Exhibit 64

Energy Transfer LP, et al. v. Greenpeace International, et al.
State of North Dakota, County of Morton
South Central Judicial District
Trial Court Case No. 30-2019-CV-00180

Supreme Court Case No. 20240116

STATE OF NORTH DAKOTA **COUNTY OF MORTON**	**DISTRICT COURT** **SOUTH CENTRAL JUDICIAL DISTRICT**
ENERGY TRANSFER LP, *et al.*, Plaintiffs, v. GREENPEACE INTERNATIONAL, *et al.*, Defendants.	Case No.: 30-2019-CV-00180 **DECLARATION OF DANIEL FIEDLER IN SUPPORT OF GREENPEACE'S OPPOSITION TO PLAINTIFFS' MOTION FOR A PROTECTIVE ORDER** **(DISCOVERY – JUDGE KLEIN)**

[¶1] I, Daniel Fiedler, declare as follows:

[¶2] I am an attorney with the law firm Davis Wright Tremaine LLP, counsel for Defendants Greenpeace International and Greenpeace, Inc. in the above-captioned matter, in which Greenpeace Fund, Inc. is a co-defendant. I submit this Declaration in Support of Greenpeace's Opposition to Plaintiffs' Motion for a Protective Order regarding the deposition of Energy Transfer CEO Kelcy Warren.

[¶3] On June 13, 2023, in correspondence with opposing counsel in this matter, Defendants' counsel sent Plaintiffs' counsel a list of witnesses Defendants' counsel intended to depose. The list included Kelcy Warren.

[¶4] At a September 7, 2023 discovery meet and confer that I attended, as well as in correspondence with opposing counsel memorializing the discussion, Plaintiffs' counsel offered potential dates for Mr. Warren's deposition in December 2023 or January 2024.

[¶5] I followed up with Plaintiffs' counsel via email on September 20 and September 26, 2023, asking them to confirm when Mr. Warren was available for deposition.

[¶6] At a September 26, 2023 discovery meet and confer that I attended, Plaintiffs' counsel for the first time raised the possibility of a protective order preventing Greenpeace from deposing Mr. Warren.

[¶7] Based on a review of produced Energy Transfer documents, there are at least 37 documents suggesting Mr. Warren's direct involvement in the DAPL project, plus many more that show he was kept generally apprised of the project's status.

[¶8] Based on a review of Plaintiffs' latest privilege log, there are 59 emails sent to or copying Mr. Warren, with 11 emails sent exclusively to Mr. Warren and 10 emails sent to Mr. Warren and a small number of people. According to Plaintiffs' privilege log, these emails involved legal advice regarding "pipeline protests" and "pipeline security."

[¶9] Based on a review of the deposition transcripts of Yousif Mahmoud, Harrison House, Glenn Emery, Ashton Hayes, and Vicki Granado, these witnesses disclaimed knowledge a combined 366 times. Below is a breakdown of the number of times each witness stated they did not know or did not remember when asked about relevant information:

- Yousif Mahmoud – 99 times
- Harrison House – 69 times
- Glenn Emery – 21 times
- Ashton Hayes – 54 times
- Vicki Granado – 123 times

[¶10] Attached hereto as **Exhibit 1** is a true and correct copy of ET-01587370, filed under seal.

[¶11] Attached hereto as **Exhibit 2** is a true and correct copy of ET-01594789, filed under seal.

[¶12] Attached hereto as **Exhibit 3** is a true and correct copy of ET-01188146, filed under seal.

[¶13] Attached hereto as **Exhibit 4** is a true and correct copy of an article entitled "Developer: Offer to help with costs is still on the table; DAPL PROTESTS."

[¶14] Attached hereto as **Exhibit 5** is a true and correct copy of an excerpt from the deposition of Double M Helicopters, Inc., filed under seal.

[¶15] Attached hereto as **Exhibit 6** is a true and correct copy of an excerpt from the deposition of 10-Code, LLC, filed under seal.

[¶16] Attached hereto as **Exhibit 7** is a true and correct copy of ET-01066312, filed under seal.

[¶17] Attached hereto as **Exhibit 8** is a true and correct copy of ET-01164823, filed under seal.

[¶18] Attached hereto as **Exhibit 9** is a true and correct copy of ET-01171443, filed under seal.

[¶19] Attached hereto as **Exhibit 10** is a true and correct copy of a transcript for the PBS Nightly Business Report for November 14, 2016.

[¶20] Attached hereto as **Exhibit 11** is a true and correct copy of an article entitled "Corps of Engineers won't grant easement to cross at Lake Oahe."

[¶21] Attached hereto as **Exhibit 12** is a true and correct copy of an article entitled "Dakota Access Oil Pipeline shut down."

[¶22] Attached hereto as **Exhibit 13** is a true and correct copy of an article entitled "Opposition Delaying Much-Needed Pipeline Expansions, Officials Say."

[¶23] Attached hereto as **Exhibit 14** is a true and correct copy of ET-01586618, filed under seal.

[¶24] Attached hereto as **Exhibit 15** is a true and correct copy of ET-00413341, filed under seal.

[¶25] Attached hereto as **Exhibit 16** is a true and correct copy of ET-01159770, filed under seal.

[¶26] Attached hereto as **Exhibit 17** is a true and correct copy of ET-00790034, filed under seal.

[¶27] Attached hereto as **Exhibit 18** is a true and correct copy of ET-01071372, filed under seal.

[¶28] Attached hereto as **Exhibit 19** is a true and correct copy of ET-01161262, filed under seal.

[¶29] Attached hereto as **Exhibit 20** is a true and correct copy of ET-01594003, filed under seal.

[¶30] Attached hereto as **Exhibit 21** is a true and correct copy of ET-01175383, filed under seal.

[¶31] Attached hereto as **Exhibit 22** is a true and correct copy of an excerpt from the deposition of Yousif Mahmoud.

[¶32] Attached hereto as **Exhibit 23** is a true and correct copy of an excerpt from the deposition of Vicki Granado.

[¶33] Attached hereto as **Exhibit 24** is a true and correct copy of an excerpt from the deposition of Ashton Hayse.

[¶34] Attached hereto as **Exhibit 25** is a true and correct copy of an excerpt from the docket sheet of *The Williams Companies, Inc. v. Energy Transfer Equity, L.P., and LE GP, LLC* in the Court of Chancery of Delaware.

[¶35] Attached hereto as **Exhibit 26** is a true and correct copy of an article entitled "Energy Transfer, shipper differ on Rover timeline."

[¶36] I declare, under the penalty of perjury under the law of North Dakota, that the foregoing is true and correct.

Signed on the 20th day of October, 2023, at Seattle, Washington, United States.

Daniel Fiedler

EXHIBIT 1

Case No.: 30-2019-CV-00180

Sent:	Tue 2/14/2017 11:49 AM (GMT-06:00)
Subject:	DAPL House Energy Committee Hearing
Location:	Glaske Conference Room
Start:	Wed 2/15/2017 12:00 PM (GMT-06:00)
End:	Wed 2/15/2017 1:00 PM (GMT-06:00)
Organizer:	Hannah, Lyndsay
Required Attendees:	Warren, Kelcy; Long, Tom; Mason, Tom; Ramsey, Matt; McReynolds, John; Wolffarth, Jennifer; Hancock, Sherri; Choate, Kacie E; Curia, Chris; Aube, Sonia; Ryoo, Helen (Heejung); Ratliff, Brent; Whitehurst, Brad
Optional Attendees:	
Attachments:	Joey Testimony Final.docx

Privileged

Also, for your reference, attached is the final version of Joey's testimony that Daryl sent over.

This full link to the hearing is:

https://energycommerce.house.gov/hearings-and-votes/hearings/modernizing-energy-and-electricity-delivery-systems-challenges-and

If the link is not working, you can try going to **www.house.gov** then click on Committees click on energy and commerce committee and look for simulcast link. If you don't find it you can try the "energy" subcommittee.

EXHIBIT 2

Case No.: 30-2019-CV-00180

From: Katherine Rodriguez
Sent: Fri 10/20/2017 1:23 PM (GMT-05:00)
To: Daryl Owen
Cc: Granado, Vicki A
Bcc:
Subject: RE: Thanks for your help
Attachments: 2017.00346_Final Response Letter_Signed.pdf

Daryl – Please see below for the information you requested along with some narratives you might be able to insert or at least parse through for your law review article.

Related to the FOIA request, I've confirmed and only the DOE responded (attached) to the FOIA, but ultimately indicated they did not have any information that was requested. DOI and DOJ did not respond to the FOIA requests likely due to the change in Administration.

Let me know if there's anything else we can help with.

- **Attacks on the 4 pipelines, followed by the attacks on our line. (KR: I'm a little confused by what "4 pipelines: any ideas?)**
    - "Activists disrupt key Canada-U.S. oil pipelines," Reuters, 10/11/16

"Activists in four states were arrested after they cut padlocks and chains and entered remote flow stations to turn off valves in an attempt to stop crude moving through lines that carry as much as 15 percent of daily U.S. oil consumption. The group posted videos online showing the early morning raids. Protest group Climate Direct Action said the move was in support of the Standing Rock Sioux Tribe, which has protested the construction of a separate $3.7 billion pipeline carrying oil from North Dakota to the U.S. Gulf Coast over fears of potential damage to sacred land and water supplies [...]Police confirmed four arrests, three in Washington state and one in Montana. Protesters were also arrested in Minnesota and North Dakota, the activist group said, after the action early on Tuesday."

- "Iowa women claim they vandalized oil pipeline in protest," ABC News, 7/24/17

"Two women with civil disobedience arrest records are claiming they damaged valves and set fire to construction equipment along an oil pipeline that crosses Iowa and three other states. Jessica Reznicek and Ruby Montoya were arrested for criminal mischief at the Iowa Utilities Board office Monday after damaging a sign outside the agency's building. The Des Moines women released a statement before their arrest claiming they burned construction machinery, cut through pipe valves with a torch and set fires with gasoline, rags and tires along the Dakota Access pipeline route."

- **Steady growth of the protest movement at Cannonball.**

Sacred Stone Camp was founded by Standing Rock's Historic Preservation Officer, LaDonna Brave Bull Allard, on April 1, 2016. In July 2016, a group of youth from Standing Rock Indian Reservation created a group called ReZpect our Water and organized a cross-country spiritual run from North Dakota to Washington, D.C., to present a petition in protest of the construction of the Dakota Access Pipeline. On July 25th, the U.S. Army Corps of Engineers approved the permits, but withheld the Lake Oahe easement. The tribe filed a lawsuit which then began the legal battle in the U.S. District Court.

Following the approval, tribes from across the United States began to gather at the camp in protest of the approved route of the Dakota Access Pipeline underneath Lake Oahe in Morton County, North Dakota,

on land owned by the U.S. Army Corps of Engineers. Over the course of a month, tensions at the camp began to escalate, culminating in the first altercation over Labor Day Weekend 2016.

On September 9th, the Departments of Justice, Interior, and the Army issued a joint statement to halt construction, emboldening protesters at the camps. By late September NBC News reported that members of more than 300 federally recognized Native American tribes were residing in the three main camps, alongside an estimated 3,000 to 4,000 protesters. Protesters declared that the land on which the pipeline was being constructed belongs to them under the Treaty of Fort Laramie (1851). By October, law enforcement and protesters entered a standoff along Highway 1806 as protesters burned a bridge over which law enforcement would need to cross to clear the camps, violence escalated. The protest camp was eventually cleared in February 2017 following the issuance of a presidential memorandum by President Trump on January 24, 2017 to advance approval of the pipeline's construction underneath Lake Oahe.

- **As much as we can source on the violence, theft, etc at the protest site**
  - Face-offs with police turn violent
    - "Dakota Access protesters set fires, lob Molotov cocktails, fire shots in face-off with police," *Washington Times*, 10/27/16
  - Multiple shootings at the protest site
    - "ND Dept. of Emergency Services releases new information on 3 shooting incidents near DAPL protest sites," KFYR, 10/27/16
  - Protesters set fire to Backwater Bridge
    - "Dakota Access Pipeline clashes turn violent," CNN, 11/22/16
  - Destruction of construction equipment in Iowa and North Dakota
    - "Dakota Access protesters claim responsibility for pipeline sabotage," *Des Moines Register*, 7/24/17
    - "Buena Vista County investigating another suspected arson along Dakota Access Pipeline," *Sioux City Journal*, 5/1/17
    - "Arson suspected in latest Dakota Access pipeline fire," Fox News, 10/17/16
  - Pipeline Vandalism
    - "Dakota Access pipeline vandalism highlights sabotage risks," *USA Today*, 3/22/17
  - Animal Abuse At Protest Camp
    - "Animal rescue finds dogs left behind amid tons of trash at Dakota Access protest camp," *Washington Times*, 2/28/17
  - Protester Threats Toward Workers, Police
    - "Law Enforcement Officers at Dakota Access Pipeline Protests Take Precautions After Social Media Threats," *Sayanythingblog*, 8/30/17
- **DOJ Army Corps repeated refusal to respond to requests for law enforcement assistance from ND.**
  - HOEVEN STATEMENT ON THE OBAMA ADMINISTRATION'S REFUSAL TO SEND ADDITIONAL LAW ENFORCEMENT HELP FOR DAPL PROTESTS, Sen. John Hoeven, 12/15/16
  - Gov. Dalrymple continues to ask for federal support on law enforcement activities surrounding DAPL protests, KFYR, 11/26/17
  - "ND congressional delegation requests funds to aid law enforcement during DAPL protests," KFYR, 10/18/16
- **Final number of arrests and notation of how many were from out of State.**
  - Number of Arrests 761
  - Number of Protesters Arrested 709
  - Percent of Arrestees from Out of State 94%
  - Percent of Arrestees from North Dakota 6%

- Number of Arrestees with Prior Criminal Records3 227
- Number of Arrestees with History of Violence4 34
- Number of Arrestees with a history of theft, robbery, or burglary 58
- Number of Arrestees with a history of DUI of alcohol or drugs 36
- Number of Arrestees previously cited/arrested for drug possession 41

Morton County Sherriff's Department, March 7, 2017.

- **All the trash, etc. left behind and the cost to clean up. I have some stuff on this.**
  - 240 dumpster's worth of garbage was removed by February 24, 2017. Officials estimated that approximately 480 would be required to complete the cleanup at a cost of over $1 million.

  "Corps moves in to finish what tribe started," *Bismarck Tribune*, 2/24/17

- **I have it in my head that Obama said "we're considering alternate routes" when queried on DAPL in Laos.** Link to CSPAN.
  - **Malaysian woman**: "I'm from the state of Sabah in Malaysia. My question is, in solidarity with the indigenous people in -- not my country, but in America itself. I just heard recently that this group of people is hiding to protect their ancestral land against the Dakota Access pipeline. So my question is, in your capacity, what can you do to ensure the protection of the ancestral land, the supply of clean water, and also environmental justice is upheld?" (Applause.)
  - **President Barack Obama**: "Well, it's a great question. As many of you know, the way that Native Americans were treated was tragic. And one of the priorities that I've had as president is restoring an honest and generous and respectful relationship with Native American tribes. I can't give you details on this particular case. I'd have to go back to my staff and find out how are we doing on this one. But what I can tell you is, is that we have actually restored more rights among Native Americans to their ancestral lands, sacred sites, waters, hunting grounds. We have done a lot more work on that over the last eight years than we had in the previous 20, 30 years. And this is something that I hope will continue as we go forward. But it's an excellent question."

-----Original Message-----
From: Daryl Owen [mailto:daryl@owendc.com]
Sent: Thursday, October 19, 2017 6:12 PM
To: Katherine Rodriguez <krodriguez@dcigroup.com>
Cc: Vicki Granado <Vicki.Granado@energytransfer.com>
Subject: Thanks for your help

The stuff you sent was right on. Here's the price you pay for being do damned good. I'm back on bended knee.

Here's the sitch. With Kelcy's strong encouragement I'm writing a Law Review Article for the Louisiana Energy law Journal. It's current title is "The Untold Story of the Dakota Access Pipeline--How politics almost undermined the rule of law." The legal proceedings are numerous and complex, as you know. I've pretty much completed my review of those and have laid them down as the backbone of the piece. Indeed, even though rather sterile, make quite a case about the political interference. What I need to do now is tell a story. In that respect you can be invaluable. Here are some subjects I'd like to at least consider if not include:

Attacks on the 4 pipelines, followed by the attacks on our line.
Steady growth of the protest movement at Cannonball.
As much as we can source on the violence, theft, etc at the protest site.
DOJ Army Corps repeated refusal to respond to requests for law enforcement assistance from ND.
Final number of arrests and notation of how many were from out of State.
All the trash, etc. left behind and the cost to clean up. I have some stuff on this.
You gave me stuff on Archambault's sister. I'm going to call the law center that did the FOIA and see if they got a response.
I have it in my head that Obama said "we're considering alternate routes" when queried on DAPL in Laos.

I know somewhere in my brain there are other story lines that I'm leaving out. Given your knowledge of the whole episode I'd welcome any suggestions or info not listed in my request. Thanks so much for this Katherine. I think this can be a pretty powerful speech and if published as I hope it will be, Kelcy is going to broadcast it widely.

EXHIBIT 3

Case No.: 30-2019-CV-00180

From: Ruckel, Grant
Sent: Fri 4/21/2017 3:03 PM (GMT-05:00)
To: Bierman, Julianne; Healy, Jason (William); Wilson, Richard
Cc:
Bcc:
Subject: FW: Kelcy's interview on CBS in ND

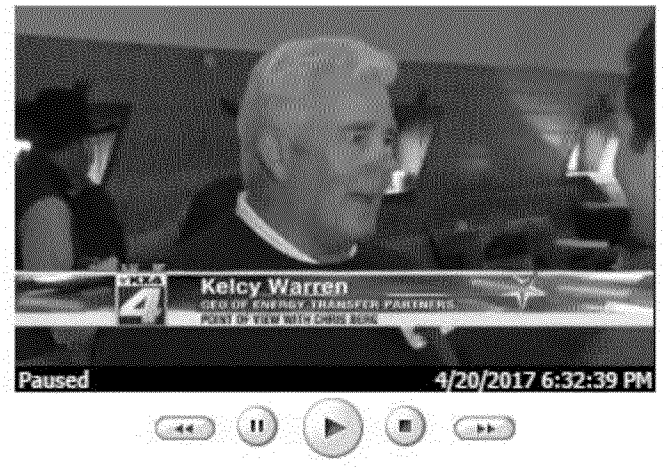
K. Grant Ruckel
Energy Transfer
Dallas: (214) 981-0783
Mobile: (512) 483-1563
Austin: (512) 351-9475
E-mail: grant.ruckel@energytransfer.com

From: Dillinger, Lisa C
Sent: Friday, April 21, 2017 11:09 AM
To: Warren, Kelcy ; McCrea, Mackie ; Mason, Tom ; Rose, Robert ; Wright, Jim ; Pieper, Keegan ; Ratliff, Brent ; Whitehurst, Brad ; McReynolds, John ; Erwin, Kevin ; Mahmoud, Joey ; Ruckel, Grant ; Allen, Kelly ; Siguaw, Tom ; Frey, Chuck (Charles) ; Street, Jennifer ; Coffey, Ryan ; Hanse, Lee ; Emery, Glenn ; Waters, Michael (Cliff) ; Stubbs, Maxwell (Max) ; Long, Tom ; Milliken, Mark ; Ramsey, Matt ; Palmer, Keith ; Hannah, Lyndsay ; Bierman, Julianne ; Kroschel, Kylie ; Cowan, Clint ; Lorenz, Renee ; Aube, Sonia ; De Sloover, Tonja ; Curia, Chris ; Lichtenwalter, Blair ; Granado, Vicki A ; brian_glicklich@sitrick.com; Lauren Tabaksblat ; Broadway, Benny S
Subject: Kelcy's interview on CBS in ND

Here is the first installment of Kelcy's visit to North Dakota on Chris Berg's 6:30 p.m. show, "Point of View," on the CBS station in North Dakota. The segment features part of Kelcy's visit with local ranchers, the pen he received from Congressman Kevin Cramer, part of Matt Ramsey's interview, and a discussion of the benefits of DAPL in North Dakota.

The second installment of Kelcy's visit will be broadcast on Chris Berg's show on Monday night at 6:30 p.m.

Thursday night segment:



Wednesday night teaser:

ENERGY TRANSFER

Lisa Dillinger
PR & Communications
Energy Transfer Partners, L.P.
214.981.0792|8111 Westchester Drive|Dallas, TX 75225

EXHIBIT 4

Case No.: 30-2019-CV-00180

News

Developer: Offer to help with costs is still on the table; DAPL PROTESTS

John Hageman; Forum News Service

278 words
14 July 2017
Grand Forks Herald
XGFH
AS
English

BISMARCK - A spokeswoman for the company that built the Dakota Access Pipeline said Thursday, July 13, its offer to help the state of North Dakota with law enforcement costs associated with the pipeline protests is still on the table.

Dallas-based Energy Transfer Partners has "made an offer to help the state with these costs as we know it placed a great burden on the state," said spokeswoman Vicki Granado, who added that they "are thankful to law enforcement for ensuring the safety of our employees, our assets and those who live and work in the area." State officials are exploring their options to recover costs for responding the monthslong protests after Gov. Doug Burgum's request for a presidential disaster declaration was denied in May. That state applied for almost $14 million through a federal program, but total costs are currently pegged at $38 million between the state and Morton County.

"As the governor has said all along, everything is on the table," Burgum's spokesman Mike Nowatzki said when asked whether the governor is open to ETP's offer.

ETP CEO Kelcy Warren told the Associated Press last year that he made a verbal offer to then-Gov. Jack Dalrymple, but the former governor's spokesman said he didn't remember him doing so. The spokesman, Jeff Zent, also said at the time that he wasn't sure whether there's a legal mechanism for the company to reimburse the state.

Call Hageman at (701) 255-5607 or send email to jhageman@forumcomm.com

Forum Communications Co.

Document XGFH000020170716ed7e00001

EXHIBIT 5

Case No.: 30-2019-CV-00180

STATE OF NORTH DAKOTA **IN DISTRICT COURT**

COUNTY OF MORTON **SOUTH CENTRAL JUDICIAL DISTRICT**

ENERGY TRANSFER LP, et al.,	:	
	:	
Plaintiffs,	:	
	:	
-vs-	:	**Case No. 30-2019-CV-00180**
GREENPEACE INTERNATIONAL, et al.,	:	
	:	
Defendants.	:	

TRANSCRIPT OF

AUDIOVISUAL 30(B)(6) DEPOSITION OF

DOUBLE M HELICOPTERS, INC. - (MONTE MYERS)

Taken At
109 North Fourth Street
Bismarck, North Dakota
June 9, 2022

(APPEARANCES AS NOTED HEREIN)

Q. Yeah, go ahead.

A. I might have -- I mean, if it's important, I can look here. I -- I put a lot of times stuff like that if he was a -- I had a -- I know I had an environmental guy here, but -- no, I do not.

Q. Okay. I'll keep going. John Porter, chief security officer?

A. Yes, I recognize that name.

Q. Did you fly with him? Did we talk about that earlier?

A. I don't know that he actually was physically in the helicopter. He was running the operation from the ground.

Q. Okay.

A. I don't think -- I -- I don't remember -- recall him being in the helicopter with me anyway.

Q. Adam Broad?

A. Function.

Q. Senior project manager.

A. No.

Q. And then Kelcy Warren?

A. He did show up one day --

Q. Okay.

A. -- and I did meet him.

Q. Okay.

A. And that was the extent of it.
Q. What'd you talk about?
A. Sunshine. Nothing.
Q. Did you talk about the protests at all?
A. I -- oh, I'm sure it came up, but I -- I don't -- it was a very -- very short meeting with him.
Q. Okay. Did he mention Greenpeace?
A. No, I doubt it, but I don't --
Q. Okay.
A. It was not a memorable conversation.
Q. Okay. All right. Let's get back to the exhibits here. Exhibit 15.
A. Okay.
Q. That was my follow-up from the last time.
A. All right.
Q. These are the invoices.
A. Mm-hmm.
Q. And I thought we could just go through them quickly and you could tell me what they are.
A. Okay.
Q. Can we just start at the top? I think I put them in chronological order.
A. Certainly.
Q. Does -- it appears to me that your

EXHIBIT 6

Case No.: 30-2019-CV-00180

STATE OF NORTH DAKOTA **IN DISTRICT COURT**

COUNTY OF MORTON **SOUTH CENTRAL JUDICIAL DISTRICT**

ENERGY TRANSFER LP, et al.,	:	
	:	
Plaintiffs,	:	
	:	
-vs-	:	**Case No. 30-2019-CV-00180**
GREENPEACE INTERNATIONAL, et al.,	:	
	:	
Defendants.	:	

TRANSCRIPT OF

AUDIOVISUAL 30(B)(6) DEPOSITION

OF 10-CODE, LLC - (STEVEN LUNDIN)

Taken At
109 North Fourth Street
Bismarck, North Dakota
July 6, 2022

(APPEARANCES AS NOTED HEREIN)

didn't -- they don't have a --

Q. Oh, the Bismarck airport --

A. Bismarck airport --

Q. -- not Mandan.

A. -- yes, sir.

Q. Okay. Is it -- so this December 2016 high-level meeting, Bismarck airport, is that the first of these meetings that you attended?

A. It was the -- probably the most significant one that I was a part of.

Q. Was there any before, though, that you recall in -- insignificant or otherwise?

A. Not -- not that I had been asked to be a part of particularly because, again, my role was security.

Q. Yep.

A. So unless there was a concern for the security of the meeting, there wasn't any need to have me involved in those discussions.

Q. So the December 2016 one, who was there?

A. From Energy Transfer Partners, Kelcy Warren, and he had a couple of other folks with him. I don't remember if Tom Siguaw, I believe is --

Q. Okay.

A. I don't believe Mr. Mahmoud was there, but Kelcy had a couple of folks with him. And then David Archambault from the tribe.

Q. Okay.

A. And I believe David may have had one other representative from the tribe with him.

Q. Is that it for the folks that were there?

A. To my recollection, yeah.

Q. Okay. And --

A. And I wasn't involved in the meeting itself. Our -- our role was to ensure that if -- if word had traveled that there was this meeting, that we were just there to ensure the safety of -- of both Mr. Archambault, the -- the ETP team, as well as anybody else that was at the airport at the time because, you know, we had had situations where convoys of, you know, up to 3, 4 hundred cars would -- would come to these types of things.

So we just wanted to make sure that -- that if word got out, that we were able to maintain some control or to be able to just notify law enforcement if it became a safety issue.

Q. Were you -- was it in a conference room?

A. Yes.

Q. Were you in the room?

EXHIBIT 7

Case No.: 30-2019-CV-00180

From: Ramsey, Matt
Sent: Fri 5/12/2017 9:42 PM (GMT-05:00)
To: Warren, Kelcy
Cc:
Bcc:
Subject: Fwd: DAPL landowner hotline ad
Attachments: image001.png; ATT00001.htm; DAPL landowner hotline ad 5.11.17.docx; ATT00002.htm

Per our nd meeting

Sent from my iPhone

Begin forwarded message:

From: "Dillinger, Lisa C" <Lisa.Dillinger@energyTransfer.com>
Date: May 12, 2017 at 1:06:12 PM CDT
To: "Mahmoud, Joey" <Joey.Mahmoud@energytransfer.com>, "Rorie, Micah T" <Micah.Rorie@energytransfer.com>, "Street, Jennifer" <jennifer.street@energytransfer.com>, "Futch, Michael (Contractor)" <Michael.Futch@energytransfer.com>, "Ramsey, Matt" <Matthew.Ramsey@energytransfer.com>
Cc: "Granado, Vicki A" <Vicki.Granado@energytransfer.com>
Subject: RE: DAPL landowner hotline ad

Here is the final DAPL Hotline ad that will run in North Dakota in the counties we traverse. We are working with DCI to get this placed immediately. Updates to follow.
The final text:
LANDOWNER NOTIFICATION
TOLL-FREE HOTLINE
844-708-2635
If you are a landowner with Dakota Access Pipeline right-of-way crossing your property, we want to remind you that we are here to answer your questions and concerns.
As part of our efforts to be a good neighbor in the communities in which we live, work and operate, we established a toll-free hotline designed to provide you with prompt, accurate information. When you call the hotline number above, please make sure to include the location of your property and a land agent will return your call.
Please know that this toll-free hotline is available to anyone with questions related the Dakota Access Pipeline. If you are calling about a pipeline emergency or potentially suspicious activities, please call 800-753-5531.
For additional information on Dakota Access, visit DAPLpipelinefacts.com.

EXHIBIT 8

Case No.: 30-2019-CV-00180

From: Mahmoud, Joey
Sent: Mon 10/10/2016 9:27 AM (GMT-05:00)
To: Ramsey, Matt
Cc:
Bcc:
Subject: Re: plan

Got it. Thanks. We are moving forward.

Joey Mahmoud
281-460-4846 c
713-989-2710 w

Sent from my iPhone

On Oct 10, 2016, at 8:01 AM, Ramsey, Matt <Matthew.Ramsey@energytransfer.com> wrote:

> Joey,
> I know you are proceeding under the normal building process as this is written. In light of the lifting of the injunction las night, I met with Kelcy this morning to discuss our next steps. I would like you to develop a plan that would include moving closer to the Lake Oahe sooner rather than later. While we don't want to do anything to incite violence, we do think that building now while no injunction exists make sense. We also discussed having an archeologist on the ground around the clock that could ensure that we are complying with all restrictions about artifacts, etc. that might be found. I will be out of the country but reachable by cell. In my absence, keep Tom Mason posted if there are any issues. Also, if wire is used, and I know it will be, to protect the site, we suggest that a statement come from Sheriff's office that this was his recommendation to ensure the safety of workers and residents and that no one would encounter such wire unless they were trespassing.
>
> **Matthew S. Ramsey**
> **Energy Transfer Partners, L.P.**
> **8111 Westchester, Suite 700**
> **Dallas, Texas 75225**
> **Office: 214.981.0733**
> **Cell: 713.828.9219**
> matt.ramsey@energytransfer.com

EXHIBIT 9

Case No.: 30-2019-CV-00180

From: Ratliff, Brent
Sent: Fri 11/18/2016 7:42 AM (GMT-06:00)
To: Bramhall, Dylan; Hayse, Ashton
Cc: Hannah, Lyndsay; Long, Tom
Bcc:
Subject: Fwd: two DAPL questions

Please see first question below.

Sent from my iPhone

Begin forwarded message:

From: "Bellamy, Ethan" <EBellamy@rwbaird.com>
Date: November 18, 2016 at 7:24:01 AM CST
To: "Ratliff, Brent" <Brent.Ratliff@energytransfer.com>
Cc: "Lyndsay Hannah (lyndsay.hannah@regencygas.com)" <lyndsay.hannah@regencygas.com>, EIE Team <EIETeam@rwbaird.com>
Subject: two DAPL questions

Brent –

Good morning.

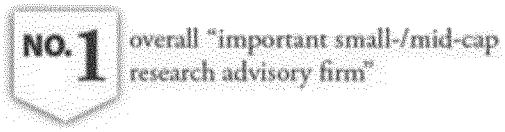
Can you explain this to me please? How do you "sell your interests" in a pipeline if you are a lender/project financier?

http://www.greenpeace.org/usa/news/largest-bank-norway-sells-assets-dakota-access-pipeline/

Secondly, in Rob Port's radio show, Kelcy stated that there were two pipelines in the right of way. Did he mean one pipe and a transmission line or is there another one there besides Northern Border?

Thanks,

Ethan Bellamy
Senior Research Analyst
Institutional Equities & Research
Robert W. Baird & Co.
303-270-6322 (direct) . 720-312-3937 (mobile)
ebellamy@rwbaird.com | http://www.rwbaird.com/equities-research



According to Greenwich Associates' 2016 Equities Survey

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EXHIBIT 10

Case No.: 30-2019-CV-00180

News; International
NIGHTLY BUSINESS REPORT for November 14, 2016, PBS

Tyler Mathisen, Sue Herera, John Harwood, Diana Olick, Julia Boorstin, Jackie DeAngelis, Phil LeBeau
4,629 words
14 November 2016
Nightly Business Report
NBR
English

ANNOUNCER: This is NIGHTLY BUSINESS REPORT with Tyler Mathisen and Sue Herera.

SUE HERERA, NIGHTLY BUSINESS REPORT ANCHOR: Trade threat. Will China punish companies like Apple (NASDAQ:AAPL) and Boeing (NYSE:BA) if Donald Trump follows through on some of his campaign promises?

TYLER MATHISEN, NIGHTLY BUSINESS REPORT ANCHOR: Bond market rout. Treasury yields hit their highs for the year as prices fall. And fresh money pushes the Dow to yet another record. What`s next for your fixed income portfolio?

HERERA: Bitter fight. Why tensions are rising in North Dakota over a major pipeline project.

Those stories and more tonight on NIGHTLY BUSINESS REPORT for Monday, November 14th.

MATHISEN: Good evening, everyone, and welcome.

The Dow sets yet another record, but we begin tonight with China`s warning shot. The world`s second largest economy said President-elect Donald Trump would be naive to launch an all-out trade war against China. An op-ed in the Chinese-backed newspaper, "The Global Times" said any new tariffs would trigger immediate countermeasures from Beijing.

This comes in response to Donald Trump repeatedly saying on the campaign trail that the U.S. would punish Beijing with high import tariffs in response to what he considers unfair trade practices. He also wants to brand China a currency manipulator.

The stakes, of course, could not be higher. Americans love iPhones and other goods, from furniture to Nike (NYSE:NKE), they get at low cost from China. But they resent the job loss that many rightly or wrongly lay at Beijing`s doorstep.

(BEGIN VIDEOTAPE)

DONALD TRUMP (R), PRESIDENT-ELECT: With China, they dump their product all over the place.

MATHISEN: So declares the president-elect.

But China is not taking those kinds of words sitting down. The country warning the president-elect that it will meet a trade war with a trade war. The state-run "Global Times" newspaper telling President-elect Trump what that might look like.

"A batch of Boeing (NYSE:BA) orders will be replaced by Airbus," it says. "U.S. auto and iPhone sales in China will suffer a setback, and U.S. soybean and maize imports will be halted."

China buys more than $116 billion worth of American goods every year, but China, of course, sells more than four times that amount, about half a trillion dollars worth to the United States. Easily making China the number one seller of goods to the U.S.

It`s a sore spot that Donald Trump jabbed at repeatedly during the bitter presidential campaign.

TRUMP: Our president has allowed China to continue its economic assault on American jobs and wealth. China is responsible for nearly half of our entire trade deficit.

MATHISEN: The trade imbalance isn`t the only front Trump opened with China.

TRUMP: China engages in illegal export subsidies, prohibited currency manipulation.

MATHISEN: China wants its currency to carry a punch across the Pacific, but a slowing economy forced it to devalue the yuan 14 months ago. That moved sent global markets on a wild ride. Also and perhaps even more ominous, China has made no secret of its desire to keep the U.S. Navy out of the important shipping lanes in the South China Sea.

There`s potential for some common ground between the Trump administration and China. Neither are fans of the proposed Trans Pacific Partnership.

TRUMP: The TPP creates a new international commission that makes decisions the American people are no longer given the right to veto.

MATHISEN: Bottom line: which Donald Trump will move into the White House January 20th? The fiery campaigner ready to joust with Beijing, or a pragmatic deal maker who can accurately calibrate the pluses and minuses of a tougher stance with a critical economic competitor and partner?

(END VIDEOTAPE)

HERERA: Bill Adams joins us now to talk more about U.S./China relations and whether or not we might see a trade war between the two countries. He is senior international economist at PNC Financial.

Bill, welcome. Nice to have you here.

I want to pick up --

BILL ADAMS, PNC FINANCIAL SR. INTERNATIONAL ECONOMIST: Thanks for having me.

HERERA: -- from where Tyler left off in that piece.

What`s said on the campaign trail, it does not necessarily play out the way it is said once you get into the office of the presidency. So, given that, and we heard that from President Obama today as well, given that, how would you characterize Donald Trump and his relationship with China?

ADAMS: Well, thinking about the U.S. relationship with China generally, it`s a complex relationship. We have areas of cooperation and areas where we get along quite well, and then we have other areas of intense friction, and that`s inevitable when you have two very different countries, very different economies like the democratic capitalist U.S. and China socialist country run by a communist party.

MATHISEN: Are there areas, Bill, where a Trump administration might be very aggressive with China, for example, in protecting American intellectual property, and other areas where they might be more inclined to bargain or dial back some of the staunchest rhetoric?

ADAMS: I think the enforcement of intellectual property rights and the new administration`s pledge that they`re going to respond to Chinese theft of U.S. intellectual property, I think we will -- that will be a touch point in the next couple of years. But I think the new administration also wants to protect U.S. exports from Chinese retaliation.

So, in previous administrations, we have seen tariffs imposed on China. The Obama administration imposed tariffs on Chinese steel and Chinese tires. The George W. Bush administration imposed tariffs on Chinese steel in 2002, but the overall relationship went on.

HERERA: So given that, given what you`ve just laid out, how likely do you think it would be that we would get into a so-called trade war?

ADAMS: Well, I think that there are a lot of areas of mutual interest, and I`m not -- there`s so much trade -- there`s so much rhetoric that happens every campaign season, that I`m looking to what happens next with an open mind.

HERERA: On that note, Bill, thank you. Bill Adams with PNC Financial.

ADAMS: Thank you.

MATHISEN: On Wall Street, the Dow rose for a sixth straight day, closing at another record, as investors evaluate the prospects for economic growth following last week`s election. The blue chip Dow index added 21 points to an all-time high of 18,868. Otherwise, though, the day was kind of flattish. The NASDAQ off 18, the S&P 500 down a quarter point.

HERERA: In Washington, President Obama held his first news conference since the election and shared some thoughts on the next president of the United States, Donald Trump.

(BEGIN VIDEO CLIP)

BARACK OBAMA, PRESIDENT OF THE UNITED STATES: I also think that he is coming to this office with fewer set hard and fast policy prescriptions than a lot of other presidents might be arriving with. I don`t think he is ideological. I think ultimately he is pragmatic in that way. And that can serve him well, as long as he`s got good people around him and he has a clear sense of direction.

(END VIDEO CLIP)

HERERA: John Harwood is in Washington tonight.

Good to see you, John, as always.

The president is about to embark on an overseas trip. What did he tell the press corps that he`s going to tell foreign leaders about President-elect Trump when it comes to NATO specifically?

JOHN HARWOOD, NIGHTLY BUSINESS REPORT CORRESPONDENT: Well, he indicated he thought that President-elect Trump would be a supporter of NATO, notwithstanding some of the rhetoric about getting other countries to pay more. I think more broadly he`s going to emphasize the continuity of American government. He talked about government being an ocean liner, not a speed boat, you can`t turn it quickly and those are words meant to reassure foreign leaders who have made agreements with the United States of various kinds that you can`t just turn on a dime and things will not be disrupted too rapidly.

MATHISEN: What did he say, if anything, about the Iran deal? Any changes to that or, for example, to the Paris climate accords?

HARWOOD: Well, on both of those things, Tyler, he expressed the same view as an orientation that he did about Obamacare, which President-elect Trump has indicated in the campaign he wanted to do away with, but it`s more complicated and difficult to change something that already exists. In the same vein, he indicated that the Iranian nuclear deal, by the estimate of Israeli intelligence officials, is working and, therefore, to try to unravel it would complicate our relationships with our allies, who negotiated that deal with us.

The same is true with Paris climate agreement. That`s a voluntary agreement. It`s easier to get out -- get the United States out of it, but he`s trying to make the case that once we have entered into negotiations with other countries and made deals that they have relied upon, he`s appealing to that pragmatism we heard in that sound bite to say don`t go so fast, it`s more difficult than you think.

HERERA: On that note, John, thanks so much. John Harwood in Washington tonight.

MATHISEN: House Republicans are threatening to challenge President Obama`s retirement savings rule once Donald Trump takes office. The so-called Fiduciary Rule set to take effect in April requires that brokers and investment advisers put their clients` interests ahead of their own. GOP Congresswoman Ann Wagner says the rule hurts low and middle income retirement savers. She wrote legislation last year to block its enactment but it was vetoed.

HERERA: President-elect Trump is already having a big impact on the nation`s housing market. Interest rates have gone up and mortgage rates have followed. So, what else might a Trump administration have in store?

Diana Olick has some possible answers.

(BEGIN VIDEOTAPE)

DIANA OLICK, NIGHTLY BUSINESS REPORT CORRESPONDENT: The price tag for a home just got a little higher today, as the continued sell-off in the bond market pushed the 30-year fixed mortgage rate across the 4

percent line. That`s the highest in almost a year and up dramatically from just a week ago. Words like "panic" and "damage control" were floating around lender land as borrowers tried to lock at lower rates.

While the immediate Trump effect was negative for borrowers, if the president-elect keeps his word in deregulating the financial system, getting a mortgage could get easier. Lending has been tight due to endless lawsuits that continue even years after the housing crash.

TIM ROOD, THE COLLINGWOOD GROUP CHAIRMAN: So, just getting them to holster their weapons and say, look, we`re going to put a moratorium and we`re going to stall on any of these existing Department of Justice investigations or suits until further notice.

OLICK: If the banks see less risk, they may open the gates wider to borrowers, but new regulations on lending from the CFPB are unlikely to change soon. Dave Stevens, CEO of the Mortgage Bankers Association said barring a change at the CFPB it`s hard to see much change in the near term.

Then there are mortgage giants, Fannie Mae and Freddie Mac, which are still under government conservatorship. Their stock actually moved higher with some investors thinking they`ll be recapitalized and released, but Donald Trump said nothing about the two during the campaign. Now, we have a Republican-controlled Congress, and the mortgage giants generate billions of dollars that go straight to the treasury. That money could be well spent on the infrastructure projects Donald Trump has promised.

ROOD: The GSEs Fannie Mae and Freddie Mac are throwing off roughly around $15 billion a year in cash to the treasury. That pays a lot of bills.

OLICK: Housing is likely low on the president-elect`s to do list. The recovery is bumpy but not broken. So, why jump in to try to fix it.

For NIGHTLY BUSINESS REPORT, I`m Diana Olick in Washington.

(END VIDEOTAPE)

MATHISEN: Investors are also trying to figure out how a Trump presidency may impact the media sector. And as Julia Boorstin reports, for digital video companies, the stakes are higher than ever.

(BEGIN VIDEOTAPE)

JULIA BOORSTIN, NIGHTLY BUSINESS REPORT CORRESPONDENT: Facebook (NASDAQ:FB), Twitter, Snapchat, they`re all doubling down on video, saying it`s key to their future, joining Google`s YouTube, Netflix (NASDAQ:NFLX), Amazon (NASDAQ:AMZN) and Hulu, a range of companies counting on streaming video to drive subscription and advertising revenue. Many of their stocks under pressure in the wake of the election as President-elect Donald Trump is expected to threaten the FCC`s net neutrality rules, which mandate that broadband providers don`t discriminate against different types of content running on their pipes and prohibit Internet providers from charging video companies such as Netflix (NASDAQ:NFLX) or YouTube for faster service to users.

BARTON CROCKETT, FBR CAPITAL MARKETS: The cable companies have complained that under Obama, the FCC has been unfair, not allowing them to get money from people like Netflix (NASDAQ:NFLX) or HBO or others to help them cover the cost of building the technology to carry this high bandwidth video. And, you know, the early kind of sense from Trump is that the cable companies may get the better of the argument.

BOORSTIN: So what is President-elect Trump planning? He tweeted two years ago that net neutrality was just another way to attack conservative media and he said on the campaign trail that he wanted to reverse President Obama`s key policies, net neutrality being one of them.

President-elect Trump would face a lengthy legislative process to turn back the clock on net neutrality legislation, but he could select a more cable- friendly FCC chairman who could take a looser view of how the rules should be interpreted.

CROCKETT: What he`s got to do is he`s got to open up the gates for the toll collector on the Internet. If he follows through with what we`re hearing right now, and that would be a little bit hurtful for the earnings at Netflix (NASDAQ:NFLX) and Amazon (NASDAQ:AMZN) and helpful for someone like a Charter or a Comcast (NASDAQ:CMCSA) (NYSE:CCS).

BOORSTIN: But Crockett also notes that it`s unclear exactly what Trump will do. It will play out over many months. As investors and industry players carefully watch Trump`s nominees, to roles like the chair of the FCC, and as they listen carefully to his rhetoric.

For NIGHTLY BUSINESS REPORT, I`m Julia Boorstin in Los Angeles.

(END VIDEOTAPE)

MATHISEN: Still ahead, two sides, one pipeline, and a lot of protesters in North Dakota.

(MUSIC)

HERERA: The Army Corps of Engineers is delaying its decision on the controversial Dakota Access Pipeline, saying it wants to study the issue further. That statement comes as tensions between those in favor and those against the pipeline intensify.

Jackie DeAngelis reports from Bismarck, North Dakota.

(BEGIN VIDEOTAPE)

BOB PISANI, NIGHTLY BUSINESS REPORT CORRESPONDENT: Since April, the Standing Rock Sioux Tribe has been at this camp protesting the construction of this 1,100-plus mile pipeline that would bring crude oil from the Bakken to Illinois, then eventually to the Gulf Coast. Demonstrations have been peaceful here, but up the road clashes with police have gotten violent in the last few months.

On one side, you have the Native Americans trying to protect their sacred grounds from disturbance and environmental issues. On the other, there`s Energy Transfer Partners, the pipeline company trying to forge forward, saying this project is pivotal for U.S. infrastructure.

The chairman of the Standing Rock Sioux Tribe says if the decision isn`t favorable, we`ll forge forward in this fight.

DAVID ARCHAMBAULT II, STANDING ROCK SIOUX, CHAIRMAN: I think that no matter what happens, the future has pipelines coming, regardless, because of the dependence on fossil fuels. And so, this is just one fight, but there will be many.

DEANGELIS: But ETP is equally committed. When asked what a plan B might look like, the CEO Kelcy Warren said this.

KELCY WARREN, ENERGY TRANSFER PARTNERS (NYSE:ETP) CHAIRMAN & CEO: We will protect our people from bodily harm and we will complete our pipeline. The same crude is being transported today by rail and is crossing the river today by rail. This is so much safer. I don`t even have to justify that.

DEANGELIS: To further complicate matters, many expect that no matter which way this decision goes, both sides, including the protesters behind me, will appeal to the Trump administration. Remember that President-elect Trump has already vowed to be pro-business, to roll back regulation that will help infrastructure projects like the Dakota Access Pipeline go through.

While Trump hasn`t commented on this project specifically, any decision he would make is already being questioned, given that he owns ETP stock and the company`s CEO made donations to his campaign. Still, the shale revolution in the Bakken has tapped into resources that this country needs to be energy independent. Part of that process requires transporting oil around. Pipelines are thought to be safer than rail car transport.

For NIGHTLY BUSINESS REPORT, I`m Jackie DeAngelis in Bismarck, North Dakota.

(END VIDEOTAPE)

MATHISEN: Samsung strikes a multi-billion dollar deal with Harman International and that is where we begin tonight`s "Market Focus".

The smartphone maker said it would take over the automotive technology company for $8 billion in an effort to establish its presence in the connective technologies market. In addition to providing Samsung, which has had a tough year, as you know, with products, Harman`s CEO told CNBC the merger will create many opportunities for growth.

(BEGIN VIDEO CLIP)

DINESH PALIWAL, HARMAN INTERNATIONAL CHMN. AND CEO: Very excited about the future not just in automotive, but what about our connected car audio systems, individual sound zone. Homes are going also connected home with all IoT. So, this is another synergy with all the television, the display technology of Samsung and our audio technology and our brand in professional and at home.

(END VIDEO CLIP)

MATHISEN: Shares of Harman surged 25 percent to $109.72.

Germany`s Siemens will buy the software maker Mentor Graphics (NASDAQ:MENT) in a deal valued at $4.5 billion. The merger expected to expand Siemens` presence in the U.S. while also helping it grow its software business. Mentor Graphics (NASDAQ:MENT) saw its shares pop 18 percent to $36.29.

And the cigarette maker Reynolds American (NYSE:RAI) has reportedly rejected a $47 billion takeover offer from British American Tobacco, saying the price was just too low. Bloomberg says the companies are again in talks and British American allegedly is open to improving its initial offer. Reynolds American (NYSE:RAI) shares were down 53 cents, as you see there, at $53.05. BAT`s shares were off nearly 2 percent at $106.09.

HERERA: Shares of Kate Spade rallied after the handbag and accessories company received a letter from a shareholder asking that company to pursue a sale. A hedge fund Caerus Investors says it has become increasingly frustrated with that company`s inability to achieve profit margins comparable to the industry peers. Shares rose 7 percent to $17.93.

The conclusion of a ten-year drug study found that Pfizer`s arthritis treatment, Celebrex, was as safe as prescription strength ibuprofen and naproxen. There had been concern Celebrex might cause heart problems similar to Merck`s Vioxx which was pulled a decade ago. Shares were off a fraction to $32.38.

And Puma Biotechnology saw its shares plunge after new trial data for the company`s breast cancer drug revealed worsening gastrointestinal side effects. The company is also being investigated to determine whether Puma`s management made false or misleading statements about the medication`s trial results. Shares plunged 20 percent to $40.10.

MATHISEN: Well, as we told you at the beginning of the program, the Dow closed at a record high yet again, up for the sixth straight day, on hopes that the President-elect Donald Trump can revive economic growth.

So, what`s next for stocks and what about bonds, which are selling off hard? Michael Farr, president of money management Farr, Miller and Washington, joins us now.

Michael, always good to see you.

Anything new in Washington these days?

MICHAEL FARR, PRESIDENT, FARR, MILLER AND WASHINGTON: It`s been kind of quiet here, Tyler.

MATHISEN: I`m sure it has been.

FARR: Not a lot of news.

MATHISEN: We`ll get to stocks in a minute. The bond market certainly seems to be saying something. Tell me what it is that it`s saying and tell me what it implies for what I should do if I`m among the millions of Americans who have poured money into bonds and bond funds lately.

FARR: Right. On the bond market, Tyler, I think we`re seeing two things. The markets reacting to President-elect Trump`s promises for infrastructure spending and lower taxes, and that basically he`s going to spend a lot of money, which is going to increase the debt and a lot more bonds out there and a lot more supply of bonds means higher interest rates.

Also, it is kind of confrontational talk with a lot of foreign entities that own a lot of U.S. bonds like China. They own a lot of bonds. If they were to start to sell that could drive rates higher too. I think there are a couple of things sending rates higher right now, but that is going to mean if this continues, higher rates for buying a car or a higher mortgage for buying a house. We`ve seen those mortgage rates pick up as well.

You asked about the bond funds. If you hold bond funds, you will see those prices drop. We have seen some pretty good drops and even the ETFs, some of the municipal ETFs and others. You should kind of expect it. As these rates go higher, these bond prices will come down.

If you have a bond holding as part of your financial plan, you really should stick with it and not panic, but I think probably something towards the shorter end of the bond curve makes more sense.

HERERA: And what about stocks, because we have seen this kind of parabolic move upwards and we`re at another record high, Michael, and some people say that`s gone too far too fast.

FARR: It certainly feels like it has, but you know, we`re in this strange time, Sue, where I don`t think we`ve seen a lot of this kind of thing before. We`ve just gotten used to a market that`s been driven by monetary policy, and the Federal Reserve and these near zero interest rates forever have taken us to 17 times earnings.

And now, we`re getting the promise of more money, fiscal stimulus, tax cuts, corporate tax cuts, repatriation of dollars from overseas. More money and more debt spending seems to be those expectations because we haven`t begun to see the process begin yet. Expectations of all that additional debt and new dollars seem to be taking a lot of prices higher.

MATHISEN: Right.

FARR: So, for the short term, it certainly feels good. There could be some real benefits of the infrastructure spending and lower cut tax, but any time I see a market at 17 times earnings, that`s getting more expensive, I think you have to be cautious.

MATHISEN: We have to leave it there. Michael Farr, thanks very much.

Michael Farr with Farr, Miller and Washington.

FARR: Thanks.

HERERA: Coming up, the need for speed. What Porsche is doing to win over buyers in the market for luxury cars.

(MUSIC)

HERERA: Porsche is California dreaming with a new experience center outside Los Angeles for those who have always dreamed of pushing a Porsche to the limit. Speed and power are part of the luxury brand`s latest move to win over buyers in the country`s biggest market for high-end cars, California.

Phil LeBeau reports from Carson in the Golden State.

(BEGIN VIDEOTAPE)

PHIL LEBEAU, NIGHTLY BUSINESS REPORT CORRESPONDENT: The roar of the engine says it all. Porsche`s new experience center in southern California is for those with a thirst for speed.

