CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to 92 of the *Competition Act*;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an interim order pursuant to section 104 of the *Competition Act*;

B E T W E E N:

COMMISSIONER OF COMPETITION

Applicant

- and -

SECURE ENERGY SERVICES INC.
TERVITA CORPORATION

Respondents

NOTICE OF APPLICATION FOR INTERIM ORDER

TAKE NOTICE that the Commissioner of Competition (the "**Commissioner**") will make an application to the Competition Tribunal (the "**Tribunal**"), on a day and place to be determined by the Tribunal, pursuant to section 104 of the *Competition Act,* R.S.C. 1985, c. C- 34, as amended (the "**Act**").

This Application is for an order:

(a) directing Secure Energy Services Inc. ("**Secure**") not to proceed with its proposed acquisition of Tervita Corporation ("**Tervita**") until such time as the Tribunal's decision in respect of the Commissioner's Application pursuant to section 92 of the Act is finally disposed of;

(b) requiring the Respondents pay the costs of this proceeding; and

(c) such further and other relief as the Commissioner may request and this Tribunal may consider appropriate.

The grounds for this application are:

OVERVIEW

1. The Commissioner has commenced an application pursuant to section 92 of the Act (the "**92 Application**") for an order directing Secure not to proceed with its proposed acquisition of Tervita, among other things. As described in more detail in the 92 Application, the Proposed Transaction:[1]
    a. is likely to substantially lessen competition in the provision of Waste Services for those customers in the WCSB who benefit from the fierce rivalry between Secure and Tervita;
    b. is likely to substantially prevent competition in NEBC where Secure had planned to build a landfill in Wonowon, British Columbia, that would have

[1] Unless otherwise specified, defined terms have the same meaning as terms defined in the 92 Application.

competed with Tervita's Silverberry and Northern Rockies landfills for Waste Services; and

c. is likely to substantially lessen competition for the provision of Environmental Services where Secure is likely to have the ability and incentive to increase price and/or degrade service quality of Waste Services to Environmental Services competitors.

2. The Commissioner seeks an interim order ("**Interim Order**") to protect competition while the 92 Application is heard. Absent the Interim Order, Secure will be able to increase prices and otherwise limit competition to provide Waste Services in certain markets in the WCSB, which will cause irreparable harm before the 92 Application is finally disposed of.

3. Competition is harmed because the elimination of the competitive rivalry between Secure and Tervita, which will result in Secure having the ability to materially increase prices for Waste Services and/or decrease the quality of service. Oil and gas producers, which includes a number of small to medium sized enterprises, will be harmed at a time when this important sector to the Canadian economy is struggling.

4. The magnitude of the irreparable harm caused by the Proposed Transaction requires an Interim Order preventing the Proposed Transaction until the 92 Application is resolved.

5. The public interest in maintaining and encouraging competition outweighs any harm to the private interests of the Respondents if the Interim Order is granted.

THE PARTIES

6. The Applicant, the Commissioner, is responsible for the administration and enforcement of the Act. The Commissioner is presumed to act in the public interest.

7. Secure is a publicly traded company headquartered in Calgary, Alberta and listed on the Toronto Stock Exchange. Secure owns and operates 18 TRDs, 6 industrial landfills (as well as one it does not own but operates under contract), and 15 standalone water disposal wells in the WCSB that provide Waste Services. Secure also offers a wide range of Environmental Services associated with oil and gas drilling, including: the sale of drilling fluids, production chemicals, and water services, and demolition, decommissioning, remediation, and reclamation of oil and gas wells.

8. Tervita is a publicly traded company based in Calgary, Alberta. Its common shares are listed on the Toronto Stock Exchange. Among other assets, Tervita owns and operates 44 TRDs, 22 industrial landfills (18 of which are owned by Tervita, one of which it operates under a contract, and three sites that Tervita markets under contract for other landfill operators), 3 cavern disposal facilities, and 8 standalone water disposal wells in the WCSB. Tervita also offers a range of Environmental Services including the demolition, decommissioning, remediation, and reclamation of oil and gas wells.

THE PROPOSED TRANSACTION

9. Pursuant to an Arrangement Agreement, dated March 8, 2021, Secure and Tervita will carry out an all-share transaction. Under the Plan of Arrangement, Secure will acquire all of the issued and outstanding shares of Tervita. Upon completion of the Proposed Transaction, Secure and Tervita shareholders will own approximately 52% and 48%, respectively, of the combined entity.

THE 92 APPLICATION RAISES SERIOUS ISSUES TO BE TRIED

10. The 92 Application describes in detail how the Proposed Transaction will provide Secure with an immediate and significant enhancement of market power by eliminating the competitive rivalry between Secure and Tervita, the two largest suppliers of Waste Services in the WCSB and by far each other's closest

competitor. Currently, customers are able to play the Respondents off one another to get better prices and higher quality services.

11. The removal of Tervita as a competitor coupled with, among other things, high barriers to entry, increased concentration and limited remaining competition, is likely to allow Secure to exercise new or enhanced market power resulting in a likely substantial lessening of competition, to the detriment of Waste Services customers which includes a number of small to medium sized enterprises.

12. The Proposed Transaction is also likely to prevent or substantially lessen competition in two additional ways.

13. First, Secure has submitted an application to the British Columbia Environmental Assessment Office to construct a secure landfill near Wonowon in NEBC. As of June 2020, Secure's representatives had publicly projected that this landfill would be operational by the third quarter of 2021. If it had been opened, this new landfill would have competed with Tervita's Silverberry and Northern Rockies landfills. Competition between these landfills would have likely decreased tipping fees and increased quality of service for customers in NEBC. With the Proposed Transaction, Secure has abandoned its plans to open this landfill.

14. Second, Secure will be by far the largest provider of Waste Services in the WCSB, which can be bundled with Environmental Services. Secure will have the ability and incentive to increase price and/or degrade service quality of Waste Services to Environmental Services competitors, leading to new or increased market power in the provision of Environmental Services. This will likely lead to higher prices and degraded quality of service for Environmental Services customers.

IRREPARABLE HARM TO COMPETITION FOR THE PROVISION OF WASTE SERVICES

15. Competition for the provision of Waste Services to customers in various geographic markets in the WCSB is likely to be harmed if the Interim Order is not made.

16. The irreparable harm to competition will result in Secure having the ability to charge customers materially higher prices or decreased service levels for Waste Services. The harm is irreparable owing in part to the Tribunal's lack of authority in law to remedy the harm suffered by customers in the event the Commissioner is successful in the 92 Application.

17. The Commissioner has provided clear and non-speculative evidence on the scope of the relevant product and geographic markets and market concentration that demonstrates the prospective harm to competition that will result if the Interim Order is not made.

18. The relevant product markets for assessing harm to competition are (i) the supply of waste processing and treatment services by TRDs; (ii) the disposal of solid oil and gas waste into industrial landfills; and (iii) the disposal of produced water and waste water into water disposal wells owned by third-party waste service providers.

19. The Respondents can and do engage in price discrimination based on the location of a customer's waste. The cost to truck the waste to a disposal facility is a significant part of the overall cost to dispose of waste and is often paid by the customer.

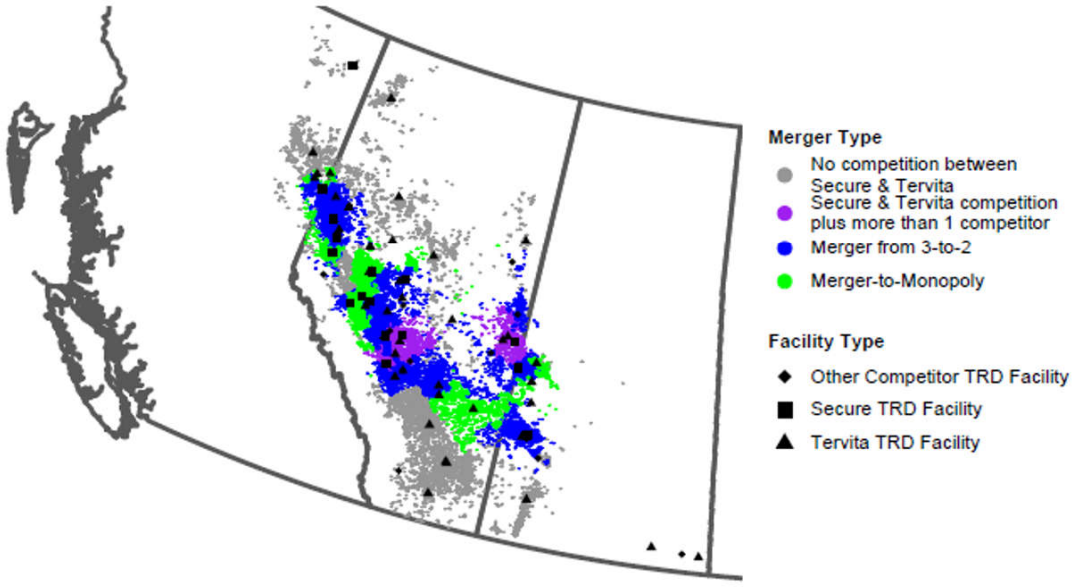
20. The Respondents know the location of the waste that a customer or potential customer seeks to dispose of. They can and do calculate the trucking differential cost to the customer of going to the next closest competitive alternative facility. As a result, the geographic markets can be defined as the aggregated locations of

customers for Waste Services in the WCSB that currently benefit from the competition between Secure and Tervita.

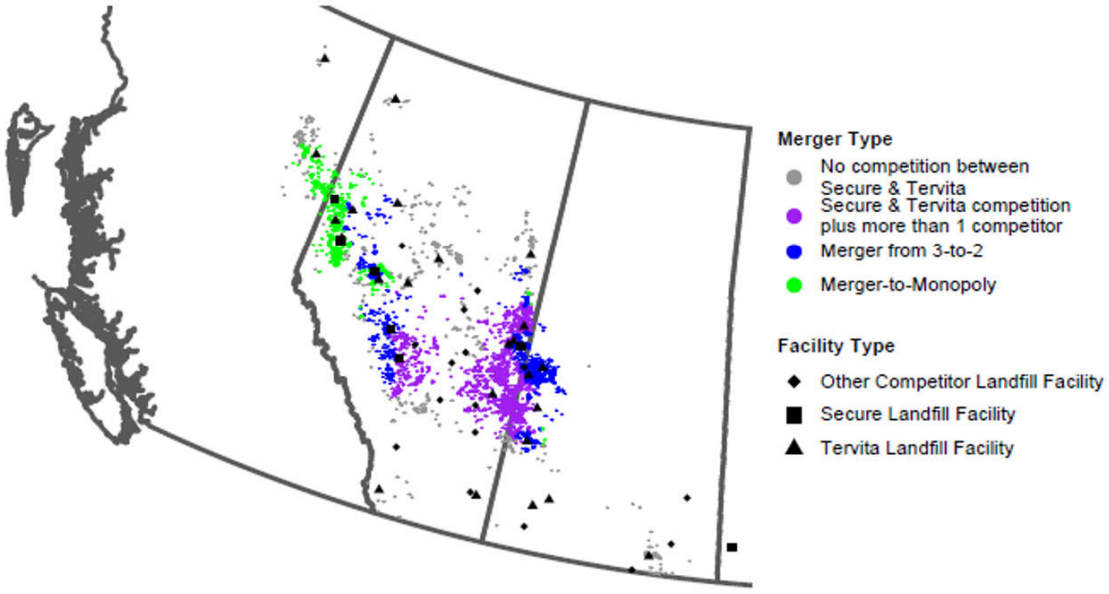
21. Because the Respondents have the ability to price discriminate, it is appropriate to aggregate the oil and gas customers based on their location and the number of competitive options available to them. Two sets of oil and gas customers are most affected by the Proposed Transaction: (1) those oil and gas customers whose location means that the Proposed Transaction effectively results in a merger to monopoly; and (2) those oil and gas customers whose location means that the Proposed Transaction will reduce their competitive options from 3 to 2. Even those customers that will have more than two competitive options will still be affected by the Proposed Transaction.

22. The maps below show the locations of customers in the WCSB facing a potential reduction in competition if Secure acquires Tervita by relevant product type and for each of the sets of customer types identified above:

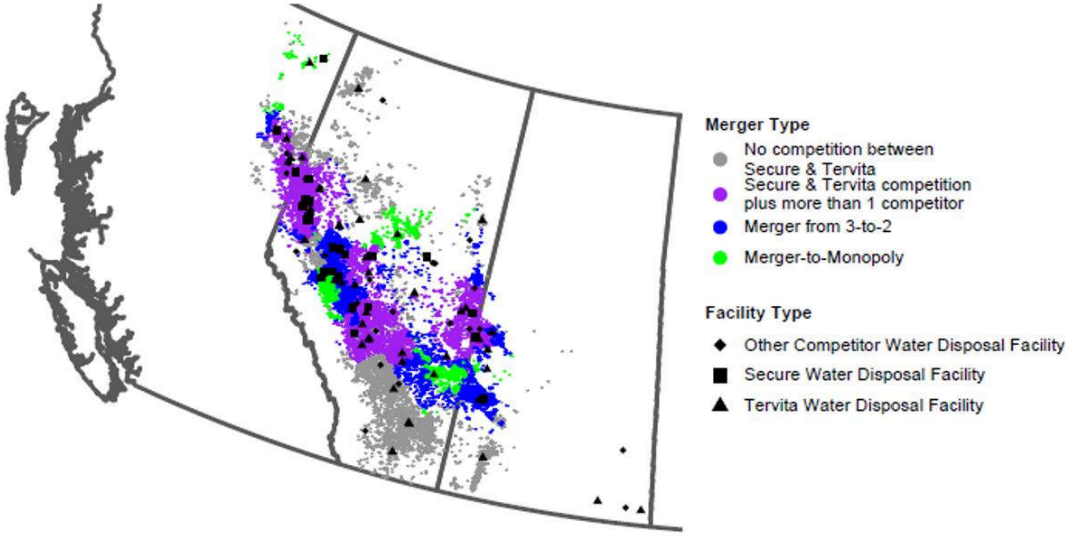
TRD customers in the WCSB facing a potential reduction in competition from the Tervita-Secure merger



Landfill customers in the WCSB facing a potential reduction in competition from the Tervita-Secure merger



Water disposal customers in the WCSB facing a potential reduction in competition from the Tervita-Secure merger



23. For those customers in the maps above, for whom the Proposed Transaction results in a reduction of competition from 3 to 2 (identified above in blue), market shares can be calculated based on where a Secure Facility and a Tervita Facility overlap. Defining the overlap based on a draw area where that facility draws 90%

of its waste, Secure would obtain the following market shares as a result of the Proposed Transaction:

Market shares in select customer-based markets where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity[1]
TRDs						
1.	Kakwa	South Wapiti	Rycroft (Wolverine)		304	83.1%
2.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		447	80.8%
3.	Fox Creek	Fox Creek	Mayerthorpe (Wolverine)		273	78.7%
4.	Kakwa	South Wapiti	Grande Cache (Wolverine)		955	78.5%
5.	South Grande Prairie	South Wapiti	Rycroft (Wolverine)		1053	77.7%
6.	Fox Creek	Fox Creek East	Mayerthorpe (Wolverine)		1257	76.1%
7.	Tulliby Lake	Elk Point	Fort Kent (Pure Environmental)		104	75.1%
8.	Kindersley	Gull Lake	Plato South (Gibson)		51	75.0%
9.	La Glace	Grande Prairie Industrial	Rycroft (Wolverine)		303	70.9%
10.	Obed	West Edson	Grande Cache (Wolverine)		360	70.5%
Landfills						
1.	Tulliby Lake	Lindbergh Caverns	Lloydminster (Ridgeline)		149	79.7%
2.	Tulliby Lake	Mervin	Lloydminster (Ridgeline)		468	74.6%
3.	Fox Creek	Fox Creek	High Prairie (Ridgeline)		117	65.7%
4.	Saddle Hills	Spirit River	High Prairie (Ridgeline)		26	60.3%
5.	Pembina	Judy Creek	Breton Waste Management (RemedX)		127	51.7%
Water disposal (+TRDs)						
1.	Wonowon	Mile 103	Fort St.John (Aquaterra)		132	79.5%
2.	Kaybob	Fox Creek	Berland (Catapult)		45	75.9%
3.	Fox Creek	Valleyview	Fox (Catapult)		329	75.9%
4.	Tony Creek	Fox Creek	Fox (Catapult)		423	75.5%
5.	Tony Creek	Fox Creek East	Berland (Catapult)		63	75.1%
6.	Eccles	West Edson	Grande Cache (Wolverine)		179	74.2%
7.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		247	72.9%
8.	Brazeau	Brazeau	Cynthia (Wolverine)		826	71.0%
9.	Tony Creek	Valleyview	Fox (Catapult)		53	70.7%
10.	Kindersley	Kindersley East	Plato North (Gibson)		1125	67.9%

24. These market shares are based on a number of conservative assumptions. However, the Respondents' increased market shares will be very high regardless of whether the geographic markets are narrowly or broadly defined, if the Proposed Transaction is completed.

25. By having the ability to increase prices for Waste Services, Secure will have the ability to increase costs to Canadian oil and gas producers, some of which are small to medium enterprises, and who are crucially important to Canada's economy, at a time when they are struggling.

26. Preventing the significant irreparable harm that is likely to occur requires a complete block of the Proposed Transaction while the 92 Application is resolved.

BALANCE OF CONVIENIENCE FAVOURS GRANTING THE INTERIM ORDER

27. The balance of convenience favours the granting of an Interim Order. Should the order be granted, any harm alleged by the Respondents is uncertain and speculative. The public interest in maintaining and encouraging competition outweighs the private interest of the Respondents, if any.

28. Further material facts are contained in the 92 Application.

AND TAKE NOTICE that the following materials will be relied upon in support of this Application:

a) The 92 Application;
b) The Affidavit of Dr. Nathan Miller sworn June 29, 2021; and
c) The Affidavit of Andrew Kelly sworn June 29, 2021.

DATED AT Ottawa, Ontario, this 29th day of June, 2021

Boswell, Matthew

Digitally signed by Boswell, Matthew
Date: 2021.06.29 08:45:56 -04'00'

_____

Matthew Boswell

Commissioner of Competition

TO: Secure Energy Services Inc.:

Blakes, Cassels & Graydon
199 Bay Street
Suite 4000, Commerce Court West
Toronto ON M5L 1A9

Tel: 416-863-2400
Fax: 416-863-2653

Attention: Brian Facey

Tervita Corporation:

Bennett Jones
1730 Pennsylvania Ave
Suite 875

Washington, DC
District of Columbia 20006
USA
Tel: 416-777-4855
Fax: 1-202-204-0498

Attention: Melanie Aitken

CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an interim order pursuant to section 104 of the *Competition Act*;

B E T W E E N:

COMMISSIONER OF COMPETITION

Applicant

- and -

SECURE ENERGY SERVICES INC.
TERVITA CORPORATION

Respondents

AFFIDAVIT OF ANDREW KELLY
(AFFIRMED JUNE 29 2021)

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I, Andrew Kelly, a Senior Competition Law Officer with the Competition Bureau (the "**Bureau**"), of the City of Ottawa, in the Province of Ontario, **AFFIRM AND SAY AS FOLLOWS**:

1. I make this affidavit in support of the Commissioner of Competition's (the "**Commissioner**") application for an Interim Order pursuant to section 104 of the *Competition Act*, R.S.C., 1985, c. C-34, as amended (the "**Act**").

2. I have been employed as a Competition Law Officer with the Competition Bureau (the "**Bureau**") since July 2014. During this time I have been involved in the review of mergers and proposed mergers to determine whether such transactions prevent or lessen or are likely to prevent or lessen competition substantially.

3. I am the lead officer on a case team working on a review of the proposed acquisition of Tervita Corporation ("**Tervita**") by Secure Energy Services Inc. ("**Secure**") (the "**Proposed Transaction**"). I, therefore, in my capacity as lead officer, have personal knowledge of the matters to which I hereinafter depose.

4. The Commissioner's Notice of Application pursuant to section 92 of the Act (the "**92 Application**") has been filed with the Competition Tribunal (the "**Tribunal**). The Statement of Grounds and Material Facts in the 92 Application sets out the material facts for the Commissioner's Application for an Interim Order. Unless otherwise specified, defined terms I use in my affidavit have the same meaning as terms defined in the 92 Application.

I. OVERVIEW

5. I begin by describing the Respondents and the Proposed Transaction which is the subject of the 92 Application, and the information collected during the Bureau's review. I then describe the information from that review which indicates the product and geographic markets at issue in the 92 Application along with information collected on market shares.

6. I touch briefly on information collected showing that the barriers to providing Waste Services are high. In the next section, I describe the information collected demonstrating the intense competitive rivalry between Secure and Tervita which will be eliminated as a result of the Proposed Transaction. I next describe the information collected showing that self-supply by oil and gas companies of Waste Services would not likely constrain an exercise of market power by Secure if it acquires Tervita. Finally, I describe the information collected which indicates that the Respondents bundle the provision of Waste Services with Environmental Services.

II. THE PARTIES

7. The Applicant, the Commissioner, is responsible for the administration and enforcement of the Act.

8. Secure is a publicly traded company headquartered in Calgary, Alberta and listed on the Toronto Stock Exchange ("**TSX**"). Secure owns and operates 18 full service terminals ("**FSTs**"), 6 landfills (as well as one it does not own but operates under contract), and 15 standalone water disposal wells in the WCSB. Secure also owns and operates assets in North Dakota. All of Secure's FSTs, with the exception of Kakwa, are connected to a Class 1B Disposal Well for the disposal of produced and waste water. A copy of Secure's Annual Information Form ("**AIF**") for the year ended December 31, 2020 is attached to my affidavit as Exhibit 1.

9. Tervita is a publicly held company based in Calgary, Alberta. Its common shares are listed on the TSX. Tervita owns and operates 44 Treatment, Recovery and Disposal facilities ("**TRDs**", which are functionally equivalent to Secure's FSTs), 22 landfills (18 of which are owned sites, one of which is operated under contract, and three that Tervita markets under contract for other landfill operators), 3 cavern disposal facilities, and 8 standalone water disposal wells in the WCSB. A copy of Tervita's 2020 Annual Report is attached to my affidavit as Exhibit 2.

10. Tervita created a document that is a map of the facility locations of Secure, Tervita and other competitors that provide certain Waste Services. This map was sent via an e-mail on February 26, 2021 by Anil Aggarwala, Director Treasury and Investor Relations at Tervita, to [redacted] The email and the attached map are attached to my affidavit as Exhibit 3.

III. THE PROPOSED TRANSACTION

11. Pursuant to an Arrangement Agreement, dated March 8, 2021, Secure and Tervita will carry out an all-share transaction via a Plan of Arrangement. Under the Plan of Arrangement, Secure will acquire all of the issued and outstanding shares of Tervita. Upon completion of the transaction, Secure and Tervita shareholders will own approximately 52% and 48%, respectively, of the combined entity. A copy of the Arrangement Agreement is attached to my affidavit as Exhibit 4.

IV. THE BUREAU'S REVIEW OF THE PROPOSED TRANSACTION

12. On March 12, 2021, the Respondents submitted a request for an advance ruling certificate and pre-merger notification filing pursuant to Part IX of the Act in respect of the Proposed Transaction (the "**ARC Request**"). The ARC Request is attached as Exhibit 5 to my affidavit. Secure's Pre-Merger Notification Filing and Tervita's Pre-Merger Notification Form are also attached as Exhibit 6 and Exhibit 7, respectively, to my affidavit.

13. On March 30, 2021, the case team had a meeting via video-conference with the Respondents. At that meeting the Respondents presented a deck which is attached to my affidavit as Exhibit 8.

14. On April 9, 2021, the Commissioner issued a Supplementary Information Request ("**SIR**") to each Respondent.

15. On May 28, 2021, the Commissioner commenced an inquiry pursuant to section 10 of the Act.

16. On May 31, 2021, the Respondents certified responses to the SIRs after providing the Bureau with approximately 396,000 documents. Tervita provided over 258,000 records while Secure provided over 138,000 records.

17. As of the date of this affidavit, the case team has conducted approximately 65 meetings with market contacts. Market contacts have included calls with 24 oil and gas producers, 6 provincial regulatory bodies, 17 operators of potentially competitive waste facilities, 7 Environmental Services companies, and 4 trucking companies. Many of these market contacts have indicated concerns that the Proposed Transaction removes one of the few competitive options for the purchase of Waste Services.

18. In certain parts of the WCSB, oil and gas producers will be left with no viable alternatives for the disposal of certain waste streams if Secure is permitted to acquire Tervita and shutters facilities. The majority of oil and gas firms in Canada are small businesses according to an analysis conducted by the Canadian Energy Centre attached to my affidavit as Exhibit 9.

19. For some market contacts, an e-mail was sent to the market contact outlining the facts the case team learned during the call. The market contact was asked whether the case team had accurately captured the facts and provided an opportunity to provide corrections or clarifications. A copy of these e-mail exchanges with each contact who confirmed or clarified the facts are attached to my affidavit as Exhibit 10. Where the team was unable to confirm the facts learned I have attached the notes from our calls as Exhibit 11 and any unanswered confirmation e-mails as Exhibit 12 to my affidavit.

20. With the SIR productions, the Respondents provided 14 letters from 13 oil and gas producers in support of the Proposed Transaction. The letters are attached to my affidavit as Exhibit 13. The letters are brief and, aside from non-specific references

to efficiencies, do not provide facts that can be used to analyze the competitive impact of the Proposed Transaction. It appears that Secure's CEO actively solicited at least some of these letters as can be seen by the e-mail from René Amirault to [redacted] on March 29, 2021 attached to my affidavit as Exhibit 14.

21. By the time the Respondents provided the case team with these letters, the case team had conducted market contacts with 6 of the oil and gas producers who had provided letters of support. We subsequently contacted the other seven producers. [redacted] did not respond to our request to speak with them. My e-mail to [redacted] asking to speak with them is attached to my affidavit as Exhibit 15. Of the 13 oil and gas companies that wrote letters of support, seven subsequently described specific concerns about the impact on competition caused by the Proposed Transaction.

22. On June 3, 2021, Secure provided a submission regarding efficiencies. The report without its appendices is attached to my affidavit as Exhibit 16.

23. On June 23, 2021, the case team met via videoconference with the Respondents summarizing our analysis of the review and feedback on a without prejudice remedy proposal received on May 28, 2021. At the end of the meeting, counsel to the Commissioner asked for the parties' intentions with respect to closing the Proposed Transaction. Respondents' counsel said they would get back to us on that and requested a meeting with the Commissioner.

24. On June 24, 2021, we learned from a market contact who had recently spoken with a Tervita employee that Tervita had informed its employees that the Bureau's review was finished and that integration of the two companies would start on July 1, 2021. As a result, counsel to the Commissioner sent an email to the Respondents attached to my affidavit as Exhibit 17. Respondents' counsel's response on June 25, 2021, is attached to my affidavit as Exhibit 18.

25. On June 25, 2021, counsel to the Respondents sent a letter attaching the 14 letters of support plus 15 additional letters of support from industry participants. This letter is attached as Exhibit 19. These letters of support were not produced in the Respondents' SIR productions. Like the letters of support discussed above, the letters are brief and, aside from non-specific references to efficiencies, do not provide facts that can be used to analyze the competitive impact of the Proposed Transaction.

26. On June 28, 2021, the Respondents met with the Commissioner by video conference. The Respondents provided their notice of intention to close by email at 11:15 pm that night.

27. On June 29, 2021, counsel to the Commissioner responded to the letter from Respondent's counsel dated June 25, 2021 described in paragraph 24 above. The letter is attached to my affidavit as Exhibit 20.

28. The Commissioner filed the 92 Application on June 29, 2021.

29. The Bureau's review of the Proposed Transaction, which informs my statements below, has included:

    a. The ARC Request, pre-merger notification filings and submissions provided by the Respondents described above;
    b. The documents and information provided by the Respondents in response to the SIRs;
    c. Market contacts described above;
    d. An analysis of documents and information voluntarily provided to the Bureau by various third parties, including market participants;
    e. Material received from the Respondents from previous investigations, described in paragraphs 76 - 107 in more detail; and
    f. The expert opinion evidence of Dr. Nathan Miller, which is filed in support of the Commissioner's application for an interim order pursuant to section 104 of the Act.

V. THE RELEVANT MARKETS

A. Relevant Product Market

30. The Bureau's review indicates that the relevant product markets for assessing the effects of the Proposed Transaction are likely the following types of Waste Services: (i) the supply of waste processing and custom treatment services by TRDs; (ii) the disposal of solid oilfield waste into industrial landfills; (iii) the disposal of solid waste contaminated by NORMs into landfills permitted to accept this type of solid waste; (iv) the disposal of waste water and produced water into water disposal wells owned by third parties; and the provision of Environmental Services.

31. Customer switching between different types of Waste Services is generally not possible due to federal and provincial regulations that restrict disposal of certain waste streams to certain types of facilities, as well due to the technical capabilities of facilities. Secure's submissions provided to the Bureau during its review of Tervita's acquisition of Newalta Corporation ("**Newalta**", with the transaction referred to as the "**Newalta Acquisition**"), referred to at Exhibit 76 to my affidavit, describes in detail on pages 7 and 8 the unique services provided by each type of facility along with the regulations associated with disposal of waste into a given facility. An industrial landfill which can only accept certain types of hazardous waste is not a functional substitute for water disposal well that can only accept waste water.

32. Solid waste contaminated with NORMs can only be disposed of in landfills permitted to accept this type of waste. There are no functional substitutes for the disposal of solid waste contaminated with NORMs. An email with the attachments from [redacted] to [redacted] at [redacted] dated June 20, 2018, attached to my affidavit as Exhibit 21, provides a copy of Secure's Pembina Class I Hazardous Waste NORM Landfill Permit along with a presentation which indicates that Secure's Pembina landfill is the only facility in Alberta that can accept solid waste impacted by NORMs. The

only other landfill in the WCSB that accepts this type of waste is Tervita's Silverberry landfill in NEBC. An email from Shane Nelson, a Tervita Field Sales Representative, dated November 4, 2020, to [redacted] at [redacted] explaining NORMs acceptance at Silverberry landfill is attached to my affidavit as Exhibit 22.

33. Other waste management options such as on-site storage or bioremediation are not close substitutes for the services provided by landfills and TRDs. On-site storage is neither practical nor economically feasible. Bioremediation may only be practical for a narrow range of contaminated soil not impacted by salts, heavy metal, or heavy end hydrocarbons. The ARC Request does not argue that on-site storage or bioremediation is a viable substitute to services provided by landfills and TRDs.

34. I understand that caverns can be a substitute to TRDs and disposal wells. The only caverns in the geographic areas affected by the Proposed Transaction are owned by Tervita.

35. I understand that bioremediation and onsite storage was analyzed by the Competition Tribunal in the Babkirk Application[1] which found that these two techniques could only be used for a limited amount of solid hazardous waste that would otherwise be disposed of in landfills. As a result, the Tribunal concluded that the ability to bioremediate or store onsite would not defeat a sustained significant non-transitory increase in the price of tipping fees in NEBC. Market contacts made during the present investigation confirm that bioremediation and self-storage may only be used for a small subset of waste but that the most economical option for solid waste is disposal into industrial landfills.

36. I understand from market contacts that Environmental Services are not a functional substitute for the provision of Waste Services. Environmental Management Companies may need to purchase Waste Services to offer certain Environmental

[1] 2012 Comp Trib 14

Services. For example, an Environmental Services Company remediating a well site may need to dispose of contaminated soil in an industrial landfill. I have provided examples of Secure and Tervita bundling Waste Services with Environmental Services in IX section below.

B. Relevant Geographic Market

37. Evidence collected during the Bureau's investigation indicates that the relevant geographic market for this Application is likely the aggregated locations of customers for Waste Services in the WCSB that currently benefit from the competition between Secure and Tervita.

