or parties related to Mr. Cotten that were used by Quadriga for processing Fiat

transactions. The Platform does not appear to contain a comprehensive listing of all of the Fiat accounts utilized by Quadriga.

Cryptocurrency Transactions

21. Users could also deposit, trade and withdraw Cryptocurrency through the Platform. For deposits, Users were provided a hot wallet address (the “**User Wallet**”) to send Cryptocurrency onto the Quadriga exchange. A User Wallet was typically (although not always) an address set up uniquely for a single User. Users did not control the private keys of the User Wallets. The individual User Wallets were provided solely to enable transfers from outside the Platform to the Platform in a way that inbound Cryptocurrency transactions could be associated with the appropriate User Account. The User Wallets were controlled by Quadriga and Cryptocurrency received through User Wallets were pooled by Quadriga and transferred out of the User Wallets.
22. Cryptocurrency deposits, once confirmed, were credited to the User Accounts. Quadriga maintained custody and control of the Cryptocurrency on behalf of the Users while their funds were on the Platform. Unlike Fiat transactions, User initiated Cryptocurrency transactions through the Platform (deposits/withdrawals) were processed automatically by the Platform subject to sufficient Cryptocurrency being available to complete a transaction.
23. The Platform recorded both the receiving wallet and the destination wallet details associated with all Cryptocurrency deposits and withdrawals in and out of the Platform. As such, it is possible to utilize these wallet details for individual Cryptocurrency transactions to independently verify the transfer of Cryptocurrency against public blockchain information.

24. To a certain extent, Quadriga operated in a similar fashion to a traditional brokerage institution in that Users could view their individual Account holdings but User Fiat and Cryptocurrency assets were maintained in general pooled accounts pending future User transaction activity. As Quadriga hot wallet inventory levels increased, portions of the Cryptocurrency were reportedly transferred to cold wallets for safe storage. From the Monitor's investigation to date, the Monitor understands that custody and control of the Cryptocurrency holdings, including the decision as to where to maintain Cryptocurrency reserves, was primarily determined by Mr. Cotten.
25. As set out in the Third Report of the Monitor, the Monitor's investigation has revealed that Quadriga last used its designated bitcoin cold wallets in April 2018.

Affected Users

26. The data within the Platform indicates that as at the Filing Date, approximately 76,000 Users were owed a combination of Fiat and Cryptocurrency by Quadriga. Account holdings reported within the Platform as at the Filing Date, in base currency and Canadian dollar equivalent values ¹ translated as at the Filing Date are as follows:

	Bitcoin	Bitcoin Cash SV	Bitcoin Cash	Bitcoin Gold	Bitcoin Litecoin	Etherium	CDN Dollars	US Dollars
Units	26,295	9,621	10,233	25,489	122,743	89,924	\$66,959,075	\$5,469,882
Cdn Exchange (Feb 5, 2019)	\$4,550.25	\$80.55	\$153.88	\$12.58	\$44.95	\$140.62	\$1.00	\$1.31
CDN Equivalent	\$119,646,913	\$774,941	\$1,574,602	\$320,653	\$5,517,309	\$12,645,120	\$66,959,075	\$7,180,315
CDN Equivalent Fiat Holdings				\$74,139,390				
CDN Equivalent Cryptocurrency Holdings				\$140,479,538				
CDN Equivalent Total Holdings				\$214,618,928				

¹ Cryptocurrency to Canadian dollar values are based upon prices reported on the website

27. The Canadian dollar equivalent value of Quadriga Fiat and Cryptocurrency obligations to Users reflected in Quadriga's database as at the Filing Date totalled \$74.1 million and \$140.5 million respectively or \$214.6 million in aggregate. These values differ from previously reported values as source code reports generated by Quadriga's independent contractor have been refined during the CCAA proceedings.

Recoveries To Date

28. As outlined in previous Reports of the Monitor, significant effort was required to identify TPPs that may have held Fiat as at the Filing Date and to effect the transfer of such Fiat from the TPPs to bank accounts established by the Monitor. Attached as **Appendix "B"** is the Monitor's Final Statement of Receipts and Disbursements (the "**SRD**") of the Disbursement Account reporting all banking transactions within the CCAA proceedings.
29. The Monitor has recovered Fiat totalling \$31.5 million from various sources. Subsequent to the bankruptcy date, the Trustee has recovered an additional \$0.5 million. The Trustee has identified and is pursuing the recovery of an additional approximately \$900,000 from one of the TPPs as a result of its investigation and information obtained pursuant to earlier Orders of this Court. Other Fiat recoveries from TPPs who have not responded to the Monitor's requests for information or various Court Orders will continue to be pursued by the Trustee. As and when additional potential TPPs are identified, the Trustee will pursue information and Quadriga Property from these parties.

30. The Monitor has also taken possession of or identified Cryptocurrency valued, in Canadian equivalent dollars as at the Filing Date, at approximately \$1.0 million as follows:

Bitcoin	61.33029548
Bitcoin Cash	33.31773499
Bitcoin Gold	2,661.91654095
Litecoin	851.72720131
Ethereum	960.36200048

Bitcoin in Quadriga Cold Wallets not currently accessible 104.335082²

31. Total Funds (Fiat and Cryptocurrency) realized by the Monitor/Trustee approximates \$33.0 million. Actions taken to locate missing Account holdings are outlined in this Fifth Report.

Recovery Efforts on Devices and Accessible Information

32. Quadriga represented itself as being one of Canada's largest cryptocurrency exchanges serving over 360,000 registered Users. Notwithstanding the size of the operation in terms of transactional values and volumes processed, specifically during 2017 and 2018, Quadriga was effectively a small operation with what appears to be limited corporate infrastructure and limited controls in respect of its operations. The face of the Company and the controlling mind of the business appears to have been Mr. Cotten. To date, the Monitor has been unable to locate any corporate records, to the extent such records exist, other than the limited materials found on electronic devices controlled by Mr. Cotten, TPP service provider records and data contained within the Platform. The Monitor notes other parties may have been involved in working with Mr. Cotten in implementing the

² As reported within the Monitor's First Report, on February 6, 2019, Quadriga inadvertently transferred 104 bitcoins valued at approximately \$468,675 to Quadriga cold wallets which the Company is currently unable to access.

arrangements described in this Report, however further information is required to identify others' involvement with certainty.

33. Quadriga did not maintain physical servers to retain supporting documentation associated with the business in the form of historical report retention, correspondence files, e-mail servers or other business communications. The Monitor understands that multiple communication services, e-mail systems and chat services, including encrypted communication methods were used at various intervals by Mr. Cotten and Quadriga contractors for business correspondence.
34. The Monitor has taken physical possession of a number of known electronic devices used by Mr. Cotten. It is not clear if other devices were used by Mr. Cotten or other parties within Quadriga as logs or records of devices do not appear to have been maintained. In respect of the devices now in the Monitor's possession, three of the electronic devices (a USB stick, large MacBook laptop computer and Mr. Cotten's home computer) were found to be encrypted (the "**Encrypted Devices**"), and as such, their contents have not been accessed to date. The Monitor took forensic images of the large MacBook laptop computer and Mr. Cotten's home computer. In addition, other unencrypted devices, including two cell phones and a small MacBook laptop computer (the "**Unencrypted Devices**") have also been imaged. The Monitor has accessed the images of the Unencrypted Devices and a preliminary review of the data was conducted including efforts to locate potential passwords for the Encrypted Devices, access wallet information with respect to possible previously unidentified Cryptocurrency reserves and to review general communications and other file documents providing information in relation to Quadriga's operations.

35. The Monitor notes that after Mr. Cotten's death but prior to the CCAA filing, different Company representatives and an external consultant engaged to locate missing Cryptocurrency had possession of the Unencrypted and Encrypted Devices. A limited inventory of Cryptocurrency was retrieved from the Unencrypted Devices, returned to the Company and used to fund User withdrawal requests prior to the Filing Date.
36. The external consultant prepared a report detailing his investigation efforts, a copy of which has been provided to and reviewed by the Monitor.
37. The Monitor was advised that Quadriga maintained a Fastmail account with email addresses for Mr. Cotten and all of the individuals that worked as independent contractors to Quadriga. The Monitor has been able to recover e-mails stored on Quadriga's Fastmail account. The Monitor has also recovered certain text messages stored on Mr. Cotten's Unencrypted Devices.
38. The Monitor understands that Mr. Cotten used a Gmail account and email address for communications related to Quadriga's business. The Trustee is currently pursuing efforts to obtain access to these e-mail communications. Discussions with Google indicate that it may require the Trustee to obtain a court order in the United States of America. Additionally, the Monitor's review of Mr. Cotten's available email and text correspondence indicates that he may have used various encrypted text messaging services. To date, the Monitor has been unable to access any of these communications.
39. The Monitor reviewed text and e-mail threads from the accessible information which provided insights with respect to communication with TPPs and Fiat movements between entities including transfers to Mr. Cotten or entities related to him.

40. As set out above, the Monitor has not been able to locate complete records or logs of devices or forms of electronic communications used by Mr. Cotten or others in their roles at Quadriga. The Monitor has identified numerous examples where Mr. Cotten requested that individuals he was communicating with through email or unencrypted text messaging transition communications from these unencrypted methods to encrypted texts, telegram or messaging methods. The reasons for the usage of different email accounts and encrypted messaging services remains unclear.

Security of the Operating Platform and AWS Data

41. Pursuant to the terms of the Platform Access Order dated March 5, 2019, Amazon Web Services Inc. (“AWS”) was authorized and directed to grant the Monitor with full and complete access to all AWS accounts in the name of Gerald Cotten or the Applicants. The Monitor made arrangements with AWS to ensure the AWS accounts are maintained so that the Platform and the Users’ transaction details necessary to adjudicate claims within the Bankruptcy Proceedings may be preserved. This includes efforts to ensure that all material on the AWS servers that make up the Platform infrastructure and other digital assets located within the AWS accounts including backup copies of the Platform data, the Platform source code, documents, files and access logs are retained.
42. The AWS server architecture was complex in nature and involved a series of more than thirty (30) running servers. Quadriga backed up the Platform on an hourly basis and maintained copies of all backups within AWS. The Monitor undertook several activities to preserve the Platform data as follows:

- (a) snapshots (backup copies) of identified storage devices (58 Volumes totalling approximately 7.4 Terabytes of data) associated with the Platform and servers were made and have been stored in a separate and isolated AWS environment only accessible to the Monitor;
 - (b) other files and folders located within the AWS environment which include approximately seventy (70) terabytes of data were also isolated and preserved in the same environment; and
 - (c) obtained access to cryptographic security keys used to provide interactive login access to the Platform back-end servers.
43. In addition to preserving the AWS servers and data within the Platform, the Monitor also sought control over the internet domain name “quadrigacx.com” by writing to the internet domain name registrar. The domain name is not registered to Quadriga, however, the registrar has been advised of these insolvency proceedings.

Books and Records

44. The Monitor has been unable to locate any evidence to suggest that Quadriga maintained any traditional books or accounting records since at least 2016. There are no indications that the Company maintained a general ledger accounting system, nor has the Monitor located any evidence of the existence of any accounting reports or financial statements since 2016, Corporate tax returns were not prepared or filed with the Canada Revenue Agency (the “CRA”) and no HST filings were submitted. Quadriga engaged independent

consultants to assist with the operations, however, the Monitor has not located any records detailing the specific amounts paid to these independent consultants.

45. The Monitor has not located any documents that track operating expenses, including, independent contractor fees, TPP processing fees, third party exchange fees, server maintenance obligations, bank charges, communication services, marketing services, legal fees, compensation distributed to Mr. Cotten and others (either in the form of salary, dividends or otherwise) or taxes payable (if any). The Monitor understands that operating expenses were processed through Quadriga's extensive TPP network which frequently involved paying these expenses out of accounts funded with deposits from Users. As described further in this Fifth Report, the Monitor has obtained access to certain TPP records and bank statements and analysis of this information by the Trustee is ongoing.

Quadriga Operating Platform and Database

46. The Monitor obtained access to and control of the Platform and has been guided through its innerworkings by its architect and primary administrator. The Monitor understands the Platform evolved as Quadriga expanded from modest beginnings in 2015 serving a few thousand customers to a Platform managing over 360,000 customer profiles processing millions of transactions annually. The Platform has been internally developed primarily by a single individual, and so the system architecture has not been formally documented. The Monitor was granted administrative access rights to the Platform and is now able to review User specific transaction activities recorded within the Platform and the supporting documents in relation to system User transactions (both Fiat and Cryptocurrency). In

addition, the Monitor has been able to obtain a general understanding of how the system worked.

47. The User facing Platform was designed and operated as an effective tool to facilitate the service offerings provided by Quadriga (buying, selling and trading of Cryptocurrencies) and provided Users visibility into their respective Account holdings and transaction details. The Monitor reviewed various aspects of the Platform to understand how the system recorded customer information and maintained transaction support data. The Platform contains personal information and transaction support documentation on an individual User and transaction basis as described in this Fifth Report.
48. Generally, the Platform as an administrative tool to manage the Quadriga business lacks critical infrastructure and design in terms of:
 - (a) Accounting and profitability analysis capabilities;
 - (b) General ledger accounting and segregation of fund capabilities of total Fiat and Cryptocurrency holdings between User Funds and Quadriga Funds;
 - (c) Information with respect to relevant TPPs, bank account or wallets where assets are held;
 - (d) Asset tracking (Fiat and Cryptocurrency holdings) by TPP, bank account, wallet address or exchange location; and
 - (e) General administrative or internal controls embedded within the Platform.

49. The Platform has no reporting or accounting functionality. Although transaction fees are charged and recorded within the Platform on a transaction by transaction basis and User Account holdings are adjusted when fees were earned, the Platform does not generate reports aggregating revenues by period. Furthermore, the Monitor has been unable to locate evidence of Quadriga expenditures being recorded or tracked within the Platform or elsewhere. The Platform does not provide any visibility into whether Quadriga was operating profitably or not. It is unclear whether Quadriga had visibility into its financial position.
50. Users deposited Fiat and Cryptocurrency with Quadriga and their User Accounts were credited. Funds were maintained in TPP bank accounts or Quadriga pooled wallets. Quadriga then provided direction to TPPs with respect to the use or transfer of the Fiat. It is not clear however, that Quadriga maintained any current tracking with respect to the balance that should have been held by TPPs at any given point in time. With respect to Cryptocurrency, Quadriga was the custodian of the Cryptocurrency and controlled any transfers out of Quadriga wallets.
51. While Quadriga earned fees as a result of User transactions, the Monitor has not identified any detailed accounting of these fees or any process to transfer amounts relating to earned fees from TPP accounts containing User Funds to other accounts representing Quadriga Funds. There does not appear to have been any segregation of User Funds from Quadriga Funds. It appears that Quadriga accessed pooled Fiat in TPP accounts and Cryptocurrency holdings to fund its operations as required. Furthermore, the Monitor's investigation revealed that Mr. Cotten periodically transferred significant Fiat and Cryptocurrency

outside of Quadriga. The Monitor has not located any accounting to support these transfers.

52. To date, the Monitor has not located any evidence to suggest that Quadriga had the ability to track and reconcile pooled Funds by TPP, bank account, wallet address or exchange. The Monitor anticipated that definitive and accessible lists of accounts or wallet addresses would have been maintained and regular reconciliations performed to properly account for all Funds. The Platform does not report total Funds available nor does it identify specific accounts (bank account or wallet addresses) where Funds should be stored and no reconciliation efforts appear to have been maintained by the Company. The Monitor has reviewed correspondence between Mr. Cotten and certain TPPs in which Mr. Cotten inquires as to the balance being held by the TPP at a point in time. This further suggests that no tracking or accounting of Funds held by Quadriga existed.
53. User Account obligations as at the Filing Date indicate Quadriga ought to have held \$74.1 million and \$140.5 million of Fiat and Cryptocurrency respectively. The Platform does not report and Quadriga does not track where these Funds, if they do exist, were to have been physically, or in the case of Cryptocurrency, digitally maintained.
54. The Monitor understands that historically, limited access rights to the Quadriga operating system were granted to various internal Quadriga personnel based on their respective roles and responsibilities within the organization. The Monitor understands that as at the Filing Date, Mr. Cotten and the independent contractor responsible for maintaining the Platform were the only two individuals with full administrative privileges to the Platform.

55. The Platform is capable of and did in some instances track administrator activity. Activities of authorized administrators engaged by Quadriga to perform administrative functions such as Fiat deposit and withdrawal approvals or the establishment and approval of new Users to the Platform were tracked and recorded to maintain a record of which contractors approved or modified specific transactions within the Platform.
56. However, while standard access logs recorded certain administrator activity within the Platform, these access logs did not capture activity by those administrators with full administrative rights. As such, since Mr. Cotten had full access rights to the Platform, the system did not record Mr. Cotten's activities within the site. The Monitor was advised that the decision not to record Mr. Cotten's administrative activities was done at his request. The Monitor notes that access log tracking activity by all administrators, even those with the highest levels of access is a common and expected feature of any software application similar to the Platform.
57. The Monitor also notes that it does not appear that Quadriga had appropriate protocols in place with respect to safeguarding the location and accessibility of Cryptocurrency reserves and relevant passwords to access such reserves. Supplemental safeguard options including the use of a "dead-man switch" which would provide critical password information upon the death of a key principal of the organization. The Monitor is advised that Mr. Cotten indicated to family members that he had established a dead-man switch prior to his death. Family members were expecting to receive an email with critical Quadriga operating information within days of Mr. Cotten's passing. Neither the Monitor nor others involved with the organization are aware of a dead-man switch email having been received.

KYC Requirements

58. Quadriga's standard operating protocols did require Users to provide and management to retain Know Your Client ("KYC") information for Users transacting in Fiat. Quadriga Users transacting only in Cryptocurrency were not required to produce KYC personal information. KYC information could be provided by producing Equifax verification, through in person Canada Post verification or by uploading specified personal information such as pictures of passports, drivers' licenses and other personal identifying information.
59. The Monitor examined a small sample of User Account details as part of its investigation. KYC User information, where available, supplied to Quadriga has been saved directly within the Platform. The data is not masked in any way. Administrative access such as the access previously utilized by the independent consultants and Mr. Cotten and the access granted to the Monitor allows access to view KYC information for any User. Given the sensitivity of this personal information, the Monitor has restricted Platform access internally to a small number of Monitor / Trustee representatives who require access to the Platform to administer these proceedings.
60. In its sample User account review, the Monitor also attempted to note whether KYC support documents were consistently supplied. From the small sample, the Monitor notes that it appears that in general, the KYC requirements were followed but there are instances in which it was not.
61. Mr. Cotten's administrative privileges permitted him to override the KYC requirements within the Platform. The Monitor understands that Mr. Cotten reportedly overrode the KYC proof of personal information requirement on various occasions to approve new

Users to the Platform who Mr. Cotten was familiar with. In addition, Mr. Cotten appears to have used his administrative privileges to create customer account profiles without KYC information within the Platform, as further described below. The Monitor has not attempted to confirm how many of the 363,000 Quadriga customers have KYC details.