OLIVER BLUME, PORSCHE CEO: It`s very important that our customers have an opportunity to test their cars go up to the limit and test their cars on a track like this.

LEBEAU: Four-point-one miles of track filled with twists and turns, as well as a skid pad for doing a doughnut or two gives Porsche`s experience center a wide variety of driving options and that`s the idea. Porsche spent $60 million creating a place it hopes will attract not only fans of Porsche, but luxury sports cars in general -- people who make California the biggest and most lucrative market for these high-end cars.

BLUME: (INAUDIBLE) most of our cars in the U.S. We sell in California. And especially, our customers in California are very passionate for our brand. They are racers and therefore, this track is a very good opportunity.

LEBEAU: So what`s it like to push a Porsche over 100 miles per hour? It`s quite a rush.

Porsche believes this is what will convince thousands of visitors to pay between $385 and well over $1,000 to slide behind the wheel for a day or two, and maybe a few will end their drive saying, Porsche, there is no substitute.

Yeah!

Phil LeBeau, NIGHTLY BUSINESS REPORT, Carson, California.

(END VIDEOTAPE)

MATHISEN: Some sad news tonight from our public television family, Gwen Ifill, veteran journalist and co-host of PBS`s "NewsHour" and moderator of "Washington Week" has died after a battle with cancer. The executive producer of "NewsHour" called her a standard bearer for courage, fairness and integrity in an industry going through seismic change. The head of WETA in Washington called Ifill one of the leading lights in journalism, and we agree. Gwen Ifill was 61.

HERERA: And that`s it for us tonight on NBR. I`m Sue Herera, thanks for joining us.

MATHISEN: And I`m Tyler Mathisen. Thanks from me as well. Have a great evening, everyone. We`ll see you back here tomorrow night.

END

Document NBR0000020161115ecbe00001

EXHIBIT 11

Case No.: 30-2019-CV-00180

News

Corps of Engineers won't grant easement to cross at Lake Oahe

Renée Jean Sidney Herald

1481 words
6 December 2016
Sidney Herald
SDNYHLD
English

The U.S. Army Corps of Engineers announced Sunday that it has decided not to grant an easement for Dakota Access pipeline to cross Lake Oahe, a decision that drew cheers from members of the Standing Rock Sioux Tribe and sharp criticism from North Dakota lawmakers.

Assistant Secretary of the Army Jo-Ellen Darcy said the decision is based on a "need to explore alternate routes" for the pipeline crossing, which passes a half-mile north of the Standing Rock Sioux Tribe's reservation.

Members of the tribe have been protesting the pipeline's crossing at Lake Oahe since April, expressing concern that a pipeline rupture or spill would pose a threat to its water supply and treaty rights, as well as potentially endanger cultural resources.

Darcy acknowledged the Corps had already met with the tribe multiple times to gather such information to help place the route.

"Although we have had continuing discussion and exchanges of new information with the Standing Rock Sioux and Dakota Access, it's clear that there's more work to do," Darcy said. "The best way to complete that work responsibly and expeditiously is to explore alternate routes for the pipeline crossing."

And that would be best accomplished, Darcy said, through an Environmental Impact Statement with full public input and analysis.

The news was greeted with cheers and chants of Mni Wiconi, Water is Life, at the Oceti Sakowin camp, the largest of the pipeline protest camps, which is located on Corps-managed rangeland north of the Cannonball River. In recent days, the Corps has asked protesters to relocate to a different area that is closer to emergency services, and Gov. Jack Dalrymple has ordered the area evacuated.

Standing Rock Sioux Tribal Chairman David Archambault II praised the Corps' decision in a media release.

"The Standing Rock Sioux Tribe and all of Indian Country will be forever grateful to the Obama Administration for this historic decision," he said. "We want to thank everyone who played a role in advocating for this cause. We thank the tribal youth who initiated this movement. We thank the millions of people around the globe who expressed support for our cause. We thank the thousands of people who came to the camps to support us, and the tens of thousands who donated time, talent, and money to our efforts to stand against this pipeline in the name of protecting our water. We especially thank all of the other tribal nations and jurisdiction who stood in solidarity with us, and we stand ready to stand with you if and when your people are in need."

Energy Transfer Partner CEO Kelcy Warren has said previously there is no other route for the 1,172-mile pipeline, which is now 90 percent completed, and almost 100 percent completed in North Dakota.

It has several shipping contracts that were to kick in Jan. 1. The line was to have carried up to 570,000 barrels of Bakken Crude to Illinois, where it could access refineries that handle light sweet crude. That amount is equivalent to more than 3,000 trucks.

Craig Stevens, a spokesman for the MAIN Coalition, which supports the construction of infrastructure in the Midwest, said the decision is a stunning departure from the rule of law.

"President Obama's decision not to issue the final easement is a rejection of the entire regulatory and judicial system, as well as the scores of Army Corps of Engineers and civil servants who toiled for more than 800 days to ensure the process was followed correctly, and in accordance with the law," Stevens said.

At no point does the Dakota Access pipeline actually cross the Standing Rock Sioux's reservation, he pointed out, and it is co-located with a three-decades old natural gas pipeline that already goes under the lake. The tribe's water intake is also being moved 70 miles downstream of the crossing, and was to be in service by the end of the year. The line has received all requisite state and federal approvals, except for the authorization to cross a 1,000 foot portion abutting Lake Oahe, which had been approved, but not issued at the time the tribe filed for an injunction to stop construction, which the courts have twice denied.

"There is no reasonable, logical, factual, environmental, or scientific reason for this not to be issued," Stevens said. "In fact, the Army Corps of Engineers had already recommended the approval of the easement. That the president continues to believe that he is above the law is simply un-American, and it is this arrogance that working class Americans soundly rejected on November 8. For millions of hard-working people across the heartland, Jan. 20 cannot come soon enough."

The North Dakota delegation was also united in criticism of the administration's action.

Sen. Heidi Heitkamp said the decision leaves North Dakota and the Dakota Access pipeline in limbo until the Trump administration comes on board.

"The incoming administration already stated its support for the project, and the courts have already stated twice that it appeared the Corps followed the required process in considering the permit," Heitkamp said.

That means nothing will change for the project in the next month and a-half, leaving the state potentially facing protest in the dead of a North Dakota winter — one that forecasters have said is likely to be colder and more brutal than normal.

"I'm hoping protesters will act responsibly to avoid endangering their health and safety and move off the Corps land north of the Cannonball River," she said, comments that were echoed by her colleagues Sen. John Hoeven and Rep. Kevin Cramer. The delegation said it will continue to press for federal funding and assistance in keeping the peace at the protest camps.

Morton County Sheriff Kyle Kirchmeier meanwhile said the matter is a federal decision on which local law enforcement are taking no stance. "Our role is to enforce the law, and that is what we will continue to do," he said.

Hoeven and Cramer said they believe the administration's decision has a chilling effect on future infrastructure projects in the country.

"The reality is that the company has observed all proper procedures and met all environmental standards required by four states and the Corps itself," Hoeven said. "Further refusing the easement has ramifications over the long-term. If companies and individuals cannot rely on a system that follows the rule of law, nobody will risk making future investments in our country's vital infrastructure. That will make our nation vulnerable and less secure."

Cramer also criticized the Corps for not having a good justification for its decision.

"Roads, bridges, transmission lines, pipelines, wind farms and water lines will be very difficult if not impossible to build when criminal behaviors rewarded this way," Cramer said. "In my conversation with Assistant Secretary of the Army Jo-Ellen Darcy today, she was unable to give any legal reasons for the decision and could not answer any questions about rerouting the pipeline.

All three legislators believe the next administration will likely reverse the decision.

"I'm encouraged that we will restore law and order next month when we get a president who will not thumb his nose at the rule of law," Cramer said. "I feel badly for the Corps of Engineers because of the diligent work it did on this project, only to have their Commander-in-Chief throw them under the bus. But he's been doing that to the military for eight years, so why not one more time on his way out the door."

Archambault, meanwhile, said he hoped that Kelcy Warren, Gov. Jack Dalrymple and the incoming Donald Trump administration would respect the Army Corps decision and respect the "complex process that led us to this point."

"When it comes to infrastructure development in Indian Country and, with respect to treaty lands, we must strive to work together to reach decisions that reflect the multifaceted considerations of tribes," he said.

Archambault also said that he hopes the tribe and local law enforcement will be able to heal their relationship over the coming days. "I recognize the extreme stress that the situation caused, and look forward to a future that reflects more mutual understanding and respect," he said. "Again we are deeply appreciative that the Obama Administration took the time and effort to genuinely consider the broad spectrum of tribal concerns," he said. "In a system that has continuously been stacked against us from every angle, it took tremendous courage to take a new approach to our nation-to-nation relationship and we will be forever grateful."

Wick Communications

Document SDNYHL0020161207ecc800006

EXHIBIT 12

Case No.: 30-2019-CV-00180

Dakota Access Oil Pipeline shut down

569 words
7 December 2016
U-Wire
UWIR
English

Indiana State University; Terre Haute, IN - news

By Rachel Baumgartner

The Sioux tribe at Standing Rock won an incredible victory on Sunday Dec. 4 in their battle against the Dakota Access Oil Pipeline. The United States Army announced that they will now allow the pipeline to be drilled under the Missouri river. This decision comes just weeks before the Obama administration is coming to an end.

This pipeline costs $3.7 billion, is set to be 1,172 miles and starts at the Bakken Formation in northwest North Dakota and runs southeast to southern Illinois. This pipeline could have contaminated the largest water source in the United States. The Sioux tribe opposed the pipeline due to major concerns because of the destruction it would cause to the environment and the destruction it would have caused to ancestral sites.

It's rather unclear how sustainable the government's decision would be. There are plans to reroute the pipeline so that it does not interfere with burial grounds or water sources. The army's decision calls for an environmental study before continuing in any manner. Tribal leaders worry the decision may not be permanent, especially with the incoming Trump administration.

Donald Trump has taken a different view on the subject and states that he supports the finishing of the pipeline. Trump owns stocks in the company Energy Transfer Partners, one of the major funders for the Dakota Access Oil Pipeline. Trump, however, denies that this is the reason for the support. Chief executive Kelcy Warren has stated they are unwilling to reroute the pipeline. This pipeline is intended to transport about 550,000 barrels of oil a day from oil fields in western North Dakota to Illinois. With Trump's support on the pipeline, I don't believe this will be the last we hear about it. The company fully expects to "complete construction of the pipeline without any additional rerouting in and around Lake Oahe."

The decision to stop the construction of the pipeline sent cries of joy out all over Standing Rock and the nation. Tribe members paraded through camp. There was a celebration where everyone got into a circle around the camp and sent up songs and prayers to their gods, thanking them for stopping the pipeline.

Grassroots activists, who took a major role in the Standing Rock protest, were prepared to withstand the freezing winter temperatures of North Dakota. The protesters expected a lengthier standoff against Energy Transfer Partners, and they were prepared for anything. The Obama administration has only put a pause in this battle that is sure to play out more under the Trump administration.

For five months, protesters have camped out at Standing Rock. This is one of the largest protests to date, and has made an impression across the entire world. Many tribes from around the world sent their support to the natives and protesters at Standing Rock.

Many protesters have decided to head home after the victory. North Dakota winters are harsh, and many would rather be inside. However, several stated they were not going anywhere. Some are uncertain about the army's decision and had decided they had put too much time and emotion in to leave now.

http://yournewswire.com/dakota-access-pipeline-stopped/ [http://yournewswire.com/dakota-access-pipeline-stopped/]

http://www.cnn.com/2016/12/04/politics/dakota-access-pipeline/ [http://www.cnn.com/2016/12/04/politics/dakota-access-pipeline/]

((Distributed for UWIRE via M2 Communications www.m2.com [http://www.m2.com]))

Normans Media Ltd

Document UWIR000020161207ecc7000mz

EXHIBIT 13

Case No.: 30-2019-CV-00180

Feature Stories

Opposition Delaying Much-Needed Pipeline Expansions, Officials Say

505 words
12 March 2018
Natural Gas Week
NGASW
English

Only a few years ago, pipelines were built with barely a word of opposition. But these days well-organized and financed environmental groups have mounted coordinated campaigns that threaten to keep gas from getting to markets that need it, North American pipeline executives said at last week's CeraWeek by IHS Markit in Houston.

These groups seem to have no concern for the impact their actions could have on the broader economy, said Russ Girling, CEO of TransCanada. With demand rising for North America's abundance of energy resources, failing to build the needed infrastructure at the right time amounts to squandered opportunities, he maintained.

Elsewhere in the world, projects go ahead under less stringent regulations, and output from those ventures then can take markets that otherwise would go to North American suppliers, Girling said.

"As we have stalled development, others have taken up the slack," he said. In these other countries, "we're seeing less care to the environment and human rights."

The tactics opposition groups are using are also getting more extreme, Energy Transfer Partners CEO Kelcy Warren said, noting that gunplay has even erupted on occasion.

Warren said he had approved Energy Transfer's program to monitor social media more aggressively, something the technical novice CEO hadn't previously believed was necessary. "There's lies being told about our company that we have to police," Warren said. "All of us have to bear that cost."

This became a serious matter as the company attempted to construct the Dakota Access Pipeline (DAPL) from the Bakken play in North Dakota to connections with other pipelines in the Midwest. Construction was delayed for months over the company's permit to install the line under a lake (NGW Sep.11'17).

Once the project was completed, Bakken oil producers saw the differentials drop to $4 per barrel from $13 when they would have to rail their oil to market. DAPL now running at 500,000 b/d and rising, Warren said.

"The level of intensity has ramped up," Kinder Morgan (KMI) CEO Steven Kean said. "There's more opponents, and it's more organized." He described a situation on a KMI crude line in British Columbia and Washington state where opponents attempted to simultaneously open sequential valves on the pipeline.

These actions are efforts to deny customers the opportunity to improve their lives with better access to energy, Kean said.

The industry needs to anticipate challenges from activists and leave no room for projects to be appealed in courts or in the halls of regulatory agencies, Girling said.

Kean said the size and location of major markets has changed significantly from only a few years ago. KMI is building or revamping pipelines from the Permian Basin in West Texas and the Marcellus Shale in Pennsylvania and surrounding states. These lines all target the US Gulf Coast, which is the largest market with the new LNG export terminals and industrial growth in the region.

Barbara Shook, Houston

Energy Intelligence Group Inc.

Document NGASW0002018041 0ee3c00006

EXHIBIT 14

Case No.: 30-2019-CV-00180

From: Daryl Owen
Sent: Wed 2/01/2017 8:41 AM (GMT-06:00)
To: Warren, Kelcy
Cc:
Bcc:
Subject: Fwd: North Dakota wants hired pipeline protesters to pay state income taxes - Washington Times

Paying them to commit crimes. RICO

Begin forwarded message:

From: "Aube, Sonia" <Sonia.Aube@energytransfer.com>
Date: January 31, 2017 at 11:51:33 PM EST
To: "McReynolds, John" <John.McReynolds@energytransfer.com>, "brian_glicklich@sitrick.com" <brian_glicklich@sitrick.com>, "Granado, Vicki" <vicki@granadopr.com>, "De Sloover, Tonja" <Tonja.DeSloover@energytransfer.com>, "Mahmoud, Joey" <Joey.Mahmoud@energytransfer.com>, "Ramsey, Matt" <Matthew.Ramsey@energytransfer.com>, "Warren, Kelcy" <kelcy.warren@energytransfer.com>, "Mason, Tom" <Tom.Mason@energytransfer.com>, Daryl Owen <daryl@owendc.com>
Subject: North Dakota wants hired pipeline protesters to pay state income taxes - Washington Times

Did you all see this article about ND going after paid protestors to pay income tax? Interesting read if you hadn't already seen this.

BLOCKEDm[.]washingtontimes[.]com/news/2017/jan/30/north-dakota-wants-hired-pipeline-protesters-to-pa/BLOCKED

Sent from Sonia's iPhone

EXHIBIT 15

Case No.: 30-2019-CV-00180

Memorandum

To: All Partnership Employees
From: Kelcy Warren, Chairman and Chief Executive Officer
Date: Monday, September 12, 2016
Re: Dakota Access Pipeline Project

I want to provide the entire Energy Transfer family with an update on the Dakota Access Pipeline project. Recent events in North Dakota and Washington, DC have brought the project to the forefront of national media attention. I recognize that many of you are receiving questions about our work and I want to be the first to share with you our commitment to the project, what we know, and where I am focused.

First, I am proud of our work on Dakota Access. As one of the largest U.S. infrastructure companies, our experience in designing, constructing, and operating natural gas, crude oil, and refined products pipelines is extensive. We have designed the state-of-the-art Dakota Access pipeline as a safer and more efficient method of transporting crude oil than the alternatives being used today, namely rail and truck. Today the 1,172 mile project is nearly 60 percent complete, employs more than 8,000 highly trained skilled labor workers who are safely constructing it, and we have spent just over $1.6 billion on equipment, materials and the workforce to date. Once operational, the project will safely move American oil to American markets. It will reduce our dependence on oil from unstable regions of the world and drive down the cost of petroleum products for American industry and consumers.

We are committed to completing construction and safely operating the Dakota Access Pipeline within the confines of the law. On Friday, a federal judge reaffirmed the U.S. Army Corps of Engineers' previous decision to permit construction of the Dakota Access Pipeline. Despite the judge's ruling that the project is in compliance with U.S. rules and regulations, the Department of Justice, Department of the Army and Department of Interior later announced that the U.S. Army Corps of Engineers is determining "whether it will need to reconsider any of its previous decisions" and called on the company to voluntarily halt construction. We intend to meet with officials in Washington to understand their position and reiterate our commitment to bring the Dakota Access Pipeline into operation.

Second, our corporate mindset has long been to keep our head down and do our work. It has not been my preference to engage in a media/PR battle. However, misinformation has dominated the news, so we will work to communicate with the government and media more clearly in the days to come.

In the meantime, I want to share with you information about our work on the Dakota Access Pipeline.

- The right of way for the entire pipeline has been obtained. All four states the pipeline traverses – North Dakota, South Dakota, Illinois, and Iowa – have issued favorable certificates, permits and approvals for construction.
- Nearly the entire Dakota Access pipeline route is across private land. In addition, neither the land abutting nor Lake Oahe itself is subject to Native American control, taxation or fee ownership. Despite this, we worked to meet with the Standing Rock Sioux Tribe leaders on multiple occasions in the past two years and gave the U.S. Army Corps data for their 389 meetings with more than 55 tribes across the project, including nine with The Standing Rock Sioux Tribe at Lake Oahe. We – like all Americans – value and respect cultural diversity and the significant role that Native American culture plays in our nation's history and its future and hope

to be able to strengthen our relationship with the Native American communities as we move forward with this project.

- Nearly the entire pipeline route in North Dakota – and the entire portion the protestors are focused on – is located immediately adjacent to an existing natural gas pipeline built in 1982. The route also parallels a high voltage electric transmission line. This land has been studied, surveyed, and constructed upon – at least twice before – over the past several decades.
- Multiple archaeological studies conducted with state historic preservation offices found no sacred items along the route. State archeologists issued a 'no significant sites affected' determination in February on the North Dakota segment of the pipeline. If any potentially sacred objects were to be found, archaeologists, environmental inspectors, or trained construction staff are on site throughout construction to ensure their proper care and that proper notifications are made.
- Concerns about the pipeline's impact on the local water supply are unfounded. Multiple pipelines, railways, and highways cross the Missouri River today, carrying hundreds of thousands of barrels of oil. Dakota Access was designed with tremendous safety factors and redundancies, including compliance with and exceeding all safety and environmental regulations. The pipeline crosses 90 to 115 feet below Lake Oahe with heavy wall pipe and, as we all know, the pipe is inspected, tested and re-tested prior to being placed into service to ensure its long-term integrity.

Third, we respect the constitutional right of all assembled in North Dakota to voice their opinions for or against projects like ours. However, threats and attacks on our employees, their families and our contractors as well as the destruction of equipment and encroachment on private property must not be tolerated.

We appreciate the work of local sheriffs and law enforcement to date. I have directed our team to work closely with local, state and federal officials to ensure the safety and protection of our construction contractors and employees, contractors' equipment, private land and those whose right it is to peacefully protest. Together we must promote a peaceful discourse and path forward. We are committed to protecting and respecting the welfare of all workers, the Native American community, local communities where we operate, and the long-term integrity of the land and waters in the region.

Finally, many of you have asked what you can do. Here are a few ways you can support Dakota Access:

1. Continue to do your jobs in a thoughtful and professional manner. Your conduct and commitment demonstrates to the world that we are playing by the rules and are committed to completing this important infrastructure project.
2. Help explain to your friends and neighbors the facts about the work that you are doing. There has been an enormous amount of misinformation out there and you are our best ambassadors to the public.
3. Contact your elected representatives – all of them – to tell them how important this project is to your livelihood. Remind them that the company fully complied with the regulatory process and the U.S. Army Corps of Engineers issued a nationwide permit and other essential permits for our work.

I am confident that as long as the Government ultimately decides the fate of the project based on science and engineering, the Dakota Access Pipeline will become operational bringing a safer means of

transportation to a much needed supply of oil to communities across the country. So we will continue to obey the rules and trust the process.

As the situation warrants, I will continue to communicate directly with you so that you can be fully informed of what's going on and what you can do to help.

Thank you again for all that you do.

EXHIBIT 16

Case No.: 30-2019-CV-00180

From: Ratliff, Brent
Sent: Wed 9/07/2016 1:24 PM (GMT-05:00)
To: Long, Tom; McCrea, Mackie; Warren, Kelcy
Cc: Ramsey, Matt
Bcc:
Subject: Fwd: DAPL Vandalism Hotline Statement

Please see below concerning the $100,000 reward Precision and Energy Transfer are offering for information in regard to the burning of equipment. This is something that been in the works and is ready to be distributed to the media, but will not be distributed until all approvals are in place. Matt is good with this, subject to Kelcy's approval. Tom, I will give you a call to discuss.

Brent

Sent from my iPhone

Begin forwarded message:

From: Vicki Granado <vicki@granadopr.com>
Date: September 7, 2016 at 2:01:48 PM EDT
To: "Ratliff, Brent" <Brent.Ratliff@energytransfer.com>, "Hannah, Lyndsay" <Lyndsay.Hannah@energytransfer.com>
Cc: <lisa@granadopr.com>
Subject: FW: DAPL Vandalism Hotline Statement

Brent – per our conversation, DAPL and Precision are each contributing $50,000 as a reward for information on the burning of equipment last month in Iowa. Local law enforcement in Iowa requested that we send a public statement announcing the reward. We have everything in place now to appropriately handle calls and investigations. Below is the statement we would like to send to Iowa media. Following the distribution of the statement to media, it will go to all local law enforcement offices throughout the state on DAPL letterhead.

Please advise.

"Last month, equipment in Iowa associated with the Dakota Access Pipeline project was intentionally burned, resulting in millions of dollars in damage. DAPL and Precision Pipeline are offering a $100,000 reward for information leading to the arrest and conviction of those responsible. If you have information pertaining to anyone who may have been involved, or have information regarding any other vandalism on the DAPL, please call the Dakota Access Vandalism Hotline at 1-855-430-4491."

Vicki Anderson Granado

Granado Communications Group

3300 Oak Lawn Avenue, Suite 601

Dallas, Texas 75219

214.599.8785 - direct

214.498.9272 - cell

www.granadopr.com

From: Pieper, Keegan [mailto:Keegan.Pieper@energytransfer.com]
Sent: Wednesday, September 7, 2016 8:19 AM
To: Mahmoud, Joey
Cc: Granado, Vicki; lisa@granadopr.com
Subject: Re: DAPL Vandalism Hotline Statement

Russ set up a hotline to take calls with live operators completing the transcript questions. All responses will be forwarded to RO and me for filtering and subsequent investigative interviewing. We will (and have been) corresponding and sharing data with the lead investigator with the state fire marshals office who was very happy we are doing this as he has no credible leads at this time.

Additionally, we have corresponded with all sherrif's offices and state police to let them know what we are doing and to get the word out.

Sent from my iPhone

On Sep 6, 2016, at 10:07 PM, Mahmoud, Joey <Joey.Mahmoud@energytransfer.com> wrote:

Let's make sure we know where this is bein issued and the plan for data.

Joey Mahmoud

281-460-4846 c

713-989-2710 w

Sent from my iPhone

On Sep 6, 2016, at 9:51 PM, Vicki Granado <vicki@granadopr.com> wrote:

Keegan, we will circle with you first thing in the morning to make sure we are aligned on this.

Vicki Anderson Granado

Granado Communications Group

Office: 214.599.8785

Cell: 214.498.9272

Granadopr.com

EXHIBIT 17

Case No.: 30-2019-CV-00180

From: Lamy, Trevor
Sent: Tue 5/02/2017 3:06 PM (GMT-05:00)
To: Garcia, Andres
Cc:
Bcc:
Subject: RE: TigerSwan Guards & May Extension
Attachments: 48000000000623-46019.pdf

From: Garcia, Andres
Sent: Tuesday, May 02, 2017 3:02 PM
To: Lamy, Trevor
Subject: RE: TigerSwan Guards & May Extension

Put it together and forward it to me.

Junior

From: Lamy, Trevor
Sent: Tuesday, May 02, 2017 1:38 PM
To: Garcia, Andres <Andres.Garcia@energytransfer.com>
Subject: RE: TigerSwan Guards & May Extension

Will do – Did we need Joey's approval to move forward, or are we good to submit to the vendor?

From: Garcia, Andres
Sent: Tuesday, May 02, 2017 1:27 PM
To: Lamy, Trevor <Trevor.Lamy@energytransfer.com>
Subject: RE: TigerSwan Guards & May Extension

Make sure to include additional language in the description of work that they will be providing security guards to monitor the pipeline.

Junior

From: Lamy, Trevor
Sent: Tuesday, May 02, 2017 1:25 PM
To: Garcia, Andres <Andres.Garcia@energytransfer.com>
Subject: RE: TigerSwan Guards & May Extension

Did you want me to revise the scope?

From: Garcia, Andres
Sent: Tuesday, May 02, 2017 1:00 PM

To: Lamy, Trevor <Trevor.Lamy@energytransfer.com>
Subject: FW: TigerSwan Guards & May Extension

Here you go.

Thanks.

Junior

Andres "Junior" Garcia
1300 Main Street, Houston, Texas 77002
Work: 713-989-7007 | Cell: 832-405-2599
Email: andres.garcia@energytransfer.com

From: Brian Smith [mailto:b.smith@tigerswan.com]
Sent: Tuesday, May 02, 2017 12:55 PM
To: Garcia, Andres <Andres.Garcia@energytransfer.com>
Subject: RE: TigerSwan Guards & May Extension

Junior – is this all you need? I updated the SOW with the total ceiling rate that matches our last submission and the POP of 17 March – 31 May, 2017.

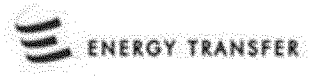
--
Brian Smith
TigerSwan
Office: (919) 439-4087
Mobile: (252) 361-2255

From: Garcia, Andres [mailto:Andres.Garcia@energytransfer.com]
Sent: Tuesday, May 02, 2017 1:40 PM
To: Brian Smith
Subject: RE: TigerSwan Guards & May Extension

Give me a call at work.

Thanks.

Junior



Andres "Junior" Garcia
1300 Main Street, Houston, Texas 77002
Work: 713-989-7007 | Cell: 832-405-2599
Email: andres.garcia@energytransfer.com

From: Brian Smith [mailto:b.smith@tigerswan.com]
Sent: Tuesday, May 02, 2017 11:44 AM
To: Garcia, Andres <Andres.Garcia@energytransfer.com>
Subject: RE: TigerSwan Guards & May Extension

Hey Junior – I was in a meeting but am free for the rest of the afternoon and at my desk.

Thanks,

--
Brian Smith
TigerSwan
Office: (919) 439-4087
Mobile: (252) 361-2255

From: Garcia, Andres [mailto:Andres.Garcia@energytransfer.com]
Sent: Tuesday, May 02, 2017 11:21 AM
To: Brian Smith
Subject: RE: TigerSwan Guards & May Extension

Brian,

Can you give me call.

Thanks.

Junior

Andres "Junior" Garcia
1300 Main Street, Houston, Texas 77002
Work: 713-989-7007 | Cell: 832-405-2599
Email: andres.garcia@energytransfer.com

From: Brian Smith [mailto:b.smith@tigerswan.com]
Sent: Friday, April 28, 2017 10:26 AM
To: Garcia, Andres <Andres.Garcia@energytransfer.com>
Cc: Shawn Sweeney <s.sweeney@tigerswan.com>; John Porter <j.porter@tigerswan.com>
Subject: FW: TigerSwan Guards & May Extension

Hey Junior – I had no luck on your office and cell.

Any word on our proposal for the 31 May extension? Mike said it was in Joey's and your hand for final review. Today's our last business day before our current agreement expires on Sunday so it's a hot issue on our end.

Thanks,

--
Brian Smith
TigerSwan
Office: (919) 439-4087
Mobile: (252) 361-2255

From: Futch, Michael (Contractor) [mailto:Michael.Futch@energytransfer.com]
Sent: Thursday, April 27, 2017 6:38 PM
To: Brian Smith
Cc: Shawn Sweeney; John Porter
Subject: Re: TigerSwan Guards & May Extension

I put it in front of Joey and Junior for review.

M

Sent from my iPhone

On Apr 27, 2017, at 4:07 PM, Brian Smith <b.smith@tigerswan.com> wrote:

> Don't mean to pester you, but any updates? Tomorrow is our last business day before the 30 April TL expiration to extend task orders, hotels, and rental cars.
>
> --
> **Brian Smith**
> TigerSwan
> Office: (919) 439-4087
> Mobile: (252) 361-2255
>
> **From:** Brian Smith [mailto:b.smith@tigerswan.com]
> **Sent:** Thursday, April 27, 2017 12:49 PM
> **To:** 'Futch, Michael (Contractor)'
> **Cc:** Shawn Sweeney; John Porter
> **Subject:** RE: TigerSwan Guards & May Extension
>
> Hey Mike – I just spoke with John as he's out on the pipeline and unavailable to type the reply but below are his thoughts.
>
> Yes, we believe all of these positions are essential to the project. Among other things, our intel analysts are keeping their eyes on potential sites for protesters and/or livestream events. They're able to give John and the team real-time threat assessments and they double-down as Site Security Advisors (at the same bill rate to ETP) when needed to rove the pipeline and gather intel from local residents, farmers, and ranchers. We also have some of these guys embedded throughout camps in SD (one analyst is an ambassador for one of the head tribal chiefs), IA, and ND and we also have someone initiated in 350.org – all of which are passing along valuable intel.
>
> The intel we've gathered received great reviews from Mr. Kelcy Warren at his visit last week with Netizens Group. Without them we'd be grossly underprepared for any event.
>
> We have 1 billable GuardianAngel(GA)/IT Operator proposed. This guy is monitoring the movements of all our personnel and guards via our phone app and can locate them instantly if any incident occurs.

Bottom line, this rate reflects a NTE ceiling assuming 100% capacity. We can guarantee a savings on this monthly run rate – I'd say at least at 10% or more – as this winds down and we find even more efficiencies.

Thanks,

--
Brian Smith
TigerSwan
Office: (919) 439-4087
Mobile: (252) 361-2255

From: Futch, Michael (Contractor) [mailto:Michael.Futch@energytransfer.com]
Sent: Thursday, April 27, 2017 11:15 AM
To: Brian Smith
Cc: Shawn Sweeney; John Porter
Subject: RE: TigerSwan Guards & May Extension

Do we need the analysts and the IT support still?

M

From: Brian Smith [mailto:b.smith@tigerswan.com]
Sent: Thursday, April 27, 2017 10:02 AM
To: Futch, Michael (Contractor) <Michael.Futch@energytransfer.com>
Cc: Shawn Sweeney <s.sweeney@tigerswan.com>; John Porter <j.porter@tigerswan.com>
Subject: RE: TigerSwan Guards & May Extension

Hey Mike – hope all is well this morning.

Do we have the greenlight on yesterday's proposal so I can call Junior to get the paperwork rolling?

--
Brian Smith
TigerSwan
Office: (919) 439-4087
Mobile: (252) 361-2255

From: Futch, Michael (Contractor) [mailto:Michael.Futch@energytransfer.com]
Sent: Wednesday, April 26, 2017 5:03 PM
To: Brian Smith
Cc: Shawn Sweeney; John Porter
Subject: RE: TigerSwan Guards & May Extension

DPM and SSA are also roving in all states, correct? Working supervision?

M

From: Brian Smith [mailto:b.smith@tigerswan.com]
Sent: Wednesday, April 26, 2017 3:46 PM
To: Futch, Michael (Contractor) <Michael.Futch@energytransfer.com>
Cc: Shawn Sweeney <s.sweeney@tigerswan.com>; John Porter <j.porter@tigerswan.com>
Subject: RE: TigerSwan Guards & May Extension

Mike – both workbooks merged into one. Summary tab represents total costs for both.

The "guards" represent the 56 roving. The "management/advisors" represent the 25 that we've had staffed from day 1 (PM, DPMs, Intel Analysts, Site Security Advisors, etc.)

Thanks,

--
Brian Smith
TigerSwan
Office: (919) 439-4087
Mobile: (252) 361-2255

From: Futch, Michael (Contractor) [mailto:Michael.Futch@energytransfer.com]
Sent: Wednesday, April 26, 2017 4:37 PM
To: Brian Smith
Cc: Shawn Sweeney; John Porter
Subject: RE: TigerSwan Guards & May Extension

Brian,

Can you combine into one worksheet for guards, management, and advisors through May 31?

M

From: Brian Smith [mailto:b.smith@tigerswan.com]
Sent: Wednesday, April 26, 2017 2:56 PM
To: Futch, Michael (Contractor) <Michael.Futch@energytransfer.com>
Cc: Shawn Sweeney <s.sweeney@tigerswan.com>; John Porter <j.porter@tigerswan.com>
Subject: TigerSwan Guards & May Extension

Mike,

As discussed, I've attached two separate workbooks. They are both for your review as neither are currently approved nor funded on our existing tasking letter which expires on 30 April.

1. Roving Security Guards (17 March – 31 May, ***75 days***)

2. TigerSwan Management/Advisors (1 May – 31 May, ***31 days***)

Once approved, we can reconvene around early/mid-May to look at any further extension of one or both of these.

Please review and let me know if you have any questions. Once approved, please forward to Junior so he and I can work out the paperwork.

Thanks,

--
Brian Smith
Vice President, Operations
TigerSwan
"Solutions to Uncertainty"
http://secure-web.cisco.com/1YD0GdytAKNSdWIV2sir2KIfXrECMMnedTnCjMSd_MgfNd9CgLJXZRfQmjh-A1FHnR_NQOzZPmczh9WL88UQnvdt5VQi1pxqcIUhn9jvGYYgVJZLtIDj8iP3_M7jUCcYpmfIc3S8AsIkqnmm9wK_bzeRXQwz0bZCMkPNzS73WO1jBEPprl65QSRYuzL2g5kpRhf4wh4Ucgxr0d_qYtLZ-rmvBMdm8J4LPymN2N9sSpx1RtgmLd4T8oIv7h1dr2L5o6Vxt-kNUKpgMt6vJccyTmh7_UbZhcr8cXStg0csehDzZ5Jl_DPlsL9giCGBtEuju/http%3A%2F%2Fwww.tigerswan.com

Office: (919) 439-4087
Mobile: (252) 361-2255
Fax: (919) 303-0331
b.smith@tigerswan.com

Private and confidential as detailed here. If you cannot access hyperlink, please e-mail sender.

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EXHIBIT 18

Case No.: 30-2019-CV-00180

From: michael wright
Sent: Wed 8/30/2017 7:37 AM (GMT-05:00)
To: SWEENEY, RUSSELL L; McKean, Shannon
Cc: Warren, Kelcy; michael wright
Bcc:
Subject: Potential Security Vendor assistance to Energy Transfer Partners pipeline projects

Greetings Russell and Shannon,

Thank you for the previous email introductions while in was in Honduras. As you are aware from discussions with Oscar Alvarez, I represent multiple companies involved in the Energy Sector security and information collections business. Our companies have extensive experience in both CONUS and O-CONUS commercial operations. The majority of our personnel are either retired for former Federal Officers from CIA, FBI, DOS and the military.

While consulting for an East Coast energy company I became aware of difficulties Energy Transfer Partners (ETP) was having with the security firm Tigerswan in the DAPL AOR. Due to these publicly reported issues between ETP and Tigerswan, I queried if Oscar A. could surface this issue with Mr. Warren with the objective of potentially bidding on future security requirements ETP may have if Tigerswan is terminated from their current contract with ETP.

If above is the current situation, please advise how the bidding processing would work for future offers of new companies to become a potential vendor of ETP in the security arena. Since I represent multiple companies, an identification of what potentially ETP would require I would need to focus the right company against the objectives.

Thank you again for the opportunity to assist ETP,

Michael A. Wright
Mclean, Virginia
480-652-9994

EXHIBIT 19

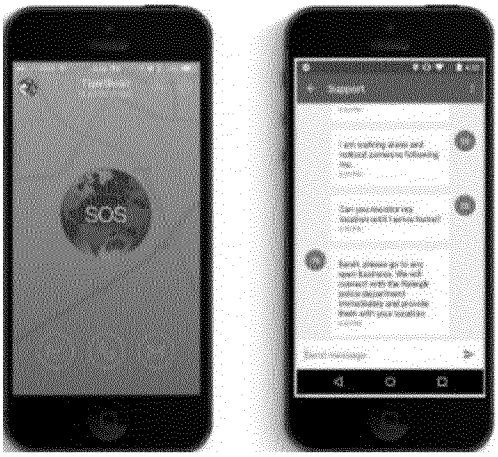
Case No.: 30-2019-CV-00180

From: Lyons, Eric
Sent: Wed 9/14/2016 10:36 AM (GMT-05:00)
To: Aube, Sonia; Bradley, Michael; Brazaitis, Gregory; benny@echotactics.com; Curia, Chris; Granado, Vicki; Hanse, Lee; Hennigan, Michael (MJHENNIGAN) (Sunoco); Long, Tom; Mahmoud, Joey; Mason, Tom; McReynolds, John; Owens, Robert (RWOWENS) (Sunoco); Patton, Roy; Rmatt.ramsey@energytransfer.com; stuart@echotactics.com; Ruckel, Grant; eazy630@gmail.com; Whitehurst, Brad; Workman, Gail; Seims, Brooke; Warren, Kelcy; Lutken, Donald
Cc:
Bcc:
Subject: Phone App for Emergencies

Greetings and good morning all.

You will shortly be receiving an email from Guardian Angel regarding a phone app that is being offered as a result of events taking place surrounding the DAPL project. An internal Energy Transfer team has reviewed this app and determined that it could provide a great value to so many who are traveling or happen to find themselves in an emergency situation.

The smart phone app provides you with a 24/7 global safety net with real time location identification. Whether you are at home, out of town on business domestically or internationally or traveling the world with your family, the service is there for your "PEACE OF MIND!" This satellite based emergency assistance app provides real time tracking and pinpointing of your location and will help to coordinate the proper emergency response.
It is possible to turn this location feature "off" on the phone yet the SOS function will still work in this position. However; the real time location will not be as accurate if your *Location* button is not turned on.



MAXIMUM PROTECTION WITH PRECISION VIGILANCE
This smart phone app runs continuously in the background. Should you need assistance you can contact our emergency response center via email, text, or call. In case of immediate emergency you simply push the SOS panic button and you will be contacted for assistance.

I and my team will be coming around to help you download the app for your phone and show you a simple 2 minute instruction. For those of you outside of Dallas we will contact you to walk through the process.

Please do not hesitate to ask any questions.

Have a great day!

Eric Lyons

Director of Security

Energy Transfer Partners

Energy Transfer
8111 Westchester Dr.
Dallas, TX 75225
P: 214-981-0736

"If you see something, say something!"

EXHIBIT 20

Case No.: 30-2019-CV-00180

From: Matt Relle
Sent: Thu 8/31/2017 4:56 PM (GMT-05:00)
To: Warren, Kelcy; Long, Tom; Ryoo, Helen (Heejung)
Cc: Eric Mandelblatt; Matt Relle
Bcc:
Subject: Soroban follow ups
Attachments: 2017_08_22_DC_Circuit_Vacates_Sabal_Trail.pdf; 2017_08_30_Sabal_and_DAPL.PDF; Enterprise Prices $1.7 Billion Principa...pdf; EnterpriseProductsPartnersL (3).pdf; EnterpriseProductsPartnersL (4).pdf; ETE Communication Slides 8.31.pdf; ETE IDR Restructuring @ 14x.pdf; ETE IDR Restructuring @ 12x.pdf

Kelcy, Tom, Helen,
We wanted to take a moment to say a quick thank you for graciously hosting us yesterday. We know your time is valuable and appreciate you spending some of it with us. We enjoyed the conversation.
There were a few items you had asked of us as follow ups. Apologies in advance for the length of this e-mail but thought it easiest to consolidate everything in one place. Please note, however, that these are purely our thoughts / suggestions and we don't expect a reply from you. If there is anything else that you would like from us, or if there are any questions about the attached documents, please always feel free to give us a call but please be mindful that we would like to stay on the public side and would not want to receive any information from you that could inadvertently restrict us from purchasing units.
~~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~*

1. **Clearview reports re: Sabal Trail and its potential impact on DAPL**

The first report attached from ClearView, a regulatory consultant we like and believe does good work, outlines a court ruling from August 22nd which issued vacatur on Sabal Trail and associated pipelines; at the time of the ruling, these pipelines were fully operational. The court ruling (to grossly oversimplify) cites the lack of a downstream emissions evaluation by FERC, who relied on analysis performed by the state of Florida, as the reason for the decision despite an otherwise seemingly thorough environmental evaluation. Coincidentally, shortly after our meeting ClearView published the 2nd attached report, reviewing their perspective on how the Sabal Trail ruling could potentially have an impact on DAPL's current litigation.

If it would at all be helpful to speak with Christi, please let us know and we can help to arrange that.

2. **EPD junior subordinated offering (preferred equity-like)**

We have attached a press release, the SEC offering document and a term sheet for the EPD junior subordinates notes issue. To recap, EPD issued $1.7bn of junior subordinated notes due 2077 (60 yr term) at an average interest rate of ~5%. The notes are NC5/NC10 (2 tranches) and following the end of the call period, flip to floating rate notes in the L + 300 bps range. The offering received 25% equity credit from Moody's and 50% from S&P.

We think this type of security is highly attractive and would be a good fit for ETP. Offsetting the modestly higher upfront cost vs. a traditional 10-year note are the facts that the securities are callable in the relatively near-term at par which provides flexibility for the issuer, receive partial equity credit from the rating agencies, help with maturity tower management given their duration and are a lower cost way of injecting some "rating agency equity" into your capital structure relative to issuing straight common equity. We think ETP could take advantage of this for future revolver term-outs or refinancing of expiring Sr. Notes.

3. **ETE Hypothetical Investor Communication Slides**

Per your request, we have pulled together our thoughts on 2 slides in an attempt to solidify the hypothetical messaging of ETE's exciting outlook.

The key takeaway from these slides are that significant cash flow growth is coming to ETE in the near-term and that there are multiple value-enhancing ways to use that incremental cash, all of which ETE are evaluating. We think the setup is as follows:

- ETE has provided ~$2bn of recent support (IDR waivers + unit purchases) to help ETP fund its accretive capital program in the absence of near-term cash flow and in the face of regulatory resistance
- Now that ETP is on firm footing, ETE is also poised to recognize significant cash flow growth via IDR waivers easing and ETP's distribution growth
  - This cash flow growth is visible, quantifiable and secure – the IDR waivers are rolling off to the tune of ~$500mm in 2018 and ETP has publicly guided to low-double digit distribution growth next year
  - No additional support will be provided due to the strong financial health of ETP
- Given the stability in the overall structure, ETE's IDR stream deserves a much improved multiple, not one that reflects uncertainty and lack of growth
- ETE has attractive options to utilize this additional cash flow

4. **Potential ETE / ETP restructuring & IDR management**

You asked us to share our views on a corporate / IDR restructuring of ETE / ETP; we sketched out our thoughts below and in the final 2 PDFs attached. **Please note that all of the analysis below and attached is strictly Soroban's current view, is illustrative and is not to be taken as anything other than that; any number of factors could cause key assumptions and conclusions of the following analysis to change, potentially materially**

As ETE unitholders, we think a "status quo" case (no change to structure or IDRs) would be a sensible place to land. IDRs are strategically beneficial for ETE and ETP as they ensure alignment (a healthy ETP is a healthy ETE) and provide strong cash flow / unitholder value generation for ETE. Further, ETP's funding program has largely been completed without a need for substantial amounts of future equity, which helps manage any incremental IDR burden on a go-forward basis. As a bookend, we like this "status quo" case but recognize it may be out of favor with the market today.

With respect to any restructuring transaction, our enthusiasm would be for a deal that maintains the dual ETE / ETP currency structure, and not a full roll-up / merger. In our view, we see several negatives to the roll-up / merger transaction:

i) the push down of ETE leverage to ETP
ii) the loss of ETE's control position
iii) a full roll-up / merger of the structure is a step that cannot be unwound relative to the flexibility afforded by an IDR restructuring transaction, which allows for another bite at the apple (i.e. a full roll-up / merger in the future)

Accordingly, an IDR restructuring or reset is beneficial in each of the ways a full roll-up / merger is not – it does not burden ETP with back leverage, it maintains control and strategic optionality for ETE unitholders, and retains structural options (i.e. a full roll-up / merger) in the future. We think there are multiple ways to accomplish such a transaction:

i) full IDR buy-in in exchange for ETP LP units
ii) IDR reset (reset to 0% / 2% splits, with higher splits attainable in the future) in exchange for ETP LP units
iii) options i. or ii., but with a combination of ETP LP units and assets. Transferring low / no cash flow assets to ETE from ETP, such as the remaining interest in Lake Charles LNG or ME2 / ME2X, could help offset near-term dilution to ETP

With respect to a full IDR buy-in, the recent ANDV / ANDX transaction was consummated at ~14x 2018 unsubsidized GP cash flow, and MPC / MPLX have publicly discussed an IDR buy-in in the range of 15-20x GP cash flow. Using these data points, an illustrative 14x GP cash flow transaction for ETE / ETP (consistent with the ANDX transaction) would result in an ETP 2018 distribution of $1.60 / unit while maintaining sustainable >1.1x coverage and an 8-10% distribution growth rate. ETP, given the lack of IDRs, could trade more closely with its MLP peers in the [6.5]-[7.5]% (directional & illustrative) 2018 distribution yield range, which illustratively represents a unit price of ~$21-$24.50 / unit, or +15-30% relative to yesterday's closing unit price. While this transaction does temper ETE optionality given the lack of IDRs, ETE unitholders see accretion to 2019 DCF / unit of ~20% on the attached illustrative math relative to our base case, resulting in 2019 DCF / unit of $2.20.

With respect to an IDR reset, such a transaction would likely occur at a discount to the full IDR buy-in given ETE is retaining future IDR leverage. An illustrative 12x 2018 IDR multiple is at the low end / below recent IDR transactions, and would result in an ETP 2018 distribution of $1.75 / unit at a sustainable >1.1x coverage ratio and growth of 8-10%. While the continued existence of IDRs may mean ETP trades ~100 bps wide of a full IDR buy-in case, a [7.5]-[8.5]% distribution yield (directional & illustrative) would result in an ETP unit price of $20.50-$23 / unit, plus a higher starting distribution point relative to the full IDR buy-in case. ETE's 2019 DCF / unit accretion of ~14% is attractive (to $2.06 / unit in 2019) and allows ETE unitholders to maintain the strategic flexibility and cash flow upside from future distribution growth via the IDRs.

~~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~**~*~*~*

Again, we'd like to thank you for hosting us yesterday. We're around if any questions do come up and hope you all enjoy your Labor Day weekends.

Regards,

Eric and Matt

Matt Relle
Soroban Capital Partners LP
444 Madison Avenue | 21st Floor
New York, NY 10022
Office: (212) 314-1362
Mobile: (508) 439-0628

EXHIBIT 21

Case No.: 30-2019-CV-00180

Nordea

Stockholm, 14 December 2016

Dear Mr Kelcy L. Warren,

Due to recent events related to the Dakota Access Pipeline we contact you as an investor. Nordea Wealth Management is the largest wealth manager in the Nordics with EUR 300bn in assets under management. Nordea Wealth Management is a business area within Nordea Group, the largest financial services group in Northern Europe servicing more than 600 Nordic and international institutional customers.

As a responsible investor and shareholder we believe that corporate responsibility is a prerequisite for a company to achieve responsible good returns. We define responsibility as observance of existing laws, regulations, relevant rules and international conventions. A responsible company also addresses environmental, social and governance risks, as well as identifying and capitalizing on opportunities. Please find more information here: https://sustainablefinance.nordea.com/.

Nordea Wealth Management's Head of Sustainable Finance Sasja Beslik has visited North Dakota, protestors' campsite and disputed route section between 5th and 10th of December 2016. Prior our visit we have conducted a thorough analysis of all available documentation, court proceedings, Environmental Assessments, NGO's reports and company published information. Material corresponds to approximately 1800 pages. The main purpose of our visit was to identify if companies involved in construction of pipeline have managed relevant and material environmental and social short and long term impacts as well as cumulative aspects associated with the construction of pipeline. Analysis conducted was based on Nordea proprietary sector specific framework as well as application of World Bank ESIA guidelines for oil & gas related infrastructural projects.

In the process we have identified number of relevant stakeholders such as companies, representatives for Standing Rock, US federal authorities, other shareholders as well as companies involved in project finance of the Dakota Access Pipeline and are investee companies of Nordea Wealth Management.

Based on above outlined analysis process and conducted consultation we have come to following conclusions:

- Environmental Assessment although with limited scope was conducted in line with US rules and regulations applied for projects of this character.
- Environmental Assessment conducted addresses relevant issues and mitigation options proposed corresponds with nature of impacts and their significance.
- Consultation with key stakeholder group Standing Rock has not been anchored in a completely correct way and that may be the core reason for current situation.

With this letter we want to inform you that Nordea's Responsible Investment Committee has decided to put Energy Transfer Partners in quarantine for six months. The reason is based on above conclusions and that we see potential negative impact on the financial value of our holdings in your company due the reputational and operational risks associated with your company's involvement in the Dakota Access Pipeline.

In order for Nordea to lift the quarantine we see it as an absolute demand that the companies behind the Dakota Access Pipeline reroute the oil pipeline in consultation with Standing Rock tribe representatives so that it does not pass close to the Standing Rock Sioux Tribe reservation. Even though the legal proceedings regarding the stretch of the oil pipeline goes in favor for the companies, or if an altered political situation results in the companies being granted access to lay the pipeline close to the standing Rock Sioux Tribe's land we still view it as the companies' responsibility to re-route the pipeline. In the case that your company does not respect this requirement Nordea Wealth Management team for Sustainable Finance will evaluate and recommend Responsible Investment Committee to divest from the holdings in your company.

Against this background we would like to set up a conference call with you within the next couple of days. Please get back to us with dates and time slots that would work for you as soon as possible. Please contact ylva.hannestad@nordea.com to arrange the meeting.

Best regards,

Sasja Beslik
Head of Sustainable Finance
Nordea Wealth Management
Mobile: +46733577310
E-mail: sasja.beslik@nordea.com
Web: nordea.com

EXHIBIT 22

Case No.: 30-2019-CV-00180

STATE OF NORTH DAKOTA DISTRICT COURT

COUNTY OF MORTON SOUTH CENTRAL JUDICIAL DISTRICT

Energy Transfer LP (formerly known as Energy Transfer Equity, L.P.), Energy Transfer Operating, LP (formerly known as Energy Transfer Partners, LP), and Dakota Access, LLC Plaintiffs,	)	
vs.	)	CASE NO. 30-2019-CV-00180
Greenpeace International (aka "Stichting Greenpeace Council"); Greenpeace, Inc.; Greenpeace Fund, Inc.; Red Warrior Society (also known as "Red Warrior Camp"); Cody Hall; Krystal Two Bulls; and Charles Brown Defendants.	)	

****

ORAL AND VIDEO DEPOSITION OF

YOUSIF MAHMOUD

August 30, 2023

****

ORAL AND VIDEO DEPOSITION OF YOUSIF MAHMOUD, produced as a witness at the instance of the Defendants Greenpeace Fund, Inc., and duly sworn, was taken in the above-styled and numbered cause on

would assume that she had the same information. I don't know that for a fact, but that side of the -- at the time the Democratic or liberal side of the government, we felt were fairly well in-tuned to what was happening out there and were sympathetic to that cause.