38. The Respondents' SIR productions reviewed by the Bureau show that Tervita and Secure can and do engage in price discrimination. They identify and charge different prices to customers, based on, amongst other factors, their geographic location, the distance to the next closest alternative facility. Because transportation costs constrain the ability of customers to ship oil and gas waste to disposal sites that are distant from the location where the waste is produced, the geographic location of where the waste is produced is an important factor for customers in determining the price for Waste Services.

39. An internal e-mail from Trevor Myers, Manager, Pricing for Tervita dated February 16, 2016, attached as Exhibit 23 to my affidavit, describes for two new pricing analysts Tervita's approach to 'tactical pricing'. In this e-mail, Mr. Myers explains "[redacted] The e-mail attaches a 'how-to guide' which is attached to my affidavit as Exhibit 24. The subject to the e-mail is "[redacted]

40. The information in Tervita's internal documents is also consistent with information from market contacts who note that Tervita and Secure know where the waste is coming from and adjust their prices accordingly.

41. Tervita and Secure systematically consider the locations of the nearest competitors. Attached to my affidavit as Exhibit 25 is an e-mail dated March 22, 2018 attaching a spreadsheet created by Tervita that for each of its facilities shows the "[redacted] The summary tab also contains an estimate of competition market share.

42. In October 2020, [redacted] contacted Tervita about a waste disposal job it was undertaking on behalf of [redacted]. Internally, the account manager asked whether Tervita wanted to discount from its contract rates with [redacted]. The response was that Tervita should lower its rates at La Glace and [redacted] The e-mail chain containing this request [redacted] is attached to my affidavit as Exhibit 26.

43. [redacted] Dave Desjardins, Sr. Corporate Accounts Representative at Secure, had several communications by e-mail with [redacted] at [redacted], attached to my affidavit as Exhibit 27 containing Secure's prices for disposal into various landfills for the [redacted] project.

44. Another example demonstrating the impact of trucking differentials on pricing is attached to my affidavit as Exhibit 28. In this exchange, [redacted] has contacted Tervita in October 2020 to provide pricing for a fluids disposal job in NEBC. Tervita considers dropping its rates because "Secure is going after all of this". [redacted]

45. [redacted] An e-mail exchange between Nick Giugovaz, Corporate Service Representative at Secure and [redacted] at [redacted] in October 2020 is attached to my affidavit as Exhibit 29. In this exchange, Secure adjusts its bid to [redacted] with Mr. Giugovaz stating [redacted]

[redacted]

46. In an e-mail exchange attached to my affidavit as Exhibit 30, [redacted]. Tervita concludes that [redacted]

47. As a final example from Tervita, in an e-mail exchange attached to my affidavit as Exhibit 31, Tervita is considering the price it should offer to Repsol that has a 7000 tonne cleanup located close to Spirit River, Alberta. This e-mail chain starts with Sarah Ruickbie, Account Manager at Tervita, asking Carrie MacMullin, Field Sales Representative at Tervita, [redacted] Ms. Ruickbie asks Ms. MacMullin whether she knows what rates Secure would be giving and whether [redacted] would also be a player. In response, Ms. MacMullin states that [redacted] is full – they can only take small volumes. [redacted]. Ben Bowes, Business Analyst at Tervita, concludes this exchange stating "H[redacted].

48. [redacted] In an e-mail sent by Wyatt Norn, on May 1, 2019, who is Team Lead Marketing and Communications at Secure, attached to my affidavit at Exhibit 32, to Geoff Prieur, Corporate Accounts Representative at Secure, with the [redacted]. Mr. Norn states: [redacted]

g[redacted] Mr. Prieur's response is [redacted] Another e-mail that attaches a document called "[redacted] is attached to my affidavit as Exhibit 33.

49. Attached as Exhibit 34 is an e-mail chain from Secure regarding a bid for busines from [redacted] In this exchange, [redacted] The e-mail concludes with Daniel Schwarz, a Corporate Accounts Representative at Secure, sending a table summarizing the distance for Secure vs "competitors" – the only competitor facilities listed are owned by Tervita.

50. In another example, Secure considers the location of waste from [redacted] and the different routes that [redacted] could take to Secure and Tervita's competing Willesden Green Landfills. Secure decides to offer the lowest rate that it offers at Willesden Green "[redacted] The e-mail and the attachments are attached to my affidavit as Exhibit 35.

C. Evidence collected on market shares

51. The Bureau has retained Dr. Nathan Miller to provide an opinion on the impact on customers of Waste Services in the WCSB if Secure closes the Proposed Transaction prior to the 92 Application being heard by the Tribunal. Data and documents referenced in Dr. Miller's report that were provided by the Respondents in response to the SIRs or provided by Tervita during the review of the Newalta Acquisition are attached as Exhibit 36 to my affidavit.

52. Dr. Miller also uses a list of Waste Services facilities that the Bureau provided and is attached to my affidavit as Exhibit 37. That list was created using the list of the Respondents' facilities provided in response to the SIRs and third party facilities independently confirmed by the third parties, which are attached to my affidavit as Exhibit 38. In addition, Exhibit 39 describes how the Master List was assembled, including any public information that was relied on to assemble the Master List. On June 8, 2021, a version of the Master List including all of the facilities up until and including line 221 was provided to Dr. Miller. On June 11, 2021, an updated version was sent to Dr. Miller including additional facilities that were verified using publicly available information as no information was received from these third parties.

53. In addition to the analysis conducted by Dr. Miller, documents provided by the Respondents in response to the SIRs contains evidence on market shares.

54. In January 2017, Tervita created a document that, among other things analyzes market shares for its TRD and Disposal Wells in various waste sheds for Tervita TRD and disposal well facilities. This document and its attaching e-mail is attached to my affidavit as Exhibit 40. This document was created prior to the Newalta Acquisition. Below is a table summarizing the market share calculations for the waste sheds by quarter for 2016 where a Secure facility is present.

Waste shed	**Market share estimate of combined Secure/Tervita/Newalta facilities**			
	16-Q1	16-Q2	16-Q3	16-Q4
Kindersley	[redacted]			
Lindbergh				
Unity				
Fox Creek				
Judy Creek				

West Edson	[redacted]
Moose Creek	
Brazeau	
Buck Creek	
Spirit River	
LaGlace	
South Wapati	
Sierra	
Silverberry	

55. In March 2020, Taryn Roy, Commercial Manager at Tervita, reported to a number of senior Tervita executives, including current CEO John Cooper, Tervita's market share in water disposal which, for the month of January 2020 "r[redacted]. The e-mail exchange is attached to my affidavit as Exhibit 41. In response to Ms. Roy's e-mail, Jay McNeil, Director of Sales and Commercial at Tervita, responds with this picture:

56. Secure also tracks water injection volumes by third party water disposal companies in the spreadsheet and covering e-mail are attached to my affidavit as Exhibit 42. In March 2021, it finds a market share of [redacted] for Tervita, [redacted] for Secure, [redacted] for Medicine River Oil Recyclers, [redacted] for Aqt Water Management Inc., [redacted]% for Wolverine Energy and Infrastructure, [redacted] for Catapult Environmental, and [redacted] for Envolve Energy Services Corp.

57. Finally, in November 2020, Tervita produced market shares calculated by waste shed for each of its facilities from 2014 to 2020. The e-mail containing this analysis is attached to my affidavit as Exhibit 43.

58. The Bureau also collected information from Alberta Environment and Parks ("**AEP**") about market shares. AEP is the regulator responsible for regulating landfills that accept third party waste in Alberta. Landfills in Alberta have to report, among other information, tonnes of waste accepted including "special waste" which includes contaminated soil and drill cuttings. Attached to my affidavit as Exhibit 44 showing is spreadsheet from AEP reporting waste accepted by landfill for 2018.

VI. BARRIERS TO ENTRY FOR WASTE SERVICES

59. Information collected during the review indicates that there are significant capital and regulatory requirements to build an industrial landfill for oilfield waste disposal. In Alberta, it would require a local development permit, public consultations, and a formal application form from AEP. The timeline required for the necessary approvals can take several years. Recent examples of the time required for entry include:

    a. Waste Management's successful entry of the Thorhild landfill, which according to the news article attached as Exhibit 45 to my affidavit took nearly a decade;

b. Secure's unsuccessful attempt to build a landfill in Conklin landfill took nearly 7 years according to the news article attached to my affidavit as Exhibit 46; and
c. Secure's ongoing attempt to build an industrial landfill at Wonowon which Secure has been pursuing since 2013 according the Secure Authorization for Expenditure attached to my affidavit, as well as the attaching e-mail, as Exhibit 47.

60. There are significant capital and regulatory requirements to build an industrial landfill. In Alberta, it would require geological mapping, public consultations, and a formal application from the Alberta Energy Regulator ("**AER**") in the case of a first-party landfill or the AEP for a landfill that accepts third party solid waste. In a presentation to [redacted] attached to my affidavit, as well as the attaching e-mail, as Exhibit 48, page 21, Tervita describes the initial investment requirement to be [redacted] to build a landfill with additional investments of [redacted] investment every two years (depending on volumes). It also notes that it requires 12 months to construct (not including siting and regulatory time), up to 4 years until operation, and a medium level of regulatory complexity.

61. There are also significant capital and regulatory requirements to build a TRD or FST. In Alberta, it would require a local development permit, geological mapping, public consultations, and a formal application from the AER. In Exhibit 48, referenced above, page 19, Tervita describes the initial investment requirement to be [redacted]. It also notes that it requires 12 months to construct, 2-3 years to operation and a high level of regulatory complexity.

62. As discussed in paragraphs 114 and 115 below, oil and gas producers do have their own disposal wells for water produced during ordinary operations. However, when wells are completed they create a large surge in produced water for which it may not be economically practical to drill a disposal well. In addition, there are

certain areas of the WCSB where the geology makes it difficult to drill disposal wells.

VII. EVIDENCE THAT THE PROPOSED TRANSACTION WILL HARM COMPETITION BY REMOVING THE INTENSE COMPETITIVE RIVALRY BETWEEN SECURE AND TERVITA

63. The Bureau's investigation indicates that the Proposed Transaction will eliminate the competitive rivalry between Secure and Tervita, the two largest suppliers of Waste Services in the WCSB. Currently, when either of the Respondents raise their prices or degrade services, some customers would likely go to the other Respondent resulting in a loss of revenue. If Secure acquires Tervita, then this loss will be recaptured giving Secure the ability to raise prices once it acquires Tervita.

64. In this section, I first review evidence form the Respondents' SIR productions that indicate how competition between Secure and Tervita leads to lower prices and better service for customers of Waste Services. I then review evidence that the Bureau has collected from past interactions with the Respondents which also demonstrates this rivalry.

A. Evidence from the Respondents' SIR Productions

65. There are a number of Tervita records showing Tervita adjusting its prices because of competition from Secure. An internal Tervita e-mail requesting a discount for [redacted] in 2016 is attached to my affidavit as Exhibit 49. The rationale behind approving this discount was that Tervita had been told that its last offer for produced water was not close to being competitive with Secure's Dawson Creek facility. The rationale also notes that Tervita is losing cuttings (a type of waste produced from drilling where the solids are sent to a landfill) business to Secure. Again, Tervita discounts its price to match Secure.

66. Another internal e-mail from Tervita on August 30, 2018 requesting a discount for [redacted] is attached to my affidavit as Exhibit 50. The request is for a

14.95% discount of the price. The rationale for providing this price decrease is that "[redacted] They currently use Secure as they are logistically closer. I spoke to [redacted] and told him I would be given the opportunity to send him a quote for this work. I have spoken with Trevor Barclay, AM as well as Allen Douglas, FM and they are both good with these prices to try and move the work 15 km further to Judy Creek TRD". Attached as Exhibit 51 to my affidavit is another example of an e-mail where pricing discounts are being requested because of competition from Secure.

67. An e-mail from Ryley Pierson, on July 21, 2020, an Area Manager – Sales at Secure, attached to my affidavit as Exhibit 52 proposes offering discounted rates at South Grande Prairie to certain clients in order to get more waste in their facility. In order to calibrate the discount, Secure obtained the prices these clients were receiving from Tervita's South Wapiti facility.

68. In another example, Ryan Richardson, a salesperson at Secure, in an e-mail dated March 24, 2020, attached to my affidavit as Exhibit 53, requested a discount for [redacted] in response to a price offered by Tervita. Secure thought that they were at risk losing this business to Tervita if they did not match the price.

69. Secure documents demonstrate it will raise prices in markets it views as "captive". An e-mail from Dave Desjardins, Senior Corporate Accounts Representative, to Ed Guenther, General Manager, dated July 24, 2018, attached to my affidavit as Exhibit 54 provides justifications for Secure's pricing increase at various facilities in an areas called by Secure the central area. At Wild River, for example, Mr. Desjardins notes that the "a[redacted]". For the Fox Creek Landfill, Mr. Desjardins notes that "[redacted]" and that [redacted]

70. Competition between Secure and Tervita facilities leads to better service and may drive innovation. Secure for a number of years tried to get approval to open a

landfill in Conklin, Alberta which would have competed directly with Tervita's Janvier landfill. The notes from a meeting with Regional Municipality of Wood Buffalo dated December 12, 2018, the municipal authorities where the landfill would have been located, note that the addition of Secure's facility at Conklin may be good for customers and may drive innovation and operational improvements at Tervita's Janvier facility. The notes are attached to my affidavit as Exhibit 55.

71. Similarly, Tervita notes in its analysis titled 'BC landfills' which was emailed to Tervita's CEO on January 5, 2018, attached as Exhibit 56, that the addition of a competitor opening a landfill in the area not only affects volume, but will also put downward pressure on pricing. Once Tervita learned that Secure wanted to build a landfill close to Tervita's landfill in NEBC, Silverberry, at Wonowon, it considered [redacted] The e-mail sent February 6, 2020, attaching the notes from the Tervita landfill strategy meeting are attached to my affidavit as Exhibit 57.

72. Secure conducted a detailed economic analysis of its proposed landfill at Wonowon which is attached along with the covering e-mail as Exhibit 58 which speaks to why Tervita is concerned about the landfill. The economic analysis assumes that the proposed Wonowon landfill would capture [redacted] of the Silverberry market and [redacted]% of the Northern Rockies market. The analysis notes that Tervita has "[redacted].

73. Secure also considered purchasing a well from [redacted] to use as a single well disposal site that it could also use to dispose of water generated from its Obed FST. David Engel, Executive Vice President, New Ventures at Secure, sent an e-mail dated September 18, 2019, to a number of senior executives about the potential impact if the well were to be purchased by Tervita. The e-mail is attached to my affidavit as Exhibit 59. Mr. Engel notes in his e-mail that:

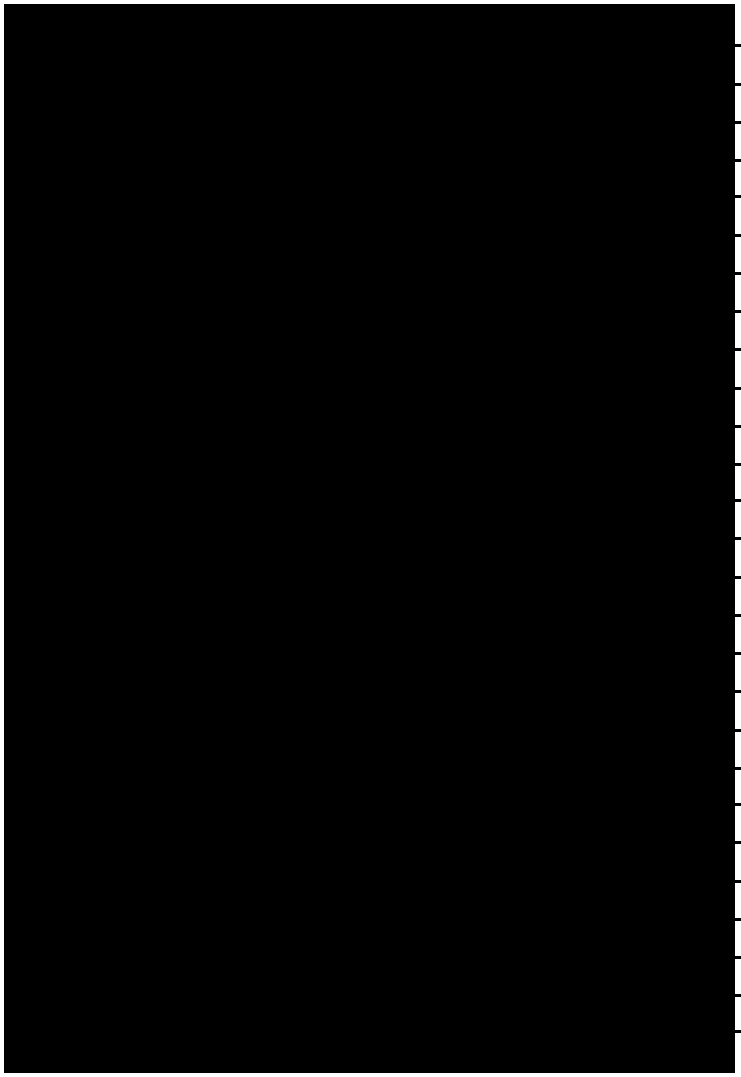
- "[redacted]

- [redacted]
- [redacted]
- [redacted]

74. Internal records indicate that Secure and Tervita are in close competition with one another more than any other provider of Waste Services. Tervita creates a category of records that are called DOAs (Discounted Offer Authorizations) which appear to be automated approval requests for discounts for customers. Tervita produced 1262 DOAs as part of its SIR production. The fields for the DOA requests include 'Customer Name', 'Quote Revenue', 'Discount %', 'New or Existing Business', 'Recommendation & Rationale', 'Competitor Rate', 'Next Best Alternative Analysis', 'Competitive Dynamics', 'Market Share', 'Contract Summary' and 'Account/Market Strategy'. The DOAs may include a fulsome explanation of the purpose for the discount in the field 'Recommendation & Rationale'. These records appear to stop being produced after 2018, for the DOAs requested in 2018, the chart below lists the number of unique 'Quote Numbers' where Secure is mentioned along with various entities identified in the review as potential competitors.

Various Entities	References in DOA docs
Secure	63
[redacted]	4
	4
	5

[2] [redacted]



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75. I have attached as Exhibit 60 to my affidavit all of the DOAs that mention Secure and Exhibit 61 all of the DOA's that mention other competitors.

B. Respondents' Previous Interactions with the Bureau

76. The Bureau has had numerous interactions with both Tervita and Secure that demonstrate the significant competitive rivalry that currently exists between the two companies and will be lost if Secure acquires Tervita.

77. Below, I describe in more detail: (a) Secure's first complaint in 2008 describing Tervita's competitive response to its entry (including litigation between Secure and Tervita that is ongoing to this day); (b) the Commissioner's challenge of Tervita's

acquisition of a permit to build a secure landfill in North Eastern British Columbia ("**NEBC**"); and (c) the Bureau's 2018 review of Tervita's acquisition of Newalta.

1. The 2008 Complaint and the Tervita/Secure litigation

78. In 2008, the Bureau received a complaint from Secure about competition from Tervita (then known as CCS). A copy of this complaint is attached to my affidavit as Exhibit 62. According to Secure, Tervita's alleged conduct included (among other behavior):

a. targeted discounts and below cost pricing;
b. "drive by" payments – which are actually payments made to trucking companies to drive by (and thereby not use) Secure Energy facilities;
c. Attempts to prevent customers from using Secure Energy;
d. Announcing plans to establish new facilities in every area where Secure Energy has or has announced it will launch a new facility;
e. Commencing frivolous litigation against Secure Energy; and
f. The use of threats to "crush" Secure Energy.

79. The 'frivolous litigation' referenced in Secure's initial complaint is Tervita's claim that alleges that several of its former employees, including Secure's CEO René Amirault, inappropriately used proprietary confidential information or business opportunities of CCS to start Secure's operations. A copy of Tervita's Amended Statement of Claim dated September 4th, 2008 is attached as Exhibit 63 to my affidavit.

80. Tervita alleges in its Amended Statement of Claim dated September 4, 2008, at paragraph 70 that:

> *"The breach of their duties enabled the Former Employee Defendants to provide Secure, Pembina and Triumph with a "springboard" or the ability to gain a head start on Secure's plans to launch itself into the same business*

> *being carried on by CCS in direct competition with CCS. Without the unlawful taking of CCS Confidential Information, Secure, Pembina and Triumph would not have had the necessary expertise, experience or technical ability to create or assist in creating a new business that could instantly compete directly with the CCS Business."*

81. In response, Secure filed a Statement of Defence and a Counterclaim dated November 10, 2008, a copy of which is attached as Exhibit 64 to my affidavit.

82. Secure alleges in its Statement of Defence at paragraph 3 (page 2) that "Secure is a company that is competing lawfully with … CCS … in the oilfield waste disposal industry in Alberta; an industry historically dominated by CCS with very little competition." The response contains a number of allegations of anticompetitive conduct.

83. In particular, Secure alleges at para 112 (p.24) that "after Secure's South Grande Prairie Landfill opened, CCS built its own new facility in that area and then dropped its prices at that facility to an unreasonably low level in an attempt to eliminate Secure".

84. Secures alleged in its Counterclaim at paragraphs 108 (page 23) and following that CCS engaged in various forms of wrongful conduct, including engaging in a "policy of unreasonably low pricing, targeted discounting and other anti-competitive actions" designed to substantially lessen competition or eliminate Secure as a competitor" (para 111).

85. Secure's statement indicates that Tervita attempted to eliminate Secure as a competitor, including practices alleged on page 23, para 108g:

> *Contacting employees of Secure, including employees who are not former employees of CCS, in an attempt to induce them to breach their contracts of employment with Secure by threatening them with legal process and the*

financial ruin of Secure, including stating that CCS will 'crush' Secure and 'squash them like bugs'; that CCS will do whatever it takes and will spare no expense to put Secure out of business and make its shares worthless; that CCS will engage in a pricing war where it would be a 'race to the bottom'; and that CCS would add excess capacity by building next to Secure facilities in an attempt to either keep Secure from successfully entering the market or to put Secure out of business."

86. During discovery in this litigation, Secure learned that CCS, in some of its internal communications, adopted the practice of referring to Secure by the name of "Patriot". CCS subsequently disclosed to Secure 379 records in a supplementary affidavit of documents which are referred to as the "Patriot Documents". In 2014, Secure was denied leave from the Court of Queen's Bench of Alberta to provide the Patriot Documents to the Bureau because of the deemed undertaking rule. The Patriot Documents were produced to the Bureau by Tervita in response to the SIR.

87. I have attached two Patriot Documents to my affidavit as Exhibit 65 and Exhibit 66 that speak to the vigorous competition between Secure and Tervita.

88. Exhibit 58 is an undated deck titled [redacted]

89. The second is [redacted]

[redacted]

90. While the litigation was commenced in 2008, it is ongoing. On December 19, 2019, Tervita served its fourth Amended Statement of Claim to Secure, attached to my affidavit as Exhibit 67, and on January 10, 2020 Secure served its Amended Amended Statement of Defence, attached to my affidavit as Exhibit 68, and Third Amended Counterclaim, attached to my affidavit as Exhibit 69.

91. On July 31, 2020, Tervita provided responses to written interrogatories from Secure which is attached to my affidavit as Exhibit 70. Tervita's responses to the written interrogatories speak to the level of competition between the Respondents that will be lost if Secure acquires Tervita. For example:

a. [redacted]

b. [redacted]

c. [redacted]

92. On September 4th, 2020, counsel to Tervita provided a response to Secure's written interrogatories, attached as Exhibit 71 to my affidavit, which included a revised chart indicating the Tervita facilities impacted by competition from Secure and identifying the corresponding competing Secure facilities. For example, for

landfills, the chart identifies that Secure's [redacted] impacted Tervita's [redacted] and for TRDs, Secure's [redacted] TRD impacted Tervita's [redacted] TRD.

93. Secure notes in its 2020 AIF, "after nearly 12 years of litigation, on December 10, 2019, the Tervita claim and counterclaim were amended to $250 million and $83.0 million, respectively. These claims are scheduled to proceed to trial in 2022" (Exhibit 1, pg. 63). Secure's counsel notes in communication with the Bureau during its review, attached to my affidavit as Exhibit 72, that after the Proposed Acquisition, this litigation will be moot.

2. The Babkirk Application

94. In 2010, the Commissioner filed an application challenging Tervita's acquisition of a permit to build a secure landfill at the Babkirk site in NEBC from Complete Environmental (the "**Babkirk Application**").

95. This acquisition was not notifiable under section IX of the *Act*. The Commissioner learned about this acquisition as a result of a complaint filed by Secure's counsel, who described the proposed acquisition of the Babkirk site as "highly anti-competitive". A copy of the complaint is attached to my affidavit as Exhibit 73.

96. Subsequently, Secure's CEO testified in support of the Commissioner in the Babkirk Application. A copy of Mr. Amirault's witness statement dated October 3, 2011, is attached to my affidavit as Exhibit 74.

97. The Competition Tribunal issued its decision on May 29, 2012.[3]

98. The Tribunal concluded that the Tervita's acquisition of the permit to build Babkirk was likely to substantially prevent competition. The Tribunal found:

[3] 2012 Comp Trib 14.

a. that the relevant product market was solid hazardous waste generated by oil and gas producers tipped into secure landfills in NEBC;
b. the geographic market was at least a region within NEBC containing customers for whom the Babkirk site and Tervita's competing Silverberry landfill were viable options;
c. Tervita was a monopolist in the geographic market and that it exercises significant market power which was being maintained as a result of the acquisition of the Babkirk site;
d. the acquisition of Babkirk prevented, on average, a decrease in tipping fees of at least 10%; and
e. there is significant time and uncertainty associated with entry such that effective entry would likely take a minimum of 30 months from site selection to the completed construction and operation of a landfill in the relevant market.

99. While the Tribunal's decision to order divestiture of the Babkirk facility was overturned by the Supreme Court of Canada because the Commissioner did not file evidence of deadweight loss until after receipt of Tervita's efficiencies evidence, the Supreme Court of Canada agreed with the Tribunal's findings that the acquisition of the Babkirk site was likely to substantially prevent competition and did not overturn any of the findings listed in paragraph 98.

3. The 2018 Newalta Acquisition

100. On March 1, 2018, Tervita notified the Bureau that it proposed to acquire Newalta, at the time one of the three major providers of Waste Services in the WCSB, and completed the acquisition on July 20, 2018. The Bureau in its review of the acquisition conducted over 60 market contacts and received 149,922 documents produced by Tervita and Newalta in response to supplementary information requests.

101. Tervita provided a competition submission with its notification on March 1, 2018 (the "**Newalta ARC Request**"). The Newalta ARC Request is included as Exhibit 75.

102. The Newalta ARC Request identifies local markets of overlap in two categories:

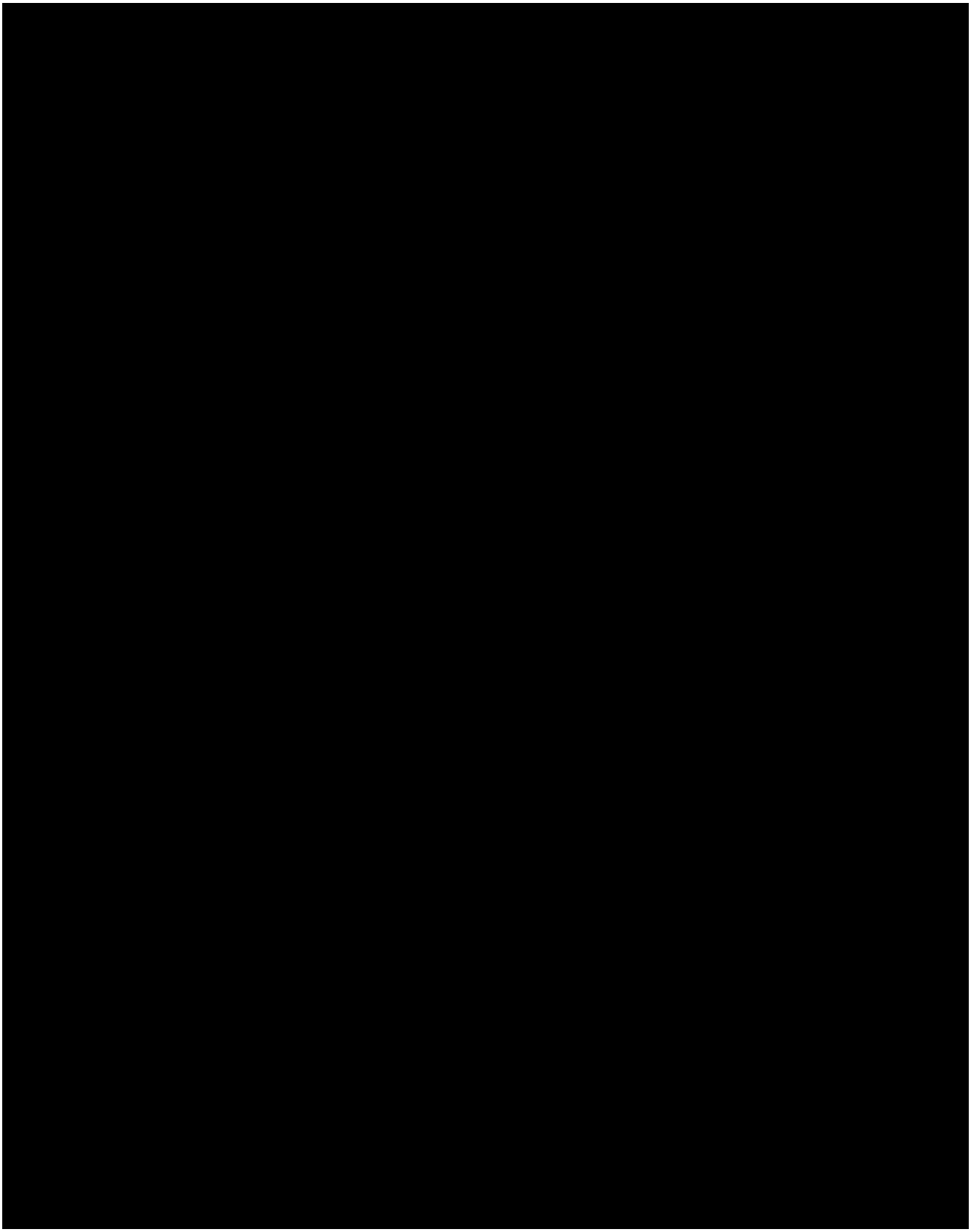
[redacted]

103. On p.22-23 of the ARC Request, Tervita writes:

[redacted]

104

105



106. The Senior Deputy Commissioner sent a letter to counsel to Tervita on July 6, 2018 indicating that there were significant concerns with respect to several geographic areas and that, if the parties proceeded to commence closing the Newalta Acquisition, they did so at their own risk. This letter is attached as Exhibit 80. While the Commissioner did not file an application to the Tribunal seeking divestitures nor did he take any enforcement action in the matter, he did not issue an advance ruling certificate or no-action letter in respect of the Newalta Acquisition.

107. After Tervita's acquisition of Newalta was complete, CIBC World Markets issued a comprehensive 50 page report dated August 15, 2018 analyzing the Newalta Acquisition. A copy is attached to my affidavit as Exhibit 81. One of the Investment Highlights noted by CIBC on page 3 was that "the two largest competitors in the WCSB oilfield waste management market (i.e., Tervita and Secure) control upwards of 75% of the third-party oilfield waste management facilities in Canada

and process over 80% of the third party waste. In addition, due to the stringent regulatory environment and high capital costs associated with constructing new facilities, the barriers to entry within this business tend to be quite high".