Blockchain Analysis

62. The Monitor was initially advised that Quadriga maintained minimal levels of Cryptocurrency within its hot wallets as Mr. Cotten reportedly moved most Cryptocurrency to cold wallet storage to protect Quadriga from hacking or virtual theft. As previously reported in the Monitor's Third Report, six (6) bitcoin cold wallet addresses (the "**Cold Wallets**") were disclosed and investigated. To date, cold wallets for any other forms of Cryptocurrency have not been identified to or by the Monitor.
63. Analysis of public blockchain records indicate the Cold Wallets had not been used since April 2018 other than to fund and receive bitcoin with a competitor exchange and that Cold Wallet holdings prior to April 2018 were inconsequential in relation to total User deposits.
64. The Monitor's preliminary blockchain analysis indicates that instead of maintaining Cryptocurrency within Quadriga controlled cold wallets, large volumes of Cryptocurrency were transferred out of Quadriga controlled wallets to accounts at competitor exchanges maintained in Mr. Cotten's personal name.
65. The Monitor has been able to obtain blockchain transaction details from two competitor exchanges with accounts held in the name of Mr. Cotten (the "**Exchange Accounts**"). One of the Exchange Account data sets is complete as it was received directly from the

Exchange. The other Exchange Account data set was indirectly received and appears to be primarily complete but is missing some transaction information.

66. The transactional analysis of the Exchange Accounts indicates the competitor exchanges received multiple forms of Cryptocurrency from Quadriga wallets from 2016 through 2019 including 9,450 bitcoin; 387,738 Ethereum and 239,020 Litecoin. Many of these holdings were converted into other Cryptocurrencies (primarily bitcoin). The conversion of User Cryptocurrency into other currencies through competitor exchanges resulted in incremental fees being incurred and currency exchange fluctuations relative to the original currency generating gains and losses. In addition, it appears that the activity in the Exchange Accounts resulted in overall trading losses.
67. The Monitor's blockchain analysis did indicate that a portion of the Cryptocurrency holdings within the Exchange Accounts, after trading activity, was returned back to Quadriga. The Monitor also noted that of the remaining Cryptocurrency not returned to Quadriga, 5.6 bitcoin appear to have been transferred to wallet addresses which the Monitor understands to be controlled by Mr. Cotten. As well, approximately 1,426.2 bitcoin were transferred from the Exchange Accounts to wallet addresses in respect of which the Monitor has no information as to the beneficial owner or understands the beneficial owner to be a party other than Mr. Cotten. In addition, the Monitor also noted that smaller amounts of other forms of Cryptocurrency were transferred to Mr. Cotten's wallets or wallets for which the beneficial owner was a third party or unknown person. As at the Filing Date neither of the Exchange Accounts held any Cryptocurrency.

68. The Monitor also learned from one of the Exchanges that Mr. Cotten had established a margin account that traded various Cryptocurrencies extensively (67,000 individual transactions). The margin account trades involved multiple currencies including DASH, OMG, ZEC and DOGE among others which are not tradeable on Quadriga. The margin account trading activities were subject to substantial fees and generated substantial losses. As a result of the losses, the Exchange liquidated a significant portion of the Cryptocurrency in the account to satisfy the margin shortfall thereby reducing the net inventory of Cryptocurrency available to be returned to Quadriga.
69. The Monitor's investigation identified a third Exchange Account (the "**Third Exchange**") (an offshore exchange) used by Mr. Cotten. The Monitor has received transaction information relating to the Third Exchange from a Quadriga contractor. The information obtained does not include full account information and details regarding the originating wallet addresses of Cryptocurrency deposits and receiving location of fiat withdrawals. The Monitor understands that there are approximately eight (8) bitcoin currently maintained within the Third Exchange account.
70. Although the Monitor has corresponded with the Third Exchange to attempt to obtain full account details, the position of the Third Exchange has been that given its jurisdiction and regulatory requirements, it is unable to provide the Monitor with the transaction information or the remaining bitcoin. However, the Monitor has been advised that the Third Exchange has provided account details to local law enforcement authorities in the jurisdiction of the Third Exchange. Accordingly, the Trustee is attempting to recover the information through formal channels.

71. The transaction information available to the Monitor with respect to the Third Exchange indicates that 21,501 bitcoin were deposited into the account in Mr. Cotten's name. While the Monitor's investigation suggests that at least some of the bitcoin originated from Quadriga, it is unclear whether all of the bitcoin originated from Quadriga given the lack of originating wallet information as set out above.
72. It appears that Mr. Cotten liquidated all of the bitcoin deposited in the account on the Third Exchange (except for eight (8) bitcoin) for the equivalent of approximately \$80,000,000 Canadian dollars over the course of three years. To date, the Monitor has been unable to account for what happened to the proceeds of the sale of the Cryptocurrency through the Third Exchange.
73. The Third Exchange operates in a different manner than the Exchange Accounts in that the Third Exchange facilitates transactions between buyers and sellers allowing them to select their specific counterparty and utilizes an escrow feature to complete transactions rather than the Exchange taking custody of the transacting Funds. The Monitor has identified two specific trading partners within the Third Exchange who were the counterparties to significant transaction volume and value with Mr. Cotten.
74. The Trustee will continue to pursue information from external Exchanges and to review transactions involving the movement of Quadriga Cryptocurrency out of Quadriga wallets.

Operational Issues

75. Prior to 2017, Quadriga operated as a modest start up cryptocurrency exchange platform with limited customers, revenues, operating protocols and systems. Quadriga's operating

growth exploded in 2017 with expanding customer demand as market prices for many cryptocurrencies appreciated rapidly.

76. The Monitor has been advised that Quadriga struggled to keep up with operational demands both in terms of approving new customers onto the Platform and transactional processing. The limitations within the Platform infrastructure as set out above, including the lack of reporting capabilities, lack of accounting within the Platform and what appears to be ineffective controls were not addressed despite the significant growth in transaction volume and value.
77. Specific to Fiat processing, additional TPPs were engaged to assist Quadriga as volumes increased. The Monitor initially identified nine (9) TPPs involved with Quadriga. In addition, the Monitor has identified several bank accounts and other financial facilities in the names of Mr. Cotten, Ms. Robertson or corporations controlled by them that were also used to process Quadriga Fiat transactions. The Monitor estimates that more than forty (40) financial accounts have been used by or on behalf of Quadriga since inception. It appears that limited governance arrangements or contracts were implemented to ensure User Fiat was protected in the TPPs' custody. Some of the TPPs engaged were offshore entities.
78. The use of TPPs resulted in significant TPP fees and expenses being incurred. For example, fees paid by Quadriga to only two (2) of its significant TPPs between 2017 and 2018 exceeded \$11.8 million.
79. The Monitor understands that in general, financial institutions declined to open bank accounts for which the purpose was to receive and disburse funds connected to a

cryptocurrency business. In its investigation and review of text and email communications, the Monitor noted that certain TPPs were instructed by Mr. Cotten to provide limited information to the financial institutions in relation to the intended use of the account and its association with the cryptocurrency industry to limit scrutiny by the financial institutions.

80. The Monitor identified a number of accounts that were frozen or closed subsequent to the financial institution becoming aware of the nature of the underlying transactions. The Monitor's investigation indicates that frequently, Quadriga's approach to addressing financial institution queries into the nature of the account usage was often to simply move on to another financial institution to avoid further questioning.
81. The Monitor's investigation also identified many "cash" transactions where certain Users repeatedly funded their Accounts with large cash deposits. The Monitor has been advised that this involved the User physically handing cash in the form of legal tender to a representative of Quadriga. As an example, the Platform recorded \$12.1 million of "In person Payments" received from one User through a series of nineteen (19) cash transactions over a 5-month period. The Monitor has been unable to verify how or if these cash deposits were appropriately deposited into the Quadriga treasury system through TPP accounts or other accounts. The Monitor has also reviewed communications which appear to indicate that Mr. Cotten sometimes credited a User's account with a deposit with the understanding that the User would deliver cash at some point in the future. The deposits, once credited to the User's Account, were subsequently used by the User to trade and remove Cryptocurrency off Platform. The tracing of these cash deposits within the Quadriga treasury system remains an active item of investigation for the Trustee.

82. The substantial volume of cash transactions recorded within the Platform which the Monitor has been unable to account for may account for a portion of the deficiency in Funds held by Quadriga as at the Filing Date relative to User Account balances.
83. As set out above, the Monitor has been unable to locate any accounting with respect to the pooled Quadriga Funds. The Monitor notes the TPP accounts were used to process User Fiat transactions, fund general Quadriga operating costs and on multiple occasions funds were directed to Mr. Cotten, parties related to Mr. Cotten or counsel/parties acting on his behalf. It appears that as and when operating expenses were required to be paid, or when Mr. Cotten desired funds to be transferred to himself or related parties, he simply instructed TPPs to issue payments with no oversight.
84. An analysis of Quadriga operating disbursements processed through the TPP accounts will be extremely difficult to isolate given the lack of books and records and the inability of the Monitor to obtain detailed transaction information from all TPPs or even identify a comprehensive list of TPPs. Outlined later in the Report is an overview of the efforts undertaken to obtain information and Quadriga Property from identified TPPs.

Potentially Inappropriate Use of Affected Users' Funds

85. The general framework of the Quadriga business was to offer a Platform where Users could facilitate Fiat and Cryptocurrency trades with funding they provided. It appears that use of Funds was directed by a single individual – Mr. Cotten. The Monitor has identified several instances in which Funds may have been used inappropriately including:

- (a) using User Funds to discharge Quadriga operating costs without tracking whether sufficient fee revenue had been earned to support the payment of the operating costs or without visibility into whether sufficient Funds remained to support User Fiat balances;
 - (b) accepting and crediting User Accounts with “cash deposits” without proper controls or accounting to ensure the Fiat deposits were appropriately deposited into TPP accounts;
 - (c) use of Third Party external Exchanges to hold User Cryptocurrency;
 - (d) conversion of Cryptocurrencies off Platform exposing Users to incremental fees and trading losses;
 - (e) User Funds being used as security for margin accounts off Platform and made subject to trading losses and enforcement risks;
 - (f) trading Unsupported Deposits (as defined later in this Report) for real Funds and generating artificial trading markets;
 - (g) using currency conversion services to trade User Cryptocurrency holdings; and
 - (h) transfer of Quadriga Funds to personal accounts and / or to fund personal assets.
86. There is no indication that the Users were aware that Funds were being utilized in this manner.

Gerald Cotten Platform Activities

87. As outlined in the Third Report of the Monitor, fourteen (14) Accounts were initially highlighted for the Monitor's review and determined to be controlled by Mr. Cotten (the "**Identified Accounts**"). An analysis of the Platform revealed the Identified Accounts had no KYC information and were maintained under various pseudonyms (examples include Chris Markay, Aretwo Deetwo and Seethree Peaohh).

Chris Markay Account

88. Approximately 95% of all Identified Account activity was processed through an Account in the name of Chris Markay. The Identified Accounts were credited with a significant amount of Funds (Fiat and Cryptocurrency) and used to transact with Users on the Platform and to transfer Funds out of Quadriga as described below.

89. The Chris Markay Account reported Fiat deposits exceeding \$220 million and significant Cryptocurrency deposits including 34,806 bitcoin and 540,011 Ethereum onto the Platform between 2016 and 2018. Reported Fiat deposits include a single \$100 million deposit in June 2017; a single \$50 million deposit in January 2018 and a series of monthly deposits of approximately \$10 million each between June and December 2018.

90. Although substantial Fiat deposits were reported there were no Fiat withdrawals recorded specifically from the Chris Markay Account other than a single \$21,186 USD withdrawal made in 2015.

91. As discussed above, typically Users uploaded supporting documentation associated with User deposits including bank support materials or blockchain transaction detail as

applicable. However, in relation to the Chris Markay deposits referenced above only approximately 1% of the Fiat and Cryptocurrency deposits were supported by any documentation. The remaining deposit value appears to have no supporting documentation associated with it. To date, the Monitor has been unable to independently verify the deposits through blockchain analysis or review of TPP account statements accessed to date. As a result, the Monitor notes that it is likely that these deposits are not represented by actual Fiat or Cryptocurrency (the “**Unsupported Deposits**”).

92. Once “deposited”, the Unsupported Deposits were used to facilitate trades within the Platform and to withdraw real Cryptocurrency from Quadriga. Substantial trading activity was processed through the Identified Accounts which were counterparties to approximately 300,000 trades conducted on the Platform. This activity improved Platform trading volumes and generated additional fee revenue for Quadriga as an artificial market was established to provide bona fide Users a trading partner to complete requested transactions. Furthermore, as Users were trading real Funds for Unsupported Deposits their ability to withdraw Funds from Quadriga became subject to Quadriga’s reserve levels at the time the withdrawal request was made.
93. In addition to trades within the Quadriga Platform, the Monitor independently verified through blockchain analysis that large volumes of Cryptocurrency were withdrawn from Quadriga through the Chris Markay Account. It appears that although the Chris Markay Account may have been funded with Unsupported Deposits, real Cryptocurrency was transferred out.

94. A summary of the Chris Markay Cryptocurrency withdrawal values by year and by currency follows:

Currency	2016	2017	2018	Total
Btc	6,753.11	4,972.48	6,087.54	17,813.13
Eth	402,749.17	602,482.22	68,573.33	1,073,804.72
Ltc	-	25,298.93	165,365.67	190,664.60
Bch	-	9,512.40	4,927.72	14,440.12
Btg	-	-	1,800.00	1,800.00
Etc	34,459.13	-	-	34,459.13

95. The Monitor analyzed the detailed transaction withdrawal history from the Chris Markay Account consisting of more than 2,500 transactions. A significant number of these withdrawals appeared to have been sent to wallet addresses linked to the three (3) competitor exchanges described earlier in this Report, individuals that appear to have entered into transactions with Mr. Cotten personally, an exchange platform allowing users to exchange one cryptocurrency for another and at least one wallet address controlled by Mr. Cotten personally. In addition, a number of transfers were sent to wallet addresses where the beneficial owner of the wallet is currently unknown.
96. The Monitor notes that the preliminary Prospectus used by Quadriga when initially seeking to go public in 2015 did reference the concept of a margin account which as described was to be used to facilitate trades when the Platform was in its initial phases. The activities outlined above differ from this concept in inter alia structure, trading on versus off Platform, and volume, however the Monitor notes that there was some initial reference to the concept of internal trading accounts in the Company's disclosure.

Transfer of Fiat from Quadriga

97. In addition to the transfer of Cryptocurrency out of Quadriga wallets, it appears that significant Fiat may have been transferred from TPP accounts for purposes other than funding User withdrawals. The Monitor has been unable to locate records in respect of fees or compensation paid to directors, officers or independent contractors and therefore has no ability to confirm the quantum of any compensation payable. The Monitor understands Mr. Cotten did not file personal tax returns for 2014, 2015 or 2017. Mr. Cotten did file personal tax returns in 2014 and 2016, however, no Quadriga income was claimed in these years.
98. In the course of its investigation, the Monitor identified significant transfers of Fiat from Quadriga to Mr. Cotten and his wife. The Monitor understands that in the last few years, Mr. Cotten and his wife, either personally or through corporations controlled by them acquired significant assets including real and personal property. The Monitor also understands that they frequently travelled to multiple vacation destinations often making use of private jet services. The Monitor has been advised that neither Mr. Cotten nor his wife had any material source of income other than funds received from Quadriga.
99. On April 11, 2019, this Court issued the Asset Preservation Order a copy of which is attached at **Appendix “C”**. Pursuant to this Order, Ms. Robertson in her personal capacity and as the executor of Mr. Cotten’s estate agreed to disclose all assets (the “**Preserved Assets**”) belonging to her, Mr. Cotten and any entities related to either one of them (the “**Preserving Parties**”). In addition, the Preserving Parties agreed that they were restrained from selling or disposing of the Preserved Assets subject to the consent of the Monitor.

100. Ms. Robertson consented to the Asset Preservation Order and has been cooperating with the Monitor to identify, preserve and in certain instances liquidate the Preserved Assets, the net proceeds from which are being held in trust by counsel. The Trustee previously estimated the cumulative net realizable value of the Preserved Assets to be approximately \$12.0 million. The composition of the identified Preserved Assets includes:
- (a) Real properties (16) in Nova Scotia;
 - (b) Real property in British Columbia;
 - (c) Investment securities;
 - (d) Cash holdings;
 - (e) Personal sailing vessel;
 - (f) Personal aircraft;
 - (g) Luxury vehicles; and
 - (h) Gold and silver coins.
101. As Mr. Cotten's and Ms. Robertson's personal expenditures and the accumulation of their personal assets since 2015 was sourced from Quadriga funds, the Trustee intends to seek the recovery of the Preserved Assets subject to the Asset Preservation Order back to the Estate for immediate liquidation on the basis that the funds which Mr. Cotten directed be paid to them constitute preferences or transactions at under value under the BIA and may be subject to other causes of action asserted by the Trustee. If such actions are successful, the proceeds from such actions will be available for the Estates' creditors.

Quadriga Profitability Comments

102. As the Company appears to have failed to maintain traditional books and accounting records, and produced no accounting reports or financial statements since 2015, the Monitor is unable to estimate the profitability of Quadriga. However, the Monitor has analyzed the limited information available and notes certain information below.
103. The Platform did not track operating costs, however, it does appear to track fee revenues charged on individual transactions. The Monitor notes that given the lack of reporting capability, the Monitor is unable to assess the reasonableness of these numbers.
104. Attached below is a summary of the Quadriga fee revenues reported within the Platform for the period 2014 through 2019 adjusted to remove fees earned on transactions processed through the Identified Accounts. Fiat fees (CDN and USD) have been adjusted to Canadian equivalent dollars and the Cryptocurrency fees are reported in the currency earned.