Q. What information did Greenpeace Fund disseminate that would have changed the decision making of these two individuals to not grant the easement across Lake Oahe?

A. You're going to have to ask Greenpeace.

Q. Okay. Do you know -- do you know if any Greenpeace employees were at the Standing Rock protests?

A. How would I know that?

Q. I don't know. I'm asking you do you know that?

A. No.

Q. Okay. What actions do you know that Greenpeace took related to the Dakota Access pipeline?

A. I don't.

Q. You don't know a single action that Greenpeace took related to the Dakota Access pipeline?

EXHIBIT 23

Case No.: 30-2019-CV-00180

STATE OF NORTH DAKOTA DISTRICT COURT
COUNTY OF MORTON
SOUTH CENTRAL JUDICIAL DISTRICT

ENERGY TRANSFER LP (FORMERLY KNOWN AS ENERGY TRANSFER EQUITY, L.P.), ENERGY TRANSFER OPERATING, L.P. (FORMERLY KNOWN AS ENERGY TRANSFER PARTNERS, L.P.), AND DAKOTA ACCESS, LLC	*	
VS.	*	NO. 30-2019-CV-00180
GREENPEACE INTERNATIONAL AKA "STICHTING GREENPEACE COUNCIL"); GREENPEACE, INC.; GREENPEACE FUND, INC.; RED WARRIOR SOCIETY (ALSO KNOWN AS "RED WARRIOR CAMP"); CODY HALL; KRYSTAL TWO BULLS; AND CHARLES BROWN	*	

ORAL AND VIDEOTAPED DEPOSITION OF
VICKI GRANADO
AS CORPORATE REPRESENTATIVE OF
ENERGY TRANSFER, LP, ENERGY TRANSFER OPERATING, L.P. AND DAKOTA ACCESS, LLC
SEPTEMBER 27, 2023

Job No. CS6114378

Q. And you mentioned that discussions were about Greenpeace's network, its broad dissemination, its influence on the protests. Do you recall anything more specific?

A. No.

Q. Did you ever discuss any particular publication by Greenpeace that you can recall that included a false factual statement?

A. I can't pinpoint a specific example.

Q. Did you ever --

A. I don't remember specifically the verbiage, what's in each report at this time.

Q. Did any of these discussions that you're testifying to involve any discussion about Greenpeace being involved in any unlawful activity?

A. Not that I recall.

Q. And you understand there's nothing wrongful about having, as you put it, influence or trying to take a stand one way or the other on a pipeline project?

A. Yes.

Q. Okay. I mean, Energy Transfer certainly does that, right? You have government affairs contractors that work to influence

EXHIBIT 24

Case No.: 30-2019-CV-00180

STATE OF NORTH DAKOTA DISTRICT COURT

COUNTY OF MORTON SOUTH CENTRAL JUDICIAL DISTRICT

ENERGY TRANSFER LP (FORMERLY KNOWN AS ENERGY TRANSFER EQUITY, L.P.), ENERGY TRANSFER OPERATING, L.P. (FORMERLY KNOWN AS ENERGY TRANSFER PARTNERS, L.P.), AND DAKOTA ACCESS, LLC,	Case Number 30-2019-DV-00180
Plaintiffs,	
vs.	
GREENPEACE INTERNATIONAL (AKA "STICHTING GREENPEACE COUNCIL"); GREENPEACE, INC.; GREENPEACE FUND, INC.; RED WARRIOR SOCIETY (ALSO KNOWN AS "RED WARRIOR CAMP"); CODY HALL; KRYSTAL TWO BULLS, AND CHARLES BROWN,	
Defendants.	

****

VIDEOTAPED ORAL DEPOSITION OF
ENERGY TRANSFER LP, ENERGY TRANSFER
OPERATING, L.P., AND DAKOTA ACCESS, LLC
BY AND THROUGH ITS DESIGNATED REPRESENTATIVE
ASHTON HAYSE
SEPTEMBER 20, 2023

****

Q. I'm going to -- I hope we don't have to keep going through this a lot of times here but let me try again.

Do you remember any person in any call or meeting where they used the word "Greenpeace"?

A. I don't remember.

MR. JONES: Objection; form.

You can answer.

A. I remember the conversations around a lot of the misinformation. It was perpetrated by Greenpeace. Greenpeace specifically being talked about in those meetings, I don't recall whether they were or they weren't. It was a long time ago, but certainly what they were doing was -- was part of the conversation. So perhaps in an indirect way, maybe directly, I just don't recall.

Q. Okay. Well, I want to make a really clear record here, so it would help if you could say yes or no and then you can provide whatever other explanation you want.

A. I appreciate that, but the question that's being asked, I think, warrants more than a simple yes or no answer.

Q. I understand and I'm going to give you the opportunity to elaborate as much as you want, but I

EXHIBIT 25

Case No.: 30-2019-CV-00180

CA12168, APPEAL CONF ORDER The Williams Companies, Inc. v. Energy Transfer Equity, L.P., and LE GP, LLC

DE Court of Chancery - Statewide

Statewide

This case was retrieved on 11/03/2022

Header

Case Number: CA12168
Date Filed: 04/06/2016
Date Full Case Retrieved: 11/03/2022
Status: Open
Misc: (160) Specific Performance; Civil

Summary

Judge: Sam Glasscock
Case Type: Civil
File and Serve #: 12168-VCG

Participants

Litigants	Attorneys
LEE Levine **Plaintiff**	Jessica Zeldin Plaintiff 302-467-1765 Fax: 302-467-1772
Williams Co Inc **Plaintiff**	Helena C Rychlicki Plaintiff 302-504-1497 Fax: 302-442-7046
	Jessica Zeldin Plaintiff 302-467-1765 Fax: 302-467-1772
	Kenneth J Nachbar Plaintiff 302-658-9200 Fax: 302-658-3989
	Matthew R Clark Plaintiff 302-658-9200 Fax: 302-658-3989
	Patricia R Urban Esq Plaintiff 302-504-1497 Fax: 302-442-7046

Date	#	Proceeding Text	Details
06/15/2016	187	Deposition Transcript Of Alan Armstrong Dated June 9, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	188	Deposition Transcript Of Kathleen Cooper Dated June 10, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	189	Deposition Transcript Of Charles Timothy Fenn Dated June 8, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	190	Deposition Transcript Of Stephen Gordon Dated June 14, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	191	Deposition Transcript Of Thomas E. Long Dated June 10, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	192	Deposition Transcript Of Frank MacInnis Dated May 17, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	193	Deposition Transcript Of John McReynolds Dated June 9, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	194	Deposition Transcript Of Andrew Needham Dated June 9, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	195	Deposition Transcript Of Tony Rackley Dated June 13, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	196	Deposition Transcript Of Stuart Rosow Dated June 14, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	197	Deposition Transcript Of Abraham N.M. Shashy, Jr. Dated June 11, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	198	Deposition Transcript of Murray Smith Dated June 7, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	199	Deposition Transcript of Janice Stoney Dated June 8, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	200	Deposition Transcript of Kelcy Warren Dated June 14, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	201	Deposition Transcript of Jamie Welch Dated May 20, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	202	Deposition Transcript of Brad Whitehurst Dated June 13, 2016 (CONFIDENTIAL UNDER SEAL)	
06/15/2016	203	Deposition Transcript of Ethan Yale Dated	

EXHIBIT 26

Case No.: 30-2019-CV-00180

News

Energy Transfer, shipper differ on Rover timeline

Harry Weber

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Energy Transfer Partners has crews working feverishly to make sure the initial phase of its Rover gas pipeline project will be in service by July even as one of its anchor shippers warns there could be a delay of up to six months.

Executives of the Dallas-based operator said Thursday during a conference call with analysts and investors to discuss Energy Transfer's fourth-quarter 2016 financial results that they are highly confident final construction-related permits will be obtained in time to finish clearing trees by the end of March and complete Phase 1 on the current schedule.

“There's a tremendous about of manpower out there cutting trees,” Marshall McCrea, Energy Transfer's chief operating officer, said during the call.

The company has permission to cut about 90% of the trees its needs to, while it continues to wait for approval to clear the other 10% that cover wetlands areas, McCrea said.

Despite the optimism, an executive at Rover shipper Rice Energy expressed skepticism Thursday that Energy Transfer's current timeline can be maintained.

“They're saying mid this year for Phase 1 and I think we are probably expecting by end of year,” Rob Wingo, Rice's senior vice president of midstream and marketing, said during a conference call to discuss Rice's latest financial results. “We are a little less optimistic about the in-service date than they are.”

Asked about Wingo's comments, Energy Transfer spokeswoman Vicki Granado reiterated in an e-mail the company is confident about its current timeline. Other anchor shippers on the project include Range Resources and Antero Resources. Spokespersons at those companies did not respond to requests for comment.

A Range executive was asked by an analyst on an investor call Thursday about Rover, but he only addressed the market impact, not the timing of the project. Antero said in a statement in January that the company's activity in the Ohio Utica is contingent on the current construction timetable for Rover, which includes Energy Transfer's expectation earlier this month that it believes it also can meet its targeted in-service goal of November for the second phase of the project. Antero said if Rover in-service is delayed beyond the second half of this year it will shift some budgeted drilling and completion activity from the Ohio Utica to the Marcellus.

Rover initially was proposed to enter service in December 2016. Rover's current timeline would effectively mean only four months of construction on what was initially projected to take 13 months to accomplish.

Designed to move Marcellus and Utica shale gas to markets in the Midwest, Gulf Coast and Canada, Rover will stretch roughly 500 miles through West Virginia, Pennsylvania, Ohio and Michigan. It will entail 10 compressor stations and roughly 700 miles of various diameter pipelines; the major upstream portion consists of dual 42-inch-diameter pipelines.

The project's greenfield capacity is almost entirely backed by Marcellus- and Utica-focused gas producers, suggesting that there may be an incremental 3.2 Bcf/d of production volumes hitting the market once it enters service. It is expected to impact numerous markets both upstream and downstream.

CEO cites regulatory changes in Washington

Energy Transfer CEO Kelcy Warren said during Thursday's call that part of the company's optimism involves expected changes in regulatory approach in Washington under President Donald Trump. Besides Rover, he also cited the firm's Dakota Access crude pipeline, which is moving forward after regulatory hangups and strong opposition from environmental advocates.

“Unfortunately, we went through a period of time where you can follow every law, conduct yourself exactly the way you should and follow the requirements, and fall into the mess we did with Dakota Access,” Warren said. “That was a mistake on my part. I underestimated the power of social media.”

Also during the call, Warren addressed questions about financing for Energy Transfer's major projects and whether it would divest any assets or pursue any major combinations beyond the one it already announced with Sunoco Logistics, a master limited partnership in which Energy Transfer owns the general partner.

“We definitely believe all successful MLPs should have the right mix of organic growth and M&A activity,” Warren said. “We are back analyzing. I think it is safe to say we will never do a deal again where the management on the other side is not supportive of it. Those days are behind us.”

A $33 billion merger between Energy Transfer Equity, a master limited partnership that owns the general partner of Energy Transfer Partners, and pipeline operator Williams fell apart last year.

Harry Weber

Route of ET Rover Pipeline projectigraph Source: Platts

S&P Global

Document GASD000020170310ed2o0001b

STATE OF NORTH DAKOTA	DISTRICT COURT
COUNTY OF MORTON	**SOUTH CENTRAL JUDICIAL DISTRICT**
ENERGY TRANSFER LP, *et al.*, Plaintiffs, v. GREENPEACE INTERNATIONAL, *et al.*, Defendants.	Case No.: 30-2019-CV-00180 **CERTIFICATE OF ELECTRONIC SERVICE**

[¶1] I hereby certify that on October 20, 2023, true and correct copies of the following documents:

- Greenpeace Defendants' Response in Opposition to Plaintiffs' Motion for a Protective Order; and
- Declaration of Daniel Fiedler in Support of Greenpeace Defendants' Opposition to Plaintiffs' Motion for a Protective Order and exhibit thereto

were electronically filed and served through the Odyssey® system upon the contacts listed below unless otherwise noted:

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FREDRIKSON & BYRON, P.A.
Lawrence Bender, ND Bar #03908
1133 College Drive, Suite 1000
Bismarck, ND 58501-1215
Telephone: (701) 221-8700
lbender@fredlaw.com

GIBSON, DUNN & CRUTCHER LLP
Trey Cox *(pro hac vice)*
Ashley E. Johnson *(pro hac vice)*
Rachel Robertson *(pro hac vice*)
Benjamin Betner *(pro hac vice)*
Johanna E. Smith *(pro hac vice)*
Claire Piepenburg *(pro hac vice)*
Travis Jones *(pro hac vice)*
2001 Ross Avenue, Suite 2100
Dallas, TX 75201-2923
Telephone: (214) 698-3100
tcox@gibsondunn.com
ajohnson@gibsondunn.com
rrobertson@gibsondunn.com
bbetner@gibsondunn.com
jesmith@gibsondunn.com
cpiepenburg@gibsondunn.com
tjones@gibsondunn.com

Attorneys for Plaintiffs

TARLOW STONECIPHER WEAMER & KELLY, PLLC
Matthew J. Kelly, N.D. Bar #08000
Amy C. McNulty, N.D. Bar #08134
1705 West College Street
Bozeman, MT 59715
(406) 586-9714
mkelly@lawmt.com
amcnulty@lawmt.com

Attorneys for Defendants Greenpeace Fund, Inc.

BRAATEN LAW FIRM
Derrick Braaten, ND Bar # 06394
109 North 4th Street, Suite 100
Bismarck, ND 58501
Telephone: (701) 221-2911
derrick@braatenlawfirm.com

DAVIS WRIGHT TREMAINE LLP
Everett Jack Jr. (*pro hac vice*)
1300 SW Fifth Avenue
Suite 2400
Portland, OR 97201
Telephone: (503) 778-5218
everettjack@dwt.com

Laura Handman (*pro hac vice*)
Marietta Catsambas (*pro hac vice*)
Patrick J. Curran (*pro hac vice*)
Courtney T. DeThomas (*pro hac vice*)
1301 K St NW, Suite 500 East
Washington, D.C. 20005
Telephone: (202) 973-4200
laurahandman@dwt.com
mariettacatsambas@dwt.com
patcurran@dwt.com
courtneydethomas@dwt.com

Kathleen E. Farley (*pro hac vice*)
1251 Avenue of the Americas, 21st Floor
New York, NY 10020
Telephone: (212)489-8230
kathleenfarley@dwt.com

Attorneys for Defendants Greenpeace International and Greenpeace, Inc.

[¶2] I further certify that the foregoing documents were NOT served on the following because their addresses are unknown:

Cody Hall
Address unknown

Krystal Two Bulls
Address unknown

Red Warrior Society (a/k/a "Red Warrior Camp")
Address unknown

Dated: October 23, 2023

BRAATEN LAW FIRM

/s/ Derrick Braaten

Derrick Braaten (ND #06394)
derrick@braatenlawfirm.com
109 North 4th Street, Suite 100
Bismarck, ND 58501
Phone: 701-221-2911
Fax: 701-221-5842

Exhibit 65

Energy Transfer LP, et al. v. Greenpeace International, et al.
State of North Dakota, County of Morton
South Central Judicial District
Trial Court Case No. 30-2019-CV-00180

Supreme Court Case No. 20240116

TABLE OF CONTENTS

I. INTRODUCTION

1. I have been retained by Gibson, Dunn & Crutcher LLP in the matter of Energy Transfer LP ("Energy Transfer"), Energy Transfer Operating, L.P. ("ET Operating"), and Dakota Access, LLC ("Dakota Access"), (collectively, the "Plaintiffs") v. Greenpeace International, Greenpeace Inc., and Greenpeace Fund, Inc., (collectively, the "Greenpeace Defendants").[1]

2. I issued an expert report on behalf of the Plaintiffs dated September 19, 2022 (the "Leathers Report"). I have been asked to supplement the Leathers Report based on additional information received after the date of the Leathers Report. I have also been asked to quantify the financial impact to the Plaintiffs resulting from the delayed debt refinancing of the Bakken Pipeline Project ("BPP"). This report incorporates the defined terms from the Leathers Report.

3. This report summarizes my findings to date. I understand that fact discovery in this case is currently ongoing. I reserve the right to amend or supplement this report based on information that becomes available to me after service of this report.

4. This report was prepared in connection with the above-referenced litigation and is intended solely for use in connection with this matter. It is not to be used, referred to, or distributed for any other purpose. To the best of my knowledge and belief, the statements and facts contained in this report are true and correct based on the documents, evidence, testimony, and information reviewed to date.

5. I understand that I may be asked to testify regarding my opinions contained in this report as well as other related matters that may arise during trial. I anticipate that I will rely on materials referenced in my report as well as demonstrative exhibits to facilitate explanation of my testimony at trial in this matter.

II. QUALIFICATIONS

6. I am a Managing Director for Alvarez & Marsal ("A&M") with more than twenty-five years of experience in assisting companies, boards of directors, individuals and legal counsel with the economic, valuation and accounting issues that arise during transactions, disputes and investigations. My experience includes the analysis of accounting, financial, marketing and other business

[1] I understand that the Original Complaint also names Red Warrior Society, Cody Hall, Krystal Two Bulls, and Charles Brown as defendants, but I understand they are either no longer parties in this litigation or have not been served.

information to assess the economic impact of business events and negotiation decisions. I often advise clients on the valuation of oil and gas assets and related entities in connection with joint venture transactions, commercial disputes, capital raising activities, mergers and acquisitions, and inter-company and other transactions.

7. I am an Accredited Senior Appraiser and a Certified Fraud Examiner. I earned a Bachelor of Business Administration with a concentration in finance from the Hankamer School of Business at Baylor University. A copy of my curriculum vitae, including my current and past employment, professional affiliations and expert testimony is included as **Exhibit 1** to the Leathers Report.

8. Founded in 1983, A&M is a global professional services firm that assists clients in the corporate and public sectors with crisis management and other complex business issues. A&M is routinely retained to perform analysis of financial information and provide estimates of value. Our Disputes and Investigations practice provides a broad range of analytical and investigative services to law firms, corporate counsel, and management of companies involved in complex financial disputes and claims. Our professionals include CPAs, MBAs, CFEs, CFA charter holders, JDs, and technology and industry experts.

9. A&M is being compensated at hourly rates for the work that I, and individuals working under my direction, perform in this matter. The hourly billing rates for personnel assigned to this project range from $195 to $600. My hourly rate is $725. Neither A&M's engagement nor compensation is contingent upon the development or reporting of a predetermined value or stipulated result

III. SUMMARY OF OPINIONS

10. Based on the information reviewed and analysis performed as of the date of this report I have concluded the following:

- The financial impact resulting from the delay in full commercial operations on DAPL from January 1, 2017 to June 1, 2017 is at least $92.6 million, of which approximately $80.1 million is attributable to the Plaintiffs' interests.

- Assuming the Plaintiffs refinanced the Construction Loans on August 2, 2017, the financial impact to the Plaintiffs resulting from the delayed debt refinancing of the BPP is approximately $100.9 million, of which approximately $96.4 million is attributable to the Plaintiffs' interests.

- Assuming the Plaintiffs refinanced the Construction Loans on February 2, 2018, the financial impact to the Plaintiffs resulting from the delayed debt refinancing of the BPP is approximately $71.5 million, of which approximately $68.3 million is attributable to the Plaintiffs' interests.

IV. INFORMATION CONSIDERED

11. In developing my opinions in this matter, I have relied upon my background, education and experience and the industry standards and practices discussed and applied herein. I have reviewed and analyzed various documents produced in this matter, as well as publicly available information. A list of the documents and materials considered is set forth in **Exhibit S2** to this report. Other A&M professionals, working at my direction, have also assisted me.

12. The review and analysis of this information, interviews performed, independent research and analysis, and my experience in the oil & gas industry and the valuation of energy assets form the basis of my opinions.

V. FINANCIAL IMPACT RESULTING FROM THE PROJECT DELAY PERIOD

13. In the Leathers Report, I calculated the financial impact resulting from the delay in full commercial operations on the DAPL from January 1, 2017 to June 1, 2017. This calculation was based on the difference in present value between the anticipated profits under the Transportation Service Agreements ("TSAs") had the pipeline not been delayed, and the anticipated profits with the delay. Both values were measured as of the date of the delay. This methodology ensures factors that occurred after the Delay Period, which did not result from the delay or were not known at the time of the delay, are removed.

14. I calculated the delay damages based on the revenues and profits that resulted from the minimum volume commitments ("MVC") included in the TSAs.

15. Joseph J. Egan issued an expert rebuttal report on behalf of the Defendants dated November 22, 2022 (the "Egan Report"). Mr. Egan criticized me for not purportedly not considering the fact that the revenues contained within the Carriers' (Dakota Access and ETCO LLC) financial statements for

June 2017 through December 2017 do not match the revenues associated with the minimum volumes that I utilized in my damage calculation.[2] This is incorrect.

16. Differences between i) the revenues that flow from the MVCs included in each of the TSAs and ii) the revenues recorded in the Carriers' financial statements for the period from May 2017 through December 2017, result from the customers flowing less volume than the contractual minimum.[3] However, based on i) the testimony of Glenn Emery, ii) the contractual language in the TSAs, and iii) the financial statements of Dakota Access and ETCO LLC, any monthly volume receipts below the contractual minimums are billed to the customer as a deficiency payment. This is consistent with take-or-pay contracts in the industry.

17. The TSAs state that if a customer fails to meet the contractually obligated minimum volumes, then the customer must pay a deficiency payment based on a "Monthly Volume Shortfall."[4] According to the TSAs, these deficiency payments are considered prepaid transportation credits which can be "credited" against future payments in months where the customer exceeds the MVC up to 110 percent of the MVC.[5] In other words, if a customer has a shortfall, it will still pay based on the MVC; however, the deficiency payment credit could be used in future months (subject to limitations) if volumes exceed its MVC. The credits expire after 24 months.[6]

18. Mr. Emery corroborated the terms in the TSA regarding a shortfall, and testified that customers pay based on the MVC, and if there is a shortfall, earn a prepaid transportation credit in accordance with the TSA.[7]

19. According to the Carriers' financial statements, deficiency payments are not accounted for as revenue as they are considered a prepaid transportation credit which can be used against future volumes.[8] The Dakota Access and ETCO LLC financial statements include these prepaid transportation credits as

[2] Preliminary Rebuttal Expert Report of Joseph J. Egan dated November 22, 2022, par. 68.
[3] Mr. Egan also states that the calculated tariff rates based on the Carriers financial statements do not match the stated tariff in the TSAs (Egan Report, par. 73). I understand this is also caused by differences in minimum volumes versus actual volumes flowed, as well as differences in volumes nominated/delivered to Patoka versus to Nederland.
[4] For example, see the XTO TSA (ET-01709828), pp. 24-29.
[5] For example, see the XTO TSA (ET-01709828), pp. 7, 24-29.
[6] For example, see the XTO TSA (ET-01709828), pp. 24-29.
[7] Deposition of Glenn Emery dated September 1, 2023, p. 191. An example of this calculation is also shown in ET-01204232 (referred to as TSA Tracker).
[8] ETCO, LLC 2017 Consolidated Financial Statements (ET-00496022), p. 10.

"other non-current liabilities" until they are recognized as revenue upon transportation of volumes or expiration of the credit.[9]

20. In short, each customer is obligated to pay based on their respective monthly MVCs even if there was a volume shortfall. Likewise, the Carriers received cash payments equal to at least the contractual minimum volumes and current month tariff rates. My calculation of the financial impact associated with the delay is an appropriate methodology and removes factors that occurred after the Delay Period, which did not result from the delay or were not known at the time of the delay, from the damage quantification.

21. Based on the information reviewed and analysis performed as of the date of this report, the financial impact resulting from the delay in full commercial operations on DAPL from January 1, 2017 to June 1, 2017 is at least $92.6 million. The portion of the $92.6 million attributed to the Plaintiffs' interest can be determined based on the share of revenue recognized by Dakota Access and ETCO LLC during 2017 on their financial statements.[10] As shown in the table below, the financial impact net to the Plaintiffs' interest is approximately $80.1 million.

Table 1 – Financial Impact from Delay in Full Commercial Operations

Description	Dakota Access	ETCO LLC	Total
Revenue Recognized in 2017	$ 370.20	$ 99.84	$ 470.04
Percent of Revenue	79%	21%	100%
Leathers Report Damages	**$ 72.96**	**$ 19.68**	**$ 92.64**
Plaintiff's Ownership (%)	100%	36.35%	
Damages Allocated to Plaintiffs	**$ 72.96**	**$ 7.15**	**$ 80.11**

[9] ETCO, LLC 2017 Consolidated Financial Statements (ET-00496022), p. 10.
[10] ET-00495969; ET-00496022.

VI. DELAYED DEBT REFINANCING

VI.A. Background and Claims Related to Construction Loans and Debt Refinancing

VI.A.1. Marketing the Pipeline Financing

22. On June 25, 2014, the construction of DAPL was announced. During the next two years, the Plaintiffs conducted extensive planning to identify a route for the pipeline that would have minimal impact on community stakeholders, the environment, and other natural and cultural resources.[11] During this time, the Plaintiffs consulted with the Standing Rock Sioux Tribe ("SRST") to ensure cultural resources were neither disturbed nor destroyed.[12]

23. In January 2016, terminal construction for DAPL began at all six receipt station locations.[13] In April 2016, the U.S. Army Corps of Engineers ("USACE"), with the approval of the North Dakota State Historic Preservation Officer, determined DAPL did not affect any historic properties.[14] In May 2016, after all state certificates had been obtained, the commencement of the mainline construction began.[15]

24. In June of 2016, Energy Transfer prepared a slide deck containing high-level financial analysis and other background information regarding the BPP (the "2016 Lender Presentation"). Energy Transfer provided this slide deck to potential lenders as part of its efforts to raise funds for a syndicate of construction loans to fund the completion of the BPP.[16] The Lender Presentation exhibited the Pipeline's strong credit profile with contracted cash flows, as the common carrier pipeline system was supported by long-term take-or-pay TSAs with nine shippers, seven of whom were investment-grade rated and accounted for over 95 percent of volumes.[17] The presentation emphasized the strategic location, premier transportation method, best-in-class sponsorship, and minimal project risk of the BPP. For example, the presentation noted that "all major cost categories have been substantially de-risked" as all line pipe had been delivered, other major equipment and materials had

[11] First Amended Complaint, dated August 23, 2019, para 29-30.
[12] First Amended Complaint, dated August 23, 2019, para 40.
[13] ISB_0018105-151 at 124.
[14] First Amended Complaint, dated August 23, 2019, para 40.
[15] ET-00401719 at 1814; Energy Transfer, Sunoco Logistics and Phillips 66 Announce Successful Completion of Project Financing for Bakken Pipeline Joint Ventures, August 2, 2016; ISB_0018105-151 at 111.
[16] ISB_0018105-151.
[17] ISB_0018105-151 at 112.

been secured, contractor costs were substantially fixed under contract, and 97 percent of total right of way had been secured.[18]

25. The mainline pipe construction was estimated to be completed in the fourth quarter of 2016 with an in-service date following shortly thereafter on January 1, 2017.[19]

26. In discussions with the lenders, it was broadly communicated, and included in the financial analysis, that the intent was to refinance the construction loan with bond financing around June of 2017, or before the first anniversary of the construction loan closing.[20] Specifically, I understand that Energy Transfer and the banks anticipated refinancing the construction loans no later than between 12 to 18 months from the closing of the construction loan.[21] The loan agreements included duration fees to incentivize the refinancing in a "timely manner."[22]

27. I understand that one of the primary motivators for banks to participate in the construction loan financing was the opportunity to also participate in the refinancing of the construction loans, which allowed the banks to realize underwriting fees associated with issuing bonds.[23] This is where the banks realize the majority of their return on their invested capital.[24] Because of this, it was anticipated that the same banks that participated in the construction financing would participate in the bond issuance to refinance the construction loans.[25] This is illustrated in the financial analysis contained in the 2016 Lender Presentation.

28. On August 2, 2016, Dakota Access and ETCO LLC entered into a credit and guaranty agreement to borrow up to $2.5 billion from bank lenders (the "Construction Loans").[26]

[18] ISB_0018105-151 at 124-125.
[19] ISB_0018105-151 at 124-125; Deposition of Ashton Hayse dated September 20, 2023, p. 50; Deposition of Lee Hanse dated November 17, 2023, p. 69. Greenpeace was also aware of this expected start date (https://www.greenpeace.org/usa/can-show-solidarity-fight-dakota-access-pipeline/).
[20] Deposition of Ashton Hayse dated September 20, 2023, pp. 45-46; ING-DAPL_00006158-170 at 166.
[21] Although the Lender Presentation summarizes financial models that assume a June 30, 2019 refinance date, I understand this was presented to the lenders to illustrate that the loan would economically perform under the contractually agreed terms: DNB0001452-1509 at 462.
[22] DNB0001452-1509 at 462; Also see ING-DAPL_00006158-170 at 166; ISB_0018152-153 and ISB_0018200-201 at 200.
[23] Deposition of Ashton Hayse dated September 20, 2023, pp. 119-120.
[24] Deposition of Ashton Hayse dated September 20, 2023, pp. 119-120 and 177.
[25] Deposition of Ashton Hayse dated September 20, 2023, p. 244.
[26] ISB_0008817-9176 at 8824.

VI.A.2. The Construction Loans

29. The Construction Loans were $2.5 billion of senior secured first lien, delayed draw term loans, which matured three years following the closing date, with an option for prepayment.[27]

30. The Construction Loans included an USACE Release Date provision which limited the maximum aggregate amount that could be drawn to $1.1 billion, until the Carriers received certain permits and easements from the USACE, including the Lake Oahe crossing.[28] Because of the delay in receiving the Lake Oahe permit (described later), the full $2.5 billion was not drawn down until February of 2017.[29]

31. Under the agreement, the borrowers could request funds up to the commitment amount of $2.5 billion through a Notice of Borrowing.[30] The Notice of Borrowing allowed the borrowers to select either a "Eurodollar Loan" or an alternative base rate loan ("ABR Loan").[31] The interest rates under each loan type were defined as:[32]

- Eurodollar Loan Interest Rate = (LIBOR for Interest Period x Statutory Reserve Rate) + Applicable Margin[33]
- ABR Loan Interest Rate = [Greater of: (a) the Prime Rate, (b) Federal Funds Effective Rate plus 0.50%, or (c) one-month LIBOR plus 1.00%] + Applicable Margin

32. On top of the variable rates under a Eurodollar Loan or ABR Loan, the Construction Loans included a margin that increased over time (the "Applicable Margin"). The Applicable Margin under each

[27] ISB_0008817-9176 at 8860, 8888, and 8967.
[28] ET-00495957-968 at 966-967.
[29] ET-00432392-419 at 395.
[30] ISB_0008817-9176 at 8825.
[31] ISB_0008817-9176 at 8825 and 8827.
[32] ISB_0008817-9176 at 8831 and 8952-8953.
[33] Statutory Reserve Rate resulted in no adjustment to LIBOR and is defined as "a fraction (expressed as a decimal), the numerator of which is the number one and the denominator of which is the number one minus the arithmetic mean, taken over each day in such Interest Period, of the aggregate of the maximum reserve percentages (including any marginal, special, emergency or supplemental reserves) expressed as a decimal established by the Board of Governors to which the Administrative Agent is subject for eurocurrency funding (referred to as "Eurodollar liabilities" in Regulation D of the Board of Governors as of the date of this Agreement). Such reserve percentage shall include those imposed pursuant to such Regulation D. Eurodollar Loans shall be deemed to constitute eurocurrency funding and to be subject to such reserve requirements without benefit of or credit for proration, exemptions or offsets that may be available from time to time to any Lender under such Regulation D or any comparable regulation. The Statutory Reserve Rate shall be adjusted automatically on and as of the effective date of any change in any reserve percentage" ISB_0008817-9176 at 8988; (https://www.federalreserve.gov/monetarypolicy/reservereq.htm). I understand during the term of the Construction Loans the Statutory Reserve Rate was 1.

loan type increased by 12.5 basis points at the first and second anniversary of the closing date of the Construction Loans, as shown in Figure 1 below.[34]

Figure 1 – Applicable Margin

Period	Loans	
	Eurodollar	ABR
Until (but excluding) the first anniversary of the Closing Date	1.500%	0.500%
On the first anniversary of the Closing Date and until (but excluding) the second anniversary of the Closing Date	1.625%	0.625%
On the second anniversary of the Closing Date and until the Final Maturity Date	1.750%	0.750%

33. The Carriers drew down the Construction Loans through three Notices of Borrowing, as summarized in the table below.[35]

Table 2 - Construction Loan Draws

Date of Borrowing	Loan Type	Amount Loaned
August 2, 2016	ABR Loan	$ 860,744,269
September 1, 2016	Eurodollar Loan	239,255,731
February 10, 2017	ABR Loan	1,400,000,000
Total		**$ 2,500,000,000**

34. The Carriers also had the ability to convert the original Notice of Borrowing to a different loan type pursuant to the Construction Loans Agreement.[36] I understand that nearly immediately after drawdown, the two ABR Loan borrowings were converted to Eurodollar Loan borrowings based on the one-month London Interbank Offer Rate ("LIBOR").[37]

35. In addition to the interest charged on the Construction Loans, the loans included a Duration Fee and a Commitment Fee. The Duration Fee was calculated as "an amount equal to the Duration Fee Percentage applicable to such Duration Fee Payment Date multiplied by the aggregate principal

[34] ISB_0008817-9176 at 8954.
[35] ISB_0012095; ISB_0012085; ISB_0012090.
[36] ISB_0008817-9176 at 8827.
[37] Interview with Ashton Hayse. Also see Deposition of Ashton Hayse dated September 20, 2023, pp. 92-95.

amount of Loans outstanding on such Duration Fee Payment Date."[38] The below figure summarizes the Duration Fee Payment Dates and Duration Fee Percentages:[39]

Figure 2 – Duration Fee

Duration Fee Payment Date	Duration Fee Percentage
The 12-month anniversary of the Closing Date	0.250%
The 18-month anniversary of the Closing Date	0.300%
The 24-month anniversary of the Closing Date	0.600%
The 30-month anniversary of the Closing Date	0.600%

36. Like the Applicable Margin, the Duration Fee also increased the longer the Construction Loans were outstanding (with the exception of the 30-month Duration Fee, which equaled the 24-month Duration Fee).[40]

37. The Commitment Fee accrued on the unused amount of capital committed. The Commitment Fee was equal to 35 percent of the Applicable Margin on a Eurodollar Loan and was due and payable quarterly.[41]

38. Both the Duration Fees and the contractually escalating interest rate on the loans incentivized the Carriers to pay-off or refinance the Construction Loans as quickly as possible. As referenced above, I understand that the Carriers intended to refinance the Construction Loans as early as June 2017, or, at latest, within 12 to 18 months after the closing date of the Construction Loans.[42]

VI.A.3. The Greenpeace Defendants' Actions Surrounding the Construction of DAPL

39. In or around July and August 2016, the Greenpeace Defendants began a campaign to obstruct Energy Transfer and Dakota Access's construction of DAPL and its business operations.[43] The Greenpeace

[38] ISB_0008817-9176 at 8829.
[39] ISB_0008817-9176 at 8962.
[40] ISB_0008817-9176 at 8962.
[41] ISB_0008817-9176 at 8829.
[42] ING-DAPL_00006158-170 at 166; DNB0001452-1509 at 462; Deposition of Ashton Hayse dated September 20, 2023, pp. 39-41.
[43] First Amended Complaint, dated August 23, 2019, para 34.

Defendants disseminated claims about DAPL and Energy Transfer via i) mass emails sent to membership, donors, other email lists, ii) websites operated by the Defendants, iii) press releases, iv) social media accounts, and v) other means.[44] In response, thousands of protestors from around the world traveled to North Dakota to join the previously small local protests against DAPL.[45] These attacks (which lasted through November 2016) aimed at obstructing employees of the Plaintiffs from gaining access to the property, further halting progress on construction.[46]

40. During the last few months of 2016, the Greenpeace Defendants' campaign also targeted the banks that financed the Construction Loans as well as other financial institutions with which Energy Transfer had a relationship.[47] Examples of Greenpeace's actions include the following:

- On November 7, 2016, the Greenpeace Defendants sent a letter to a consortium of global banks, including lenders DNB, ING, Nordea, and BNP Paribas, alleging that Energy Transfer and Dakota Access committed "gross violations of Native land titles," "deliberately desecrated documented burial grounds and other culturally important sites," and violated human rights.[48] Days later, Greenpeace published a communique calling on DNB and Citibank to halt funding for DAPL, and called on Norwegian funds, such as KLP and Storebrand, to divest their shares in Energy Transfer.[49]

- From November 28-30, 2016, the Greenpeace Defendants sent joint letters to the 17 banks involved in the $2.5 billion lending facility to DAPL urging these banks to exit the DAPL loan facility based on claims about the impact of DAPL on the environment and cultural and historical resources.[50] Immediately after, Greenpeace delivered a separate letter to Citibank demanding that Citibank "withdraw from the [DAPL] loan agreement and any other credit facilities to the Energy Transfer Family of Partnerships."[51]

- On December 1, 2016, Greenpeace organized a global "day of action" against Citibank, asking supporters to go to Citibank branches to "voice their concern about the DAPL and urge Citibank to immediately halt any future loan disbursement and fully withdraw from

[44] First Amended Complaint, dated August 23, 2019, para. 36.
[45] First Amended Complaint, dated August 23, 2019, para. 52.
[46] First Amended Complaint, dated August 23, 2019, para. 70-76.
[47] First Amended Complaint, dated August 23, 2019, para. 84. The alleged defamatory statements are summarized in Exhibit A to the Complaint.
[48] First Amended Complaint, dated August 23, 2019, para. 85; BNPP-00000063-066.
[49] First Amended Complaint, dated August 23, 2019, para. 87.
[50] BNPP-00000048-062.
[51] First Amended Complaint, dated August 23, 2019, para. 88.

the project."[52] On the same day, Greenpeace sent a letter to Citibank's CEO and Head of Social Risk, urging Citibank to withhold the remainder of the $2.5 billion loan for the BPP and stated that Energy Transfer had violated indigenous people's rights and sovereignty.[53]

- Also in December 2016, Greenpeace pressured Credit Suisse and UBS to exit a separate credit facility with Energy Transfer.[54]

41. On December 4, 2016, following protests over the DAPL crossing under Lake Oahe, USACE announced it would halt the construction of DAPL and look for an alternative route, stating it intended to issue an environmental impact statement with "full public input and analysis" before approving the Lake Oahe crossing.[55] However, a few months later, on January 24, 2017, President Trump signed an executive order allowing construction to move forward.[56] On February 8, 2017, DAPL then received the easement from the USACE to allow DAPL to cross under Lake Oahe and the USACE rescinded the notice of intent to prepare environmental impact statement.[57]

42. During 2017, the Greenpeace Defendants continued their campaign, including the following:

- In February of 2017, Greenpeace Defendants demanded that Credit Suisse terminate an $850 million loan to Energy Transfer, stating that Energy Transfer was responsible for "fast-tracking projects without regard for local communities" and that DAPL "violates Indigenous rights and threatens our climate."[58]

- In the same month, Greenpeace activists protested ING's part in financing DAPL by planting 15 meters of super heavy pipe sections at ING's headquarters.[59]

[52] GP-INC0130703-705 at 703-704.
[53] GP-INTL0005396.
[54] UBS00001699-701 at 699.
[55] Protesters Gain Victory in Fight Over Dakota Access Oil Pipeline, New York Times, December 4, 2016; Key Moments In The Dakota Access Pipeline Fight, NPR, February 22, 2017.
[56] Trump signs order to advance Keystone XL and Dakota pipelines, PBS, January 24, 2017.
[57] Energy Transfer Announces Receipt of Easement from Army Corps of Engineers on Land Adjacent to Lake Oahe, Energy Transfer, February 9, 2017; USACE_ESMT000043.
[58] First Amended Complaint, dated August 23, 2019, para. 91.
[59] Oil pipeline built at ING bank headquarters to protest Dakota Pipeline, NL Times, February 16, 2017. (https://nltimes.nl/2017/02/16/oil-pipeline-built-ing-bank-headquarters-protest-dakota-pipeline).

- In April 2017, Greenpeace activists set up 10 meters of pipe at the entrance of the building hosting Credit Suisse's annual general assembly of shareholders in Zurich.[60]

43. The Plaintiffs claim that as a result of the Greenpeace Defendants' and their affiliates' continued misrepresentations, between January and April 2017, banks and investment funds pulled back their investments in Energy Transfer companies and sought to sell their interests in the Construction Loans, including:[61]

- Four of the original lenders in the Construction Loans—BayernLB[62], BNP Paribas[63], DNB[64], and ING[65]—sold their share of the $2.5 billion DAPL credit facility, totaling $480 million ($120 million per lender).

- Citibank, a Tier 1 lender and administrative agent for the Construction Loans, refused to provide underwriting services or participate in the Carriers' bond issuance used to refinance the Construction Loans. Ultimately, eight of the original 17 banks that participated in the Construction Loans refused to participate in the bond issuance.[66]

- Separate from the Construction Loan lenders, banks such as ABN AMRO[67], Nordea[68], KLP and Storebrand[69] divested their investments in Energy Transfer.[70]

[60] Greenpeace drops in on Credit Suisse, The Times, April 29, 2017. (https://www.thetimes.co.uk/article/greenpeace-drops-in-on-credit-suisse-btrwd5g6f).
[61] First Amended Complaint, dated August 23, 2019, para. 90-94; Six Banks Step Away From DAPL and Backers, BankTrack, (https://www.banktrack.org/article/three_banks_step_away_from_dakota_access_pipeline_backers_v).
[62] GP-INC0041016-019 at 017.
[63] French Bank BNP Sells its Share in $2.5 Billion Dakota Pipeline Loan, Reuters, April 5, 2017 (https://www.reuters.com/article/us-north-dakota-pipeline-idUSKBN1772111).
[64] Norwegian bank DNB sells its share of Dakota pipeline funding, Reuters, March 26, 2017 (https://www.reuters.com/article/us-north-dakota-pipeline-banks/norwegian-bank-dnb-sells-its-share-of-dakotapipeline-funding-idUSKBN16X10G).
[65] ING and the Dakota Access Pipeline, ING, May 19 2017 (https://www.ing.com/Sustainability/ING-and-the-Dakota-Access-pipeline-1.htm).
[66] ISB_0008817; ET-00496061.
[67] ABN00006582-585 at 584; GP-INC0041016-019 at 017.
[68] GP-INC0044206-207 at 206; GP-INC0044223; Nordea cuts three firms involved in protest-hit Dakota Access Pipeline, IPE, February 13, 2017 (https://www.ipe.com/nordea-cuts-three-firms-involved-in-protesthit-dakota-access-pipeline/10017541.article).
[69] Sami people persuade Norway pension fund to divest from Dakota Access, The Guardian, March 17, 2017 (https://www.theguardian.com/us-news/2017/mar/17/sami-dakota-access-pipeline-norway-pension-fund-divest).
[70] Additionally, Mr. Hayse testified that Credit Suisse exited its relationship Energy Transfer as a result of interference from Greenpeace (Deposition of Ashton Hayse dated September 20, 2023, pp. 242-243.)

44. The Plaintiffs claim that these actions, led by Greenpeace and its affiliates, impacted their ability to refinance the Construction Loans and resulted in a delay in the ultimate refinancing of the Construction Loans.

VI.A.4. Refinancing of the Construction Loans

45. On January 31, 2018, the Carriers created Midwest Connector Capital LLC ("MCCC"), a wholly owned subsidiary of Dakota Access, formed solely for the issuance of the Notes.[71] The formation was "an effort to put [a] different name on the document to help the marketing for the transaction" while also maintaining transparency with the investors throughout the process.[72] MCCC was created as a step to counter the investor perception of the "mass misinformation campaign that [the Greenpeace Defendants] had conducted."[73]

46. In late February and early March of 2018, the Carriers prepared investor materials and conducted a roadshow to market the refinancing of the Construction Loans. According to Mr. Hayse, representatives from former lenders with Energy Transfer were concerned with the "idiosyncrasies of this transaction largely [as] the result of the misinformation campaign that was going on at the time."[74] General feedback from investors was that the protests were too recent and the uncertainties too great as investors were "likely a bit apprehensive given how targeted [the] lenders were during that time."[75] Ultimately, based on the feedback received from potential investors, the risk was too high that i) the Carriers would not be able to refinance the full amount needed, or ii) the bonds would be too expensive, to continue with the refinancing.[76] Due to the feedback, the Plaintiffs decided to put the bond issuance on pause.[77]

47. When the Carriers decided not to pursue a refinancing in March of 2018, they would have realized that any further delay would result in additional contractual increases in the interest rate paid on the Construction Loans, plus related Duration Fees. The variable interest rate portion of the Construction

[71] ET-00496061 at 6073, 6077; (https://www.bloomberg.com/profile/company/1702267D:US).
[72] Deposition of Ashton Hayse dated September 20, 2023, pp. 75-76.
[73] Deposition of Ashton Hayse dated September 20, 2023, pp 74-76.
[74] Deposition of Ashton Hayse dated September 20, 2023, p. 109.
[75] Deposition of Ashton Hayse dated September 20, 2023, p. 112.
[76] Deposition of Ashton Hayse dated September 20, 2023, pp 188-190; ET-00496282-284. Multiple institutional investors noted in their feedback on the potential bond issuance that they had concerns with "headline risk" and were facing internal push back due to such "headline risk." Deposition of Ashton Hayse dated September 20, 2023, p. 107.
[77] Deposition of Ashton Hayse dated September 20, 2023, pp. 112-113.

Loans was benchmarked to the 1-month LIBOR, which was also projected to increase through 2019.[78] Additionally, the Carriers would have realized that further delays would likely result in increased fixed coupon rates on any bonds used to take out the Construction Loans, as US Treasuries were also projected to increase through 2019.[79]

48. On March 11, 2019, MCCC issued $2.5 billion of senior secured first lien notes ("MCCC Notes") and the Construction Loans were paid off five months prior to the maturity date.[80]

VI.A.5. The MCCC Notes

49. The Construction Loans were ultimately refinanced through the proceeds from the MCCC Notes. On March 7, 2019, MCCC entered an offering memorandum to issue $2.5 billion in aggregate bond notes on March 11, 2019.[81] Of the 17 lenders participating in the Construction Loans, only nine participated in the MCCC Notes.[82]

50. The MCCC Notes were issued in three tenors: 3-year notes, 5-year notes and 10-year notes.[83] The MCCC Notes were callable, and the coupons were paid semi-annually.[84] The terms for these notes are summarized in Table 3 below:[85]

Table 3 - Note Refinancing Summary

Maturity Date	Note Term	Coupon Rate	Principal Amount
April 1, 2022	3 Year	3.625%	$ 650,000,000
April 1, 2024	5 Year	3.900%	1,000,000,000
April 1, 2029	10 Year	4.625%	850,000,000
Total			**$2,500,000,000**

[78] U.S. Interest Rates Chartbook, BBVA Research, February 2018, p. 19. The 1-month LIBOR rate was projected to see growth of approximately 125 basis points from February 2018 into 2020.
[79] U.S. Interest Rates Chartbook, BBVA Research, February 2018, p. 17. The 3, 5, and 10-year US Treasuries were expected to increase by 50-100 basis points over the 22 months following February 2018.
[80] ET-00496061 at 6086.
[81] ET-00496061.
[82] ET-00496061; ISB_0008817.
[83] ET-00496061.
[84] ET-00496061 at 6085 and 6151.
[85] ET-00496061.

51. The MCCC Notes were assigned a 'Baa2' and 'A-' rating from Moody's Investors Service ("Moody's") and S&P Global ("S&P"), respectively.[86] According to S&P, an investment grade rating was assigned to the notes as "MCCC [was] entitled to all of the cash flow from the Bakken Pipeline system, which maintains an unmatched position as the most cost-efficient method for transporting Bakken and Three Forks crude oil to waterborne markets in the U.S. Gulf Coast. The rating also reflects the highly predictable nature of the company's cash flows, which are supported by long-term take-or-pay contracts with investment-grade shippers (for over 95% of its committed volumes)."[87]

52. In addition, the MCCC Notes required a "Contingent Equity Contribution Agreement" between Energy Transfer along with the other Sponsors and MCCC.[88] The Contingent Equity Contribution Agreement required the Sponsors to contribute equity to MCCC in the event that the litigation between the SRST and USACE regarding the Lake Oahe easement resulted in a materially adverse impact on the future operations of the Pipelines.[89] If a resulting judgment could be addressed without adversely affecting the operations of the Pipeline, the Sponsors would be required to contribute the amounts needed to pay interest and principal payments until the findings from the judgment were remedied, referred to as the Remediation Period.[90] If the litigation resulted in a judgment that could not be resolved by actions from the Carriers, the Sponsors would be required to contribute equity sufficient for MCCC to repurchase 101 percent of the outstanding principal on the notes and any accrued and unpaid interest.[91]

53. The Plaintiffs claim that because of the actions and alleged misinformation campaign by the Greenpeace Defendants, not only was the in-service date of the Pipeline delayed, but the Plaintiffs i) lost their relationship with eight of the 17 banks that initially issued the Construction Loans, ii) were forced to create a new entity in MCCC to issue bonds that would refinance the Construction Loans, and iii) suffered reputational harm. The Plaintiffs claim that this resulted in the inability to raise sufficient financing at acceptable terms to refinance the Construction Loans in either August 2017 or February 2018, as anticipated.[92]

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[86] Midwest Connector Capital Company LLC Assigned 'A-' Ratings, S&P Global Ratings, March 4, 2019; Moody's assigns Baa2 rating to Midwest Connector Capital Company, Moody's, March 4, 2019.
[87] Midwest Connector Capital Company LLC Assigned 'A-' Ratings, S&P Global Ratings, March 4, 2019.
[88] ET-00496061 at 6127-6128. The Sponsors were Phillips 66 Partners LP, Energy Transfer Operating, L.P., Enbridge Inc., and MPLX LP.
[89] ET-00496061 at 6081-6084, 6147-6151, 6166-6167.
[90] ET-00496061 at 6081-6084, 6147-6151, 6166-6167.
[91] ET-00496061 at 6147-6151, 6166-6167.
[92] Deposition of Ashton Hayse dated September 20, 2023, pp. 43 and 82.

VI.B. Delayed Debt Refinancing Damage Analysis

54. To determine the financial impact resulting from the Plaintiffs' inability to refinance the Construction Loans on or before the anticipated 12-to-18-month period following closing ("Delayed Debt Refinancing"), I modeled the Carriers' interest expenses assuming two alternative refinancing dates:

- August 2, 2017 (one year after the Construction Loans were executed), and
- February 2, 2018 (18 months after the Construction Loans were executed).

55. This analysis estimates the financial impact resulting from the Delayed Debt Refinancing by calculating the difference between the actual interest expense paid by the Carriers and the interest expense assuming an earlier refinancing date of August 2, 2017 or February 2, 2018. The resulting difference between the actual interest and the interest assuming an earlier refinancing date was adjusted to present value utilizing a weighted average cost of capital ("WACC") rate as of each refinancing date. **Exhibits S3 to S4** to this report summarize these calculations.

VI.B.1. The Actual Interest Expense

56. As described above, the Construction Loans closed on August 2, 2016, after which the Carriers drew down the total $2.5 billion commitment in three tranches.[93] The Carriers ultimately selected a Eurodollar Loan, which bore interest based on the 1-month LIBOR, for each borrowing or draw.[94] The interest payments included an increase to the Applicable Margin rate after 12 and 18 months, and Duration Fees after 12, 18 and 24 months.

57. On March 11, 2019, MCC refinanced the Construction Loans into three different bond note tenors. The MCCC Notes paid a fixed coupon rate semi-annually due on April 1 and October 1 of each year with the principal due on April 1 of each maturity year.