VIII. SELF-DISPOSAL AND COUNTERVAILING POWER IS UNLIKELY TO CONSTRAIN AN EXERCISE OF MARKET POWER BY SECURE

108. In some cases, oil and gas producers may have internal waste disposal facilities. Due to regulatory and capital constraints, self-disposal may be used by larger producers, and is typically not offered to third parties. [redacted]

109. Waste Services are not the core competencies of oil and gas companies, which generally prefer to use their capital to produce oil and gas. Even oil and gas producers that have self-disposal capacity may still rely on third-party water disposal wells, TRDs and landfills to dispose of their waste. [redacted]

110. While the Respondents argue that the ability of oil and gas producers to self-supply is a competitive constraint, internal Secure and Tervita documents produced in response to the SIR indicate that they sell Waste Services on the basis that first party facilities are not an efficient use of an oil and gas producers capital. A deck prepared for [redacted] with this rationale, along with the covering e-mail, is attached to my affidavit as Exhibit 82. Slide 4 notes that the downside of oil and gas operators building and operating their own facilities is [redacted]

111. The AER approves and regulates first party oilfield landfills and third party oilfield waste management facilities in Alberta. As the AER website notes, "First-party receivers can only accept upstream oilfield waste generated by one oil and gas company, but can come from various sites. Third-party receivers can accept upstream oilfield waste from various sites and various generators." A copy of the AER website with this information is attached to my affidavit as Exhibit 83.

112. The AER list of approved first party landfills is attached to my affidavit as Exhibit 84. The last first party landfill to be approved in Alberta was ConocoPhillips four years ago. [redacted] The AER currently does not have any applications for first party landfills – see notes of call with AER at Exhibit 11 (pg. 123).

113. In NEBC, I am not aware of any secure landfills or TRDs (whether owned by oil and gas companies or competitors) that have been approved since the Babkirk facility in 2008. Secure is the only company with an application to build a secure landfill at Wonowon in NEBC. A copy of the British Columbia Environmental Assessment Office website showing applications for secure landfills is attached to my affidavit as Exhibit 85.

114. Several oil and gas companies own and operate a number of water disposal wells that they use to dispose of waste water or produced water. However, even oil and gas companies that own water disposal wells regularly use third party water disposal wells. They will do so because capacity or geographic reasons. Attached to my affidavit as Exhibit 86 is an internal Secure presentation titled "[redacted]. The presentation notes that "many producers in the area have their own disposal capacity [redacted]) – water coming into DCFST is generally overflow from these large producers".

115. In addition, there are geological areas in the WCSB that have limited disposal geology for wells. Attached to my affidavit as Exhibit 87 is an e-mail attaching a

Secure internal request for approval to build a single well disposal facility west of Grande Prairie along with the approval signatures from the Secure representatives. The proposal notes in the Project Overview that "the geology for disposal wells in the area is very limited."

116. Secure and Tervita are by far the largest third-party operators of water disposal wells. For example, in February 2021, Secure and Tervita combined to inject over 20,000 cubic meters of waste water into their wells. By comparison, Aqua Terra Water Management, Medicine River Oil Recyclers, and Catapult Water Midstream, the next three largest competitors combined injected less than 6,000 cubic meters in February 2021. The Catapult Research Injection Report showing this on page 4 is attached as Exhibit 88.

117. The Respondents have argued that consolidation of oil and gas producers and their relative size will allow oil and gas producers to exercise countervailing power. In March 2021, [redacted]

IX. FORECLOSURE AND BUNDLING OF WASTE SERVICES WITH ENVIRONMENTAL SERVICES

118. Information collected during the Bureau's review indicates that the Respondents try to bundle the provision of Waste Services with Environmental Services.

119. In an e-mail on January 15, 2021 from Vince Lisch, Vice President of Energy Services at Tervita, to John Cooper, CEO of Tervita, attached to my affidavit as Exhibit 90, Lisch notes that: "[redacted]" The acronym ES is likely a reference to Tervita's Energy

Services business unit (in which Tervita's landfill, TRD and water disposal businesses operate), and IS is likely a reference to Tervita's Industrial Services business (in which many of Tervita's Environmental Services businesses operate).

120. In an e-mail from Shawn Olson, Business Development, to Richard Bodnaryk, Area Manager at Tervita, on October 21, 2019, attached to my affidavit as Exhibit 91 a business opportunity analysis is attached with the title 'Consolidation v.6'. The heading [redacted] is on page 13. The opportunity is described as '[redacted] It then says '[redacted]' Later on the page, it reads '[redacted]

121. Adam Lunseth, Field Services Manager for Edmonton Industrial Waste Services, writes on May 1, 2018 in an e-mail to the Sales Rep Shane Nelson, attached to my affidavit as Exhibit 92, '[redacted]

122. In a Secure document, Ryan Richardson writes to a number of Secure employees on January 10, 2017, in an email attached to my affidavit as Exhibit 93, that '[redacted]

[redacted]

Affirmed remotely by Andrew Kelly at the City of Ottawa in the Province of Ontario, before me on June 29, 2021 in accordance with O. Reg. 431/20, Administering Oath or Declaration Remotely.

Commissioner for Taking Affidavits
Mallory Kelly

Kelly, Andrew

Digitally signed by Kelly, Andrew
DN: C=CA, O=GC, OU=IC, CN="Kelly, Andrew"
Reason: I am the author of this document
Location: your signing location here
Date: 2021.06.29 13:22:27-04'00'
Foxit PhantomPDF Version: 10.1.4

Andrew Kelly

A Commissioner, etc., Province of Ontario
Commissaire, etc., Province de l'Ontario
Mallory Christina Kelly
exp.: February 27, 2022
exp.: 27 février 2022
for the Government of Canada, Department of Justice
au service du gouvernement du Canada, ministère de la Justice

[1] Secure Annual Information Form dated December 31, 2020
[2] Tervita's 2020 Annual Report
[3] TEV00022651, TEV00022652
[4] RBBB00002_00000002
[5] RBBB00001_000000002
[6] RBBB00002_000000005
[7] RBBC00001_000000010
[8] RBBB00004_000000004
[9] https://www.canadianenergycentre.ca/big-oil-is-mainly-small-oil-in-canada/
[10] Confirmation E-mails
[11] Market Contacts
[12] Confirmation E-mails No Reply
[13] 14 letters from 13 oil and gas producers
[14] SES0042108
[15] E-mail to Teine Energy from A Kelly dated June 3, 2021
[16] Efficiences Submission
[17] J. Hood email to B. Facey dated June 24, 2021
[18] N. Joneja response dated June 25, 2021
[19] N. Joneja latter dated June 25, 2021 with attachments
[20] J. Hood letter dated June 29, 2021
[21] SES0008643
[22] TEV00244046
[23] TER_00089995
[24] TER_00089996
[25] TER_00017167
[26] TEV00223412
[27] SES0018395
[28] TEV00114394
[29] SES0039749
[30] TEV00155420
[31] TEV00235757
[32] SES0067128
[33] SES0004582
[34] SES0083701
[35] SES0051085
[36] Placeholder for Dr. Miller's Working Files
[37] Masterlist
[38] List of facilities
[39] Description of Masterlist
[40] TER_00014280
[41] TEV00230848
[42] SES0051322
[43] TEV00139740
[44] Spreadsheet from AEP with landfill volumes
[45] https://edmontonjournal.com/business/local-business/northern-alberta-landfill-opens-after-decade-of-controversy
[46] https://www.cbc.ca/news/canada/edmonton/conklin-landfill-fort-mcmurray-1.5317045
[47] SES0036540
[48] TEV00060012
[49] TER_00077586
[50] TEV00000104
[51] TEV00219518

[52] SES0024264
[53] SES0024662
[54] SES0014546
[55] SES0048160
[56] TEV00008459
[57] TEV00119204
[58] SES0048119
[59] SES0002579
[60] DOA's that mention Secure
[61] DOA's that mention competitors
[62] MDCL0001_00003256
[63] Tervita's Amended Statement of Claim dated September 4th, 2008
[64] Statement of Defence and a Counterclaim dated November 10, 2008
[65] RBEK00002_000002614
[66] RBEK00002_000002565
[67] Tervita's fourth Amended Statement of Claim
[68] Secure's Amended Amended Statement of Defence
[69] Secure's Third Amended Counterclaim
[70] SES0129280
[71] SES0126877
[72] Letter to T MacKay from Blakes dated May 3, 2021
[73] MCEB0001_00000095
[74] Mr. Amirault's witness statement
[75] Newalta ARC Request
[76] May 17, 2018
[77] June 19, 2018
[78] July 31, 2018
[79] November 23, 2018
[80] Letter to counsel to Tervita dated July 6, 2018
[81] CIBC World Markets
[82] SES0086265
[83] AER website
[84] AER list of approved first party landfills
[85] British Columbia Environmental Assessment Office website
[86] SES0004800
[87] SES0041154
[88] [redacted]
[89] TEV00085997
[90] TEV00008880
[91] TEV00171053
[92] TEV00111929
[93] SES0095916

CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an interim order pursuant to section 104 of the *Competition Act*;

B E T W E E N:

COMMISSIONER OF COMPETITION

Applicant

- and -

SECURE ENERGY SERVICES INC
TERVITA CORPORATION

Respondents

AFFIDAVIT OF ANDREW KELLY
(Affirmed June 29 2021)

CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to 92 of the *Competition Act*;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an interim order pursuant to section 104 of the *Competition Act*;

B E T W E E N:

COMMISSIONER OF COMPETITION

Applicant

- and -

SECURE ENERGY SERVICES INC.

TERVITA CORPORATION

Respondents

AFFIDAVIT OF NATHAN H. MILLER
(AFFIRMED JUNE 29, 2021)

---

1. My name is Nathan H. Miller. I am the Saleh Romeih Associate Professor at the McDonough School of Business at Georgetown University in Washington, DC.

2. I have been asked by the Commissioner of Competition to provide an economic assessment of the competitive implications of the proposed merger between Secure Energy Services Inc. and Tervita Corporation.

3. I attach as Exhibit "A" to this affidavit my report setting out my opinion.

4. I attach as Exhibit "B" to this affidavit my curriculum vitae.

5. I attach as Exhibit "C" to this affidavit my Acknowledgement of Expert Witness.

Affirmed remotely by Nathan H. Miller at the City of Washington in the District of Columbia, before me on June 29, 2021 in accordance with O. Reg. 431/20, Administering Oath or Declaration Remotely.

Commissioner for Taking Affidavits
Mallory Kelly

A Commissioner, etc., Province of Ontario
Commissaire, etc., Province de l'Ontario
Mallory Christina Kelly
exp.: February 27, 2022
exp.: 27 février 2022
au service du gouvernement du Canada, ministère de la Justice
for the Government of Canada, Department of Justice

NATHAN H. MILLER

CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c. C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;

AND IN THE MATTER OF an application by the Commissioner of Competition for an interim order pursuant to section 104 of the Competition Act.

BETWEEN:

THE COMMISSIONER OF COMPETITION

Applicant

– and –

SECURE ENERGY SERVICES INC.
TERVITA CORPORATION

Respondents

AFFIDAVIT OF NATHAN H. MILLER
(AFFIRMED JUNE 29, 2020)

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1. ASSIGNMENT

1. I was asked by the Competition Bureau ("Bureau") to provide an economic assessment of the competitive implications of the proposed merger between Secure Energy Services Inc. ("Secure") and Tervita Corp. ("Tervita").

2. SUMMARY OF OPINIONS

2. I have concluded that the transaction likely will have anticompetitive effects and increase the prices of waste services. I find that Secure and Tervita are each other's closest competitors in product and geographical markets related to waste services. The proposed merger will eliminate this competition. The proposed merger will bring the merged firm's market share well above the safe harbour level (35 percent) in many local markets. In fact, the merger will create monopolies and reduce competition from three firms to two firm in many local markets. I reserve the right to revise my opinions if new information or data become available in the future.

3. INDUSTRY BACKGROUND

3.1. Tervita and Secure background

3. Tervita Corp. is a publicly traded Canadian company that provides "integrated waste and environmental services" to the oil and gas exploration and extraction industry,[1] and to industrial businesses, more generally.[2] Founded in 1983,[3] Tervita defines its services along two segments: energy and industrial services. Energy services include treatment, recovery, and disposal of wastes that result from oil and gas production, and industry services comprise other types of waste, recycling, and environmental services accessed by a larger

[1] Tervita 2020 Annual Report, p. 11. About a quarter of revenues are derived from well drilling and completion process (early phase of well development) and three-quarters are derived from ongoing production activities. See Tervita 2020 Annual Report, p. 12.

[2] For example, Tervita's list of top customers includes companies operating in transportation [redacted], steel manufacturing ([redacted] and excavation services [redacted] as well as local governments and municipalities [redacted] See Appendix 4.3.3 to Tervita's PMN.

[3] Tervita 2020 Annual Report, p. 8 ("Legacy Tervita was originally incorporated under the ABCA on October 24, 1983 under the name 'Western Petro Pollution Control (1983) Ltd.'").

set of industries.[4] In 2020, energy services accounted for 60 percent of Tervita's revenue.[5]

4. As part of its Waste Service operations, Tervita operates various treatment, recovery, and disposal ("TRD") facilities, landfills, and water disposal wells.[6] These facilities are mostly located in the Western Canadian Sedimentary Basin ("WCSB").

5. Tervita has grown its presence in Waste Services as the result of mergers and acquisitions. These transactions include its 2018 merger with a large Waste Service operator at that time, Newalta Corporation ("Newalta"),[7] and its 2011 acquisition of Complete Environmental, which included the Babkirk secure landfill.[8]

6. Secure Energy Services Inc. is a publicly traded Canadian company that provides "customer solutions to upstream oil and natural gas companies" and "comprehensive environmental and fluid management for landfill disposal, onsite abandonment, remediation and reclamation, drilling, completion and production operations for oil and gas producers."[9] Secure was founded by former Tervita employees in 2007, and since then, Secure has grown by acquiring competitors and building its own facilities,[10] achieving this growth during a period of high oil exploration and development.[11]

7. Secure divides its business into two segments: midstream infrastructure and environmental and fluid management.[12] Midstream infrastructure supports the oil and gas extraction industry by treating and disposing of wastes that result

[4] Tervita 2020 Annual Report, pp. 12–13.

[5] Tervita 2020 Annual Report, p. 13. The revenue share generated from energy services excludes any revenue earned from oil marketing and resale, which is a part of Tervita's business with low margins. See Letter from Kevin Ackhurst (Norton Rose Fulbright) to Commissioner John Pecman (Competition Bureau of Canada), March 1, 2018, p. 20.

[6] "Facilities," Tervita, available at https://tervita.com/solutions/facilities/. TRDs are also referred to as full service terminals ("FST").

[7] The other three mergers include those with International Technologies Inc. in 1993, a merger with CCS Inc. and 987681 Alberta Ltd in 2002, and a merger with 1331826 Alberta ULC in 2007. See Tervita Annual Information Form for the year ended December 31, 2020, p. 8.

[8] Federal Court of Appeal, 2013 FCA 28, at ¶¶ 6–15.

[9] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 7.

[10] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 25–27.

[11] Between 2007 and 2015, an average of over 11,000 wells were drilled in Western Canada for exploration and development. Since 2015, this number declined to an annual average of less than 4,700. The Canadian Association of Petroleum Producers (CAPP), Statistical Handbook, https://www.capp.ca/resources/statistics/

[12] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 3.

from well operations, among other activities,[13] and the environmental fluid management services comprise other waste management, recycling, storage and remediation services.[14] Like Tervita, Secure also operates TRD facilities, landfills, and water disposal wells in the WCSB.[15] In 2020, midstream infrastructure segment generated 44 percent of Secure's revenue.[16]

8. In March 2021, Secure and Tervita ("the Parties") announced a merger agreement. I understand that the Parties' provide similar services to midstream oil and gas industry in four categories: 1- oilfield waste processing and treatment at TRDs, 2- solid oilfield waste disposal at industrial landfills, 3- produced water and waste water disposal at deep water disposal wells, 4- oil processing and handling.[17] As I explain below, the combined entity would own and operate a high percentage of TRDs, industrial landfills, and water disposal wells in the WCSB.[18] In addition, the Parties indicated that both companies "provide various services that can be categorized as 'environmental solutions' in Canada."[19]

[13] Midstream services include oil and gas related waste treatment and disposal, oil purchasing and reselling, and oil and terminalling, storage, and marketing services. SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 7-9; "[redacted]

[14] Environmental and fluid management services include well remediation and reclamation, landfill disposal, waste container, and fluid management, recycling, and storage services. SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 9-11; "[redacted]

[15] Secure 2020 Annual Financial Statement, p. 3.

[16] Secure 2020 Annual Financial Statement, p. 41. The share of revenue generated by midstream infrastructure services excludes oil marketing and resale.

[17] Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021, p. 10.

[18] "SECURE Energy Services Inc. and Tervita Corporation Merge to Create a Stronger Midstream Infrastructure and Environmental Solutions Business," Tervita, March 9, 2020, available at https://tervita.com/news/article/secure-energy-services-inc-and-tervita-corporation-merge-to-crea/.

[19] Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021, p. 14.

3.2. Waste Services

9. The oil and gas industry can generally be described in three levels: (1) exploration and extraction ("upstream"), (2) processing, marketing, storing, transporting, waste management, and other support services ("midstream"), (3) refining for final sale ("downstream"). The Parties compete to provide midstream waste treatment and disposal services to oil and gas production companies in the upstream market. A significant part of their Waste Service operations fall into one of three categories: waste processing and treatment services provided by TRD facilities, disposal of solid waste from oil and gas fields, and disposal of produced water and waste water. The Parties also provide environmental services, such as reclamation and remediation services, and energy marketing services such as oil processing, sales and "terminalling."[20]

10. I understand that oil and gas production produces waste by-products during the drilling, completion, and production phases of well development.[21] In addition, waste is produced during storage (sludge at the bottom of tanks), when wells are abandoned, and if there is a spill. The waste, which can come in a dry, fluid or mixed form, can be summarized as follows (see also **Exhibit 6** in Section 5.1).

- The drilling phase produces drilling fluids and drill cuttings.[22] Several methods are used to drill a wellbore into the ground that often bring mud and drill cuttings, or other minerals from the drilled subsurface strata, to the surface. The drill bit may also circulate water and other chemicals in the wellbore that carry the drill cuttings out of the well.[23]
- The completion phase prepares a drilled well for production, which includes setting up a steel pipe casing at the mouth of the well,

[20] "Tervita Solutions A-Z," available at https://tervita.com/solutions/a-z/; "Secure Energy, Our Operations," available at https://www.secure-energy.com/our-operations. See also Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 3 ("Crude Oil Terminalling provides customers with an access point or terminal to transport their produced clean oil to market via pipeline. Typically, this oil is delivered by customers to a facility by truck and is stored on site until it is shipped through the transmission pipelines. In some cases, the facility will manage both the purchase of the oil and the subsequent payment to the producer for the delivered oil based on the initial quality received. The facility may optimize the oil quality via blending and enhance its value, thereby generating incremental profits."). See also Tervita Annual Information Form for the year ended December 31, 2020, pp. 12-13, pp. 20-21; SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 7-10.

[21] Tervita 2020 Annual Report, p. 15.

[22] Tervita 2020 Annual Report, p. 15.

[23] See Alberta Energy Regulator ("AER"), "Drilling," available at https://www.aer.ca/providing-information/by-topic/drilling.

pouring cement into the space between the casing and the wellbore walls, and installing other wellbore equipment necessary for production to begin.[24] The completion phase can also include the use of well stimulation techniques that increase the level of well production such as hydraulic fracturing.[25] This phase produces various waste fluids and solids such as fracking fluids and sand.[26] Fluids produced during this phase may be mixed with oil, which can be recovered and resold.

- The production phase creates wastes such as produced water (naturally occurring water that comes out of the ground along with oil and gas),[27] emulsion (mixture of oil, water, gas, and other substances),[28] sludges, and various solids such as sand and naturally occurring radioactive materials. Processes that separate crude oil from water, salts, and other suspended materials transform emulsion into marketable crude and waste that meets environmental and regulatory standards for safe disposal.[29]
- Waste is also produced during the "turnaround" process, which includes cleaning out the sludge and other waste collected at tank bottoms;[30] when closing abandoned wells, which requires

[24] See Rigzone.com, "How does well completion work?" available at https://www.rigzone.com/training/insight.asp?insight_id=326

[25] Hydraulic fracturing is a technique that involves injecting water, sand, and other chemicals under high pressure into a bedrock formation in order to create fissures in the rock and release more oil and gas to flow to the surface. See AER, "Hydraulic Fracturing," available at https://www.aer.ca/providing-information/by-topic/hydraulic-fracturing; "Fracking Explained," Petroleum Services Association of Canada, available at https://oilandgasinfo.ca/all-about-fracking/fracking-explained/.

[26] "Fracking Explained," Petroleum Services Association of Canada, available at https://oilandgasinfo.ca/all-about-fracking/fracking-explained/ ("The frac fluid used during the fracking process consists of: A base fluid: most commonly water, but can also be liquid carbon dioxide (CO_2) or nitrogen (N_2)[.] Proppant or frac sand: commonly pure silica sand, but can also be resin-coated sand or ceramic beads[.] Additives: common additives that change the performance of the fluid throughout the fracking process and protect the reservoir and equipment[.]")

[27] "What is Produced water?" American Geosciences Institute, available at https://www.americangeosciences.org/critical-issues/faq/what-produced-water.

[28] Tervita Annual Information Form for the year ended December 31, 2020, p. 15 ("Emulsion, a combination of oil and water, may also be produced and can be separated into its primary component parts through processing. …").

[29] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 8; Tervita Annual Information Form for the year ended December 31, 2020, p. 15 ("During the oil and gas extraction (production) phase, 'produced water' is produced which must be treated, recycled and sent for disposal. Emulsion, a combination of oil and water, may also be produced and can be separated into its primary component parts through processing. … Through Tervita's stringent processes, waste is sorted into recoverable oil, wastewater, sludge, solids or fluids … The recovered, salable oil is transferred to market via Tervita's energy marketing business either via a clean oil pipeline connection at the facility or via transport trucks designed to haul oil to market.").

[30] I understand that this waste is collected during periodic cleaning up of storage tanks.

remediation that may generate contaminated soil as waste;[31] and when cleaning up spills at the well sites.[32]

11. Wastes resulting from all phases of oil and gas exploration and production operations are processed, treated, and disposed of at TRDs, landfills, and water disposal wells.

12. TRDs treat, process, recover, and dispose of oil and gas industry waste by-products such as contaminated drilling muds, completion fluids and tank-bottom sludge.[33] TRDs process emulsion and other liquid wastes by separating oil and usable materials from waste water, salts, and other suspended materials that then may be disposed of in landfills or injected into waste water disposal wells.[34] Most TRDs have water disposal wells located on site and take in produced water and waste water. Before disposal, TRDs may treat the liquid and solid wastes to meet environmental and regulatory standards, which are meant to lower the waste hazard-levels and ensure safe, non-contaminating disposal.[35]

[31] AER, "Remediation," https://www.aer.ca/regulating-development/project-closure/remediation

[32] "[redacted]

[33] Letter from Kevin Ackhurst (Norton Rose Fulbright) to Commissioner John Pecman (Competition Bureau of Canada), March 1, 2018, pp. 4-5. See also Tervita Annual Information Form for the year ended December 31, 2020, p. 14 ("A TRD Facility is an above ground facility that separates waste into solids, wastewater and recovered oil through specialized waste management solutions designed to be compliant with applicable environmental laws and standards.").

[34] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 17 ("Residual water-based fluids are permanently injected into disposal wells associated with the facility, ensuring safe and responsible disposal. In total, SECURE deposited nearly 4.6 million m3 of produced water and waste water in 2020 via deepwell injection into the network of disposal wells associated with the Corporation's midstream processing facilities…").

[35] Environmental standards and regulatory oversight may vary between Canadian provinces. In Alberta, the Alberta Environment and Parks ("AEP") regulates landfills under Alberta's Environmental Protection and Enhancement Act, the Waste Control Regulations and the Activities Designation Regulation. In British Columbia, the primary regulatory bodies are the British Columbia Oil and Gas Commission and the British Columbia Ministry of Environment and Climate Change Strategy, and separate bodies and law regulate the industries in Saskatchewan and Manitoba as well. See SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 33–34. See also SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 34 ("These provincial environmental regulations include requirements for oilfield waste management that deal with environmental protection, liability management, waste characterization and classification, waste manifesting and tracking, waste management facility design, application requirements and acceptable waste disposal options. These regulations strongly influence the permitting, design, construction, operation and reclamation of waste management facilities.").

13. Landfills take in solid wastes that come from TRDs and directly from the well sites.[36] Landfills may also take in drill cuttings, contaminated soil, produced sand, and treated solids from the TRDs.[37] In addition to oil and gas production, Tervita and Secure take in landfill waste from chemical producers, pulp and paper producers, and environmental remediation service providers.[38]

14. Produced water and waste water, as well as other water-based liquid wastes, are often disposed of by injecting it into water disposal wells, sometimes without prior treatment.[39] Water disposal wells owned by Waste Service providers can be stand alone or at the location of TRDs. Tervita also uses caverns to store both liquid and solid wastes, which are deep sealed salt formations that can also store liquids with high pH content, processed sludge, and other contaminants.[40]

15. Tervita and Secure's Waste Service facilities and operations are predominantly located in Western Canada. According to Tervita's 2020 Annual Report, Tervita owns and operates 44 TRDs, three caverns, 22 landfills (18 of which are owned by Tervita), and eight stand-alone water disposal facilities in the WCSB.[41] According to Secure's 2020 Annual Information Form, Secure owns and operates 18 TRDs (or full-service terminals), seven landfills (six of

[36] Tervita Annual Information Form for the year ended December 31, 2020, p. 17.

[37] Tervita Annual Information Form for the year ended December 31, 2020, p. 17; SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 8.

[38] Tervita Annual Information Form for the year ended December 31, 2020, p. 17; SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 29.

[39] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 19 ("Residual liquid waste water is injected via deep disposal wells into disposal zones between impermeable layers of rock."); Tervita Annual Information Form for the year ended December 31, 2020, p. 25 ("Tervita's network of fixed facilities includes 22 engineered landfills, eight standalone salt water disposal wells, three cavern disposal facilities, 44 TRD Facilities and a number of deep underground injection disposal wells that handle a broad variety of wastes.").

[40] Tervita Annual Information Form for the year ended December 31, 2020, p. 16 ("Tervita utilizes salt formations deep below the surface to allow for the disposal of most solid or liquid wastes, including those that are difficult to process or not appropriate for placement in TRD Facilities or engineered landfills, such as high pH fluids, chemicals, NORMs, processed sludges and other contaminants.").

[41] Tervita Annual Information Form for the year ended December 31, 2020 refers to Western Canada as primary location for various types of assets. See Tervita Annual Information Form for the year ended December 31, 2020, pp. 14-17. An investor presentation from May 2020 described Tervita's 46 TRD, 3 cavern, 8 stand-alone water disposal, and 23 landfill facilities. See Tervita Corporation, "Investor Presentation," May 2020, pp. 4. Note that caverns can be used to dispose of both liquid and solid wastes, and many TRD facilities have a deep injection wells on-site for water disposal. See List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx).

which are owned by Secure), and 15 stand-alone water disposal wells in the WCSB.[42]

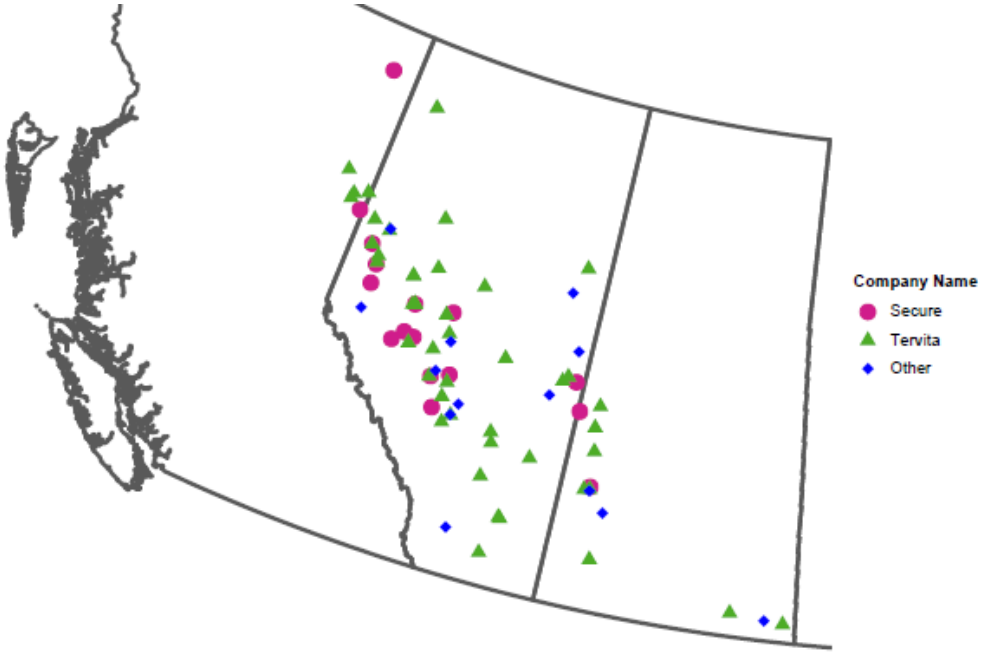
16. Exhibit 1, Exhibit 2, and Exhibit 3 map the TRD, landfill, and water disposal facilities, respectively, operated by Tervita, Secure, and other third-party competitors in the Waste Service industry in the WCSB.[43] The map of water disposal facilities also includes markers for TRD facilities because there are water disposal wells on the premises.

17. I used the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx) on June 8, 2021 to create the maps and conduct my analyses. Subsequently, on June 15, 2021, the Bureau sent a modified list, which included 16 additional facilities per the information provided by the Parties. I did not have sufficient time to redo all of my analyses (which requires calculating the distances between each facility and large number customers in the Parties' transaction data) with the modified data. However, I did review information about the additional facilities. Six of the facilities are municipal landfills, which take in small contaminated soil and special waste volume. I understand that the Bureau was not able to confirm the status of two TRDs, which were not mentioned by their owners when the Bureau contacted them. Many of the facilities do not appear in Parties' documents that identify their competitor facilities. Some of the facilities are not near any Secure or Tervita facilities. See the Appendix for a list of the facilities and information about them. As I describe below, I use a conservative approach to estimate the market shares of third-party competitor facilities. This approach provides an allowance for competitor facilities that may not be included in the analysis. Overall, the inclusion of the 16 facilities would not qualitatively change my analysis and conclusions.

[42] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, at p. 28 ("The majority of the Corporation's operations and customers are located in western Canada."). See also SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 20, 22-23.

[43] I use the List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx) to plot all of the Tervita, Secure, and competitor facilities [redacted]

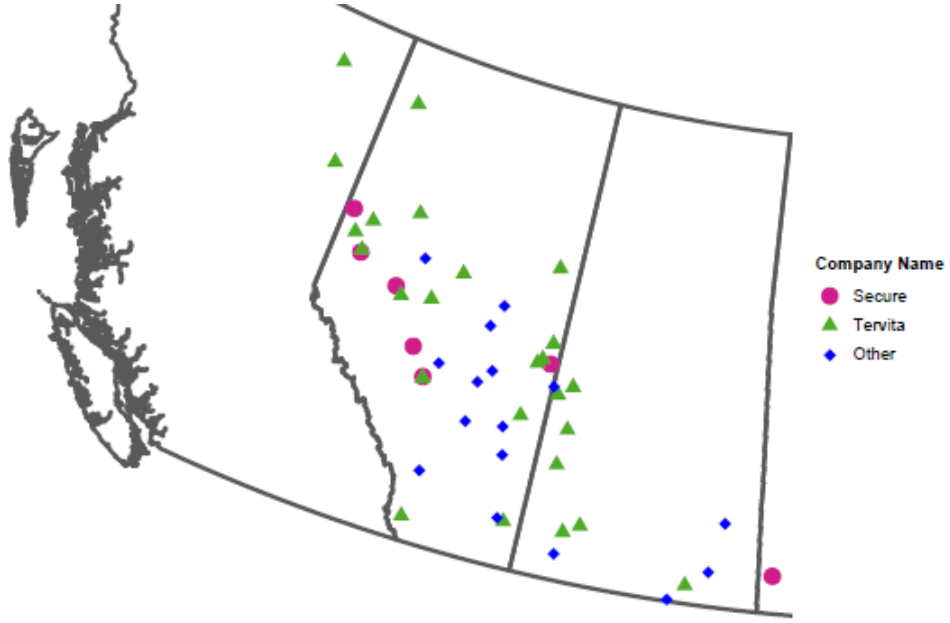
EXHIBIT 1
Map of TRD facilities operated by Tervita, Secure, and competitors in the WCSB



Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The maps reflect the locations of Waste Service facilities in the Western Canadian Sedimentary Basin that are active as of 2021. The TRD facility locations are identified in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx).