	Currency	2014	2015	2016	2017	2018	2019	Total
Deposit Fees	CDN	\$3,138	\$46,500	\$116,380	\$5,677,680	\$4,606,313	\$29,822	\$10,479,833
Withdrawal Fees	CDN	-	\$6,713	\$109,085	\$1,537,760	\$2,402,319	\$5,323	\$4,061,200
Trade Fees	CDN	\$13,304	\$130,807	\$286,168	\$9,546,762	\$8,396,152	\$89,620	\$18,462,813
		\$16,442	\$184,020	\$511,633	\$16,762,202	\$15,404,784	\$124,765	\$33,003,846

	Currency	2014	2015	2016	2017	2018	2019	Total
Trade Fees	BTC	37	338	344	870	429	12	2,030
	ETH			1,564	9,618	3,050	131	14,363
	LTC				6,640	4,393	119	11,152
	BCH				587	206	10	803
	BTG				156	469	48	673
	BSG					25	5	30

105. It appears that Quadriga generated modest revenues between 2014 and 2016. The popularity of Cryptocurrency and the commodity value appreciation served as a catalyst for Quadriga's rapid revenue growth and the fees earned in 2017 and 2018.
106. Although operating expenses appear not to have been tracked or accounted for the Monitor has been able to identify a series of obligations incurred or costs which the organization would likely have funded including:
- (a) TPP fees (\$11.8 million paid to two TPPs between 2017 and 2018); the quantum paid to other TPPs is unknown;
 - (b) Ethereum Classic splitter contract loss of 67,000 etherium (approximately \$13 million at the time of the loss) associated with an Ethereum Classic splitter contract in 2017);
 - (c) Operating costs including legal fees, independent contractor fees, general operating costs including technology services and AWS server fees and corporate taxes (if applicable) although not filed;
 - (d) Amounts paid or transferred to Mr. Cotten or Ms. Robertson and related entities;
 - (e) Fees and trading losses associated with Cryptocurrency transferred to external Exchanges including Cryptocurrency transition sites; and
 - (f) Fees and trading losses associated with margin accounts.
107. It is possible that the above obligations or costs exceeded the fee revenue earned by Quadriga and resulted in a deficiency in Funds held on behalf of Users. In addition, the

freezing of Fiat through the CIBC Interpleader Motion described in the Initial Affidavit and First Report created additional liquidity issues, impacting Quadriga's ability to fund withdrawal requests from Users.

Next Steps in the Investigation

108. During the course of its review, the Monitor has attempted to identify other potential explanations for the potentially inappropriate use of Affected Users' Funds as set out above. The Monitor notes that in some circumstances, Funds transferred from TPP accounts or Quadriga wallets have been returned in part. However, the Monitor is unable to confirm the return of all of the transferred Funds.
109. The Trustee will continue to attempt to accumulate and review additional information as it is obtained to continue with the investigation commenced by the Monitor, and continue with its asset identification and recovery efforts, including seeking to examine various parties through the Trustee's examination rights under the BIA.
110. The Monitor cautions that given the nature of the blockchain and cryptocurrency industry including the privacy and confidentiality features that attract investors to the industry the nature of the information available and the traceability of reserves and assets will be challenging. However, the Trustee's efforts to seek to identify and recover available assets for ultimate distribution to the affected Users is ongoing as described herein.
111. Should the Trustee determine it necessary to pursue additional litigation or proceedings to pursue recovery, it will report further and seek authorization in accordance with the BIA.

THIRD PARTY PROCESSORS UPDATE

112. As discussed above, Quadriga used TPPs to receive, hold and disburse User Fiat on behalf of Quadriga. The Monitor has taken various steps in these CCAA proceedings to recover Fiat, account statements and other records from TPPs regarding funds processed on behalf of Quadriga through these accounts. Initial efforts in this regard are described in the Fourth Report of the Monitor dated April 1, 2019 (the “**Fourth Report**”).
113. On April 11, 2019, the Court issued an Order (the “**TPP Order**”) directing certain TPPs to deliver information and property of the Applicants with respect to funds processed by the TPPs. A copy of the TPP Order is attached as **Appendix “D”**. The Court adjourned part of the motion with respect to relief sought by the Monitor against Costodian Inc. (“**Costodian**”) and BillerFY Labs Inc. On April 18, 2019, the Court issued a subsequent Order (the “**Second TPP Order**” and together with the TPP Order, the “**TPP Orders**”) directing Costodian, BillerFY Labs Inc., ePADregistry Inc., Armourga Financial Group Corp. and Interbank Smart Ledger Consortium Corp. (collectively, the “**Reyes Companies**”) to deliver records regarding property that the Reyes Companies held to the Monitor, including account statements in respect of bank accounts that hold or held Quadriga Fiat. The Court also ordered the Reyes Companies and POSConnect Inc. (“**POSConnect**”) to deliver any property of the Applicants in their possession to the Monitor. A copy of the Second TPP Order is attached as **Appendix “E”**.
114. An update with respect to TPP recovery efforts since the Fourth Report follows.

Vopay International Inc.

115. In accordance with the TPP Order, Vopay International Inc. (“**Vopay**”) transferred \$116,262.17 to the Monitor representing the only remaining property of the Applicants that Vopay claimed to be holding.

1009926 B.C. Ltd.

116. 1009926 B.C. Ltd. (“**B.C. Ltd.**”) is a company controlled by a Quadriga contractor, which acted as a TPP on behalf of the Applicants. Prior to the CCAA proceedings, B.C. Ltd. received and attempted to assign and deliver approximately 1,004 bank drafts (the “**Bulk Drafts**”) which it held on behalf of Quadriga. The Bulk Drafts were not deposited prior to the Filing Date, however as previously reported, additional steps were taken in consultation with B.C. Ltd and the Royal Bank of Canada, which permitted the Monitor to deposit the Bulk Drafts, though there were certain exceptions including several Bulk Drafts that were stale-dated and subject to recourse. The Monitor is currently reviewing the rejected Bulk Drafts to determine next steps regarding these drafts and the implications on any User claims.
117. Following the issuance of the TPP Order, B.C. Ltd. also delivered various bank statements to the Trustee relating to accounts used to process funds on behalf of Quadriga. Information provided indicates throughout the course of its relationship with Quadriga, B.C. Ltd. opened accounts with 14 different financial institutions to receive and disburse funds on behalf of Quadriga. The Trustee is reviewing the statements to determine if there is any relevant information to its investigation in the statements.

118. In addition to the statements and the Bulk Drafts, B.C. Ltd. delivered additional funds totaling \$473,458.19 (the “**Additional Funds**”) that remained in its possession including additional bank drafts in respect of deposits made by Affected Users or residual funds on hand within certain of the 14 accounts noted above. Similar to the Bulk Drafts, some of the additional bank drafts delivered by B.C. Ltd. were stale dated and may be subject to recourse. The Additional Funds have been deposited within the 0984750 B.C. Ltd. bankruptcy account and accordingly are not reflected within Appendix “B”.

WB21/Black BanX

119. As described in the Fourth Report, Quadriga maintained a Canadian and U.S. dollar account with an organization doing business as WB21 (n/k/a Black BanX) (“**WB21/Black BanX**”). As of the Filing Date, the Applicants believed WB21/Black BanX was holding approximately \$8,991,911.77 and US\$2,360,755.53 on behalf of Quadriga. WB21/Black BanX (Singapore) claimed it was holding only \$11.77 and US\$5.53 on behalf of Quadriga and that WB21/Black BanX (Canada) was not involved with Quadriga. WB21/Black BanX has refused to provide any supporting documentation to the Monitor or Trustee, including account statements, accounting records, or agreements between Quadriga and WB21/Black Bank to substantiate its claim.
120. Pursuant to the terms of the TPP Order, Black Banx Inc., the Canadian affiliate of WB21/Black BanX, and WB21 Pte. Ltd., the Singapore affiliate of the organization, were ordered to deliver various documents to the Monitor regarding property which the companies held or previously held on behalf of Quadriga. The Court also ordered that WB21/Black BanX deliver any remaining property of the Applicants that they were

holding (including property they admitted to hold) to the Monitor. Notwithstanding the terms of the TPP Order and the Trustee's demands for delivery of the property and information set out in the TPP Order WB21/Black BanX has not responded.

121. Through the course of its investigation, the Monitor has also become aware that User Fiat was deposited with additional companies affiliated with WB21/Black BanX, including WB21 GmbH (Germany), WB21 LLC (Georgia), and WB21 Ltd. (Germany). WB21/Black BanX and its affiliates held bank accounts at various institutions in Europe which received Fiat directly from Users. The Trustee is considering possible steps that could be taken against WB21/Black BanX and may take further action if determined to be viable and beneficial to the Quadriga estate.

Alto Bureau de Change

122. As set out in the Fourth Report, the Monitor believed that 9133-8079 Quebec Inc. (d/b/a Alto Bureau de Change) ("**Alto**") was holding \$20,876.78 - \$36,212.97 of Quadriga funds in relation to a series of transactions completed late in 2018. Pursuant to the terms of the TPP Order, Alto was directed to deliver any Quadriga property in its possession to the Monitor within 10 days of the TPP Order. The Monitor has demanded the return of such property from Alto. In response, Alto has made various allegations regarding the historical conduct of Quadriga and denies that it is holding any Quadriga property. The Trustee will review potential next steps against Alto with the Estate Inspectors within the bankruptcy process.

Reyes Companies

123. Each of the Reyes Companies acted as TPPs on behalf of Quadriga. Pursuant to the terms of the Second TPP Order, the Reyes Companies were directed to deliver certain information and documentation to the Monitor along with any property of Quadriga remaining in their possession within 10 days of the Second TPP Order.
124. Annual transaction ledgers of the receipts and disbursements made through the Reyes Companies bank accounts between 2017 and 2019 have been produced. However, the Reyes Companies did not deliver bank statements supporting the ledger entries as required by the Second TPP Order. It appears Quadriga Fiat was not segregated as required and was co-mingled with funds of other customers of the Reyes Companies. The Trustee will continue to work to obtain the isolated banking information with respect to the Quadriga Fiat from the Reyes Companies.
125. Information produced indicates the Reyes Companies received and disbursed approximately \$262 million on behalf of Quadriga through the course of the parties' three-year relationship and that the Reyes Companies were holding residual funds totalling \$462,502.11. The Reyes Companies have agreed to return the residual funds to the Trustee.
126. In addition to the residual funds discovered by the Trustee, the Reyes Companies appear to have deducted fees totalling \$398,350.41 to release the bank drafts to the Monitor associated with the CIBC litigation and also deducted the personal funds that the Monitor repaid to Mr. Reyes. There remains a dispute between Mr. Reyes and the Trustee as to whether the fee amounts have been returned to the Trustee as part of the previous transfers.

The Trustee and counsel are pursuing this issue with counsel for the Reyes Companies to resolve the dispute.

127. The Trustee may return to Court in the Bankruptcy Proceedings to seek relief against the Reyes Companies if the issues cannot be resolved consensually.

POSConnect

128. POSConnect was ordered to provide the Monitor with access to Quadriga's online account with POSConnect to obtain documents and accounting records and also ordered to deliver the remaining property of Quadriga held by POSConnect to the Monitor. The Monitor has obtained access to Quadriga's online account. The account provides statements of receipts and disbursements made by POSConnect on behalf of Quadriga but contains limited details regarding individual transactions, including identities of persons depositing and receiving funds into the account. The statements within the account show that POSConnect received approximately \$480 million on behalf of Quadriga during their two-year relationship and disbursed approximately the same amount, less fees of approximately \$4.2 million.
129. The balance remaining in Quadriga's account with POSConnect was \$281,338.12 as at the date the Monitor obtained access to the account. These funds were returned to the Monitor less amounts which POSConnect deducted for fees and expenses totalling approximately \$28,000 less a small reserve for future fees. POSConnect claims that both amounts are payable under the Custody of Funds and Payment Services Agreement between Quadriga and POSConnect dated May 2, 2017. The Trustee is reviewing the agreement to determine whether it is entitled to such fees and whether such fees are reasonable in the circumstances.

All of which is respectfully submitted this 19th day of June 2019.

ERNST & YOUNG INC.

In its capacity as the Court-appointed Monitor
in the matter of the proposed compromise and
arrangement of Quadriga Fintech Solutions Corp.,
Whiteside Capital Corporation and 0984750 B.C. Ltd.



George Kinsman CPA, CA, CIRP, LIT
Senior Vice President

Appendix A

Terms of Service

By using QuadrigaCX, accessing the website, or using any service provided by QuadrigaCX, you agree to the following terms of service. Continued use of the QuadrigaCX website demonstrates that you agree with our terms of service.

Throughout the following terms of service, QuadrigaCX may be referred to as "us", "our", "we", "the website", and "Quadriga". Users of QuadrigaCX include but are not limited to registered members, as well as any visitor who uses the website in any way, shape or form. The term cryptocurrency may be used to describe any form of digital currency, including but not limited to Bitcoin and Litecoin.

By opening an account or accessing the QuadrigaCX Website, you agree to the following terms:

1. You accept both the Terms of Service and the Privacy Policy
 - 1.1. These policies may be changed at any time, with or without notice. It is your responsibility to regularly review the policies of QuadrigaCX.
2. You are at least 18 years of age, or the age of majority in your country.
 - 2.1. You must not be a resident or citizen of the United States of America or any territories of the United States of America.
3. You accept that the purchase and sale of cryptocurrency (Bitcoin, Litecoin, etc.) involves risk. Due to the constant price fluctuations, you may increase or lose value in your assets at any time.
 - 3.1. You acknowledge that purchasing Bitcoin (or any other digital currency offered by QuadrigaCX) involves risk and you will not hold QuadrigaCX accountable for any gains or losses that you incur as a result.
 - 3.2. In no circumstance shall QuadrigaCX be responsible for any loss that you incur.
4. QuadrigaCX does not provide, offer or exchange securities, investment contracts or any other form of financial instrument that may be considered by law to be a "security".
5. QuadrigaCX offers a marketplace for the buying and selling of Cryptocurrency. While we strive to ensure that marketplace is both fair and free, we cannot be held accountable for any form of "market manipulation" that may occur, whether it be within the QuadrigaCX marketplace, or in the cryptocurrency marketplace as a whole.
 - 5.1. Users agree that cryptocurrency prices are often unpredictable and experience swings due to a variety of reasons, including government interference, market conditions and speculation.
 - 5.2. QuadrigaCX does not set the current market price. The price of cryptocurrency units traded on the QuadrigaCX platform result directly from buy and sell orders placed by users.
 - 5.3. Any trading decision based on information provided by QuadrigaCX shall be the responsibility of the user alone. QuadrigaCX assumes no responsibility for any action that is taken in the course of using the QuadrigaCX website or API.
6. Market information on QuadrigaCX is not delayed. However, in the event of a network outage or similar situation, users acknowledge that QuadrigaCX bears no responsibility for any delays.
7. As a user of QuadrigaCX, you acknowledge that QuadrigaCX has no responsibility for any losses that you incur as a direct or indirect result of the website or any of our services.

- 7.1. QuadrigaCX is not a bank, and therefore is not protected by CDIC. Fundings, whether they be in a national currency or digital cryptocurrency are not protected by any government insurance policy.
 - 7.2. All account fundings are considered to be purchases of QuadrigaCX Bucks. These are units that are used for the purposes of purchasing Bitcoin or other cryptocurrencies. QuadrigaCX Bucks are NOT Canadian Dollars. Any notation of \$, CAD, or USD refers to an equivalent unit in QuadrigaCX Bucks, which exist for the sole purpose of buying and selling Bitcoin and other cryptocurrencies.
 - 7.3. QuadrigaCX is NOT a financial institution, bank, credit union, trust, or deposit business. We DO NOT take Deposits. We exist solely for the purposes of buying and selling cryptocurrencies.
8. It is the user's responsibility to secure his or her QuadrigaCX account. Any loss that occurs as a result of negligent security practices, whether it be on the part of the user, or QuadrigaCX, will not be the responsibility of QuadrigaCX, its directors, associates or employees.
 - 8.1. It is your responsibility to guard your password. Sharing your password with a third party constitutes a breach of this contract.
 - 8.2. The QuadrigaCX website and any related service is provided "as is". We make no warranties, expressed or implied.
9. The content and services provided by QuadrigaCX are for informational purposes only and are not intended to provide legal, financial, tax, accounting or investment advice. We assume no liability for any information provided by our employees, directors, or affiliates, regardless of its accuracy. Any action taken by a user is their decision, and users absolve QuadrigaCX of any liability for any outcome that may occur.
10. QuadrigaCX is based in British Columbia, Canada. We comply with all local laws. It is the responsibility of the user to ensure that they are in compliance with their local laws.
 - 10.1. Any user that breaks any law in their jurisdiction of residence or nationality by using any service provided by QuadrigaCX shall be liable for any damages incurred by QuadrigaCX as a result.
 - 10.2. Any user that breaks any law in their jurisdiction of residence or nationality by using any service provided by QuadrigaCX agrees to forfeit any assets within their QuadrigaCX account, at the discretion of QuadrigaCX or its employees.
 - 10.3. If buying and selling Cryptocurrency is not legal in your country, do not use QuadrigaCX. Failure to comply with local laws may result in the loss of your account and any assets contained within.
 - 10.4. In the event that QuadrigaCX or its directors face legal action as a result of your actions, you agree cover any damages, including legal fees, that QuadrigaCX incurs as a result.
 - 10.5. To the full extent permitted by applicable law, You hereby agree to indemnify QuadrigaCX, and its partners against any action, liability, cost, claim, loss, damage, proceeding or expense suffered or incurred if direct or not directly arising from your use of QuadrigaCX or its services, or from your violation of these Terms of Use.
11. You agree not to copy any information from the QuadrigaCX website, without our permission, with the exception of the publicly available figures as found in our order book.

12. In no event shall QuadrigaCX or its associates, affiliates, or subsidiaries be liable for any damages, including damage for loss of data or profit, arising out of the use of the services of materials provided by QuadrigaCX, even if QuadrigaCX is negligent in any way.

13. You attest that you are not a criminal, are not associated with any criminal activity, and that all funds that are sent to QuadrigaCX are free from any criminal association, are not the proceeds of crime, and are not derived from any criminal activity.

14. QuadrigaCX reserves the right to modify, add or remove any article from these terms, at any time, and at our sole discretion.