VI.B.2. The Interest Expense Associated with Earlier Refinancing

58. This analysis calculates the interest expenses that the Carriers would have paid had the Construction Loans been refinanced on August 2, 2017 or February 2, 2018, as expected by all parties prior to

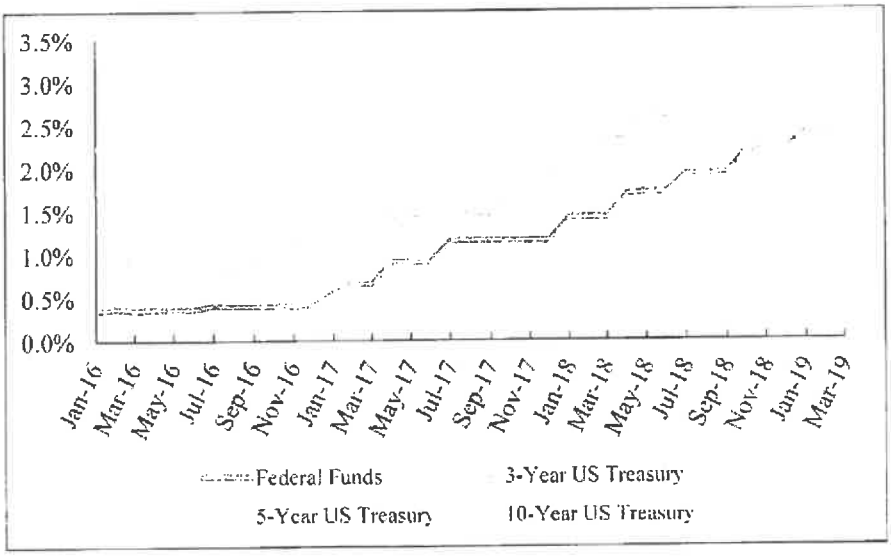
[93] ISB_0008817.
[94] ET-01776867.

entering into the Construction Loans. The earlier refinancing dates result in the Carriers avoiding some or all of the Applicable Margin rate increases, and incremental Duration Fees, as the Carriers would have instead begun paying interest based on the long-term bond rates.

59. To determine the interest expense that the Carriers would have incurred assuming the earlier refinancing dates, I estimated the coupon rates on newly issued bonds at each of the assumed refinance dates. As part of this analysis, it is important to consider how the coupon rates on investment grade bonds are determined.

60. On newly issued bonds, the coupon rate is determined based on the prevailing risk-free rate (or the Federal Funds Rate), the creditworthiness of the issuer, and the maturity of the bonds.[95] Government bonds are considered risk free, while bonds issued from corporate entities typically have higher credit risk, resulting in higher yields than government bonds of similar maturity. The higher yields create a spread between the government bond yield and the corporate bond yield to compensate the corporate bond investor for taking on greater risk. The following chart summarizes the Federal Funds Rate, and the yields on the 3-year, 5-year, and 10-year US Treasuries, and illustrates the increasing trend from January 2016 through March 2019.[96]

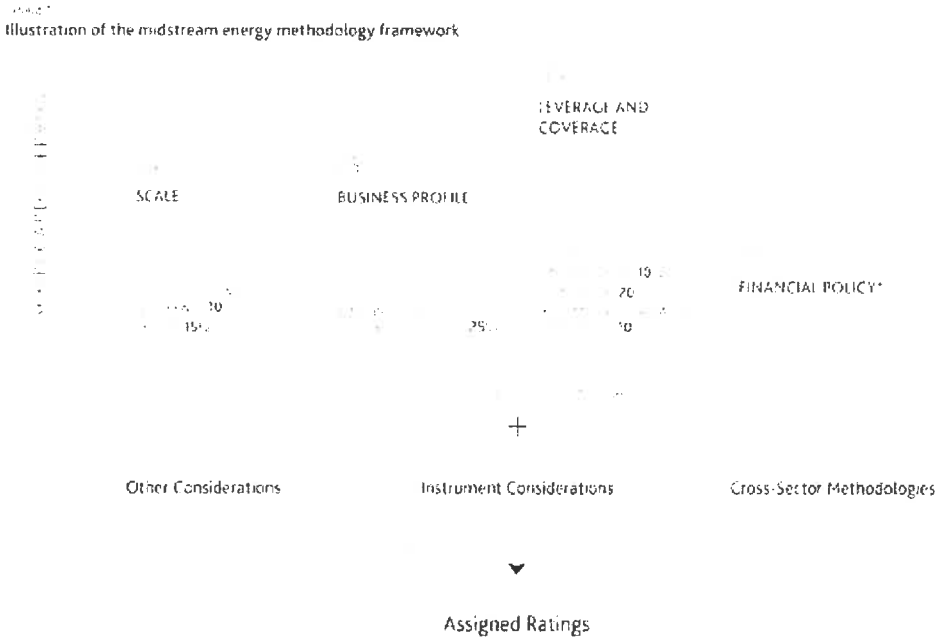
Figure 3 – Federal Funds Rate and US Treasury Note Yields



[95] https://www.pimco.com/en-us/resources/education/understanding-corporate-bonds/; https://corporatefinanceinstitute.com/resources/fixed-income/coupon-rate/.
[96] US Treasury Historical Yields, Wall Street Journal (https://www.wsj.com/market-data); https://www.macrotrends.net/2015/fed-funds-rate-historical-chart.

61. The creditworthiness of the issuer can be measured and communicated to investors through a credit rating established by the major credit agencies: Moody's, S&P and Fitch Ratings. The credit agencies consider many company specific factors such as the industry risk, business risk, financial risk, or leverage and coverage ratios, as wells as other considerations such as environmental, social, and corporate governance ("ESG"), to determine a credit rating for a corporation or an individual debt instrument (*e.g.*, the MCCC Notes).[97] Each credit rating can be used to compare the coupon rates of similarly rated debt instruments as investors will require bonds of a certain credit risk to have the same or better return as other securities with similar risk. The following figure illustrates Moody's framework for determining the credit rating in the midstream industry:[98]

Figure 4 – Moody's Credit Rating Framework



62. From 2016 through September 2019, Energy Transfer had a corporate credit rating of BBB- from S&P, indicating no significant changes to its credit risk during that timeframe.[99] The MCCC Notes

[97] Moody's Rating Methodology Midstream Energy (https://ratings.moodys.com/api/rmc-documents/379531); S&P Global, Corporate Methodology (https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/sourceId/8314109).
[98] Moody's Rating Methodology Midstream Energy (https://ratings.moodys.com/api/rmc-documents/379531).
[99] S&P Global Ratings Reports covering Energy Transfer Operating, L.P. (formerly known as Energy Transfer Partners, L.P.) dated May 26, 2016, July 5, 2016, November 22, 2016, April 28, 2017, January 16, 2018, August 2, 2018, March 27, 2019, and September 16, 2019.

received a rating of A- from S&P, and Baa2 from Moody's. The higher credit rating for the MCCC Notes likely resulted from the long-term contracts and minimum volume commitments, the high credit ratings of its customers, and the competitive position of the pipeline with access to major US crude oil hubs.[100]

63. Considering the foregoing and utilizing comparable bond yield research from the Bloomberg database, I estimated the coupon rates at each of the earlier refinancing dates for bonds similar to the MCCC Notes. Specifically, I performed the following:

- Determined the median yield of comparable bonds at the time of the actual refinance, March 11, 2019;
- Calculated the spread between the MCCC Notes and median yield of the comparable bonds as of March 11, 2019;
- Determined the median yield of comparable bonds at the earlier refinance dates, August 2, 2017 and February 2, 2017; and
- Added the spread from the MCCC Notes and the median comparable bonds in 2019 to the median yield of comparable bonds at the earlier refinance dates.

64. To determine the prevailing yield on comparable bonds as of March 11, 2019, I utilized the Bloomberg database to gather and summarize public bonds. Specifically, I pulled bonds based on the following criteria:

- United States of America or Canada country/region of incorporation;
- Pipeline industry classification;
- Maturity dates between August 2, 2017 and March 31, 2031;
- Fixed coupon; and
- S&P credit ratings of A-, BBB−, BBB, or BBB-, or Moody's credit ratings of A3, Baa1, Baa2, or Baa3 to align with the MCCC Notes' credit ratings of A- and Baa2.

[100] Midwest Connector Capital Company LLC Assigned 'A-' Ratings; Outlook Stable, S&P, March 4, 2019. p. 2.

65. The above screening criteria resulted in approximately 390 bonds. Additionally, I removed any bonds with a credit rating outside of the criteria above and other Energy Transfer entities to consider third parties only. I then calculated the remaining maturity for each bond in order to assign a new time to maturity category. To match the tenor of the MCCC Notes, I only considered bonds with a maturity date within six months before or after the maturity of the MCCC Notes of the same tenor.

66. After assigning the comparable bonds to a 3-year, 5-year or 10-year maturity category, I calculated the median yield for each maturity category and subtracted that median yield from the coupon rates of the MCCC Notes of corresponding tenor. This analysis resulted in the spread between the MCCC Notes and comparable yields as of March 11, 2019. The results of this analysis are summarized below.[101]

Table 4 – Spread between MCCC Notes and Comparable Bonds

	March 11, 2019			
Note Term	Number of Bonds	MCCC Notes	Comparable Bonds Yield	Spread
		A	B	C = A-B
3 Year	21	3.625%	3.275%	**0.350%**
5 Year	23	3.900%	3.592%	**0.308%**
10 Year	9	4.625%	4.449%	**0.176%**

67. I performed the same steps to determine the median yield of comparable bonds at each of the assumed refinance dates: August 2, 2017 and February 2, 2018, as summarized below.[102]

Table 5 – Summary of Comparable Bonds Yield

	August 2, 2017		February 2, 2018	
Note Term	Number of Bonds	Comparable Bonds Yield	Number of Bonds	Comparable Bonds Yield
3 Year	26	2.461%	24	2.963%
5 Year	23	3.004%	21	3.402%
10 Year	21	3.803%	16	4.006%

[101] See **Exhibit S5 and S5.3**. As part of my analysis, I considered the yield to maturity on the MCCC Notes at their issuance price.
[102] See **Exhibits S5, S5.1 and S5.3**.

68. The spread between the MCCC Notes and comparable bonds in 2019 was then added to the median yields for the comparable bond groups at the assumed refinanced dates to estimate coupon rates the Carriers would have received at the earlier refinancing dates. The resulting coupon rates are summarized in the following table:

Table 6 – Summary of Calculated Refinance Coupon Rates

		August 2, 2017		February 2, 2018	
Note Term	Spread	Comparable Bonds Yield	Calculated Coupon Rate	Comparable Bonds Yield	Calculated Coupon Rate
	A	B	C = A+B	D	E = A+D
3 Year	0.350%	2.461%	**2.811%**	2.963%	**3.313%**
5 Year	0.308%	3.004%	**3.312%**	3.402%	**3.710%**
10 Year	0.176%	3.803%	**3.979%**	4.006%	**4.182%**

69. I utilized the resulting calculated coupon rates to quantify the interest expenses that the Carriers would have paid under the 3-year, 5-year and 10-year bonds had the Construction Loans been refinanced at the earlier refinancing dates. Utilizing the spread between March 2019 comparable bond yields and the MCCC Notes is conservative as other factors likely contributing to the higher actual coupon rates would not exist absent Greenpeace's actions. For example, absent the alleged defamatory statements and misinformation campaign by the Greenpeace Defendants, it is likely that i) Energy Transfer would have maintained a relationship with many of the banks that exited the Construction Loans and/or did not participate in the refinancing, and ii) that Energy Transfer would not have created a special purpose vehicle for a debut bond issuance. While difficult to quantify, these factors would likely have resulted in tighter spreads and a lower coupon rate than realized on the MCCC Notes.[103]

VI.B.3. Resulting Damages

70. The Carriers' damages result from the difference between the actual interest expenses and the calculated interest expenses based on the above analysis. Specifically, damages are calculated based on the difference between the actual interest expense paid on the Construction Loans or the MCCC Notes and the interest expense the Carrier would have paid had the Construction Loans been refinanced at an earlier date. The damage calculation ends at the maturity dates of each 3-year, 5-

[103] Based on an interview with Ashton Hayse, I understand that, other factors equal, fewer banks competing for the bonds and issuing debut bonds from a new entity would have an upward impact on the coupons required to be paid on the bonds.

year, and 10-year bonds as other factors not directly related to the Greenpeace Defendants' actions may have impacted the repayment or refinancing of each bond and the resulting interest paid.[104]

71. The following table summarizes the Delayed Debt Refinancing damages assuming the Plaintiffs would have refinanced the Construction Loans on or about August 2, 2017.[105]

Table 7 – Damages as of August 2, 2017

Year	Actual Interest Expense	Refinanced Interest Expense	Total Damages	PV of Damages
2016	$ 9.05	$ 9.05	$ -	$ -
2017	70.86	34.30	36.56	36.00
2018	115.17	85.21	29.96	27.24
2019	91.90	85.21	6.68	5.02
2020	98.08	85.21	12.87	9.76
2021	78.31	66.94	11.37	8.01
2022	72.03	66.94	5.09	3.22
2023	39.31	33.82	5.49	3.35
2024	39.31	33.82	5.49	3.13
2025	39.31	33.82	5.49	2.92
2026	39.31	33.82	5.49	2.72
2027	32.98	33.82	(0.84)	(0.49)
Total	**$ 725.63**	**$ 601.98**	**$ 123.64**	**$ 100.89**

72. I have allocated the $100.9 million financial impact based on the apportionment of the MCCC Notes attributed to Dakota Access and ETCO LLC. The following table summarizes the financial impact of the Delayed Debt Refinancing net to the Plaintiffs' interest of approximately $96.4 million.[106]

[104] For example, I understand that following the initial term of bond, the Carriers would have refinanced each bond as i) the work had previously been performed to market the bonds and ii) the performance of the bond would have resulted in a favorable credit rating. I understand that as a result of the dispute between SRST and USACE, among other factors, the Carriers chose to pay off the 3-year MCCC Note and/or refinance using their respective corporate debt.

[105] **See Exhibit S6 and S6.1.**

[106] ET-00496061 at 6077. The Plaintiffs hold a 36.35% stake in ETCO LLC.

Table 8 – Damages for Plaintiff as of August 2, 2017

Description	Dakota Access	ETCO LLC	Total
Construction Loan	$ 2,325.00	$ 175.00	$ 2,500.00
Percent of Construction Loan	93%	7%	100%
Damages	**$ 93.83**	**$ 7.06**	**$ 100.89**
Plaintiff's Ownership (%)	100%	36.35%	
Damages Allocated to Plaintiffs	**$ 93.83**	**$ 2.57**	**$ 96.40**

73. The following table summarizes the Delayed Debt Refinancing damages assuming the Plaintiffs refinanced the Construction Loans on or about February 2, 2018.[107]

Table 9 - Damages as of February 2, 2018

Year	Actual Interest Expense	Refinanced Interest Expense	Total Damages	PV of Damages
2016	$ 9.05	$ 9.05	$ -	$ -
2017	70.86	70.86	-	-
2018	115.17	54.31	60.86	59.16
2019	91.90	94.18	(2.28)	(2.94)
2020	101.88	94.18	7.69	5.65
2021	86.36	83.41	2.95	1.65
2022	78.31	72.65	5.67	3.62
2023	52.64	54.10	(1.46)	(1.39)
2024	39.31	35.55	3.77	2.20
2025	39.31	35.55	3.77	2.06
2026	39.31	35.55	3.77	1.93
2027	39.31	35.55	3.77	1.81
2028	13.43	17.77	(4.34)	(2.24)
Total	**$ 776.85**	**$ 692.70**	**$ 84.14**	**$ 71.50**

74. The following table summarizes the financial impact of the Delayed Debt Refinancing net to the Plaintiffs' interest of approximately $68.3 million.[108]

[107] See **Exhibit S7 and S7.1.**
[108] ET-00496061 at 6077. The Plaintiffs hold a 36.35% stake in ETCO LLC.

February 2, 2018

Table 10 - Damages for Plaintiff as of ~~August 2, 2017~~

Description	Dakota Access	ETCO LLC	Total
Construction Loan	$ 2,325	$ 175	$ 2,500
Percent of Construction Loan	93%	7%	100%
Damages	**$ 66.50**	**$ 5.01**	**$ 71.50**
Plaintiff's Ownership (%)	100%	36.35%	96%
Damages Allocated to Plaintiffs	**$ 66.50**	**$ 1.82**	**$ 68.32**

75. These damages were discounted back to the anticipated refinance dates (as of August 2, 2017 and February 2, 2018) based on Energy Transfer's WACC as of the same refinance date. The use of a WACC appropriately accounts for the time value of money and the risks associated with continued operations of the pipelines. **Exhibits S3 and S4** to this report summarize these calculations.

76. This approach is conservative as it only accounts for the timing of the refinancing of the Construction Loans and does not account for any additional premium included in the coupon rates on the MCCC Notes that may have resulted from the alleged defamatory statements and actions by the Defendants. In addition, I understand that absent the alleged defamatory statements, and other actions by the Defendants, the same banks that participated in the Construction Loans would have also participated in the refinancing, and the Carriers would have avoided the need to create the MCCC entity to issue the bonds.

77. I understand that losing almost half the banks that initially participated in the Construction Loans and having to create a separate entity to issue the Carriers inaugural bonds, would have placed further upward impact on the coupon rates required by investors on the bonds.[103] Therefore, utilizing the coupon rates paid on the MCCC Notes is conservative.

[103] Interview with Ashton Hayse.

VII. CONCLUSION

78. Based on the information reviewed and analysis performed as of the date of this report I have concluded the following:

- The financial impact resulting from the delay in full commercial operations on DAPL from January 1, 2017 to June 1, 2017 is at least $92.6 million, of which approximately $80.1 million is attributable to the Plaintiffs' interests.
- Assuming the Plaintiffs refinanced the Construction Loans on August 2, 2017, the financial impact to the Plaintiffs resulting from the delayed debt refinancing of the BPP is approximately $100.9 million, of which approximately $96.4 million is attributable to the Plaintiffs' interests.
- Assuming the Plaintiffs refinanced the Construction Loans on February 2, 2018, the financial impact to the Plaintiffs resulting from the delayed debt refinancing of the BPP is approximately $71.5 million, of which approximately $68.3 million is attributable to the Plaintiffs' interests.

January 16, 2024

David M. Leathers

Exhibit S2
Documents Considered

Document

Court Filings
- First Amended Complaint, dated August 23, 2019
- Appendix A to First Amended Complaint, dated August 23, 2019
- Appendix A to Second Amended Complaint, dated October 16, 2023

Expert Reports
- Expert Report of David M. Leathers, dated September 19, 2022
- Expert Report of Marc J. Brown, CFA dated September 16, 2022 and Supporting Documents
- Preliminary Rebuttal Expert Report of Joseph J. Egan, dated November 22, 2022 and Supporting Documents

Depositions
- Deposition of Glenn Emery dated September 1, 2023 and Exhibits
- Deposition of Ashton Hayse dated September 20, 2023 and Exhibits
- Deposition of Lee Hanse dated November 17, 2023

Energy Transfer Documents
- DAPL/ETCO Monthly Financial Statements for May to December 2017

Produced Documents
- ET-00441267 - 00441290
- ET-00495957 - 00495968
- ET-00495969 - 00495983
- ET-00496022 - 00496033
- GP-INC0104296
- GP-INC0106246 - 0106248
- GP-INC0130703 - 0130705
- GP-INC0169380 - 0169381
- GP-INC0177163 - 0177168
- GP-INC0344625
- GP-INC0411347 - 0411355
- ISB_0014236 - 0014238
- ISB_0014501 - 0014502
- ISB_0018105 - 0018151
- ET-00401719
- ET-00432392 - 00432419
- ET-00495969
- ET-00496022
- ET-00496061 - 00496284
- ET-00496286 - 00496493
- ET-01204232
- ET-01705998 - 01706132
- ET-01707711 - 017909931
- ET-01709828
- ET-01710528 - 01711592
- ET-01776867 - 1776868
- ISB_0008817 - 0009176
- ISB_0012085 - 0012100
- ISB_0018105 - 0018151
- ISB_0018152 - 0018153
- ISB_0018200 - 0018201
- GP-INC0041016 - 0041019
- GP-INC0044206 - 0044207
- GP-INC0044223
- GP-INC0079669
- GP-INC0130703 - 0130705
- GP-INC0292222
- GP-INTL0005333
- GP-INTL0005396
- GP-INTL0011352

Exhibit S2
Documents Considered

Document	
- ING-DAPL_00006158 - 00006170	
- DNB0001452 - 0001509	
- BNPP-00000048 - 00000062	
- BNPP-00000063 - 00000066	
- UBS00001699 - 00001701	
- USACE_ESMT000043	
- ABN00006582 - 00006585	
Transportation Services Agreements	
- Transportation Services Agreement Between ETCO-DAPL & Conoco Phillips, dated May 23, 2014	ISB_0014503 - 0014595
- Transportation Services Agreement Between ETCO-DAPL & ETC Endure Energy, dated May 23, 2014	ISB_0014596 - 0014642
- Transportation Services Agreement Between ETCO-DAPL & Hess Trading Corp., dated May 23, 2014	ISB_0014651 - 0014743
- Transportation Services Agreement Between ETCO-DAPL & Shell Trading (US) Co., dated May 23, 2014	ISB_0014143 - 0014235
- Transportation Services Agreement Between ETCO-DAPL & Sunoco PM&T LP., dated May 23, 2014	ISB_0014244 - 0014335
- Transportation Services Agreement Between ETCO-DAPL & XTO Energy, dated May 23, 2014	ISB_0014445 - 0014500
- Transportation Services Agreement Between ETCO-DAPL & Phillips 66, dated September 23, 2014	ISB_0014751 - 0014846
- Transportation Services Agreement Between ETCO-DAPL & Sunoco PM&T LP., dated September 23, 2014	ISB_0014343 - 0014437
- Transportation Services Agreement Between ETCO-DAPL & Oasis, dated August 12, 2016	No Bates Number
- Transportation Services Agreement Between ETCO-DAPL & Rose Rock, dated August 12, 2016	No Bates Number
Research	
- Energy Transfer Earnings Call Transcript for Q1 2016	
- Energy Transfer 2016 Form 10-K	
- Litigation Services Handbook, 6th edition	
- Kroll - Cost of Capital Navigator - U.S. Cost of Capital Module	
- Damodaran - Cost of Equity and Cost of Capital	
- Bloomberg - Bond Yield Data	
- Energy Transfer LP 'BBB-' Ratings Affirmed On Its Agreement To Acquire SemGroup Corp, S&P Global, September 16, 2019	
- Energy Transfer Operating L.P.'s Unsecured Notes Rated 'BBB-', S&P Global, March 27, 2019	
- Energy Transfer Equity Ratings Placed On Watch Positive, S&P Global, August 2, 2018	
- Energy Transfer Partners L.P. 'BBB-' Ratings Affirmed Following Sale Of Compression Business, S&P Global, January 16, 2018	
- Energy Transfer Partners L.P. 'BBB-' Rating Affirmed, S&P Global, April 28, 2017	
- Sunoco Logistics Partners Ratings Placed On Watch Negative On Merger Plan, S&P Global, November 22, 2016	
- Energy Transfer Equity L.P. Ratings Affirmed And Taken Off Credit Watch Negative, S&P Global, July 5, 2016	
- Energy Transfer Equity L.P. Ratings Placed On Credit Watch Negative, S&P Global, May 26, 2016	
- Sunoco Logistics and Phillips 66 Announce Successful Completion of Project Financing for Bakken Joint Ventures, August 2, 2016	
- Protesters Gain Victory in Fight Over Dakota Access Oil Pipeline, New York Times, December 4, 2016	
- Six Banks Step Away From DAPL and Backers, BankTrack, 2017	
- Trump signs order to advance Keystone XL and Dakota pipelines, PBS, January 24, 2017	
- Energy Transfer Announces Receipt of Easement from ACOE on Land Adjacent to Lake Oahe, Energy Transfer, February 9, 2017	
- Nordea cuts three firms involved in protest-hit Dakota Access Pipeline, IPE, February 13, 2017	
- Oil pipeline built at ING bank headquarters to protest Dakota Pipeline, NL Times, February 16, 2017	
- Key Moments In The Dakota Access Pipeline Fight, NPR, February 22, 2017	
- Sami people persuade Norway pension fund to divest from Dakota Access, The Guardian, March 17, 2017	
- Norwegian bank DNB sells its share of Dakota pipeline funding, Reuters, March 26, 2017	
- French Bank BNP Sells its Share in $2.5 Billion Dakota Pipeline Loan, Reuters, April 5, 2017	
- Greenpeace drops in on Credit Suisse, The Times, April 29, 2017	
- ING and the Dakota Access Pipeline, ING, May 19 2017	
- U.S. Interest Rates Chartbook, BBVA Research, February 2018	
- Midwest Connector Capital Company LLC Assigned 'A-' Ratings, S&P Global, March 4, 2019	
- Moody's assigns Baa2 rating to Midwest Connector Capital Company, Moody's, March 4, 2019	
- US Treasury Historical Yields, Wall Street Journal	
- https://www.pimco.com/en-us/resources/education/understanding-corporate-bonds/	
- https://corporatefinanceinstitute.com/resources/fixed-income/coupon-rate/	
- https://ratings.moodys.com/api/rmc-documents/379531	
- https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/sourceId/8314109	
- https://www.greenpeace.org/usa/can-show-solidarity-fight-dakota-access-pipeline/	
- https://www.federalreserve.gov/monetarypolicy/reservereq.htm	
- https://www.bloomberg.com/profile/company/1702267D:US	
- https://www.macrotrends.net/2015/fed-funds-rate-historical-chart	

Exhibit S3
Discount Rate
As of August 2, 2017

	Cost of Equity Calculation:			**Sources & Notes:**
[1]	Risk-Free Rate	*Rf*	3.50%	Kroll "normalized" risk-free rate
[2]	Equity Risk Premium	*Rm - Rf*	5.50%	Kroll recommended equity risk premium
[3]	Beta	β	1.19	Kroll SIC 4612 (Crude Petroleum Pipelines) Full-information Beta
[4]	Adjusted Equity Risk Premium	*Adj. ERP*	6.55%	Calculated as: [2] x [3]
[5]	Size Premium	*Sp*	0.61%	Kroll size premium for market cap values ranging from $11B to $24B
[6]	Company/Project Specific Risk		0.00%	
[7]	**Cost of Equity**	*Re*	**10.66%**	Calculated as: [1] + [4] + [5] + [6]
	Cost of Debt Calculation:			
[8]	Pre-Tax Cost of Debt		3.70%	Pre-tax cost of debt for the oil and gas distribution industry per Damodaran.
[9]	Estimated Tax Rate	*T*	40.00%	Marginal tax rate per Damodaran.
[10]	**After-Tax Cost of Debt**	*Rd*	**2.22%**	Calculated as: [8] x (1-[9])
	WACC Calculation:			
[11]	Debt % of Capital		**43.52%**	Average capital structure for the oil and gas distribution industry per Damodaran.
[12]	After-Tax Cost of Debt	*Rd*	2.22%	[10]
[13]	Weighted Cost of Debt		**0.97%**	Calculated as: [11] x [12]
[14]	Equity % of Capital		**56.48%**	Average capital structure for the oil and gas distribution industry per Damodaran.
[15]	Cost of Equity	*Re*	10.66%	[7]
[16]	Weighted Cost of Equity		**6.02%**	Calculated as: [14] x [15]
[17]	**WACC (rounded)**		**7.00%**	Calculated as: [13] + [16]

Exhibit S4
Discount Rate
As of February 2, 2018

Cost of Equity Calculation:			Sources & Notes:
[1] Risk-Free Rate	*Rf*	3.50%	Kroll "normalized" risk-free rate
[2] Equity Risk Premium	*Rm - Rf*	5.00%	Kroll recommended equity risk premium
[3] Beta	β	1.18	Kroll SIC 4612 (Crude Petroleum Pipelines) Full-information Beta
[4] Adjusted Equity Risk Premium	*Adj. ERP*	5.90%	Calculated as: [2] x [3]
[5] Size Premium	*Sp*	0.56%	Kroll size premium for market cap values ranging from $12B to $25B
[6] Company/Project Specific Risk		0.00%	
[7] **Cost of Equity**	*Re*	**9.96%**	Calculated as: [1] + [4] + [5] + [6]

Cost of Debt Calculation:			
[8] Pre-Tax Cost of Debt		3.91%	Pre-tax cost of debt for the oil and gas distribution industry per Damodaran.
[9] Estimated Tax Rate	*T*	24.00%	Marginal tax rate per Damodaran.
[10] **After-Tax Cost of Debt**	*Rd*	**2.97%**	Calculated as: [8] x (1-[9])

WACC Calculation:			
[11] Debt % of Capital		**48.30%**	Average capital structure for the oil and gas distribution industry per Damodaran.
[12] After-Tax Cost of Debt	*Rd*	2.97%	[10]
[13] Weighted Cost of Debt		**1.44%**	Calculated as: [11] x [12]
[14] Equity % of Capital		**51.70%**	Average capital structure for the oil and gas distribution industry per Damodaran.
[15] Cost of Equity	*Re*	9.96%	[7]
[16] Weighted Cost of Equity		**5.15%**	Calculated as: [14] x [15]
[17] **WACC (rounded)**		**6.60%**	Calculated as: [13] + [16]

Exhibit S5
Summary of Comparable Bond Yields

August 2, 2017[1]		
Time to Maturity	Number of Bonds	Median Yield
3 Year	26	2.461%
5 Year	23	3.004%
10 Year	21	3.803%

February 2, 2018[2]		
Time to Maturity	Number of Bonds	Median Yield
3 Year	24	2.963%
5 Year	21	3.402%
10 Year	16	4.006%

March 11, 2019[3]		
Time to Maturity	Number of Bonds	Median Yield
3 Year	21	3.275%
5 Year	23	3.592%
10 Year	9	4.449%

Sources:

[1] *See Exhibit 5.1*

[2] *See Exhibit 5.2*

[3] *See Exhibit 5.3*

Exhibit S5.1
Bond Data as of August 2, 2017

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
1	Enbridge Inc	AG1005585	ENBCN	1.498	10.02	CA	7/7/2017	7/15/2027	500.00MM	500.00MM	1.7	BBB+	Baa2	CALLABLE	10	Yes	
2	ONEOK Inc	AQ3031280	OKE	1.803	10	US	7/13/2017	7/13/2027	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE	10	Yes	
3	ONEOK Inc	UV5222392	OKE	3.573	8.03	US	8/21/2015	9/1/2023	500.00MM	500.00MM	4.5	BBB	Baa3	CALLABLE	-	Yes	
4	Sabine Pass Liquefaction LLC	AQ0305230	COP	-	10.66	US	7/17/2017	3/15/2028	1.35MMM	1.35MMM	4.2	BBB-	Baa3	CALLABLE	-	Yes	
5	Williams Partners LP	AN8093246	WPZ	3.673	10.03	US	6/5/2017	6/15/2027	1.15MMM	1.15MMM	3.75	BBB	Baa3	CALLABLE	10	Yes	
6	Kinder Morgan Inc/DE	EK6237607	KMI	3.595	10.51	US	11/26/2014	6/1/2025	1.50MMM	1.50MMM	4.3	BBB-	Baa3	CALLABLE	-	Yes	
7	ONEOK Inc	EJ9377097	OKE	3.103	10.02	US	1/26/2012	2/1/2022	700.00MM	547.40MM	4.25	BBB	Baa3	CALLABLE	-	Yes	
8	Enbridge Inc	AQ1403408	ENBCN	2.735	5.02	CA	7/7/2017	7/15/2022	700.00MM	700.00MM	2.9	BBB+	Baa2	CALLABLE	5	Yes	
9	ONEOK Partners LP	EK8126774	OKE	3.665	9.50	US	3/20/2015	3/15/2025	500.00MM	500.00MM	4.9	BBB	Baa3	CALLABLE	-	Yes	
10	Sabine Pass Liquefaction LLC	EK5679191	COP	-	9.40	US	11/19/2014	4/15/2024	2.00MMM	2.00MMM	5.75	BBB-	Baa3	CALLABLE	-	Yes	
11	Sabine Pass Liquefaction LLC	JV3088010	COP	-	9.13	US	1/13/2016	3/1/2025	2.00MMM	2.00MMM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
12	Sabine Pass Liquefaction LLC	AN2587565	COP	-	9.85	US	5/10/2017	3/15/2027	1.50MMM	1.50MMM	5	BBB-	Baa3	CALLABLE	10	Yes	
13	Energy Transfer LP	AM1309866	ETP	4.042	10.24	US	1/17/2017	4/15/2027	600.00MM	600.00MM	4.2	BBB-	Baa3	CALLABLE	10	No	Related Party
14	ONEOK Partners LP	UJ1584020	OKE	2.063	10.03	US	9/13/2012	10/1/2022	900.00MM	900.00MM	3.375	BBB	Baa3	CALLABLE	5	Yes	
15	Sabine Pass Liquefaction LLC	AN2587341	COP	-	9.14	US	5/10/2017	6/30/2026	1.50MMM	1.50MMM	5.875	BBB-	Baa3	CALLABLE	-	Yes	
16	Enable Midstream Partners LP	AM1761012	ENBL	4.21	10.02	US	3/6/2017	3/15/2027	700.00MM	700.00MM	4.4	BBB	Baa3	CALLABLE	10	No	S&P Credit Rating
17	Sabine Pass Liquefaction LLC	EK0818865	COP	3.332	7.68	US	3/17/2014	4/15/2021	1.17MMM	1.17MMM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
18	Sabine Pass Liquefaction LLC	EK0818022	COP	-	6.88	US	3/17/2014	2/1/2021	1.99MMM	1.99MMM	5.625	BBB-	Baa3	CALLABLE	3	Yes	
19	Boardwalk Pipelines LP	AM0459615	BWP	4.083	10.5	US	1/12/2017	7/15/2027	500.00MM	500.00MM	4.45	BBB-	Baa3	CALLABLE	10	Yes	
20	MPLX LP	AM4245602	MPLX	3.876	10.05	US	2/10/2017	3/1/2027	1.25MMM	1.25MMM	4.125	BBB-	Baa3	CALLABLE	10	Yes	
21	Midcontinent Express Pipeline LLC	EH9691013	MCEXPP	-	10	US	9/16/2009	9/15/2019	350.00MM	350.00MM	6.7	BBB-	Ba2	AT MATURITY	-	No	Moody's Credit Rating
22	Energy Transfer LP	EK9884615	ETP	3.994	10.57	US	6/23/2015	1/15/2026	1.00MMM	1.00MMM	4.75	BBB-	Baa3	CALLABLE	-	No	Related Party
23	Plains All American Pipeline LP / PAA Finance Corp	AL2930413	PAA	4.140	10.06	US	11/22/2010	12/15/2020	750.00MM	750.00MM	4.5	BBB-	Baa3	CALLABLE	-	Yes	
24	Kinder Morgan Inc/DE	EK6237185	KMI	2.224	5.01	US	11/26/2014	12/1/2019	1.50MMM	1.50MMM	3.05	BBB-	Baa3	CALLABLE	-	Yes	
25	Energy Transfer LP	EK7008511	ETP	3.854	10.01	US	3/12/2015	3/15/2025	1.00MMM	1.00MMM	4.05	BBB-	Baa3	CALLABLE	-	No	Related Party
26	Boardwalk Pipelines LP	EJ4323857	BWP	3.386	10.23	US	11/8/2012	2/1/2023	300.00MM	300.00MM	5.375	BBB-	Baa3	CALLABLE	5	Yes	
27	Spectra Energy Capital LLC	EJ5760392	SE	3.167	10.04	US	2/28/2013	3/15/2023	650.00MM	497.77MM	3.3	BBB	Baa2	CALLABLE	-	Yes	
28	Spectra Energy Partners LP	EJ8384524	SEP	3.257	10.02	US	9/25/2013	3/15/2024	1.00MMM	1.00MMM	4.75	BBB+	Baa2	CALLABLE	-	Yes	
29	Kinder Morgan Energy Partners LP	EJ0559892	KMI	3.08	10.17	US	4/4/2012	9/1/2022	1.00MMM	1.00MMM	3.95	BBB-	Baa3	CALLABLE	5	Yes	
30	Boardwalk Pipelines LP	EK0155890	BWP	3.843	10.05	US	11/26/2014	12/15/2024	600.00MM	600.00MM	4.95	BBB-	Baa3	CALLABLE	-	Yes	
31	Enterprise Products Operating LLC	JK6279362	EPD	4.525	10.84	US	4/13/2016	2/15/2027	575.00MM	575.00MM	3.95	BBB+	Baa1	CALLABLE	10	Yes	
32	Regency Energy Partners LP / Regency Energy Finance Corp	EJ8350514	ETP	-	10.53	US	10/2/2012	4/15/2023	700.00MM	700.00MM	5.5	BBB-	Baa3	CALLABLE	-	Yes	
33	Energy Transfer LP	EJ8328902	ETP	2.62	7.03	US	9/19/2013	10/1/2020	1.05MMM	1.05MMM	4.15	BBB	Baa3	CALLABLE	3	No	Related Party
34	Sabine Pass Liquefaction LLC	EK5679076	COP	3.071	7.32	US	11/19/2014	3/15/2022	993.93MM	993.93MM	6.25	BBB-	Baa3	CALLABLE	5	Yes	
35	Energy Transfer LP	EJ5146570	ETP	3.282	10.04	US	1/22/2013	2/1/2023	800.00MM	800.00MM	3.6	BBB-	Baa3	CALLABLE	5	No	Related Party
36	TC PipeLines LP	AN7171514	TCP	3.763	10	US	5/25/2017	5/25/2027	500.00MM	500.00MM	3.9	BBB	Baa2	CALLABLE	10	Yes	
37	Williams Partners LP / ACMP Finance Corp	EK1087007	WPZ	-	10.02	US	3/7/2014	3/15/2024	750.00MM	750.00MM	4.875	BBB	Baa3	CALLABLE	-	Yes	
38	Enbridge Inc	AN8723503	ENBCN	3.568	10	CA	6/8/2017	6/8/2027	333.31MM	333.31MM	3.2	BBB+	Baa2	CALLABLE	10	Yes	
39	Enbridge Inc	AL3762955	ENBCN	1.605	10	CA	11/29/2016	12/1/2026	350.00MM	350.00MM	4.25	BBB+	Baa2	CALLABLE	-	Yes	
40	Kinder Morgan Energy Partners LP	EJ7325883	KMI	2.025	5.49	US	8/5/2013	2/1/2019	800.00MM	800.00MM	2.65	BBB-	Baa3	AT MATURITY	-	Yes	
41	Kinder Morgan Inc/DE	EJ9180165	KMI	3.64	10.03	US	11/5/2013	11/15/2023	750.00MM	750.00MM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
42	Kinder Morgan Energy Partners LP	EJ7325603	KMI	3.538	10.14	US	8/5/2013	2/1/2024	650.00MM	650.00MM	4.15	BBB-	Baa3	CALLABLE	-	Yes	
43	Kinder Morgan Inc/DE	EK7726343	KMI	0.869	7	US	3/16/2015	3/16/2022	794.28MM	794.28MM	1.5	BBB-	Baa3	AT MATURITY	5	Yes	
44	Kinder Morgan Energy Partners LP	EK4810728	KMI	3.584	9.97	US	9/11/2014	9/1/2024	650.00MM	650.00MM	4.25	BBB-	Baa3	CALLABLE	-	Yes	
45	Energy Transfer LP	EJ2842515	ETP	1.89	10.26	US	3/28/2008	7/1/2018	600.00MM	600.00MM	6.7	BBB-	Baa3	AT MATURITY	-	No	Related Party
46	Enbridge Inc	EJ4652925	ENBCN	2.725	10	CA	12/4/2012	12/5/2022	806.29MM	806.29MM	3.19	BBB+	Baa2	AT MATURITY	5	Yes	
47	Spectra Energy Capital LLC	EC1828226	SE	-	2001	US	9/28/1998	10/1/2019	500.00MM	232.66MM	8	BBB	Baa2	AT MATURITY	-	Yes	
48	Valero Energy Partners LP	AL5432943	VLP	3.917	10.02	US	12/30/2016	12/15/2026	500.00MM	500.00MM	4.375	BBB-	Baa3	CALLABLE	-	Yes	
49	Western Gas Partners LP	LW6697723	WES	3.976	9.92	US	7/12/2016	7/1/2026	500.00MM	500.00MM	4.65	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
50	Boardwalk Pipelines LP	LW1068706	BWP	4.197	10.04	US	5/16/2016	6/1/2026	550.00MM	550.00MM	5.95	BBB-	Baa3	CALLABLE	-	Yes	
51	MPLX LP	QZ3833949	MPLX	-	6.58	US	9/27/2016	2/15/2023	709.85MM	709.85MM	5.5	BBB-	Baa3	CALLABLE		Yes	
52	Plains All American Pipeline LP / PAA Finance Corp	UV5389010	PAA	4.06	10.13	US	8/24/2015	10/15/2025	1.00MMM	1.00MMM	4.65	BBB-	Baa3	CALLABLE	-	Yes	
53	Regency Energy Partners LP / Regency Energy Finance Corp	EJ0569272	ETP	3.589	9.86	US	12/20/2013	11/1/2023	600.00MM	600.00MM	4.5	BBB-	Baa3	CALLABLE	-	Yes	
54	TransCanada PipeLines Ltd	EJ0339207	TRPCN	2.428	10	CA	8/2/2012	8/1/2022	1.00MMM	1.00MMM	2.5	A-	A3	AT MATURITY	5	Yes	
55	Kinder Morgan Energy Partners LP	EK0550411	KMI	2.721	7.01	US	2/24/2014	3/1/2021	750.00MM	750.00MM	3.5	BBB-	Baa3	CALLABLE		Yes	
56	TransCanada PipeLines Ltd	JV5018030	TRPCN	3.153	9.97	CA	1/27/2016	1/15/2026	850.00MM	850.00MM	4.875	A-	A3	CALLABLE	-	Yes	
57	Williams Partners LP	EJ8770733	WPZ	2.812	10	US	11/17/2011	11/15/2021	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE	-	Yes	
58	Williams Partners LP	EK7739013	WPZ	3.587	10.54	US	3/3/2015	9/15/2025	750.00MM	750.00MM	4	BBB	Baa3	CALLABLE	-	Yes	
59	Western Gas Partners LP	EJ2520959	WES	3.513	10.01	US	6/28/2012	7/1/2022	670.00MM	670.00MM	4	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
60	Kinder Morgan Inc/DE	EK7930747	KMI	1.908	12	US	3/16/2015	3/16/2027	529.52MM	529.52MM	2.25	BBB-	Baa3	AT MATURITY	10	Yes	
61	Phillips 66 Partners LP	QZ8608429	PSXP	3.668	3.96	US	10/11/2016	10/1/2026	500.00MM	500.00MM	3.55	BBB	Baa3	CALLABLE	-	Yes	
62	Williams Partners LP	EJ2737308	WPZ	2.176	9.7	US	7/2/2010	3/15/2020	1.50MMM	1.50MMM	5.25	BBB	Baa3	AT MATURITY	3	Yes	
63	Energy Transfer LP	EJ9522323	ETP	3.108	10.04	US	1/17/2012	2/1/2022	1.00MMM	1.00MMM	5.2	BBB-	Baa3	CALLABLE	-	No	Related Party
64	Texas Gas Transmission LLC	DD1116944	BWP	4.823	30	US	7/15/1997	7/15/2027	100.00MM	100.00MM	7.25	BBB-	Baa2	AT MATURITY	10	Yes	
65	Buckeye Partners LP	AL0365273	BPL	3.92	10.06	US	11/7/2016	12/1/2026	600.00MM	600.00MM	4.35	BBB-	Baa3	CALLABLE	-	Yes	

Exhibit 85.1
Bond Data as of August 2, 2017

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
66	Kinder Morgan Energy Partners LP	[illegible]	KMI	[illegible]	[illegible]	US	2/28/2013	9/1/2023	600.00MM	600.00MM	3.5	BBB	Baa3	CALLABLE		Yes	
67	Spectra Energy Partners LP	QZ7989409	SEP	3.400	9.99	US	10/17/2016	10/15/2026	600.00MM	600.00MM	3.375	BBB+	Baa2	CALLABLE		Yes	
68	Enterprise Products Operating LLC	EK5288916	EPD	3.115	10.34	US	10/14/2014	2/15/2025	1.15MMM	1.15MMM	3.75	BBB+	Baa1	CALLABLE		Yes	
69	Energy Transfer LP	EJ9275969	ETP	4.793	15.92	US	12/13/2013	11/15/2029	266.68MM	266.68MM	8.25	BBB-	Baa3	CALLABLE		No	Related Party
70	TransCanada PipeLines Ltd	EJ8656217	TRPCN		10.02	CA	10/7/2013	10/16/2023	625.00MM	625.00MM	3.75	A-	A3	CALLABLE		Yes	
71	ONEOK Partners LP	EJ8254165	OKE	2.135	5.01	US	9/12/2013	9/15/2018	425.00MM	425.00MM	3.2	BBB	Baa3	CALLABLE		Yes	
72	EnLink Midstream Partners LP	LW8414374	ENLK	4.127	10	US	7/14/2016	7/15/2026	500.00MM	500.00MM	4.85	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
73	Hiland Partners Holdings LLC / Hiland Partners Finance Corp	EK2678861	KMI		8	US	5/14/2014	5/15/2022	225.00MM	225.00MM	5.5	BBB-	Baa3	CALLABLE	5	Yes	
74	Williams Partners LP	EK7753996	WPZ	2.506	7.03	US	3/3/2015	3/15/2022	1.25MMM	1.25MMM	3.6	BBB	Baa3	CALLABLE	5	Yes	
75	MPLX LP	QZ1833667	MPLX	3.246	6.8	US	9/27/2016	7/15/2023	988.53MM	988.53MM	4.5	BBB-	Baa3	CALLABLE	-	Yes	
76	Regency Energy Partners LP / Regency Energy Finance Corp	EJ6886610	ETP		10.14	US	5/26/2011	7/15/2021	500.00MM	500.00MM	6.5	BBB-	Baa3	CALLABLE		Yes	
77	Plains All American Pipeline LP / PAA Finance Corp	EJ4680330	PAA	3.334	10.14	US	12/10/2012	1/31/2023	400.00MM	400.00MM	2.85	BBB-	Baa3	CALLABLE	5	Yes	
78	Magellan Midstream Partners LP	JK2126714	MMP	3.436	10	US	2/29/2016	3/1/2026	650.00MM	650.00MM	5	BBB+	Baa1	CALLABLE		Yes	
79	Enable Midstream Partners LP	QJ9100067	ENBL	3.965	8.4	US	12/22/2015	5/15/2024	549.63MM	549.63MM	4.9	BB+	Baa3	CALLABLE	-	No	S&P Credit Rating
80	Kinder Morgan Energy Partners LP	EJ3171240	KMI	3.145	10.51	US	8/13/2012	2/15/2023	625.00MM	625.00MM	3.45	BBB-	Baa3	CALLABLE		Yes	
81	Phillips 66 Partners LP	EK7629174	PSXP	3.503	9.98	US	2/23/2015	2/15/2025	500.00MM	500.00MM	3.605	BBB	Baa3	CALLABLE		Yes	
82	Enterprise Products Operating LLC	EI7789915	EPD	2.543	10.48	US	8/24/2011	2/15/2022	650.00MM	650.00MM	4.05	BBB+	Baa1	AT MATURITY	5	Yes	
83	Williams Partners LP	EJ3191552	WPZ	3.013	10	US	8/14/2012	8/15/2022	750.00MM	750.00MM	3.35	BBB	Baa3	CALLABLE	5	Yes	
84	TransCanada PipeLines Ltd	QJ6371547	TRPCN	1.532	2	CA	11/9/2015	11/9/2017	1.00MMM	1.00MMM	1.625	A-	A3	AT MATURITY		Yes	
85	Sunoco Logistics Partners Operations LP	EK1561332	ETP	3.693	10	US	4/3/2014	4/1/2024	500.00MM	500.00MM	4.25	BBB-	Baa3	CALLABLE		Yes	
86	Kinder Morgan Energy Partners LP	EI8163620	KMI	2.903	10.03	US	9/20/2011	10/1/2021	500.00MM	500.00MM	5	BBB-	Baa3	CALLABLE	-	Yes	
87	Enbridge Inc	EK3027456	ENBCN	3.244	10.02	CA	6/4/2014	6/10/2024	500.00MM	500.00MM	3.5	BBB+	Baa2	CALLABLE	-	Yes	
88	Sunoco Logistics Partners Operations LP	LW8409331	ETP	4.031	10.01	US	7/12/2016	7/15/2026	550.00MM	550.00MM	3.9	BBB-	Baa3	CALLABLE	-	Yes	
89	Colonial Pipeline Co	EC0035969	COLPEN		30.01	US	10/27/2000	11/1/2030	175.00MM	175.00MM	8.375	A	A3	AT MATURITY	-	No	S&P Credit Rating
90	MPLX LP	QZ1833717	MPLX	3.651	8.18	US	9/27/2016	12/1/2024	1.15MMM	1.15MMM	4.875	BBB-	Baa3	CALLABLE		Yes	
91	Southern Union Co	DD5333446	ETP	4.512	30	US	1/31/1994	2/1/2024	475.00MM	82.51MM	7.6	BBB-	Baa3	AT MATURITY	-	Yes	
92	Buckeye Partners LP	EJ7048626	BPL	3.504	10.06	US	6/10/2013	7/1/2023	500.00MM	500.00MM	4.15	BBB-	Baa3	CALLABLE		Yes	
93	Spectra Energy Capital LLC	EH4023213	SE		10.01	US	4/10/2008	4/15/2018	500.00MM	271.52MM	6.2	BBB	Baa2	AT MATURITY		Yes	
94	Sunoco Logistics Partners Operations LP	EJ5036911	ETP	3.304	10.01	US	1/10/2013	1/15/2023	350.00MM	350.00MM	3.45	BBB-	Baa3	CALLABLE	5	Yes	
95	MPLX LP	QZ3833832	MPLX	3.774	8.68	US	9/27/2016	6/1/2025	1.19MMM	1.19MMM	4.875	BBB	Baa3	CALLABLE	-	Yes	
96	TransCanada PipeLines Ltd	AF2793277	TRPCN	-	10	CA	7/17/2015	7/17/2025	577.41MM	577.41MM	3.3	A-	A3	CALLABLE		Yes	
97	Williams Partners LP	EK1901313	WPZ	3.313	10	US	3/4/2014	3/4/2024	1.00MMM	1.00MMM	4.3	BBB	Baa3	CALLABLE		Yes	
98	Enterprise Products Operating LLC	EI2501985	EPD	2.181	10.29	US	5/20/2010	9/1/2020	1.00MMM	1.00MMM	5.2	BBB+	Baa1	AT MATURITY	3	Yes	
99	Energy Transfer LP	EI6703652	ETP	2.876	10.06	US	5/12/2011	6/1/2021	800.00MM	800.00MM	4.65	BBB	Baa3	CALLABLE		No	Related Party
100	Regency Energy Partners LP / Regency Energy Finance Corp	EK0557170	ETP	3.273	8.05	US	2/10/2014	3/1/2022	900.00MM	900.00MM	5.875	BBB-	Baa3	CALLABLE	5	Yes	
101	Columbia Pipeline Group Inc	JK8191894	CPGN	1.916	2.05	US	5/12/2016	6/1/2018	499.95MM	499.95MM	2.45	NR	Baa2	AT MATURITY		Yes	
102	Spectra Energy Capital LLC	EH9539261	SE		10.51	US	8/28/2009	3/1/2020	300.00MM	162.62MM	5.65	BBB	Baa2	AT MATURITY	3	Yes	
103	Enterprise Products Operating LLC	EK0617127	EPD	3.048	10.01	US	2/12/2014	2/15/2024	850.00MM	850.00MM	3.9	BBB+	Baa1	CALLABLE		Yes	
104	ONEOK Partners LP	EJ8254587	OKE	3.299	10.01	US	3/12/2013	3/15/2023	425.00MM	425.00MM	5	BBB	Baa3	CALLABLE		Yes	
105	TransCanada PipeLines Ltd	EH5021108	TRPCN	1.768	10.01	CA	8/11/2008	8/15/2018	850.00MM	850.00MM	6.5	A-	A3	AT MATURITY		Yes	
106	Williams Partners LP	EJ9312937	WPZ	3.185	10	US	11/15/2013	11/15/2023	600.00MM	600.00MM	4.5	BBB	Baa3	CALLABLE		Yes	
107	Tennessee Gas Pipeline Co LLC	EC0622291	KMI	4.482	30.02	US	10/9/1998	10/15/2028	400.00MM	400.00MM	7	BBB-	Baa3	AT MATURITY		Yes	
108	Tennessee Gas Pipeline Co LLC	DD7101698	KMI	4.379	30	US	3/13/1997	3/15/2027	300.00MM	300.00MM	7	BBB	Baa3	PUTABLE	10	Yes	
109	ONEOK Partners LP	EK8126170	OKE	2.386	4.99	US	3/20/2015	3/15/2020	300.00MM	300.00MM	3.5	BBB	Baa3	CALLABLE	3	Yes	
110	Kinder Morgan Inc/DE	EI9140223	KMI	2.814	7.28	US	11/5/2013	2/15/2021	750.00MM	750.00MM	5	BBB-	Baa3	CALLABLE		Yes	
111	Buckeye Partners LP	EI5289245	BPL	2.956	10.05	US	1/13/2011	2/1/2021	650.00MM	650.00MM	4.875	BBB-	Baa3	CALLABLE	3	Yes	
112	Enbridge Energy Partners LP	QJ0734534	EEP	3.705	10.03	US	10/6/2015	10/15/2025	500.00MM	500.00MM	5.875	BBB	Baa3	CALLABLE	-	Yes	
113	Western Gas Partners LP	EJ3817962	WES	2.248	5	US	8/14/2013	8/15/2018	350.00MM	350.00MM	2.6	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
114	Kinder Morgan Energy Partners LP	EK2190078	KMI	3.556	10	US	5/2/2014	5/1/2024	600.00MM	600.00MM	4.3	BBB-	Baa3	CALLABLE		Yes	
115	Plains All American Pipeline LP / PAA Finance Corp	EI0750988	PAA	3.09	10.19	US	3/22/2012	6/1/2022	750.00MM	750.00MM	3.65	BBB-	Baa3	CALLABLE	5	Yes	
116	Transcontinental Gas Pipe Line Co LLC	AL5819530	WPZ	3.719	9.08	US	1/4/2017	2/1/2026	1.00MMM	1.00MMM	7.85	BBB	Baa2	CALLABLE	-	Yes	
117	Kinder Morgan Energy Partners LP	EH2008155	KMI	1.836	10.01	US	2/12/2005	2/15/2018	975.00MM	975.00MM	5.95	BBB-	Baa3	AT MATURITY		Yes	
118	Enterprise Products Operating LLC	JK0777510	EPD	2.422	5	US	4/13/2016	4/15/2021	575.00MM	575.00MM	2.85	BBB	Baa1	CALLABLE		Yes	
119	Regency Energy Partners LP / Regency Energy Finance Corp	EK4020708	ETP	3.357	8.19	US	7/23/2014	10/1/2022	700.00MM	700.00MM	5	BBB-	Baa3	CALLABLE	5	Yes	
120	Enterprise Products Operating LLC	EK8950546	EPD	3.29	10.78	US	3/2/2015	2/15/2026	875.00MM	875.00MM	3.7	BBB+	Baa1	CALLABLE		Yes	
121	ONEOK Partners LP	EJ3594079	OKE	1.598	5.05	US	9/13/2012	10/1/2017	400.00MM	400.00MM	2	BBB	Baa3	CALLABLE		Yes	
122	EQT Midstream Partners LP	AL0712373	EQM	3.877	10.07	US	11/4/2016	12/1/2026	500.00MM	500.00MM	4.125	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
123	Buckeye Partners LP	EK4838570	BPL	3.644	10.09	US	9/12/2014	10/15/2024	300.00MM	300.00MM	4.35	BBB-	Baa3	CALLABLE		Yes	
124	Plains All American Pipeline LP / PAA Finance Corp	EJ7863900	PAA	3.46	10.17	US	8/13/2013	10/15/2023	700.00MM	700.00MM	3.85	BBB-	Baa3	CALLABLE		Yes	
125	Western Gas Partners LP	EI6705174	WES	3.227	10.04	US	5/18/2011	6/1/2021	500.00MM	500.00MM	5.375	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
126	Enbridge Inc	EI1275546	ENBCN	2.214	10	CA	3/8/2010	3/9/2020	486.08MM	486.08MM	4.53	BBB	Baa2	AT MATURITY	3	Yes	
127	Enterprise Products Operating LLC	EJ5886305	EPD	2.71	9.99	US	3/18/2013	3/15/2023	1.25MMM	1.25MMM	3.35	BBB	Baa1	CALLABLE		Yes	
128	Energy Transfer LP	EJ8328845	ETP	3.729	10.37	US	9/19/2013	2/1/2024	350.00MM	350.00MM	[illegible]	BBB	Baa3	CALLABLE	-	No	Related Party
129	Western Gas Partners LP	EK9381711	WES	3.838	9.99	US	6/4/2015	6/1/2025	500.00MM	500.00MM	3.95	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
130	EnLink Midstream Partners LP	EK1240950	ENLK	3.939	10.04	US	3/19/2014	4/1/2024	550.00MM	550.00MM	4.4	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating