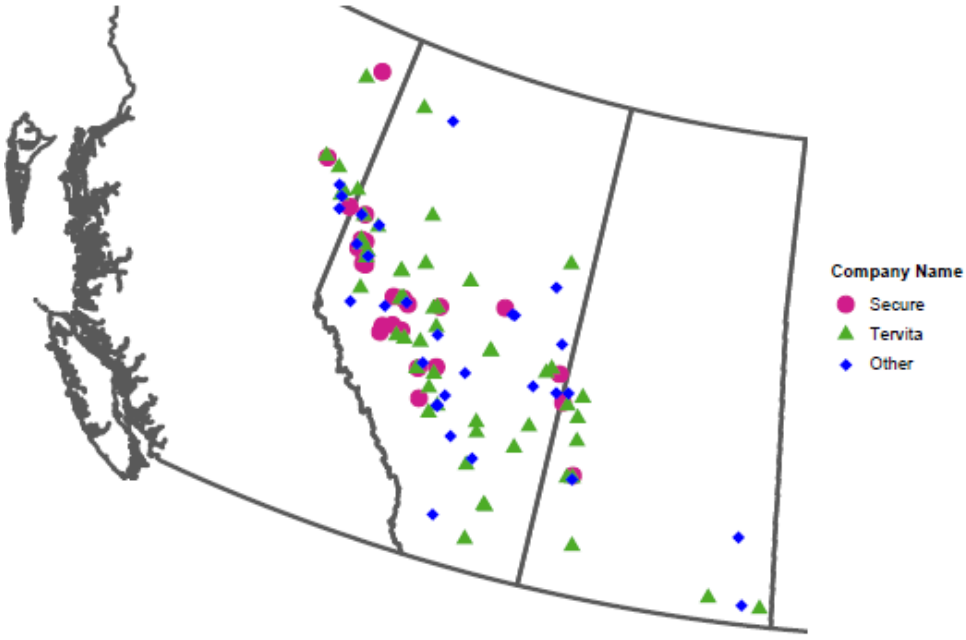
EXHIBIT 2
Map of landfill facilities operated by Tervita, Secure, and competitors in the WCSB



Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The maps reflect the locations of Waste Service facilities in the Western Canadian Sedimentary Basin that are active as of 2021. The landfill facility locations are identified in list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). There are two cavern facilities that can handle both solid and fluid waste disposal, so those facilities are mapped among the water disposal and landfill facilities. [redacted]

EXHIBIT 3
Map of water disposal facilities operated by Tervita, Secure, and competitors in the WCSB



Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The maps reflect the locations of Waste Service facilities in the Western Canadian Sedimentary Basin that are active as of 2021. The water disposal facility locations are identified in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). There are two cavern facilities that can handle both solid and fluid waste disposal, so those facilities are mapped among the water disposal and landfill facilities. The mapped facilities also include waste water disposal facilities available at TRDs, which also take in produced water and waste water. The locations indicate the water disposal wells owned by Waste Services firms. Self-supply on-site water disposal wells are not included on the map.

3.3. High transportation costs and their implications

18. Third-party trucking companies typically transport waste from a well site to a waste disposal facility or landfill,[44, 45] and according to industry research,

[44] Tervita Annual Information Form for the year ended December 31, 2020, p. 16 ("Producers generally hire third-party trucks to remove waste, water, emulsion and oil from their sites to deliver it to Tervita's TRD Facilities and cavern facilities."). Newalta Responses to Request for Information (March 23 2018), p. 3 ("The Company does not typically provide or arrange transportation services from a customer's site to the Company's Site. As customers typically get preferred rates with transporters, Company provided or arranged transportation would not add value for most customer. However, in a very small number of cases a customer requests a 'turn-key' service, which includes transportation. In that case, the Company will arrange for the provision of transportation services on behalf of the customer.") I understand that in some circumstances, pipelines connecting the well site to the waste service facility may transport waste such as produced water instead of trucks. SECURE ENERGY Annual Information Form for the year ended December 31, 2020, pp. 5, 13 ("In the fourth quarter of 2019, new produced water pipelines connecting producer facilities/gas plants to SECURE's midstream infrastructure were added to the Tony Creek and the Gold Creek water disposal facilities. … To achieve this, SECURE is focused on growing and expanding production-focused infrastructure. The strategies the Corporation has developed to achieve this priority include: … Building and connecting produced water pipelines and disposal facilities to reduce customers' transportation costs and reduce their environmental footprint…"). I understand that only Tony Creek, Gold Creek, and Pipestone Secure facilities have water pipelines.

[45] Some Waste Service suppliers also provide trucking services, including Wolverine. Wolverine Energy + Infrastructure Inc., "Trailer Rentals," available at https://wnrgi.com/rentals/transportation/ ("We pride ourselves on fast, quality transport services. Wolverine Energy & Infrastructure provides a 24 hour hauling

"[t]he key consideration [for Waste Service providers] in customer acquisition is proximity of disposal facilities, as transportation costs are the single-largest component of waste disposal for a producer."[46] Similarly, Secure, in a 2018 submission to the Bureau explained that "transportation is a significant cost incurred by the customer."[47]

19. Transportation costs tend to be proportional to the driving distance, driving time, and weight transported.[48] According to an industry estimate, these costs can comprise upwards of 70 percent of the total waste service costs.[49] Tervita's internal analyses show that transportation costs are a significant part of overall waste disposal costs. For example, an internal Tervita estimate suggest a range of 48 to 62 percent of the total disposal costs, including the per-unit disposal fees paid for Waste Services.[50] Secure's analysis submitted to the Bureau in 2018 confirm the high cost of transportation services. For example, Secure's analysis of Gordondale area estimated [redacted] per cubic meter in trucking costs compared to disposal fees of [redacted] per tonne for landfills, [redacted] per cubic-meter for water disposal services, and [redacted] per cubic-meter for waste processing services.[51] Consequently, to attract customers and mitigate the high costs of transportation, Waste Service providers try to locate their facilities near to well sites.[52]

service to the oil and gas industry as well as various trucking services for construction, agriculture & residential."). See also Tervita, "Hazardous Waste Transport," available at https://tervita.com/solutions/hazardous-waste-transport/.

[46] Morrison, Jon and Dian Biluk, "Tervita Corporation, A Born-again Version Of The Canadian Oilfield Waste Management Pioneer," CIBS Institutional Equity Research, August 15, 2018, pp. 1-50 at p. 27.

[47] Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 5.

[48] Trucking differential analyses, also described in Section 3.4, include estimated trucking prices per hour, which accounts for driving distance, driving speed, hourly rental rates, and tonnage to haul. See Email from tnickel@tervita.com to cmacmullin@tervita.com and lgailey@tervita.com, "RE: [redacted] Volumes," October 15, 2020, TEV00223412, attachment "Trucking Differential – [redacted] V2.xlsx."

[49] Morrison, Jon and Dian Biluk, "Tervita Corporation, A Born-again Version Of The Canadian Oilfield Waste Management Pioneer," CIBS Institutional Equity Research, August 15, 2018, pp. 1-50 at p. 27 ("As such, location tends to dictate both which third-party provider to use or whether to manage the wastes internally. In fact, we estimate transportation costs account for upwards of 70% of a producer's total waste management budget. As a general rule, we estimate producers will favour third-party facilities if they are within 60 kilometers of the well site, with distances beyond this incentivizing customers to look at internalizing their waste management needs or using some other form of on-site solution.").

[50] In particular, the trucking differential analysis attached to the email quoted per hour trucking costs of between [redacted] and [redacted] CAD per tonne and hour, while the disposal fees ranged from [redacted] to [redacted] per tonne. Email from tnickel@tervita.com to cmacmullin@tervita.com and lgailey@tervita.com, "RE: [redacted] Volumes," October 15, 2020, TEV00223412, attachment "Trucking Differential – [redacted] V2.xlsx," TEV00223413.

[51] Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 11.

[52] Secure Presentation, "Secure + [redacted]" September 2018, SES0086266, pp. 1-13 at p. 13 ("SECURE consistently lowers customers' All-In Disposal Cost[.] We strategically locate facilities in locations that lower transportation costs[.] We provide options to pipeline connect water volumes that entirely reduces trucking

20. As I also discuss in Section 3.4, company documents demonstrate that transportation costs are often a significant factor that the Parties consider when quoting disposal fees to customers. [redacted]

21. Due to the high transportation costs, Waste Service operations are local in nature. Based on my analysis of Tervita and Secure's transaction data, the average driving distance between Waste Service customers and Tervita landfill facilities is [redacted] kilometers, and that distance is [redacted] kilometers for Secure's landfill customers.[57] For TRDs, the average travel distances for Tervita and Secure TRD

costs"); Letter from Kevin Ackhurst (Norton Rose Fulbright) to Commissioner John Pecman (Competition Bureau of Canada), March 1, 2018, p. 14. ("Generally speaking, given the costs to transport waste to treatment facilities and to dispose of it, providers of these services strive to be located in close proximity to those who produce the waste."). I understand that "tipping fee" is a term used to describe per-unit landfill disposal prices. [redacted]

[57] Throughout my report, I use the transaction-level and facilities data from the parties and focus my analyses on transactions that occurred in 2019. The Secure sales data describes the transactions for the midstream segment of the business and includes information about the customer identity, customer location, the types of waste, and the pricing (17 - Sales and SES Truck Tickets Data (Midstream).txt). The Secure facilities data describes the facility name, location, operational status, and a code for facility type, e.g., whether it is a full-service terminal or landfill (4 210422 - Revenues and Volumes.xlsx). The Tervita sales data also describes similar information, and I focus on transaction specific to the energy services (energy_services_qfaim_sales_2017_2021.txt) and waste services (waste_services_qfaim_sales_2019_2020.txt). Similarly, the Tervita facilities data describes the facility

customers are [redacted] and [redacted] kilometers, respectively. For water disposal wells, the average travel distances of Tervita and Secure customers are [redacted] and [redacted] kilometers, respectively. Exhibit 4 summarizes the distances between Waste Service customers and Tervita and Secure facility locations for TRDs, landfills, and water disposal wells.[58]

EXHIBIT 4
Distribution of travel distance between customers and Secure and Tervita facilities

	Company	Facility Type[1]	Number of Associated Customer Wells[2]	Average Travel Distance (km)	Median Travel Distance (km)	75th Percentile Travel Distance (km)	90th Percentile Travel Distance (km)
1.	Tervita	Landfill	[redacted]				
2.	Tervita	TRD[3]					
3.	Tervita	Water Disposal Facility					
4.	Secure	Landfill					
5.	Secure	Full-Service Terminal					
6.	Secure	Water Disposal Facilities[4]					

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: Tervita transactions were excluded from this analysis if the customer was Tervita; if they had blank, add-on service, or terminalling service types; if they are associated with a TCC, Hydrovac, or fractionation plant; or indicated credits (i.e. negative revenue). Secure transactions were excluded from this analysis if the customer was Secure; if they had blank, industrial landfill, terminalling, or "Other Revenue" general ledger names; or indicated credits (i.e. negative revenue). Moreover, this sample does not include transactions missing travel data due to unconvertable UWI or undefined travel routes (e.g. off-road terrain).
[1] Secure facility type names were extracted from "SECURE Energy Services Inc. - RFI Responses dated March 29, 2021" and https://www.secure-energy.com/facility-locations
[2] Statistics are computed over each facility and customer well location, not each transaction.
[3] TRD includes cavern facilities.
[4] Water disposal facilities include full service rail terminals (FSR). Full service rail terminals have, on average, longer distances.

22. Finally, my findings are consistent with the information Tervita and Newalta provided to the Bureau during their 2018 transaction. According to Tervita and Newalta, "treatment of oilfield waste and its disposal is regional in nature… Typically, the majority of customers will be located within [redacted] km of a treatment facility…"[59] Secure's submission during the 2018 Tervita-Newalta transactions also indicates that Waste Services operations are local,

name, location, type, and operational status (facilities_list.xlsx). The primary source of facility information is list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx), which describes the facility names, company owners, locations, and types. I use the customer and facility locations to calculate the driving distances between them with the GridAtlas and ArcGIS software.

[58] Note that TRD facilities include deep well disposal facilities, so the distances between TRD customers and facilities are also summarized in the distances between well water customers and facilities (similarly Secure's FST and customer distances are also included in the well water customers). See List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx).

[59] Tervita and Newalta further explained that "distance between customers and facilities "varies considerably depending on the local topography and infrastructure (e.g., rivers, mountains, roads, density of production activity), and whether the customer has solid waste or waste water to process. Customers are generally more willing to transport solids farther than water, in part because there are more options available to dispose of waste water. In more remote locations, customers are more willing to transport waste upwards of 250-300 km if necessary to receive service." Letter from Kevin Ackhurst (Norton Rose Fulbright) to Commissioner John Pecman (Competition Bureau of Canada), March 1, 2018, p. 14.

stating that "[b]ased on [their] operating experience [redacted]km can be used as an initial rule of thumb to define the competitive area around a facility."[60]

3.4. Industry pricing practices

23. Waste Service providers, such as the Parties, charge customers disposal fees for their services. Disposal fees are influenced by factors such as presence and proximity of other competitors, distance between customers and the facility, and volume commitments. In other words, the Parties can and do price discriminate between customers (i.e., charge different customers different prices) depending on locations and local competitive conditions. The Parties' practice of price discrimination is reflected in the Parties' internal documents and their transaction-level sales data.

24. Tervita's internal documents show that its pricing varies across its facilities and local competition is a consideration in pricing decisions. For example, an internal pricing discussion document indicates that Tervita considers "market rate and strategy" at each facility separately.[61] Other pricing strategy documents include facility-level pricing information, including average rates quoted for different service types and the win/loss records for them.[62] Regarding local market conditions, a Tervita presentation about market rates shows that "competition" and "competitive dynamics" are factors that Tervita considers when deciding to adjust its rates,[63] and a Tervita competition analysis tracks proximity to competitor facilities and estimated competitor pricing information.[64] Other documents suggest that prices tended to be lower in

[60] Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 6.

[61] Email chain from Shane Nelson to Curtis Benson, "FW: Deliverable due Wednesday- Pricing Strategy Documents," January 11, 2017, TER_00057979 ("[redacted]").

[62] Email chain from mhavens@tervita.com to wscholze@tervita.com et al., "FW: Market Rates Review/PBR Review," July 22, 2019, TEV00242986, attachment "Market Rate Review – AREA SUMMARY 07-2019.xlsx," TEV00242988 ("[redacted]").

[63] Email chain from Shane Nelson to Curtis Benson, "FW: Deliverable due Wednesday- Pricing Strategy Documents," January 11, 2017, TER_00057979, attachment "WP 2017 Market Rate – Internal Information," TEV00013461, p. 4 ([redacted]").

[64] A Tervita competition analysis describes the distances to the next nearest competitors for each facility, along with estimated competitor prices and market shares for different Waste Service types. See TER_00023052.

regions where competitors could potentially attract Tervita's customers away by offering lower prices.[65] Moreover, information provided by Secure to the Bureau explains,

> a service provider may consider the next nearest facility location in determining the price for Services. When there isn't enough competition in a region it can create pricing power in these geographic areas.[66]

25. Tervita's transaction data confirms that pricing for the same service varies across different facilities. For example, according to Tervita's 2019 transaction data, Tervita's per ton "Plant based rate" for "drilling waste advanced gel chemical" was [redacted] at the Fox Creek landfill, [redacted] at the East Peace landfill, and [redacted] at the Judy Creek landfill.[67] The transaction data also shows that prices vary across customers who deliver their waste to the same facility. For example, 2019 "ticket rates," (i.e., prices after discounts to the "Plant based rate") at the East Peace landfill varied between [redacted] and [redacted], and, at the Judy Creek landfill, they varied between [redacted] and [redacted].[68]

26. Proximity between the Waste Service facilities, the oil and gas producer's location, and distance to competitor facilities are additional factors in pricing decisions. Tervita often conducts a differential analysis that compares distances between the well locations and Tervita facilities, as well as competitor facilities.[69] The disposal prices offered may be lower or higher depending on

[65] Tervita, "Facility Metrics Breakdown – TRDs and Disposal Wells," 2016/2017, TER_00085702, p. 4. (In the discussion of Fox Creek facility: "• [redacted] Email chain from Michael Bongfeldt to Alessandro Anifowose, "RE: CVR – [redacted] – Meeting," TER_00023595 ("We HAVE been getting the waste [from [redacted] Energy's Wildmere field] but given the current economic state out here and what's been going on.....without that in contract it is VERY low hanging fruit for a competitor. Ridgeline, who is closer, has charged [redacted]/Tonne and under for cuttings in the past and I wouldn't hesitate if they caught wind of it they'd make a pitch. Also, Secure being the consultant group it's nothing for them to push for it to go Tulliby for [redacted]/Tonne which again would be fairly equal or possibly even a touch cheaper than Marshall.") Ridgeline and Tulliby are competing facilities.

[66] Secure's Response to Request for Information by the Competition Bureau for the Tervita and Newalta transaction, May 17, 2018, p. 5.

[67] See my workpaper. The analysis is based on Tervita's 2019 sales data.

[68] See my workpaper. For example, at the Judy Creek landfill, Tervita charged [redacted] and [redacted]4.

[69] I understand that Tervita uses the differential analyses to assess the transportation costs of nearby competing facilities in order to determine a per-unit price to offer to the customer. Email chain from bbowes@tervita.com to mjohnson@tervita et al., "RE: [redacted] / Mile 103 Pricing Follow Up," October 13, 2020, TEV00114394, attachment "Trucking Differentials [redacted] Mile 103.xlsx," TEV00045140 ("Please see attached. [trucking

how far a customer would need to transport the waste or how close competitor facilities are.[70] With regard to the Tervita-Newalta transaction, Secure explained that, "Customers consider the total cost of the Service fees, plus the transportation expense. Therefore, a service provider may consider the next nearest facility location in determining the price for Services."[71] A Tervita employee email chain references a negotiation with a [redacted] representative, who noted the relative proximity to Tervita and competitor facilities as a pertinent factor when asking Tervita to quote lower fees to handle his company's waste.[72] Another internal email discusses pricing for [redacted] and an attachment spreadsheet compares the travel distances, times, and trucking cost differentials per tonne of shipment in order to assess the rates that Tervita needs to match to compete for their business.[73]

27. Finally, documents indicate that Waste Service providers may also consider customers' volume commitments, in addition to competitive conditions and locations, in pricing decisions.[74] In one example of negotiations with an active

differential analysis] You can play around with the variables to see the impact. The trucking differentials will help determine where we should be at."); Email chain from tnickled@tervita.com to drollings@tervita.com , "FW: [redacted] Differential," October 5, 2020, TEV00155420 ("After speaking with Scott Hagen, he suggested we submit a larger difference for cuttings between the RFP and Market Share proposal as the distance to Secure Fox Creek LF is very far. Commercial ran a trucking differential and got a [redacted]/m3 difference meaning we'll be in good shape even if we increase the rate.").

[70] Email chain from jmcneil@tervita.com to amorgan@tervita.com et al., "RE: [redacted] Cuttings Discussion," September 16, 2020, TEV00137398 ("The trucking differential from Willow Creek to Fox Creek is $[redacted] and uses the same road. I believe if we offer [redacted] at Fox Creek LF, plus all of the other rate reductions we discussed this morning, we can hang on to these volumes."); Email chain from sruickbie@tervita.com to mbongfeldt@tervita.com et al., "FW: [redacted] Drill program," November 8, 2017, TER_00071497, ("For drill fluids we are disadvantaged by price and location to 3K so I'm focused on beating out Secure Tulliby Lake. Recommendation o Offer [redacted] a rate of [redacted] for 100% of Cuttings at Marshall LF (can go to [redacted] if necessary) o Offer a rate of [redacted] for 100% of Drill Fluids to Lindbergh & Unity.").

[71] Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 5.

[72] Email chain from Vince Lisch to Duane Burkard, "FW: [redacted] DOA Request," February 9, 2016, TER_00024414 ("[redacted] is currently on an 'open' agreement of [redacted] for Sand-Sludge, and John later sent me a note stating that he would sign a single year deal for [redacted]/m for Sludge-Sand disposal and [redacted] on Drilling (100% Volume), which is quite low. … As some of the sites are further to Tervita than other competition John is concerned about other costs along with the waste disposal, plus he is getting a very similar rate at the completion.")

[73] In particular, the trucking differential spreadsheet summarizes the estimated competitor rates to dispose of waste, distances to the waste sites, travel speed, travel time roundtrip, differential per truck, trucking differential per tonne, and the "Tervita Rate to Match" compared to nearby facilities belonging to competitors. See Email chain from bbowes@tervita.com to mjohnson@tervita et al., "RE: [redacted] / Mile 103 Pricing Follow Up," October 13, 2020, TEV00114394, attachment "Trucking Differentials [redacted] Mile 103.xlsx," TEV00045140 ("… with more volume our cost/m3 is reduced. If we can get understanding of committed volume Mike would also agree we can reduce rate."). See also Email chain from tnickel@tervita.com to drollings@tervita.com, "FW: [redacted] Differential," October 5, 2020, TEV00155420 ("After speaking with Scott Hagen, he suggested we submit a larger difference for cuttings between the RFP and Market Share proposal as the distance to Secure Fox Creek LF is very far. Commercial ran a trucking differential and got a [redacted] difference meaning we'll be in good shape even if we increase the rate.").

[74] Email chain from jmcneil@tervita.com to amorgan@tervita.com et al., "RE: [redacted] Cuttings Discussion," September 16, 2020, TEV00137398 ("We discussed a 90% Market Share, but Dan did mentioned that they dislike commitments so he didn't think we were going to be able to get one. Maybe we can start with that and see

customer, a Tervita employee agreed not to increase prices at the Buck Creek facility in exchange for commitment, stating that Tervita could "[p]otentially go even lower with discounted rates to entice them to sign for a longer period under commitments."[75] In the [redacted] negotiation noted above, the correspondence recommends offering rates that are based on an agreement to deliver 100% of waste streams to Tervita.[76]

28. I understand that arbitrage in Waste Services is not possible.[77] In economics, arbitrage is the practice of profiting from price differences between two or more markets. In the case of Waste Services, customer A, who is facing higher disposal fees, can theoretically take advantage of lower disposal fees quoted to customer B by sending its waste to customer B and customer B then sending the waste to Waste Service providers at the lower disposal fee. However, due to waste manifesting and tracking requirements, Waste Services providers always know the original customer and the location where the waste is generated and thus can prevent arbitrage.[78] Further, high transportation costs would likely eliminate any arbitrage opportunities if the waste is physically transported between customer facilities.

4. COMPETITIVE EFFECTS OF A MERGER BETWEEN COMPETITORS

29. A merger harms customers if it results in higher prices or lower quality, and economic theory indicates that mergers between competitors create incentives

what they say?"); Email chain from Ryan Richardson to Daniel Schwarz, "Re: [redacted] Cost Reduction Initiative," March 17, 2020, SES0043674 ("Which brings me to the main point for my email, can we provide them with a discount on drilling mud with the condition of also sending South GP their drill cuttings? Ie. [redacted] drilling mud (reduced from $[redacted]) and [redacted] cuttings.").

[75] Email chain from Miguel Juat to Kayla Nagorski and Rob Menzies, "RE: Level 2 DOA – [redacted] – Jan 7, 2016," January 27, 2016, TER_00042320 ("1. Proceed with the below but include the commitments, even if it's for a shorter period, where the rates and volume gets locked in for say six months to align with June one rates this year and we can review again then. 2. Potentially go even lower with discounted rates to entice them to sign for a longer period under commitments given they're a reasonably large unmanaged account.").

[76] Email chain from Vince Lisch to Duane Burkard, "FW: [redacted] DOA Request," February 9, 2016, TER_00024414 ("However, because of the level of competitiveness that is currently occurring in that region especially with literally no-one drilling…I feel it may be advisable to take this one step further and reduce by an additional [redacted] in the line of obtaining a signed, minimum 1yr, exclusivity agreement with 'make whole' on at a minimum both of these waste streams from [redacted]

[77] In their submissions to the Bureau, the Parties did not mention the possibility or practice of arbitrage. Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021.

[78] For chain of custody requirements see Tervita, "AER Directive 58 Reference," available at https://tervita.com/files/public-files/aer-directiven-58-reference.pdf (Alberta), BC Environment Industry Association, "General Information Fact Sheet Hazardous Waste Management in BC" https://bceia.com/wp-content/uploads/2018/05/bceia_001_Hazardous_Waste_Management_in_BC_General_Information_2013.pdf (British Columbia), SRC Environmental Analytical Laboratories, "Chain of Custody / Analysis Form," https://www.src.sk.ca/sites/default/files/files/resource/EAL%20COC%20and%20TC%20FILLABLE%20CSM-132A_May2021.pdf (Saskatchewan).

to raise prices due to the following logic.[79] Prior to the transaction, when a firm contemplates a price increase, it faces a trade-off. On one hand, if the firm increases the prices of its service, it will earn more on its sales, increasing its revenue and profits. On the other hand, some customers will react by moving their purchases to competitors. These customers would be lost to the firm, reducing the profitability of its price increase. A profit-maximizing firm balances these two considerations when deciding its optimal pricing strategy.

30. A merger changes the calculus. When the firm acquires one of its competitors, it is able to recapture the customers who switch to the acquired firm's services in reaction to price increases. This reduces the profit loss associated with price increases. As a result, a price increase that was not profitable *before* the transaction can become profitable *after* the transaction.

31. The incentive to raise prices after a merger is greater, the greater is the fraction of switching customers that the merged firm is able to recapture. Economists refer to this fraction as the "diversion ratio."[80] The incentive is also greater, the greater are the merging firms' price-cost margins, as that determines the value of recapture. All else equal, the diversion ratios and margins are likely to be higher if the merging firms have large market shares. If transportation costs are important, then diversion ratios are also likely to be higher if the facilities of the merging firms are near each other.

32. The Secure and Tervita merger would create these types of incentives to increase prices. In many localities, Secure and Tervita facilities are near each other and the merged firm is likely to recapture a large share of switching customers. Incentives to increase prices would be largest in localities where Secure's and Tervita's facilities are the only two viable options for customers due to transportation costs, or where there are not many nearby third-party facilities that can be alternatives to customers (for example, localities where the

[79] The Merger Enforcement Guidelines explains the incentive as follows: "By placing pricing and supply decisions under common control, a merger can create an incentive to increase price and restrict supply or limit other dimensions of competition. … When buyers can choose from among many sellers offering comparable products, a firm's ability to profitably increase its price is limited by buyers diverting their purchases to substitute products in response to the price increase. When two firms in a market merge and the price of one firm's product(s) rises, some demand may be diverted to product(s) of the firm's merger partner, thereby increasing the overall profitability of the price increase and providing the impetus to raise the price. As such, the elimination of competition between firms as a result of a merger may lessen competition substantially." The Competition Bureau, "Merger Enforcement Guidelines," October 6, 2011 ("Merger Enforcement Guidelines"), ¶¶ 6.10-11. See also Farrell, Joseph, and Carl Shapiro, "Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition," *The BE Journal of Theoretical Economics* 10(1), 2010, pp. 1–39.

[80] Werden, Gregory J., and Luke M. Froeb. "Unilateral competitive effects of horizontal mergers," available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=927913 (2006): 1-95.

merger would reduce the number of competitors from three to two or from four to three).

33. **Exhibit 5** shows an example where the merger creates a strong incentive to increase prices. The map shows the locations of Secure's Fox Creek landfill (dark pink circle) and Tervita's Fox Creek landfill (dark green triangle). These landfills are located within about 31 kilometers of each other.[81] Pink and green dots show the locations of customers, who have used Secure's and Tervita's facilities, respectively.[82] The circular, thin pink and green lines indicate the 90 percent draw areas for each of the Parties.[83] A 90 percent draw area comprises the locations of the closest customers from which a facility expects to acquire 90 percent of its Waste Service revenues.[84] The closest competing facility owned by a third-party is the High Prairie facility operated by Ridgeline, which is located 185 kilometers to northeast of the Secure's Fox Creek facility.

34. This example shows an area where customers are facing only a few landfill options, and a Tervita facility is the next closest alternative to many Secure customers. If the Secure facility increases its price after the merger, most of its customers who switch, would choose the Tervita facility rather than the Ridgeline facility because of the proximity to the Tervita facilities. In other words, the merged firm would be able to recapture a high share of switching customers. In fact, for many customers (e.g., customers to the southwest of Fox Creek) the merger would decrease their viable landfill options from two competitors to one. As a result, the merged firm would have a strong incentive to increase prices.

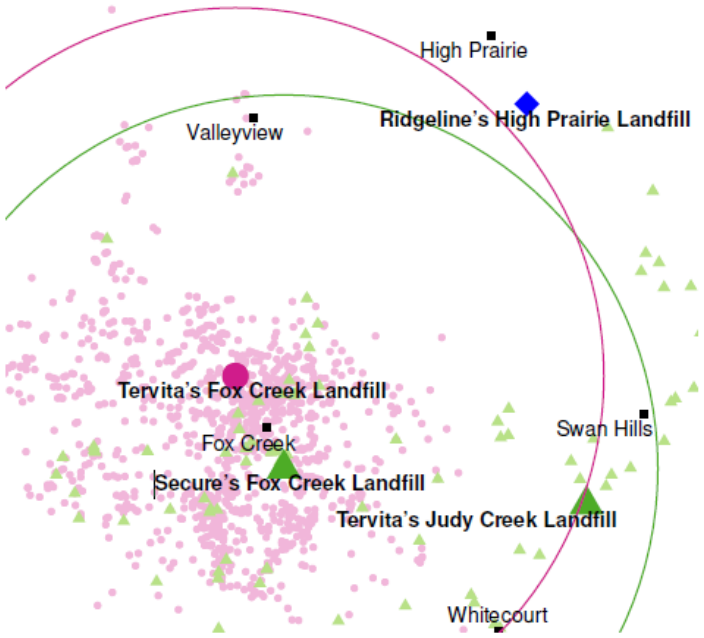
[81] For comparison, the distance from town of Valleyview to town of Whitecourt is 144 kilometers.

[82] Some of Tervita's customer locations may not be visible because green dots may be overlaid by pink dots.

[83] The Judy Creek landfill operated by Tervita is also located on the edge for the Secure facility's 90 percent draw area and inside of the Tervita facility's 90 percent draw area.

[84] To determine the boundaries of the 90 percent draw area, I sort the facility's customers according to their travel distance from the facility. I then add the revenues from these customers starting with the closest customer until I capture 90 percent of the facility's revenues. The locations of these customers is the facility's 90 percent draw area. In the exhibit, I represent this area using a circle. The radius of the circle is the farthest travel distance among the customers that comprise 90 percent of the facility's revenues.