Appendix B

District of Nova Scotia
Division No. 01-Halifax
Court No. 484742
Estate No. 0000414-2019-NS

**IN THE MATTER OF THE PLAN OF ARRANGEMENT OF
QUADRIGA FINTECH SOLUTIONS CORP., WHITESIDE CAPITAL CORPORATION AND 0984750 BC LTD.
FINAL STATEMENT OF RECEIPTS AND DISBURSEMENTS
FOR THE PERIOD 05 FEBRUARY 2019 TO 07 JUNE 2019**

RECEIPTS

Third Party Payment (Custodian)	25,272,089.09	
Bulk Draft Deposits	5,463,586.93	
Third Party Payment (Credit Union)	254,180.23	
Third Party Payment (POSCONNECT Inc.)	252,608.25	
Interim Financing	150,000.00	
Third Party Payment (VoPay International)	116,262.17	
Interest	90,822.99	
Third Party Payment (700964 NB Inc.)	5,000.00	
TOTAL RECEIPTS		\$ 31,604,549.66

DISBURSEMENTS

Transfer to Bankruptcy Account (0984750 BC Ltd.)	27,494,191.26	
Legal Fees - Monitor	851,776.31	
Transfer to Separate Account (Disputed Amount)	778,213.94	
Monitor Fees	676,908.61	
Legal Fees - Applicant	454,950.46	
Legal Fees - Rep Counsel	388,282.12	
HST Paid (ITC)	355,644.77	
Transfer to Bankruptcy Account (Fintech)	254,180.23	
Independent Contractors	127,802.78	
Computer Services	62,041.39	
Jose Reyes Personal Funds	60,958.64	
Media Services	35,165.22	
Chief Restructuring Officer Fees	30,105.33	
Transfer to Whiteside (Third Party Deposit)	25,000.00	
Advertising	8,689.97	
Other Miscellaneous Disbursements	316.95	
PST Paid	210.18	
Bank Charges	111.50	
TOTAL DISBURSEMENTS		\$ 31,604,549.66

Amount Available for Distribution

\$ -

Notes

Ernst & Young Inc.
Licensed Insolvency Trustee
Per:

George Kinsman
RBC Waterside Centre
1871 Hollis St., Suite 500
Halifax, NS B3J 0C3

Appendix C

2019



Hfx No. 484742

IN THE SUPREME COURT OF NOVA SCOTIA

IN THE MATTER OF:

Application by Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. d/b/a Quadriga CX and Quadriga Coin Exchange (collectively referred to as the "**Companies**" and the "**Applicants**"), for relief under the *Companies' Creditors Arrangement Act*

ORDER
(Asset Preservation Order)

BEFORE THE HONOURABLE JUSTICE MICHAEL J. WOOD

UPON MOTION, in the proceedings of Quadriga Fintech Solutions Corp., Whiteside Capital Corporation, and 0984750 B.C. Ltd. dba Quadriga CX and Quadriga Coin Exchange (collectively, the "**Applicants**"), under the *Companies' Creditors Arrangement Act* (the "**CCAA Proceedings**"), by Ernst & Young Inc. ("**EY**"), in its capacity as Court-appointed Monitor and/or trustee-in-bankruptcy of the Applicants in respect of any proceedings under the *Bankruptcy and Insolvency Act* (Canada) (the "**Monitor**");

UPON READING the Fourth Report of the Monitor dated April 1, 2019 and on being advised by counsel that the Preserving Parties have consented to the terms hereof;

AND UPON HEARING counsel to the Preserving Parties (as herein defined), counsel for the Monitor, Representative Counsel of the Affected Users ("**Representative Counsel**"), counsel to Jennifer Robertson and such other individuals who appeared and were heard on the Motion;

IT IS HEREBY ORDERED AND DECLARED THAT:

Preservation Order

1. Except as specifically authorized by this Order, pending further Order of this Court, Jennifer Robertson as executor of the estate of Gerald Cotten (the "**Estate**"), Jennifer Robertson ("**Robertson**"), Robertson Nova Consulting Inc. ("**RNC**"), Robertson Nova Property Management Inc. ("**RNPM**"), 2379164 Ontario Inc. ("**237 Inc.**"), Megacorp Incorporated ("**Megacorp**") and Jennifer Robertson as Trustee of The Seaglass Trust ("**Seaglass**" and together with the Estate, Robertson, RNC, RNPM, 237 Inc. and Megacorp., the "**Preserving Parties**") and their respective servants, employees, agents, assigns, officers, directors, trustees, and anyone else acting on their behalf or in

conjunction with any of them, and any and all persons with notice of this injunction, are restrained from directly or indirectly, by any means whatsoever:

- (a) selling, removing, dissipating, alienating, transferring, assigning, encumbering, or similarly dealing with any assets or property of the Preserving Parties, wherever situate;
 - (b) instructing, requesting, counselling, demanding, or encouraging any other person to do so; and
 - (c) facilitating, assisting in, aiding, abetting, or participating in any acts the effect of which is to do so.
2. Paragraph 1 applies to all of the Preserving Parties' assets whether or not they are in the names of the respective parties and whether they are solely or jointly or beneficially owned, including, without limitation, assets of the Estate (the "**Estate Assets**"), assets of RNC, assets of RNPM (collectively, "**Corporate Assets**") and assets of Jennifer Robertson personally and/or held through Seaglass (the "**Personal Assets**" and together with the Estate Assets and Corporate Assets, the "**Preserved Assets**"). For the purpose of this Order, the Preserving Parties' assets include any asset which any of the Preserving Parties has the power, directly or indirectly, to dispose of or deal with as if it were their own. The Preserving Parties are to be regarded as having such power if a third party holds or controls the assets in accordance with these parties' direct or indirect instructions.
3. Three trust accounts are to be established and maintained by Stewart McKelvey for each of the Estate Assets, Corporate Assets and Personal Assets (collectively the "**Preservation Accounts**") for the exclusive purposes of collecting and preserving: (a) surplus funds from current Estate Assets, Personal Assets and Corporate Assets, as determined by consultation between the Monitor and the Preserving Parties or as determined by further Order of the Court; (b) proceeds arising from any dispositions of assets of the Preserving Parties with the Monitor's consent in accordance with this Order; and (c) excess working capital assets, if any, of RNPM at year end. For greater certainty the Preservation Accounts shall not form part of the Applicants' Property pending further Order of the Court, if necessary.
4. Stewart McKelvey may distribute funds from the Preservation Accounts in accordance with the terms of this Order, with the consent of the Monitor or further Order of this Court.
5. The Preserving Parties may deal with, sell, alienate, transfer, assign, encumber, or otherwise monetize Estate Assets, Corporate Assets or Personal Assets only with the consent of the Monitor, or further Court Order, provided that any net proceeds arising from such disposition of assets by the Preserving Parties shall be deposited into the respective Preservation Accounts.
6. The Monitor and Preserving Parties are authorized to identify and monetize any assets which may depreciate in value if not monetized during the term of this Order. The

Preserving Parties shall have no liability if assets of a depreciating or volatile nature decline in value while the subject of this Order.

7. This Order shall be without prejudice to each of the Applicants and Preserving Parties' respective rights, entitlements, claims and defences in respect of ownership or entitlement to the Preserved Assets.

Ordinary Living Expenses and Legal Expenses and Property Preservation Expenses

8. Robertson shall continue to receive her drawings from RNPM in accordance with current levels, for the purposes of satisfying ordinary living expenses. In addition, Robertson shall be entitled to access cash from the Personal Assets for purposes of satisfying property preservation and maintenance costs of the Personal Assets, in an amount to be agreed upon in consultation with the Monitor and satisfied through disbursement from the Preservation Account for Personal Assets established in accordance with paragraph 3 of this Order.
9. Reasonable costs of legal advice and representation of the Preserving Parties shall be paid from the respective Preservation Accounts.
10. Robertson shall be entitled to direct RNPM to utilize its cash or further income from the Corporate Assets for the purposes of satisfying reasonable corporate expenses of RNPM including in respect of property preservation and maintenance expenses, and reasonable general operating costs of RNPM ("**Property Preservation Expenses**") in accordance with past practices. RNPM will continue to be managed in the normal course of business, including the incurring and payment of Property Preservation Expenses and reasonable salary/payments as determined in consultation with the Monitor or further Order of the Court, but no special distributions by way of dividends, bonus or extraordinary salary shall be paid to Robertson or any other party. RNPM shall not be entitled to encumber any of its property without the prior written consent of the Monitor. For greater certainty, any net rental or investment income earned by RNPM shall remain in the corporate bank accounts of RNPM and be used to satisfy Property Preservation Expenses, subject to the terms of this Order.
11. Where additional funds are required by the Preserving Parties above the amounts contemplated in paragraphs 8 - 10 of this Order, the Preserving Parties or any of them may seek the written consent of the Monitor and/or apply for an Order of the Court, on at least seventy-two (72) hours notice to the Monitor seeking authorization to receive additional amounts of the Preserved Assets from the applicable Preservation Account that the Preserving Party may be entitled to receive in respect of costs to be incurred by the applicable Preserving Party.

Disclosure of Information

12. To the extent not provided to the Monitor prior to the date of this Order, Robertson shall prepare and provide to the Monitor, within ten (10) days of the date of this Order: (a) a sworn statement describing the nature, value, and location of the assets worldwide of the Preserving Parties, including cash on hand balances wherever situated, whether in their

respective names or not and whether solely or jointly or beneficially owned; (b) answers to any outstanding questions from the Monitor's letters to RNC, Robertson and the Estate dated February 22, 2019 and February 25, 2019; and (c) copies of Robertson's personal income tax return, and the income tax return for each of RNC, RNPM, and Seaglass, for the past three (3) years.

Third Parties

13. Royal Bank of Canada, TD Bank Group, The Bank of Nova Scotia ("**BNS**"), BMO Financial Group, Canadian Imperial Bank of Commerce, Canadian Tire Bank, Canadian Western Bank, East Coast Credit Union, Questrade Financial Group Inc. and Manulife Financial Corporation (collectively, the "**Banks**") to forthwith freeze and prevent any removal or transfer of monies or assets of the Preserving Parties held in any account or on credit on behalf of the Preserving Parties with the Banks, except as outlined pursuant to the terms of this Order, in particular transfers to the Preservation Accounts contemplated by paragraph 3 of this Order and disbursements made from the accounts in paragraph 14 of this Order, or with a written direction from the Monitor and the applicable Preserving Party, or further Order of the Court.
14. One (1) personal bank account and one (1) corporate bank account with BNS shall be maintained as primary bank accounts for Jennifer Robertson and RNPM, respectively, for purpose of ongoing disbursements for ongoing living expenses for Jennifer Robertson and Property Preservation Expenses as contemplated in this Order. For greater certainty, the Monitor shall have access to account statements and information in respect of such accounts on an ongoing basis for reporting purposes, and BNS shall provide such information and documentation to the Monitor in accordance with paragraph 15 of this Order.
15. The Preserving Parties consent to all Banks holding assets of the Preserving Parties or which formerly held assets of the Preserving Parties, in any account or on credit on behalf of the Preserving Parties to disclosure and delivery to the Monitor by the Banks of any and all records and statements held by the Banks concerning the Preserving Parties' assets and accounts, including the existence, nature, value and location of any monies or assets or credit, wherever situate, including all records and statements held by the Banks concerning any assets and accounts of the Preserving Parties formerly held by the Banks, and the Banks shall forthwith provide such information and documentation to the Monitor.

Cryptocurrency

16. All cryptocurrency exchanges, including the cryptocurrency exchanges doing business as Binance, Bitfinex, Bitmex, Bitstamp, Coinbase, Digifinex, EzBtc.ca, Huobi, Kraken, Localbitcoins.com, Poloniex, OKCoins, OkEx and Shapeshift, (the "**Exchanges**") to forthwith freeze and prevent any removal or transfer of currency or assets of the Preserving Parties held in any account or on credit on behalf of the Preserving Parties, with the Exchanges, except as outlined pursuant to the terms of this Order, or with a

written direction of the Monitor and the applicable Preserving Party, or further Order of the Court.

17. The Preserving Parties consent to all Exchanges holding assets of the Preserving Parties or which formerly held assets of the Exchanges, in any account or on credit on behalf of the Preserving Parties to disclosure and delivery to the Monitor by the Exchanges of any and all records and statements held by the Exchanges concerning the Preserving Parties' assets and accounts, including the existence, nature, value and location of any monies or assets or credit, wherever situate, including all records and statements held by the Exchanges concerning any assets and accounts of the Preserving Parties formerly held by the Exchanges, and the Exchanges shall forthwith provide such information and documentation to the Monitor.
18. Any cryptocurrency accounts determined to be held in the name of any of the Preserving Parties on any Exchanges, shall be returned to the Monitor to form part of the Applicants' property. Any Exchanges holding cryptocurrency on behalf of any of the Preserving Parties shall be entitled to rely on the directions of the Monitor in respect of the transfer of such assets.

Sale of Assets

19. Where assets have been monetized in accordance with the terms of this Order and with the written approval of the Monitor and Representative Counsel, the Applicants' and Affected Users release all claims as against title to the assets sold to a bonafide third party purchaser (the "**Purchased Assets**"). For the purposes of determining the nature and priority of any claims as against any Purchased Assets, the net proceeds from the sale of the Purchased Assets shall stand in the place and stead of the Purchased Assets, with the same priority as they had with respect to the Purchased Assets immediately prior to the sale, as if the Purchased Assets had not been sold.

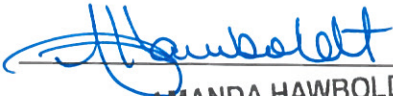
Variation, Discharge or Extension of Order

20. Anyone served with or notified of this Order may apply to the Court at any time to vary or discharge this Order on notice to the Monitor and the Preserving Parties in accordance with the applicable rule under the Nova Scotia Civil Procedure Rules.

General

21. The aid and recognition of any court, tribunal, regulatory or administrative body having jurisdiction outside Nova Scotia is requested to give effect to this Order and to assist the Monitor, the Preserving Parties and their respective agents in carrying out the terms of this Order. All courts, tribunals, regulatory and administrative bodies are hereby respectfully requested to make such orders and to provide such assistance to the Monitor, as an officer of this Court, and the Preserving Parties and their respective agents as may be necessary or desirable to give effect to this Order, or to assist the Monitor, Preserving Parties and their respective agents in carrying out the terms of this Order.

Issued at Halifax, Province of Nova Scotia, this 11th day of April, 2019.



AMANDA HAWBOLDT
Deputy Prothonotary

CONSENTED TO:



Richard Niedermayer, on behalf of each of
the Preserving Parties
Stewart McKelvey
Purdy's Wharf Tower One
1959 Upper Water Street
Suite 900
Halifax, NS B3J 3N2

Direct: 902-420-3339

Email: niedermayer@stewartmckelvey.com

Counsel to Jennifer Robertson, in her
personal capacity, as Executor of the Estate
of Gerald Cotten, and as Trustee of The
Seaglass Trust, Robertson Nova Consulting
Inc., Robertson Nova Property Management
Inc., 2379164 Ontario Inc., and Megacorp
Incorporated

Appendix D

2019



Hfx No. 484742

IN THE SUPREME COURT OF NOVA SCOTIA

IN THE MATTER OF:

Application by Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. d/b/a Quadriga CX and Quadriga Coin Exchange (collectively, the "**Applicants**"), for relief under the *Companies' Creditors Arrangement Act*

ORDER

(Re Third Party Payment Processors)

BEFORE THE HONOURABLE JUSTICE MICHAEL J. WOOD

UPON MOTION, in the proceedings of Quadriga Fintech Solutions Corp., Whiteside Capital Corporation, and 0984750 B.C. Ltd. dba Quadriga CX and Quadriga Coin Exchange (collectively, the "**Applicants**"), under the *Companies' Creditors Arrangement Act* (the "**CCAA Proceedings**") by Ernst & Young Inc. ("**EY**"), in its capacity as Court-appointed Monitor and/or trustee-in-bankruptcy of the Applicants in respect of any proceedings under the *Bankruptcy and Insolvency Act* (Canada) (the "**Monitor**");

UPON READING the Fourth Report of the Monitor dated April 1, 2019;

AND UPON HEARING counsel to the Applicants, counsel for the Monitor, Representative Counsel of the Affected Users and such other individuals who appeared and were heard on the Motion;

IT IS HEREBY ORDERED AND DECLARED THAT:

1. If necessary, the service of the Notice of Motion, the Motion Record and supporting documents are hereby abridged and service is hereby deemed adequate notice so that the Motion is properly returnable today and further service thereof is hereby dispensed with.

Vopay International

2. Within ten (10) business days of this Order, Vopay International Inc. shall deliver \$116,262.17 to the Monitor.

Alto Bureau de Change

3. Within ten (10) business days of this Order, 9133-8079 Quebec Inc. (d/b/a Alto Bureau de Change) ("**Alto**") shall deliver any assets, undertakings or property of the Applicants (the "**Property**") in the possession of Alto to the Monitor.

1009926 B.C. Ltd

4. Within ten (10) business days of the Order, 1009926 B.C. Ltd (“**B.C. Ltd**”) shall deliver copies of all books, documents, and accounting records, and any other papers, records and information related to Property that B.C. Ltd holds or previously held, including account statements in respect of bank accounts that hold or held Property, deposit and withdraw transaction information related to the Property that B.C. Ltd holds or held, the identities of depositors of Property and recipients of Property that B.C. Ltd holds or held, directions received by B.C. Ltd from the Applicants in respect of distributions of Property and other information and documents reasonably required to ascertain the location of the Applicants’ Property.
5. Within ten (10) business days of the Order, B.C. Ltd shall deliver any Property in the possession of B.C. Ltd to the Monitor.

POSConnect

6. POSConnect shall provide access to the online Quadriga account with POSConnect (the “**POSConnect Account**”). Mr. George Kinsman of EY (“**Kinsman**”) is authorized and permitted to access the POSConnect Account on behalf of the Monitor to obtain any documents, and accounting records, and any records and information related to Property that POSConnect holds or previously held located within the POSConnect Account, and POSConnect shall have no liability or obligation to any party in respect of any actions taken or omissions made arising from Kinsman’s or the Monitor’s access to the POSConnect Account.

WB21

7. WB21 Pte. Ltd. and Black Banx Inc. (collectively, “**WB21**”) shall forthwith deliver all books, documents, and accounting records, and any other papers, records and information related to any accounts that hold or held Property, including account statements in respect of CAD account #1903319383 and USD account #1903319384, deposit and withdraw transaction information in respect of such accounts, the identities of depositors into such accounts and recipients of Property from such accounts, and other information and documents reasonably required to ascertain the location of the Applicants’ Property.
8. Within ten (10) business days of the Order, WB21 shall deliver any Property in the possession of WB21 to the Monitor.

General

9. Any dispute regarding the amount of Property held by Alto and WB21 shall be determined by this Court on a motion returnable on at least seven (7) days’ notice to the applicable parties in respect of the dispute.
10. All of the terms of this Order shall continue to apply in any proceedings in respect of the Applicants under the *Bankruptcy and Insolvency Act* (Canada) *mutatis mutandis*.
11. The aid and recognition of any court, tribunal, regulatory or administrative body having jurisdiction outside of Nova Scotia, including the United States or Singapore, is requested

to give effect to this Order and to assist the Applicants, the Monitor and their respective agents in carrying out the terms of this Order. All courts, tribunals, regulatory and administrative bodies are hereby respectfully requested to make such orders and to provide such assistance to the Applicants and the Monitor, as an officer of this Court, as may be necessary or desirable to give effect to this Order, or to assist the Applicants and the Monitor and their respective agents in carrying out the terms of this Order.

12. This Order and all of its provisions are effective as of 12:01 a.m. Atlantic Standard Time on the 8th day of April, 2019.

Issued at Halifax, Province of Nova Scotia, this 13th day of April, 2019.