Exhibit S5.1

Bond Data as of August 2, 2017

								Bloomberg							A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
131	Enterprise Products Operating LLC	EK5283490	EPD	2.063	5	US	10/14/2014	10/15/2019	350.00MM	300.00MM	2.55	BBB-	Baa1	CALLABLE	-	Yes	
132	Veresen Inc	AL1420645	VSNCN	2.707	5	CA	11/10/2016	11/10/2021	260.24MM	260.24MM	3.43	BBB		CALLABLE		Yes	
133	EnLink Midstream Partners LP	EK1240892	ENLK	2.62	5.03	US	3/19/2014	4/1/2019	400.00MM	400.00MM	2.7	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
134	Sabine Pass Liquefaction LLC	QZ6045715	COP	4.104	10.47	US	9/23/2016	3/15/2027	1.50MMM	210.00M	5	BBB-	Baa3	CALLABLE	10	Yes	
135	Plains All American Pipeline LP / PAA Finance Corp	EH5734990	PAA	2.063	9.46	US	11/12/2008	5/1/2018	600.00MM	600.00MM	6.5	BBB-	Baa3	AT MATURITY	-	Yes	
136	Northern Border Pipeline Co	EC5178701	NORBOR		19.62	US	1/31/2002	9/15/2021	250.00MM	250.00MM	7.5	BBB+	WR	AT MATURITY	-	Yes	
137	Enable Midstream Partners LP	QJ8800800	ENBL	-	3.37	US	12/22/2015	5/15/2019	499.55MM	499.55MM	7.4	BB-	Baa3	CALLABLE		No	S&P Credit Rating
138	TransCanada PipeLines Ltd	EI7602703	TRPCN	2.563	10	CA	7/19/2013	7/19/2023	724.15MM	724.15MM	3.69	A-	A3	CALLABLE	-	Yes	
139	Plains All American Pipeline LP / PAA Finance Corp	EH7931791	PAA	2.314	10.03	US	4/20/2009	5/1/2019	350.00MM	349.95MM	8.75	BBB-	Baa3	AT MATURITY	-	Yes	
140	Williams Partners LP	EK3520138	WPZ	3.532	10.55	US	6/27/2014	1/15/2025	750.00MM	750.00MM	3.9	BBB	Baa3	CALLABLE		Yes	
141	Texas Eastern Transmission LP	EI1127415	SEP	-	9.97	US	10/24/2012	10/15/2022	500.00MM	500.00MM	2.8	BBB+	Baa1	CALLABLE	5	Yes	
142	Enbridge Inc	EI7384861	ENBCN	2.899	9.99	CA	7/3/2013	6/30/2023	427.88MM	427.88MM	3.94	BBB+	Baa2	CALLABLE	-	Yes	
143	Kinder Morgan Inc/DE	EH3818720	KMI	1.94	10	US	5/30/2008	6/1/2018	600.00MM	477.13MM	7.25	BBB-	Baa3	AT MATURITY	-	Yes	
144	Inter Pipeline Ltd	AN2390705	IPLCN	3.032	7	CA	4/18/2017	4/18/2024	373.33MM	373.33MM	2.734	BBB+		CALLABLE	-	Yes	
145	Kinder Morgan Inc/DE	EK6236708	KMI	-	3.01	US	11/26/2014	12/1/2017	500.00MM	500.00MM	2	BBB-	Baa3	AT MATURITY	-	Yes	
146	Kinder Morgan Inc/DE	EI9149528	KMI	3.655	10.03	US	11/5/2013	11/15/2023	750.00MM	750.00MM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
147	Kinder Morgan Energy Partners LP	EI7733211	KMI	3.001	10.54	US	8/17/2011	3/1/2022	375.00MM	375.00MM	4.15	BBB-	Baa3	AT MATURITY	5	Yes	
148	TransCanada PipeLines Ltd	EI4120575	TRPCN	2.106	10.02	CA	9/23/2010	10/1/2020	1.00MMM	1.00MMM	3.8	A-	A3	AT MATURITY	3	Yes	
149	Panhandle Eastern Pipe Line Co LP	EH8402883	ETP		10	US	6/2/2009	6/1/2019	150.00MM	150.00MM	8.125	BBB-	Baa3	AT MATURITY	-	Yes	
150	Sunoco Logistics Partners Operations LP	QJ7765598	ETP	2.688	5.37	US	11/17/2015	4/1/2021	600.00MM	600.00MM	4.4	BBB-	Baa3	CALLABLE	-	Yes	
151	Northwest Pipeline LLC	AN0677392	WPZ	-	9.99	US	4/3/2017	4/1/2027	250.00MM	250.00MM	4	BBB	Baa2	CALLABLE	10	Yes	
152	Express Pipeline LLC	DD0193126	EXPPIP		19.9	CA	2/6/1998	12/31/2017	250.00MM	8.15MM	7.39	BBB+	Baa3	SINKABLE	-	Yes	
153	Magellan Midstream Partners LP	EI3455561	MMP	-	10.48	US	8/11/2010	2/1/2021	550.00MM	550.00MM	4.25	BBB+	Baa1	AT MATURITY	3	Yes	
154	Kinder Morgan Energy Partners LP	EC3552380	KMI	5.044	30.01	US	3/12/2001	3/15/2031	300.00MM	300.00MM	7.4	BBB-	Baa3	AT MATURITY	-	Yes	
155	Spectra Energy Partners LP	EI8388948	SEP	1.962	5	US	9/25/2013	9/25/2018	500.00MM	500.00MM	2.95	BBB+	Baa2	CALLABLE	-	Yes	
156	El Paso Natural Gas Co LLC	DD1083615	KMI	4.363	30	US	11/13/1996	11/15/2026	200.00MM	200.00MM	7.5	BBB-	Baa3	AT MATURITY	-	Yes	
157	Kinder Morgan Energy Partners LP	EI2017586	KMI	2.457	10.01	US	3/30/2010	4/1/2020	535.00MM	535.00MM	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
158	Enterprise Products Operating LLC	EH2913209	EPD	1.979	10.83	US	4/3/2008	1/31/2019	700.00MM	700.00MM	6.5	BBB+	Baa1	AT MATURITY	-	Yes	
159	Enbridge Inc	EI8552162	ENBCN	3.015	10	CA	10/2/2013	10/1/2023	800.00MM	800.00MM	4	BBB+	Baa2	CALLABLE		Yes	
160	TC PipeLines LP	EK7987739	TCP	3.697	10	US	3/13/2015	3/13/2025	350.00MM	350.00MM	4.375	BBB-	Baa2	CALLABLE	-	Yes	
161	Spectra Energy Capital LLC	EC0091388	SE	-	19.99	US	7/20/1998	7/15/2018	150.00MM	117.63MM	6.75	BBB	Baa2	AT MATURITY	-	Yes	
162	Sunoco Logistics Partners Operations LP	EI7681022	ETP	2.992	10.54	US	8/2/2011	2/15/2022	300.00MM	300.00MM	4.65	BBB-	Baa3	AT MATURITY	5	Yes	
163	Buckeye Partners LP	EJ0236682	BPL	2.171	5	US	11/14/2013	11/15/2018	400.00MM	400.00MM	2.65	BBB-	Baa3	CALLABLE		Yes	
164	EnLink Midstream Partners LP	EK9018150	ENLK	4.078	10.06	US	5/12/2015	6/1/2025	750.00MM	750.00MM	4.15	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
165	Plains All American Pipeline LP / PAA Finance Corp	EK4705233	PAA	3.831	10.15	US	9/4/2014	11/1/2024	750.00MM	750.00MM	3.6	BBB-	Baa3	CALLABLE		Yes	
166	Regency Energy Partners LP / Regency Energy Finance Corp	EI8190534	ETP	2.987	6.97	US	9/11/2013	9/1/2020	400.00MM	400.00MM	5.75	BBB-	Baa3	CALLABLE	3	Yes	
167	Pembina Pipeline Corp	AM2013028	PPLCN	3.17	7	CA	1/20/2017	1/22/2024	224.65MM	224.65MM	2.99	BBB		CALLABLE	-	Yes	
168	Ruby Pipeline LLC	EJ0235857	RPLLLC		10.12	US	2/15/2012	4/1/2022	825.00MM	825.00MM	6	BBB-	Baa3	SINKABLE	5	Yes	
169	Kinder Morgan Energy Partners LP	EH8211821	KMI	2.414	10.76	US	5/14/2009	2/15/2020	700.00MM	700.00MM	6.85	BBB-	Baa3	AT MATURITY	3	Yes	
170	Kinder Morgan Energy Partners LP	EH9729656	KMI	2.82	11.46	US	9/16/2009	3/1/2021	400.00MM	300.00MM	5.8	BBB-	Baa3	AT MATURITY		Yes	
171	Phillips 66 Partners LP	EK7594592	PSXP	2.253	4.98	US	2/23/2015	2/15/2020	300.00MM	300.00MM	2.646	BBB	Baa3	CALLABLE	3	Yes	
172	Gulfstream Natural Gas System LLC	UV0309781	GULFNG		9.98	US	9/24/2015	9/15/2025	550.00MM	550.00MM	4.6	BBB	Baa2	CALLABLE	-	Yes	
173	TransCanada PipeLines Ltd	EI8739738	TRPCN	2.211	10	CA	11/15/2011	11/15/2021	489.39MM	489.39MM	1.65	A-	A3	AT MATURITY	-	Yes	
174	Kinder Morgan Energy Partners LP	EH6612160	KMI	2.192	10.12	US	12/19/2008	2/1/2019	500.00MM	499.90MM	9	BBB-	Baa3	PUTABLE	-	Yes	
175	Enbridge Energy Partners LP	QJ0720558	EEP	2.519	5.03	US	10/6/2015	10/15/2020	500.00MM	500.00MM	4.375	BBB	Baa3	CALLABLE	3	Yes	
176	Kinder Morgan Inc/DE	EI6067512	KMI	2.713	9.44	US	4/7/2011	9/15/2020	348.65MM	348.65MM	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
177	Enterprise Products Operating LLC	EH9885524	EPD	2.034	10.32	US	10/5/2009	1/31/2020	500.00MM	500.00MM	5.25	BBB+	Baa1	AT MATURITY	-	Yes	
178	Enbridge Energy Partners LP	EH4742431	EEP	1.031	9.64	US	8/25/2008	4/15/2018	395.00MM	395.00MM	6.5	BBB	Baa3	AT MATURITY	-	Yes	
179	Magellan Midstream Partners LP	EH8761155	MMP		10.05	US	6/26/2009	7/15/2019	550.00MM	550.00MM	6.55	BBB+	Baa1	AT MATURITY	-	Yes	
180	Florida Gas Transmission Co LLC	AF2096036	CITCOR	3.368	10	US	7/15/2015	7/15/2025	500.00MM	500.00MM	4.35	BBB	Baa2	CALLABLE	-	Yes	
181	Panhandle Eastern Pipe Line Co LP	EG9684754	ETP	1.919	10.02	US	10/26/2007	11/1/2017	300.00MM	300.00MM	6.2	BBB-	Baa3	AT MATURITY		Yes	
182	Kinder Morgan Energy Partners LP	EI2516985	KMI	2.675	10.33	US	5/19/2010	9/15/2020	600.00MM	600.00MM	5.3	BBB-	Baa3	AT MATURITY	3	Yes	
183	ONEOK Partners LP	EH7396573	OKE	2.277	9.98	US	3/3/2009	3/1/2019	500.00MM	500.00MM	8.625	BBB	Baa3	AT MATURITY	-	Yes	
184	Enterprise Products Operating LLC	EG7798085	EPD	.573	10.03	US	9/4/2007	9/15/2017	800.00MM	500.00MM	6.3	BBB+	Baa1	AT MATURITY	-	Yes	
185	Enbridge Inc	EK1147892	ENBCN	2.457	7	CA	3/11/2014	3/11/2021	360.30MM	360.30MM	3.16	BBB	Baa2	CALLABLE	-	Yes	
186	El Paso Natural Gas Co LLC	283695AZ7	KMI		30	US	1/16/1992	1/15/2022	260.00MM	260.00MM	8.625	BBB-	Baa3	AT MATURITY	-	Yes	
187	ONEOK Inc	EC0488774	OKE	4.953	30	US	9/30/1998	9/30/2028	100.00MM	100.00MM	6.875	BBB	Baa3	AT MATURITY	-	Yes	
188	Enterprise Products Operating LLC	EH9889724	EPD		8.47	US	10/27/2009	4/15/2018	349.69MM	349.69MM	6.65	BBB	Baa1	AT MATURITY	-	Yes	
189	Gulf South Pipeline Co LP	EI4883405	BWP	3.443	7.38	US	1/28/2013	6/15/2022	292.75MM	292.75MM	4	BBB-	Baa2	CALLABLE	5	Yes	
190	Spectra Energy Partners LP	EK7961205	SEP	3.328	10.01	US	3/12/2015	3/15/2025	500.00MM	500.00MM	3.5	BBB+	Baa2	CALLABLE	-	Yes	
191	Plains All American Pipeline LP / PAA Finance Corp	EK6386297	PAA	2.351	5.02	US	12/9/2014	12/15/2019	500.00MM	500.00MM	2.6	BBB-	Baa3	CALLABLE	-	Yes	
192	TransCanada PipeLines Ltd	JV8005128	TRPCN	1.848	2.97	CA	1/27/2016	1/15/2019	400.00MM	400.00MM	3.125	A-	A3	AT MATURITY	-	Yes	
193	Enterprise Products Operating LLC	EK8950363	EPD	1.761	3	US	5/7/2015	5/7/2018	750.00MM	750.00MM	1.65	BBB+	Baa1	AT MATURITY		Yes	
194	Pembina Pipeline Corp	QZ1848410	PPLCN	3.575	10	CA	8/11/2016	8/11/2026	385.39MM	385.39MM	3.71	BBB		CALLABLE	-	Yes	
195	Plains All American Pipeline LP / PAA Finance Corp	EH9637803	PAA	2.546	10.36	US	9/4/2009	1/15/2020	500.00MM	500.00MM	5.75	BBB-	Baa3	AT MATURITY	-	Yes	

Exhibit S5.1
Bond Data as of August 2, 2017

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
196	TransCanada PipeLines Ltd	MM1320[illegible]	TRPCN	1.555	31.02	CA	7/31/1997	8/5/2028	125.26MM	125.26MM	6.89	A-	A3	AT MATURITY	-	Yes	
197	Energy Transfer LP	EJ9273726	ETP	4.51	10.14	US	12/13/2013	7/1/2024	277.48MM	277.48MM	7.6	BBB-	Baa3	CALLABLE		No	Related Party
198	Williams Partners LP	EJ4567745	WPZ	2.507	10.02	US	11/9/2016	11/15/2020	600.00MM	600.00MM	4.125	BBB	Baa3	CALLABLE	3	Yes	
199	Kinder Morgan Inc/DE	EC2994116	KMI	5.408	30.01	US	10/11/2000	10/15/2030	300.00MM	231.17MM	8.05	BBB-	Baa3	AT MATURITY	-	Yes	
200	Pipeline Funding Co LLC	EI0946561	NFF	5.431	20.25	US	10/15/2009	1/15/2030	500.00MM	482.60MM	7.5	BBB-	Baa2	SINKABLE		Yes	
201	Panhandle Eastern Pipe Line Co LP	EH4057718	ETP	-	10.01	US	6/12/2008	6/15/2018	400.00MM	400.00MM	7	BBB-	Baa3	AT MATURITY		Yes	
202	Florida Gas Transmission Co LLC	EJ2371494	CITCOR		10.07	US	6/19/2012	7/15/2022	300.00MM	300.00MM	3.875	BBB	Baa2	CALLABLE	5	Yes	
203	AltaGas Ltd	JK6822135	ALACN	3.535	10	CA	4/7/2016	4/7/2026	265.76MM	265.76MM	4.12	BBB		CALLABLE	-	Yes	
204	Texas Gas Transmission LLC	EI5388232	BWP	3.13	10.04	US	1/19/2011	2/1/2021	440.00MM	440.00MM	4.5	BBB-	Baa2	CALLABLE	3	Yes	
205	Kinder Morgan Inc/DE	EJ9140588	KMI	-	7.28	US	11/5/2013	2/15/2021	750.00MM	750.00MM	5	BBB-	Baa3	CALLABLE		Yes	
206	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EJ3150110	MWE	-	10.52	US	8/10/2012	2/15/2023	750.00MM	40.13MM	5.5	BBB-	WR	CALLABLE	-	Yes	
207	Enbridge Inc	EI0585371	ENBCN	2.052	10	CA	9/2/2009	9/2/2019	362.27MM	362.27MM	4.77	BBB+	Baa2	AT MATURITY	-	Yes	
208	Columbia Pipeline Group Inc	JK8193966	CPGX	-	4.05	US	5/12/2016	6/1/2020	749.90MM	749.90MM	3.3	NR	Baa2	CALLABLE	3	Yes	
209	Columbia Pipeline Group Inc	JK8194105	CPGX	3.46	9.05	US	5/12/2016	6/1/2025	998.70MM	998.70MM	4.5	NR	Baa2	CALLABLE		Yes	
210	Inter Pipeline Ltd	EI7656917	IPLCN	1.752	7	CA	7/29/2011	7/30/2018	209.15MM	209.15MM	3.839	BBB+		AT MATURITY	-	Yes	
211	Kinder Morgan Finance Co LLC	EF4552830	KMI	1.796	7.07	US	12/20/2010	1/15/2018	750.00MM	750.00MM		BBB	Baa3	AT MATURITY		Yes	
212	Energy Transfer LP	EH6608369	ETP	2.326	10.22	US	12/23/2008	4/15/2019	600.00MM	400.00MM	9.7	BBB-	Baa3	PUTABLE		No	Related Party
213	Enbridge Pipelines Inc	EI2085559	ENBPIP	2.012	10	CA	4/6/2016	4/6/2026	349.79MM	349.79MM	4.45	BBB+		AT MATURITY	3	Yes	
214	AltaGas Ltd	EJ1273589	ALACN	2.346	8.11	CA	4/13/2012	6/1/2020	200.50MM	200.50MM	4.07	BBB		AT MATURITY	3	Yes	
215	Northwest Pipeline LLC	EH5341464	WPZ		9.72	US	9/26/2008	6/15/2018	250.00MM	250.00MM	6.05	BBB	Baa2	AT MATURITY		Yes	
216	Enbridge Income Fund	EJ4805097	ENFCN	1.282	5	CA	12/14/2012	12/14/2017	228.29MM	228.29MM	2.92		Baa2	AT MATURITY		Yes	
217	EQT Midstream Partners LP	EK4105400	EQM	3.575	10	US	8/1/2014	8/1/2024	500.00MM	500.00MM	4	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
218	Inter Pipeline Ltd	AL7332367	IPLCN	3.429	10	CA	12/16/2016	12/16/2026	337.26MM	337.26MM	3.484	BBB+		CALLABLE		Yes	
219	Alliance Pipeline LP/Canada	EC8193715	ALPIPE		22.96	CA	1/16/2003	12/31/2025	260.82MM	131.12MM	6.765	BBB+	Baa2	SINKABLE		Yes	
220	AltaGas Ltd	EJ3807447	ALACN	2.632	9	CA	9/28/2012	9/28/2021	355.80MM	355.80MM	3.72	BBB		AT MATURITY		Yes	
221	Magellan Midstream Partners LP	EH4631147	MMP	1.868	10	US	7/11/2008	7/15/2018	250.00MM	250.00MM	6.4	BBB+	Baa1	AT MATURITY		Yes	
222	Buckeye Partners LP	EH1541984	BPL	-	10.01	US	1/11/2008	1/15/2018	300.00MM	300.00MM	6.05	BBB-	Baa3	AT MATURITY		Yes	
223	Boardwalk Pipelines LP	EH9470202	BWP	2.647	10.07	US	8/21/2009	9/15/2019	350.00MM	350.00MM	5.75	BBB-	Baa3	AT MATURITY	-	Yes	
224	Enbridge Energy Partners LP	EI5004582	EEP		10	US	9/15/2011	9/15/2021	600.00MM	600.00MM	4.2	BBB	Baa3	CALLABLE		Yes	
225	Spectra Energy Partners LP	EI7026673	SEP	2.799	10.02	US	6/9/2011	6/15/2021	250.00MM	250.00MM	4.6	BBB+	Baa2	CALLABLE		Yes	
226	Sunoco Logistics Partners Operations LP	QJ7763812	ETP	4.088	10.03	US	11/17/2015	12/1/2025	400.00MM	400.00MM	5.95	BBB-	Baa3	CALLABLE		Yes	
227	TC PipeLines LP	EI7111744	TCP	3.21	10	US	6/17/2011	6/15/2021	350.00MM	350.00MM	4.65	BBB-	Baa2	CALLABLE		Yes	
228	Plains All American Pipeline LP / PAA Finance Corp	EI5302514	PAA	2.801	10.05	US	1/14/2011	2/1/2021	600.00MM	600.00MM	5	BBB-	Baa3	CALLABLE		Yes	
229	Enbridge Income Fund	EK6068457	ENFCN	3.19	10	CA	11/19/2014	11/19/2024	440.88MM	440.88MM	3.95		Baa2	CALLABLE		Yes	
230	Florida Gas Transmission Co LLC	EH8120790	CITCOR	-	10.02	US	5/8/2009	5/15/2019	600.00MM	600.00MM	7.9	BBB	Baa2	AT MATURITY		Yes	
231	MPLX LP	EK7418690	MPLX	3.729	10.01	US	2/12/2015	2/15/2025	500.00MM	500.00MM	4	BBB-	Baa3	CALLABLE	-	Yes	
232	ANR Pipeline Co	001814AR3	TRPCN	2.609	29.99	US	11/1/1991	11/1/2021	300.00MM	229.99MM	9.625	A-	A3	AT MATURITY	-	Yes	
233	AltaGas Ltd	EJ7113073	ALACN	2.912	10	CA	6/11/2013	6/12/2023	294.38MM	294.38MM	3.57	BBB		CALLABLE		Yes	
234	Veresen Inc	EK1279869	VSNCN	2.12	5	CA	6/13/2014	6/13/2019	184.08MM	184.08MM	3.06	BBB		AT MATURITY		Yes	
235	TransCanada PipeLines Ltd	MM1270622	TRPCN	3.179	30	CA	4/15/1997	4/15/2027	124.84MM	124.84MM		A-	NR	AT MATURITY	10	Yes	
236	Inter Pipeline Ltd	EJ7660755	IPLCN	2.242	7	CA	7/19/2013	7/20/2020	482.77MM	482.77MM	3.448	BBB		AT MATURITY	3	Yes	
237	Buckeye Partners LP	EH9483983	BPL	-	9.99	US	8/18/2009	8/15/2019	275.00MM	275.00MM	5.5	BBB	Baa3	AT MATURITY	-	Yes	
238	Energy Transfer LP	EH7804725	ETP	2.224	10.02	US	4/7/2009	4/15/2019	650.00MM	450.00MM	9	BBB-	Baa3	AT MATURITY		No	Related Party
239	Enbridge Pipelines Inc	QN9869180	ENBPIP	2.946	10	CA	9/29/2015	9/29/2025	446.00MM	446.00MM	3.45	BBB+		CALLABLE		Yes	
240	Colorado Interstate Gas Co LLC / Colorado Interstate Issuing Corp	QZ2258759	KMI		10	US	8/16/2016	8/15/2026	375.00MM	375.00MM	4.15	BBB-	Baa3	CALLABLE	-	Yes	
241	Alliance Pipeline LP/United States	EC3566884	ALPIPE	-	18.81	US	3/8/2001	12/31/2019	350.00MM	59.45MM	6.996	BBB+	Baa2	SINKABLE		Yes	
242	Enbridge Energy Partners LP	EI1691449	EEP	2.42	10.04	US	3/2/2010	3/15/2020	500.00MM	500.00MM	5.2	BBB	Baa3	AT MATURITY	3	Yes	
243	Veresen Inc	EI8842129	VSNCN	1.938	7	CA	11/22/2011	11/22/2018	144.82MM	144.82MM	4	BBB		AT MATURITY		Yes	
244	TransCanada PipeLines Ltd	EH6772287	TRPCN	1.919	10.02	CA	1/9/2009	1/15/2019	750.00MM	750.00MM	7.125	A-	A3	AT MATURITY	-	Yes	
245	TransCanada PipeLines Ltd	89352HBY8	TRPCN	2.598	29.99	CA	1/10/1991	1/1/2021	400.00MM	400.00MM	9.875	A-	A3	AT MATURITY	3	Yes	
246	Transcontinental Gas Pipe Line Co LLC	EH5341621	WPZ	2.056	9.72	US	9/26/2008	6/15/2018	250.00MM	250.00MM	6.05	BBB	Baa2	AT MATURITY		Yes	
247	Pembina Pipeline Corp	EK9742801	PPLCN	3.767	12	CA	6/16/2015	6/15/2027	405.25MM	405.25MM	4.24	BBB		CALLABLE	10	Yes	
248	Northwest Pipeline LLC	DD1027182	WPZ		29.99	US	12/5/1995	12/1/2025	85.00MM	85.00MM	7.125	BBB	Baa2	AT MATURITY	-	Yes	
249	Enbridge Income Fund	EJ0304068	ENFCN		10	CA	2/24/2012	2/22/2022	200.28MM	200.28MM	4.85		Baa2	AT MATURITY	5	Yes	
250	Southern Natural Gas Co LLC / Southern Natural Issuing Corp	EI8095180	SONGAS		9.69	US	10/5/2011	6/15/2021	300.00MM	300.00MM	4.4	BBB+	Baa2	CALLABLE		Yes	
251	Enbridge Pipelines Inc	QZ1535420	ENBPIP	3.088	10	CA	8/9/2016	8/10/2026	304.72MM	304.72MM	3	BBB+		CALLABLE		Yes	
252	Kinder Morgan Inc/DE	DD1157419	KMI		19.99	US	2/3/1998	2/1/2018	100.00MM	82.19MM	7	BBB-	WR	AT MATURITY		Yes	
253	Colonial Pipeline Co	EI4393696	COLPLN		9.98	US	10/22/2010	10/15/2020	275.00MM	275.00MM	3.5	A	A3	CALLABLE	3	No	S&P Credit Rating
254	Pembina Pipeline Corp	EJ4095141	PPLCN	2.837	10	CA	10/22/2012	10/24/2022	452.76MM	452.76MM	3.77	BBB		AT MATURITY	5	Yes	
255	TransCanada PipeLines Ltd	EC1471696	TRPCN	3.795	30	CA	6/15/1999	6/15/2029	200.00MM	200.00MM	7.3	A-	A3	AT MATURITY		Yes	
256	AltaGas Ltd	EK5878340	ALACN	3.308	10.18	CA	11/10/2014	1/15/2025	264.36MM	264.36MM	3.84	BBB		CALLABLE	-	Yes	
257	Kinder Morgan Inc/DE	EF5828709	KMI	6.214	20.48	US	8/24/2006	2/15/2027	198.75MM	6.64MM	6.7	BBB-	Baa3	CALL/PUT	10	Yes	
258	AltaGas Ltd	EI4805848	ALACN	-	7.14	CA	11/26/2010	1/15/2018	171.67MM	171.67MM	4.6	BBB		AT MATURITY	-	Yes	
259	Inter Pipeline Ltd	QZ5105957	IPLCN	2.891	7	CA	9/13/2016	9/13/2023	265.63MM	265.63MM	2.608	BBB		CALLABLE		Yes	
260	Kinder Morgan Finance Co LLC	EF9966913	KMI		7.07	US	12/20/2010	1/15/2018	750.00MM	750.00MM	6	BBB-	Baa3	AT MATURITY		Yes	

Exhibit 85.1
Bond Data as of August 2, 2017

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
261	Enbridge Income Fund	EJ4805915	ENFCN	2.822	10.08	CA	12/14/2012	1/13/2023	270.02MM	270.02MM	3.94		Baa2	AT MATURITY	5	Yes	
262	Inter Pipeline Ltd	EJ2127912	IPLCN	2.68	10	CA	5/28/2012	5/30/2022	390.59MM	390.59MM	3.776	BBB+		AT MATURITY	5	Yes	
263	Southeast Supply Header LLC	EK3162378	SESHNG		10.01	US	6/13/2014	6/15/2024	400.00MM	400.00MM	4.25	BBB-	Baa2	CALLABLE	-	Yes	
264	Colonial Pipeline Co	UV8963350	COLPLN		10.03	US	9/22/2015	10/1/2025	350.00MM	350.00MM	3.75	A	A3	CALLABLE	-	No	S&P Credit Rating
265	Boardwalk Pipelines LP	ED2062823	BWP	-	14.6	US	10/27/2003	6/1/2018	185.00MM	185.00MM	5.2	BBB-	Baa3	AT MATURITY	-	Yes	
266	Alliance Pipeline LP/United States	EC0862144	ALPIPE	-	22.61	US	5/23/2003	12/31/2025	300.00MM	59.97MM	4.591	BBB+	Baa2	SINKABLE	-	Yes	
267	Inter Pipeline Ltd	EI5577362	IPLCN	2.139	10	CA	2/2/2011	2/2/2021	328.47MM	328.47MM	4.967	BBB+		AT MATURITY	-	Yes	
268	AltaGas Ltd	EI8422442	ALACN	2.002	7.25	CA	10/17/2011	1/17/2019	196.53MM	196.53MM	4.55	BBB		AT MATURITY	-	Yes	
269	Alliance Pipeline LP/Canada	EI0800587	ALPIPE	2.761	10	CA	12/16/2009	12/16/2019	113.23MM	113.23MM	4.928		Baa3	AT MATURITY		Yes	
270	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EJ5045368	MWE	-	10.51	US	1/10/2013	7/15/2023	1.00MM	11.47MM	4.5	BBB-	WR	CALLABLE	-	Yes	
271	Enbridge Pipelines Inc	EJ4613794	ENBPIP	2.509	10	CA	11/30/2012	11/30/2022	151.06MM	151.06MM	2.93	BBB+		AT MATURITY	5	Yes	
272	Pembina Pipeline Corp	EI6231571	PPLCN	2.54	10	CA	3/29/2011	3/29/2021	256.18MM	256.18MM	4.89	BBB		AT MATURITY		Yes	
273	Enbridge Pipelines Inc	EI0105882	ENBPIP	1.933	10	CA	11/10/2009	11/12/2019	284.96MM	284.96MM	4.49	BBB+		AT MATURITY	-	Yes	
274	Pembina Pipeline Corp	EK7244156	PPLCN	3.323	10	CA	2/2/2015	2/3/2025	357.71MM	357.71MM	3.54	BBB		CALLABLE	-	Yes	
275	Enbridge Inc	EI4166688	ENBCN	2.488	10.35	CA	9/28/2010	2/3/2021	193.86MM	193.86MM	4.26	BBB+	Baa2	AT MATURITY	3	Yes	
276	Enbridge Income Fund	EI9114345	ENFCN	1.931	7	CA	12/20/2011	12/20/2018	121.45MM	121.45MM	4		Baa2	AT MATURITY		Yes	
277	Enbridge Inc	EC0064872	ENBCN	4.107	30	CA	7/14/1998	7/14/2028	35.98MM	35.98MM	6.1	BBB+	Baa2	AT MATURITY	-	Yes	
278	Midcontinent Express Pipeline LLC	EH9763685	MCEXPP		10	US	9/15/2009	9/15/2019	450.00MM	450.00MM	6.7	BBB-	Ba2	AT MATURITY	-	No	Moody's Credit Rating
279	Inter Pipeline Ltd	EK8155047	IPLCN	3.18	10	CA	3/23/2015	3/24/2025	239.77MM	239.77MM	3.173	BBB+		CALLABLE	-	Yes	
280	Sabine Pass Liquefaction LLC	EI5272440	CQP	-	8	US	2/1/2013	2/1/2021	2.00MM	8.38MM	5.625	BBB-	Baa3	CALLABLE	3	Yes	
281	Enbridge Income Fund	EJ0193987	ENFCN	1.972	7	CA	2/24/2012	2/22/2019	300.43MM	300.43MM	4.1		Baa2	AT MATURITY	-	Yes	
282	Southern Union Co	EC1938645	ETP	5.809	30.01	US	11/3/1999	11/15/2029	300.00MM	33.33MM	8.25	BBB-	Baa3	AT MATURITY	-	Yes	
283	Hiland Partners Holdings LLC / Hiland Partners Finance Corp	EK2587508	KMI		8	US	5/14/2014	5/15/2022	225.00MM	225.00MM	5.5	BBB-	Baa3	CALLABLE	5	Yes	
284	Alliance Pipeline LP/United States	EC3360900	ALPIPE		21.82	US	3/8/2001	12/31/2025	200.00MM	200.00MM	7.877	BBB+	Baa2	SINKABLE	-	Yes	
285	AltaGas Ltd	EK0173725	ALACN	3.188	10.17	CA	1/13/2014	3/15/2024	184.09MM	184.09MM	4.4	BBB		CALLABLE		Yes	
286	Sabine Pass Liquefaction LLC	EI9439210	CQP	-	5.3	US	11/25/2013	3/15/2022	1.00MM	5.07MM	6.25	BBB-	Baa3	AT MATURITY	5	Yes	
287	Enbridge Energy Partners LP	EH6630451	EEP	2.379	10.19	US	12/22/2008	3/1/2019	500.00MM	500.00MM	9.875	BBB	Baa3	PUTABLE		Yes	
288	Enbridge Pipelines Inc	EJ7921459	ENBPIP	2.68	10	CA	8/16/2013	8/17/2023	241.62MM	241.62MM	3.79	BBB+		CALLABLE	-	Yes	
289	Alliance Pipeline LP/Canada	EC3595500	ALPIPE		22.29	CA	3/14/2001	6/30/2023	289.85MM	148.01MM	7.181	BBB	Baa2	SINKABLE	-	Yes	
290	Magellan Midstream Partners LP	EK7732762	MMP	3.431	10.03	US	3/4/2015	3/15/2025	250.00MM	250.00MM	3.2	BBB+	Baa1	CALLABLE	-	Yes	
291	Ruby Pipeline LLC	EI0236053	RPLLLC	-	10.12	US	2/15/2012	4/1/2022	825.00MM	825.00MM	6	BBB-	Baa3	SINKABLE	5	Yes	
292	ANR Pipeline Co	DD5338122	TRPCN	3.332	29.98	US	2/22/1994	2/15/2024	125.00MM	125.00MM	7.375	A-	A3	AT MATURITY	-	Yes	
293	Alliance Pipeline LP/Canada	EC4851639	ALPIPE	4.625	24.09	CA	11/28/2001	12/31/2025	221.01MM	111.11MM	7.217	BBB+	Baa2	SINKABLE	-	Yes	
294	Maritimes & Northeast Pipeline LP	EH9499300	SE	-	10.27	CA	8/24/2009	11/30/2019	167.60MM	23.88MM	4.34	A	A3	SINKABLE	-	No	S&P Credit Rating
295	Enbridge Energy LP	EC3495068	EEP		20	US	10/1/1998	10/1/2018	100.00MM	100.00MM	7	BBB	Baa2	AT MATURITY		Yes	
296	TransCanada PipeLines Ltd	GG7150558	TRPCN		25.05	CA	3/2/1993	3/20/2018	120.25MM	120.25MM	9.45	A-	A3	AT MATURITY	-	Yes	
297	Enable Oklahoma Intrastate Transmission LLC	EI0448320	ENBL	3.33	10.33	US	11/16/2009	3/15/2020	250.00MM	250.00MM	6.25	BB-	Baa3	AT MATURITY	3	No	S&P Credit Rating
298	Sabine Pass Liquefaction LLC	EK7758056	CQP	-	10	US	3/3/2015	3/1/2025	2.00MM	330.00M	5.625	BBB-	Baa3	CALLABLE	-	Yes	
299	Enbridge Pipelines Inc	EH6253205	ENBPIP	1.765	10	CA	11/19/2008	11/19/2018	241.65MM	241.65MM	6.62	BBB+		AT MATURITY	-	Yes	
300	Sabine Pass Liquefaction LLC	EI6331197	CQP		10	US	11/6/2013	4/15/2023	1.00MM	32.13MM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
301	Sunoco Logistics Partners Operations LP	EI1456371	ETP	2.502	10.01	US	2/12/2010	2/15/2020	250.00MM	250.00MM	5.5	BBB-	Baa3	AT MATURITY	3	Yes	
302	Texas Eastern Transmission LP	EJ4132660	SEP		9.97	US	10/24/2012	10/15/2022	500.00MM	500.00MM	2.8	BBB+	Baa1	CALLABLE	5	Yes	
303	TransCanada PipeLines Ltd	EC0723550	TRPCN		32.01	CA	12/7/1998	12/9/2030	227.91MM	92.35MM	6.5	A	A3	AT MATURITY	-	Yes	
304	TransCanada PipeLines Ltd	EC1610847	TRPCN	-	28	CA	12/1/1994	12/1/2022	18.18MM	18.18MM	9.05	A-	A3	AT MATURITY	5	Yes	
305	Enbridge Income Fund	EI4631475	ENFCN	2.464	10	CA	11/12/2010	11/12/2020	95.82MM	98.82MM	4.85		Baa2	AT MATURITY	3	Yes	
306	Southern Natural Gas Co LLC	EC3471351	SONGAS	4.494	30	US	2/15/2001	2/15/2031	300.00MM	153.28MM	7.35	BBB+	Baa2	AT MATURITY	-	Yes	
307	Transcontinental Gas Pipe Line Co LLC	DD1089513	WPZ	4.039	30	US	12/2/1996	12/1/2026	200.00MM	200.00MM	7.25	BBB	Baa2	AT MATURITY		Yes	
308	Kinder Morgan Inc/DE	EF5837416	KMI	5.442	21.77	US	8/24/2006	6/1/2028	200.00MM	30.39MM	6.95	BBB-	Baa3	AT MATURITY	-	Yes	
309	TransCanada PipeLines Ltd	893526CJ0	TRPCN	-	25	CA	12/18/1992	12/20/2017	78.21MM	78.21MM	9.8	A-		AT MATURITY	-	Yes	
310	Florida Gas Transmission Co LLC	EI3192388	CITCOR	2.481	9.99	US	7/19/2010	7/15/2020	500.00MM	500.00MM	5.45	BBB	Baa2	AT MATURITY	3	Yes	
311	Texas Eastern Transmission LP	EG8148975	SEP		10.01	US	9/11/2007	9/15/2017	400.00MM	400.00MM	6	BBB+	Baa1	AT MATURITY	-	Yes	
312	Florida Gas Transmission Co LLC	DD0038360	CITCOR	5.906	29.98	US	11/7/1994	11/1/2024	150.00MM	65.00MM	9.19	BBB	Baa2	SINKABLE	-	Yes	
313	Kinder Morgan Inc/DE	DD1166352	KMI	5.736	29.98	US	3/9/1998	3/1/2028	500.00MM	32.00MM	7.25	BBB-	Baa3	AT MATURITY		Yes	
314	Southeast Supply Header LLC	EK3174258	SESHNG	-	10.01	US	6/13/2014	6/15/2024	400.00MM	400.00MM	4.25	BBB-	Baa2	CALLABLE	-	Yes	
315	Enbridge Inc	EC2763752	ENBCN	4.303	30	CA	7/24/2000	7/24/2030	136.66MM	136.66MM	7.22	BBB+	Baa2	AT MATURITY	-	Yes	
316	Gulf South Pipeline Co LP	EG7432719	BWP	-	10	US	8/17/2007	8/15/2017	275.00MM	275.00MM	6.3	BBB-	Baa2	AT MATURITY	-	Yes	
317	Alliance Pipeline LP/Canada	ED0330677	ALPIPE	-	20.51	CA	6/26/2003	12/31/2023	221.84MM	70.07MM	5.546	BBB+	Baa2	SINKABLE		Yes	
318	TransCanada PipeLines Ltd	893526CA9	TRPCN	2.454	29.96	CA	12/6/1990	11/20/2020	214.78MM	214.78MM	11.8	A-		AT MATURITY	3	Yes	
319	TransCanada PipeLines Ltd	CP5075843	TRPCN	3.549	30	CA	5/26/1998	5/26/2028	120.25MM	120.25MM	6.28	A-	A3	AT MATURITY	-	Yes	
320	TransCanada PipeLines Ltd	MM1154184	TRPCN	3.331	30	CA	2/5/1996	2/5/2026	174.72MM	174.72MM	8.29	A-	A3	AT MATURITY	-	Yes	
321	Sabine Pass Liquefaction LLC	QZ6149847	CQP	4.104	10.47	US	9/23/2016	3/15/2027	1.50MM	210.00M	5	BBB-	Baa3	CALLABLE	10	Yes	
322	NOVA Gas Transmission Ltd	DD5286362	TRPCN		30	CA	4/1/1993	4/1/2023	200.00MM	200.00MM	7.875	A-	A3	AT MATURITY	-	Yes	
323	Texas Eastern Transmission LP	EI4891079	SEP		9.99	US	12/6/2010	12/1/2020	300.00MM	300.00MM	4.125	BBB+	Baa1	CALLABLE	3	Yes	
324	Sunoco Inc	DD1008273	ETP	-	30	US	11/1/1994	11/1/2024	100.00MM	64.79MM	9	BBB-	Baa3	AT MATURITY	-	Yes	
325	Kinder Morgan Inc/DE	EF2263202	KMI	6.214	21.11	US	1/6/2006	2/15/2027	182.76MM	1.25MM	6.7	BBB-	Baa3	PUTABLE	10	Yes	

Exhibit 85.1
Bond Data as of August 2, 2017

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
326	Gulfstream Natural Gas System LLC	[illegible]	GULFNG	-	20.92	US	10/26/2005	11/1/2025	350.00MM	350.00MM	6.19	BBB	Baa2	AT MATURITY		Yes	
327	Kinder Morgan Inc/DE	DD1139524	KMI	5.535	30.01	US	10/27/1997	11/1/2027	150.00MM	6.97MM	6.67	BBB-	Baa3	PUTABLE	10	Yes	
328	Panhandle Eastern Pipe Line Co LP	EC1273076	ETP	6.097	29.87	US	9/1/1999	7/15/2029	300.00MM	66.31MM	7	BBB-	Baa3	AT MATURITY	-	Yes	
329	Northwest Pipeline LLC	AN5671817	WPZ		9.96	US	1/3/2017	4/1/2027	250.00MM	250.00MM	4	BBB	Baa2	CALLABLE	10	Yes	
330	TransCanada PipeLines Ltd	MM1234738	TRPCN	3.591	30.11	CA	12/5/1996	1/15/2027	78.06MM	78.06MM	7.31	A-	NR	AT MATURITY	-	Yes	
331	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EK6428624	MWE	4.15	10.03	US	11/21/2014	12/1/2024	1.15MM	1.05MM	4.875	BBB-	WR	CALLABLE	-	Yes	
332	TransCanada PipeLines Ltd	EC3417424	TRPCN		31	CA	6/19/1998	6/20/2029	102.09MM	102.09MM	5.65		A3	PUTABLE		Yes	
333	Sabine Pass Liquefaction LLC	EJ5366160	CQP	-	8	US	2/1/2013	2/1/2021	2.90MM	8.38MM	5.625	BBB-	Ba3	CALLABLE	3	Yes	
334	Sabine Pass Liquefaction LLC	EI6332898	CQP		10	US	4/16/2013	4/15/2023	1.50MM	32.13MM	5.625	BBB-	Baa3	CALLABLE		Yes	
335	Enbridge Energy LP	EC0493027	EEP		30	US	10/1/1998	10/1/2028	100.00MM	100.00MM	7.125	BBB	Baa2	AT MATURITY		Yes	
336	Enbridge Pipelines Inc	GG7181353	ENBPIP	-	30.15	CA	12/22/1993	2/15/2024	149.59MM	149.59MM	8.2	BBB		AT MATURITY		Yes	
337	Columbia Pipeline Group Inc	EK9272087	CPGX		3.03	US	5/22/2015	6/1/2018	500.00MM	55.00MM	2.45	NR	Baa2	AT MATURITY	-	Yes	
338	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EK9448192	MWE	4.017	10	US	6/2/2015	6/1/2025	1.20MM	10.96MM	4.875	BBB-	WR	CALLABLE	-	Yes	
339	Enable Midstream Partners LP	EK2857776	ENBL	3.9	9.97	US	5/27/2014	5/15/2024	600.00MM	173.00MM	3.9	BB+	Baa3	CALLABLE		No	S&P Credit Rating
340	ANR Pipeline Co	DD1021816	TRPCN	4.003	30	US	6/1/1995	6/1/2025	75.00MM	7.00MM	7	A-	A3	PUTABLE		Yes	
341	Gulfstream Natural Gas System LLC	UV9423906	GULFNG		9.98	US	9/24/2015	9/15/2025	550.00MM	550.00MM	4.6	BBB	Baa2	CALLABLE	-	Yes	
342	NOVA Gas Transmission Ltd	GG7215682	TRPCN	-	30	CA	12/16/1994	12/16/2024	71.85MM	71.85MM	[illegible]	A-	A3	AT MATURITY		Yes	
343	Enbridge Pipelines Inc	EC0673854	ENBPIP	-	25	CA	11/17/1998	11/17/2023	64.53MM	64.53MM	6.35	BBB		AT MATURITY		Yes	
344	Transcontinental Gas Pipe Line Co LLC	DD1070089	WPZ	4.221	30	US	7/15/1996	7/15/2026	200.00MM	7.50MM	7.08	BBB	Baa2	PUTABLE	-	Yes	
345	TransCanada PipeLines Ltd	MM1161981	TRPCN	4.047	34.64	CA	5/28/1995	1/19/2031	36.35MM	36.35MM	8.25	A	A3	PUTABLE	-	Yes	
346	Columbia Pipeline Group Inc	EK9265282	CPGX	-	3.03	US	5/22/2015	6/1/2018	500.00MM	55.00MM	2.45	NR	Baa2	AT MATURITY		Yes	
347	NOVA Gas Transmission Ltd	MM1132878	TRPCN	-	30.01	CA	5/25/1995	5/27/2025	63.53MM	63.53MM	8.9	A-	A3	AT MATURITY		Yes	
348	NOVA Gas Transmission Ltd	CP5109937	TRPCN		32	CA	5/27/1998	5/27/2030	68.65MM	68.65MM	6.3	A-	A3	AT MATURITY	-	Yes	
349	Energy Transfer LP	EJ7344868	ETP	4.685	10.61	US	6/21/2013	2/1/2024	277.49MM	5.00MM	7.6	BBB	Baa3	CALLABLE		No	Related Party
350	Enable Midstream Partners LP	EK2857671	ENBL	-	4.97	US	5/27/2014	5/15/2019	500.00MM	[illegible]	2.4	BB+	Baa3	CALLABLE		No	S&P Credit Rating
351	Veresen Inc	[illegible]	VSNCN	-	10	CA	3/14/2012	3/14/2022	50.35MM	50.35MM	[illegible]	BBB		AT MATURITY	5	Yes	
352	Sabine Pass Liquefaction LLC	EJ9464694	CQP		9.3	US	11/25/2013	3/15/2022	1.90MM	3.07MM	6.25	BBB-	Baa3	AT MATURITY	4	Yes	
353	Enbridge Pipelines Inc	EC3010160	ENBPIP	3.649	30	CA	2/12/1990	2/12/2020	43.54MM	43.54MM	6.05	BBB+		AT MATURITY	-	Yes	
354	TransCanada PipeLines Ltd	MM1114973	TRPCN	4.14	34	CA	4/25/1996	4/25/2030	30.66MM	30.66MM	8.21	A-	A3	PUTABLE		Yes	
355	TransCanada PipeLines Ltd	MM1011541	TRPCN	-	25	CA	5/27/1991	5/27/2019	9.01MM	9.01MM	9.35	A-		AT MATURITY		Yes	
356	Kinder Morgan Inc/DE	EE2264169	KMI	6.211	21.11	US	1/6/2006	2/15/2027	182.75MM	1.25MM	6.7	BBB-	Baa3	PUTABLE	10	Yes	
357	Columbia Pipeline Group Inc	EK9264720	CPGX	4.396	10.03	US	5/22/2015	6/1/2025	1.00MM	1.30MM	4.5	NR	Baa2	CALLABLE	-	Yes	
358	Columbia Pipeline Group Inc	EK9265167	CPGX		5.03	US	5/22/2015	6/1/2020	750.00MM	100.00MM	3.3	NR	Baa2	CALLABLE	3	Yes	
359	El Paso Tennessee Pipeline Co LLC	DD1041379	KMI	5.225	29.99	US	12/18/1995	12/15/2025	300.00MM	148.00MM	7.25	NR	Baa3	AT MATURITY	-	Yes	
360	Texas Gas Transmission LLC	EJ5397639	BWP		10.04	US	1/19/2011	2/1/2021	440.00MM	440.00MM	4.5	BBB-	Baa2	CALLABLE	3	Yes	
361	Enable Midstream Partners LP	EK2872191	ENBL	3.9	9.97	US	5/27/2014	5/15/2024	600.00MM	373.00MM	3.9	BB+	Baa3	CALLABLE	-	No	S&P Credit Rating
362	NOVA Gas Transmission Ltd	MM1198121	TRPCN	3.849	29.99	CA	8/23/1996	8/20/2026	32.50MM	32.50MM	7.5	A-	A3	AT MATURITY		Yes	
363	Sabine Pass Liquefaction LLC	EK7777676	CQP	-	10	US	3/3/2015	3/1/2025	2.00MM	330.00MM	5.625	BBB-	Baa3	CALLABLE		Yes	
364	Enbridge Pipelines Inc	EC1459774	ENBPIP	3.659	30	CA	6/11/1999	6/11/2029	75.06MM	75.06MM	6.5	BBB+		AT MATURITY		Yes	
365	Gulf South Pipeline Co LP	EG7432750	BWP		10	US	8/17/2007	8/15/2017	275.00MM	275.00MM	6.3	BBB-	Baa2	AT MATURITY		Yes	
366	Colonial Pipeline Co	LY9031948	COLPLN		10.03	US	9/22/2015	10/1/2025	350.00MM	350.00MM	3.75	A	A3	CALLABLE	-	No	S&P Credit Rating
367	Florida Gas Transmission Co LLC	AF2176607	CTTCOR	3.374	10	US	7/15/2015	7/15/2025	500.00MM	500.00MM	4.35	BBB	Baa2	CALLABLE		Yes	
368	Colonial Pipeline Co	EI4098938	COLPLN	-	9.98	US	10/22/2010	10/15/2020	275.00MM	275.00MM	[illegible]	A	A3	CALLABLE	3	No	S&P Credit Rating
369	Centra Gas Ontario Inc	GG7174897	SE		25	CA	10/19/1993	10/19/2018	56.58MM	56.58MM	8.65	A-		AT MATURITY		Yes	
370	Florida Gas Transmission Co LLC	EI5198341	CTTCOR	-	9.99	US	7/19/2010	7/15/2020	500.00MM	500.00MM	5.45	BBB	Baa2	AT MATURITY	3	Yes	
371	Enbridge Energy Partners LP	EH2912853	EEP	-	10.01	US	1/3/2008	4/15/2018	400.00MM	5.00MM	6.5	BBB	Baa3	AT MATURITY		Yes	
372	Enable Midstream Partners LP	EK2871839	ENBL	-	4.97	US	5/27/2014	5/15/2019	500.00MM	450.00MM	2.4	BB	Baa3	CALLABLE		No	S&P Credit Rating
373	Texas Eastern Transmission LP	EI4898160	SEP		9.99	US	12/6/2010	12/1/2020	300.00MM	300.00MM	4.125	BBB	Baa1	CALLABLE	3	Yes	
374	TransCanada PipeLines Ltd	GG7095704	TRPCN	-	29.49	CA	9/20/1989	3/20/2019	81.55MM	81.55MM	10.5	A-		AT MATURITY	-	Yes	
375	Pembina Pipeline Corp	EH032618	PPLCN	-	10	CA	11/18/2009	11/18/2019	253.52MM	253.52MM	5.91	BBB		AT MATURITY		Yes	
376	Enbridge Energy Partners LP	EH2913311	EEP	-	10.05	US	4/3/2008	4/15/2018	400.00MM	5.00MM	6.5	BBB	Baa3	AT MATURITY		Yes	
377	NOVA Gas Transmission Ltd	MM1340189	TRPCN	3.569	30	CA	12/1/1997	12/1/2027	54.40MM	54.40MM	6.59	A-	A3	AT MATURITY	10	Yes	
378	Gulf South Pipeline Co LP	EI2315244	BWP		10.01	US	6/12/2012	6/15/2022	300.00MM	7.25MM	4	BBB-	Baa2	CALLABLE	5	Yes	
379	NOVA Gas Transmission Ltd	MM1132628	TRPCN	-	31	CA	6/5/1995	6/5/2026	32.71MM	32.71MM	8.46	A-	A3	PUTABLE		Yes	
380	Columbia Pipeline Group Inc	EK9271702	CPGX	4.396	10.03	US	5/22/2015	6/1/2025	1.00MM	1.30MM	4.5	NR	Baa2	CALLABLE		Yes	
381	Kinder Morgan Inc/DE	EI1178733	KMI		9.98	US	4/24/2010	9/15/2020	348.67MM	21.00MM	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
382	Florida Gas Transmission Co LLC	EH8128918	CTTCOR		10.92	US	3/8/2009	5/15/2019	600.00MM	600.00MM	7.9	BBB	Baa2	AT MATURITY		Yes	
383	TransCanada PipeLines Ltd	MM1319142	TRPCN	3.567	28	CA	10/14/1997	10/14/2025	293.00MM	190.02MM	7.06	A-	A3	AT MATURITY		Yes	
384	Energy Transfer LP	EJ7345667	ETP	4.685	10.61	US	6/21/2013	2/1/2024	277.49MM	5.00MM	7.6	BBB-	Baa3	CALLABLE	-	No	Related Party
385	Florida Gas Transmission Co LLC	EI2577897	CTTCOR		10.07	US	6/19/2012	7/15/2022	300.00MM	300.00MM	3.875	BBB	Baa2	CALLABLE	5	Yes	
386	Gulf South Pipeline Co LP	EI2323640	BWP		10.01	US	6/12/2012	6/15/2022	300.00MM	7.25MM	4	BBB-	Baa2	CALLABLE	5	Yes	
387	Express Pipeline LLC	DD1153353	EXPPIP	-	19.9	CA	2/6/1998	12/31/2017	250.00MM	6.15MM	7.39	BBB	Baa3	SINKABLE	-	Yes	
388	Enable Oklahoma Intrastate Transmission LLC	EH0455680	ENBL	-	10.33	US	11/16/2009	3/15/2020	250.00MM	250.00MM	6.25	BB	Baa3	AT MATURITY	3	No	S&P Credit Rating
389	Colorado Interstate Gas Co LLC / Colorado Interstate Issuing Corp	QZ2210930	KMI		10	US	8/16/2016	8/15/2026	375.00MM	375.00MM	4.15	BBB-	Baa3	CALLABLE		Yes	
390	Energy Transfer LP	EK9884548	ETP	1.991	2.98	US	6/23/2015	6/15/2018	650.00MM	650.00MM	2.5	BBB-	Baa3	AT MATURITY		No	Related Party