EXHIBIT 5
Example of competitive pricing pressure, Fox Creek landfill facilities



Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: For the Secure facility, 90 percent draw area is calculated using revenues based on final price excluding taxes variable. For the Tervita facility, 90 percent draw area is calculated using revenues based on the total producer value variable.

5. AFFECTED MARKETS

35. A common theme in antitrust analysis is that mergers or acquisitions should not be permitted if they "are likely to create, maintain or enhance the ability of the merged entity, unilaterally or in coordination with other firms, to exercise market power… Market power of sellers is the ability of a firm or group of firms to profitably maintain prices above the competitive level for a significant period of time."[85] A useful analytical tool in assessing how a merger changes the industry participants' abilities to exercise market power is market definition.[86] Market definition specifies the line(s) of commerce and geographic area(s) in which competitive concerns arise. It "identif[ies] the set of products that customers consider to be substitutes for those produced by the merging firms."[87] Then, the customers (in our context, oil and gas producers) that might

[85] "Market power of sellers is the ability of a firm or group of firms to profitably maintain prices above the competitive level for a significant period of time." Merger Enforcement Guidelines, ¶ 2.1, 2.3.

[86] "Market definition is not necessarily the initial step, or a required step, but generally is undertaken." Merger Enforcement Guidelines, ¶ 3.1.

[87] Merger Enforcement Guidelines, ¶ 3.2.

be harmed by the transaction are those that might reasonably purchase any of the identified services.

36. Market definition also allows the identification of the industry participants and measurement of their market shares / concentration, and how such concentration changes after the merger. Although high market shares and concentration are not sufficient to conclude that a merger is likely to prevent or lessen competition substantially, they inform the analysis of competitive effects.[88]

37. Defining a market involves identifying both a product market and a geographic market.[89]

5.1. Product Market

38. The relevant market comprises the products and services of the merging firms and those products that customers consider to be reasonable substitutes. Not every substitutable product should be considered in the relevant market. The *Guidelines* specify that a relevant product market consist of "the smallest group of products, including at least one product of the merging parties, and the smallest geographic area, in which a sole profit-maximizing seller (a 'hypothetical monopolist') would impose and sustain a small but significant and non-transitory increase in price ('SSNIP')."[90]

39. I consider the following three product markets:

(i) supply of waste processing and treatment services by TRDs;
(ii) disposal of solid oil and gas waste into industrial landfills; and
(iii) disposal of produced water and waste water into water disposal wells owned by third-party Waste Service providers (i.e., excluding water disposal wells owned by oil and gas producers).

40. These three defined product markets are distinct for several reasons. Due to federal and provincial regulations and the technical capabilities of facilities,

[88] "[I]nformation that demonstrates that market share or concentration is likely to be high is not, in and of itself, sufficient to justify a conclusion that a merger is likely to prevent or lessen competition substantially. However, information about market share and concentration can inform the analysis of competitive effects when it reflects the market position of the merged firm relative to that of its rivals." Merger Enforcement Guidelines, ¶ 5.8.

[89] Merger Enforcement Guidelines, ¶ 4.1.

[90] Merger Enforcement Guidelines, ¶ 4.3.

customers have to dispose different types of waste to specific types of facilities.[91] Therefore, TRD, landfill, and waste water disposal facilities are not functionally substitutable across all different types of waste. Water disposal wells are not able to accept solid waste and, conversely, industrial landfills cannot accept waste water. Neither of these types of facilities are substitutes for TRDs, which handle wastes that require some form of treatment to separate resalable oil from water or other fluids, or that reduce the fluid's hazard level before it can be safely discarded.[92]

41. Company documents and transaction data confirm that each of facility handles different and largely non-overlapping types of waste. For example, a Tervita document lists the types of wastes accepted by different facility types and shows that there is little overlap between them.[93] There are no common waste categories in this chart that are accepted by both TRDs and landfills.

[91] Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, pp. 3-4 for regulations. See also "Energy Services Division, Waste Processing," Tervita, June 1, 2021, TER_00001910, p. 10.

[92] See Section 3.2.

[93] Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 5 ("Caverns are used primarily for difficult to treat solid and liquid wastes that are not suitable for Waste Management Facilities or Landfills. These types of waste include but are not limited to; high pH fluids, tight emulsions, NORMs, chemicals, and sludges."). I understand that Tervita operates all but two caverns in the WCSB (White Swan and Plains Environmental own Atmore West and Melville caverns, respectively). The two competitor owned caverns are in rural locations. The competitor owned caverns are respectively 169 kilometers and 215 kilometers away from the nearest landfill owned by the Parties and respectively 33 kilometers and 214 kilometers away from the nearest waste water disposal facility owned by the Parties. See my workpapers. I understand that caverns are facilities that dispose of liquid and solid wastes that can be handled by landfills and waste water wells (see Section 3.2). In my analysis, I consider caverns together with industrial landfills and waste water wells because caverns can take in both liquid and solid wastes.

EXHIBIT 6
Wastes accepted by different types of facilities

	TRDs (Fluids)	**Caverns** (Fluids and Solids)	**Landfills** (Dry Solids)
Drilling	• Dirty Water from Rig Tanks • Spent Drill Mud	• Drill Mud • Cuttings	• Cuttings • Solids from Drill Mud
Completions	• Water Flowback • Acid Water Flowback • Hydrocarbon Flowback • Frac Sand Returns	• Frac Sand • Cement	• Frac Sand Returns • Cement
Production	• Emulsion • Produced Water • Sludges • Dry Oil / Condensate	• Oil Field Sludges • Waste Water • Produced Water • NORMs	• Produced Sand • Lime Waste • NORMs
Turnarounds	• Tank Bottoms • Treater Bottoms	• Tank Bottoms • Sludges	
Spills	• Oily Water	• Spill Material	• Contaminated Soil • Contaminated Wood
Abandonments			• Contaminated Soil from Pits • Contaminated Soil from Facilities

Water Oil Solids

Source: "Energy Services Division, Waste Processing," Tervita, June 1, 2021 [TER_00001910], p. 11

42. Parties' transaction data confirm that each type of facility accepts different types of waste and there is minimal overlap between types of facilities. Exhibit 7 lists the largest categories of waste types delivered to Tervita facilities by the facility types. In particular, it describes the types of wastes delivered to Tervita landfills, TRDs, and water disposal facilities according to the 2019 transaction data. Notably, most of the different types of waste can only be handled by one facility type, e.g., "waste-drill cuttings" and "waste-contaminated soil" is always handled by landfills, whereas "waste-drill fluids" and "waste-processing" is always handled by TRDs. Most TRDs have water disposal wells on site and are able to take in produced water and waste water.[94]

[94] I include TRDs with water disposal wells along with standalone water disposal facilities in my analysis.

EXHIBIT 7
Wastes accepted by different types of facilities from Tervita's transaction data

	Service Type Group[1]	Service Share of Total Revenue	Share of Volume going to a... Landfill	TRD[2]	Water Disposal Facility
1.	Waste - Contaminated Soil	[redacted]			
2.	Waste - Drill Cuttings				
3.	Waste - Lime Sludge				
4.	Treating - Emulsion				
5.	Waste - Drill Fluids				
6.	Waste - EBD Water < 12.5 PH				
7.	Waste - Hydrovac Waste				
8.	Waste - Processing				
9.	Waste - Solid Component				
10.	Waste - Water Component				
11.	Waste HO Processing				
12.	Waste - Sludge				
13.	Water - Waste Water				
14.	Water - Produced Water				
15.	Other Services				
	Total / Average				

Source: Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)
Note: Transactions were excluded from this analysis if the customer was Tervita; if they had blank, add-on service, or terminalling service types; if they are associated with a TCC, Hydrovac, or fractionation plant; or indicated credits (i.e. negative revenue). Moreover, this sample does not include transactions missing travel data due to unconvertable UWI or undefined travel routes (e.g. off-road terrain). One transaction was removed from "Waste - Drill Cuttings" due to misassigned units. In this table, the Water Disposal Facility category includes stand-alone facilities only, and do not include the TRDs with water disposal wells on site, which also dispose of produced water and waste water.
[1] Service type groups are generated based on specific service types.
[2] TRD includes cavern facilities.

43. Parties' documents also suggest that the companies view and analyze TRDs, landfills, and water disposal wells separately. For example, the Tervita's profit-loss statements separately summarize landfills, water services, and TRD facilities,[95] and in "facilities metric breakdown" reports, Tervita analyzes the competitive conditions of TRDs separate from landfills.[96]

44. Parties' submission to the Bureau in this matter identify and discuss these three markets separately as overlapping business operations between Secure and Tervita. The Parties refer to the separate services as "(i) produced water and waste water disposal; (ii) oil processing and handling; (iii) liquid oilfield

[95] Tervita's PROTECTED & CONFIDENTIAL Water Services 2017-2021 P&Ls.xlsx, PROTECTED & CONFIDENTIAL LF-Financial Summary_no link.xlsx, and PROTECTED & CONFIDENTIAL TRD-Financial Summary with EM Final_no link 05-27-2021.xlsx.

[96] For example, Tervita, "Facility Metrics Breakdown – TRDs and Disposal Wells," 2016/2017, TER_00085702.

waste processing; and (iv) solid oilfield waste disposal."[97] In this report, I do not analyze "oil processing and handling" services.

45. The *Guidelines* describe a "hypothetical monopolist" analysis to verify that a candidate market indeed constitutes a relevant antitrust market. "[T]he analysis proceeds by determining whether a hypothetical monopolist controlling the group of products in that candidate market would profitably impose a SSNIP [significant and non-transitory increase in price], assuming the terms of sale of all other products remained constant."[98] Each of these three Waste Services constitutes a relevant product market because oil and gas producers are obligated to manage their waste and there are no good alternatives to TRDs, landfills, and third-party owned water disposal wells. Therefore, a hypothetical monopolist could raise prices without incurring much lost waste volume. In other words, a SNNIP would be profitable.

46. Bioremediation, on-site storage, or other waste management options are not close substitutes for TRDs and landfills.[99] In their submission to the Bureau, the Parties did not identify such alternative waste management options to TRDs and landfills.[100] I understand that the Competition Tribunal found that bioremediation, onsite storage, and risk management were not close substitutes for landfills.[101]

47. I understand that large oil and gas producers, such as [redacted] operate a number of water disposal wells.[102] However, water disposal wells that are operated by Waste Service companies, such as the Secure and Tervita, are distinct from those operated by oil and gas producers. Waste

[97] "The parties' business operations overlap in respect of four services: (i) produced water and waste water disposal; (ii) oil processing and handling; (iii) liquid oilfield waste processing; and (iv) solid oilfield waste disposal." Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021, p. 10. The submission discusses each of these services separately on pages 10-14.

[98] Merger Enforcement Guidelines, ¶ 4.4.

[99] Science World, "Bioremediation of oil spills," available at https://www.scienceworld.ca/resource/bioremediation-oil-spills/ ("Bioremediation is any process that uses decomposers and green plants, or their enzymes, to improve the condition of contaminated environments.").

[100] Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021, pp. 12-14.

[101] ("Bioremediation has been described above and the evidence is clear that it is not an acceptable substitute for generators of Hazardous Waste if soil is contaminated with salts or metals. The Tribunal also accepts that, if heavy-end hydrocarbons are present, bioremediation is not cost effective or successful in a reasonable timeframe…This evidence leads the Tribunal to conclude that risk management is seldom used and is not considered to be an acceptable substitute for disposing of Hazardous Waste in a Secure Landfill.") The Commissioner of Competition v. CCS Corporation et al., 2012 Comp. Trib. 14, ¶¶ 63, 88.

[102] Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021, p. 11.

Service companies' water disposal wells serve oil and gas producers who do not have self-supply disposal capacity for their produced water and waste water. As I understand, those water disposal wells owned by oil and gas producers generally do not accept waste from other oil and gas producers.[103] Therefore, producers that do not have their own water disposal wells have no option but to use Waste Services companies' disposal wells. Water Service companies' water disposal wells also receive overflow water (i.e., the volume of water that their own wells cannot handle) from oil and gas producers that also operate their own water disposal wells.[104] Furthermore, self-supply options are limited in certain parts of the WCSB due to geology.[105]

48. Similarly, landfills and TRDs that are owned by oil and gas producers are not close substitutes for facilities operated by Waste Service companies.[106] These facilities are operated for the exclusive use of their owners and do not take waste from other oil and gas producers.[107] I also understand that municipal landfills are not close substitutes for the landfills owned by the Parties because they do not take significant amounts of contaminated soil and

[103] Alberta Energy Regulator, "Approved Oilfield Waste Management Facilities," available at http://www1.aer.ca/ProductCatalogue/41.html ("The AER [Alberta Energy Regulator] maintains lists of approved first and third party oilfield waste management facilities. First-party receivers can only accept upstream oilfield waste generated by one oil and gas company, but can come from various sites. Third-party receivers can accept upstream oilfield waste from various sites and various generators."); Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, pp. 10, 21 ("The region [Gordondale] is well established for producer owned Water Disposal and Custom Treating, 5 of the top 6 producers in the area; [redacted] all own and operate their own infrastructure, these facilities are not open to third parties." "Many producers own and operate their own water disposal and custom treating facilities, however these facilities are not "open' i.e. they do not provide services to mid-sized or small-cap third parties.").

[104] Secure, "Dawson Creek Area Market Study," February 2020, SES0004800, p. 6 ("Many producers in the area have their own disposal capacity ([redacted] – water coming into DCFST is generally overflow from these large producers.").

[105] Secure, Project Name: Pipestone SWD, April 4, 2019, SES0041155, p. 3 ("Due to the limited disposal geology in the area producers have not been pursuing inhouse disposal options."). See also Tervita, "Energy Services, Facility Sales Plans Q3 2020: Action Plan Summary," July 15, 2020, TEV00247518.docx.

[106] I am not aware of any full service TRDs owned by oil and gas producers. The list of facilities provided to me by the Bureau and Alberta Energy Regulator's list of approved "first party oil filed waste management facilities" do not include any full service TRDs owned by oil and gas producers. See List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); Alberta Energy Regulator, "ST107: AER Approved Oilfield Waste Management Facilities, available at https://www.aer.ca/providing-information/data-and-reports/statistical-reports/st107 ("First-party receivers can only accept upstream oilfield waste generated by one oil and gas company, but can come from various sites. Third-party receivers can accept upstream oilfield waste from various sites and various generators.").

[107] Letter from Brian A. Facey (Blakes) to Commissioner Matthew Boswell (Competition Bureau of Canada), "SECURE Energy Services Inc.'s acquisition of Tervita Corporation," March 12, 2021, p. 13 ("…producers such as CNRL, Cenovus/Husky, Shell and ConocoPhillips operate landfills for their own exclusive use…"). See also Alberta Energy Regulator, "Approved Oilfield Waste Management Facilities," available at http://www1.aer.ca/ProductCatalogue/41.html.

other solid waste produced during oil and gas operations.[108] However, I conservatively include most of them in my analysis as facilities competing with Parties' landfills.[109]

5.2. Geographic market

49. A relevant market also characterizes the geographic boundaries of competition. These boundaries can be defined around the facilities of suppliers or around a set of customers, depending on the pricing practices in the industry.

50. The customer-based approach defines the geographic market around a set of customers that are likely to be impacted by the transaction. Customer-based geographic market definition may better illuminate the competitive effects of the merger when sellers can effectively price discriminate (i.e., charge different prices) among buyers. This is because, with price discrimination, competitive effects of the merger may vary for different customers—i.e., the merging parties may raise prices to certain targeted customers but not to others, or to raise prices more to some customers than others. The *Guidelines* explain:

> [W]hen price discrimination is feasible, it may be appropriate to define relevant markets with reference to the characteristics of the buyers who purchase the product (assuming they can be delineated) or to the particular locations of the targeted buyers.[110]

51. Price discrimination is feasible when sellers can identify targeted customers based on their observable characteristics (e.g., location) and targeted customers cannot switch easily to other suppliers in response (e.g., due to transportation costs) or cannot engage in arbitrage.[111] As I described in Section 3.4, these conditions are met in the relevant product markets and, as reflected in their transaction data, the Parties are able to charge different prices to customers depending on customers' locations and proximity to competing facilities.

[108] See the spreadsheet prepared by [redacted] showing the contaminated soil and special waste taken by municipal landfills (2018_LF information.xlxs and email from [redacted]

[109] See Section 3.2.

[110] Merger Enforcement Guidelines, ¶ 4.8.

[111] Merger Enforcement Guidelines, ¶ 4.8.

Therefore, I use the customer-based approach to geographic market definition.[112]

52. For each product market, I define customer-based relevant geographic markets comprised of customer regions from which both Parties' facilities draw Waste Services revenues ("overlapping draw area"). I limit the markets that I analyze to those where the targeted customers have viable access to at most to one remaining competitor.[113] That is, I focus on customers who are currently benefiting from competition between Secure and Tervita and will face a monopoly or only two Waste Service providers (the merged entity and one other competitor) after the merger. This limitation does not mean that other customers are unlikely to experience price impact from the merger. For example, customers whose options decrease from four competing Waste Service providers to three may also be impacted. I impose this condition to identify the customer-based markets that may experience the *largest* impact from the merger.

53. While evidence suggests that Waste Service providers can charge different prices to customers based on various factors, such as location, I also consider an alternative facility-based approach to market definition to confirm that my findings are robust to the geographic market definition approach. That is, I confirm that both approaches identify many markets where the merger gives the Parties a substantial share of the market, and therefore, is likely to result in anti-competitive effects.[114] I define facility-based markets as areas within a certain radius of Secure facilities. I focus my analysis on geographies where the Secure facility competes with one or more Tervita facilities and there is at most one other competitor facility. In other words, I identify geographies where the transaction creates a "merger to a monopoly" or only two remaining Waste Service provider options (the merged entity and one competitor). Again, my approach identifies the markets where the merger is likely to have the largest impact. Other geographic markets defined using this approach (such as markets

[112] This approach is consistent with the Commissioner's proposed relevant geographic market, which is defined as the "aggregated locations of customers for Waste Services in the WCSB that currently benefit from the competition between Secure and Tervita." Application by the Commissioner of Competition for an order pursuant to 92 of the Competition Act, Commissioner of Competition v. Secure Energy Services Inc. and Tervita Corporation, p. 10.

[113] I describe how I determine the facilities that provide a competitive alternative to customers in the overlapping draw area below.

[114] "[In some cases] it may be clear that anti-competitive effects would result under all plausible market definitions. In both such circumstances, the Bureau need not reach a firm conclusion on the precise metes and bounds of the relevant market(s)." Merger Enforcement Guidelines, ¶ 3.3.

defined around Tervita facilities) may also experience price increases after the merger.

54. In the next subsections, I describe how I construct both types of geographic markets, and I explain why my geographic market definition is consistent with the *Guidelines*.

5.2.1. *Customer-based market definition*

55. The process of defining a customer-based geographic market starts by identifying customers that currently benefit from competition between Secure and Tervita facilities. Exhibit 8 below illustrates the approach. In this simplified illustration, there is a Secure facility (denoted by the black triangle) and a Tervita facility (denoted by the orange triangle) that are close. The black shape represents the Secure facility's draw area. The orange shape represents the Tervita facility's draw area.

56. A "draw area" is the locations of customers from which a Waste Service facility expects to acquire most of its revenues. I use the Parties' transaction data to identify the draw areas as locations of the closest customers from which a facility receives at least 90 percent of its Waste Service revenue. In this example, Secure's and Tervita's draw areas overlap. Customers in the overlap area benefit from competition between the Parties, and thus, they may be impacted by the merger.

57. I then identify any third-party facilities (i.e., those owned by competing Waste Service providers) that may provide competition for Secure's and Tervita's Waste Service customers. These are the facilities that are within a viable travel distance to customers in Secure and Tervita's overlapping draw area. In this simplified example, there is one competing facility denoted by the red triangle. I determine the competing facility's draw area (denoted by the red circle) using a fixed travel distance from the facility. I choose the distance by

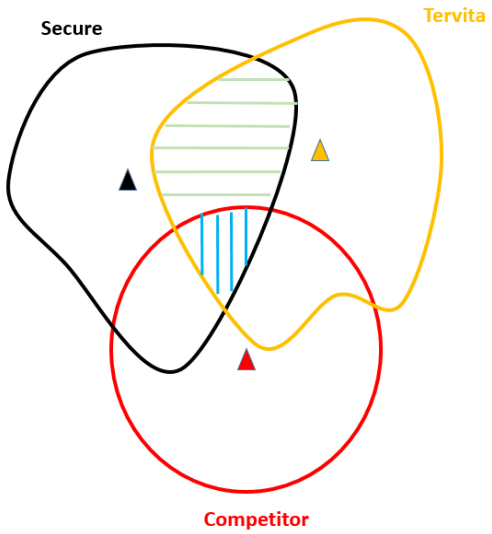
calculating the distance from Secure and Tervita facilities to the edge of their respective draw areas and taking the maximum of the two distances.[115, 116]

58. In this example, there are two groups of "targeted" customers. The first group comprise customers who benefitted from the competition between Secure and Tervita before the merger, but will lose this competition and face only one supplier after the merger. For these customers, the transaction represents a "merger-to-monopoly," and they are represented by the green-shaded area. The second group comprise customers who benefitted from the competition between Secure, Tervita, and the third-party facility before the merger. After the merger, these customers will face only two competitors (the merged entity and the remaining third-party facility). For these customers, the transaction represents "three-to-two merger," and they are represented by the blue-shaded area.

[115] Mechanically, I sort the customers who have used the Secure facility according to their travel distance from the Secure facility. I then add the revenues from these customers starting with the closest customer until I capture 90 percent of the facility's revenues. The farthest travel distance among the customers that comprise 90 percent of the facility's revenues is the distance from the Secure facility to the edge of the draw area. I repeat this calculation for the Tervita facility. Then I take the larger of the results for the Secure and Tervita facilities and use this distance to define the draw area of the competing facility. I assume that the third-party facility provides an alternative to Secure and Tervita customers if the customers are within the facility's draw area

[116] The 90th percentile customer travel distances shown in Exhibit 4 for each type of Secure and Tervita facility are indicative of the travel distances I use to determine competitor facility draw areas. The 90th percentile travel distances in Exhibit 4 are the averages of the 90th percentile travel distances for each Secure or Tervita facility. The 90th percentile travel distances for a particular facility can be higher or lower than the average figure reported in the exhibit. The distances I use for the competitor facilities are conservatively large. First, I use the 90th percentile (as opposed to, for example, the average or the median travel distance), which means that the large majority of customers drive a shorter distance to Tervita and Secure facilities. Second, the distances I use to define the competitor facility draw areas are much larger than the distances the Parties used to define the boundaries of local competition. The locally-defined geographic market proposed by Tervita (CCS Corporation) for its acquisition of the Babkirk landfill facility was roughly the size of circle with a 60 km radius. [The Commissioner of Competition v. CCS Corporation et al., 2012 Comp. Trib. 14 File No.: CT-2011-002., May 29, 2012, pp. 1-84 at p. 21. Similarly, the Tervita-Newalta submission to the Competition Bureau Submission assessed the level of competitive overlap for the Parties' facilities using a 110 km radius around TRD, landfill, cavern, and disposal well facilities. The Parties also stated that that the "majority of customers will be located within [redacted] km of a treatment facility," though they claimed that the radius can vary with other physical features of the environment. ["Proposed Combination of Tervita Corporation and Newalta Corporation by way of plan of arrangement under the Business Corporations Act (Alberta) (the Proposed Transaction)," March 1, 2018, pp. 1-25 at p. 14 ("Typically, the majority of customers will be located within [redacted] km of a treatment facility, but this varies considerably depending on the local topography and infrastructure (e.g., rivers, mountains, roads, density of production activity), and whether the customer has solid waste or waste water to process.")]

EXHIBIT 8
Illustration of customer-based geographic market definition



59. Both of these groups of customers can be identified by the merged firm based on their locations and the customers cannot engage in arbitrage or turn to other reasonable means to handle their waste in response to a price increase. Therefore, the hypothetical monopolist can profitably increase prices to them by SSNIP.

60. I estimate market shares for the customer-based markets identified.[117] In this example, the merged firm's market share in the green shaded area is 100% as it becomes a monopoly for the customers in this location. For the blue-shaded area, I am not able to calculate market shares based on actual revenues because I do not have access to transaction data for all third-party competitor facilities. I assign the competing facility the maximum of the revenues received by either a Secure or a Tervita facility from the blue-shaded area.[118] I then use the actual revenues of Tervita and Secure facilities drawn from the blue-shaded area, and the estimated revenues for competing facilities to calculate market

[117] I use revenues to calculate market shares. Revenues reflect the ability and success of firms to make sales in the real-world, therefore they tend to be the best indicator of their attractiveness to customers.

[118] If there are multiple Tervita (Secure) facilities whose draw areas overlap with the blue shaded area, I use the average of their revenues before taking the maximum of Tervita and Secure revenues. More precisely, I use the following formula: max[average(Revenues of Secure facilities), average(Revenues of Tervita facilities)]. This approach is likely conservative, and my results and conclusions are robust to an even more conservative assumption—namely, assigning competitors the maximum of the total Tervita or Secure revenues. In the more conservative approach I use max[sum(Revenues of Tervita facilities), sum(Revenues of Secure facilities)] to determine the revenue of a third-party competing facility. See my Appendix.

shares. To illustrate, assume that Secure's and Tervita's revenues from customers located in the blue shaded area are $100 and $50, respectively. I estimate the competitor facility's revenues from the customers in the blue shaded area as $100. The market size is then $250 ($100 + $50 + $100) and market shares after the merger are 60% for the merged entity ($150/$250) and 40% for the competitor ($100/$250).[119]

61. My approach to assign the competing facility the maximum of the revenues received by either Secure or Tervita from the relevant market is likely conservative. Many documents and Parties' internal estimates show that Tervita and Secure facilities have higher sales and market shares than facilities owned by other firms.[120] Yet, my approach assigns to the competing facility the higher of Secure's and Tervita's average market shares.[121]

5.2.2. *Facility-based market definition*

62. The facility-based approach requires delineating the competition in a geographic area where the facilities are located. I begin the process by defining

[119] If there was an additional Tervita facility that sold to customers in the blue shaded area with revenues of $170, I would assign sales of $110 (i.e., the maximum of ($170+$50)/2 or $100) to the competing facility, instead of $100 (i.e., the maximum sales of the one Secure and one Tervita facility). Under the more conservative assumption underlying the results presented in the Appendix, I would assign sales of $220 (i.e., maximum of ($170 + $50) or $100) to the competing facility.

[120] For example, Tervita's analysis of TRDs reviews the market position in areas around the following Tervita TRDs: Fox Creek, Judy Creek, and Mitsue in North Central Water Shed; South Wapiti, La Glace, Spirit River, and Rainbow Lake in Northwest Water Shed; South Taylor, Mile 103, Boundary Lake, Silverberry, and Sierra in British Columbia Water Shed; Lindbergh and Unity Cavern in East Central Water Shed; West Edson, Moose Creek, Brazeau, and Buck Creek in West Central; Kindersley, Gull Lake, Big Valley, Brooks, and Coronation in South Central Water Shed. In each of these analysis, either a Tervita or a Secure facility or the combined shares of Tervita facilities had the largest market share. In most cases the competitor market shares were significantly smaller than Tervita and Secure facilities. Tervita, "Facility Metrics Breakdown – TRDs and Disposal Wells," 2016/2017, TER_00085702. A Secure document reports [redacted] Tervita market share, and [redacted] Secure market share. None of the other third-party competitors (e.g., Evolve Energy Services Corp, Wolverine Energy and Infrastructure) have market shares above [redacted] percent. SES0051323. According to the table provided in this document, the average volume of Secure and Tervita facilities (over [redacted]) is larger than the average volume of competitor facilities (over [redacted] Similarly, data provided by AEP for landfills shows that Secure and Tervita landfills take on more contaminated soil and specialty waste compared to other landfills included in the analysis. 2018_LF information.xlxs. The information reported in these documents are consistent with a CIBC report that states "the two largest competitors in the WCSB oilfield waste management market (i.e., Tervita and Secure) control upwards of 75% of the third-party oilfield waste management facilities in Canada and process over 80% of the third party waste." Morrison, Jon and Dian Biluk, "Tervita Corporation, A Born-again Version Of The Canadian Oilfield Waste Management Pioneer," CIBC Institutional Equity Research, August 15, 2018, pp. 1-50 at p. 3.

[121] As a sensitivity check, I also use an even more conservative approach that assumes a competitor earns the higher of the total revenues of Secure facilities or total revenues of Tervita facilities from the blue-shaded area. More precisely, I use the following formula to assign revenues to the competing facility: max [sum(Revenues of Tervita facility 1, Revenues of Tervita facility 2, etc.), sum(Revenues of Secure facility 1, Revenues of Secure facility 2, etc.)]. The results of my analysis are robust to the choice of this assumption (see Appendix).

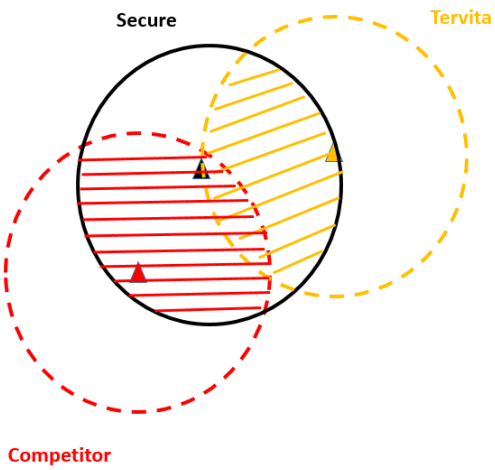
a candidate geographic market of a certain radius around Secure facilities.[122] I use a radius equal to the 110 kilometers straight-line distance from the facility location per the information provided by the Parties during the Tervita-Newalta transaction.[123] I then identify competing facilities located in and outside of this geographic market and assess if the market satisfies the hypothetical monopolist test.

63. Exhibit 9 illustrates the approach. In this simplified example, the black circle is the geographic market defined around the Secure facility. There are two competing facilities that are in this market. One is a Tervita facility (denoted by the orange triangle), and the other facility owned by a non-merging firm (denoted by the red triangle). The Tervita facility is a likely alternative for customers in the orange shaded area, and the third-party facility owned by a competing firm is a likely alternative for customers in the red shaded area.

[122] Note that one could also identify the facility-based markets around Tervita facilities. Doing so would identify more markets where the customers are losing competition between Tervita and Secure facilities (e.g., facing merger-to-monopoly). For example, the market around the Tervita Silverberry TRD facility on the eastern side of British Columbia is a market that would include Secure's Dawson Creek facility and no other competitor facility. Similarly, Tervita's Rainbow Lake facility located in the northwestern part of Alberta that has an overlapping draw area with Secure's Kotcho facility is another example of a potential merger-to-monopoly that is not part of my analysis.

[123] The Parties used 110 kilometers to assess the extent of geographic market competition during the Tervita-Newalta transaction. See Letter from Kevin Ackhurst (Norton Rose Fulbright) to Commissioner John Pecman (Competition Bureau of Canada), March 1, 2018, p. 14 ("Typically, the majority of customers will be located within [redacted] km of a treatment facility, but this varies considerably depending on the local topography and infrastructure (e.g., rivers, mountains, roads, density of production activity), and whether the customer has solid waste or waste water to process."). Secure submitted a competitive analysis as part of their submission regarding the proposed Tervita-Newalta transaction and proposed a more conservative driving distances of [redacted] kilometers. See Secure's submission to the Competition Bureau Re: Proposed Transaction between Tervita and Newalta, May 17, 2018, p. 6 ("Based on our operating experience [redacted]km can be used as an initial rule of thumb to define the competitive area around a facility; however, factors such as specific roads and terrain conditions (e.g. mountains and valleys), customer facilities and preferences, and facility capacities can all greatly impact on this rule of thumb.").