AMANDA HAWBOLDT
Deputy Prothonotary

Appendix E

2019



Hfx No. 484742

IN THE SUPREME COURT OF NOVA SCOTIA

IN THE MATTER OF:

Application by Quadriga Fintech Solutions Corp., Whiteside Capital Corporation and 0984750 B.C. Ltd. d/b/a Quadriga CX and Quadriga Coin Exchange (collectively, the "**Applicants**"), for relief under the *Companies' Creditors Arrangement Act*

ORDER

(Re Third Party Payment Processors – POS Connect Inc., Costodian Inc., BillerFY Labs Inc., ePADregistry Inc., POSConnect Inc., Armourga Financial Group Corp. and Interbank Smart Ledger Consortium Corp.)

BEFORE THE HONOURABLE CHIEF JUSTICE MICHAEL J. WOOD

UPON MOTION, in the proceedings of Quadriga Fintech Solutions Corp., Whiteside Capital Corporation, and 0984750 B.C. Ltd. dba Quadriga CX and Quadriga Coin Exchange (collectively, the "**Applicants**"), under the *Companies' Creditors Arrangement Act* (the "**CCAA Proceedings**") by Ernst & Young Inc. ("**EY**"), in its capacity as Court-appointed Monitor and/or trustee-in-bankruptcy of the Applicants in respect of any proceedings under the *Bankruptcy and Insolvency Act* (Canada) (the "**Monitor**");

UPON READING the Fourth Report of the Monitor dated April 1, 2019;

AND UPON HEARING counsel to the Applicants, counsel for the Monitor, Representative Counsel of the Affected Users and such other individuals who appeared and were heard on the Motion;

IT IS HEREBY ORDERED AND DECLARED THAT:

1. If necessary, the service of the Notice of Motion, the Motion Record and supporting documents are hereby abridged and service is hereby deemed adequate notice so that the Motion is properly returnable today and further service thereof is hereby dispensed with.
2. Costodian Inc. ("**Costodian**"), BillerFY Labs Inc. ("**BillerFY**"), ePADregistry Inc. ("**ePAD**"), Armourga Financial Group Corp. ("**Armourga**") and Interbank Smart Ledger Consortium Corp. ("**Interbank**") shall forthwith deliver copies of all books, documents, and accounting records, and any other papers, records and information related to Property that Costodian, BillerFY, ePAD, Armourga or Interbank hold or previously held, including account statements in respect of bank accounts that hold or held Property, deposit and withdraw transaction information related to the Property that Costodian,

BillerFY, ePAD, Armourga or Interbank hold or held, the identities of depositors of Property and recipients of Property that Costodian, BillerFY, ePAD, Armourga or Interbank hold or held, directions received by Costodian, BillerFY, ePAD, Armourga and/or Interbank from the Applicants in respect of distribution of Property and other information and documents reasonably required to ascertain the location of the Applicants' Property.

3. Within ten (10) business days of the Order, POSConnect Inc. ("POSConnect"), Costodian, BillerFY, ePAD, Armourga and Interbank shall deliver any Property in the possession of Costodian, BillerFY, ePAD, Armourga or Interbank to the Monitor.

General

4. Any dispute regarding the amount of Property held by Costodian, BillerFY, ePAD, Armourga, Interbank and POSConnect shall be determined by this Court on a motion returnable on at least seven (7) days' notice to the applicable parties in respect of the dispute.
5. All of the terms of this Order shall continue to apply in any proceedings in respect of the Applicants under the *Bankruptcy and Insolvency Act* (Canada) *mutatis mutandis*.
6. The aid and recognition of any court, tribunal, regulatory or administrative body having jurisdiction outside of Nova Scotia, including the United States or Singapore, is requested to give effect to this Order and to assist the Applicants, the Monitor and their respective agents in carrying out the terms of this Order. All courts, tribunals, regulatory and administrative bodies are hereby respectfully requested to make such orders and to provide such assistance to the Applicants and the Monitor, as an officer of this Court, as may be necessary or desirable to give effect to this Order, or to assist the Applicants and the Monitor and their respective agents in carrying out the terms of this Order.
7. This Order and all of its provisions are effective as of 12:01 a.m. Atlantic Standard Time on the 18th day of April, 2019.

Issued at Halifax, Province of Nova Scotia, this 18 day of April, 2019.


AMANDA HAWBOLDT
Deputy Prothonotary

Appendix “B”



ONTARIO
SECURITIES
COMMISSION

QuadrigaCX:

A Review by Staff of the Ontario Securities Commission

April 14, 2020



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Readers should be aware that the findings and views in this Report are not findings of fact by an OSC hearing panel and have not been tested before the OSC tribunal or a court. This Report represents Staff's views of the evidence reviewed and, should further records and information become available, those views could be affected.

Executive Summary

The downfall of crypto asset trading platform QuadrigaCX (**Quadriga**) resulted from a fraud committed by Quadriga's co-founder and CEO Gerald Cotten (**Cotten**). Clients entrusted their assets to Quadriga, which provided false assurances that those assets would be safeguarded. In reality, Cotten spent, traded and used those assets at will. Operating without any proper system of oversight or internal controls, Cotten was able to misuse client assets for years, unchecked and undetected, ultimately bringing down the entire platform.

The collapse of Quadriga caused massive losses for investors from Canada and around the world. On January 14, 2019, Quadriga announced that Cotten had died in India the previous month. By February 5, the Quadriga platform had ceased operations and filed for creditor protection. Over 76,000 clients were owed a combined \$215 million¹ in assets. Approximately 40 per cent of these clients were Ontarians. Ernst & Young, the bankruptcy trustee, was able to recover or identify just \$46 million in assets to pay out to clients. The people who trusted Quadriga with their money and crypto assets collectively lost at least \$169 million.

Staff of the Ontario Securities Commission (**OSC**) undertook a review of Quadriga's business operations to determine how the platform was run, what caused its collapse, and where the money went. Over a period of approximately ten months, a multi-disciplinary team of Enforcement Branch Staff analyzed trading and blockchain data, interviewed key witnesses and collaborated with numerous regulatory bodies in Canada and abroad.

It has been widely speculated that the bulk of investor losses resulted from crypto assets becoming lost or inaccessible as a result of Cotten's death. In our assessment, this was not the case. The evidence demonstrates that most of the \$169 million asset shortfall resulted from Cotten's fraudulent conduct, which took several forms.

The bulk of the asset shortfall—approximately \$115 million—arose from Cotten's fraudulent trading on the Quadriga platform. Cotten opened Quadriga accounts under aliases and credited himself with fictitious currency and crypto asset balances which he traded with unsuspecting Quadriga clients. He sustained real losses when the price of crypto assets changed, thereby creating a shortfall in assets to satisfy client withdrawals. Cotten covered this shortfall with other clients' deposits. In effect, this meant that Quadriga operated like a Ponzi scheme.

Cotten lost an additional \$28 million while trading client assets on three external crypto asset trading platforms without authorization from, or disclosure to, clients. He also misappropriated millions in client assets to fund his lifestyle. In its final months, Quadriga

¹ All amounts expressed in Canadian dollars except as otherwise indicated.

had almost no assets left and was operating like a revolving door—new client deposits were immediately re-routed to fund other clients’ withdrawals.

What happened at Quadriga was an old-fashioned fraud wrapped in modern technology. There is nothing new about Ponzi schemes, unauthorized trading with client funds and misappropriation of assets. Crypto asset trading platforms, however, are novel and the regulatory framework for these platforms is evolving. Quadriga did not consider its business to involve securities trading and it did not register with any securities regulator. This lack of registration facilitated Cotten's ability to commit a large-scale fraud without detection. So did the absence of internal oversight over Cotten. From 2016 onwards, Cotten was in sole control of a company that had hundreds of thousands of clients and transacted over a billion dollars of fiat currency-denominated assets and over five million crypto asset units. He ran the business as he saw fit, with no proper system of internal oversight or controls or proper books and records.

Similarly, Quadriga clients could not have known what Cotten was doing. Under the Quadriga business model, clients entrusted their money and crypto assets to Quadriga. Quadriga provided no meaningful insight into how those assets were being stored, moved and spent. To the contrary, Quadriga provided false assurances about asset storage. Clients had no means of verifying these claims or obtaining meaningful information about the handling of their assets. This lack of transparency also facilitated Cotten's fraud.

Under normal circumstances, these findings would likely have led to an enforcement action against Cotten and/or Quadriga. However, this is not practical given that Cotten is deceased and Quadriga is bankrupt, with its assets subject to a court-supervised distribution process. Nevertheless, we believe it is in the public interest to share our findings with the public to help investors understand what happened to Quadriga and hopefully prevent this type of situation from recurring.

The misconduct we uncovered in relation to Quadriga is limited to Quadriga and should not be understood as applying to the crypto asset platform industry as a whole. Properly conducted, crypto asset trading is a legitimate and important component of our capital markets. We remain committed to working with this industry to foster innovation. Financial innovation has always been critical to the health of our economy and the competitiveness of our capital markets.

It is equally critical that investors have confidence to access new technologies and platforms that drive this innovation and competition. To that end, the investing public should be aware that using crypto asset trading platforms carries risks and that many crypto asset trading platforms are not registered and have taken the position that they are not required to register with securities regulators. Anyone considering entrusting assets to a crypto asset trading platform should take steps to learn about the platform’s operations and approach to risk management prior to using it. This may not be possible with the current level of disclosure offered by some platforms.

Platform operators should be aware that, depending on their business model, they may have to register with the OSC and they should take appropriate steps to comply with Ontario securities laws. For guidance, platform operators should consult CSA Staff Notice 21-327 *Guidance on the Application of Securities Legislation to Entities Facilitating the Trading of Crypto Assets* and joint CSA/IIROC Consultation Paper 21-402 *Proposed Framework for Crypto-Asset Trading Platforms*. Platforms should also consider *Issues, Risks*

and Regulatory Considerations Relating to Crypto Asset Trading Platforms, a report published by the International Organization of Securities Commissions. Platforms should review their operations to ensure that they have procedures in place to manage risks to clients and that they are accurately disclosing key information about their operations to clients.

1. Purpose of the Report

Given the magnitude of Quadriga's downfall, the harm done to Ontarians, and the novel issues surrounding crypto asset trading platforms, OSC Enforcement Staff announced in February 2019 that it would look into the matter.

OSC Enforcement Staff have the power to investigate and prosecute suspected violations of Ontario securities law. Enforcement investigations can lead to public hearings before the OSC tribunal and public decisions explaining the facts of the case. In this case, however, we concluded it would not be in the public interest to bring an enforcement proceeding before the OSC tribunal against Cotten or Quadriga. Cotten, the sole officer and directing mind of the corporation, is deceased; Quadriga has ceased operations and its assets are subject to a court-supervised bankruptcy proceeding. The accounting firm Ernst & Young was appointed as Trustee and Monitor in the bankruptcy and insolvency proceedings and has been engaged in identifying and recovering assets to be distributed to affected Quadriga clients. In contrast, our review focused on how the Quadriga platform operated, what happened to clients' assets, the causes of the \$169 million asset shortfall, and the implication of securities laws.

Protecting investors and fostering confidence in our capital markets are key elements of the OSC's mandate. In this case, our mandate is best fulfilled by sharing Enforcement Staff's findings publicly. Typically, Staff investigations become public through a proceeding and findings are made by an independent decision maker weighing evidence during that public hearing. This situation is unique. While public release of a report of this nature is rarely done, we believe that making this review of the facts widely available may help prevent this type of situation from recurring.

This report outlines events from Quadriga's inception to its eventual collapse. We focus on Quadriga's operations—particularly its handling of client assets—analyze Cotten's trading, and assess statements made to clients in Quadriga's communications, and by Cotten himself, about platform operations. We also discuss how, in our assessment, the Quadriga platform involved trading in securities.

We also outline regulatory considerations for crypto asset investors and crypto asset trading platforms.

2. How We Conducted Our Review

OSC Staff collected documentary, digital and witness evidence from both domestic and international sources, and spent months analyzing this data. We engaged external blockchain experts to assist us in analyzing the movement of assets to and from Quadriga.

As our powers to collect evidence are limited outside Ontario, we relied on our regulatory partners to help us collect evidence in other jurisdictions. We sought assistance from a dozen other regulatory bodies, which enabled us to uncover important information from outside Ontario to assist in our review.

During our review, we interviewed and obtained documentary evidence from witnesses across a number of Canadian and foreign jurisdictions. Interviews were conducted by phone, video conference or in person at the OSC's offices in Toronto. Certain key interviews were conducted in other jurisdictions.

We interviewed key individuals associated with Quadriga and Cotten, including former Quadriga contractors and professional advisors. We also received evidence from Cotten's spouse, Jennifer Robertson (**Robertson**) as well as several affected clients who reached out to the OSC to share their stories. We also attempted to contact Michael Patryn (**Patryn**), one of Quadriga's co-founders; however, Patryn did not respond to our attempts to contact him. The evidence indicated that Patryn ceased to be associated with Quadriga after 2016 and that the majority of client funds were deposited with Quadriga after Patryn's departure.

Based on the evidence we reviewed, Quadriga did not maintain proper accounting records from 2016 onward. There may have been company records accessible only to Cotten and we did not access or review encrypted devices owned by Cotten. By court order, Ernst & Young was authorized to hand these devices over to the RCMP. However, none of the witnesses, including key Quadriga personnel, reported being aware of Quadriga books or records beyond those which we reviewed. Similarly, based on the evidence we reviewed and witness testimony, Quadriga did not have any proper system of internal controls and supervision over any aspect of its operations.

Quadriga did not maintain proper financial records and relied on third-party payment processors to process deposits and withdrawals to and from the platform. We gathered and analyzed records from these and other entities to reconstruct Quadriga's affairs. We obtained a significant volume of records from third parties such as banks and payment processors to build a deep understanding of Quadriga's handling of fiat currencies (currencies backed by a national government like the Canadian dollar).

We compelled platform data and thousands of Quadriga-related emails from Ernst & Young pursuant to a summons. The platform data we analyzed relates to over 368,000 client accounts and over 6 million individual transactions, including deposits, withdrawals, and trades. This transaction data includes detailed information such as date and time, asset type, price and the client accounts involved. Our analysis, the results of which are discussed later in this report, included calculating a running asset balance for each account, determining the daily cumulative effect of Cotten's trading with fake assets, and reviewing the overall trading to understand how clients interacted with the platform and trends over time.

In order to determine how Cotten managed client assets entrusted to Quadriga, we analyzed blockchain transaction data and obtained records from several other crypto asset trading platforms. Tracing assets moving through these platforms carries inherent challenges. For instance, despite the transparency virtues associated with blockchain transactions being posted to a public ledger, the wallet addresses of senders and recipients in these transactions are generally anonymous. (In contrast, bank accounts are connected to identifiable individuals and corporations, making it is easier to see who has sent and received funds.) In addition, we sought records from three other crypto asset trading platforms but experienced jurisdictional hurdles that resulted in us not obtaining this evidence. Despite these challenges, we confirmed that Cotten moved Quadriga client assets to other crypto asset trading platforms where he then traded with these assets.

Through our review, we gained insight into Quadriga's operations, analyzed Cotten's covert trading with clients on the platform, and calculated that this trading caused the bulk of the \$169 million asset shortfall.

3. Findings

Part 1 – Quadriga’s Launch and Platform Operations

Establishment of Quadriga

"I chose Quadriga over all of the other bigger exchanges is [sic] because there is no choice for Canadian dollars.... Quadriga is the biggest in Canada. I mean, what can possibly go wrong in Canada?"

A Quadriga investor interviewed by Enforcement Staff

Quadriga launched in December 2013. According to Cotten, its 25-year-old founder and CEO, it met a need in Canada’s burgeoning crypto space: Canadians wanted to buy Bitcoin, but there was no easy way to do it. In late 2013, just before Quadriga launched, Bitcoin was experiencing its first bull run, reaching values well over \$1,000 from under \$100 at the start of the year. Quadriga presented itself as a platform for Canadians to access Bitcoin and other crypto assets. Initially, Quadriga clients could fund their accounts solely with Canadian dollars or Bitcoin, then trade their assets for the assets of other Quadriga clients. The platform allowed customers to make deposits and withdrawals in Canadian dollars, making it easier for Canadian customers to invest in Bitcoin.ⁱ

Quadriga derived its revenue from fees charged to buyers and sellers on the trading platform. Fees ranged from 0.2 to 0.5 per cent of the value of each trade and were deducted from clients’ trade proceeds. In most cases, clients were also charged fees for funding or withdrawing from their accounts.

The first year of Quadriga’s operations saw steady growth of its client base, despite a drop in Bitcoin prices to well below those of late 2013. By the end of 2014, assets in Quadriga client accounts totaled approximately 3,600 Bitcoin, CAD 2 million² and USD 400,000.

Quadriga’s Principals

Cotten, then a recent business school graduate, incorporated Quadriga in British Columbia in 2013 and named himself as its sole director. Quadriga’s corporate documentation described Cotten as “an early entrant into this field” who had been “involved in the so-called alternative payment space for 11 years.” In late 2014, Cotten moved from British Columbia back to Ontario, and in mid-2016, he and Robertson, his future spouse, moved to Nova Scotia. Cotten ran the business from wherever he happened to be, whether he was at home or travelling.

Cotten co-founded Quadriga with Patryn, who was involved with Quadriga from its inception in 2013 until 2016. Patryn had been convicted in 2005 in the United States of conspiracy to transfer identification documents in relation to an online money-laundering service under his prior name, Omar Dhanani.

² All numbers represented in millions throughout this report are rounded to the nearest million.

Following Patryn's departure from Quadriga in 2016, Cotten ran Quadriga by himself and retained complete control over the company's fiat and crypto assets. He presided over a team of contractors, all of whom worked remotely on tasks that included maintaining the technical aspects of the platform, verifying account IDs and responding to customer inquiries. Responsibilities were siloed—Cotten was the only person controlling Quadriga's operations. As one Quadriga contractor put it: *"Gerry was the gatekeeper. Everything had to go through him."*

Quadriga's Clients

Over 95 per cent of Quadriga clients with an identified residency were Canadian. At first, Quadriga's active client base grew relatively slowly but between 2016 and 2017 it increased by almost 2,000 per cent. The vast majority of clients deposited either Canadian dollars or Bitcoin to trade on the platform, and the majority of trades were between these two assets.

Quadriga clients had varying levels of crypto asset experience and knowledge. The most active clients transacted hundreds of millions of dollars in assets and completed thousands of trades. Some clients were sophisticated crypto asset traders employing complex arbitrage trading strategies using automated bots that could analyze market activity and trade faster than a human. Others had simply heard about profits their friends had made from rising crypto asset prices and did not want to miss out on the opportunity. Some Quadriga clients were so unfamiliar with the crypto asset market that they depended on Quadriga to answer basic questions about crypto assets and crypto asset trading. Some clients transferred crypto assets to the platform as a means of exchanging different fiat currencies.