Exhibit S5.1
Bond Data as of August 2, 2017

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
391	Enbridge Pipelines Inc	MM1129067	ENBPIP	3.418	30	CA	11/17/1997	11/17/2027	35.34MM	35.34MM	6.55	BBB+		AT MATURITY	10	Yes	
392	Florida Gas Transmission Co LLC	DD0038313	CITCOR	5.906	29.98	US	11/7/1994	11/17/2024	150.00MM	60.00MM	9.19	BBB	Baa2	SINKABLE	-	Yes	
393	Kinder Morgan Inc/DE	BH178410	KMI		9.98	US	9/24/2010	9/15/2020	348.07MM	21.00M	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
394	TransCanada PipeLines Ltd	EK6868211	TRPCN	1.548	3	CA	1/12/2015	1/12/2018	500.00MM	500.00MM	1.875	A-	A3	AT MATURITY	-	Yes	
395	NOVA Gas Transmission Ltd	MM1133139	TRPCN	3.461	31.01	CA	5/25/1995	5/27/2026	32.86MM	32.86MM	8.875	A-	A3	AT MATURITY	-	Yes	
396	Express Pipeline LLC	DD0135192	EXPPIP	-	19.9	CA	2/6/1998	12/31/2017	250.00MM	6.15MM	7.39	BBB1	Baa3	SINKABLE	-	Yes	
397	Columbia Pipeline Group Inc	EK9271645	CPGX		5.03	US	5/22/2015	6/1/2020	750.00MM	100.00M	3.3	NR	Baa2	CALLABLE	3	Yes	
398	NOVA Gas Transmission Ltd	EC1074763	TRPCN	5.629	31	CA	7/16/1997	7/17/2028	72.81MM	72.81MM	7	A-	A3	AT MATURITY	-	Yes	

	Maturity Dates		
Bond	Start of Range	End of Range	Median Yield
3 Year	2/2/2020	2/1/2021	2.46%
5 Year	2/2/2022	2/1/2023	3.00%
10 Year	2/2/2027	2/1/2028	3.80%

Sources:
Pulled from Bloomberg

Exhibit S5.2

Bond Data as of February 2, 2018

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
1	Texas Eastern Transmission LP	AQ0173686	SEP	3.812	10.02	US	1/9/2018	1/15/2028	400.00MM	400.00MM	3.5	BBB+	Baa1	CALLABLE	10	Yes	
2	Kinder Morgan Inc/DE	EK6232607	KMI	3.854	10.51	US	11/26/2014	6/1/2025	1.50MMM	1.50MMM	4.3	BBB-	Baa3	CALLABLE	-	Yes	
3	Andeavor Logistics LP / Tesoro Logistics Finance Corp	AL4828532	ANDX	4.447	8.12	US	12/2/2016	1/15/2025	750.00MM	750.00MM	5.25	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
4	Sunoco Logistics Partners Operations LP	AP2752223	ETP	4.363	10.03	US	9/21/2017	10/1/2027	750.00MM	750.00MM	4	BBB-	Baa3	CALLABLE	10	Yes	
5	Andeavor Logistics LP / Tesoro Logistics Finance Corp	AQ0883407	ANDX	4.287	10.01	US	11/28/2017	12/1/2027	750.00MM	750.00MM	4.25	BBB-	Ba1	CALLABLE	10	No	Moody's Credit Rating
6	Andeavor Logistics LP / Tesoro Logistics Finance Corp	JK4444267	ANDX	5.164	6.52	US	4/8/2016	10/15/2022	797.00MM	297.00MM	6.25	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
7	Plains All American Pipeline LP / PAA Finance Corp	AL2929414	PAA	4.272	10.06	US	11/22/2016	12/15/2026	750.00MM	750.00MM	4.5	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
8	Buckeye Partners LP	AP0625401	BPL	4.116	10.03	US	11/20/2017	12/1/2027	400.00MM	400.00MM	4.125	BBB-	Baa3	CALLABLE	10	Yes	
9	Kinder Morgan Inc/DE	AO6530546	KMI	3.422	5.43	US	8/10/2017	1/15/2023	1.00MMM	1.00MMM	3.15	BBB-	Baa3	CALLABLE	5	Yes	
10	Sabine Pass Liquefaction LLC	EK5629191	SPLLLC	3.997	9.40	US	11/19/2014	5/15/2024	2.00MMM	2.00MMM	5.75	BBB-	Baa3	CALLABLE		Yes	
11	TransCanada PipeLines Ltd	JV3013036	TRPCN	3.186	9.97	CA	1/27/2016	1/15/2026	850.00MM	850.00MM	4.875	A-	A3	CALLABLE	-	Yes	
12	MPLX LP	AM1235607	MPLX	4.013	10.05	US	2/10/2017	3/1/2027	1.25MMM	1.25MMM	4.125	BBB	Baa3	CALLABLE	-	Yes	
13	Andeavor Logistics LP / Tesoro Logistics Finance Corp	JK4444259	ANDX	3.153	1.52	US	4/8/2016	10/15/2019	500.00MM	500.00MM	5.5	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
14	Energy Transfer LP	EJ5146570	ETP	3.731	10.03	US	1/22/2013	2/1/2023	800.00MM	800.00MM	3.6	BBB-	Baa3	CALLABLE	5	No	Related Party
15	Enterprise Products Operating LLC	AR0692442	EPD		3	US	2/15/2018	2/15/2021	750.00MM	750.00MM	2.8	BBB+	Baa1	AT MATURITY	3	Yes	
16	TransCanada PipeLines Ltd	AQ0807192	TRPCN	2.44	1.99	CA	11/17/2017	11/15/2019	700.00MM	700.00MM	2.125	A-	A3	AT MATURITY	-	Yes	
17	Boardwalk Pipelines LP	AM0459645	BWP	4.462	10.5	US	1/12/2017	7/15/2027	500.00MM	500.00MM	4.45	BBB-	Baa3	CALLABLE		Yes	
18	Phillips 66 Partners LP	AP5248065	PSXP	4.01	10.38	US	10/13/2017	3/1/2028	500.00MM	500.00MM	3.75	BBB	Baa3	CALLABLE	10	Yes	
19	Williams Partners LP / ACMP Finance Corp	EK1082037	WPZ	4.051	10.02	US	3/7/2014	3/15/2024	750.00MM	750.00MM	4.875	BBB	Baa3	CALLABLE	-	Yes	
20	Enbridge Inc	AO1405585	ENBCN	3.919	10.02	CA	7/7/2017	7/15/2027	700.00MM	700.00MM	3.7	BBB+	Baa3	CALLABLE	-	Yes	
21	Andeavor Logistics LP / Tesoro Logistics Finance Corp	AQ0883316	ANDX		5.01	US	11/28/2017	12/1/2022	500.00MM	500.00MM	3.5	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
22	Kinder Morgan Energy Partners LP	EJ0550892	KMI	3.112	10.17	US	3/14/2012	9/1/2022	1.00MMM	1.00MMM	3.95	BBB-	Baa3	CALLABLE	-	Yes	
23	Valero Energy Partners LP	AL5532913	VLP	4.1	10.02	US	12/5/2016	12/15/2026	500.00MM	500.00MM	4.375	BBB-	Baa3	CALLABLE	-	Yes	
24	Kinder Morgan Inc/DE	EJ6237185	KMI	2.677	5.01	US	11/26/2014	12/1/2019	1.50MMM	1.50MMM	3.05	BBB-	Baa3	CALLABLE	-	Yes	
25	Enterprise Products Operating LLC	JK6772540	EPD	2.851	5	US	4/13/2016	1/15/2021	575.00MM	575.00MM	2.85	BBB+	Baa1	CALLABLE	3	Yes	
26	Spectra Energy Partners LP	EJ8391524	SEP	3.528	10.47	US	9/25/2013	3/15/2024	1.00MMM	1.00MMM	4.75	BBB+	Baa2	CALLABLE		Yes	
27	Enable Midstream Partners LP	AM7613012	ENBL	4.423	10.02	US	3/9/2017	1/15/2027	700.00MM	700.00MM	4.4	BBB-	Baa3	CALLABLE	-	Yes	
28	Andeavor Logistics LP / Tesoro Logistics Finance Corp	LW1651316	ANDX	4.849	7.97	US	5/12/2016	5/1/2024	450.00MM	450.00MM	6.375	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
29	Enterprise Products Operating LLC	JK6779462	EPD	3.637	10.84	US	4/13/2016	2/15/2027	575.00MM	575.00MM	3.95	BBB+	Baa1	CALLABLE	-	Yes	
30	Enbridge Inc	AO1403408	ENBCN	3.341	5.02	CA	7/7/2017	7/15/2022	700.00MM	700.00MM	2.9	BBB+	Baa3	CALLABLE		Yes	
31	Spectra Energy Partners LP	QZ7989303	SEP	3.821	9.99	US	10/17/2016	10/15/2026	600.00MM	600.00MM	3.375	BBB+	Baa2	CALLABLE	-	Yes	
32	MPLX LP	QZ3833667	MPLX	3.609	6.8	US	9/27/2016	7/15/2023	988.53MM	988.53MM	4.5	BBB	Baa3	CALLABLE	5	Yes	
33	Enterprise Products Operating LLC	EK5288915	EPD	3.511	10.34	US	10/14/2014	2/15/2025	1.15MMM	1.15MMM	3.75	BBB+	Baa1	CALLABLE		Yes	
34	ONEOK Inc	AO3031280	OKE	3.968	10	US	7/13/2017	7/13/2027	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE		Yes	
35	Sabine Pass Liquefaction LLC	EK0813022	SPLLLC	3.344	6.88	US	3/17/2014	2/1/2021	1.00MMM	1.00MMM	5.625	BBB-	Baa3	CALLABLE	3	Yes	
36	Buckeye Partners LP	AL0765273	BPL	4.355	10.06	US	11/7/2016	12/1/2026	600.00MM	600.00MM	3.95	BBB-	Baa3	CALLABLE	-	Yes	
37	Enbridge Energy Partners LP	QJ0731534	EEP	3.993	10.03	US	10/6/2015	10/15/2025	500.00MM	500.00MM	5.875	BBB	Baa3	CALLABLE		Yes	
38	Sabine Pass Liquefaction LLC	EK5639076	SPLLLC	3.568	7.32	US	11/19/2014	3/15/2022	994.93MM	994.93MM	6.25	BBB-	Baa3	CALLABLE		Yes	
39	Enbridge Inc	EK3027436	ENBCN	3.587	10.02	CA	6/4/2014	6/10/2024	500.00MM	500.00MM	3.5	BBB+	Baa3	CALLABLE		Yes	
40	Kinder Morgan Energy Partners LP	EK4816728	KMI	3.748	9.97	US	9/11/2014	9/1/2024	650.00MM	650.00MM	4.25	BBB-	Baa3	CALLABLE	-	Yes	
41	Enterprise Products Operating LLC	EJ5882308	EPD	3.18	9.91	US	3/18/2013	3/15/2023	1.25MMM	1.25MMM	3.35	BBB+	Baa1	CALLABLE		Yes	
42	Boardwalk Pipelines LP	LW1063706	BWP	4.502	10.04	US	5/16/2016	6/1/2026	550.00MM	550.00MM	5.95	BBB-	Baa3	CALLABLE		Yes	
43	Williams Partners LP	AN8951246	WPZ	3.91	10.03	US	6/5/2017	6/15/2027	1.45MMM	1.45MMM	3.75	BBB	Baa3	CALLABLE		Yes	
44	Enbridge Inc	AL3762155	ENBCN	3.906	10	CA	11/29/2016	12/1/2026	750.00MM	750.00MM	4.25	BBB+	Baa3	CALLABLE	-	Yes	
45	Sabine Pass Liquefaction LLC	AN2597391	SPLLLC	4.357	9.14	US	5/10/2017	6/30/2026	1.50MMM	1.50MMM	5.875	BBB-	Baa3	CALLABLE		Yes	
46	Energy Transfer LP	EK7983511	ETP	4.139	10.01	US	3/12/2015	3/15/2025	1.00MMM	1.00MMM	4.05	BBB-	Baa3	CALLABLE		No	Related Party
47	Western Gas Partners LP	LW6691723	WES	4.263	9.97	US	7/12/2016	7/1/2026	500.00MM	500.00MM	4.65	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
48	Sunoco Logistics Partners Operations LP	EK1561332	ETP	4.003	10	US	4/3/2014	4/1/2024	500.00MM	500.00MM	4.25	BBB-	Baa3	CALLABLE	-	Yes	
49	MPLX LP	QZ1833832	MPLX	3.957	8.63	US	9/27/2016	6/1/2025	1.19MMM	1.19MMM	4.875	BBB	Baa3	CALLABLE	-	Yes	
50	MPLX LP	QZ3833049	MPLX	-	5.38	US	1/27/2016	7/15/2023	709.85MM	709.85MM	5.5	BBB	Baa3	CALLABLE	5	Yes	
51	Sabine Pass Liquefaction LLC	AO0405230	SPLLLC	4.241	10.66	US	9/17/2017	3/15/2028	1.35MMM	1.35MMM	4.2	BBB-	Baa3	CALLABLE	10	Yes	
52	Energy Transfer LP	EJ8328902	ETP	3.031	7.65	US	9/19/2013	10/1/2025	1.05MMM	1.05MMM	4.15	BBB-	Baa3	CALLABLE	3	No	Related Party
53	Williams Partners LP	EK7758890	WPZ	3.301	7.03	US	3/3/2015	3/15/2022	1.25MMM	1.25MMM	3.6	BBB	Baa3	CALLABLE	-	Yes	
54	Plains All American Pipeline LP / PAA Finance Corp	EJ0750388	PAA	3.666	10.19	US	1/22/2012	6/1/2022	750.00MM	750.00MM	3.65	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
55	ONEOK Inc	EJ9972097	OKE	3.348	10.02	US	1/26/2012	2/1/2022	700.00MM	547.40MM	4.25	BBB	Baa3	CALLABLE		Yes	
56	Buckeye Partners LP	EJ5289718	BPL	3.353	10.05	US	1/13/2011	2/1/2021	650.00MM	650.00MM	4.875	BBB-	Baa3	CALLABLE	3	Yes	
57	Plains All American Pipeline LP / PAA Finance Corp	EJ5389940	PAA	4.169	10.14	US	8/24/2015	10/15/2025	1.00MMM	1.00MMM	4.65	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
58	Energy Transfer LP	AM1309864	ETP	4.333	10.24	US	1/17/2017	4/15/2027	600.00MM	600.00MM	4.2	BBB-	Baa3	CALLABLE	-	No	Related Party
59	Buckeye Partners LP	EJ7048626	BPL	3.755	10.06	US	6/10/2013	7/1/2023	500.00MM	500.00MM	4.15	BBB-	Baa3	CALLABLE	5	Yes	
60	MPLX LP	QZ3833417	MPLX	3.785	8.18	US	9/27/2016	12/1/2024	1.15MMM	1.15MMM	4.875	BBB	Baa3	CALLABLE		Yes	
61	Magellan Midstream Partners LP	JK2126734	MMP	3.646	10	US	2/29/2016	3/1/2026	650.00MM	650.00MM	5	BBB+	Baa1	CALLABLE	-	Yes	
62	Sabine Pass Liquefaction LLC	JV3198810	SPLLLC	4.203	9.13	US	1/11/2016	3/1/2025	2.00MMM	2.00MMM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
63	EnLink Midstream Partners LP	LW8414374	ENLK	4.368	10	US	7/14/2016	7/15/2026	500.00MM	500.00MM	4.85	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
64	Western Gas Partners LP	EJ2520950	WES	3.638	10.01	US	6/28/2012	7/1/2022	670.00MM	670.00MM	4	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
65	TransCanada PipeLines Ltd	EJ8655217	TRPCN		10.02	CA	10/7/2013	10/16/2023	625.00MM	625.00MM	3.75	A-	A3	CALLABLE	-	Yes	
66	Kinder Morgan Energy Partners LP	EJ8632600	KMI	2.536	10.51	US	2/28/2013	9/1/2023	600.00MM	600.00MM	3.5	BBB-	Baa3	CALLABLE	-	Yes	
67	Enbridge Inc	EJ4652925	ENBCN	3.067	10	CA	12/4/2012	12/5/2022	896.29MM	896.29MM	3.19	BBB+	Baa1	AT MATURITY	5	Yes	
68	TransCanada PipeLines Ltd	EJ3030267	TRPCN	2.071	10	CA	8/2/2012	8/1/2022	1.00MMM	1.00MMM	2.5	A-	A3	AT MATURITY	-	Yes	
69	Kinder Morgan Energy Partners LP	EJ7725603	KMI	3.604	10.49	US	8/5/2013	2/1/2024	650.00MM	650.00MM	4.15	BBB-	Baa3	CALLABLE	-	Yes	
70	Boardwalk Pipelines LP	EK6155804	BWP	4.124	10.05	US	11/26/2014	12/15/2024	600.00MM	600.00MM	4.95	BBB-	Baa3	CALLABLE	-	Yes	
71	ONEOK Partners LP	EJ3584029	OKE	3.402	10.05	US	9/13/2012	10/1/2022	900.00MM	900.00MM	3.375	BBB	Baa3	CALLABLE	5	Yes	
72	ONEOK Inc	UV5222392	OKE	3.844	8.03	US	8/21/2015	9/1/2023	500.00MM	500.00MM	7.5	BBB	Baa3	CALLABLE	-	Yes	
73	Sabine Pass Liquefaction LLC	EK0818865	SPLLC	4.783	9.08	US	3/17/2014	4/15/2023	1.47MMM	1.47MMM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
74	TransCanada PipeLines Ltd	EJ4120575	TRPCN	2.529	10.02	CA	9/25/2010	10/1/2020	1.00MMM	1.00MMM	3.8	A-	A3	AT MATURITY	3	Yes	
75	Enterprise Products Operating LLC	EJ2301985	EPD	2.675	10.29	US	8/20/2010	9/1/2020	1.00MMM	1.00MMM	5.2	BBB+	Baa1	AT MATURITY	3	Yes	
76	EnLink Midstream Partners LP	EK1246959	ENLK	4.026	10.04	US	3/19/2014	4/1/2024	550.00MM	550.00MM	4.4	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
77	Midcontinent Express Pipeline LLC	EH9693043	MCFXPP	-	10	US	9/16/2009	9/15/2019	450.00MM	450.00MM	6.7	BBB-	Ba2	AT MATURITY	-	No	Moody's Credit Rating
78	ONEOK Partners LP	EK8126774	OKE	3.864	9.99	US	3/20/2015	3/15/2025	500.00MM	500.00MM	4.9	BBB	Baa3	CALLABLE	-	Yes	
79	Enterprise Products Operating LLC	EK8905646	EPD	3.588	10.38	US	3/7/2015	3/15/2026	875.00MM	875.00MM	3.9	BBB+	Baa1	CALLABLE	-	Yes	
80	Energy Transfer LP	EH2873515	ETP	4.173	10.29	US	3/28/2008	7/1/2018	600.00MM	600.00MM	6.7	BBB-	Baa3	AT MATURITY	-	No	Related Party
81	Kinder Morgan Energy Partners LP	EK0850611	KMI	3.111	7.01	US	2/24/2014	3/1/2021	750.00MM	750.00MM	3.5	BBB-	Baa3	CALLABLE	3	Yes	
82	Williams Partners LP	EK7759013	WPZ	3.829	10.51	US	3/4/2015	9/15/2025	750.00MM	750.00MM	4	BBB	Baa3	CALLABLE	-	Yes	
83	Kinder Morgan Energy Partners LP	EJ7725553	KMI	2.486	5.49	US	8/5/2013	2/1/2019	800.00MM	800.00MM	2.65	BBB-	Baa3	AT MATURITY	-	Yes	
84	Enable Midstream Partners LP	QP0100067	ENBL	3.025	8.4	US	12/22/2015	5/15/2023	599.63MM	599.63MM	3.9	BBB-	Baa3	CALLABLE	-	Yes	
85	Kinder Morgan Energy Partners LP	EH8163020	KMI	3.276	10.02	US	9/24/2001	10/1/2021	500.00MM	500.00MM	5	BBB-	Baa3	CALLABLE	-	Yes	
86	Kinder Morgan Inc/DE	EK7726343	KMI	0.64	7	US	6/16/2015	5/16/2022	704.28MM	704.28MM	1.5	BBB-	Baa3	AT MATURITY	-	Yes	
87	EQT Midstream Partners LP	AL0772473	EQM	4.443	10.07	US	11/1/2016	12/1/2026	500.00MM	500.00MM	4.125	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
88	Enterprise Products Operating LLC	EH7299015	EPD	3.067	10.48	US	8/24/2011	2/15/2022	650.00MM	650.00MM	4.05	BBB+	Baa1	AT MATURITY	-	Yes	
89	Energy Transfer LP	EH7036452	ETP	3.268	10.06	US	5/12/2011	6/1/2021	800.00MM	800.00MM	4.65	BBB-	Baa3	CALLABLE	3	No	Related Party
90	Kinder Morgan Energy Partners LP	EJ3171246	KMI	3.495	10.51	US	8/13/2012	2/15/2023	625.00MM	625.00MM	4.25	BBB-	Baa3	CALLABLE	5	Yes	
91	Enterprise Products Operating LLC	EK8905363	EPD	2.067	3	US	3/7/2015	3/7/2018	750.00MM	750.00MM	1.65	BBB+	Baa1	AT MATURITY	-	Yes	
92	Energy Transfer LP	EK9884645	ETP	4.282	10.57	US	8/24/2015	1/15/2026	1.00MMM	1.00MMM	4.75	BBB-	Baa3	CALLABLE	-	No	Related Party
93	Enterprise Products Operating LLC	EK5285430	EPD	2.408	5	US	10/14/2014	10/15/2019	800.00MM	800.00MM	2.55	BBB+	Baa1	CALLABLE	-	Yes	
94	Williams Partners LP	EJ3101552	WPZ	4.357	10	US	8/14/2012	8/15/2022	750.00MM	750.00MM	3.35	BBB	Baa1	CALLABLE	5	Yes	
95	Transcontinental Gas Pipe Line Co LLC	AL5819530	WPZ	4.05	9.08	US	1/4/2017	2/1/2026	1.00MMM	1.00MMM	7.85	BBB	Baa2	CALLABLE	-	Yes	
96	Kinder Morgan Energy Partners LP	EK2490028	KMI	3.698	10	US	8/8/2014	9/1/2024	600.00MM	600.00MM	4.3	BBB-	Baa3	CALLABLE	-	Yes	
97	Columbia Pipeline Group Inc	JK8193969	CPGX	-	4.05	US	8/15/2016	6/1/2020	749.00MM	749.00MM	3.3	NR	Baa2	CALLABLE	-	Yes	
98	Pembina Pipeline Corp	AM2013028	PPLCN	3.4	7	CA	1/20/2017	1/22/2024	486.75MM	486.75MM	2.99	BBB		CALLABLE	-	Yes	
99	Enbridge Inc	EJ8552162	ENBCN	3.45	10	CA	10/2/2013	10/1/2023	800.00MM	800.00MM	4	BBB+	Baa3	CALLABLE	-	Yes	
100	Kinder Morgan Inc/DE	EJ8140221	KMI	3.147	7.28	US	11/5/2014	2/15/2021	750.00MM	750.00MM	5	BBB-	Baa3	CALLABLE	3	Yes	
101	Plains All American Pipeline LP / PAA Finance Corp	EK4705233	PAA	4.077	10.15	US	9/9/2014	11/1/2024	750.00MM	750.00MM	3.6	BBB	Ba1	CALLABLE	-	No	Moody's Credit Rating
102	Enbridge Energy Partners LP	EH6630451	EEP	2.739	10.19	US	12/22/2008	3/1/2018	500.00MM	500.00MM	9.875	BBB	Baa3	PUTABLE	-	Yes	
103	Enbridge Inc	AN8723503	ENBCN	3.777	10	CA	6/8/2017	6/8/2027	333.31MM	333.31MM	3.2	BBB+	Baa1	CALLABLE	-	Yes	
104	Kinder Morgan Inc/DE	EC2991316	KMI	5.435	29.91	US	10/11/2000	10/15/2030	300.00MM	234.17MM	5.05	BBB-	Baa3	AT MATURITY	-	Yes	
105	Tennessee Gas Pipeline Co LLC	DD1101695	KMI	4.595	30	US	3/13/1967	3/15/2027	300.00MM	300.00MM	7	BBB-	Baa3	PUTABLE	-	Yes	
106	Williams Partners LP	EK7001343	WPZ	3.615	9	US	3/4/2014	3/4/2024	1.00MMM	1.00MMM	4.3	BBB	Baa3	CALLABLE	-	Yes	
107	Sabine Pass Liquefaction LLC	AN2587565	SPLLC	4.307	9.58	US	3/10/2017	3/15/2027	1.50MMM	1.50MMM	5	BBB-	Ba3	CALLABLE	-	Yes	
108	AltaGas Ltd	AP3915265	ALACN	3.891	10	CA	10/4/2017	10/4/2027	1.00MMM	1.00MMM	3.99	BBB		CALLABLE	10	Yes	
109	Energy Transfer Partners LP / Regency Energy Finance Corp	EJ9566272	ETP	4.093	9.86	US	12/20/2013	11/1/2023	600.00MM	600.00MM	4.5	BBB-	Baa3	CALLABLE	-	No	Related Party
110	Energy Transfer LP	EH0522323	ETP	3.522	10.04	US	1/17/2012	2/1/2022	1.00MMM	1.00MMM	5.2	BBB-	Baa3	CALLABLE		No	Related Party
111	Enbridge Income Fund	EJ0304068	ENFCN	3.078	10	CA	2/24/2012	2/22/2022	200.28MM	200.28MM	4.85	BBB	Baa3	AT MATURITY		Yes	
112	TransCanada PipeLines Ltd	JV8005128	TRPCN	2.502	2.97	CA	1/22/2016	1/15/2019	400.00MM	400.00MM	2.125	A-	A3	AT MATURITY	-	Yes	
113	Plains All American Pipeline LP / PAA Finance Corp	EH7863049	PAA		10.17	US	8/15/2013	10/15/2023	700.00MM	700.00MM	3.85	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
114	Enterprise Products Operating LLC	EH2013290	EPD	2.386	10.83	US	4/3/2008	1/31/2019	700.00MM	700.00MM	6.5	BBB+	Baa1	AT MATURITY	-	Yes	
115	Plains All American Pipeline LP / PAA Finance Corp	EK0386207	PAA	3.098	5.02	US	12/9/2014	12/15/2019	500.00MM	500.00MM	2.6	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
116	Energy Transfer Partners LP - Regency Energy Finance Corp	EJ8190534	ETP	3.351	6.92	US	9/11/2013	9/1/2020	400.00MM	400.00MM	5.75	BBB-	Baa3	CALLABLE	3	No	Related Party
117	Phillips 66 Partners LP	EK7629174	PSXP	3.699	9.08	US	2/23/2015	2/15/2025	500.00MM	500.00MM	3.605	BBB	Baa3	CALLABLE	-	Yes	
118	Spectra Energy Capital LLC	EH3603092	SE	3.493	10.04	US	2/28/2013	3/15/2023	650.00MM	497.77MM	3.3	BBB	Baa2	CALLABLE	5	Yes	
119	TC PipeLines LP	AN7171514	TCP	4.137	10	US	5/25/2017	5/25/2027	500.00MM	500.00MM	3.9	BBB-	Baa2	CALLABLE		Yes	
120	Boardwalk Pipelines LP	EJ8123857	BWP	3.762	10.23	US	11/8/2012	2/1/2023	300.00MM	300.00MM	5.375	BBB-	Baa3	CALLABLE	5	Yes	
121	Kinder Morgan Inc/DE	EJ9140165	KMI	3.806	10.03	US	11/5/2013	11/15/2023	750.00MM	750.00MM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
122	Ruby Pipeline LLC	EJ8235857	RPLLC	-	10.12	US	2/15/2012	4/1/2022	825.00MM	781.25MM	6	BBB-	Baa3	SINKABLE	-	Yes	
123	AltaGas Ltd	EH8422462	ALACN	2.181	7.25	CA	10/17/2011	1/17/2019	196.53MM	196.53MM	4.85	BBB		AT MATURITY	-	Yes	
124	EnLink Midstream Partners LP	EK1246892	ENLK	3.14	5.05	US	3/19/2014	4/1/2019	400.00MM	400.00MM	2.7	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
125	Plains All American Pipeline LP / PAA Finance Corp	EJ4682030	PAA	3.874	10.14	US	12/10/2012	1/31/2023	400.00MM	400.00MM	2.85	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
126	Energy Transfer Partners LP / Regency Energy Finance Corp	EK0597170	ETP	4.742	8.05	US	2/10/2014	3/1/2022	900.00MM	900.00MM	5.875	BBB	Baa3	CALLABLE	-	No	Related Party
127	Williams Partners LP	EK3520138	WPZ	3.805	10.85	US	6/27/2014	1/15/2025	750.00MM	750.00MM	4.9	BBB	Baa3	CALLABLE	-	Yes	
128	Phillips 66 Partners LP	QZ6604829	PSXP	3.961	9.96	US	10/14/2016	10/1/2026	500.00MM	500.00MM	3.55	BBB	Baa3	CALLABLE	-	Yes	

Exhibit 85.2
Bond Data as of February 2, 2018

	Bloomberg																A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
129	Enbridge Income Fund	EK6068457	ENFCN	4.03	10	CA	11/19/2014	11/19/2024	300.00MM	300.00MM	3.95	BBB	Baa3	CALLABLE		Yes	
130	Enbridge Pipelines Inc	EH6253205	ENBPIP	1.946	10	CA	11/19/2008	11/19/2018	241.65MM	241.65MM	6.62	BBB+		AT MATURITY	-	Yes	
131	Columbia Pipeline Group Inc	JK8193894	CPGX	2.219	2.05	US	5/12/2016	6/1/2018	499.95MM	499.95MM	2.45	NR	Baa2	AT MATURITY	-	Yes	
132	Columbia Pipeline Group Inc	JK8191108	CPGX	3.77	9.05	US	5/12/2016	6/1/2025	998.70MM	998.70MM	4.5	NR	Baa2	CALLABLE	-	Yes	
133	Plains All American Pipeline LP / PAA Finance Corp	EH9607803	PAA	3.013	10.36	US	9/4/2009	1/15/2020	500.00MM	500.00MM	5.75	BBB-	Ba1	AT MATURITY	-	No	Moody's Credit Rating
134	Kinder Morgan Inc/DE	EH3818729	KMI	2.187	10	US	5/30/2008	6/1/2018	600.00MM	477.13MM	7.25	BBB-	Baa3	AT MATURITY		Yes	
135	Buckeye Partners LP	EJ9236682	BPL	2.366	5	US	11/13/2013	11/15/2018	300.00MM	300.00MM	2.65	BBB-	Baa3	CALLABLE	-	Yes	
136	Energy Transfer LP	EH7894723	ETP	2.766	10.02	US	4/7/2009	4/15/2019	650.00MM	450.00MM	9	BBB	Baa3	AT MATURITY	-	No	Related Party
137	Kinder Morgan Inc/DE	EJ9139521	KMI	3.826	10.03	US	11/5/2013	11/15/2023	750.00MM	750.00MM	5.625	BBB-	Baa3	CALLABLE		Yes	
138	Spectra Energy Partners LP	EK7961205	SEP	3.726	10.01	US	3/12/2015	3/15/2025	500.00MM	500.00MM	3.5	BBB+	Baa2	CALLABLE		Yes	
139	Inter Pipeline Ltd	EJ2127012	IPLCN	2.966	10	CA	5/28/2012	5/30/2022	330.58MM	290.58MM	3.776	BBB+		AT MATURITY	-	Yes	
140	Pembina Pipeline Corp	EJ4093141	PPLCN	3.104	10	CA	10/22/2012	10/24/2022	452.76MM	452.76MM	3.77	BBB		AT MATURITY	5	Yes	
141	Texas Eastern Transmission LP	AQ6196573	SEP	3.825	10.02	US	1/9/2018	1/15/2028	400.00MM	400.00MM	3.5	BBB+	Baa1	CALLABLE	10	Yes	
142	Enable Midstream Partners LP	QJ9069400	ENBL	2.964	3.49	US	12/22/2015	5/15/2019	499.55MM	499.55MM	2.4	BBB-	Baa3	CALLABLE		Yes	
143	Enbridge Energy Partners LP	EJ8064582	EEP	3.257	10	US	9/15/2011	9/15/2021	600.00MM	600.00MM	4.2	BBB	Baa3	CALLABLE		Yes	
144	Kinder Morgan Inc/DE	EK7940747	KMI	1.872	12	US	3/16/2015	3/16/2027	529.52MM	529.52MM	2.25	BBB	Baa3	AT MATURITY	-	Yes	
145	EnLink Midstream Partners LP	EK9038150	ENLK	4.189	10.06	US	3/12/2015	6/1/2025	750.00MM	750.00MM	4.15	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
146	Sunoco Logistics Partners Operations LP	EJ5046911	ETP	3.736	10.01	US	1/10/2013	1/15/2023	350.00MM	350.00MM	3.45	BBB-	Baa3	CALLABLE	5	Yes	
147	Pembina Pipeline Corp	EK9742801	PPLCN	3.866	12	CA	6/16/2015	6/15/2027	405.25MM	405.25MM	4.24	BBB		CALLABLE	-	Yes	
148	Kinder Morgan Energy Partners LP	EI2516983	KMI	2.862	10.33	US	5/10/2010	9/15/2020	600.00MM	600.00MM	5.3	BBB-	Baa3	AT MATURITY	3	Yes	
149	Energy Transfer Partners LP / Regency Energy Finance Corp	EK1026709	ETP	3.698	8.19	US	7/25/2014	10/1/2022	700.00MM	700.00MM	5	BBB-	Baa3	CALLABLE	5	No	Related Party
150	Sunoco Logistics Partners Operations LP	LW8008531	ETP	4.282	10.01	US	7/12/2016	7/15/2026	550.00MM	550.00MM	3.9	BBB-	Baa3	CALLABLE		Yes	
151	Texas Eastern Transmission LP	EJ4127415	SEP	3.263	9.97	US	10/24/2012	10/15/2022	500.00MM	500.00MM	2.8	BBB+	Baa1	CALLABLE	5	Yes	
152	MPLX LP	EK7448690	MPLX	3.909	10.01	US	2/12/2015	2/15/2025	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE	-	Yes	
153	Energy Transfer LP	EH6640769	ETP	2.712	10.22	US	12/23/2008	3/15/2019	600.00MM	400.00MM	9.7	BBB-	Baa3	PUTABLE		No	Related Party
154	Enbridge Energy Partners LP	QJ0720558	EEP	2.941	5.03	US	10/6/2015	10/15/2020	500.00MM	500.00MM	4.375	BBB	Baa3	CALLABLE	-	Yes	
155	ONEOK Partners LP	EJ8254165	OKE	2.323	5.01	US	9/12/2013	9/15/2018	425.00MM	425.00MM	3.2	BBB	Baa3	CALLABLE		Yes	
156	Enbridge Inc	EJ7384864	ENBCN	3.203	9.99	CA	7/3/2013	6/30/2023	427.88MM	427.88MM	3.91	BBB+	Baa3	CALLABLE	5	Yes	
157	Boardwalk Pipelines LP	EH9179202	BWP	3.084	10.07	US	8/21/2009	9/15/2019	350.00MM	350.00MM	5.75	BBB-	Baa3	AT MATURITY		Yes	
158	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EK9444192	MWE	4.541	10	US	6/2/2015	6/1/2025	1.29MM	0.96MM	4.875	BBB	WR	CALLABLE		Yes	
159	Energy Transfer LP	EJ9276720	ETP	4.527	10.11	US	12/13/2013	2/1/2024	277.48MM	277.48MM	7.6	BBB-	Baa3	CALLABLE		No	Related Party
160	Phillips 66 Partners LP	EK7594502	PSXP	2.521	4.98	US	2/23/2015	2/15/2020	300.00MM	300.00MM	2.646	BBB	Baa3	CALLABLE		Yes	
161	Colorado Interstate Gas Co LLC / Colorado Interstate Issuing Corp	QZ2210790	KMI	4.568	10	US	8/16/2016	8/15/2026	375.00MM	375.00MM	4.15	BBB-	Baa3	CALLABLE		Yes	
162	Western Gas Partners LP	EK9381733	WES	4.193	9.99	US	6/4/2015	6/1/2025	500.00MM	500.00MM	3.95	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
163	Enbridge Inc	EH9787371	ENBCN	2.367	10	CA	9/2/2009	9/2/2019	362.27MM	362.27MM	4.77	BBB	Baa3	AT MATURITY		Yes	
164	TransCanada PipeLines Ltd	EH6772287	TRPCN	2.327	10.02	CA	1/9/2009	1/15/2019	750.00MM	750.00MM	7.125	A-	A3	AT MATURITY		Yes	
165	Kinder Morgan Energy Partners LP	EI7733711	KMI	3.412	10.54	US	8/17/2011	3/1/2022	375.00MM	375.00MM	4.15	BBB-	Baa3	AT MATURITY	-	Yes	
166	TransCanada PipeLines Ltd	EJ7002703	TRPCN	2.861	10	CA	7/10/2013	7/13/2023	724.15MM	724.15MM	3.69	A-	A3	CALLABLE	5	Yes	
167	El Paso Natural Gas Co LLC	DD1083615	KMI	4.654	30	US	11/13/1996	11/15/2026	200.00MM	200.00MM	7.5	BBB-	Baa3	AT MATURITY		Yes	
168	Panhandle Eastern Pipe Line Co LP	EH8302883	ETP	-	10	US	6/2/2009	6/1/2019	150.00MM	150.00MM	8.125	BBB-	Baa3	AT MATURITY	-	Yes	
169	Enbridge Inc	EK1137892	ENBCN	2.831	7	CA	3/11/2014	3/11/2021	360.30MM	360.30MM	3.16	BBB-	Baa3	CALLABLE	3	Yes	
170	Williams Partners LP	EI8770733	WPZ	3.231	10	US	11/17/2011	11/15/2021	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE		Yes	
171	Buckeye Partners LP	EK4838570	BPL	4.123	10.09	US	9/17/2014	10/15/2024	300.00MM	300.00MM	4.35	BBB-	Baa3	CALLABLE		Yes	
172	Inter Pipeline Ltd	QZ5105937	IPLCN	3.219	7	CA	9/13/2016	9/13/2023	265.63MM	265.63MM	2.608	BBB+		CALLABLE		Yes	
173	Magellan Midstream Partners LP	EI3155561	MMP	2.92	10.48	US	8/11/2010	2/1/2021	550.00MM	550.00MM	4.25	BBB+	Baa1	AT MATURITY	3	Yes	
174	Energy Transfer LP	EI8128845	ETP	4.057	10.37	US	9/19/2013	2/1/2021	350.00MM	350.00MM	4.9	BBB-	Baa3	CALLABLE	-	No	Related Party
175	Enbridge Income Fund	EJ4805945	ENFCN	3.231	10.08	CA	12/14/2012	1/13/2023	279.02MM	279.02MM	3.94	BBB	Baa3	AT MATURITY	5	Yes	
176	Tennessee Gas Pipeline Co LLC	EC0522201	KMI	4.702	30.02	US	10/9/1998	10/15/2028	400.00MM	400.00MM	7	BBB-	Baa3	AT MATURITY		Yes	
177	Pembina Pipeline Corp	EK7244156	PPLCN	3.565	10	CA	2/2/2015	2/3/2025	357.71MM	357.71MM	3.54	BBB		CALLABLE	-	Yes	
178	Western Gas Partners LP	EI6705178	WES	3.642	10.04	US	5/18/2011	6/1/2021	500.00MM	500.00MM	5.375	BBB-	Ba1	CALLABLE	3	No	Moody's Credit Rating
179	Northwest Pipeline LLC	AN0677392	WPZ	-	9.99	US	4/3/2017	4/1/2027	250.00MM	250.00MM	4	BBB	Baa2	CALLABLE		Yes	
180	Enbridge Pipelines Inc	LW0969180	ENBPIP		10	CA	9/29/2015	9/29/2025	446.00MM	446.00MM	3.45	BBB+		CALLABLE		Yes	
181	TransCanada PipeLines Ltd	EH5021168	TRPCN	2.188	10.01	CA	8/11/2008	8/15/2018	850.00MM	850.00MM	6.5	A-	A3	AT MATURITY	-	Yes	
182	Pembina Pipeline Corp	QZ1848410	PPLCN	3.811	10	CA	8/11/2016	8/11/2026	385.39MM	385.39MM	3.71	BBB		CALLABLE		Yes	
183	TC PipeLines LP	EK7987739	TCP	3.993	10	US	3/13/2015	3/13/2025	350.00MM	350.00MM	4.375	BBB-	Baa2	CALLABLE		Yes	
184	Plains All American Pipeline LP / PAA Finance Corp	EI5302514	PAA		10.05	US	1/14/2011	2/1/2021	600.00MM	600.00MM	5	BBB-	Ba1	CALLABLE	3	No	Moody's Credit Rating
185	EQT Midstream Partners LP	EK3165300	EQM	4.166	10	US	8/1/2014	8/1/2024	500.00MM	500.00MM	4	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
186	Enbridge Pipelines Inc	EH9405882	ENBPIP	2.173	10	CA	11/10/2009	11/12/2019	284.96MM	284.96MM	4.49	BBB+		AT MATURITY		Yes	
187	Gulfstream Natural Gas System LLC	LW9309781	GULFNG	3.825	9.98	US	9/24/2015	9/15/2025	550.00MM	550.00MM	4.6	BBB	Baa2	CALLABLE		Yes	
188	Veresen Inc	AL1420945	PPLCN	2.951	5	CA	11/10/2016	11/10/2021	260.24MM	260.24MM	3.43	BBB		CALLABLE		Yes	
189	Spectra Energy Partners LP	EI8388948	SEP	2.229	5	US	9/25/2013	9/25/2018	500.00MM	500.00MM	2.95	BBB+	Baa2	CALLABLE		Yes	
190	Kinder Morgan Energy Partners LP	EH2008165	KMI	2.05	10.01	US	2/12/2008	2/15/2018	975.00MM	975.00MM	5.95	BBB-	Baa3	AT MATURITY		Yes	
191	Kinder Morgan Energy Partners LP	EC3582300	KMI	5.021	30.01	US	3/12/2001	3/15/2031	300.00MM	300.00MM	7.4	BBB-	Baa3	AT MATURITY		Yes	
192	Energy Transfer LP	EK9884348	ETP	2.088	2.98	US	6/23/2015	6/15/2018	650.00MM	650.00MM	2.5	BBB-	Baa3	AT MATURITY		No	Related Party

		Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
193	Sunoco Logistics Partners Operations LP	QI7765593	ETP	3.145	3.32	US	11/17/2015	4/1/2021	600.00MM	600.00MM	4.4	BBB-	Baa3	CALLABLE	3	Yes	
194	Inter Pipeline Ltd	EH7600756	IPLCN	2.526	7	CA	7/19/2013	7/26/2020	482.77MM	482.77MM	3.448	BBB		AT MATURITY	-	Yes	
195	TransCanada PipeLines Ltd	MM1320751	TRPCN	3.699	31.02	CA	7/30/1997	8/7/2028	125.26MM	125.26MM	6.89	A-	A3	AT MATURITY	-	Yes	
196	Inter Pipeline Ltd	AL7352367	IPLCN	3.783	10	CA	12/16/2016	12/16/2026	337.26MM	337.26MM	5.484	BBB		CALLABLE	-	Yes	
197	Enterprise Products Operating LLC	EH9889224	EPD	2.041	8.47	US	10/27/2009	4/15/2018	349.60MM	349.60MM	6.65	BBB+	Baa1	AT MATURITY	-	Yes	
198	TransCanada PipeLines Ltd	DI8739738	TRPCN	2.538	10	CA	11/15/2011	11/15/2021	489.39MM	489.39MM	3.65	A-	A3	AT MATURITY	-	Yes	
199	TransCanada PipeLines Ltd	AE2703227	TRPCN	3.095	10	CA	9/17/2015	7/17/2025	527.41MM	527.41MM	4.3	A-	A3	CALLABLE	-	Yes	
200	Sunoco Logistics Partners Operations LP	EH1456371	ETP	2.92	10.01	US	2/12/2010	2/15/2021	250.00MM	250.00MM	5.5	BBB-	Baa3	AT MATURITY		Yes	
201	Pembina Pipeline Corp	CI6231571	PPLCN	2.827	10	CA	3/29/2011	3/29/2021	250.18MM	250.18MM	4.84	BBB		AT MATURITY	3	Yes	
202	Florida Gas Transmission Co LLC	AE7099436	CITCOR	3.714	10	US	7/15/2015	7/15/2025	500.00MM	500.00MM	4.35	BBB	Baa2	CALLABLE	-	Yes	
203	Texas Gas Transmission LLC	EH5588232	BWP	3.311	10.04	US	1/19/2011	2/1/2021	350.00MM	350.00MM	4.6	BBB-	Baa2	CALLABLE	3	Yes	
204	Williams Partners LP	EJ9332037	WPZ	3.653	10	US	11/15/2013	11/15/2023	600.00MM	600.00MM	4.5	BBB	Baa3	CALLABLE	-	Yes	
205	Alliance Pipeline LP/United States	EC9862144	ALPIPE		22.61	US	6/23/2006	12/31/2025	300.00MM	53.97MM	4.591	BBB	Baa2	SINKABLE		Yes	
206	Williams Partners LP	EH3567748	WPZ	2.916	10.02	US	11/9/2010	11/15/2020	600.00MM	600.00MM	5.125	BBB	Baa3	CALLABLE	3	Yes	
207	Kinder Morgan Energy Partners LP	EH5211821	KMI	2.844	10.76	US	8/14/2009	2/15/2020	700.00MM	700.00MM	6.85	BBB	Baa3	AT MATURITY	-	Yes	
208	Buckeye Partners LP	EH9383385	BPL	3.015	9.69	US	8/18/2009	8/15/2019	275.00MM	275.00MM	5.5	BBB-	Baa3	AT MATURITY	-	Yes	
209	Inter Pipeline Ltd	AN2300705	IPLCN	3.378	7	CA	4/18/2017	4/18/2024	373.33MM	373.33MM	2.734	BBB		CALLABLE		Yes	
210	ONEOK Partners LP	EJ8254587	OKE	3.715	10.01	US	9/13/2013	9/15/2023	425.00MM	425.00MM	5	BBB	Baa3	CALLABLE	-	Yes	
211	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EJ1150410	MWE	-	19.52	US	8/16/2013	2/15/2025	750.00MM	401.15MM	5.5	BBB	WR	CALLABLE	5	Yes	
212	AltaGas Ltd	EJ3807447	ALACN	2.892	9	CA	9/28/2012	9/28/2021	355.80MM	355.80MM	3.72	BBB		AT MATURITY	-	Yes	
213	Inter Pipeline Ltd	EH5577362	IPLCN	-	10	CA	2/2/2011	2/2/2021	328.47MM	328.47MM	4.967	BBB+		AT MATURITY	3	Yes	
214	TC PipeLines LP	EJ7111749	TCP	-	10	US	6/17/2011	6/15/2021	350.00MM	350.00MM	4.65	BBB-	Baa2	CALLABLE	3	Yes	
215	El Paso Natural Gas Co LLC	283695AZ7	KMI	3.548	30	US	8/16/1992	1/15/2022	260.00MM	260.00MM	8.625	BBB-	Baa3	AT MATURITY	-	Yes	
216	Pipeline Funding Co LLC	EH0046561	NEE	1.982	20.25	US	10/15/2009	1/15/2030	500.00MM	478.60MM	7.5	BBB-	Baa2	SINKABLE	-	Yes	
217	AltaGas Ltd	EJ7113073	ALACN	3.304	10	CA	6/11/2013	6/12/2023	294.38MM	294.38MM	4.57	BBB		CALLABLE	5	Yes	
218	ONEOK Partners LP	EH3596573	OKE	2.884	9.99	US	3/3/2009	3/1/2019	500.00MM	500.00MM	8.625	BBB	Baa3	AT MATURITY	-	Yes	
219	Southern Natural Gas Co LLC / Southern Natural Issuing Corp	EH8095180	SONGAS	-	9.69	US	10/5/2011	6/15/2021	300.00MM	300.00MM	4.4	BBB+	Baa2	CALLABLE	3	Yes	
220	Centra Gas Ontario Inc	GG7174897	SP	-	25	CA	10/10/1993	10/19/2018	56.58MM	56.58MM	8.65	A-		AT MATURITY	-	Yes	
221	Enbridge Pipelines Inc	EI2085556	ENBPIP	2.313	10	CA	4/6/2010	4/6/2020	349.79MM	349.79MM	4.45	BBB-		AT MATURITY	-	Yes	
222	AltaGas Ltd	EK5875340	ALACN	3.57	10.18	CA	11/10/2013	11/5/2025	264.36MM	264.36MM	3.84	BBB		CALLABLE		Yes	
223	TransCanada PipeLines Ltd	AP1492507	TRPCN	3.34	10.5	CA	9/15/2017	3/15/2028	245.86MM	245.86MM	3.39	A-	A3	CALLABLE	10	Yes	
224	Enbridge Energy Partners LP	EH1742431	EEP	-	9.64	US	8/25/2008	4/15/2018	395.00MM	395.00MM	6.5	BBB	Baa3	AT MATURITY	-	Yes	
225	AltaGas Ltd	IK6823455	ALACN	3.94	10	CA	4/7/2016	4/7/2026	265.76MM	265.76MM	4.12	BBB		CALLABLE		Yes	
226	Western Gas Partners LP	EJ7817962	WES	2.451	-	US	8/14/2013	8/15/2018	350.00MM	350.00MM	2.6	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
227	Spectra Energy Partners LP	EI7026071	SEP	3.142	10.02	US	6/9/2011	6/15/2021	250.00MM	250.00MM	4.6	BBB+	Baa2	CALLABLE	3	Yes	
228	Enbridge Inc	EH1773836	ENBCN	2.515	10	CA	3/8/2010	3/9/2020	486.98MM	486.98MM	4.54	BBB+	Baa3	AT MATURITY	-	Yes	
229	AltaGas Ltd	EJ1278589	ALACN	2.628	8.13	CA	4/16/2012	6/15/2020	200.51MM	200.51MM	4.07	BBB		AT MATURITY	-	Yes	
230	Enterprise Products Operating LLC	EH9885528	EPD	2.531	10.32	US	10/5/2009	10/15/2019	500.00MM	500.00MM	5.25	BBB+	Baa1	AT MATURITY	-	Yes	
231	Sunoco Logistics Partners Operations LP	EH7681022	ETP	-	10.54	US	8/2/2011	2/15/2022	300.00MM	300.00MM	4.65	BBB	Baa3	AT MATURITY	-	Yes	
232	Ruby Pipeline LLC	EJ0230053	RPLLLC	-	10.12	US	2/15/2012	4/1/2022	825.00MM	781.25MM	6	BBB-	Baa3	SINKABLE	-	Yes	
233	A&R Pipeline Co	001814AR3	TRPCN		29.89	US	11/4/1991	11/1/2021	300.00MM	299.09MM	9.625	A-	A3	AT MATURITY	-	Yes	
234	Enbridge Energy Partners LP	EH1691449	EEP	2.864	10.04	US	8/2/2010	3/15/2020	500.00MM	500.00MM	5.2	BBB	Baa3	AT MATURITY		Yes	
235	Enbridge Income Fund	EJ0357987	ENFCN	2.284	7	CA	2/24/2012	2/22/2019	300.43MM	300.43MM	4.1	BBB	Baa3	AT MATURITY	-	Yes	
236	Enbridge Income Fund	EP1114345	ENFCN	-	7	CA	12/20/2011	12/20/2018	121.45MM	121.45MM	4	BBB	Baa3	AT MATURITY	-	Yes	
237	Kinder Morgan Energy Partners LP	EH6012160	KMI	2.549	10.12	US	12/15/2008	2/1/2019	500.00MM	499.95MM	9	BBB-	Baa3	PUTABLE	-	Yes	
238	Enable Oklahoma Intrastate Transmission LLC	EJ0448320	ENBI	-	10.33	US	11/16/2009	3/15/2020	250.00MM	250.00MM	6.25	BBB-	Baa3	AT MATURITY	-	Yes	
239	Kinder Morgan Energy Partners LP	EH0729656	KMI	3.126	11.36	US	9/16/2009	3/1/2021	400.00MM	400.00MM	5.8	BBB-	Baa3	AT MATURITY	3	Yes	
240	Inter Pipeline Ltd	EK8155047	IPLCN	3.534	10	CA	3/23/2015	3/23/2025	239.77MM	239.77MM	3.173	BBB		CALLABLE	-	Yes	
241	Sunoco Logistics Partners Operations LP	QI7765812	ETP	4.368	10.04	US	11/17/2015	12/1/2025	400.00MM	400.00MM	5.95	BBB-	Baa3	CALLABLE	-	Yes	
242	Inter Pipeline Ltd	EI7656017	IPLCN	-	7	CA	6/29/2011	7/30/2018	200.15MM	200.15MM	3.839	BBB+		AT MATURITY		Yes	
243	Alliance Pipeline LP/United States	EC3560884	ALPIPE	-	18.81	US	3/8/2001	12/31/2019	350.00MM	47.45MM	6.99	BBB+	Baa2	SINKABLE		Yes	
244	AltaGas Ltd	EK0173725	ALACN	3.438	10.17	CA	12/12/2014	3/15/2024	184.09MM	184.09MM	4.4	BBB		CALLABLE		Yes	
245	Kinder Morgan Energy Partners LP	EI2012586	KMI	2.944	10.01	US	8/30/2010	4/1/2021	535.00MM	535.00MM	6.5	BBB-	Baa3	AT MATURITY	-	Yes	
246	TransCanada PipeLines Ltd	MM1234788	TRPCN	3.553	30.11	CA	12/5/1996	1/15/2027	78.08MM	28.08MM	7.31	A-	NR	AT MATURITY		Yes	
247	Enbridge Income Fund	EH4231475	ENFCN	2.8	10	CA	11/12/2010	11/12/2020	98.82MM	98.82MM	3.85	BBB	Baa3	AT MATURITY	3	Yes	
248	Enbridge Pipelines Inc	GG7181355	ENBPIP		30.15	CA	12/22/1993	2/15/2024	149.50MM	149.50MM	8.2	BBB+		AT MATURITY	-	Yes	
249	Kinder Morgan Inc/DE	EF5828209	KMI	6.061	29.18	US	8/26/2006	2/15/2027	148.75MM	6.61MM	6.7	BBB-	Baa3	CALLPUT		Yes	
250	Magellan Midstream Partners LP	EH8761155	MMP	2.734	10.05	US	6/26/2009	7/15/2019	550.00MM	550.00MM	6.55	BBB1	Baa1	AT MATURITY	-	Yes	
251	Colonial Pipeline Co	BV8963380	COLPLN	-	10.03	US	9/22/2015	10/1/2025	350.00MM	350.00MM	3.75	A	A1	CALLABLE	-	No	S&P Credit Rating
252	Enbridge Pipelines Inc	QZ1535431	ENBPIP	3.321	10	CA	8/9/2016	8/10/2026	304.72MM	304.72MM	3	BBB+		CALLABLE	-	Yes	
253	Enbridge Pipelines Inc	EJ7021433	ENBPIP	2.939	10	CA	8/16/2013	8/17/2023	241.62MM	241.62MM	3.79	BBB		CALLABLE	-	Yes	
254	TransCanada PipeLines Ltd	GG7150558	TRPCN	-	25.05	CA	3/24/1993	3/20/2018	120.25MM	120.25MM	9.45	A-	A3	AT MATURITY	-	Yes	
255	Southern Union Co	DD5133116	FTP	4.277	30	US	11/18/1991	2/1/2024	475.00MM	82.51MM	7.6	BBB-	Ba1	AT MATURITY	-	Yes	
256	TransCanada PipeLines Ltd	893526HY8	TRPCN	3.052	29.98	CA	1/10/1991	1/1/2021	400.00MM	400.00MM	9.875	A-	A3	AT MATURITY	3	Yes	

Exhibit 85.2
Bond Data as of February 2, 2018

		Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
257	Florida Gas Transmission Co LLC	[illegible]	FLTCOR		10.07	US	[illegible]	[illegible]	600.00MM	[illegible]	[illegible]	BBB	Baa2	AT MATURITY		Yes	
258	Kinder Morgan Inc/DE	EI6067512	KMI	2.964	9.44	US	4/7/2011	9/15/2020	348.65MM	348.65MM	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
259	Spectra Energy Capital LLC	EC0091388	SE		19.99	US	7/20/1998	7/15/2018	150.00MM	117.68MM	6.75	BBB	Baa2	AT MATURITY	-	Yes	
260	ANR Pipeline Co	DD1024516	TRPCN	3.979	30	US	6/1/1995	6/1/2025	75.00MM	7.60MM	7	A-	A3	PUTABLE		Yes	
261	Enbridge Pipelines Inc	EJ4813791	ENBPIP	2.8	10	CA	11/30/2012	11/30/2022	151.06MM	151.06MM	2.93	BBB+		AT MATURITY	5	Yes	
262	Florida Gas Transmission Co LLC	EJ2371494	FLTCOR		10.07	US	6/19/2012	7/15/2022	300.00MM	300.00MM	3.875	BBB	Baa2	CALLABLE		Yes	
263	NOVA Gas Transmission Ltd	MM1132578	TRPCN		30.01	CA	5/25/1995	5/27/2025	63.53MM	63.53MM	8.9	A-	A3	AT MATURITY	-	Yes	
264	Veresen Inc	EI8832129	PPLCN	2.015	7	CA	11/22/2011	11/22/2018	144.82MM	144.82MM	[illegible]	BBB		AT MATURITY		Yes	
265	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EJ5045368	MWE		10.51	US	1/10/2013	7/15/2023	1.00MM	1.47MM	4.5	BBB	WR	CALLABLE	5	Yes	
266	Southeast Supply Header LLC	EK3162378	SESHNG	-	10.01	US	6/13/2014	6/15/2024	400.00MM	400.00MM	4.25	BBB-	Baa2	CALLABLE		Yes	
267	Gulf South Pipeline Co LP	EJ4883403	BWP	3.609	9.38	US	1/28/2013	6/15/2022	292.75MM	292.75MM	4	BBB-	Baa2	CALLABLE	-	Yes	
268	Spectra Energy Capital LLC	EI0539761	SE	3.091	10.51	US	8/28/2009	3/1/2020	300.00MM	162.62MM	5.65	BBB	Baa2	AT MATURITY		Yes	
269	Northern Border Pipeline Co	EC5178701	NORBOR		19.62	US	1/31/2002	9/15/2021	250.00MM	250.00MM	7.5	BBB+	WR	AT MATURITY		Yes	
270	TransCanada PipeLines Ltd	MM1270022	TRPCN	3.543	30	CA	1/15/1997	4/15/2027	124.84MM	124.84MM	7.9	A-	NR	AT MATURITY		Yes	
271	Veresen Inc	EK3273860	PPLCN	-	5	CA	6/13/2014	6/13/2019	184.08MM	184.08MM	3.06	BBB		AT MATURITY	-	Yes	
272	Kinder Morgan Inc/DE	DD1166357	KMI	5.36	29.98	US	3/9/1998	3/1/2028	500.00MM	42.00MM	7.25	BBB-	Baa3	AT MATURITY	10	Yes	
273	TransCanada PipeLines Ltd	893526CA9	TRPCN	2.662	29.96	CA	12/6/1990	11/20/2020	214.78MM	214.78MM	11.8	A-		AT MATURITY	3	Yes	
274	Transcontinental Gas Pipe Line Co LLC	DD1080513	WPZ	4.316	30	US	12/2/1996	12/1/2026	200.00MM	200.00MM	7.25	BBB	Baa2	AT MATURITY	-	Yes	
275	Enbridge Inc	EI4166688	ENBCN	2.796	10.35	CA	9/28/2010	2/1/2021	193.86MM	193.86MM	4.26	BBB	Baa3	AT MATURITY	3	Yes	
276	NOVA Gas Transmission Ltd	CP5105917	TRPCN		32	CA	5/27/1998	5/27/2030	68.65MM	68.65MM	6.3	A-	A3	AT MATURITY		Yes	
277	Enbridge Inc	EC2761752	ENBCN	4.422	30	CA	7/24/2006	7/24/2036	136.66MM	136.66MM	7.22	BBB	Baa3	AT MATURITY		Yes	
278	Transcontinental Gas Pipe Line Co LLC	EH5341621	WPZ	2.189	9.72	US	9/26/2008	6/15/2018	250.00MM	250.00MM	6.05	BBB	Baa2	AT MATURITY		Yes	
279	Alliance Pipeline LP/Canada	EI0800387	ALPIPE	-	10	CA	12/16/2009	12/16/2019	113.23MM	11.23MM	1.978		Baa3	AT MATURITY	-	Yes	
280	Alliance Pipeline LP/Canada	EC8193715	ALPIPE	4.76	22.96	CA	1/16/2003	12/31/2025	260.82MM	123.68MM	6.765	BBB	Baa2	SINKABLE		Yes	
281	Spectra Energy Capital LLC	EI0672213	SE	2.284	[illegible]	US	4/10/2008	4/15/2018	500.00MM	271.52MM	6.2	BBB	Baa2	AT MATURITY		Yes	
282	Alliance Pipeline LP/Canada	EC3595500	ALPIPE	4.751	22.29	CA	3/14/2001	6/30/2023	289.85MM	39.73MM	[illegible]	BBB	Baa2	SINKABLE		Yes	
283	ONEOK Partners LP	EK8126170	OKE	2.968	4.99	US	3/20/2015	3/15/2020	300.00MM	300.00MM	3.8	BBB	Baa3	CALLABLE	-	Yes	
284	Alliance Pipeline LP/Canada	EC4851639	ALPIPE	4.91	24.09	CA	11/28/2001	12/31/2025	221.01MM	104.25MM	7.217	BBB	Baa2	SINKABLE	-	Yes	
285	Magellan Midstream Partners LP	EK7732762	MMP	3.795	10.03	US	3/4/2015	3/15/2025	250.00MM	250.00MM	3.2	BBB+	Baa1	CALLABLE		Yes	
286	Kinder Morgan Inc/DE	EI9140588	KMI	3.153	7.28	US	11/5/2013	2/15/2021	750.00MM	750.00MM	5	BBB-	Baa3	CALLABLE	3	Yes	
287	Midcontinent Express Pipeline LLC	EH9763685	MCEXPP		10	US	9/16/2009	9/15/2019	450.00MM	450.00MM	6.7	BBB-	Ba2	AT MATURITY	-	No	Moody's Credit Rating
288	Sabine Pass Liquefaction LLC	EJ5273440	SPLLLC		8	US	2/1/2013	2/1/2021	2.00MM	8.38MM	5.625	BBB-	Baa3	CALLABLE	3	Yes	
289	Colorado Interstate Gas Co LLC / Colorado Interstate Issuing Corp	QZ2258759	KMI	4.568	10	US	8/18/2016	8/15/2026	375.00MM	375.00MM	[illegible]	BBB-	Baa3	CALLABLE		Yes	
290	Colonial Pipeline Co	EI4393696	COLPLN	-	9.98	US	10/22/2010	10/15/2020	275.00MM	275.00MM	3.5	A	A3	CALLABLE	3	No	S&P Credit Rating
291	TransCanada PipeLines Ltd	EC1471696	TRPCN	4.196	30	CA	6/15/1999	6/15/2029	200.00MM	200.00MM	7.7	A-	A3	AT MATURITY	-	Yes	
292	Energy Transfer LP	EI9276980	ETP	5.167	15.92	US	12/13/2013	11/15/2029	266.68MM	266.68MM	8.25	BBB	Baa3	CALLABLE	-	No	Related Party
293	Sunoco Inc	DD1098273	ETP		30	US	11/1/1994	11/1/2024	100.00MM	61.79MM	9	BBB-	Baa3	AT MATURITY	-	Yes	
294	TransCanada PipeLines Ltd	CP5075543	TRPCN	3.703	30	CA	5/26/1998	5/26/2028	120.25MM	120.25MM	6.28	A-	A3	AT MATURITY	10	Yes	
295	Texas Eastern Transmission LP	EI4891079	SEP	-	9.99	US	12/6/2010	12/1/2020	300.00MM	300.00MM	4.125	BBB+	Baa1	CALLABLE	3	Yes	
296	Sabine Pass Liquefaction LLC	QZ6045715	SPLLLC	4.289	10.47	US	9/23/2016	3/15/2027	1.50MM	219.00M	5	BBB-	Baa3	CALLABLE	-	Yes	
297	Enbridge Pipelines Inc	EC0673851	ENBPIP		25	CA	11/17/1998	11/17/2023	64.53MM	61.53MM	6.35	BBB+		AT MATURITY	-	Yes	
298	Boardwalk Pipelines LP	ED2062823	BWP		14.6	US	10/27/2003	6/1/2018	185.00MM	135.00MM	5.2	BBB-	Baa3	AT MATURITY		Yes	
299	TransCanada PipeLines Ltd	MM1154184	TRPCN	3.574	30	CA	2/5/1996	2/5/2026	174.72MM	174.72MM	4.29	A-	A3	AT MATURITY		Yes	
300	Panhandle Eastern Pipe Line Co LP	EH4031718	ETP	-	10.01	US	6/12/2008	6/15/2018	400.00MM	400.00MM	7	BBB-	Baa3	AT MATURITY	-	Yes	
301	Andeavor Logistics LP / Tesoro Logistics Finance Corp	EK5573242	ANDX		7.96	US	10/29/2014	10/15/2022	800.00MM	5.00MM	6.25	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
302	TransCanada PipeLines Ltd	EC0723550	TRPCN	-	32.01	CA	12/3/1998	12/9/2030	227.61MM	92.35MM	6.5	A-	A3	AT MATURITY		Yes	
303	Sabine Pass Liquefaction LLC	EI9449216	SPLLLC		8.3	US	11/25/2013	3/15/2022	1.00MM	5.07MM	6.25	BBB-	Baa3	AT MATURITY		Yes	
304	Northwest Pipeline LLC	EH5341464	WPZ	-	9.72	US	9/26/2008	6/15/2018	250.00MM	250.00MM	[illegible]	BBB	Baa2	AT MATURITY		Yes	
305	Southern Union Co	EC1938645	ETP	5.429	30.03	US	11/3/1999	11/15/2029	300.00MM	33.33MM	8.25	BBB-	Baa3	AT MATURITY		Yes	
306	Kinder Morgan Inc/DE	EF5837416	KMI	5.104	21.77	US	8/24/2006	6/1/2028	700.00MM	30.39MM	6.95	BBB-	Baa3	AT MATURITY	10	Yes	
307	Enbridge Energy LP	EC0495027	EEP	-	30	US	10/1/1998	10/1/2028	100.00MM	100.00MM	7.125	BBB	Baa2	AT MATURITY		Yes	
308	TransCanada PipeLines Ltd	MM1181973	TRPCN	4.254	34	CA	4/25/1996	4/25/2030	36.66MM	36.66MM	8.21	A-	A3	PUTABLE	-	Yes	
309	NOVA Gas Transmission Ltd	DD5286362	TRPCN		30	CA	4/1/1993	4/1/2023	200.00MM	200.00MM	7.875	A-	A3	AT MATURITY	5	Yes	
310	Maritimes & Northeast Pipeline LP	EH9493500	SE		10.27	CA	8/24/2009	11/30/2019	167.68MM	12.57MM	4.34	A	A3	SINKABLE		No	S&P Credit Rating
311	Enbridge Pipelines Inc	EC1010460	ENBPIP	3.784	30	CA	2/12/1990	2/12/2020	43.54MM	43.54MM	6.05	BBB+		AT MATURITY		Yes	
312	Gulfstream Natural Gas System LLC	EF1417031	GULFNG	-	20.02	US	10/26/2005	11/1/2025	350.00MM	350.00MM	6.19	BBB	Baa2	AT MATURITY		Yes	
313	Magellan Midstream Partners LP	EH6941162	MMP	-	10	US	7/14/2008	7/15/2018	250.00MM	250.00MM	6.4	BBB+	Baa1	AT MATURITY		Yes	
314	TransCanada PipeLines Ltd	MM1161981	TRPCN	4.054	34.14	CA	5/28/1996	1/1/2030	36.35MM	36.35MM	8.23	A-	A3	PUTABLE		Yes	
315	Alliance Pipeline LP/Canada	ED0330677	ALPIPE	4.611	24.51	CA	6/26/2003	12/31/2025	221.80MM	65.63MM	5.546	BBB+	Baa2	SINKABLE	-	Yes	
316	Southern Natural Gas Co LLC	EC3471751	SONGAS	4.755	30	US	2/15/2001	2/15/2031	300.00MM	153.28MM	7.35	BBB+	Baa2	AT MATURITY		Yes	
317	Northwest Pipeline LLC	DD1027182	WPZ	4.368	29.99	US	12/5/1995	12/1/2025	85.00MM	85.00MM	7.125	BBB	Baa2	AT MATURITY		Yes	
318	TransCanada PipeLines Ltd	EC3417424	TRPCN	3.938	31	CA	6/19/1998	6/20/2029	102.09MM	102.09MM	5.65		A3	PUTABLE		Yes	
319	Enable Midstream Partners LP	EK2857296	ENBL	4.016	9.97	US	5/27/2014	5/15/2024	600.00MM	373.00M	3.9	BBB-	Baa3	CALLABLE		Yes	
320	Florida Gas Transmission Co LLC	EI3192588	FLTCOR	3.196	9.99	US	7/13/2010	7/15/2020	500.00MM	500.00MM	5.45	BBB	Baa2	AT MATURITY		Yes	

Exhibit S5.2
Bond Data as of February 2, 2018

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
321	Pembina Pipeline Corp	EH1026615	PPLCN	-	10	CA	11/18/2003	11/18/2013	253.52MM	253.52MM	5.91	BBB		AT MATURITY	-	Yes	
322	Enbridge Energy LP	EC0405068	EEP	-	20	US	10/1/1998	10/1/2018	100.00MM	100.00MM	7	BBB	Baa2	AT MATURITY	-	Yes	
323	Enable Midstream Partners LP	EK2853671	ENBL	-	4.97	US	5/27/2011	5/15/2019	500.00MM	450.00M	2.4	BBB-	Baa3	CALLABLE	-	Yes	
324	Texas Gas Transmission LLC	DD1116933	BWP	4.836	20	US	7/15/1997	7/15/2027	100.00MM	100.00MM	7.25	BBB-	Baa2	AT MATURITY	-	Yes	
325	Florida Gas Transmission Co LLC	DD0038600	CITCOR	6.127	20.08	US	11/7/1994	11/1/2024	150.00MM	52.50MM	9.19	BBB	Baa2	SINKABLE	-	Yes	
326	Sabine Pass Liquefaction LLC	EK7758056	SPLLLC	-	10	US	3/3/2015	3/15/2025	2.00MMM	350.00M	5.625	BBB	Baa3	CALLABLE	-	Yes	
327	Enbridge Energy Partners LP	EH2912853	EEP	-	10.03	US	4/1/2008	4/15/2018	300.00MM	5.00MM	6.5	BBB	Baa3	AT MATURITY	-	Yes	
328	Transcontinental Gas Pipe Line Co LLC	DH1670489	WPZ	4.459	30	US	7/15/1996	7/15/2026	200.00MM	7.50MM	7.08	BBB	Baa2	PUTABLE	-	Yes	
329	El Paso Tennessee Pipeline Co LLC	DD1033379	KMI	5.472	29.99	US	12/18/1995	12/15/2025	300.00MM	148.00M	7.25	NR	Baa3	AT MATURITY	-	Yes	
330	Gulfstream Natural Gas System LLC	DV0423696	GULFSG	3.832	9.98	US	9/24/2015	9/15/2025	550.00MM	550.00MM	4.6	BBB	Baa2	CALLABLE	-	Yes	
331	Kinder Morgan Inc-DE	EF2263160	KMI	6.064	21.11	US	1/6/2006	2/15/2027	182.76MM	1.25MM	6.7	BBB-	Baa3	PUTABLE	-	Yes	
332	Enbridge Pipelines Inc	MM1329067	ENBPIP	3.695	30	CA	11/17/1997	11/17/2027	35.34MM	35.34MM	6.55	BBB+		AT MATURITY	10	Yes	
333	Columbia Pipeline Group Inc	EK9205283	CPGX	-	3.03	US	5/22/2015	6/1/2018	500.00MM	55.00M	2.45	NR	Baa2	AT MATURITY	-	Yes	
334	Kinder Morgan Inc-DE	DD1130524	KMI	5.601	30.01	US	10/27/1997	11/1/2027	150.00MM	6.97MM	6.67	BBB-	Baa3	PUTABLE	10	Yes	
335	Kinder Morgan Inc-DE	EF2263202	KMI	6.064	21.11	US	1/6/2006	2/15/2027	182.76MM	1.25MM	6.7	BBB-	Baa3	PUTABLE	-	Yes	
336	NOVA Gas Transmission Ltd	MM1331189	TRPCN	3.868	31.01	CA	5/25/1995	5/27/2026	32.86MM	32.86MM	8.875	A-	A3	AT MATURITY	-	Yes	
337	Sabine Pass Liquefaction LLC	EH3311197	SPLLLC	-	10	US	4/16/2013	4/15/2023	1.60MMM	32.11MM	5.625	BBB-	Baa3	CALLABLE	5	Yes	
338	Texas Eastern Transmission LP	EH3133660	SFP	-	9.97	US	10/24/2012	10/15/2022	500.00MM	500.00MM	2.8	BBB1	Ba1	CALLABLE	5	Yes	
339	NOVA Gas Transmission Ltd	MM1132628	TRPCN	-	31	CA	6/5/1995	6/5/2026	32.71MM	32.71MM	8.46	A-	A3	PUTABLE	-	Yes	
340	Transcanada PipeLines Ltd	EC1610807	TRPCN	-	28	CA	12/1/1994	12/15/2022	18.18MM	18.18MM	9.95	A-	A3	AT MATURITY	5	Yes	
341	NOVA Gas Transmission Ltd	MM1340189	TRPCN	4.002	30	CA	12/1/1997	12/1/2027	54.40MM	54.40MM	6.59	A-	A3	AT MATURITY	10	Yes	
342	Northwest Pipeline LLC	AN0671817	WPZ	-	9.99	US	4/3/2017	4/1/2027	250.00MM	250.00MM	4	BBB	Baa2	CALLABLE	-	Yes	
343	TransCanada PipeLines Ltd	MM1319142	TRPCN	4.018	28	CA	10/31/1997	10/31/2025	295.00MM	100.00MM	7.06	A-	A3	AT MATURITY	-	Yes	
344	Texas Gas Transmission LLC	EH5397639	BWP	3.448	10.06	US	1/19/2011	2/1/2021	100.00MM	100.00MM	4.5	BBB-	Baa2	CALLABLE	3	Yes	
345	Florida Gas Transmission Co LLC	EH3098344	CITCOR	3.215	9.99	US	7/19/2010	7/15/2020	500.00MM	500.00MM	5.45	BBB	Baa2	AT MATURITY	-	Yes	
346	Energy Transfer LP	EH3344868	ETP	4.526	10.61	US	6/21/2013	2/1/2024	277.09MM	5.00M	7.6	BBB-	Baa3	CALLABLE	-	No	Related Party
347	NOVA Gas Transmission Ltd	GG7215682	TRPCN	-	30	CA	12/16/1994	12/16/2024	71.85MM	71.85MM	9.9	A-	A3	AT MATURITY	-	Yes	
348	Enbridge Inc	EC0064872	ENBCN	4.082	30	CA	7/14/1998	7/14/2028	48.98MM	48.98MM	6.1	BBB1	Baa3	AT MATURITY	10	Yes	
349	TransCanada PipeLines Ltd	MM1041541	TRPCN	-	25	CA	5/27/1991	5/27/2016	9.01MM	9.01MM	9.85	A-		AT MATURITY	-	Yes	
350	NOVA Gas Transmission Ltd	MM1198371	TRPCN	4.475	29.97	CA	8/23/1996	8/20/2026	32.50MM	32.50MM	7.5	A-	A3	AT MATURITY	-	Yes	
351	TransCanada PipeLines Ltd	GG2095704	TRPCN	-	29.99	CA	9/20/1989	3/20/2019	84.55MM	81.55MM	10.5	A-		AT MATURITY	-	Yes	
352	Enbridge Pipelines Inc	EC1490774	ENBPIP	3.945	30	CA	6/11/1990	6/11/2020	75.00MM	75.00MM	9.5	BBB+		AT MATURITY	-	Yes	
353	Colonial Pipeline Co	EH3089935	COLPLN	-	9.98	US	10/22/2010	10/15/2020	275.00MM	275.00MM	3.5	A	A3	CALLABLE	3	No	S&P Credit Rating
354	Panhandle Eastern Pipe Line Co LP	EC1773976	PEP	6.099	29.87	US	9/1/1999	7/15/2029	300.00MM	66.31MM	7	BBB-	Baa3	AT MATURITY	-	Yes	
355	Alliance Pipeline LP/United States	EC3540900	ALPIPE	-	24.82	US	3/8/2001	12/31/2025	200.00MM	200.00MM	7.877	BBB1	Baa2	SINKABLE	-	Yes	
356	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EK6128624	MWE	4.575	10.03	US	11/20/2013	12/1/2024	1.15MMM	1.05MM	4.875	BBB	WR	CALLABLE	-	Yes	
357	Sabine Pass Liquefaction LLC	QZ6140847	SPLLLC	4.289	10.47	US	9/23/2016	3/15/2027	1.50MMM	2.10.00M	5	BBB-	Baa3	CALLABLE	-	Yes	
358	Florida Gas Transmission Co LLC	AE2176697	CITCOR	3.734	10	US	7/15/2015	7/15/2025	500.00MM	500.00MM	4.35	BBB	Baa2	CALLABLE	-	Yes	
359	Sabine Pass Liquefaction LLC	EH3366160	SPLLLC	-	8	US	2/1/2013	2/1/2021	2.00MMM	2.38MM	5.625	BBB-	Baa3	CALLABLE	3	Yes	
360	Florida Gas Transmission Co LLC	EH3125913	CITCOR	-	10.02	US	5/8/2010	5/15/2019	600.00MM	600.00MM	7.9	BBB	Baa2	AT MATURITY	-	Yes	
361	Venesen Inc	EH7009903	PPLCN	-	10	CA	3/14/2012	3/14/2022	50.35MM	50.35MM	5.05	BBB		AT MATURITY	-	Yes	
362	Sabine Pass Liquefaction LLC	EK7772676	SPLLLC	-	10	US	3/3/2015	3/1/2025	2.00MMM	350.00M	5.625	BBB-	Baa3	CALLABLE	-	Yes	
363	Enable Midstream Partners LP	EK2871836	ENBL	-	4.97	US	5/27/2014	5/15/2019	500.00MM	450.00M	2.4	BBB-	Baa3	CALLABLE	-	Yes	
364	Enable Midstream Partners LP	EK2872191	ENBL	3.016	9.97	US	5/27/2014	5/15/2024	500.00MM	474.00M	3.9	BBB-	Baa3	CALLABLE	-	Yes	
365	Andeavor Logistics LP / Tesoro Logistics Finance Corp	EK5698852	ANDX	-	7.96	US	10/29/2014	10/15/2022	800.00MM	3.00MM	6.25	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
366	Kinder Morgan Inc-DE	EH1784410	KMI	-	9.98	US	1/24/2010	9/15/2020	328.67MM	21.00M	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
367	Gulf South Pipeline Co LP	EH2315244	BWP	-	10.01	US	6/12/2012	6/15/2022	300.00MM	7.25MM	4	BBB	Baa2	CALLABLE	-	Yes	
368	Colonial Pipeline Co	EC3015060	COLPLN	-	30.01	US	10/27/2000	11/1/2030	175.00MM	175.00MM	8.375	A	A3	AT MATURITY	-	No	S&P Credit Rating
369	Florida Gas Transmission Co LLC	EH2372897	CITCOR	-	10.02	US	6/19/2012	7/15/2022	300.00MM	300.00MM	3.875	BBB	Baa2	CALLABLE	-	Yes	
370	Sabine Pass Liquefaction LLC	EH3634094	SPLLLC	-	8.3	US	11/25/2013	3/15/2022	1.00MMM	5.02MM	6.25	BBB-	Baa3	AT MATURITY	-	Yes	
371	Texas Eastern Transmission LP	EH4898109	SFP	-	9.99	US	12/6/2010	12/1/2020	300.00MM	300.00MM	4.125	BBB	Ba1	CALLABLE	3	Yes	
372	Enbridge Energy Partners LP	EH2913331	EEP	-	10.03	US	4/3/2008	4/15/2018	300.00MM	5.00MM	6.5	BBB	Baa3	AT MATURITY	-	Yes	
373	Colonial Pipeline Co	DV0031038	COLPLN	-	10.03	US	9/22/2015	10/1/2025	350.00MM	350.00MM	4.25	A	A3	CALLABLE	-	No	S&P Credit Rating
374	ANR Pipeline Co	DD5338122	TRPCN	3.568	20.08	US	2/22/1994	2/15/2024	125.00MM	125.00MM	7.375	A-	A3	AT MATURITY	-	Yes	
375	ONEOK Inc	EC1488774	OKE	4.632	30	US	9/30/1998	9/30/2028	100.00MM	100.00MM	6.875	BBB	Baa3	AT MATURITY	-	Yes	
376	Columbia Pipeline Group Inc	EK9265167	CPGX	-	5.03	US	5/22/2015	6/1/2020	750.00MM	100.00M	3.3	NR	Baa2	CALLABLE	-	Yes	
377	Enable Oklahoma Intrastate Transmission LLC	EH3455689	ENBL	-	10.53	US	11/16/2009	3/15/2020	250.00MM	250.00MM	6.25	BBB-	Baa3	AT MATURITY	-	Yes	
378	NOVA Gas Transmission Ltd	EC1074763	TRPCN	3.813	31	CA	7/16/1997	7/17/2028	72.81MM	72.81MM	7	A-	A3	AT MATURITY	10	Yes	
379	Columbia Pipeline Group Inc	EK9272707	CPGX	-	3.03	US	5/22/2015	6/1/2018	500.00MM	55.00M	2.45	NR	Baa2	AT MATURITY	-	Yes	
380	Sabine Pass Liquefaction LLC	EH3342898	SPLLLC	-	10	US	4/16/2013	4/15/2023	1.00MMM	32.11MM	5.625	BBB-	Baa3	CALLABLE	5	Yes	
381	Columbia Pipeline Group Inc	EK9271345	CPGX	-	5.03	US	5/22/2015	6/1/2020	750.00MM	100.00M	3.3	NR	Baa2	CALLABLE	-	Yes	
382	Kinder Morgan Inc-DE	EH1778755	KMI	-	9.98	US	9/24/2010	9/15/2020	348.67MM	21.00M	6.5	BBB-	Baa3	AT MATURITY	3	Yes	
383	Williams Partners LP	EH2747308	WPZ	2.758	9.7	US	3/2/2010	3/15/2020	1.50MMM	1.50MMM	5.25	BBB	Baa1	AT MATURITY	-	Yes	
384	Columbia Pipeline Group Inc	EK9260721	CPGX	4.637	10.03	US	5/27/2015	6/1/2025	1.00MMM	1.30MM	4.5	NR	Baa2	CALLABLE	-	Yes	
385	Energy Transfer LP	EH3345667	ETP	4.526	10.61	US	6/21/2013	2/1/2024	277.09MM	5.00M	7.6	BBB-	Baa3	CALLABLE	-	No	Related Party

Exhibit S5.2
Bond Data as of February 2, 2018

Bloomberg															A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
386	Southeast Supply Header LLC	EK3171255	SESHNG		10.01	US	6/13/2014	6/15/2024	400.00MM	100.00MM	4.25	BBB	Baa2	CALLABLE	-	Yes	
387	Columbia Pipeline Group Inc	EK9271702	CPGX	4.637	10.03	US	5/22/2015	6/1/2025	1.00MMM	1.30MM	4.5	NR	Baa2	CALLABLE	-	Yes	
388	Gulf South Pipeline Co LP	EJ2323644	BWP		10.01	US	6/12/2012	6/15/2022	300.00MM	7.25MM	4	BBB-	Baa2	CALLABLE	-	Yes	
389	Enterprise Products Operating LLC	EK0617127	EPD	3.364	10.01	US	2/12/2014	2/15/2024	850.00MM	850.00MM	3.9	BBB+	Baa1	CALLABLE		Yes	
390	Florida Gas Transmission Co LLC	DD0018313	CHTCOR	6.127	29.98	US	11/7/1994	1/1/2024	150.00MM	52.30MM	9.19	BBB	Baa2	SINKABLE		Yes	

Sources:
[1] *Pulled from Bloomberg*

	Maturity Dates		
Bond	Start of Range	End of Range	Median Yield
3 Year	8/2/20	8/1/2021	[illegible]
5 Year	8/2/22	8/1/20[illegible]	[illegible]
[illegible] Year	[illegible]	8/1/2028	[illegible]

Exhibit 85.3
Bond Data as of March 11, 2019

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
1	Energy Transfer Operating LP	AW5607101	ETP	4.679	10.25	US	1/15/2019	4/15/2029	1.50MMM	1.50MMM	5.25	BBB-	Baa3	CALLABLE	10	No	Related Party
2	Enbridge Pipelines Inc	AX3368732	ENBPIP	3.25	10	CA	2/22/2019	2/22/2029	455.56MM	455.56MM	3.52	BBB		CALLABLE	10	Yes	
3	Midwest Connector Capital Co LLC	AX5818312	MWXCAP	-	5.06	US	3/11/2019	4/1/2024	1.00MMM	1.00MMM	3.9	A-	Baa2	CALLABLE	5	No	Related Party
4	Kinder Morgan Inc/DE	AR4557302	KMI	4.168	10	US	3/1/2018	3/1/2028	1.25MMM	1.25MMM	4.3	BBB	Baa2	CALLABLE	-	Yes	
5	Energy Transfer Operating LP	AW5807093	ETP	3.809	5.25	US	1/15/2019	4/15/2024	750.00MM	750.00MM	4.5	BBB-	Baa3	CALLABLE	5	No	Related Party
6	Midwest Connector Capital Co LLC	AX5818353	MWXCAP	-	3.06	US	3/11/2019	4/1/2022	650.00MM	650.00MM	3.625	A	Baa2	CALLABLE	3	No	Related Party
7	Midwest Connector Capital Co LLC	AX5818346	MWXCAP	-	10.06	US	3/11/2019	4/1/2029	850.00MM	850.00MM	4.625	A-	Baa2	CALLABLE	10	No	Related Party
8	Ruby Pipeline LLC	EI0235857	RPLLLC		10.12	US	2/15/2012	4/1/2022	825.00MM	693.75MM	6	BBB-	Ba2	SINKABLE	3	No	Moody's Credit Rating
9	EQM Midstream Partners LP	AT2256647	EQM	4.474	5.05	US	6/25/2018	7/15/2023	1.10MMM	1.10MMM	4.75	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
10	Williams Cos Inc/The	AN8093246	WMB	4.19	10.03	US	6/5/2017	6/15/2027	1.45MMM	1.45MMM	3.75	BBB	Baa3	CALLABLE	-	Yes	
11	TransCanada PipeLines Ltd	AS5051345	TRPCN	3.959	10.02	CA	5/7/2018	5/15/2028	1.40MMM	1.40MMM	4.25	BBB+	A3	CALLABLE	-	Yes	
12	Sabine Pass Liquefaction LLC	AN2587565	SPLLLC	4.433	9.85	US	5/10/2017	3/15/2027	1.50MMM	1.50MMM	5	BBB-	Baa3	CALLABLE	-	Yes	
13	Sabine Pass Liquefaction LLC	AO0405230	SPLLLC	4.49	10.66	US	7/17/2017	3/15/2028	1.35MMM	1.35MMM	4.2	BBB-	Baa3	CALLABLE	-	Yes	
14	EQM Midstream Partners LP	AT2272760	EQM	5.611	10.06	US	6/25/2018	7/15/2028	850.00MM	850.00MM	5.5	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
15	Enable Midstream Partners LP	AS5401003	ENBL	4.978	10.02	US	5/10/2018	5/15/2028	800.00MM	800.00MM	4.95	BBB-	Baa3	CALLABLE	-	Yes	
16	Enterprise Products Operating LLC	AU8143607	EPD	3.791	10.02	US	10/11/2018	10/16/2028	1.00MMM	1.00MMM	4.15	BBB+	Baa1	CALLABLE	10	Yes	
17	ONEOK Inc	AT2061758	OKE	4.367	10.04	US	7/2/2018	7/13/2028	800.00MM	800.00MM	4.55	BBB	Baa3	CALLABLE	-	Yes	
18	Buckeye Partners LP	AP9675491	BPL	5.05	10.03	US	11/20/2017	12/1/2027	400.00MM	400.00MM	4.125	BBB	Baa3	CALLABLE	-	Yes	
19	MPLX LP	AV5390485	MPLX	4.449	10.25	US	11/15/2018	2/15/2029	750.00MM	750.00MM	4.8	BBB	Baa3	CALLABLE	10	Yes	
20	Kinder Morgan Inc/DE	AO6336546	KMI	3.343	5.43	US	8/10/2017	1/15/2023	1.00MMM	1.00MMM	3.15	BBB	Baa2	CALLABLE	-	Yes	
21	Sabine Pass Liquefaction LLC	JV3198910	SPLLLC	4.068	9.13	US	1/13/2016	3/1/2025	2.00MMM	2.00MMM	5.625	BBB-	Baa3	CALLABLE		Yes	
22	Kinder Morgan Energy Partners LP	EH8211821	KMI	3.085	10.76	US	5/14/2009	2/15/2020	700.00MM	700.00MM	6.85	BBB	Baa2	AT MATURITY	-	Yes	
23	Enterprise Products Operating LLC	EI2501985	EPD	2.921	10.29	US	5/20/2010	9/1/2020	1.00MMM	1.00MMM	5.2	BBB+	Baa1	AT MATURITY		Yes	
24	Energy Transfer Operating LP	EK9884645	ETP	4.314	10.57	US	6/23/2015	1/15/2026	1.00MMM	1.00MMM	4.75	BBB-	Baa3	CALLABLE	-	No	Related Party
25	Andeavor Logistics LP / Tesoro Logistics Finance Corp	AL1828532	ANDX	4.732	8.12	US	12/2/2016	1/15/2025	750.00MM	750.00MM	5.25	BBB- *+	Ba1 *+	CALLABLE	-	No	Moody's Credit Rating
26	Enbridge Inc	AO1405585	ENBCN	3.905	10.02	CA	7/7/2017	7/15/2027	700.00MM	700.00MM	3.7	BBB+	Baa2	CALLABLE	-	Yes	
27	Kinder Morgan Inc/DE	EK6237607	KMI	3.879	10.51	US	11/26/2014	6/1/2025	1.50MMM	1.50MMM	4.3	BBB	Baa2	CALLABLE	-	Yes	
28	Spectra Energy Partners LP	EI8394524	ENBCN	3.592	10.47	US	9/25/2013	3/15/2024	1.00MMM	1.00MMM	4.75	BBB+	Baa2	CALLABLE	5	Yes	
29	Sabine Pass Liquefaction LLC	EK5639191	SPLLLC	3.924	9.49	US	11/19/2014	5/15/2024	2.00MMM	2.00MMM	5.75	BBB-	Baa3	CALLABLE	5	Yes	
30	Rockies Express Pipeline LLC	EI1930557	ROCKIE		10.07	US	3/22/2010	4/15/2020	750.00MM	750.00MM	5.625	BBB-	Ba1	AT MATURITY	-	No	Moody's Credit Rating
31	Boardwalk Pipelines LP	EK6155890	BWP	4.47	10.05	US	11/26/2014	12/15/2024	600.00MM	600.00MM	4.95	BBB-	Baa3	CALLABLE	-	Yes	
32	Williams Cos Inc/The	EJ4831768	WMB	3.494	10.08	US	12/18/2012	1/15/2023	850.00MM	850.00MM	3.7	BBB	Baa3	CALLABLE	-	Yes	
33	Williams Cos Inc/The	EI2757308	WMB	3.064	9.7	US	7/2/2010	3/15/2020	1.50MMM	1.50MMM	5.25	BBB	Baa3	AT MATURITY	-	Yes	
34	Kinder Morgan Inc/DE	EK7930747	KMI	1.599	12	US	3/16/2015	3/16/2027	529.52MM	529.52MM	2.25	BBB	Baa2	AT MATURITY	-	Yes	
35	Plains All American Pipeline LP / PAA Finance Corp	AL2939414	PAA	4.398	10.06	US	11/22/2016	12/15/2026	750.00MM	750.00MM	4.5	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
36	Boardwalk Pipelines LP	AM0439645	BWP	5.134	10.5	US	1/17/2017	7/15/2027	500.00MM	500.00MM	4.45	BBB-	Baa3	CALLABLE		Yes	
37	Kinder Morgan Inc/DE	EK6237185	KMI	2.924	5.01	US	11/26/2014	12/1/2019	1.50MMM	1.50MMM	3.05	BBB	Baa2	CALLABLE		Yes	
38	Energy Transfer Operating LP	AS9708437	ETP	4.598	10.02	US	6/8/2018	6/15/2028	1.00MMM	1.00MMM	4.95	BBB-	Baa3	CALLABLE		No	Related Party
39	Kinder Morgan Energy Partners LP	EK0850611	KMI	3.164	7.01	US	2/24/2014	3/1/2021	750.00MM	750.00MM	3.5	BBB	Baa2	CALLABLE		Yes	
40	NGPL PipeCo LLC	AO5019374	NGPLCO	4.767	10.04	US	8/1/2017	8/15/2027	700.00MM	700.00MM	4.875	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
41	Energy Transfer Operating LP	EK7998510	ETP	4.009	10.01	US	3/12/2015	3/15/2025	1.00MMM	1.00MMM	4.05	BBB-	Baa3	CALLABLE	-	No	Related Party
42	Buckeye Partners LP	AL0365273	BPL	4.915	10.06	US	11/7/2016	12/1/2026	600.00MM	600.00MM	3.95	BBB-	Baa3	CALLABLE	-	Yes	
43	Williams Cos Inc/The	EK3406482	WMB	3.69	10	US	6/24/2014	6/24/2024	1.25MMM	1.25MMM	4.55	BBB	Baa3	CALLABLE	5	Yes	
44	Plains All American Pipeline LP / PAA Finance Corp	EK6386297	PAA	-	5.02	US	12/9/2014	12/15/2019	500.00MM	500.00MM	2.6	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
45	Western Midstream Operating LP	AT9556495	WES	4.789	10.02	US	8/9/2018	8/15/2028	400.00MM	400.00MM	4.75	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
46	Kinder Morgan Energy Partners LP	EK4810728	KMI	3.562	9.97	US	9/11/2014	9/1/2024	650.00MM	650.00MM	4.25	BBB	Baa2	CALLABLE	5	Yes	
47	Andeavor Logistics LP / Tesoro Logistics Finance Corp	AQ0883407	ANDX	4.432	10.01	US	11/28/2017	12/1/2027	750.00MM	750.00MM	4.25	BBB- *+	Ba1 *+	CALLABLE	-	No	Moody's Credit Rating
48	Valero Energy Partners LP	AL5532043	VLO	4.102	10.02	US	12/9/2016	12/15/2026	500.00MM	500.00MM	4.375	BBB	Baa2	CALLABLE	-	Yes	
49	Andeavor Logistics LP / Tesoro Logistics Finance Corp	JK4444250	ANDX	3.355	3.52	US	4/8/2016	10/15/2019	500.00MM	500.00MM	5.5	BBB- *+	Ba1 *+	CALLABLE		No	Moody's Credit Rating
50	Energy Transfer Operating LP	EI5146570	ETP	3.57	10.03	US	1/22/2013	2/1/2023	800.00MM	800.00MM	3.6	BBB-	Baa3	CALLABLE		No	Related Party
51	Sabine Pass Liquefaction LLC	EK0818022	SPLLLC	3.627	6.88	US	3/17/2014	2/1/2021	1.99MMM	1.99MMM	5.625	BBB-	Baa3	CALLABLE		Yes	
52	Williams Cos Inc/The	EK7758890	WMB	3.333	7.01	US	3/3/2015	3/15/2022	1.25MMM	1.25MMM	3.6	BBB	Baa3	CALLABLE	3	Yes	
53	Sabine Pass Liquefaction LLC	AN2587391	SPLLLC	4.373	9.14	US	5/10/2017	6/30/2026	1.50MMM	1.50MMM	5.875	BBB-	Baa3	CALLABLE	-	Yes	
54	Magellan Midstream Partners LP	JK2126734	MMP	3.827	10	US	2/29/2016	3/1/2026	650.00MM	650.00MM	5	BBB+	Baa1	CALLABLE	-	Yes	
55	Buckeye Partners LP	EJ7048626	BPL	3.955	10.06	US	6/10/2013	7/1/2023	500.00MM	500.00MM	4.15	BBB-	Baa3	CALLABLE	-	Yes	
56	NGPL PipeCo LLC	AO5019317	NGPLCO	3.952	5.04	US	8/1/2017	8/15/2022	700.00MM	700.00MM	4.375	BBB	Ba1	CALLABLE	3	No	Moody's Credit Rating
57	Andeavor Logistics LP / Tesoro Logistics Finance Corp	JK4444267	ANDX	5.393	6.52	US	4/8/2016	10/15/2022	707.00MM	297.00MM	6.25	BBB- *+	Ba1 *+	CALLABLE	-	No	Moody's Credit Rating
58	Phillips 66 Partners LP	QZ8608429	PSXP	4.102	9.96	US	10/14/2016	10/1/2026	500.00MM	500.00MM	3.55	BBB	Baa3	CALLABLE	-	Yes	
59	Kinder Morgan Energy Partners LP	EJ7725603	KMI	3.564	10.49	US	8/5/2013	2/1/2024	650.00MM	650.00MM	4.15	BBB	Baa2	CALLABLE	5	Yes	
60	Energy Transfer Operating LP	EJ8328902	ETP	3.504	7.03	US	9/19/2013	10/1/2020	1.05MMM	1.05MMM	4.15	BBB-	Baa3	CALLABLE	-	No	Related Party
61	Enterprise Products Operating LLC	EK5299916	EPD	3.332	10.34	US	10/14/2014	2/15/2025	1.15MMM	1.15MMM	3.75	BBB+	Baa1	CALLABLE	-	Yes	
62	Enbridge Inc	EJ8552162	ENBCN	3.373	10	CA	10/2/2013	10/1/2023	800.00MM	800.00MM	4	BBB+	Baa2	CALLABLE	5	Yes	
63	Energy Transfer Operating LP	AM1009864	ETP	4.405	10.24	US	1/17/2017	4/15/2027	600.00MM	600.00MM	4.2	BBB-	Baa3	CALLABLE	-	No	Related Party
64	Enbridge Inc	AL1762955	ENBCN	3.946	10	CA	11/29/2016	12/1/2026	750.00MM	750.00MM	4.25	BBB+	Baa2	CALLABLE	-	Yes	
65	Enterprise Products Operating LLC	AU8143560	EPD	3.039	3.31	US	10/11/2018	2/1/2022	750.00MM	750.00MM	3.5	BBB+	Baa1	AT MATURITY	3	Yes	