EXHIBIT 9
Illustration of facility-based geographic market definition



64. In this approach, the hypothetical monopolist test begins with identifying an initial candidate market that includes at least one product sold by one of the merging firms.[124] Then, one must verify whether the hypothetical monopolist, owning all of the facilities in the market, would find it profitable to impose at least a five-percent price increase, or a SSNIP. If the hypothetical monopolist finds it unprofitable to impose a SSNIP, then it implies that some other Waste Service facilities located outside of the candidate market exert enough competitive pressure to be considered a relevant source of competition. This occurs, for example, if the candidate market excludes facilities that the hypothetical monopolist's customers would readily switch to in response to a SSNIP.

65. In the illustrative example above, the test asks whether a hypothetical monopolist controlling all three facilities would profitably increase prices by at least a SSNIP. That increase could, for example, be on the Secure facility. An increase in Secure facility's disposal fees would be profitable if the Secure facility's lost sales associated with such a price increase can largely be recaptured by the hypothetical monopolist—i.e., if most of Secure facility's customers respond to a SSNIP by staying with Secure or switching to either the Tervita facility or the competitor facility in the candidate market. If, on the other hand, many Secure customers switch to third-party facilities outside the

[124] Merger Enforcement Guidelines, ¶ 4.4.

candidate market (not depicted in the illustration), then the SSNIP may not be profitable. In this case, the market must be expanded to include one or more facilities until a hypothetical monopolist is able to exert a SSNIP.

66. The candidate market around a Secure facility satisfies the hypothetical monopolist test as long as the hypothetical monopolist does not lose more profits to third-party facilities outside the candidate market than the additional profits it earns by imposing a SNNIP. To ensure that the SNNIP does not create a large diversion of customers to third-party facilities outside of the candidate market, I eliminate candidate markets where more than 10% of Secure revenues come from customers who are within a viable distance to competitor facilities outside of the candidate market.[125] I use the radius of the candidate area as an estimate of the viable distance (i.e., 110 kilometers straight-line distance).[126]

67. For the remaining markets, a hypothetical monopolist owning the Secure, Tervita, and the competitor facility likely would find it profitable to increase the existing prices at the Secure facility by at least 5 percent because most customers in this area cannot economically ship their waste to other, third-party facilities that are located outside of the candidate market. Most of those customers who switch would choose the Tervita (orange triangle) or the competitor (red triangle) facility and would be recaptured by the hypothetical monopolist.[127]

68. I also estimate market shares for the facility-based markets I identify. From Secure and Tervita transaction data, I observe Secure's and Tervita's sales to customers located in this market. However, I do not observe competitor facility sales in this market because I do not have access to transaction data for all third-party competitor facilities. I assign the competing facility the revenue Secure derives from the customers in the red-shaded area. I then use the actual

[125] To illustrate, suppose there are several competing facilities outside of the black circle in the exhibit. These facilities are within a viable distance (110 kilometers) to some of the customers in the black circle. Suppose these customers account for 20 percent on the Secure facility's revenues. I do not consider this candidate market in my analysis. If, however, these customers account for less than 10 percent of Secure facility's revenues, then this is a relevant market. Note that not all of the customers within 110 kilometers to the competing facility outside of the candidate market would necessarily switch to the competitor facility outside of the candidate market for a 5% price increase. They may be closer to the Secure, Tervita, or the competitor facility inside the candidate market and may find it less costly to use those facilities.

[126] In this analysis I use linear distance instead of driving distance. Using a linear distance to identify the draw areas of competing facilities outside the market is more conservative than using driving distances because areas defined by linear distances are larger than those defined by driving distances.

[127] Because I am conservatively focusing on candidate markets where only less than 10 percent of Secure's revenues are from customers who are within 110 kilometers of competitor facilities outside of the market, the Secure facility would expect to maintain or recapture around 90 percent of its customers after the price increase.

revenues of Tervita and Secure facilities, and the estimated revenue for competing facility to calculate market shares. For example, assume that the Secure and Tervita facilities revenues from customers in the relevant market (i.e., the black circle) are $150 and $50, respectively. Secure draws $100 of this revenue from customers in the red shaded area. In this example, I assume that the competitor facility's sales in the relevant market are $100. Then the size of the relevant market is $300 and post-merger market shares are 66% for the merged firm ([$150 + $50] / $300) and 33% for the competitor ($100 / $300).

6. AN ECONOMIC ANALYSIS OF COMPETITIVE EFFECTS SHOWS LESSENING OF COMPETITION AFTER THE PROPOSED MERGER

6.1. Competition will decrease and market concentration will increase in many markets after the proposed merger

69. In the preceding section, I defined relevant antitrust product and geographic markets. Having defined the relevant markets, I now assess the levels of market shares and concentration within them. While market shares and concentration are not on their own sufficient to determine the competitive effects of a merger, the *Guidelines* explain that "… information about market share and concentration can inform the analysis of competitive effects when it reflects the market position of the merged firm relative to that of its rivals."[128]

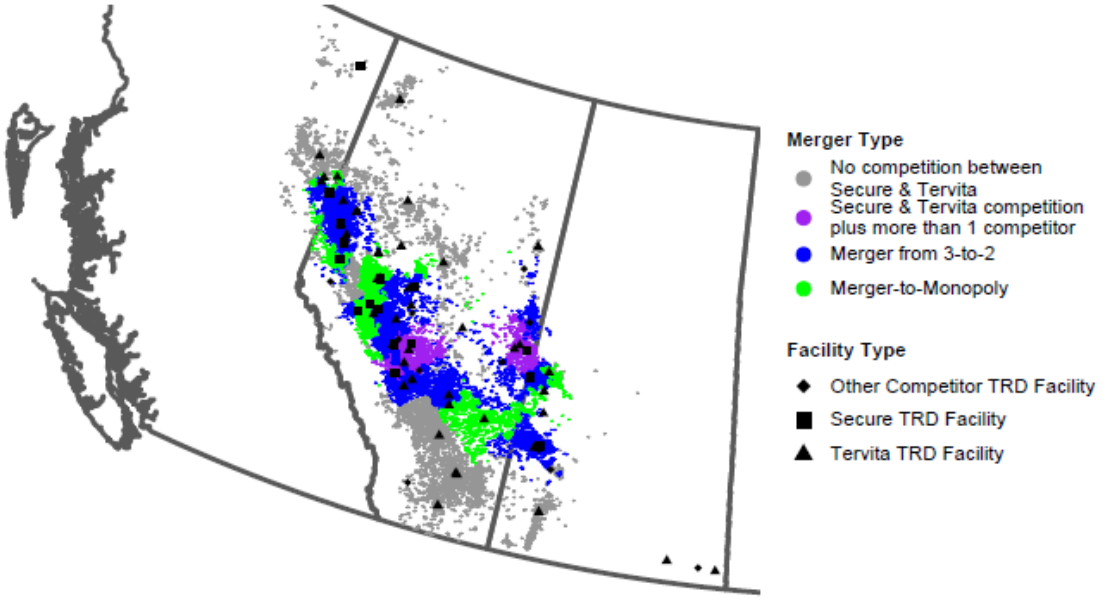
70. Exhibit 10, Exhibit 11, and Exhibit 12 show the expected changes in competition for TRDs, landfills, and water disposal wells, respectively, that customers will experience because of the merger.[129] In these maps, I plot the location of each Secure and Tervita customer and color code them depending on the number of alternatives they face after the merger. Green dots indicate customer locations for whom the merger reduces the number of Waste Service provider competitors from two to one (i.e., merger-to-monopoly). These customers currently benefit from the competition between Secure and Tervita

[128] Merger Enforcement Guidelines, ¶ 5.8.

[129] To calculate customer-based market shares, I identified customers located in overlapping draw areas. I do this by calculating the pairwise distances between customer locations in the Secure and Tervita transaction data to the nearest facilities located within the 400-kilometer radii of each customer site. When a customer is located inside the draw areas of several facilities owned by the same company, I assess which of those facilities is nearest to the customer and assign the customer to that facility. I assign the revenues to competitor facilities based on the average revenue generated by customers of Secure and Tervita in the overlapping draw areas. For example, suppose that a group of 100 customers is located in the overlapping draw areas of Secure, Tervita, and competitor facilities. I conservatively assume that competitor facility generates the maximum of the revenue that Secure and Tervita facilities generated from those 100 customers. Using this assumption, I then calculate market shares for Secure, Tervita, and any viable competitor that is part of the customer-based market. Several customers are omitted from my analysis because of data or computational issues. However, I have assessed the locations of these customers and have found that their omission would not affect the interpretation of my analysis.

facilities, but they will face a monopoly after the merger. Blue dots represent customer locations that are currently benefitting from competition between Secure, Tervita, and another competitor, but they will only have two competing Waste Service provider options after the merger (i.e., 3-to-2 merger). Purple dots represent customer locations that will experience a reduction in competition, but have more than one viable competitor facility nearby (for example, 4-to-3 merger).[130] Finally, the gray dots represent customers' locations that will not experience a reduction in competition,[131] or that are already located in a monopoly market, where a Secure or Tervita facility is the only viable option.

EXHIBIT 10
TRD customers in the WCSB facing a potential reduction in competition from the Tervita-Secure merger



Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

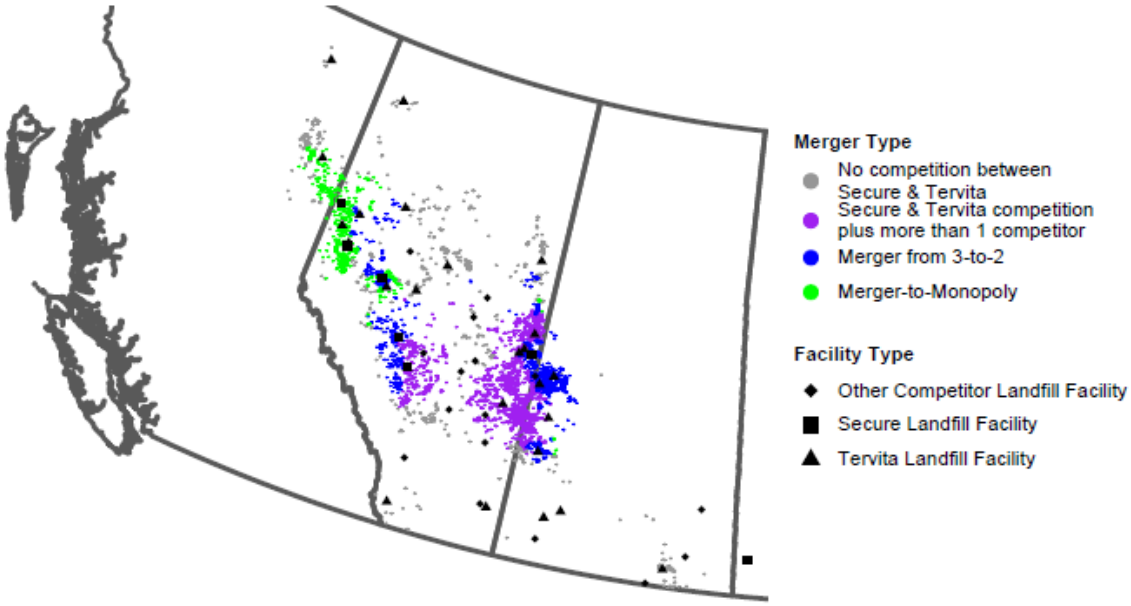
Note: Each dot represents a single well site with a TRD transaction in the Parties' data. The green dots represent customers most affected by the merger because the reduction in competition will lead to a monopoly market for them. The blue dots represent customers that will be affected by reduction in competition from 3 to 2 competitng firms. The purple dots represent customers that currently have access to more than one non-Tervita/Secure provider. The gray dots represent customers that are not affected by a change in competition from the merger, including customers that are already located in monopoly markets, i.e., they are in a market where either a Tervita or Secure facility is the only viable option. The black markers reflect the locations of Waste Service facilities in the WCSB that are active as of 2021. The TRD facility locations are identified by the facility type dummy variable in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). Customers that are located in the areas that do not have one of the competitors within 400 km radius are excluded from the analysis (for example, SE Saskatchewan).

[130] The transaction can create incentives to increase prices to these customers. I do not include these customer-based markets in my analysis and focus on markets where the effect of the merger is likely to be the largest.

[131] For these customers the Secure or Tervita facility they use does not face competition from any other merging party facility.

EXHIBIT 11

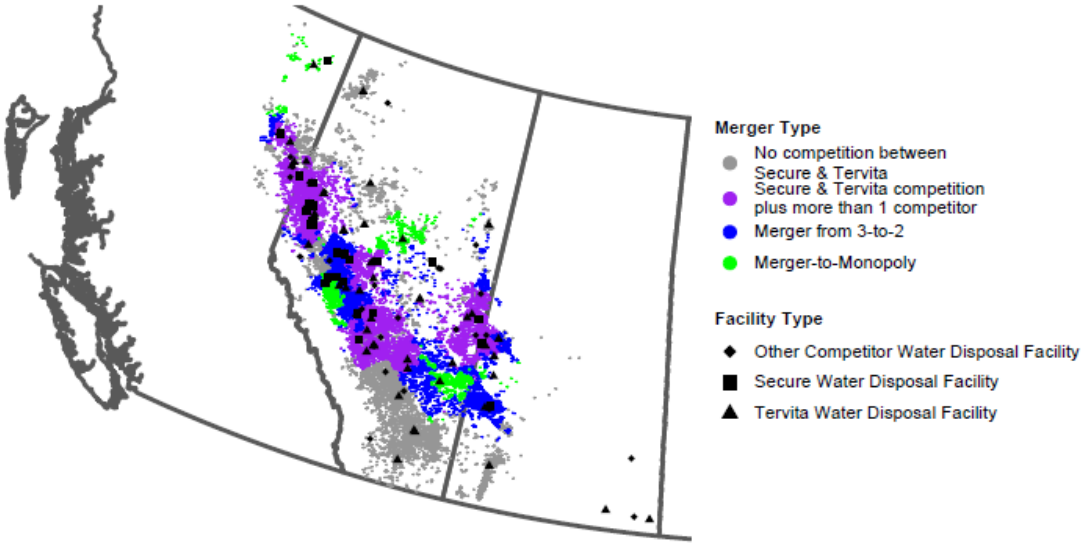
Landfill customers in the WCSB facing a potential reduction in competition from the Tervita-Secure merger



Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: Each dot represents a single well site with a landfill transaction in the Parties' data. The green dots represent customers most affected by the merger because the reduction in competition will lead to a monopoly market for them. The blue dots represent customers that will be affected by reduction in competition from 3 to 2 competing firms. The purple dots represent customers that currently have access to more than one non-Tervita/Secure provider. The gray dots represent customers that are not affected by a change in competition from the merger, including customers that are already located in monopoly markets, i.e., they are in a market where either a Tervita or Secure facility is the only viable option. The black markers reflect the locations of Waste Service facilities in the WCSB that are active as of 2021. The landfill facility locations are identified by the facility type dummy variable in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). Customers that are located in the areas that do not have one of the competitors within 400 km radius are excluded from the analysis (for example, SE Saskatchewan). There are two cavern facilities that can handle both solid and fluid waste disposal; those facilities are mapped among the water disposal and landfill facilities.

EXHIBIT 12
Water disposal customers in the WCSB facing a potential reduction in competition from the Tervita-Secure merger



Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: Each dot represents a single well site with a water disposal or TRD transaction in the Parties' data. The green dots represent customers most affected by the merger because the reduction in competition will lead to a monopoly market for them. The blue dots represent customers that will be affected by reduction in competition from 3 to 2 competing firms. The purple dots represent customers that currently have access to more than one non-Tervita/Secure provider. The gray dots represent customers that are not affected by a change in competition from the merger, including customers that are already located in monopoly markets, i.e., they are in a market where either a Tervita or Secure facility is the only viable option. The black markers reflect the locations of Waste Service facilities in the WCSB that are active as of 2021. The water disposal facility locations are identified by the facility type dummy variable in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). Customers that are located in the areas that do not have one of the competitors within 400 km radius are excluded from the analysis (for example, SE Saskatchewan). There are two cavern facilities that can handle both solid and fluid waste disposal; those facilities are mapped among the water disposal and landfill facilities. The mapped facilities also include deep well disposal facilities available at TRDs, which also take in produced water and waste water. Self-supply on-site water wells are not included among the mapped facilities. These are wells that are operated by non-oil producing Waste Service providers.

71. Exhibit 13 summarizes post-merger market shares for select customer-based markets that would experience a merger-to-monopoly, losing the competition between Secure and Tervita. Note that because the geographic markets are defined around customers, the same facility may be part of a monopoly for two different sets of customers. For example, Secure's Saddle Hills and Tervita's Silverberry landfills become a monopoly for a group of customers while Secure's Saddle Hills and Tervita's Spirit River landfill become a monopoly for a different set of customers. The Appendix includes a full list of the customer-based markets that face a monopoly after the merger.[132]

[132] My analysis does not include the facilities operated by the third-party Waste Service providers Albright (TRD), Dragos (water well), and Evolve Energy (water well). The Albright facility is located within 110 kilometer straight-line distance of the following facilities: Dawson Creek (Secure); and Boundary Lake, Silverberry, South Taylor,

EXHIBIT 13
Market shares in select customer-based markets identified as merger-to-monopoly

	Secure Facility	Tervita Facility	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs					
1.	Fox Creek	Fox Creek East		551	100.0%
2.	Kakwa	South Wapiti		220	100.0%
3.	Edson	West Edson		760	100.0%
4.	Nosehill	West Edson		1133	100.0%
5.	Tulliby Lake	Coronation		776	100.0%
6.	Tulliby Lake	Turtleford		310	100.0%
7.	Obed	West Edson		270	100.0%
8.	Dawson Creek	Boundary Lake		104	100.0%
9.	Judy Creek	Judy Creek		152	100.0%
10.	Rocky Mountain House	Willesden Green		75	100.0%
Landfills					
1.	Saddle Hills	Silverberry		245	100.0%
2.	South Grande Prairie	South Wapiti		212	100.0%
3.	Saddle Hills	Spirit River		147	100.0%
4.	Fox Creek	Fox Creek		70	100.0%
5.	Tulliby Lake	Bonnyville		14	100.0%
Water disposal (+TRDs)					
1.	Edson	West Edson		843	100.0%
2.	Athabasca	Mitsue		280	100.0%
3.	Tulliby Lake	Coronation		524	100.0%
4.	Obed	West Edson		215	100.0%
5.	Judy Creek	Judy Creek		152	100.0%
6.	Wonowon	Mile 103		23	100.0%
7.	Kindersley	Coronation		75	100.0%
8.	Kotcho	Sierra		52	100.0%
9.	Rocky Mountain House	Willesden Green		54	100.0%
10.	Nosehill	West Edson		64	100.0%

Souce: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be most affected by a merger between Secure and Tervita since they would lose one of their two viable alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

72. Similarly, Exhibit 14 describes a select set of customer-based markets that would experience a reduction from three competitors to two competitors because of the merger. For example, currently, Tervita's South Wapiti TRD,

and Fort St. John (Tervita). The Dragos facility is within 110 kilometers of the following facilities: Big Mountain Creek, Kaybob, Gold Creek, Tony Creek, Fox Creek, Nosehill, and South Grande Prairie (Secure); and Kakwa, Swan Hills, Fox Creek East, Fox Creek, High Prairie, Judy Creek, South Wapiti, Valleyview, and Valleyview West (Tervita). The Evolve Energy facility is within 110 kilometers of the following facilities: Big Mountain Creek, Emerson, Gordondale, Gold Creek, Pipestone, Kakwa, South Grande Prairie, and La Glace (Secure); '08-09, Grande Prairie, South Wapiti, La Glace, Spirit River, Kakwa, Valleyview, Valleyview West (Tervita). Extending the draw area and adding these facilities to my analysis may change which markets are displayed as a "merger-to-monopoly" or a "3-to-2"; however, the reported market shares are unlikely to change given the conservative assumptions used to calculate them.

Secure's South Grande Prairie TRD, and Wolverine's Rycroft TRD are options for a group of customers. After the transaction, the merged firm's market share in this market will be 77%, and customers would only have two viable options. See the Appendix for a full list.

EXHIBIT 14
Market shares in select customer-based markets where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs						
1.	Kakwa	South Wapiti	Rycroft (Wolverine)		304	82.6%
2.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		447	79.5%
3.	South Grande Prairie	South Wapiti	Rycroft (Wolverine)		1053	76.5%
4.	Fox Creek	Fox Creek	Mayerthorpe (Wolverine)		273	73.5%
5.	Obed	West Edson	Grande Cache (Wolverine)		360	70.3%
6.	La Glace	Grande Prairie Industrial	Rycroft (Wolverine)		303	68.0%
7.	Dawson Creek	South Taylor	Rycroft (Wolverine)		732	66.6%
8.	Brazeau	Brazeau	Cynthia (Wolverine)		1007	66.1%
9.	Silverdale	Turtleford	Hardisty CTT (Gibson)		474	64.6%
10.	Kindersley	Gull Lake	Plato South (Gibson)		51	55.3%
Landfills						
1.	Tulliby Lake	Lindbergh Caverns	Lloydminster (Ridgeline)		149	74.9%
2.	Tulliby Lake	Mervin	Lloydminster (Ridgeline)		468	74.6%
3.	Willy Green	Willesden Green	Breton Waste Management (RemedX)		76	59.3%
4.	Fox Creek	Fox Creek	High Prairie (Ridgeline)		117	54.0%
5.	Pembina	Judy Creek	Breton Waste Management (RemedX)		127	50.5%
Water disposal (+TRDs)						
1.	Tony Creek	Fox Creek	Fox (Catapult)		423	75.2%
2.	Wonowon	Mile 103	Fort St.John (Aquaterra)		132	74.5%
3.	Eccles	West Edson	Grande Cache (Wolverine)		179	73.9%
4.	Obed	West Edson	Grande Cache (Wolverine)		262	73.4%
5.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		247	72.4%
6.	Kaybob	Fox Creek East	Fox (Catapult)		352	70.7%
7.	Edson	West Edson	Cynthia (Wolverine)		676	67.7%
8.	Brazeau	Brazeau	Cynthia (Wolverine)		826	67.1%
9.	Nosehill	West Edson	Berland (Catapult)		122	66.9%
10.	Kindersley	Gull Lake	Plato North (Gibson)		54	55.7%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be affected by a merger between Secure and Tervita since they would experience a 3-to-2 reduction in competitive alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities, as well as one other competitor facility. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

73. The results of my facility-based approach also show that the proposed merger creates competitive concerns in many markets.

74. Exhibit 15 shows a select set of facility-based markets that would experience a merger to monopoly or reduction from three competitors to two competitors because of the merger. Of the markets that would experience a 3-to-2 reduction

in competition, the combined Secure and Tervita market shares range from 52 percent to 82 percent.[133, 134]

EXHIBIT 15
Market shares in select facility-based markets

	Cluster (Secure Facility)	Nearest Tervita Facility	Nearby Competitor	Type of Merger	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs							
1.	Kotcho	Rainbow Lake		2-to-1		86	100.0%
2.	Judy Creek	Judy Creek	Mayerthorpe (Wolverine)	3-to-2		1,419	82.4%
3.	Dawson Creek	South Taylor	Rycroft (Wolverine)	3-to-2		1,580	81.3%
4.	Kindersley	Kindersley East	Plato North (Gibson)	3-to-2		1,592	52.4%
Landfills							
1.	Saddle Hills	Spirit River		2-to-1		350	100.0%
2.	Fox Creek	Fox Creek	High Prairie (Ridgeline)	3-to-2		313	77.9%
3.	Pembina	Willesden Green	Breton Waste Management Facility (RemedX)	3-to-2		285	68.8%
Water disposal (+TRDs)							
1.	Kotcho	Sierra		2-to-1		86	100.0%
2.	Kindersley	Kindersley East	Plato North (Gibson)	3-to-2		1,592	68.6%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes location-based market revenues and shares for those markets that would be affected by a merger between Secure and Tervita. There may be more than one Secure or Tervita facility with a draw area that overlaps the Secure facility draw area, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed.

75. Using both approaches to geographic market definition, I find that the proposed merger exceeds the threshold of 35 percent mentioned in the *Guidelines* in many markets.[135] I also note that in markets I did not analyze (i.e., markets where the merger reduces the number of competitors from four to three or facility-based markets defined around Tervita facilities) the Parties' post-merger market shares may exceed this threshold and the merger creates anticompetitive concerns.

[133] I also identify one location-based market in which there would be a 4-to-3 reduction in completion from the merger that are not reported in the exhibit and four that would result in a 5-to-4 reduction. In all but one instance, the set of nearby competitors includes a Gibson facility that the Bureau was unable to confirm operational status (the Hardesty and Rimbey facilities), suggesting my market share analysis overestimates the number of competitors.

[134] My analysis does not include the facilities operated by the third-party Waste Service providers Albright (TRD), Dragos (water well), and Evolve Energy (water well). Dragos is located within 112 kilometers of the Judy Creek TRD and Evolve Energy is located within 128 kilometers of the Dawson Creek TRD, both of which are located just outside of the straight-line distance draw area used to conduct my analysis. Extending the draw area and adding these facilities to my analysis may change the "type of merger" field for the Judy Creek and Dawson Creek markets; however, the reported market shares are unlikely to change given the conservative assumptions used to calculate them.

[135] The *Guidelines* state that a merger is unlikely to have anti-competitive consequences due to unilateral exercise of market power if the post-merger market share of the merged firm would be less than 35 percent. Merger Enforcement Guidelines, ¶ 5.8.

6.2. Tervita and Secure compete head-to-head in many local markets

76. When competition between merging parties is stronger, the likelihood that the merger will result in anticompetitive effects is higher. Thus, it is useful to assess whether and the extent to which Secure and Tervita view each other as head-to-head competitors and competitive constraints on each other's prices and sales. Such evidence can come from documents created in the normal course of business, documents parties may have submitted to government agencies, documents describing industry conditions, and prior business decisions taken by parties. My review of these types of documents indicate that the Parties view each other as direct close competitors. Industry reports confirm that Secure and Tervita are each other's closest competitors.

77. The Parties identify each other as their primary competitors in Annual Information Forms (AIF), including the Secure AIF from 2020:

> SECURE is one of the leading providers in the third-party oilfield treatment and disposal market with 42 locations in the WCSB and five in the U.S. Tervita Corporation ("Tervita") has approximately 50 treating, recovery and disposal facilities located primarily in western Canada. Several smaller competitors also exist, operating independent facilities, most of which offer limited services.[136]

78. Tervita's 2020 AIF similarly identify Secure as Tervita's competitor:

> Treating, Recovery and Disposal and Landfills – Tervita's large competitors include Secure Energy Services Inc., plus a number of smaller, predominantly privately owned, regional operators, as well as producers that handle their own waste processing.[137]

79. Internal individual facility analysis documents also indicate that Tervita and Secure compete head-to-head in local markets. For example, a Tervita document analyzing the competitive conditions in local markets identifies Secure facilities as competitors to its facilities:[138]

[136] SECURE ENERGY Annual Information Form for the year ended December 31, 2020, p. 30.

[137] Tervita Annual Information Form for the year ended December 31, 2020, p. 21.

[138] Tervita, "Energy Services, Facility Sales Plans Q3 2020: Action Plan Summary," July 15, 2020, TEV00247518, pp. 16, 28, 35, 45.

- "Competition [at the Silverberry landfill] is moderate in the area. Secure Saddle Hills Landfill and CNRL's Peejay landfill, which is not operational as they have recently been acquired by CNRL"
- "Judy Creek TRD is in a highly competitive market area with Secure being 15km away."
- "Secure Fox Creek Landfill 25km North on the Highway and has an average disposal rate of [redacted] on soil & cuttings and is selling clean clay from their site at [redacted]."
- "High competition in area with Secure & Pembina across the road from the [La Glace TRD] facility."

80. A Tervita "facility metrics breakdown" presents a list of competing facilities and their market shares for 26 Tervita facilities. According to this document, 16 of the 26 Tervita facilities faces competition from a Secure facility.[139]

81. In another example, when discussing the pricing at their facilities, a Tervita employee identifies Secure as their "main competition" for these sites and quotes Secure's pricing for consideration.[140]

82. Other documents show that Tervita and Secure personnel request discounts to be competitive with each other's prices. For example, a 2016 Tervita email identifies Secure Dawson Creek and Newalta Valleyview (now part of Tervita) as closest competitors and requests lower prices to compete against Secure.[141] Another Tervita email from 2018 requests a discount to win [redacted] drill cuttings business away from Secure's Pembina facility.[142] A 2018 Secure email compares Tervita's and Secure's rates and requests discounted rates to

[139] Tervita, "Facility Metrics Breakdown – TRDs and Disposal Wells," 2016/2017, TER_00085702.

[140] Email chain from Shane Nelson to Curtis Benson, "FW: Deliverable due Wednesday- Pricing Strategy Documents," January 11, 20217, TER_00057979 ("Our current main competition is Secure Energy at Mile 100. They are commonly offering produced and waste water at anywhere from [redacted] they don't differentiate costs between the two streams… There are a few other sites in the region run by companies for their own injection needs that occasionally received third party water.").

[141] Tervita, Secure Discounted Offer Authorizations ("DOA"), p. 17 ("I have spoke to the field sales rep in the Willesden Green and he is aware that Secure is offering customers in the area [redacted] He recommended matching or going to [redacted] to make sure that we receive the soil."); p. 19 ("We recently lost to Secure for [redacted] on a similar job at [redacted] so trying [redacted] as per discussions with [redacted]"); p. 27 ("In order to win this work we will need to be aggressive. Secure has offered as low as [redacted] I have contacted Brent and he is good with this price.").

[142] Email from Lori Lambert, "EXTERNAL - DOA Level[redacted] - Drill Program 18/19," August 24, 2018, TEV00219518. ("I went out to see Shane last week in Edson to discuss drill cuttings as he is taking them to Secure Pembina facility near Cynthia. Shane told me that if we can match the price of [redacted] which is where Secure is in Cynthia, he will take his last hole to Judy Creek LF as well as the 8 holes he will be drilling in Fox instead of going to our Fox Creek LF which is at [redacted]

key clients to win business back from Tervita.[143] A Secure email from 2020 requests a discount for a customer to match an offer from Tervita. In the email discussion, a Secure employee indicated that "we would be at risk of losing it if we didn't match it."[144] Tervita employees also refer to "price battles" with Secure and Newalta.[145]

83. In 2018, Tervita described Secure in its submissions to the Bureau in the context of its Newalta acquisition as "one of the most prominent remaining competitors," stating:

> Both parties [Tervita and Newalta] identify Secure as their principal third party competitor, suggesting that they lose business more often to Secure than to each other. From Tervita's perspective, Secure is viewed as the stronger competitor because of its stronger financial position, in that Newalta's recent financial strains have limited its ability to compete on price, whereas Secure tends to be more aggressive on pricing.[146]

84. In their submission, Tervita identified "competing facilities in numerous local markets." In their analysis, Tervita identified 39 third-party TRD facilities within 110 kilometers. 21 of the competing TRD facilities (54%) were Secure facilities. Tervita's counsel includes a section where competitive overlap between TRD facilities is identified by indicating Tervita TRDs and third-party TRDs within 110 kilometers of Newalta TRDs. There are 39 third-party TRDs identified as competitive alternatives to Tervita and Newalta: 21 were Secure TRDs.

[143] Email from Tyler Harnish, "RE: South GP Discounted Vac Waste Rates," June 16, 2020, SES0024264. ("We'd like to offer a few key clients discounted vac waste rates at South GP for about 3 months in order to get more waste in. Yesterday Tanner was able get the exact pricing Tervita is charging [redacted] and we are a decent amount higher now which is contributing to a lot lower waste volumes…").

[144] Email chain from Ed Guenther, "RE: Discount approval at 101," March 24, 2020, SES0026223. ("As we discussed yesterday as a group, Hayden mentioned that we would be at risk of losing it if we didn't match it. So as a one off I would be comfortable with matching for the three months, providing we keep all their work. I am worried long term that Tervita will keep undercutting us on pricing though…").