Through speaking with Quadriga clients and analyzing their platform activity, we observed that some clients approached Quadriga from a perspective of trust and believed there were safeguards in place similar to those applicable to regulated financial institutions. For example, a Quadriga client who was unable to withdraw approximately \$40,000 from the platform in December 2018 explained that while he was using Quadriga, he thought it was monitored, protected and guaranteed by the government. He did not consider that if something went wrong with the platform, he could lose all his money. Some clients felt that Quadriga was trustworthy in part because it was a Canadian company. One individual whose attempts to withdraw approximately \$200,000 from his account on the platform failed said, "It never came across my mind that something like this would ever happen in Canada" while another explained, "It is a Canadian company, and I am Canadian, so I [felt] comfortable". Clients may also have believed that the use of blockchain technology makes platforms more transparent and therefore safer.

Client behaviour on the platform also spoke to their trust in Quadriga. While some clients withdrew their assets from the platform shortly after making a trade, approximately 68 per cent of active clients kept assets on the platform for over 30 days, and 53 per cent kept assets on the platform for at least 90 days. This suggests that many clients believed their platform assets were safe and available for them to withdraw when they were ready.

Platform Operations

Becoming a Quadriga client involved setting up an account on the Quadriga website and using one of several options to fund the account with either fiat or crypto assets. A client who wanted to fund or withdraw from an account using fiat currency would be required to submit a copy of a piece of identification to Quadriga for verification. Once the account was

set up, the client could begin trading fiat currency and crypto assets with other clients through the Quadriga website. The platform interface did not provide clients with the names of the counterparties to their trades.

Quadriga started as a platform for trading fiat and Bitcoin, the dominant crypto asset at the time. By the end, crypto assets such as Ether (Ethereum), Ethereum Classic, Litecoin and several Bitcoin forks (Bitcoin Cash, Gold and SV) were added, but Bitcoin remained the platform's dominant asset. Over the life of the platform, more than 82 per cent of the crypto/fiat volumes traded on Quadriga's platform were in Bitcoin and Ether. All crypto-to-crypto trading pairs involved Bitcoin because the platform did not offer crypto-to-crypto trades not involving Bitcoin.

As with many other crypto asset trading platforms, trades within the Quadriga platform were not recorded on the blockchain. A crypto asset funding from, or a withdrawal to, a client's own wallet would be recorded on the blockchain, but client-to-client trades on the Quadriga platform were only recorded in Quadriga's internal records—which only certain Quadriga personnel could fully view.

Custody of Assets

The assets reflected in clients' Quadriga account balances were held by Quadriga, not its clients. When a client funded an account by transferring assets to Quadriga, the client no longer had control over them. The client was left with only a claim against Quadriga for the value of the transferred assets. The client could then trade this claim with the claims of other clients. In that sense, Quadriga clients were not actually buying and selling crypto assets from one another—they were buying and selling entitlements to receive crypto assets or fiat currency from Quadriga.

For instance, if Client A purchased Bitcoin from Client B in exchange for Canadian dollars, Bitcoin was not delivered to Client A's wallet and the Canadian dollars were not transferred to Client B. Instead, their Quadriga accounts would be adjusted to reflect their entitlements to claim these assets from Quadriga. In order to get custody of these assets, a client would have to submit a withdrawal request, and the claim would be settled if and when Quadriga delivered the assets to the client. Clients depended on Quadriga to fulfill withdrawal requests and deliver their assets. If Quadriga could not honour a withdrawal request, the client was out of luck: the client had no way of withdrawing assets independently of Quadriga.

In our assessment, this custody model—whereby Quadriga retained custody, control and possession of its clients' crypto assets and only delivered assets to clients following a withdrawal request—meant that clients' entitlements to the crypto assets held by Quadriga constituted securities or derivatives. In making this assessment we have relied on CSA Staff Notice 21-327 *Guidance on the Application of Securities Legislation to Entities Facilitating the Trading of Crypto Assets* (the **Staff Notice**), which was published by the Canadian Securities Administrators (**CSA**) in January 2020. Quadriga did not consider its business to involve securities and it did not register with any securities regulator.

Because client assets were in Quadriga's hands, clients depended on Quadriga to safeguard their assets. In this respect Quadriga billed itself as reliable, claiming on its website that "all funds in the [Quadriga] system are highly liquid, and can be withdrawn at anytime." In

reality, Quadriga's custody model and practices were flawed, and placed client assets at significant risk of loss, theft and misuse.

Custody of Crypto Assets

Quadriga did not store a client's crypto assets specifically for that client. If a client funded an account with a crypto asset, it became part of a general asset pool. In other words, even if a client's account showed that the client held one Bitcoin, it did not mean that Quadriga was storing that Bitcoin for that client alone, or that Quadriga even held a Bitcoin to back that account entry.

Quadriga's website promised clients that security was its "number one priority" and assured them that it employed "Cold Storage for the majority of the Bitcoins within our system." Similar statements were made directly to clients on Reddit, where clients were told that Quadriga used "the tried and tested method of storing 99% coins in cold storage". In 2018, Cotten claimed in an email that "clients' cryptocurrency is held in secure and offline multi-signature wallets."ⁱⁱ Based on our review, these claims were untrue and misleading. The majority of crypto assets were not held in cold storage. Rather, Quadriga was primarily using a mix of hot wallets and other crypto asset trading platforms to store client assets. Many of these assets were not being stored at all because Cotten was steadily depleting client assets, as discussed in more detail later in this report.

From Quadriga's inception, Cotten had a significant role in handling crypto assets entrusted to Quadriga. In 2016 he became the only person in control of these assets. The evidence shows that Cotten regularly moved clients' crypto assets off the Quadriga platform and into accounts he had opened on other crypto asset trading platforms. At one point, Cotten told a Quadriga contractor that a certain wallet address was a Quadriga cold storage address, when it was really a deposit address for Cotten's account at another crypto asset trading platform. We found no indication that Quadriga disclosed this practice of moving assets to external platforms to its clients, so clients were unknowingly subjected to any risks associated with those other platforms. This meant that clients were relying not only on Quadriga's security and storage practices, but also on the security and storage practices of every other platform on which Cotten stored their assets.

Cotten also traded with client assets on those external platforms, which exposed Quadriga to an additional—and undisclosed—trading risk. We were able to obtain records of Cotten's trading from three of these external platforms, and we determined that he lost \$28 million in client assets trading on these platforms. The evidence indicates that he likely traded on other external platforms as well, but we were not able to obtain sufficient information to quantify Cotten's trading activity on these other platforms. In our assessment, Cotten's undisclosed and unauthorized trading with client funds was fraudulent.

Quadriga and Cotten left clients in the dark about Quadriga's custody and storage practices and clients had no ability to confirm independently whether Quadriga had the assets to support client claims, or to monitor how Quadriga was handling clients' crypto assets. As noted previously, trades within the Quadriga platform were not recorded on the blockchain and the platform itself provided clients with limited information. While transfers of crypto assets from Quadriga to other platforms were recorded on the blockchain, these transactions were recorded under wallet addresses rather than the names of individuals or corporations. These anonymized transactions would not have provided clients with meaningful information about the movement of their assets.

Custody of Fiat Assets

Managing fiat assets was a challenge for Quadriga, especially as the company grew. In the early days Quadriga held client fiat assets in bank accounts, but over time banks began refusing to hold Quadriga-related funds. Cotten became frustrated with the Canadian banking industry. In September 2017, he complained on Reddit that Canadian banks were “incredibly anti-bitcoin” and he expressed an interest in “other options that involve getting the banking system out of it altogether”. By 2017, Quadriga relied almost exclusively on third party payment processors to hold its clients’ fiat assets.

Quadriga also depended on payment processors to transfer fiat currency to and from clients. A patchwork of individuals and companies, some Canadian, some overseas, processed different types of transactions including wire transfers and credit card payments. A total of approximately \$800 million flowed in and out of the three largest payment processors alone, earning them millions of dollars in transaction fees.

Quadriga did millions of dollars of business in cash. One of Quadriga’s major clients was a Canadian Bitcoin ATM company. The president of the company would personally deliver suitcases of cash to Cotten to fund his Quadriga account, sometimes using private jets to meet quickly. Ultimately, Quadriga received over \$20 million in cash from this ATM company, which Cotten knew, with this origin, would not be accepted by any banks in Canada. He used cash to fund client withdrawal requests by mailing envelopes of cash across the country. The platform data indicates that \$14 million of client withdrawals were fulfilled by cash delivery.

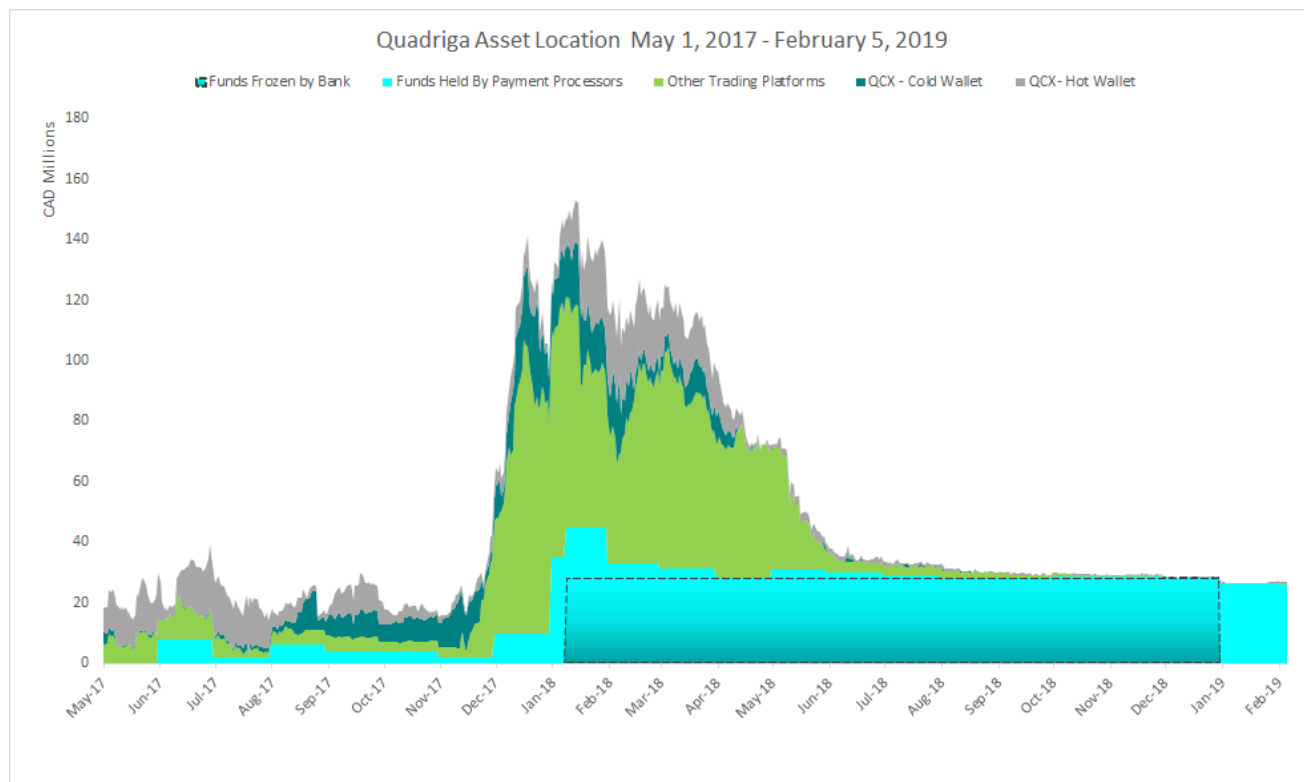
This is a photograph that we obtained from a Quadriga contractor, which shows piles of Canadian currency received from the ATM company on the kitchen counter of Cotten's house in Kelowna, BC.



Clients were not provided with meaningful information about Quadriga’s practices regarding the custody and handling of fiat assets. They learned some information about how their own cash amounts were transferred to and from Quadriga, as they followed the steps to fund their own accounts and knew the methods by which their own withdrawals were paid. However, beyond this, they did not have visibility into how the company was handling fiat assets.

The following chart identifies where Quadriga and Cotten held fiat and crypto assets between May 2017 and February 2019.³

Chart 1 – Location of known assets controlled by Quadriga and Cotten



Non-Segregation of Assets

Our review confirmed that, from at least 2015, Quadriga did not maintain boundaries between its own assets and those of its clients. Instead of segregating client assets from its own operating funds, Quadriga pooled all funds together and used client assets for its own purposes. For instance, Quadriga and Cotten used client funds to pay operating expenses including contractor fees, IT infrastructure fees and payment processor fees. Client assets were also used by Cotten to cover the trading losses he generated on the platform and to engage in speculative trading on other platforms.

Similarly, there was a lack of segregation between Quadriga/client assets and Cotten's assets. As discussed in more detail later in this report, Cotten used funds derived from Quadriga to fund his lifestyle without any apparent justification.

Clients were not told that their assets were paying for platform operations or being channelled to Cotten to spend, trade and use as he wished.

³ While the evidence shows that many cash deposits and withdrawals were handled by Quadriga directly rather than being routed through payment processors, we were unable to determine with precision when such cash deposits were received and withdrawals paid out. Therefore, these cash amounts are excluded from *Chart 1 – Location of assets controlled by Quadriga and Cotten*.

Books and Records

In our review, we found that Quadriga did not maintain adequate books and records regarding its operations. The trading platform itself tracked some information—including funding of client accounts, trades, withdrawals and balances. In this sense, the platform tracked Quadriga’s liabilities to its clients. However, the evidence we reviewed indicated that, from 2016 onwards, Quadriga had no accounting ledger or other accounting records relating to its financial situation or the assets that it controlled. We found no evidence that Quadriga adequately tracked the company’s actual cash balances or its crypto asset stores.

Quadriga’s failure to keep proper books and records obscured its deteriorating financial situation and facilitated Cotten’s ability to covertly spend and trade client assets—as discussed below.

Cotten Trades using Alias Accounts with Fake Money and Crypto Assets

From Quadriga’s inception in December 2013, Cotten traded with Quadriga clients using numerous alias accounts, which he credited with fake assets. Over 97 per cent of this trading was through an account under the name “Chris Markay”. Other Cotten alias accounts included “Sceptre Gerry”, “Aretwo Deetwo” and “Seethree Peaohhh”. Cotten credited these accounts with fake crypto assets and fake fiat currency through manual adjustments to Quadriga’s internal ledger. These adjustments were variously described in the platform records as “administrative adjustment”, “in-person payment” and “bank wire”. Regardless of their labels, these credits were not backed by actual fiat currency or crypto assets belonging to Cotten or Quadriga. For that reason, we refer to these credits as “fake” assets.

In other words, with a few keystrokes, Cotten could make any amount of fake money or crypto assets appear in his alias accounts, and he regularly did so. For example, in 2017 and early 2018, he credited the Chris Markay account with single deposits of \$100 million and \$50 million – fake funds that he then used to trade with clients on the Quadriga platform.

In essence, Cotten was trading with an unlimited credit facility: he could trade as much as he wanted, without any of his own or Quadriga’s assets backing his trades. Quadriga clients were his unknowing creditors. They bore the risks, and eventually the impact, of Cotten’s trading losses. Cotten accumulated significant trading losses—over \$115 million over the life of the platform—yet we saw no indication that Cotten brought any funds that were not client funds onto the platform to cover his losses. Instead, he used other clients’ platform assets to pay out clients with whom he had traded. This created a shortfall between the total amount owed to clients and the pool of underlying assets held by Quadriga. Cotten was not authorized to use client assets to cover his own trading losses nor was this practice disclosed to clients. In effect, he was operating Quadriga like a Ponzi scheme, in that a portion of client withdrawals were being funded with other clients’ deposits. In our assessment, Cotten perpetrated a fraud on his clients through this conduct.

How did Cotten’s fake asset trading cause a \$115 million loss to Quadriga clients?

Broadly speaking, Cotten engaged in two types of transactions. In one type, Cotten used fake Canadian dollars to purchase real crypto assets. In the second type, Cotten sold fake crypto assets in exchange for real Canadian dollars. (See Appendices for further detail.)

When Cotten used fake Canadian dollars to purchase real crypto assets such as Bitcoin, if the price of the crypto asset went up, the Chris Markay account would profit, but if it went down, the account would suffer a loss. (In substance, this was akin to taking a margined long position on the crypto asset.) This is because the client who sold Cotten real Bitcoin in exchange for fake dollars was entitled to withdraw real Canadian dollars, even though none were involved in the transaction. If Bitcoin prices rose, Cotten could sell that Bitcoin for more than his purchase price, leaving him with enough real Canadian dollars to cover the client's withdrawal, plus a profit. On the other hand, if Bitcoin prices fell, Cotten would sustain a loss and he would not be able to cover the client's withdrawal just by selling the Bitcoin he had purchased from the client. He would then take additional assets from Quadriga's asset pool (i.e. client assets) to cover the client's withdrawal. The platform would be short by whatever amount he took from Quadriga's asset pool over and above the amount he could get from selling the Bitcoin. Over time, as discussed later in this report, he did this over and over until Quadriga's asset pool was almost fully drained.

In the second type of transaction, Cotten sold fake crypto assets in exchange for real Canadian dollars. This type of transaction carried the opposite risk: if the price of the crypto asset went down, the Chris Markay account would profit, but if it went up, the account would suffer a loss. (In substance, this was akin to taking a naked short position on the crypto asset.) For example, when Cotten traded a fake Bitcoin for real Canadian dollars, the client who bought the Bitcoin from him was entitled to withdraw a real Bitcoin, even though none was involved in the transaction. If Bitcoin prices fell, Cotten could use the Canadian dollars to buy a Bitcoin to satisfy that client's withdrawal, and still have some funds left over. On the other hand, if Bitcoin prices rose, Cotten would sustain a loss. He would not be able to cover the client's withdrawal just by using the same funds to buy a Bitcoin for the client to withdraw. He would then take additional funds from Quadriga's asset pool (i.e. client assets) to cover the client's withdrawal. The platform would be short by whatever amount he took from Quadriga's asset pool over and above amount of money involved in the original transaction.

Whether Cotten was seeking to profit, generate volume, bolster liquidity on the platform, or had some other purpose, his trading had a catastrophic effect on Quadriga's finances, and ultimately brought down the entire platform, as discussed in more detail later in this report.

Impact of Cotten's Trading on Quadriga's Trading Volume

Quadriga touted its high trading volume on its website, stating: "When it comes to Volume, QuadrigaCX is the fastest growing Bitcoin Exchange in Canada ... Our rapidly increasing volume makes it easy to buy or sell Bitcoins at the best rate." Its terms of service promised that Quadriga would "strive to ensure that [its] marketplace [was] both fair and free". Cotten himself boasted that Quadriga was "a true market, with real orders and trades, not an artificial market designed to look appealing". He contrasted this with another exchange, which he claimed "fake their volume in a very blatant and obvious way". In 2018, Cotten claimed that neither Quadriga nor any Quadriga affiliate was a counterparty to any trade on the platform.

Our review revealed that these claims were false and misleading. Cotten's trading volume in his alias accounts was significant. Through the Chris Markay account alone, Cotten completed over 250,000 trades between 2015 and 2018. While Quadriga boasted of its dominance in the Canadian crypto trading space, in reality Cotten was party to at least 87 per cent of all trades in Bitcoin settled in Canadian dollars on the platform in its first full

year (calculated by value), and 35 per cent over the platform's lifespan. Cotten sometimes also traded with himself through his various alias accounts.

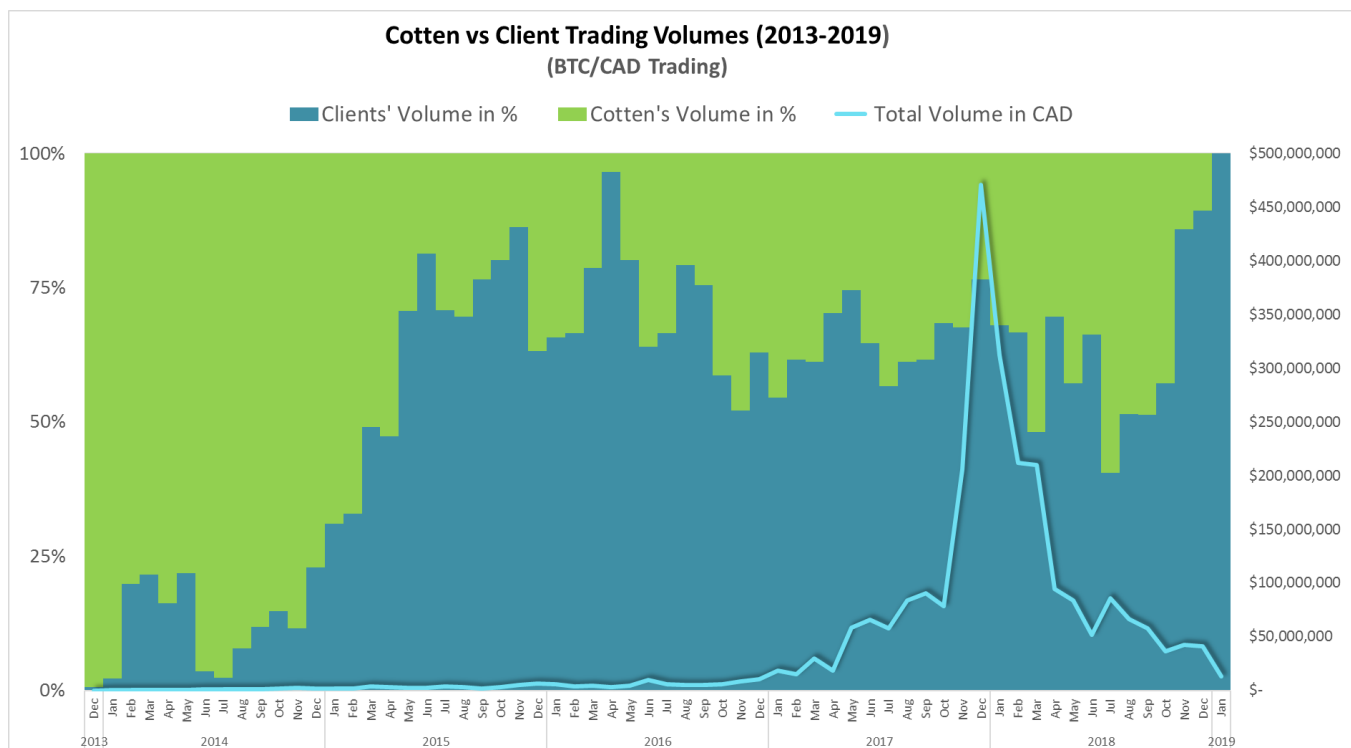
As crypto asset trading became more popular, client activity increased on the platform. Trading volume in Cotten's alias accounts also increased. For example, in 2016, the total trading volume in Bitcoin settled in Canadian dollars on the Quadriga platform was about \$72 million, \$24 million of which was attributed to Cotten's accounts. In 2017, trading volume in Bitcoin settled in Canadian dollars was about 16 times higher than the prior year, at around \$1.2 billion, approximately 30 per cent of which came from Cotten's accounts. In 2018, Cotten's trading accounted for almost 40 per cent of total trading volume.

Quadriga clients were not informed that Cotten was trading on the platform in general, nor were they informed when Cotten was the counterparty to their trades.

Quadriga's reported trading volume was an important indicator of its safety for some clients. For instance, one client stated that the most important factor in his decision to use one trading platform over another was volume: "mostly I will look into first...the trading volume. ... The more volume it has, usually it will be safer because it means that there are lots of people trading in it."

The following chart compares the overall proportion of trading (left axis) that Cotten was involved in, to the volume of client-to-client trades during the same month, from 2013 to 2019. For instance, in December 2013 Cotten was involved in nearly all trades on the platform. Total volume on the platform is shown on the line graph and the right axis for the same period.

Chart 2 – Total trading volume and the share of Cotten's trades



Part 2 - Growth of Quadriga (2015-2017)

The serious risks posed by Quadriga's business practices were not disclosed to clients. They joined the platform in large numbers, especially in 2017 as crypto asset prices climbed sharply. As Quadriga's popularity grew, Cotten consolidated his control over the company and moved assets off the platform to fund his lifestyle.

Quadriga Expands as Bitcoin Prices Rise

Quadriga's rise to become the largest crypto asset trading platform in Canada was fueled by rising crypto asset prices. Throughout 2015 and 2016, Bitcoin prices gradually increased and Quadriga experienced steady growth in its active client base and trading volume.

Quadriga Abandons a Public Listing Effort and Cotten becomes Quadriga's Sole Directing Mind

In 2015, Cotten and Patryn took steps to take Quadriga public and list its shares on a stock exchange. At this time, the company operated out of Vancouver under the direction of Cotten and, to a lesser extent, Patryn. In the end, the listing did not happen. Cotten found the volume of work involved to be cumbersome and abandoned the listing process in early 2016. Following the abandoned IPO, Patryn left the company, along with the CFO, legal counsel and accountants.

From this point onwards, Cotten was Quadriga's sole director and officer. He was indisputably Quadriga's guiding mind, controlling and overseeing Quadriga's operations. Cotten went so far as to tell new Quadriga contractors that Patryn was not a real person at all, and that Patryn's existence and the stories about him online had been invented by a competitor of Quadriga to throw the platform into disrepute.

Cotten's Chris Markay Account Trading Ramps up Risk Exposure

Cotten as Chris Markay Buys Bitcoin (December 2015 to November 2016)

In Part 1, we discussed Cotten's fake asset trading in the Chris Markay account. Between December 2015 and February 2016, Cotten was mainly using the account to purchase real Bitcoin from platform clients with fake Canadian dollars. By the end of February 2016, Cotten had credited himself with around \$1 million fake dollars and used them to buy approximately 1,700 real Bitcoin from clients. As explained previously, this exposed the Chris Markay account (and ultimately Quadriga clients) to risk of loss if the price of Bitcoin went down.

The price of Bitcoin remained relatively stable between December 2015 and February 2016, averaging between \$500 and \$600. Consequently, the Chris Markay account did not generate any significant unrealized profit or loss on these positions during this time. However, by the end of February 2016 these long positions remained "open", meaning that Cotten had not sold the 1,700 Bitcoin he had purchased. Selling the Bitcoin for Canadian dollars would have closed his long positions from the original trades with the fake assets. This open position of 1,700 Bitcoin was exposed to the risk of a drop in the value of Bitcoin.ⁱⁱⁱ

Pivot to Ether (March 2016 onwards)

In March 2016, Quadriga started accepting a new cryptocurrency, Ether. As he had done with Bitcoin, Cotten began to purchase real Ether from clients using fake Canadian dollars through the Chris Markay account. By the end of November 2016, Cotten held an open position of about 370,000 Ether. (In other words, he had used fake funds to purchase 370,000 Ether.) This amounted to a bet that Ether prices would rise—which was consistent with the view Cotten expressed at the time that Ether was “the future.”

Risk of Rising Bitcoin Prices (June to November 2016)

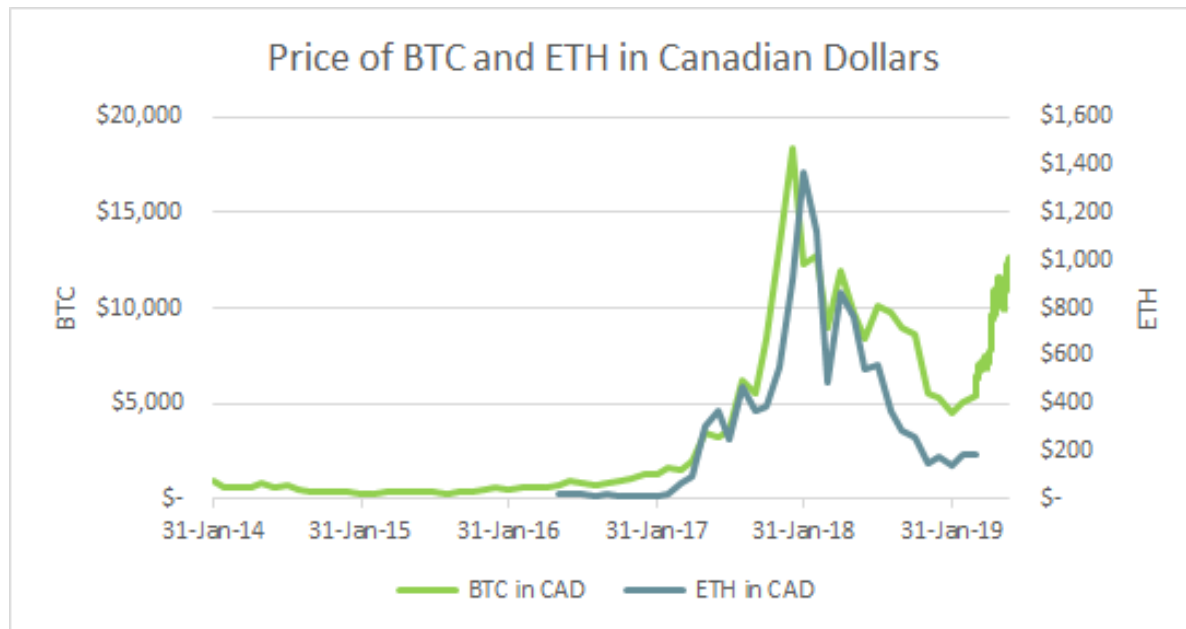
Between March and May 2016, Cotten closed his open Bitcoin position by selling his 1,700 real Bitcoin to other clients in exchange for fiat currency and Ether. From June 2016 onwards, Cotten began opening new Bitcoin positions, but this time in reverse: selling fake Bitcoin to platform clients in exchange for real Canadian dollars. While previously Cotten (and ultimately the platform clients) would lose if Bitcoin prices went down, now he would lose if Bitcoin prices went up. By the end of November 2016 Cotten had sold 3,800 fake Bitcoin, thereby establishing what was in effect a large naked short position in Bitcoin—and a potentially catastrophic risk to clients if Bitcoin prices kept climbing.

Crypto Boom of 2017

As 2017 progressed, the crypto asset market as a whole saw surging prices and trading volume. A flood of new client requests hit the platform and account verification requests piled up as the small team of Quadriga contractors struggled to keep up with demand. Cotten hired additional contractors to deal with the ever-growing backlog of new account requests.

The following chart identifies the price movements of Bitcoin (on the left axis) compared to the price movements of Ether (on the right axis) between 2014 and early 2019 represented by month end prices.

Chart 3 – Bitcoin and Ether prices in Canadian dollars (month end figures)



Throughout 2017, Cotten's trading on the Quadriga platform was dominated by: (i) purchases of Ether with fake Canadian dollars and fake Bitcoin that Cotten had credited to his Chris Markay account; and (ii) sales of fake Bitcoin that Cotten had credited to his Chris Markay account in exchange for real Canadian dollars.

By the end of December 2017, Bitcoin and Ether were valued at \$18,000 and \$900 respectively (compared to \$1,300 and \$11 in December 2016). As of December 2017:

- Cotten had purchased 825,000 Ether with fake assets, including \$85 million fake Canadian dollars⁴; and
- 20,000 of the fake Bitcoin Cotten had sold in exchange for real assets remained owing to clients.

Technical Glitch Results in Ether Loss (2017)

Quadriga experienced a setback in June 2017 when a coding error cut off access to approximately \$10 million in Ether (based on current Ether values) held in a Cotten-controlled wallet. It remains inaccessible today.

⁴ Cotten did not own 825,000 Ether at this time because he had been steadily moving large amounts of Ether off the Quadriga platform and onto external platforms. By this time, he had converted most of this Ether into Bitcoin, American dollars and Canadian dollars to fund withdrawals.

Cotten claimed to be unconcerned about the loss, telling a Quadriga contractor: “A few months ago, monthly revenue was \$200k in one month... last month we did a million. Current trajectory, we see \$5 [million] soon and the trapped ETH contract is a small side project.” Yet it was around this same time that Cotten credited the Chris Markay trading account with the largest single fake amount ever—a fake \$100 million.

Cotten Struggles to Keep up with Withdrawals (2017)

As described previously, Cotten purchased significant Ether positions with fake Canadian dollars through the Chris Markay account. As a result, Cotten had to find real Canadian dollars to satisfy Canadian dollar withdrawal requests. Cotten addressed this Canadian dollar shortage in two main ways. First, he moved crypto assets off the platform, (i.e. out of Quadriga-controlled wallets) and into accounts on other platforms under his own name, then traded the assets for cash or other types of crypto assets, often at a loss. He thereby drained the Quadriga platform of assets and worsened the asset shortage. In addition, as crypto asset prices rose during the second half of 2017, Quadriga received hundreds of millions in Canadian dollar deposits from new clients. Cotten used these deposits to fund Canadian dollar withdrawals. While Cotten kept the platform afloat with these measures, it was a short-term fix. He was stripping the platform of the assets that were backing clients’ account balances and digging Quadriga into an ever-growing financial hole.

Cotten Diverts Funds for Personal Use

Cotten made things worse by syphoning assets off the platform to finance his lifestyle. Between May 2016 and January 2018, he transferred approximately \$24 million of client funds to himself and Robertson. This was despite the fact that Cotten’s salary was set at \$65,000 per year according to his January 2015 employment agreement. Cotten bought a Tesla, a Lexus, a luxury yacht, a plane, a share in a private jet and multiple properties. Cotten and Robertson travelled frequently, and by mid-2018 Cotten boasted to another Quadriga contractor that “in total, I’m up to 56 countries... 37 with Jen”. This lavish lifestyle was funded with Quadriga client assets that, in our assessment, Cotten fraudulently misappropriated.

In the months prior to his death, Cotten transferred approximately \$10 million in client funds that he had previously appropriated back to Quadriga, which was then distributed to clients.

Part 3 - Downfall of Quadriga (2018)

As crypto asset prices fell, many Quadriga clients wanted to cash out. Cotten struggled to keep up with increasing withdrawal requests, and operated Quadriga like a revolving door.

The Crypto Market Bottoms out and Cotten faces a Cash Crunch

As 2017 was a year of highs for crypto asset prices, 2018 was a year of lows. Bitcoin prices peaked around mid-December 2017, then began to plummet. A few weeks later Ether prices followed suit. The crypto price drop gutted the value of Cotten’s Ether holdings—Ether he had purchased with fake dollars and fake Bitcoin. Although Cotten’s short Bitcoin positions

were profiting from falling Bitcoin prices, his Ether positions were much larger; overall, Cotten's holdings were suffering heavy losses. Demand for crypto was slowing and Quadriga clients were cashing out. Through his Chris Markay account, Cotten stepped in, using fake Canadian dollars, to act as counterparty to clients looking to sell their crypto assets for Canadian dollars. However, he had to find real Canadian dollars to pay for the clients' subsequent withdrawals. This proved difficult because, for months, Cotten had been misappropriating client assets both to fund withdrawals and to pay personal expenses. As a result, Cotten was running dangerously short of Canadian dollars, American dollars and crypto assets.

Payment Processor Troubles

Around the same time, in January 2018, the Canadian Imperial Bank of Commerce (**CIBC**) froze accounts connected to Billerfy, one of Quadriga's main payment processors. This rendered \$26 million in Quadriga clients' funds inaccessible. Litigation related to the frozen funds continued throughout 2018 and the frozen funds remained unavailable to Quadriga during that time. These funds were eventually released to the payment processor and later transferred to Ernst & Young after Cotten's death.

Quadriga may also have lost access to funds held with an offshore payment processor. Records in respect of this payment processor showed an account balance of \$12 million as of April 2018 (composed of a Canadian dollar account with a balance of CAD 9 million and an American dollar account with a balance of USD 2.5 million). Quadriga contractors recall that at some point this payment processor stopped communicating with Quadriga. After Cotten's death, the payment processor reported to Ernst & Young that it held a near-zero balance for Quadriga. Ernst & Young reported on June 19, 2019 that the payment processor did not provide any documentation to support this assertion. We did not see records establishing what became of the \$12 million or that the money had been returned to Quadriga. We sought information from this company through multiple channels, but it provided us with no documents.

Around the same time as the CIBC account freeze, Quadriga began struggling to fulfill withdrawal requests. Cotten publicly blamed the withdrawal problems on the asset freeze, but this was a small part of a much larger asset shortfall caused mainly by Cotten's fraudulent trading.

Quadriga Plunges into Financial Crisis

By early 2018, clients were flooding Reddit with complaints about delays in receiving funds. The media began publishing stories about clients whose funds were missing or whose transactions took weeks or months to process. Cotten dismissed concerns, generally blaming the CIBC account freeze, or the clients themselves, rather than Quadriga's own processes or problems. At the time, a Quadriga representative told the media that none of its customers had ever lost money due to a funding or withdrawal issue.

In reality, Quadriga's financial situation was dire and assets held on the platform were dwindling. By March 2018, Cotten was operating Quadriga like a revolving door. Canadian dollars, American dollars and crypto assets deposited by clients to fund their accounts were immediately re-routed to fund withdrawals by other clients. However, with the flood of withdrawal requests, the outflow of real assets—especially Canadian dollars—from the platform greatly outweighed the inflow of real assets. In an effort to keep up with the

demand for withdrawals, Cotten was also selling off the platform’s remaining crypto assets, cashing them in at the prevailing low market prices. He also transferred back to Quadriga some of the \$24 million he had previously transferred to himself and Robertson for personal use. Between August and December 2018, Cotten transferred approximately \$10 million from his personal bank account to a payment processor, which distributed it to clients.