[145] Email chain from Michael Bongfeldt to Troy Waltz and Lynsey Price, "RE: Lindbergh Sludge Campaign," October 6, 2016, TER_00091578 ("As this is not dis-similar to what we went through at the beginning of the year when we jockeyed with Newalta and Secure trying to regain some volumes and as of late there has been some degree of normality in a way. In going to [redacted] for any client……contractual, volume driven, or not…..we are going to re-ignite the price battle unequivocally, but still fall well short of what we are trying to achieve by year end. And wind up losing margin with all other clients we [sic] currently as we move forward.").

[146] Letter from Kevin Ackhurst (Norton Rose Fulbright) to Commissioner John Pecman (Competition Bureau of Canada), March 1, 2018, p. 22.

85. The locations of Secure, Tervita, and competitor facilities, confirms that Secure and Tervita are each other's closest competitors for many Waste Service customers. Exhibit 16 shows the count of Secure customers with Tervita as the next nearest facility and the average distances to those. For example, for 83 percent of customer locations that used a Secure TRD, the next nearest TRD facility is operated by Tervita. These customers are located with 56 kilometers of the Tervita facility, on average, while their average distance to a competitor facility is 128 kilometers. Due to high transportation costs, proximity of Tervita's facilities to Secure's facilities indicate that Tervita is Secure's closest competitor.

EXHIBIT 16
Secure customers' next nearest facility is often operated by Tervita

	Facility type[1]	Count of customer wells[2]	Customer wells for whom the nearest non-Secure facility is Tervita...		If the nearest non-Secure facility is Tervita, mean distance to...	
			Count	Percentage	Tervita facility (km)	Nearest third party facility (km)
1.	Landfill	1,309	1,077	82.3%	87.26	236.65
2.	TRD	13,371	11,095	83.0%	55.15	127.87
3.	Water Treatment	14,070	9,506	67.6%	48.21	92.40

Source: Secure Sales Data; Secure Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: Secure transactions were excluded from this analysis if the customer was Secure; if they had blank, industrial landfill, terminalling, or "Other Revenue" general ledger names; or indicated credits (i.e. negative revenue). Moreover, this sample does not include transactions missing travel data due to unconvertable UWI or undefined travel routes (e.g. off-road terrain). Facility types were assigned based on information from the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx), Secure facility codes, and Secure general ledger names. Statistics are computed over customer wells as the unit. The analysis uses customer locations from 2019 transactions data. See the Appendix tables that report the customer-level distances for the top 25 revenue-generating customers for each Secure facility.

86. Similarly, Exhibit 17 describes the count of Tervita customers with Secure as the next nearest facility for landfill, TRD, and water treatment facilities, as well as the average distances to those sites. For between 33 and 50 percent of Tervita customers' next-nearest (non-Tervita) site is operated by Secure.

EXHIBIT 17
Tervita customers' next nearest facilities are often operated by Secure

	Facility type[1]	Count of customer wells[2]	Customer wells for whom the nearest non-Tervita facility is Secure...		If the nearest non-Tervita facility is Secure, mean distance to...	
			Count	Percentage	Secure facility (km)	Nearest third party facility (km)
1.	Landfill	4,880	1,608	33.0%	112.79	226.50
2.	TRD	26,029	12,930	49.7%	70.65	142.38
3.	Water Treatment	26,915	10,102	37.5%	59.23	95.30

Source: Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: Tervita transactions were excluded from this analysis if the customer was Tervita; if they had blank, add-on service, or terminalling service types; if they are associated with a TCC, Hydrovac, or fractionation plant; or indicated credits (i.e. negative revenue). Moreover, this sample does not include transactions missing travel data due to unconvertable UWI or undefined travel routes (e.g. off-road terrain). Facility types were assigned based on information from the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx) and Tervita facility types. Statistics are computed over customer wells as the unit. The analysis uses customer locations from 2019 transactions data. See the Appendix tables that report the customer-level distances for the top 25 revenue-generating customers for each Secure facility.

87. A 2018 industry report explained that Waste Service management industry is already highly concentrated with Secure and Tervita being the two largest companies:

> The competitive landscape for third-party oilfield waste-management providers is highly concentrated with Tervita controlling -60% of third-party facilities, followed by Secure at -30%. Other competitors include Gibson Energy and a handful of smaller private competitors.[147]

6.3. The Parties are likely to increase prices after the merger

88. My analysis has shown that there are many relevant markets in which Secure and Tervita compete. In many of these markets, the next closest facility for many Secure (Tervita) customers is operated by Tervita (Secure) and other competing facilities are farther away. In these markets, the merged firm will be a monopoly or achieve high market shares, well above the 35 percent threshold mentioned in the *Guidelines*. Documents also confirm that Secure and Tervita compete head-to-head on prices in many local markets.

89. All of this evidence suggests that in many local markets diversion between Secure and Tervita facilities is high. In other words, the merged firm will be able to recapture a large share of customers who would switch as a response to

[147] Morrison, Jon and Dian Biluk, "Tervita Corporation, A Born-again Version Of The Canadian Oilfield Waste Management Pioneer," CIBC Institutional Equity Research, August 15, 2018, pp. 1-50 at p. 27.

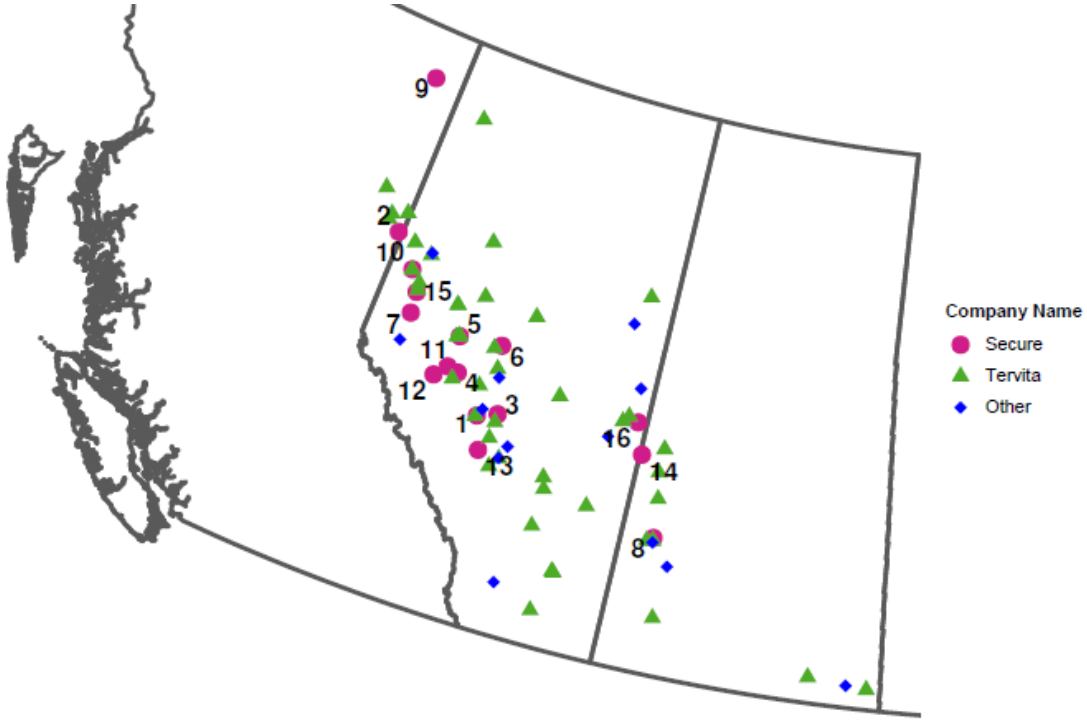
a price increase. Therefore, a price increase will be profitable for the merged firm and the firm will have incentives to increase prices after the transaction.[148]

[148] The merged firm would likely have incentives to increase prices in other antitrust markets that I did not analyze. For example, the merged firm would have incentives to increase prices in facility-based markets that are defined around Tervita facilities (instead of Secure facilities) that would experience a reduction in competition due to the merger. Similarly, the merged firm would have incentives in markets where the merger decreases the competition from four firms to three firms or from five firms to four firms.

7. APPENDIX

7.1. Facility maps with identified Secure facility locations

EXHIBIT 18
Map of TRD facilities operated by Tervita, Secure, and competitors in the WCSB



Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The maps reflect the locations of Waste Service facilities in the Western Canadian Sedimentary Basin that are active as of 2021. The TRD facility locations are identified in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx).

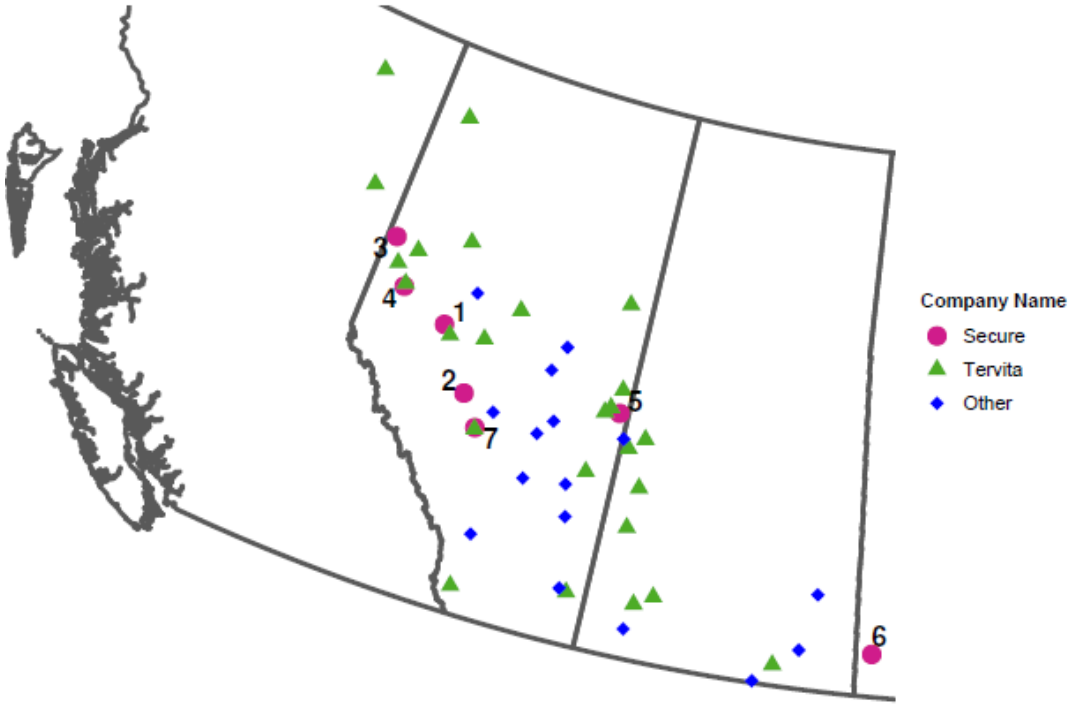
EXHIBIT 19
Key for TRD facilities operated by Secure

Facility Name	Number Key	Facility Name	Number Key
Brazeau	1	Kotcho	9
Dawson Creek	2	La Glace	10
Drayton Valley	3	Nosehill	11
Edson	4	Obed	12
Fox Creek	5	Rocky Mountain House	13
Judy Creek	6	Silverdale	14
Kakwa	7	South Grande Prairie	15
Kindersley	8	Tulliby Lake	16

Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The number key corresponds to the Secure TRD facility locations marked in Exhibit 18.

EXHIBIT 20
Map of landfill facilities operated by Tervita, Secure, and competitors in the WCSB



Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The maps reflect the locations of Waste Service facilities in the Western Canadian Sedimentary Basin that are active as of 2021. The landfill facility locations are identified in list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). There are two cavern facilities that can handle both solid and fluid waste disposal, so those facilities are mapped among the water disposal and landfill facilities. [redacted]

EXHIBIT 21
Key for landfill facilities operated by Secure

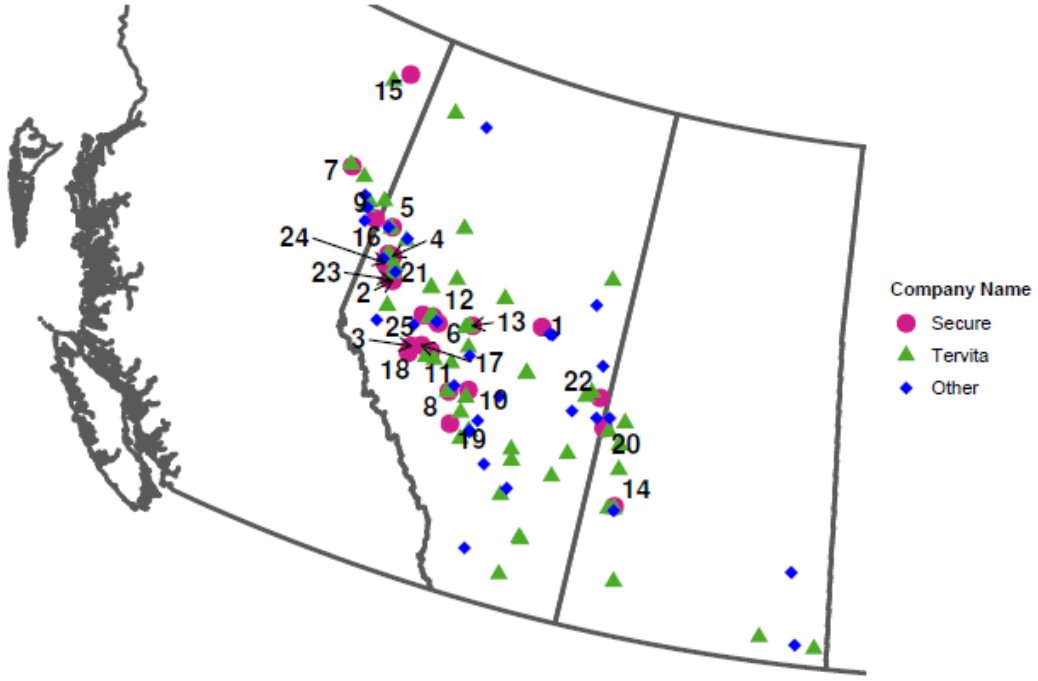
Facility Name	Number Key
Fox Creek	1
Pembina	2
Saddle Hills	3
South Grande Prairie	4
Tulliby Lake	5
Virden	6
Willy Green	7

Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The number key corresponds to the Secure TRD facility locations marked in Exhibit 20.

EXHIBIT 22

Map of water disposal facilities operated by Tervita, Secure, and competitors in the WCSB



Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The maps reflect the locations of Waste Service facilities in the Western Canadian Sedimentary Basin that are active as of 2021. The water disposal facility locations are identified in the list of Waste Service facilities provided by the Bureau (Master 3.0.xlsx). There are two cavern facilities that can handle both solid and fluid waste disposal, so those facilities are mapped among the water disposal and landfill facilities. The mapped facilities also include waste water disposal facilities available at TRDs, which also take in produced water and waste water. The locations indicate the water disposal wells owned by Waste Services firms. Self-supply on-site water disposal wells are not included on the map.

EXHIBIT 23

Key for water disposal facilities operated by Secure

Facility Name	Number Key	Facility Name	Number Key
Athabasca	1	Kindersley	14
Big Mountain Creek	2	Kotcho	15
Eccles	3	La Glace	16
Emerson	4	Nosehill	17
Gordondale	5	Obed	18
Kaybob	6	Rocky Mountain House	19
Wonowon	7	Silverdale	20
Brazeau	8	South Grande Prairie	21
Dawson Creek	9	Tulliby Lake	22
Drayton Valley	10	Gold Creek	23
Edson	11	Pipestone	24
Fox Creek	12	Tony Creek	25
Judy Creek	13		

Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx)

Note: The number key corresponds to the Secure water disposal and TRD facility locations marked in Exhibit 22.

7.2. Master 3.1 facility list

EXHIBIT 24
Notes about facilities in the Master 3.1 file that are not part of the analysis

Company	Notes	Location	Latitude	Longitude
TRD				
Albright	NE British Columbia near the Dawson Creek facility. TEV00230848 at p. 5.		56.55168	-121.27056
Rush Energy Services	[redacted]	10-35-047-04W5	53.09969	-114.47413
Clean Harbors Grande Prairie			55.20732	-118.78682
Clean Harbors Red Deer			52.34489	-113.77159
White Owl, Charmont		01-09-073-05W6M	55.30296	-118.69255
Landfills				
CNRL Manatokan		16-14-063-08W4	54.45514	-111.09291
Grande Prairie Clairmont Municipal		27-72-6-NW-W6	55.26518	-118.83340
Rocky Mountain House Municipal		1-40-9-NE-W5	52.41410	-115.17676
Aspen Waste Management Municipal		20-49-07-SE-W5	53.24326	-114.98886
Leduc Municipal		29-49-24-NE-W4	53.25792	-113.47633
Whitecourt Regional Municipal		5-10-58-29-NW	54.04977	-115.45646
Cold Lake Municipal		23-63-3-SE-W4	54.46420	-110.35864
Water Disposal				
Cancen New Sarepta		14-10-50-22-W4	53.33234	-113.13802
Dragos		2-17-66-21W5	54.71390	-117.13292
Envolve Energy			55.06568	-118.74741
Rush Energy Services		14-15-042-02W5	52.62333	-114.20861

Source: List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); Updated list of Waste Service facilities provided by the Bureau (Master 3.1.xlsx)

7.3. Full list of customer-based market shares

EXHIBIT 25
Full list of Market shares in customer-based markets for TRD facilities identified as merger-to-monopoly

	Secure Facility	Tervita Facility	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs					
1.	Fox Creek	Fox Creek East		551	100.0%
2.	Kakwa	South Wapiti		220	100.0%
3.	Edson	West Edson		760	100.0%
4.	Nosehill	West Edson		1133	100.0%
5.	Fox Creek	Valleyview		337	100.0%
6.	Tulliby Lake	Coronation		776	100.0%
7.	Tulliby Lake	Turtleford		310	100.0%
8.	Fox Creek	Fox Creek		390	100.0%
9.	Obed	West Edson		270	100.0%
10.	Dawson Creek	Boundary Lake		104	100.0%
11.	Kakwa	Grande Prairie Industrial		159	100.0%
12.	Judy Creek	Judy Creek		152	100.0%
13.	Rocky Mountain House	Willesden Green		75	100.0%
14.	Kindersley	Coronation		71	100.0%
15.	Edson	Fox Creek East		52	100.0%
16.	Nosehill	Fox Creek East		52	100.0%
17.	South Grande Prairie	South Wapiti		33	100.0%
18.	La Glace	La Glace		23	100.0%
19.	Silverdale	Turtleford		45	100.0%
20.	Dawson Creek	Fort St. John		13	100.0%
21.	Dawson Creek	South Taylor		21	100.0%
22.	Judy Creek	Mitsue		13	100.0%
23.	Dawson Creek	Gordondale		4	100.0%
24.	Dawson Creek	La Glace		3	100.0%
25.	Obed	Niton Junction		3	100.0%
26.	South Grande Prairie	Grande Prairie Industrial		10	100.0%
27.	Edson	Fox Creek		16	100.0%
28.	Edson	Niton Junction		6	100.0%
29.	Tulliby Lake	Redwater		4	100.0%
30.	La Glace	Gordondale		3	100.0%
31.	Rocky Mountain House	Stauffer		2	100.0%
32.	Nosehill	Fox Creek		3	100.0%
Landfills					
1.	Saddle Hills	Silverberry		245	100.0%
2.	South Grande Prairie	South Wapiti		212	100.0%
3.	South Grande Prairie	La Glace		97	100.0%
4.	Saddle Hills	Spirit River		147	100.0%
5.	Fox Creek	Fox Creek		70	100.0%
6.	Tulliby Lake	Bonnyville		14	100.0%
7.	Saddle Hills	East Peace		35	100.0%
Water disposal (+TRDs)					
1.	Edson	West Edson		843	100.0%
2.	Athabasca	Mitsue		280	100.0%
3.	Eccles	West Edson		569	100.0%
4.	Tulliby Lake	Coronation		524	100.0%
5.	Obed	West Edson		215	100.0%
6.	Judy Creek	Judy Creek		152	100.0%
7.	Wonowon	Mile 103		23	100.0%
8.	Kindersley	Coronation		75	100.0%
9.	Kotcho	Sierra		52	100.0%
10.	Rocky Mountain House	Willesden Green		54	100.0%
11.	Nosehill	West Edson		64	100.0%
12.	Judy Creek	Mitsue		13	100.0%
13.	Obed	Niton Junction		3	100.0%

Souce: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be most affected by a merger between Secure and Tervita since they would lose one of their two viable alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

EXHIBIT 26

Full list of Market shares in customer-based markets for TRD facilities where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs						
1.	Kakwa	South Wapiti	Rycroft (Wolverine)		304	82.6%
2.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		447	79.5%
3.	Kakwa	South Wapiti	Grande Cache (Wolverine)		955	78.0%
4.	South Grande Prairie	South Wapiti	Rycroft (Wolverine)		1053	76.5%
5.	Fox Creek	Fox Creek	Mayerthorpe (Wolverine)		273	73.5%
6.	Obed	West Edson	Grande Cache (Wolverine)		360	70.3%
7.	Tulliby Lake	Elk Point	Fort Kent (Pure Environmental)		104	68.4%
8.	La Glace	Grande Prairie Industrial	Rycroft (Wolverine)		303	68.0%
9.	La Glace	La Glace	Rycroft (Wolverine)		1637	67.6%
10.	Kakwa	Grande Prairie Industrial	Grande Cache (Wolverine)		167	67.4%
11.	Fox Creek	Fox Creek East	Mayerthorpe (Wolverine)		1257	67.3%
12.	Dawson Creek	South Taylor	Rycroft (Wolverine)		732	66.6%
13.	Brazeau	Brazeau	Cynthia (Wolverine)		1007	66.1%
14.	Kindersley	Unity Caverns	Plato North (Gibson)		182	64.9%
15.	Silverdale	Turtleford	Hardisty CTT (Gibson)		474	64.6%
16.	Silverdale	Elk Point	Hardisty CTT (Gibson)		123	64.4%
17.	Rocky Mountain House	Stauffer	Rimbey (Gibson)		598	64.2%
18.	La Glace	Spirit River	Rycroft (Wolverine)		367	63.9%
19.	Obed	West Edson	Cynthia (Wolverine)		244	63.7%
20.	Fox Creek	Judy Creek	Mayerthorpe (Wolverine)		84	62.9%
21.	Brazeau	Niton Junction	Cynthia (Wolverine)		187	62.6%
22.	Edson	West Edson	Cynthia (Wolverine)		799	62.5%
23.	Rocky Mountain House	Eckville	Rimbey (Gibson)		537	62.3%
24.	Silverdale	Lindbergh Caverns	Hardisty CTT (Gibson)		107	61.9%
25.	Tulliby Lake	Turtleford	Hardisty CTT (Gibson)		78	61.2%
26.	Dawson Creek	Gordondale	Rycroft (Wolverine)		988	61.0%
27.	Edson	Niton Junction	Cynthia (Wolverine)		495	60.4%
28.	Judy Creek	Judy Creek	Mayerthorpe (Wolverine)		356	59.4%
29.	Silverdale	Carruthers	Hardisty CTT (Gibson)		725	59.3%
30.	Edson	Niton Junction	Mayerthorpe (Wolverine)		104	59.0%
31.	Kindersley	Coronation	Plato North (Gibson)		76	58.8%
32.	Tulliby Lake	Elk Point	Hardisty CTT (Gibson)		90	58.4%
33.	Kindersley	Kindersley East	Plato South (Gibson)		62	58.4%
34.	Judy Creek	Green Court	Mayerthorpe (Wolverine)		138	58.1%
35.	Kindersley	Kindersley East	Plato North (Gibson)		1063	57.7%
36.	Kindersley	Kindersley	Plato North (Gibson)		2009	56.7%
37.	Rocky Mountain House	Willesden Green	Rimbey (Gibson)		222	55.5%
38.	Kindersley	Gull Lake	Plato South (Gibson)		51	55.3%
39.	Drayton Valley	Niton Junction	Mayerthorpe (Wolverine)		54	54.8%
40.	Obed	Brazeau	Cynthia (Wolverine)		7	70.8%
41.	La Glace	Gordondale	Rycroft (Wolverine)		45	67.6%
42.	Tulliby Lake	Redwater	Hardisty CTT (Gibson)		14	66.7%
43.	Drayton Valley	Brazeau	Cynthia (Wolverine)		8	66.3%
44.	Obed	Niton Junction	Grande Cache (Wolverine)		14	66.1%
45.	Fox Creek	Valleyview	Rycroft (Wolverine)		14	65.8%
46.	Nosehill	West Edson	Grande Cache (Wolverine)		21	64.9%
47.	Edson	Brazeau	Cynthia (Wolverine)		9	64.6%
48.	Nosehill	West Edson	Cynthia (Wolverine)		49	64.5%
49.	Dawson Creek	Spirit River	Rycroft (Wolverine)		44	64.1%
50.	Kindersley	Kindersley	Plato South (Gibson)		39	59.4%
51.	Dawson Creek	Boundary Lake	Rycroft (Wolverine)		36	59.1%
52.	South Grande Prairie	Grande Prairie Industrial	Rycroft (Wolverine)		28	57.9%
53.	Drayton Valley	Niton Junction	Rimbey (Gibson)		4	57.9%
54.	Dawson Creek	Fort St. John	Rycroft (Wolverine)		48	55.9%
55.	Dawson Creek	La Glace	Rycroft (Wolverine)		29	55.3%
56.	Brazeau	Niton Junction	Mayerthorpe (Wolverine)		3	53.4%
57.	Tulliby Lake	Redwater	Mayerthorpe (Wolverine)		5	52.5%
58.	Drayton Valley	Eckville	Rimbey (Gibson)		22	52.4%
59.	Drayton Valley	Buck Creek	Rimbey (Gibson)		9	52.2%
60.	Brazeau	West Edson	Cynthia (Wolverine)		4	50.7%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be affected by a merger between Secure and Tervita since they would experience a 3-to-2 reduction in competitive alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities, as well as one other competitor facility. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

EXHIBIT 27
Full list of Market shares in customer-based markets for landfill and water disposal facilities where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
Landfills						
1.	Tulliby Lake	Lindbergh Caverns	Lloydminster (Ridgeline)	[redacted]	149	74.9%
2.	Tulliby Lake	Mervin	Lloydminster (Ridgeline)		468	74.6%
3.	Tulliby Lake	Marshall	Lloydminster (Ridgeline)		345	67.5%
4.	Willy Green	Willesden Green	Breton Waste Management (RemedX)		76	59.3%
5.	Fox Creek	Fox Creek	High Prairie (Ridgeline)		117	54.0%
6.	Pembina	Willesden Green	Breton Waste Management (RemedX)		28	52.9%
7.	Pembina	Judy Creek	Breton Waste Management (RemedX)		127	50.5%
8.	Saddle Hills	Spirit River	High Prairie (Ridgeline)		26	50.4%
9.	South Grande Prairie	South Wapiti	High Prairie (Ridgeline)		22	50.0%
10.	Fox Creek	South Wapiti	High Prairie (Ridgeline)		5	50.0%
11.	South Grande Prairie	La Glace	High Prairie (Ridgeline)		2	50.0%
Water disposal (+TRDs)						
1.	Fox Creek	Valleyview	Berland (Catapult)		14	77.3%
2.	Kaybob	Valleyview	Berland (Catapult)		52	77.1%
3.	Tony Creek	Valleyview	Fox (Catapult)		61	76.3%
4.	Tony Creek	Fox Creek	Fox (Catapult)		423	75.2%
5.	Tony Creek	Fox Creek East	Berland (Catapult)		63	74.8%
6.	Fox Creek	Fox Creek	Fox (Catapult)		136	74.7%
7.	Big Mountain Creek	Grande Prairie Industrial	Grande Cache (Wolverine)		13	74.6%
8.	Wonowon	Mile 103	Fort St.John (Aquaterra)		132	74.5%
9.	Eccles	West Edson	Grande Cache (Wolverine)		179	73.9%
10.	Fox Creek	Valleyview	Fox (Catapult)		321	73.7%
11.	Obed	West Edson	Grande Cache (Wolverine)		262	73.4%
12.	Kaybob	Fox Creek	Berland (Catapult)		45	73.0%
13.	Tulliby Lake	Elk Point	Fort Kent (Pure Environmental)		100	72.5%
14.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		247	72.4%
15.	Fox Creek	Fox Creek	Berland (Catapult)		67	71.2%
16.	Big Mountain Creek	Grande Prairie Industrial	Gold Creek (Aquaterra)		16	71.0%
17.	Kaybob	Fox Creek East	Fox (Catapult)		352	70.7%
18.	Tony Creek	Fox Creek	Berland (Catapult)		30	70.4%
19.	Obed	West Edson	Cynthia (Wolverine)		254	69.4%
20.	Gold Creek	Kakwa	Gold Creek (Aquaterra)		17	69.0%
21.	Edson	West Edson	Cynthia (Wolverine)		676	67.7%
22.	Kaybob	Fox Creek East	Berland (Catapult)		184	67.5%
23.	Brazeau	Brazeau	Cynthia (Wolverine)		826	67.1%
24.	Nosehill	West Edson	Berland (Catapult)		122	66.9%
25.	Obed	Niton Junction	Grande Cache (Wolverine)		11	66.0%
26.	Fox Creek	Fox Creek East	Fox (Catapult)		368	65.7%
27.	Rocky Mountain House	Willesden Green	NA (MROR)		25	65.7%
28.	Nosehill	West Edson	Cynthia (Wolverine)		33	63.9%
29.	Nosehill	Moose Creek	Fox (Catapult)		676	63.8%
30.	Silverdale	Turtleford	Hillmond (Aquaterra)		63	63.4%
31.	Brazeau	Niton Junction	Cynthia (Wolverine)		177	62.7%
32.	Tulliby Lake	Turtleford	Hillmond (Aquaterra)		353	62.5%
33.	Big Mountain Creek	Kakwa	Gold Creek (Aquaterra)		131	61.6%
34.	Kindersley	Coronation	Plato North (Gibson)		80	61.4%
35.	Judy Creek	Green Court	Mayerthorpe (Wolverine)		41	60.7%
36.	Edson	Moose Creek	Cynthia (Wolverine)		336	60.7%
37.	Kindersley	Unity Caverns	Plato North (Gibson)		118	60.0%
38.	Kindersley	Kindersley East	Plato North (Gibson)		1125	58.1%
39.	Kindersley	Kindersley	Plato North (Gibson)		2050	57.6%
40.	Edson	Moose Creek	Fox (Catapult)		28	57.0%
41.	South Grande Prairie	Grande Prairie Industrial	Gold Creek (Aquaterra)		20	56.3%
42.	Edson	Niton Junction	Cynthia (Wolverine)		128	55.9%
43.	Kindersley	Gull Lake	Plato North (Gibson)		54	55.7%
44.	Drayton Valley	Niton Junction	Mayerthorpe (Wolverine)		43	53.3%
45.	Tony Creek	Valleyview	Berland (Catapult)		22	51.7%
46.	Nosehill	Fox Creek East	Fox (Catapult)		22	50.8%
47.	Athabasca	Mitsue	Atmore West (White Swan)		29	50.7%
48.	Obed	Brazeau	Cynthia (Wolverine)		7	70.8%
49.	Obed	Grande Prairie Industrial	Grande Cache (Wolverine)		4	66.7%
50.	Athabasca	Amelia	Atmore West (White Swan)		6	66.6%
51.	Big Mountain Creek	South Wapiti	Gold Creek (Aquaterra)		6	66.5%
52.	Drayton Valley	Brazeau	Cynthia (Wolverine)		8	66.3%
53.	Edson	Niton Junction	Fox (Catapult)		5	65.1%
54.	Tony Creek	Fox Creek East	Fox (Catapult)		3	63.8%
55.	Nosehill	West Edson	Fox (Catapult)		8	60.8%
56.	Tony Creek	Valleyview	Grande Cache (Wolverine)		8	58.4%
57.	Drayton Valley	Niton Junction	Rimbey (Gibson)		4	57.9%
58.	Rocky Mountain House	Stauffer	NA (MROR)		3	53.8%
59.	Brazeau	Niton Junction	Mayerthorpe (Wolverine)		3	53.4%
60.	Athabasca	Redwater	Mayerthorpe (Wolverine)		2	52.9%
61.	South Grande Prairie	South Wapiti	Gold Creek (Aquaterra)		4	52.7%
62.	Athabasca	Redwater	Atmore West (White Swan)		4	52.5%
63.	Brazeau	West Edson	Cynthia (Wolverine)		4	50.7%
64.	Judy Creek	Judy Creek	Mayerthorpe (Wolverine)		9	50.0%
65.	Brazeau	Moose Creek	Cynthia (Wolverine)		10	50.0%
66.	Nosehill	Fox Creek	Fox (Catapult)		3	50.0%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be affected by a merger between Secure and Tervita since they would experience a 3-to-2 reduction in competitive alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities, as well as one other competitor facility. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

7.4. Customer-based market share robustness checks

90. In Section 6.1, I assign the competitors in each customer-based market a market share equal to the maximum of the mean revenue of Secure or Tervita facilities in that market (i.e., max[average(Revenues of Secure facilities), average(Revenues of Tervita facilities)]). In Exhibit 28, I report customer-based market shares that assign competitor market shares using an even more conservative assumption—namely, they are assigned the maximum of total Secure or Tervita revenue generated by customers in that area (i.e., max[sum(Revenues of Tervita facilities), sum(Revenues of Secure facilities)]). Similar to the market shares in Exhibit 14, I find that there are many customer-based markets that would experience a 3-to-2 reduction in competitive alternatives, and that the combined Tervita-Secure market share would likely be well above the 35 percent safe harbour threshold.

EXHIBIT 28
Market shares in select customer-based markets where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs						
1.	Fox Creek	Fox Creek East	Mayerthorpe (Wolverine)	[redacted]	1257	66.5%
2.	La Glace	Grande Prairie Industri	Rycroft (Wolverine)		303	66.0%
3.	Kindersley	Kindersley	Plato North (Gibson)		2009	65.9%
4.	Edson	West Edson	Cynthia (Wolverine)		799	65.5%
5.	Drayton Valley	Niton Junction	Mayerthorpe (Wolverine)		54	64.6%
6.	Rocky Mountain House	Stauffer	Rimbey (Gibson)		598	62.6%
7.	Brazeau	Brazeau	Cynthia (Wolverine)		1007	62.5%
8.	Judy Creek	Judy Creek	Mayerthorpe (Wolverine)		356	62.4%
9.	Silverdale	Lindbergh Caverns	Hardisty CTT (Gibson)		107	61.8%
10.	Kakwa	South Wapiti	Grande Cache (Wolverine)		955	61.6%
Landfills						
1.	Willy Green	Willesden Green	Breton Waste Management (RemedX)		76	63.6%
2.	Pembina	Judy Creek	Breton Waste Management (RemedX)		127	54.7%
3.	Fox Creek	Fox Creek	High Prairie (Ridgeline)		117	54.1%
4.	South Grande Prairie	South Wapiti	High Prairie (Ridgeline)		22	52.2%
5.	Pembina	Willesden Green	Breton Waste Management (RemedX)		28	50.7%
Water disposal (+TRDs)						
1.	Edson	West Edson	Cynthia (Wolverine)		676	65.9%
2.	Kindersley	Kindersley	Plato North (Gibson)		2050	65.6%
3.	Wonowon	Mile 103	Fort St.John (Aquaterra)		132	64.2%
4.	Kaybob	Fox Creek East	Berland (Catapult)		184	63.1%
5.	Obed	West Edson	Cynthia (Wolverine)		254	62.0%
6.	Brazeau	Brazeau	Cynthia (Wolverine)		826	61.4%
7.	Nosehill	West Edson	Berland (Catapult)		122	60.7%
8.	Fox Creek	Valleyview	Fox (Catapult)		321	60.3%
9.	Kaybob	Fox Creek East	Fox (Catapult)		352	57.6%
10.	Tony Creek	Fox Creek	Fox (Catapult)		423	56.4%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be affected by a merger between Secure and Tervita since they would experience a 3-to-2 reduction in competitive alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities, as well as one other competitor facility. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

EXHIBIT 29

Full list of Market shares in customer-based markets for TRD facilities where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
TRDs						
1.	Fox Creek	Fox Creek East	Mayerthorpe (Wolverine)	[redacted]	1257	66.5%
2.	Kindersley	Kindersley East	Plato North (Gibson)		1063	66.0%
3.	La Glace	Grande Prairie Industrial	Rycroft (Wolverine)		303	66.0%
4.	Kindersley	Kindersley	Plato North (Gibson)		2009	65.9%
5.	Edson	West Edson	Cynthia (Wolverine)		799	65.5%
6.	Drayton Valley	Niton Junction	Mayerthorpe (Wolverine)		54	64.6%
7.	Rocky Mountain House	Stauffer	Rimbey (Gibson)		598	62.6%
8.	Brazeau	Brazeau	Cynthia (Wolverine)		1007	62.5%
9.	Judy Creek	Judy Creek	Mayerthorpe (Wolverine)		356	62.4%
10.	Kindersley	Kindersley East	Plato South (Gibson)		62	62.2%
11.	Fox Creek	Judy Creek	Mayerthorpe (Wolverine)		84	62.0%
12.	Silverdale	Lindbergh Caverns	Hardisty CTT (Gibson)		107	61.8%
13.	Kakwa	South Wapiti	Grande Cache (Wolverine)		955	61.6%
14.	Obed	West Edson	Cynthia (Wolverine)		244	61.2%
15.	Dawson Creek	Gordondale	Rycroft (Wolverine)		988	60.9%
16.	La Glace	La Glace	Rycroft (Wolverine)		1637	60.9%
17.	South Grande Prairie	South Wapiti	Rycroft (Wolverine)		1053	59.1%
18.	Tulliby Lake	Elk Point	Fort Kent (Pure Environmental)		104	58.8%
19.	Brazeau	Niton Junction	Cynthia (Wolverine)		187	58.6%
20.	Kindersley	Coronation	Plato North (Gibson)		76	58.1%
21.	Kakwa	Grande Prairie Industrial	Grande Cache (Wolverine)		167	58.0%
22.	Edson	Niton Junction	Cynthia (Wolverine)		495	56.4%
23.	Rocky Mountain House	Willesden Green	Rimbey (Gibson)		222	56.1%
24.	Kindersley	Gull Lake	Plato South (Gibson)		51	56.0%
25.	Dawson Creek	South Taylor	Rycroft (Wolverine)		732	55.4%
26.	Rocky Mountain House	Eckville	Rimbey (Gibson)		537	55.0%
27.	Fox Creek	Fox Creek	Mayerthorpe (Wolverine)		273	54.9%
28.	Judy Creek	Green Court	Mayerthorpe (Wolverine)		138	53.5%
29.	Kakwa	South Wapiti	Rycroft (Wolverine)		304	53.3%
30.	Silverdale	Carruthers	Hardisty CTT (Gibson)		725	53.2%
31.	Edson	Niton Junction	Mayerthorpe (Wolverine)		104	53.0%
32.	La Glace	Spirit River	Rycroft (Wolverine)		367	52.1%
33.	Silverdale	Elk Point	Hardisty CTT (Gibson)		123	51.7%
34.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		447	51.7%
35.	Obed	West Edson	Grande Cache (Wolverine)		360	51.1%
36.	Tulliby Lake	Elk Point	Hardisty CTT (Gibson)		90	50.9%
37.	Kindersley	Unity Caverns	Plato North (Gibson)		182	50.9%
38.	Silverdale	Turtleford	Hardisty CTT (Gibson)		474	50.1%
39.	Tulliby Lake	Turtleford	Hardisty CTT (Gibson)		78	50.0%
40.	La Glace	Gordondale	Rycroft (Wolverine)		45	65.5%
41.	South Grande Prairie	Grande Prairie Industrial	Rycroft (Wolverine)		28	62.5%
42.	Dawson Creek	Fort St. John	Rycroft (Wolverine)		48	60.7%
43.	Drayton Valley	Brazeau	Cynthia (Wolverine)		8	59.9%
44.	Nosehill	West Edson	Cynthia (Wolverine)		49	59.0%
45.	Drayton Valley	Niton Junction	Rimbey (Gibson)		4	57.9%
46.	Brazeau	Niton Junction	Mayerthorpe (Wolverine)		3	57.4%
47.	Drayton Valley	Eckville	Rimbey (Gibson)		22	56.3%
48.	Kindersley	Kindersley	Plato South (Gibson)		39	54.8%
49.	Dawson Creek	Boundary Lake	Rycroft (Wolverine)		36	54.3%
50.	Dawson Creek	Spirit River	Rycroft (Wolverine)		44	53.2%
51.	Dawson Creek	La Glace	Rycroft (Wolverine)		29	53.1%
52.	Edson	Brazeau	Cynthia (Wolverine)		9	52.5%
53.	Tulliby Lake	Redwater	Mayerthorpe (Wolverine)		5	52.5%
54.	Drayton Valley	Buck Creek	Rimbey (Gibson)		9	52.2%
55.	Nosehill	West Edson	Grande Cache (Wolverine)		21	52.1%
56.	Obed	Niton Junction	Grande Cache (Wolverine)		14	50.9%
57.	Fox Creek	Valleyview	Rycroft (Wolverine)		14	50.7%
58.	Brazeau	West Edson	Cynthia (Wolverine)		4	50.7%
59.	Obed	Brazeau	Cynthia (Wolverine)		7	50.6%
60.	Tulliby Lake	Redwater	Hardisty CTT (Gibson)		14	50.2%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be affected by a merger between Secure and Tervita since they would experience a 3-to-2 reduction in competitive alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities, as well as one other competitor facility. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

EXHIBIT 30
Full list of Market shares in customer-based markets for landfill and water disposal facilities where the merger reduces competitors from 3-to-2 firms

	Secure Facility	Tervita Facility	Nearby Competitor	Total Revenue for Secure and Tervita (CAD)	Total Count of Secure and Tervita Customers	Estimated Market Share of Merged Entity
Landfills						
1.	Willy Green	Willesden Green	Breton Waste Management (RemedX)	[redacted]	76	63.6%
2.	Pembina	Judy Creek	Breton Waste Management (RemedX)		127	54.7%
3.	Fox Creek	Fox Creek	High Prairie (Ridgeline)		117	54.1%
4.	South Grande Prairie	South Wapiti	High Prairie (Ridgeline)		22	52.2%
5.	Pembina	Willesden Green	Breton Waste Management (RemedX)		28	50.7%
6.	Tulliby Lake	Marshall	Lloydminster (Ridgeline)		345	50.5%
7.	Saddle Hills	Spirit River	High Prairie (Ridgeline)		26	50.4%
8.	Tulliby Lake	Lindbergh Caverns	Lloydminster (Ridgeline)		149	50.3%
9.	Tulliby Lake	Mervin	Lloydminster (Ridgeline)		468	50.1%
10.	Fox Creek	South Wapiti	High Prairie (Ridgeline)		5	59.0%
11.	South Grande Prairie	La Glace	High Prairie (Ridgeline)		2	51.4%
Water disposal (+TRDs)						
1.	Big Mountain Creek	Grande Prairie Industrial	Grande Cache (Wolverine)		13	66.3%
2.	Edson	West Edson	Cynthia (Wolverine)		676	65.9%
3.	Kindersley	Kindersley	Plato North (Gibson)		2050	65.6%
4.	Nosehill	Fox Creek East	Fox (Catapult)		22	65.3%
5.	Kindersley	Kindersley East	Plato North (Gibson)		1125	65.3%
6.	Edson	Moose Creek	Cynthia (Wolverine)		336	65.2%
7.	Tulliby Lake	Elk Point	Fort Kent (Pure Environmental)		100	65.1%
8.	Fox Creek	Fox Creek East	Fox (Catapult)		368	64.8%
9.	Gold Creek	Kakwa	Gold Creek (Aquaterra)		17	64.8%
10.	Wonowon	Mile 103	Fort St.John (Aquaterra)		132	64.2%
11.	Fox Creek	Valleyview	Berland (Catapult)		14	63.9%
12.	Kaybob	Fox Creek East	Berland (Catapult)		184	63.1%
13.	Drayton Valley	Niton Junction	Mayerthorpe (Wolverine)		43	62.7%
14.	Obed	West Edson	Cynthia (Wolverine)		254	62.0%
15.	Brazeau	Brazeau	Cynthia (Wolverine)		826	61.4%
16.	Athabasca	Mitsue	Atmore West (White Swan)		29	61.1%
17.	Tony Creek	Fox Creek East	Berland (Catapult)		63	61.1%
18.	Nosehill	West Edson	Berland (Catapult)		122	60.7%
19.	Fox Creek	Valleyview	Fox (Catapult)		321	60.3%
20.	Fox Creek	Fox Creek	Berland (Catapult)		67	60.2%
21.	Rocky Mountain House	Willesden Green	NA (MROR)		25	59.1%
22.	Brazeau	Niton Junction	Cynthia (Wolverine)		177	58.4%
23.	Nosehill	West Edson	Cynthia (Wolverine)		33	57.7%
24.	Kaybob	Fox Creek East	Fox (Catapult)		352	57.6%
25.	Kaybob	Valleyview	Berland (Catapult)		52	57.5%
26.	Tony Creek	Valleyview	Fox (Catapult)		61	57.3%
27.	Kindersley	Coronation	Plato North (Gibson)		80	57.1%
28.	Tony Creek	Fox Creek	Berland (Catapult)		30	57.0%
29.	Kindersley	Gull Lake	Plato North (Gibson)		54	56.4%
30.	Tony Creek	Fox Creek	Fox (Catapult)		423	56.4%
31.	Big Mountain Creek	Grande Prairie Industrial	Gold Creek (Aquaterra)		16	56.2%
32.	Judy Creek	Green Court	Mayerthorpe (Wolverine)		41	55.8%
33.	Kaybob	Fox Creek	Berland (Catapult)		45	55.7%
34.	Edson	Niton Junction	Cynthia (Wolverine)		128	53.2%
35.	Nosehill	Moose Creek	Fox (Catapult)		676	53.1%
36.	Tony Creek	Valleyview	Berland (Catapult)		22	52.0%
37.	Fox Creek	Fox Creek	Fox (Catapult)		136	51.8%
38.	Eccles	West Edson	Grande Cache (Wolverine)		179	51.6%
39.	Tulliby Lake	Lindbergh Caverns	Fort Kent (Pure Environmental)		247	51.4%
40.	Kindersley	Unity Caverns	Plato North (Gibson)		118	51.3%
41.	Big Mountain Creek	Kakwa	Gold Creek (Aquaterra)		131	51.1%
42.	Obed	Niton Junction	Grande Cache (Wolverine)		11	51.1%
43.	Obed	West Edson	Grande Cache (Wolverine)		262	51.1%
44.	South Grande Prairie	Grande Prairie Industrial	Gold Creek (Aquaterra)		20	50.8%
45.	Silverdale	Turtleford	Hillmond (Aquaterra)		63	50.1%
46.	Tulliby Lake	Turtleford	Hillmond (Aquaterra)		353	50.1%
47.	Edson	Moose Creek	Fox (Catapult)		28	50.1%
48.	Drayton Valley	Brazeau	Cynthia (Wolverine)		8	59.9%
49.	Rocky Mountain House	Stauffer	NA (MROR)		3	58.3%
50.	Drayton Valley	Niton Junction	Rimbey (Gibson)		4	57.9%
51.	Nosehill	Fox Creek	Fox (Catapult)		3	57.5%
52.	Brazeau	Niton Junction	Mayerthorpe (Wolverine)		3	57.4%
53.	Judy Creek	Judy Creek	Mayerthorpe (Wolverine)		9	56.1%
54.	Big Mountain Creek	South Wapiti	Gold Creek (Aquaterra)		6	54.9%
55.	Tony Creek	Fox Creek East	Fox (Catapult)		3	53.6%
56.	Nosehill	West Edson	Fox (Catapult)		8	53.1%
57.	Athabasca	Redwater	Mayerthorpe (Wolverine)		2	52.9%
58.	South Grande Prairie	South Wapiti	Gold Creek (Aquaterra)		4	52.7%
59.	Athabasca	Redwater	Atmore West (White Swan)		4	52.5%
60.	Edson	Niton Junction	Fox (Catapult)		5	51.8%
61.	Obed	Grande Prairie Industrial	Grande Cache (Wolverine)		4	51.1%
62.	Brazeau	Moose Creek	Cynthia (Wolverine)		10	51.0%
63.	Tony Creek	Valleyview	Grande Cache (Wolverine)		8	50.9%
64.	Brazeau	West Edson	Cynthia (Wolverine)		4	50.7%
65.	Obed	Brazeau	Cynthia (Wolverine)		7	50.6%
66.	Athabasca	Amelia	Atmore West (White Swan)		6	50.1%

Source: Secure Sales Data; Secure Facilities Data; Tervita Sales Data; Tervita Facilities Data; List of Waste Service facilities provided by the Bureau (Master 3.0.xlsx); GridAtlas; ArcGIS

Note: The table describes customer-based market revenues and shares for those customers that would be affected by a merger between Secure and Tervita since they would experience a 3-to-2 reduction in competitive alternatives. The markets are described by the customers located in the overlapping draw areas of Secure and Tervita facilities, as well as one other competitor facility. There may be more than one Secure or Tervita facility with a draw area that overlaps the draw areas for the listed facilities, and the revenue generated by those facilities is included in the Secure and Tervita revenue totals listed. In this case closest facilities are listed for each of the competing parties.

7.5. Secure and Tervita customers' next nearest facilities

91. For the top 25 customers at each Secure and Tervita facility, I summarized the distances to the nearest three facilities. The top 25 customers were selected based on revenue generated in 2019. For each facility-customer pair, I report the distance to the nearest facility, the name of the facility, and the name of the company that operates the facility, and I report these metrics for the second and third nearest facilities, as well.[149]

Nathan Miller, Ph.D.
June 29, 2021

[149] See my backup: Exhibit 16 Appendix.xlsx; Exhibit 17 Appendix.xlsx.

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Updated June 2021

Positions

Georgetown University
- Provost's Distinguished Associate Professor, 2021-present
- Saleh Romeih Associate Professor, 2019-present, McDonough School of Business
- Affiliated Professor, 2019-present, Economics Department
- Senior Policy Scholar, Center for Business and Public Policy, 2017-present
- Associate Professor, 2017-2019, McDonough School of Business
- Assistant Professor, 2013-2017, McDonough School of Business

Toulouse School of Economics
- Visiting Professor, 2019-2020

U.S. Department of Justice, Antitrust Division
- Staff Economist, 2008-2013

Degrees

Ph.D., Economics, University of California at Berkeley, 2008.
B.A., Economics and History, University of Virginia, 2000.

Antitrust Experience

Provided economic analysis and litigation support for the Department of Justice Antitrust Division on more than twenty merger and conduct investigations, including the merger of AT&T Wireless and T-Mobile Wireless. Consulted for the Federal Trade Commission, Canadian Competition Bureau, and one or more additional antitrust authorities as an outside expert. Testified on behalf of the Canadian Competition Bureau for the merger of ParrishHeimbecker and Louis Dreyfus Company.

Refereed Publications

"Finding Mr. Schumpeter: Technology Adoption in the Cement Industry" (with Jeffrey Macher and Matthew Osborne). *RAND Journal of Economics*, Vol 52, No. 1, 78-99 (2021).

"Forward Contracts, Market Structure, and the Welfare Effects of Mergers" (with Joseph Podwol). *Journal of Industrial Economics*, Vol. 68, No. 2, 364-407 (2020).

"Understanding the Price Effects of the MillerCoors Joint Venture" (with Matthew Weinberg). *Econometrica*, Vol. 85, No. 6, 1763-1791 (2017).

"Pass-Through in a Concentrated Industry: Empirical Evidence and Regulatory Implications" (with Matthew Osborne and Gloria Sheu). *RAND Journal of Economics*, Vol. 48, No. 1, 69-93 (2017).

"Upward Pricing Pressure as a Predictor of Merger Price Effects" (with Marc Remer, Conor Ryan and Gloria Sheu). *International Journal of Industrial Organization*, Vol. 52, 216-247 (2017).

"Pass-Through and the Prediction of Merger Price Effects" (with Marc Remer, Conor Ryan and Gloria Sheu). *Journal of Industrial Economics*, Vol. 64, December, 684-709 (2016).

"Spatial Differentiation and Price Discrimination in the Cement Industry: Evidence from a Structural Model" (with Matthew Osborne), *RAND Journal of Economics*, Vol. 45, No. 2, 221-247 (2014, lead article).

"Modeling the Effects of Mergers in Procurement," *International Journal of Industrial Organization*, Vol. 37, November, 201-208 (2014).

"Automakers' Short-Run Responses to Changing Gasoline Prices" (with Ashley Langer), *Review of Economics and Statistics*, Vol. 95, No. 4, 1198-1211 (2013).

"Why Do Borrowers Pledge Collateral? New Empirical Evidence on the Role of Asymmetric Information" (with Allen Berger, Marco Espinosa-Vega, and Scott Frame), *Journal of Financial Intermediation*, Vol. 20, No. 1, 55-70 (2011).

"Strategic Leniency and Cartel Enforcement," *American Economic Review*, Vol. 99, No. 3, 750-768 (2009).

"Debt Maturity, Risk, and Asymmetric Information" (with Allen Berger, Marco Espinosa-Vega, and Scott Frame), *Journal of Finance*, Vol. 60, No. 6, 2895-2923 (2005).

"Does Functional Form Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks" (with Allen Berger, Mitchell Petersen, Raghuram Rajan, and Jeremy Stein), *Journal of Financial Economics*, Vol. 76, No. 2, 237-269 (2005, lead article).

"Credit Scoring and the Availability, Price, and Risk of Small Business Credit" (with Allen Berger and Scott Frame), *Journal of Money, Banking, and Credit*, Vol 37, No. 2, 191-222 (2005, lead article).

Shorter Refereed Articles

"Bias in Reduced-Form Estimates of Pass-Through" (with Alexander MacKay, Marc Remer and Gloria Sheu), *Economics Letters*, Vol. 123, No. 2, 200-202 (2014).

"Consistency and Asymptotic Normality for Equilibrium Models with Partially Observed Outcome Variables" (with Matthew Osborne), *Economics Letters*, Vol. 123, No. 1, 70-74 (2014).

"Using Cost Pass-Through to Calibrate Demand" (with Marc Remer and Gloria Sheu), *Economics Letters*, Vol. 118, No. 3, 451-454 (2013).

"The Entry Incentives of Complimentary Producers: A Simple Model with Implications for Antitrust Policy" (with Juan Lleras), *Economics Letters*, Vol. 110, No. 2, 147-150 (2011).

Book Chapters and Non-Refereed Publications

"Quantitative Methods for Evaluating the Unilateral Effects of Mergers" (with Gloria Sheu), *Review of Industrial Organization*, Vol. 58, No. 1, 143-177 (2020). Special Issue: The 2010 Horizontal Merger Guidelines after Ten Years.

"How the MillerCoors Joint Venture Changed Competition in U.S. Brewing" (with Matthew Weinberg), *Microeconomic Insights*, 2017.

"Ex Post Merger Evaluation: How Does It Help Ex Ante?" (with Daniel Hosken and Matthew Weinberg), *Journal of European Competition Law & Practice*, 2016.

"Choosing Appropriate Control Groups in Merger Evaluations" (with Aditi Mehta), in More Pros and Cons of Merger Control, Konkurrensverket 2012.

Working Papers and Research Projects

"Oligopolistic Price Leadership and Mergers: The United States Beer Industry" (with Gloria Sheu and Matthew Weinberg), 2021. Conditionally accepted at the *American Economic Review*.

"Estimating Models of Supply and Demand: Instruments and Covariance Restrictions" (with Alexander MacKay), 2021.

"Mergers, Entry, and Efficiencies" (with Peter Caradonna and Gloria Sheu), 2021.

"Markups in the Cement Industry, 1974-2019: Scale Economies and Market Power" (with Matthew Osborne, Gloria Sheu and Gretchen Sileo), draft soon.

"Markups in Consumer Products 2006-2019" (with Hendrik Döpper, Alex MacKay, and Joel Stiebale), draft soon.

"An Empirical Study of Inmate Telecommunication Services Procurement" (with Marleen Marra and Gretchen Sileo), in progress.

"An Empirical Study of Canned Tuna" (with Minhae Kim, Ryan Mansley, Marc Remer, and Matthew Weinberg), in progress.

"An Empirical Study of Cattle Markets" (with Francisco Garrido, Minji Kim and Matthew Weinberg), in progress.

"An Empirical Study of the Reynolds/Lorillard Merger" (with Kenneth Rios, Ted Rosenbaum, and Nathan Wilson), in progress.

"Modeling the Effects of Mergers in Procurement: Addendum," SSRN Working Paper, 2017.

"Cumulative Innovation and Competition Policy" (with Alexander Raskovich), EAG Discussion Paper 10-5, 2010.

"Competition when Consumers Value Firm Scope," EAG Discussion Paper 8-7, 2008.

Grants and Awards

National Science Foundation Grant, SES 2117197, $59,436, 2021-2022.
Washington Center for Equitable Growth Grant, $51,750, 2020-2021.
National Science Foundation Grant, SES 1824318, $88,635, 2018-2020.
Best Paper Award, Association of Competition Economics, 2017.
Robert F. Lanzillotti Prize for Best Paper in Antitrust Economics, 2015.

Assistant Attorney General's Award of Distinction, received in 2013 for work on the AT&T/T-Mobile merger investigation.
Jerry S. Cohen Award for Antitrust Scholarship, Honorary Mention, 2009.
COMPASS Prize for Best Paper in Antitrust Economics by Graduate Students, 2007.
UC Berkeley Dean's Normative Time Fellowship, 2006-2007.
Competition Policy Center Dissertation Award, 2006.
Institute of Business and Economic Research Mini-Grant, 2006.

Invited Seminar Presentations

2008: DOJ; Duke (Fuqua); FTC; George Washington University; Johns Hopkins University; University of Iowa; University of North Carolina, Chapel Hill

2009: BEA; BLS; College of William and Mary; Georgetown University

2010: University of British Columbia (Sauder)

2011: University of Virginia

2012: DOJ; Michigan State University

2013: DOJ; Drexel University; Georgetown University (McDonough); Stony Brook University

2014: DOJ; University of California, Berkeley; UCLA; University of Virginia

2015: Clemson University; FTC; Indiana University (Kelley); University of Colorado, Boulder; Yale University

2016: Boston College; Columbia University; Federal Reserve Board; Harvard University; London School of Economics; University of British Columbia (Sauder); University of Texas, Austin; University of Toronto (Rotman)

2017: FTC; University of Kentucky; University of Pennsylvania (Econ/Wharton); University of Wisconsin–Madison

2018: FTC; MIT; Texas A&M; Penn State University

2019: Harvard (HBS); Toulouse School of Economics; MINES ParisTech; KU Leuven; University of Mannheim; Berlin Applied Economics

2020: Research Institute of Industrial Economics (RIFN); Sciences Po; University of Düsseldorf (DICE); Directorate-General for Competition of the European Commission (DG COMP); Hong Kong University of Science and Technology (HKUST)

2021: Washington University (St. Louis), George Mason University (Scalia Law), Joint DOJ/FTC, West Virginia University (scheduled), FTC (scheduled)

Conference Presentations

APIOS (2018); Association of Competition Economics (2018); Barcelona GSE Summer Forum (2018); DC IO Day (2020); ESEM (2019); FTC Microeconomics (2010, 2014); Hal White Antitrust (2013, 2014, 2017, 2019); IEF Applied Microeconomics (2016); IIOC (2008, 2009, 2013, 2015, 2016, 2018); NASMES (2019); SEA (2013, 2018); Searle Antitrust (2013, 2015); Triangle Microeconomics (2016)

Conference Discussions

AEA (2015); DC IO Day (2015); Toulouse Digital Economics Conference (2020); HEC Montreal–RIIB Conference on IO (2018); IIOC (2008, 2009, 2013, 2015, 2016, 2018, 2021); NY IO Day (2020); SEA (2013, 2018); Searle Antitrust (2018); WCEG (2020)

Panels

"Upward Pricing Pressure and Simulation in Merger Review," Economists Roundtable with the Canadian Competition Bureau, 2017.

"Institutional Shareholdings: Is There an Antitrust Issue?" Concurrences Global Antitrust Conference, 2018.

"Digital Mergers: Need for Reform?" Concurrences International Mergers Conference, 2020.

Teaching

Firm Analysis and Strategy, MBA Core Curriculum
Industrial Organization, PhD Economics
Strategic Pricing, MBA Elective
Microeconomics, Executive Education

Ph.D Advising

Georgetown University (Economics)
Francisco Garrido, 2020, ITAM.
Current: Minji Kim, Ryan Mansley, Tianshi Mu, Gretchen Sileo, Yangyang Wang.

Service

Georgetown University
Graduate School Curriculum and Standards Committee: 2013-2019, 2021
Strategy Area Recruiting Committee: 2015-2016, 2016-2017, 2020-2021

Other Service
Editor, *Journal of Law and Economics*, starting July 1, 2021
Editorial Board, *Review of Industrial Organization*, 2019-present
DC IO Day: Program Committee 2015-2019, Organizer 2017
IIOC: Program Committee, 2019-2021

Referee reports for:

> *American Economic Journal; American Economic Review; Econometrica; European Economic Review; International Journal of Industrial Organization; Journal of Economics & Management Strategy; Journal of the European Economics Association; Journal of Finance; Journal of Industrial Economics; Journal of Law and Economics; Journal of Political Economy; Management Science;* National Science Foundation; *The RAND Journal of Economics; Review of Economic Studies; Review of Economics and Statistics; Review of Industrial Organization; Quarterly Journal of Economics,* others.

Excellence in refereeing: *American Economic Journal: Microeconomics*, 2021.

CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to 92 of the *Competition Act*;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an interim order pursuant to section 104 of the *Competition Act*;

B E T W E E N:

COMMISSIONER OF COMPETITION

Applicant

- and -

SECURE ENERGY SERVICES INC.

TERVITA CORPORATION

Respondents

ACKNOWLEDGEMENT OF EXPERT WITNESS
NATHAN H. MILLER

I, **Nathan H. Miller**, acknowledge that I will comply with the Competition Tribunal's code of conduct for expert witnesses which is described below:

1. An expert witness who provides a report for use as evidence has a duty to assist the Tribunal impartially on matters relevant to his or her area of expertise.

2. This duty overrides any duty to a party to the proceeding, including the person retaining the expert witness. An expert is to be independent and objective. An expert is not an advocate for a party.

June 29, 2021 | Nathan Miller

(Date) | *(Signature of expert witness)*

CT-2021-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c. C-34, as amended;

AND IN THE MATTER OF the proposed acquisition of Tervita Corporation by Secure Energy Services Inc.;

AND IN THE MATTER OF an application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;

AND IN THE MATTER OF an application by the Commissioner of Competition for an interim order pursuant to section 104 of the Competition Act.

BETWEEN:

THE COMMISSIONER OF COMPETITION

Applicant

– and –

SECURE ENERGY SERVICES INC.
TERVITA CORPORATION

Respondents

ACKNOWLEGEMENT OF EXPERT WITNESS
NATHAN H. MILLER