The following chart shows the discrepancy between Quadriga’s assets and liabilities, with crypto assets valued at their Canadian dollar equivalent, from May 2017 to early 2019. It should be noted that while the difference between the assets and liabilities amounts drops during 2018, this is mainly due to the decrease in crypto asset prices. We estimate that, regardless of crypto asset prices, Quadriga was unlikely to return to a solvent financial position.

Chart 4 – The divergence in available assets and clients’ claims on Quadriga



In October 2018, Robertson and Cotten got married in a small, private ceremony in Scotland. They made plans to honeymoon in India, where they were funding the construction of an orphanage. In early December, while already in India, Cotten made two transfers totaling \$500,000 from his personal account to fund client withdrawals. Shortly thereafter, he and Robertson checked into the ultra-luxury Oberoi hotel in Jaipur, India.

Cotten's Death Exposes Quadriga’s Dire Financial Situation

Cotten died in India on December 9, 2018 while on his honeymoon. New directors were appointed, who decided to suspend activities on Quadriga’s platform. The Quadriga website reported that it was offline.

Cotten’s death, and the ensuing efforts to locate assets, exposed the extent of Quadriga’s problems. It was widely believed that the bulk of the asset shortfall was due to lost or inaccessible private keys; however, this was not the case. As described previously, Quadriga was already in crisis before Cotten’s death, and most likely would have collapsed even if

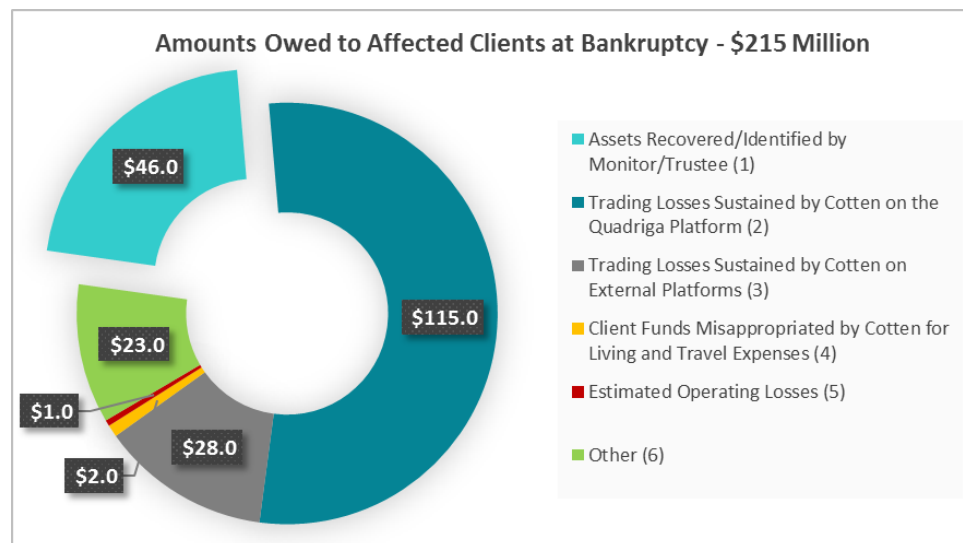
Cotten had lived. By the time of his death, the platform owed approximately \$215 million to clients but had almost no assets to cover these liabilities.⁵ By November 2016, Cotten had injected so many fake assets into the platform that its eventual insolvency was all but assured. However, until it was ultimately shut down by the new directors, Quadriga never stopped accepting new clients and new deposits, even while teetering on the brink of collapse.

⁵ At the time of his death, Cotten had no access to most of the funds that were later recovered by the Trustee Ernst & Young. The majority of the recovered assets consisted of funds that were still frozen by CIBC at the time of Cotten's death.

Where did the Funds go? A Detailed Breakdown⁶

When Quadriga filed for creditor protection on February 5, 2019, it owed its clients assets worth collectively \$215 million. The Monitor only recovered or identified \$46 million of assets, leaving a \$169 million shortfall.

Chart 5 – Breakdown of the \$215M owed to affected clients at bankruptcy



1 – Assets recovered or identified by the monitor/trustee - \$46 million

As of June 2019, Ernst & Young had recovered or identified \$34 million of Quadriga’s assets, consisting primarily of the funds that CIBC froze in January 2018 and released after Cotten’s death (\$25 million), bank drafts that a contractor of Quadriga had in his custody but had been unable to deposit for some time (\$6 million), and funds in the possession of payment processors (\$600,000). In addition, Ernst & Young recovered assets from Robertson that it expects to be worth \$12 million, for a total of \$46 million. We did not identify any other assets beyond those identified by Ernst & Young.

2 – Trading losses sustained by Cotten on the Quadriga platform - \$115 million

As described previously, Cotten created and traded fake assets with clients of the platform under aliases. Cotten sustained trading losses of approximately \$115 million and used Quadriga clients’ assets to cover those losses.

3 – Trading losses sustained by Cotten on external platforms - \$28 million

As described previously, Cotten sustained losses of approximately \$28 million trading client assets on three external trading platforms.

⁶ All figures approximate and/or estimates.

4 – Client funds misappropriated by Cotten for living and travel expenses - \$2 million

Between May 2016 and January 2018, Cotten transferred approximately \$24 million of client funds to his and Robertson's personal accounts, and to real estate lawyers to buy personal properties. From that amount, Cotten returned \$10 million to Quadriga in 2018 when he was unable to fulfill withdrawal requests. Robertson returned assets expected to be worth \$12 million to the Trustee under an October 2019 settlement, leaving \$2 million that was used for living and travel expenses. Other transfers could have been made during the period between May 2016 and January 2018 and transfers could have been made prior to May 2016, but we were not able to determine this due to limited documentation.

5 – Estimated operating losses - \$1 million

Over the life of the platform, Quadriga generated an estimated \$45 million in revenue. Our estimate of operating expenses/losses is based on the following known expenses reflected in the limited documentation available.

Revenues	\$45M
Less:	
• Known fees paid to payment processors:	12
• Estimated fees paid to external platforms:	2
• Estimated fees paid to contractors and operating expenses:	10
• Ether coding error (over 67,000 ETH):	10
• Funds collected by payment processor that Quadriga may have lost access to	<u>12</u>
Total	46
Net Estimated Operating Loss	(1M)

6 – Other - \$23 million

Due to the absence of accounting ledgers and records, and limited records available from third-party sources, we were unable to identify all expenses or losses incurred by Quadriga. However, additional expenses or losses that are likely significant include the following:

1. *Trading losses sustained on external platforms:* Cotten may have incurred trading losses in addition to the losses identified in note 3 when trading on external platforms; we are aware that Cotten likely transacted on at least two other external platforms; however, the information to quantify any additional losses is either incomplete or was not provided to us.
2. *Other fees paid to external platforms:* Cotten likely traded on other external platforms, and he may have incurred fees not included in note 5.
3. *Other fees paid to third party payment processors:* Given the limited available records, we were only able to quantify fees relating to two third party payment processors; however, we are aware that hundreds of millions of dollars moved through other payment processors. This likely would have caused Quadriga to incur

additional fees, possibly in the range of millions of dollars (assuming a conservative fee rate of 1%).

4. *Other operating expenses not considered in note 5:* As of 2016, Quadriga was not properly recording expenses. Given the nature of the business, it is likely that other operating expenses were incurred that we could not identify.
5. *Additional client assets transferred by Cotten for personal use:* As discussed in note 4, Cotten may have misappropriated additional client assets; however, we could not determine whether or not this occurred.

4. Regulatory Takeaways

The facts we uncovered about Quadriga are limited to Quadriga and should not be taken as an indication that similar misconduct has taken place at other crypto asset trading platforms. However, crypto asset trading platforms involve unique risks and our review showed that members of the investing public may not fully understand these risks. We believe it is important to underscore those risks and outline the evolving regulatory guidance in relation to this area of the market.

The risks of investing in crypto asset trading platforms are discussed in Consultation Paper 21-402 *Proposed Framework for Crypto-Asset Trading Platforms* (the **Consultation Paper**), a joint consultation paper produced by the CSA and Investment Industry Regulatory Organization of Canada (**IIROC**) issued on March 14, 2019. These risks are also discussed in *Issues, Risks and Regulatory Considerations Relating to Crypto Asset Trading Platforms*, a report published by the International Organization of Securities Commissions.

Crypto asset trading platforms are an emerging area of the markets operating in an evolving regulatory landscape. As with any novel business with a developing regulatory framework, bad actors can take advantage of these circumstances to defraud investors. While even the most robust regulatory regime cannot detect every instance of fraud, regulatory oversight plays an important role in fraud detection and prevention and in protecting investors.

We are highlighting key takeaways both for investors who are using or contemplating using crypto asset trading platforms as well as for crypto asset trading platforms that are making efforts to operate responsibly and to comply with Ontario securities law.

Key takeaways for investors

In Canada many crypto asset trading platforms are not registered – Many crypto asset trading platforms are not registered and have taken the position that they are not required to register with securities regulators. This is an important message to communicate to users and potential users of these platforms, as they may have false impressions about the extent of crypto asset trading platform regulation.

Using a crypto asset trading platform carries risks – Trading on crypto asset trading platforms carries unique risks. Many platforms maintain custody and control of their clients' crypto assets and clients merely have claims against the platform for those assets. These claims are vulnerable to the solvency, proficiency and integrity of the platform operators. Clients may be exposed to risks associated with the potential unsafe, improper or unauthorized use of their assets. In addition, crypto asset trading platforms may not operate transparently. Clients may have limited or no information about how the platform is storing and handling their assets, whether and how platform principals are trading with their clients on the platform, whether the platform has sufficient assets to support all its clients' claims or the authenticity of reported volumes on the platform.

Platform clients should conduct due diligence and be alert for signs of fraud – Anyone considering entrusting their assets to a crypto asset trading platform should take steps to learn about the platform's operations and approach to risk management, prior to

using it. This may not be possible with the current level of disclosure offered by some platforms. Clients should also be alert for signs of fraud.

Key takeaways for crypto asset trading platforms

Crypto asset trading platforms may have to register with the Commission and should take appropriate steps to comply with Ontario securities law – For guidance on the issue of whether securities legislation may apply to their business, platform operators should consult the Staff Notice, referenced above, which was published by the CSA in January 2020 (in addition to the Consultation Paper discussed previously, published in March 2019).

A key factor for this analysis is whether the platform makes immediate delivery of a crypto asset to a client. A platform would generally not be subject to securities legislation if the underlying crypto asset being traded is not a security or derivative, and there is immediate delivery of a crypto asset to the client after a transaction. (The Staff Notice provides more detail on the meaning of “immediate delivery” in this context.) In contrast, if a platform retains possession and control of the crypto assets being traded on the platform, securities law may apply. In accordance with the recent guidance in the Staff Notice, in our view, platforms that hold and control clients’ platform assets and only deliver a client’s assets after the client requests their withdrawal will generally involve securities or derivatives under Ontario securities law.

Platforms should ensure that they have systems and controls in place to manage risks – Having an internal system to manage risks, including those related to business continuity, key personnel and regulatory compliance, is an important step that responsible platform operators can take to preserve the integrity of their businesses, protect client assets and foster investor confidence in their platforms.

Platforms should disclose key information to clients – Providing clients with accurate information about key aspects of their operations—such as asset custody and storage practices, fees, reported volumes, platform security measures, internal controls, and conflicts of interest—will facilitate informed decisions by investors and promote investor confidence in the platform.

5. Conclusion

Whether they were aware of it or not, Quadriga's clients were exposed to risks beyond fluctuations in crypto asset prices when they chose to trade on the Quadriga platform. Quadriga held and controlled their assets and misled them about the way those assets were being handled. Quadriga was not registered with any securities regulator. Cotten took advantage of this situation, treating his clients' assets as corporate or personal funds that he could spend, trade and use at will and ultimately depleting those assets to such an extent that he brought down the entire platform.

What happened with Quadriga was an extreme example, and not necessarily representative of the broader crypto asset trading platform industry. However, these events serve to highlight for investors the risks that can arise in relation to crypto asset trading platforms, particularly those that are not registered. While we caution investors about these risks, we remain committed to working with the industry to foster innovation. Financial innovation is central to our capital markets and investors must have confidence to take advantage of new and exciting opportunities.

The worldwide regulatory response to this emerging sector has been developing and continues to develop. The CSA has recently provided guidance on when securities regulation applies to crypto asset trading platforms, in the form of the Staff Notice. The CSA and IIROC have recently published a discussion of potential risks associated with these platforms, in the form of the Consultation Paper. The OSC encourages platform operators to review the Staff Notice and Consultation Paper and to consult with their legal counsel on the application of securities legislation to their businesses. We also remind platform operators that their activities may currently be subject to securities regulation, and they should contact OSC staff to discuss the appropriate steps to be taken to comply with the applicable requirements. Our findings and insights from this report will help guide regulatory policy and development that will further our statutory mandate.

We encourage all Canadian crypto asset platform clients to review the Staff Notice and the Consultation Paper. We also encourage anyone considering entrusting their money to a crypto asset trading platform to conduct their due diligence before proceeding.



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i Account Funding and QuadrigaCX Bucks

Clients could transfer fiat currency to Quadriga using a number of methods. These methods evolved over time as Quadriga's fiat management systems evolved and included Interac online, in-person funding, bank wires, and cash. Clients could transfer crypto assets to Quadriga using a unique wallet address. We estimate that Quadriga controlled over 200,000 Bitcoin addresses alone, plus other addresses for other crypto assets like Ether.

Quadriga's Terms of Service stated that when a client deposited fiat, the client was purchasing "QuadrigaCX Bucks." A Quadriga Reddit post explained that Quadriga used QuadrigaCX Bucks so that it would not be considered a "depository institution". Most of the clients that we spoke to were not aware of QuadrigaCX Bucks. Their account dashboards listed their fiat assets in CAD or USD.

ii Cold Storage and Multi-signature Wallets

There are different forms of crypto asset wallets, with a variety of features and use-cases. Crypto asset wallets are secured by a 'private key', which is a sophisticated, computer-generated password required by anyone who wishes to access the assets held within the wallet.

A basic crypto asset wallet generates a single private key to access the assets held in the wallet. In contrast, a multi-signature wallet has more than one private key. To access the assets held in the wallet, multiple private keys will be required. These private keys may be given to different individuals to ensure that no single individual has complete control over the assets in the wallet, or that assets may not be moved without the knowledge of others.

Cold storage is essentially an offline crypto asset wallet. As cold wallets are not connected to the internet, they are considered less susceptible to theft via hacking than other storage methods. Cold storage usually involves a dedicated electronic hardware device, like a USB key, that is not connected to the internet, but can also take the form of paper wallets.

iii Impact of Cotten's Open Positions

Open positions in Cotten's accounts represented the platform's exposure to risk. Cotten's positions remained open until he closed them with an opposing trade (for instance, selling for real money the 1,700 Bitcoin he had purchased with fake money). As long as his positions remained open, Cotten (and ultimately the clients) remained exposed to the risk of losses resulting from crypto asset price fluctuations.

Cotten consistently increased his risk exposure on the platform by increasing his open positions, thereby increasing the risk to platform clients in the event of significant fluctuations in the price of crypto assets.

Appendix 1 - Simplified Example: Cotten Buys Ether with Fake Canadian Dollars

How does it work?

Client 1 opens a Quadriga account and funds it with 10 Ether.
The current price of Ether is \$100.

Cotten's Chris Markay account is funded with \$1,000 of **fake** dollars.

Client 1 wants to sell his 10 Ether for \$1,000.
He puts in a sell order, which is filled by Chris Markay.

The Chris Markay account now has a balance of 10 Ether.

Client 1's account now has a balance of \$1,000.
He doesn't know he traded his Ether for **fake** dollars.
Client 1 has no idea that Quadriga doesn't actually hold \$1,000 to support his account balance.

What happens if Client 1 wants to withdraw dollars a few days later?

Client 1 wants to withdraw the \$1,000 from his account.
Since the transaction, Ether's price has dropped from \$100 to \$80.

Cotten does not have any real dollars to send to Client 1.
Now he needs to sell the 10 Ether held by the Chris Markay account for real dollars.

But Ether's value has dropped from \$100 to \$80, so his 10 Ether are worth only \$800.
He will still be \$200 short of what he owes Client 1.

Where will the \$200 come from?

This is where another Quadriga client, Client 2, comes in.
Client 2 has recently deposited \$500 in her account.

Cotten takes \$200 from Client 2 to make up the shortfall.

Client 2 doesn't know. Her account balance still shows \$500.

The platform is now short \$200. Quadriga clients have no idea.

From March 2016 onward, Cotten made tens of thousands of similar trades.

By December 2017, Cotten had purchased 825,000 Ether with fake assets.

The price of Ether steadily increased until January 2018.

In February 2018, crypto prices crashed. Users rushed to sell their crypto assets and cash out.

Cotten was short real dollars. To fund withdrawals, he sold Ether at rock-bottom prices.

It wasn't enough.

Appendix 2 - Simplified Example: Cotten Sells Fake Bitcoin for Canadian Dollars

How does it work?

Client 3 opens a Quadriga account and funds it with \$1,000.

Cotten's Chris Markay account is funded with 1 **fake** Bitcoin.
The current price of Bitcoin is \$1,000.

Client 3 wants to purchase a Bitcoin.
She puts in a buy order, which is filled by Chris Markay.

The Chris Markay account now has a balance of \$1,000.

Client 3's account now has a balance of 1 Bitcoin.
She has no idea that she traded her \$1000 for a **fake** Bitcoin.
Client 3 has no idea that Quadriga doesn't actually hold a Bitcoin to support her account balance.

What happens if Client 3 wants to cash out?

Bitcoin's value has gone from \$1,000 to \$1,200.
Client 3 wants to sell her Bitcoin for a profit and withdraw her money.
If she sells now, she will realize a \$200 profit.

Cotten can give Client 3 back her original \$1,000, but he will be \$200 short.

Where will the \$200 come from?

This is where another Quadriga client, Client 4, comes in.
Client 4 has recently deposited \$500 in his account.

Cotten takes \$200 from Client 4 to make up his shortfall with Client 3.

Client 4 doesn't know.
His account balance still shows \$500.

The platform is now short \$200. Quadriga clients have no idea.

From June 2016 onward, Cotten made tens of thousands of similar trades.

Meanwhile, the price of Bitcoin steadily increased.

By the end of December 2017, there were 20,000 fake Bitcoin in circulation.

In January 2018, Bitcoin prices were in freefall.

Users rushed to sell their Bitcoin and cash out, realizing their profits.

Cotten was short the real dollars needed to pay those profits.