Exhibit S5.3
Bond Data as of March 11, 2019

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
66	Enbridge Inc	AO1403408	ENBCN	3.254	5.02	CA	7/7/2017	7/15/2022	700.00MM	700.00MM	2.9	BBB+	Baa2	CALLABLE	3	Yes	
67	Buckeye Partners LP	EI5289745	BPL	3.609	10.05	US	1/13/2011	2/1/2021	650.00MM	650.00MM	4.875	BBB-	Baa3	CALLABLE	-	Yes	
68	Enbridge Inc	AN8723503	ENBCN	3.357	10	CA	6/8/2017	6/8/2027	333.32MM	333.32MM	3.2	BBB+	Baa2	CALLABLE	-	Yes	
69	Kinder Morgan Energy Partners LP	EK2490028	KMI	3.567	10	US	5/2/2014	5/1/2024	600.00MM	600.00MM	4.3	BBB	Baa2	CALLABLE	5	Yes	
70	Sunoco Logistics Partners Operations LP	AP2252223	ETP	4.499	10.03	US	9/21/2017	10/1/2027	750.00MM	750.00MM	4	BBB-	Baa3	CALLABLE	-	Yes	
71	MPLX LP	QZ3833832	MPLX	4.001	8.68	US	9/27/2016	6/1/2025	1.19MMM	1.19MMM	4.875	BBB	Baa3	CALLABLE		Yes	
72	Energy Transfer Operating LP	EJ6703652	ETP	3.325	10.06	US	5/12/2011	6/1/2021	800.00MM	800.00MM	4.65	BBB-	Baa3	CALLABLE		No	Related Party
73	EQM Midstream Partners LP	AL0732173	EQM	5.346	10.07	US	11/4/2016	12/1/2026	500.00MM	500.00MM	4.125	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
74	Transcontinental Gas Pipe Line Co LLC	AL5810530	WMB	4.03	9.08	US	1/4/2017	2/1/2026	1.00MMM	1.00MMM	7.85	BBB	Baa2	CALLABLE		Yes	
75	Transcontinental Gas Pipe Line Co LLC	AU2023763	WMB	4.085	9.48	US	9/20/2018	3/15/2028	400.00MM	400.00MM	4	BBB	Baa2	CALLABLE	-	Yes	
76	Pipeline Funding Co LLC	EI0046561	NEE	5.259	20.25	US	12/15/2009	1/15/2030	500.00MM	470.05MM	7.5	BBB	Baa2	SINKABLE	-	Yes	
77	MPLX LP	AM4249502	MPLX	4.352	10.05	US	2/10/2017	3/1/2027	1.25MMM	1.25MMM	4.125	BBB	Baa3	CALLABLE		Yes	
78	Pembina Pipeline Corp	AM2013028	PPLCN	2.971	7	CA	1/20/2017	1/22/2024	486.76MM	486.76MM	2.99	BBB		CALLABLE	5	Yes	
79	Andeavor Logistics LP / Tesoro Logistics Finance Corp	AQ0883316	ANDX	3.573	5.01	US	11/28/2017	12/1/2022	500.00MM	500.00MM	3.5	BBB- *	Ba1 *	CALLABLE	-	No	Moody's Credit Rating
80	Boardwalk Pipelines LP	LW1068709	BWP	5.182	10.04	US	5/16/2016	6/1/2026	550.00MM	550.00MM	5.95	BBB-	Baa3	CALLABLE		Yes	
81	Energy Transfer Operating LP	EI9522323	ETP	3.534	10.01	US	1/17/2012	2/1/2022	1.00MMM	1.00MMM	5.2	BBB-	Baa3	CALLABLE	3	No	Related Party
82	Andeavor Logistics LP / Tesoro Logistics Finance Corp	LW0651346	ANDX	5.198	7.97	US	5/12/2016	5/1/2024	450.00MM	450.00MM	6.375	BBB- *	Ba1 *+	CALLABLE	5	No	Moody's Credit Rating
83	ONEOK Partners LP	LU3584020	OKE	3.332	10.05	US	9/13/2012	10/1/2022	900.00MM	900.00MM	3.375	BBB	Baa3	CALLABLE		Yes	
84	Plains All American Pipeline LP / PAA Finance Corp	UV5389910	PAA	4.164	10.14	US	8/24/2015	10/15/2025	1.00MMM	1.00MMM	4.65	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
85	Williams Cos Inc/The	EK7759013	WMB	3.818	10.54	US	3/3/2015	9/15/2025	750.00MM	750.00MM	4	BBB	Baa3	CALLABLE	-	No	Duplicate
86	Williams Cos Inc/The	EK7759013	WMB	3.818	10.54	US	3/3/2015	9/15/2025	750.00MM	750.00MM	4	BBB	Baa3	CALLABLE		Yes	
87	Sabal Trail Transmission LLC	AS1889891	SABALT	4.118	10	US	4/30/2018	5/1/2028	500.00MM	500.00MM	4.246		Baa1	CALLABLE	-	Yes	
88	Enterprise Products Operating LLC	EI5886308	EPD	3.134	9.99	US	3/18/2011	3/15/2021	1.25MMM	1.25MMM	3.15	BBB+	Baa1	CALLABLE	-	Yes	
89	Spectra Energy Partners LP	QZ7789309	ENBCN	3.983	9.99	US	10/17/2016	10/15/2026	600.00MM	600.00MM	3.375	BBB+	Baa2	CALLABLE	-	Yes	
90	Sunoco Logistics Partners Operations LP	LW8008731	ETP	4.329	10.01	US	7/12/2016	7/15/2026	550.00MM	550.00MM	3.9	BBB-	Baa3	CALLABLE	-	Yes	
91	Enable Midstream Partners LP	QJ9100067	ENBL	4.284	8.4	US	12/22/2015	5/15/2024	599.63MM	599.63MM	3.9	BBB-	Baa3	CALLABLE	5	Yes	
92	MPLX LP	QZ3833717	MPLX	3.858	8.18	US	9/27/2016	12/1/2024	1.15MMM	1.15MMM	4.875	BBB	Baa3	CALLABLE	-	Yes	
93	MPLX LP	AR1211812	MPLX	4.416	10.1	US	2/8/2018	3/15/2028	1.25MMM	1.25MMM	4	BBB	Baa3	CALLABLE		Yes	
94	Western Midstream Operating LP	LW6697723	WES	4.743	9.97	US	7/12/2016	7/1/2026	500.00MM	500.00MM	4.65	BBB	Ba1	CALLABLE		No	Moody's Credit Rating
95	MPLX LP	AR1180367	MPLX	3.346	5.1	US	2/8/2018	3/15/2023	500.00MM	500.00MM	3.375	BBB	Baa3	CALLABLE	-	Yes	
96	Enbridge Inc	EI1775816	ENBCN	2.465	10	CA	3/8/2010	3/9/2020	486.98MM	486.98MM	4.53	BBB+	Baa2	AT MATURITY		Yes	
97	Energy Transfer Partners LP / Regency Energy Finance Corp	EJ9569272	ETP	3.79	9.86	US	12/20/2013	11/1/2023	600.00MM	609.50MM	4.5	BBB-	Baa3	CALLABLE	5	No	Related Party
98	EQM Midstream Partners LP	EK4105400	EQM	4.591	10	US	8/1/2014	8/1/2024	500.00MM	500.00MM	4	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
99	Enable Midstream Partners LP	AM7613012	ENBL	4.977	10.02	US	3/9/2017	3/15/2027	700.00MM	700.00MM	4.4	BBB-	Baa3	CALLABLE	-	Yes	
100	Northwest Pipeline LLC	AR0388801	WMB	4.135	9.09	US	2/28/2018	4/1/2027	499.07MM	499.07MM	4	BBB	Baa2	CALLABLE	-	Yes	
101	Enbridge Inc	EK1027456	ENBCN	3.536	10.02	CA	6/4/2014	6/10/2024	500.00MM	500.00MM	3.5	BBB+	Baa2	CALLABLE	5	Yes	
102	Enbridge Energy Partners LP	QJ0734554	ENBCN	3.843	10.03	US	10/6/2015	10/15/2025	500.00MM	500.00MM	5.875	BBB+	Baa2	CALLABLE	-	Yes	
103	Valero Energy Partners LP	AR9290314	VLO	4.251	9.96	US	3/29/2018	3/15/2028	500.00MM	500.00MM	4.5	BBB	Baa2	CALLABLE		Yes	
104	Williams Cos Inc/The	EK1001313	WMB	3.658	10	US	3/1/2014	3/4/2024	1.00MMM	1.00MMM	4.3	BBB	Baa3	CALLABLE	5	Yes	
105	Enterprise Products Operating LLC	EI0885524	EPD	2.949	10.32	US	10/5/2009	1/31/2020	500.00MM	500.00MM	5.25	BBB+	Baa1	AT MATURITY	-	Yes	
106	Enbridge Inc	EI0958337	ENBCN	2.403	10	CA	9/2/2009	9/2/2019	362.27MM	362.27MM	4.77	BBB+	Baa2	AT MATURITY		Yes	
107	MPLX LP	EK7448608	MPLX	4.026	10.01	US	2/12/2015	2/15/2025	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE	-	Yes	
108	Enterprise Products Operating LLC	JK6777540	EPD	2.361	5	US	4/13/2016	4/15/2021	575.00MM	575.00MM	2.85	BBB+	Baa1	CALLABLE	-	Yes	
109	Sunoco Logistics Partners Operations LP	EK1561342	ETP	3.851	10	US	4/3/2014	4/1/2024	500.00MM	500.00MM	4.25	BBB-	Baa3	CALLABLE	5	Yes	
110	ONEOK Partners LP	EK8126774	OKE	4.015	9.99	US	3/20/2015	3/15/2025	500.00MM	500.00MM	4.9	BBB	Baa3	CALLABLE	-	Yes	
111	Boardwalk Pipelines LP	EJ4423857	BWP	4.076	10.23	US	11/8/2012	2/1/2023	300.00MM	300.00MM	3.375	BBB-	Baa3	CALLABLE		Yes	
112	Buckeye Partners LP	EK4838570	BPL	4.269	10.09	US	9/12/2014	10/15/2024	300.00MM	300.00MM	4.35	BBB-	Baa3	CALLABLE		Yes	
113	Williams Cos Inc/The	EC4407093	WMB	3.403	20.03	US	8/21/2001	9/1/2021	750.00MM	370.72MM	7.875	BBB	Baa3	AT MATURITY		Yes	
114	Enbridge Inc	EJ4652935	ENBCN	2.829	10	CA	12/4/2012	12/5/2022	806.31MM	806.31MM	3.19	BBB+	Baa2	AT MATURITY		Yes	
115	Plains All American Pipeline LP / PAA Finance Corp	EJ7864909	PAA	3.758	10.17	US	8/15/2013	10/15/2023	700.00MM	700.00MM	3.85	BBB-	Ba1	CALLABLE	5	No	Moody's Credit Rating
116	ONEOK Partners LP	EK8126170	OKE	4.127	4.99	US	3/20/2015	3/15/2020	300.00MM	300.00MM	3.8	BBB	Baa3	CALLABLE	-	Yes	
117	Energy Transfer Operating LP	AS9708361	ETP	[illegible]	5.27	US	6/8/2018	9/15/2023	500.00MM	500.00MM	4.2	BBB-	Baa3	CALLABLE	5	No	Related Party
118	Enbridge Inc	AW3930468	ENBCN	3.073	5.91	CA	12/21/2018	11/19/2024	368.23MM	368.23MM	3.95	BBB+	Baa2	CALLABLE	-	Yes	
119	ONEOK Inc	UV5222392	OKE	3.897	8.03	US	8/21/2015	9/1/2023	500.00MM	500.00MM	[illegible]	BBB	Baa3	CALLABLE	-	Yes	
120	Kinder Morgan Inc/DE	EJ9140165	KMI	3.636	10.03	US	11/5/2013	11/15/2023	750.00MM	750.00MM	5.625	BBB	Baa2	CALLABLE	5	Yes	
121	TransCanada PipeLines Ltd	EJ8658217	TRPCN	3.257	10.02	CA	10/7/2013	10/16/2023	625.00MM	625.00MM	3.75	BBB+	A3	CALLABLE	5	Yes	
122	Enterprise Products Operating LLC	EK5285400	EPD	2.815	5	US	10/14/2014	10/15/2019	800.00MM	800.00MM	2.55	BBB+	Baa1	CALLABLE		Yes	
123	Kinder Morgan Inc/DE	EI6067512	KMI	3.181	9.68	US	1/7/2011	9/15/2020	348.65MM	348.65MM	6.5	BBB	Baa2	AT MATURITY	-	Yes	
124	Keyera Corp	AT1962019	KEYCN	3.594	10	CA	6/21/2018	6/21/2028	300.26MM	300.26MM	3.934	BBB		CALLABLE		Yes	
125	Inter Pipeline Ltd	AS2190705	IPLCN	3.13		CA	4/18/2017	4/18/2024	373.34MM	373.34MM	2.734	BBB+		CALLABLE	5	Yes	
126	Kinder Morgan Inc/DE	EI9140223	KMI	3.306	7.28	US	11/5/2013	2/15/2021	750.00MM	750.00MM	5	BBB	Baa2	CALLABLE		Yes	
127	Plains All American Pipeline LP / PAA Finance Corp	EI0750085	PAA	3.663	10.19	US	3/22/2012	6/1/2022	750.00MM	750.00MM	3.65	BBB-	Ba1	CALLABLE	3	No	Moody's Credit Rating
128	Kinder Morgan Energy Partners LP	EI2017586	KMI	5.089	10.01	US	3/30/2010	4/1/2020	535.00MM	535.00MM	6.5	BBB	Baa2	AT MATURITY	-	Yes	
129	Kinder Morgan Inc/DE	EC2904316	KMI	5.109	30.01	US	10/11/2000	10/15/2030	300.00MM	234.17MM	8.05	BBB	Baa2	AT MATURITY	-	Yes	
130	TC PipeLines LP	AN7171511	TCP	4.319	10	US	5/25/2017	5/25/2027	500.00MM	500.00MM	3.9	BBB	Baa2	CALLABLE	-	Yes	

Exhibit S5.3
Bond Data as of March 11, 2019

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
131	TransCanada PipeLines Ltd	EJ303?207	TRPCN	3.042	10	CA	8/2/2012	8/1/2022	1.00MMM	1.00MMM	2.5	BBB+	A3	AT MATURITY	3	Yes	
132	Enable Midstream Partners LP	QJ000?466	ENBL	2.984	3.39	US	12/22/2015	5/15/2019	499.55MM	499.55MM	2.4	BBB-	Baa3	CALLABLE	-	Yes	
133	TransCanada PipeLines Ltd	AQ0602492	TRPCN	2.847	1.99	CA	11/17/2017	11/15/2019	700.00MM	700.00MM	2.125	BBB+	A3	AT MATURITY	-	Yes	
134	Energy Transfer Operating LP	EJ8328845	ETP	3.86	10.37	US	9/19/2013	2/1/2024	350.00MM	350.00MM	4.9	BBB-	Baa3	CALLABLE	5	No	Related Party
135	Kinder Morgan Energy Partners LP	EI8163029	KMI	3.363	10.03	US	9/20/2011	10/1/2021	500.00MM	500.00MM	4	BBB	Baa2	CALLABLE	3	Yes	
136	TransCanada PipeLines Ltd	JV8018030	TRPCN	3.78	9.97	CA	1/27/2016	1/15/2026	850.00MM	850.00MM	4.875	BBB+	A3	CALLABLE	-	Yes	
137	Plains All American Pipeline LP / PAA Finance Corp	EK4705233	PAA	3.974	10.15	US	9/9/2013	11/1/2024	750.00MM	750.00MM	3.6	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
138	Sunoco Logistics Partners Operations LP	QJ7765812	ETP	4.314	10.04	US	11/17/2015	12/1/2025	400.00MM	400.00MM	5.95	BBB-	Baa3	CALLABLE	-	Yes	
139	Southern Natural Gas Co LLC	EC3471751	SONGAS	4.941	30	US	2/13/2001	2/15/2031	300.00MM	152.28MM	7.35	BBB	Baa2	AT MATURITY	-	Yes	
140	TransCanada PipeLines Ltd	AP1492507	TRPCN	3.24	10.5	CA	9/15/2017	3/15/2028	409.79MM	409.79MM	3.39	BBB	A3	CALLABLE	-	Yes	
141	Williams Cos Inc/The	EI4567745	WMB	3.265	10.02	US	11/9/2010	11/15/2020	600.00MM	600.00MM	4.125	BBB	Baa3	CALLABLE	-	Yes	
142	Kinder Morgan Inc/DE	EK7726343	KMI	0.393	7	US	3/16/2015	3/16/2022	794.27MM	794.27MM	1.5	BBB	Baa2	AT MATURITY	3	Yes	
143	ONEOK Partners LP	EJ8254587	OKE	3.78	10.01	US	9/12/2013	9/15/2023	425.00MM	425.00MM	5	BBB	Baa3	CALLABLE	5	Yes	
144	Texas Gas Transmission LLC	EI5388232	BWP	3.736	10.04	US	1/19/2011	2/1/2021	440.00MM	440.00MM	4.5	BBB-	Baa2	CALLABLE	-	Yes	
145	Alliance Pipeline LP United States	EC3860900	ALPIPE		24.82	US	3/8/2001	12/31/2025	200.00MM	200.00MM	7.877	BBB+	Baa2	SINKABLE		Yes	
146	Sunoco Logistics Partners Operations LP	EI7681022	ETP	3.534	10.54	US	8/2/2011	2/15/2022	300.00MM	300.00MM	4.65	BBB-	Baa3	AT MATURITY	3	Yes	
147	Kinder Morgan Energy Partners LP	EJ5670660	KMI	3.453	10.51	US	2/28/2013	9/1/2023	600.00MM	600.00MM	3.5	BBB	Baa2	CALLABLE	-	Yes	
148	El Paso Natural Gas Co LLC	DD1081615	KMI	4.58	30	US	11/13/1996	11/15/2026	200.00MM	200.00MM	7.5	BBB	Baa2	AT MATURITY	-	Yes	
149	Enterprise Products Operating LLC	AR0692442	EPD	2.924	3	US	2/15/2018	2/15/2021	750.00MM	750.00MM	2.8	BBB+	Baa1	AT MATURITY	-	Yes	
150	Columbia Pipeline Group Inc	JK8194168	CPGX	3.923	9.05	US	5/12/2016	6/1/2025	998.70MM	998.70MM	4.5	NR	Baa1	CALLABLE	-	Yes	
151	Phillips 66 Partners LP	EK7629174	PSXP	3.861	9.98	US	2/24/2015	2/15/2025	500.00MM	500.00MM	3.605	BBB	Baa3	CALLABLE	-	Yes	
152	Enbridge Inc	EJ7184864	ENBCN	2.939	9.99	CA	7/1/2013	6/30/2023	427.87MM	427.87MM	3.94	BBB+	Baa2	CALLABLE		Yes	
153	AltaGas Ltd	EK5875340	ALACN		10.18	CA	11/10/2014	1/15/2025	264.35MM	264.35MM	3.84	BBB-		CALLABLE		Yes	
154	Enbridge Inc	AW3930335	ENBCN	2.87	4.06	CA	12/21/2018	1/13/2023	202.52MM	202.52MM	3.94	BBB+	Baa2	AT MATURITY	-	Yes	
155	MPLX LP	QZ3833667	MPLX	3.516	6.8	US	9/27/2016	7/15/2023	988.53MM	988.53MM	4.5	BBB	Baa3	CALLABLE		Yes	
156	Pembina Pipeline Corp	AR5823411	PPLCN		10	CA	3/26/2018	3/27/2028	310.47MM	310.47MM	4.02	BBB		CALLABLE	-	Yes	
157	Energy Transfer Operating LP	EH7804725	ETP	-	10.02	US	4/7/2009	4/15/2019	650.00MM	450.00MM	9	BBB-	Baa3	AT MATURITY	-	No	Related Party
158	Kinder Morgan Energy Partners LP	EJ3171240	KMI	3.385	10.51	US	8/13/2012	2/15/2023	625.00MM	625.00MM	3.45	BBB	Baa2	CALLABLE	-	Yes	
159	TransCanada PipeLines Ltd	EI4120578	TRPCN	2.935	10.02	CA	9/23/2010	10/1/2020	1.00MMM	1.00MMM	3.8	BBB+	A3	AT MATURITY	-	Yes	
160	Enterprise Products Operating LLC	EK0617127	EPD	3.252	10.01	US	2/12/2014	2/15/2024	850.00MM	850.00MM	3.9	BBB+	Baa1	CALLABLE	5	Yes	
161	Western Midstream Operating LP	EJ2520059	WES	3.352	10.01	US	6/28/2012	7/1/2022	670.00MM	670.00MM	4	BBB-	Ba1	CALLABLE	3	No	Moody's Credit Rating
162	TransCanada PipeLines Ltd	EI8739738	TRPCN	2.547	10	CA	11/15/2011	11/15/2021	489.39MM	489.39MM	3.65	BBB+	A3	AT MATURITY	3	Yes	
163	Inter Pipeline Ltd	EJ7600750	IPLCN	2.479	7	CA	7/19/2013	7/20/2020	482.78MM	482.78MM	3.448	BBB+		AT MATURITY	-	Yes	
164	Western Midstream Operating LP	EI6705178	WES	3.761	10.04	US	5/18/2011	6/1/2021	500.00MM	500.00MM	5.375	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
165	Enbridge Pipelines Inc	QZ1535420	ENBPIP	3.036	10	CA	8/9/2016	8/10/2026	304.73MM	304.73MM	3	BBB+		CALLABLE		Yes	
166	Inter Pipeline Ltd	AL7332367	IPLCN	3.482	10	CA	12/16/2016	12/16/2026	337.25MM	337.25MM	3.484	BBB+		CALLABLE	-	Yes	
167	Veresen Inc	AL1420945	PPLCN	2.725	5	CA	11/10/2016	11/10/2021	260.25MM	260.25MM	3.43	BBB		CALLABLE	2	Yes	
168	Kinder Morgan Energy Partners LP	EJ0550892	KMI	3.286	10.47	US	3/14/2012	9/1/2022	1.00MMM	1.00MMM	3.95	BBB	Baa2	CALLABLE	3	Yes	
169	Spectra Energy Partners LP	EK7961205	ENBCN	3.711	10.01	US	3/12/2015	3/15/2025	500.00MM	500.00MM	3.5	BBB+	Baa2	CALLABLE		Yes	
170	Midcontinent Express Pipeline LLC	EH9693043	MCEXPP	-	10	US	9/16/2009	9/15/2019	450.00MM	450.00MM	6.7	BBB-	Ba2	AT MATURITY	-	No	Moody's Credit Rating
171	Energy Transfer Partners LP / Regency Energy Finance Corp	EK0597170	ETP	3.615	8.05	US	2/10/2014	3/1/2022	900.00MM	900.00MM	5.875	BBB-	Baa3	CALLABLE	1	No	Related Party
172	Sunoco Logistics Partners Operations LP	QJ7765598	ETP	3.333	5.37	US	11/17/2015	4/1/2021	600.00MM	600.00MM	4.4	BBB-	Baa3	CALLABLE		Yes	
173	Sabine Pass Liquefaction LLC	EK5639026	SPLLLC	3.601	7.37	US	11/19/2014	3/15/2022	994.93MM	994.93MM	6.25	BBB-	Baa3	CALLABLE	3	Yes	
174	Ruby Pipeline LLC	EJ0236053	RPLLLC		10.12	US	2/15/2012	4/1/2022	825.90MM	693.75MM	6	BBB-	Ba2	SINKABLE	3	No	Moody's Credit Rating
175	Plains All American Pipeline LP / PAA Finance Corp	EI5302514	PAA		10.05	US	1/14/2011	2/1/2021	600.00MM	600.00MM	5	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
176	Magellan Midstream Partners LP	EI3455561	MMP	-	10.48	US	8/11/2010	2/1/2021	550.00MM	550.00MM	4.25	BBB+	Baa1	AT MATURITY	-	Yes	
177	Pembina Pipeline Corp	EK9742801	PPLCN	-	12	CA	6/16/2015	6/15/2027	405.25MM	405.25MM	4.24	BBB		CALLABLE	-	Yes	
178	Pembina Pipeline Corp	EK7244156	PPLCN	3.139	10	CA	2/2/2015	2/3/2025	337.71MM	337.71MM	3.54	BBB		CALLABLE	-	Yes	
179	Williams Cos Inc/The	EJ9332947	WMB	3.638	10	US	11/15/2013	11/15/2023	600.00MM	600.00MM	4.5	BBB	Baa3	CALLABLE	5	Yes	
180	Energy Transfer Partners LP / Regency Energy Finance Corp	EK8190534	ETP		6.97	US	9/11/2013	9/1/2020	400.00MM	400.00MM	5.75	BBB-	Baa3	CALLABLE		No	Related Party
181	Enbridge Inc	AW3930327	ENBCN	2.759	3.17	CA	12/21/2018	2/22/2022	147.29MM	147.29MM	4.85	BBB+	Baa2	AT MATURITY	3	Yes	
182	Energy Transfer Partners LP / Regency Energy Finance Corp	EK4020708	ETP	3.642	8.19	US	7/25/2014	10/1/2022	700.00MM	700.00MM	5	BBB-	Baa3	CALLABLE		No	Related Party
183	Midwest Connector Capital Co LLC	AX5818866	MWXCAP		10.06	US	3/11/2019	4/1/2029	850.00MM	850.00MM	4.625	A-	Baa2	CALLABLE	10	No	Related Party
184	Inter Pipeline Ltd	QZ5105957	IPLCN	3.02	7	CA	9/13/2016	9/13/2023	265.63MM	265.63MM	2.608	BBB+		CALLABLE	5	Yes	
185	Enbridge Pipelines Inc	EI0495882	ENBPIP	2.527	10	CA	11/10/2009	11/12/2019	284.96MM	284.96MM	4.49	BBB+		AT MATURITY	-	Yes	
186	TransCanada PipeLines Ltd	S93520BV8	TRPCN	-	29.98	CA	1/10/1991	1/1/2021	400.00MM	400.00MM	9.875	BBB+	A3	AT MATURITY	-	Yes	
187	Sabine Pass Liquefaction LLC	EK0318865	SPLLLC	3.696	9.08	US	3/17/2014	4/15/2023	1.47MMM	1.47MMM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
188	Enbridge Energy Partners LP	EI1691649	ENBCN	-	10.04	US	3/2/2010	3/15/2020	500.00MM	500.00MM	5.2	BBB+	Baa2	AT MATURITY	-	Yes	
189	TransCanada PipeLines Ltd	EJ7602703	TRPCN	2.769	10	CA	7/19/2013	7/19/2023	724.17MM	724.17MM	3.69	BBB+	A3	CALLABLE	-	Yes	
190	Energy Transfer Operating LP	EJ9276720	ETP	4.499	10.14	US	12/13/2013	2/1/2024	277.48MM	277.48MM	7.6	BBB-	Baa3	CALLABLE	5	No	Related Party
191	Western Midstream Operating LP	AR4402509	WES	4.798	10	US	3/2/2018	3/1/2028	400.00MM	400.00MM	4.5	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
192	Williams Cos Inc/The	EK3520118	WMB	3.709	10.55	US	6/27/2014	1/15/2025	750.00MM	750.00MM	3.9	BBB	Baa3	CALLABLE		Yes	
193	Williams Cos Inc/The	EJ3191552	WMB	3.441	10	US	8/14/2012	8/15/2022	750.00MM	750.00MM	3.35	BBB	Baa3	CALLABLE	3	Yes	
194	Enterprise Products Operating LLC	JK6779462	EPD	3.652	10.84	US	4/13/2016	2/15/2027	575.00MM	575.00MM	3.95	BBB+	Baa1	CALLABLE		Yes	
195	Kinder Morgan Energy Partners LP	EC3582300	KMI	5.058	30.01	US	3/12/2001	3/15/2031	300.00MM	300.00MM	7.4	BBB	Baa2	AT MATURITY	-	Yes	

Exhibit S5.3
Bond Data as of March 11, 2019

	Bloomberg														A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
196	Plains All American Pipeline LP / PAA Finance Corp	EH9607801	PAA		10.36	US	9/3/2009	1/15/2020	500.00MM	500.00MM	5.75	BBB-	Ba1	AT MATURITY	-	No	Moody's Credit Rating
197	Kinder Morgan Energy Partners LP	EI2516031	KMI	3.123	10.33	US	5/10/2010	9/15/2020	600.00MM	600.00MM	5.3	BBB	Baa2	AT MATURITY	-	Yes	
198	AltaGas Ltd	EJ7114C74	ALACN	3.27	10	CA	6/11/2013	6/12/2023	294.37MM	294.37MM	3.57	BBB-		CALLABLE	-	Yes	
199	Southern Natural Gas Co LLC / Southern Natural Issuing Corp	EI8095180	SONGAS	-	9.69	US	10/5/2011	6/15/2021	300.00MM	300.00MM	4.4	BBB+	Baa2	CALLABLE	-	Yes	
200	ONEOK Inc	AO3031280	OKE	4.191	10	US	7/13/2017	7/13/2027	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE	-	Yes	
201	AltaGas Ltd	JK6823435	ALACN	-	10	CA	4/7/2016	4/7/2026	265.76MM	265.76MM	4.12	BBB		CALLABLE	-	Yes	
202	Enbridge Energy LP	EC0493027	EEP	-	30	US	10/1/1998	10/1/2028	100.00MM	100.00MM	7.125	BBB+	Baa2	AT MATURITY	10	Yes	
203	Texas Eastern Transmission LP	AQ6193696	SEP	4.03	10.02	US	1/9/2018	1/15/2028	400.00MM	400.00MM	3.5	BBB+	Baa1	CALLABLE		Yes	
204	Kinder Morgan Inc/DE	EJ9149521	KMI	3.714	10.01	US	11/5/2013	11/15/2023	750.00MM	750.00MM	5.625	BBB	Baa2	CALLABLE	5	Yes	
205	Gulfstream Natural Gas System LLC	UV9309781	GULFNG	-	9.98	US	9/24/2015	9/15/2025	550.00MM	550.00MM	4.6	BBB	Baa2	CALLABLE	-	Yes	
206	Enbridge Energy Partners LP	QJ0726558	ENBCN	-	5.03	US	10/6/2015	10/15/2020	500.00MM	500.00MM	4.375	BBB+	Baa2	CALLABLE	-	Yes	
207	Southeast Supply Header LLC	EK3162378	SESHNG	-	10.01	US	6/13/2014	6/15/2024	400.00MM	400.00MM	4.25	BBB	Baa2	CALLABLE	5	Yes	
208	Florida Gas Transmission Co LLC	AP2090036	CITCOR		10	US	7/15/2015	7/15/2025	500.00MM	500.00MM	4.35	BBB+	Baa2	CALLABLE	-	Yes	
209	Enbridge Pipelines Inc	EC1310060	ENBPIP	3.900	30	CA	2/12/1999	2/12/2029	43.54MM	43.54MM	6.05	BBB+		AT MATURITY	10	Yes	
210	Plains All American Pipeline LP / PAA Finance Corp	EJ4080330	PAA		10.14	US	12/10/2012	1/31/2023	400.00MM	400.00MM	2.85	BBB-	Ba1	CALLABLE		No	Moody's Credit Rating
211	Kinder Morgan Inc/DE	EF5837106	KMI	5.424	21.77	US	8/24/2006	6/1/2028	200.00MM	30.19MM	6.95	BBB	Baa2	AT MATURITY	-	Yes	
212	Tennessee Gas Pipeline Co LLC	DD1101508	KMI	4.159	30	US	3/13/1997	3/15/2027	300.00MM	300.00MM		BBB	Baa2	PUTABLE	-	Yes	
213	Boardwalk Pipelines LP	EH9430202	BWP	-	10.07	US	8/21/2009	9/15/2019	350.00MM	350.00MM	5.75	BBB-	Baa3	AT MATURITY	-	Yes	
214	Western Midstream Operating LP	EK9481733	WES	4.349	9.99	US	6/4/2015	6/1/2025	500.00MM	500.00MM	3.95	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
215	Midwest Connector Capital Co LLC	AX5819858	MWXCAP	-	5.06	US	3/11/2019	4/1/2024	1.00MMM	1.00MMM	3.9	A-	Baa2	CALLABLE	5	No	Related Party
216	Midwest Connector Capital Co LLC	AX5818841	MWXCAP	-	3.06	US	3/11/2019	4/1/2022	650.00MM	650.00MM	3.625	A	Baa2	CALLABLE	3	No	Related Party
217	Gulf South Pipeline Co LP	EI4887405	BWP		9.38	US	1/28/2013	6/15/2022	292.75MM	292.75MM	4	BBB-	Baa2	CALLABLE	7	Yes	
218	Veresen Inc	EK1273860	PPLCN	2.368	5	CA	6/13/2014	6/13/2019	184.08MM	184.08MM	3.06	BBB		AT MATURITY	-	Yes	
219	Inter Pipeline Ltd	EI5577362	IPLCN	2.674	10	CA	2/2/2011	2/2/2021	328.47MM	328.47MM	4.967	BBB+		AT MATURITY		Yes	
220	TransCanada PipeLines Ltd	CP5075843	TRPCN	-	30	CA	5/26/1998	5/26/2028	120.25MM	120.25MM	6.28	BBB+	A3	AT MATURITY		Yes	
221	Texas Eastern Transmission LP	EJ4127415	SEP	3.527	9.97	US	10/24/2012	10/15/2022	500.00MM	500.00MM	2.8	BBB+	Baa1	CALLABLE		Yes	
222	Inter Pipeline Ltd	EK8155047	IPLCN	3.277	10	CA	3/23/2015	3/24/2025	239.78MM	239.78MM	3.173	BBB		CALLABLE	-	Yes	
223	Tennessee Gas Pipeline Co LLC	EC0522291	KMI	4.454	30.02	US	10/9/1998	10/15/2028	400.00MM	400.00MM	7	BBB	Baa2	AT MATURITY	10	Yes	
224	Inter Pipeline Ltd	EJ2127012	IPLCN	2.881	10	CA	5/28/2012	5/30/2022	390.58MM	390.58MM	3.776	BBB+		AT MATURITY	3	Yes	
225	Energy Transfer Operating LP	EH6640369	ETP		10.22	US	12/23/2008	3/15/2019	600.00MM	400.00MM	9.7	BBB-	Baa3	PUTABLE	-	No	Related Party
226	AltaGas Ltd	EK0171725	ALACN	3.378	10.17	CA	1/13/2014	3/15/2024	184.10MM	184.10MM	4.4	BBB-		CALLABLE	5	Yes	
227	Enterprise Products Operating LLC	EK8950546	EPD	3.516	10.78	US	5/7/2015	2/15/2026	875.00MM	875.00MM	3.7	BBB+	Baa1	CALLABLE	-	Yes	
228	TransCanada PipeLines Ltd	AP2793277	TRPCN	2.943	10	CA	7/17/2015	7/17/2025	577.42MM	577.42MM	3.3	BBB+	A3	CALLABLE	-	Yes	
229	AltaGas Ltd	EJ3807447	ALACN	2.983	9	CA	9/28/2012	9/28/2021	355.80MM	355.80MM	3.72	BBB-		AT MATURITY	3	Yes	
230	Kinder Morgan Inc/DE	EI9449588	KMI	3.283	7.28	US	11/5/2013	2/15/2021	750.00MM	750.00MM		BBB	Baa2	CALLABLE	-	Yes	
231	Sunoco Logistics Partners Operations LP	EJ5046911	ETP	3.645	10.01	US	1/10/2013	1/15/2023	350.00MM	350.00MM	3.45	BBB-	Baa3	CALLABLE	-	Yes	
232	Enbridge Inc	EK1147892	ENBCN	2.631	7	CA	3/11/2014	3/11/2021	360.29MM	360.29MM	3.16	BBB+	Baa2	CALLABLE	-	Yes	
233	Pembina Pipeline Corp	EJ4095141	PPLCN	2.868	10	CA	10/22/2012	10/24/2022	452.78MM	452.78MM	3.77	BBB		AT MATURITY	-	Yes	
234	Pembina Pipeline Corp	EI6231571	PPLCN	2.638	10	CA	3/29/2011	3/29/2021	256.18MM	256.18MM	4.89	BBB		AT MATURITY	-	Yes	
235	Colonial Pipeline Co	EI4395666	COLPLN		9.98	US	10/22/2010	10/15/2020	275.00MM	275.00MM	3.5	A	A3	CALLABLE	-	No	S&P Credit Rating
236	Enbridge Pipelines Inc	EI2085559	ENBPIP	2.388	10	CA	4/6/2010	4/6/2020	349.70MM	349.70MM	4.45	BBB+		AT MATURITY	-	Yes	
237	AltaGas Ltd	AP3915268	ALACN	3.762	10	CA	10/4/2017	10/4/2027	110.23MM	110.23MM	3.98	BBB-		CALLABLE	-	Yes	
238	Enbridge Pipelines Inc	UV5869180	ENBPIP	2.916	10	CA	9/29/2015	9/29/2025	446.00MM	446.00MM	3.45	BBB+		CALLABLE	-	Yes	
239	Williams Cos Inc/The	EI8770711	WMB	3.185	10	US	11/17/2011	11/15/2021	500.00MM	500.00MM	4	BBB	Baa3	CALLABLE	3	Yes	
240	Maritimes & Northeast Pipeline LP	EH9299300	SE	-	10.27	CA	8/24/2009	11/30/2019	167.00MM	4.19MM	4.34	A-	A3	SINKABLE	-	No	S&P Credit Rating
241	ANR Pipeline Co	001814AR3	TRPCN	-	29.99	US	11/4/1991	11/1/2021	300.00MM	[illegible]	9.625	BBB+	A3	AT MATURITY	3	Yes	
242	NOVA Gas Transmission Ltd	DD5286562	TRPCN		30	CA	4/1/1993	4/1/2023	200.00MM	200.00MM	7.875	BBB+	A3	AT MATURITY	-	Yes	
243	Enterprise Products Operating LLC	EI7799915	EPD	3.048	10.48	US	8/24/2011	2/15/2022	650.00MM	650.00MM	4.05	BBB+	Baa1	AT MATURITY	3	Yes	
244	Panhandle Eastern Pipe Line Co LP	EH8602883	ETP		10	US	6/2/2009	6/1/2019	150.00MM	150.00MM	8.125	BBB	Baa3	AT MATURITY	-	Yes	
245	Kinder Morgan Energy Partners LP	EI7733211	KMI	3.283	10.54	US	8/17/2011	3/1/2022	375.00MM	375.00MM	4.15	BBB	Baa2	AT MATURITY	3	Yes	
246	AltaGas Ltd	EI1275589	ALACN	2.683	8.13	CA	4/13/2012	6/1/2020	200.51MM	200.51MM	4.07	BBB-		AT MATURITY	-	Yes	
247	Kinder Morgan Energy Partners LP	EH0729636	KMI	3.141	11.46	US	9/16/2009	3/1/2021	400.00MM	400.00MM	5.8	BBB	Baa2	AT MATURITY	-	Yes	
248	Pembina Pipeline Corp	QZ1588410	PPLCN	3.333	10	CA	8/11/2016	8/11/2026	385.40MM	385.40MM	3.71	BBB		CALLABLE		Yes	
249	Alliance Pipeline LP/Canada	EH0800583	ALPIPE	-	10	CA	12/16/2009	12/16/2019	113.23MM	113.23MM	4.928		Baa3	AT MATURITY		Yes	
250	Colorado Interstate Gas Co LLC / Colorado Interstate Issuing Corp	QZ2210990	KMI	4.065	10	US	8/16/2016	8/15/2026	375.00MM	375.00MM	4.15	BBB	Baa2	CALLABLE		Yes	
251	Enbridge Pipelines Inc	EJ7921459	ENBPIP		10	CA	8/16/2013	8/17/2023	241.63MM	241.63MM	4.26	BBB+		CALLABLE	-	Yes	
252	Columbia Pipeline Group Inc	JK8193869	CPGX		4.05	US	5/12/2016	6/1/2020	749.90MM	749.90MM		NR	Baa	CALLABLE	-	Yes	
253	Enbridge Energy Partners LP	EJ8064532	ENBCN	3.275	10	US	9/15/2011	9/15/2021	600.00MM	600.00MM	4.2	BBB+	Baa2	CALLABLE	3	Yes	
254	Enbridge Inc	EI4166083	ENBCN	2.613	10.35	CA	9/28/2010	2/1/2021	193.86MM	193.86MM	4.26	BBB+	Baa2	AT MATURITY	-	Yes	
255	Enbridge Inc	AW3930293	ENBCN	2.571	1.89	CA	12/21/2018	11/12/2020	73.65MM	73.65MM	4.85	BBB+	Baa2	AT MATURITY	-	Yes	
256	TransCanada PipeLines Ltd	MM1271022	TRPCN		30	CA	4/15/1997	4/15/2027	124.84MM	124.84MM	7.9	BBB+	NR	AT MATURITY	-	Yes	
257	NGPL PipeCo LLC	AO5143960	NGPLCO	-	5.04	US	8/1/2017	8/15/2022	700.00MM	700.00MM	4.375	BBB-	Ba1	CALLABLE	1	No	Moody's Credit Rating
258	Magellan Midstream Partners LP	EK7732762	MMP	3.318	10.03	US	3/4/2015	3/15/2025	250.00MM	250.00MM		BBB+	Baa1	CALLABLE		Yes	
259	TC PipeLines LP	EI2111249	TCP		10	US	6/17/2011	6/15/2021	350.00MM	350.00MM	4.65	BBB-	Baa2	CALLABLE	-	Yes	
260	TransCanada PipeLines Ltd	EC1471696	TRPCN	4.485	30	CA	6/15/1999	6/15/2029	200.00MM	200.00MM	7.7	BBB+	A3	AT MATURITY	10	Yes	

Exhibit S5.3
Bond Data as of March 11, 2019

					Bloomberg										A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
261	Energy Transfer Operating LP	EJ9276069	ETP	5.207	15.92	US	12/13/2013	11/13/2029	266.68MM	266.68MM	4.25	BBB-	Baa3	CALLABLE	-	No	Related Party
262	Rockies Express Pipeline LLC	EI1917719	ROCKIE	-	10.07	US	3/22/2010	4/15/2020	750.00MM	750.00MM	5.625	BBB-	Ba1	AT MATURITY	-	No	Moody's Credit Rating
263	Southern Union Co	DD5333446	ETP	-	30	US	1/31/1994	2/1/2024	475.00MM	82.28MM	7.6	BBB-	Baa3	AT MATURITY	5	Yes	
264	TC PipeLines LP	EK7987739	TCP	4.127	10	US	3/13/2015	3/13/2025	350.00MM	350.00MM	4.375	BBB-	Baa2	CALLABLE	-	Yes	
265	TransCanada PipeLines Ltd	MM1320751	TRPCN	3.576	31.02	CA	7/30/1997	8/7/2028	125.26MM	125.26MM	6.89	BBB+	A3	AT MATURITY	-	Yes	
266	Colonial Pipeline Co	UV8963380	COLPLN	3.379	10.03	US	9/22/2015	10/1/2025	350.00MM	350.00MM	3.75	A	A3	CALLABLE	-	No	S&P Credit Rating
267	Energy Transfer Operating LP	DD1008273	ETP	4.788	30	US	11/1/1994	11/1/2024	100.00MM	64.79MM	9	BBB-	Baa3	AT MATURITY	-	No	Related Party
268	Sunoco Logistics Partners Operations LP	EI1436171	ETP	-	10.01	US	2/12/2010	2/15/2020	250.00MM	250.00MM	5.5	BBB-	Baa3	AT MATURITY	-	Yes	
269	Williams Cos Inc/The	EL4148259	WMB	4.926	29.55	US	5/27/2001	1/15/2031	669.10MM	358.81MM	7.5	BBB	Baa3	AT MATURITY	-	Yes	
270	Enable Oklahoma Intrastate Transmission LLC	EI0448320	ENBL	-	10.33	US	11/16/2009	3/15/2020	250.00MM	250.00MM	6.25	BBB-	Baa3	AT MATURITY	-	Yes	
271	Enable Midstream Partners LP	EK2857671	ENBL	-	4.97	US	5/27/2014	5/15/2019	500.00MM	450.00MM	2.4	BBB-	Baa3	CALLABLE	-	Yes	
272	Alliance Pipeline LP/Canada	ED0130677	ALPIPE		20.5	CA	6/26/2003	12/31/2023	221.84MM	70.10MM	5.546	BBB+	Baa2	SINKABLE	5	Yes	
273	TransCanada PipeLines Ltd	MM1154184	TRPCN	3.371	30	CA	2/5/1996	2/5/2026	174.72MM	174.72MM	8.29	BBB+	A3	AT MATURITY	-	Yes	
274	Transcontinental Gas Pipe Line Co LLC	DD1089513	WMB	4.334	30	US	12/2/1996	12/1/2026	200.00MM	200.00MM	7.25	BBB	Baa2	AT MATURITY	-	Yes	
275	El Paso Natural Gas Co LLC	283695AZ7	KMI	3.554	30	US	1/16/1992	1/15/2022	260.00MM	260.00MM	8.625	BBB	Baa2	AT MATURITY	3	Yes	
276	Florida Gas Transmission Co LLC	EJ2371494	CITCOR		10.07	US	6/19/2012	7/15/2022	300.00MM	300.00MM	3.875	BBB+	Baa2	CALLABLE	3	Yes	
277	TransCanada PipeLines Ltd	GG7095704	TRPCN		29.49	CA	9/20/1989	3/20/2019	84.55MM	84.55MM	10.5	BBB+		AT MATURITY	-	Yes	
278	Enbridge Pipelines Inc	EJ4613794	ENBPIP	2.636	10	CA	11/16/2012	11/16/2022	151.06MM	151.06MM	2.93	BBB+		AT MATURITY	-	Yes	
279	Alliance Pipeline LP/Canada	EC3595500	ALPIPE	-	22.29	CA	3/14/2001	6/30/2023	289.85MM	123.17MM	7.181	BBB+	Baa2	SINKABLE		Yes	
280	Northern Border Pipeline Co	EC5178700	NORBOR	-	19.62	US	1/31/2002	9/15/2021	250.00MM	250.00MM	7.5	BBB+	WR	AT MATURITY	3	Yes	
281	TransCanada PipeLines Ltd	EC0723550	TRPCN	-	32.01	CA	12/7/1998	12/9/2030	227.61MM	92.33MM	6.5	BBB+	A3	AT MATURITY	-	Yes	
282	KN Capital Trust I	DD0123009	KMI	8.506	29.52	US	10/6/1997	4/15/2027	100.00MM	12.69MM	8.56	BB	Baa3	CALLABLE	-	No	S&P Credit Rating
283	Alliance Pipeline LP/Canada	EC8193715	ALPIPE		22.96	CA	1/16/2001	12/31/2025	260.82MM	110.47MM	6.765	BBB	Baa2	SINKABLE	-	Yes	
284	Texas Gas Transmission LLC	DD1116944	BWP	5.568	30	US	7/15/1997	7/15/2027	100.00MM	100.00MM	7.25	BBB-	Baa2	AT MATURITY	-	Yes	
285	Enbridge Inc	EC2763752	ENBCN	4.206	30	CA	7/24/2000	7/24/2030	136.66MM	136.66MM	7.22	BBB+	Baa2	AT MATURITY	-	Yes	
286	Enbridge Pipelines Inc	EC1459774	ENBPIP	3.657	30	CA	6/11/1999	6/11/2029	75.06MM	75.06MM	6.5	BBB+		AT MATURITY	10	Yes	
287	Spectra Energy Partners LP	EI7026671	ENBCN	-	10.02	US	6/9/2011	6/15/2021	250.00MM	250.00MM	4.6	BBB+	Baa2	CALLABLE		Yes	
288	Enbridge Inc	EC0064872	ENBCN	3.826	30	CA	7/14/1998	7/14/2028	45.98MM	45.98MM	6.1	BBB+	Baa2	AT MATURITY	-	Yes	
289	Sabine Pass Liquefaction LLC	EJ5273440	SPLLLC		8	US	2/1/2013	2/1/2021	2.00MM	7.88MM	5.625	BBB-	Baa3	CALLABLE		Yes	
290	TransCanada PipeLines Ltd	MM1161971	TRPCN	4.037	34	CA	4/25/1996	4/25/2030	36.66MM	36.66MM	8.21	BBB+	A3	PUTABLE	-	Yes	
291	Enbridge Pipelines Inc	GG7181355	ENBPIP		30.15	CA	12/22/1993	2/15/2024	149.59MM	149.59MM	8.2	BBB+		AT MATURITY	5	Yes	
292	Northwest Pipeline LLC	DD1027182	WMB		29.99	US	12/5/1995	12/1/2025	85.00MM	85.00MM	7.125	BBB	Baa2	AT MATURITY		Yes	
293	TransCanada PipeLines Ltd	EC3417424	TRPCN		31	CA	6/19/1998	6/20/2029	102.09MM	102.09MM	5.65		A3	PUTABLE	10	Yes	
294	KN Capital Trust III	DD1174018	KMI	6.047	29.97	US	4/28/1998	1/15/2028	175.00MM	14.39MM	7.63	BB+	Baa3	AT MATURITY	-	No	S&P Credit Rating
295	Enbridge Pipelines Inc	EC0673854	ENBPIP	-	25	CA	11/17/1995	11/17/2023	61.53MM	61.53MM	6.35	BBB+		AT MATURITY	5	Yes	
296	Northwest Pipeline LLC	AU1894743	WMB	4.141	8.6	US	8/24/2018	4/1/2027	250.00MM	35.00MM	4		Baa2	CALLABLE	-	Yes	
297	Williams Cos Inc/The	EH8940874	WMB		10.45	US	8/3/2009	1/15/2020	600.00MM	13.57MM	8.75	BBB	WR	AT MATURITY	-	Yes	
298	Alliance Pipeline LP/United States	EC3560884	ALPIPE		19.81	US	5/8/2001	12/31/2019	350.00MM	23.45MM	6.996	BBB+	Baa2	SINKABLE	-	Yes	
299	Sabine Pass Liquefaction LLC	QZ6045715	SPLLLC	4.417	10.47	US	9/23/2016	3/15/2027	1.50MMM	210.00M	5	BBB-	Baa1	CALLABLE	-	Yes	
300	Florida Gas Transmission Co LLC	EI5192388	CITCOR		9.99	US	7/19/2010	7/15/2020	500.00MM	500.00MM	5.45	BBB+	Baa2	AT MATURITY	-	Yes	
301	Colorado Interstate Gas Co LLC / Colorado Interstate Issuing Corp	QZ2258759	KMI	4.039	10	US	8/16/2016	8/15/2026	475.00MM	375.00MM	4.15	BBB	Baa2	CALLABLE	-	Yes	
302	ONEOK Inc	EC0488771	OKE	4.889	30	US	9/30/1998	9/30/2028	100.00MM	100.00MM	6.875	BBB	Baa3	AT MATURITY	10	Yes	
303	Kinder Morgan Inc/DE	DD1166352	KMI	5.141	29.98	US	3/6/1998	3/1/2028	500.00MM	32.00MM	7.25	BBB	Baa2	AT MATURITY	-	Yes	
304	TransCanada PipeLines Ltd	MM1161981	TRPCN	3.854	34.64	CA	5/28/1996	1/16/2031	36.35MM	36.35MM	8.23	BBB-	A3	PUTABLE	-	Yes	
305	Southern Union Co	EC1938645	ETP	5.232	30.03	US	11/3/1999	11/15/2029	300.00MM	33.33MM	8.25	BBB-	Baa3	AT MATURITY	-	Yes	
306	Florida Gas Transmission Co LLC	EH8129790	CITCOR		10.02	US	5/8/2009	5/15/2019	600.00MM	600.00MM	7.9	BBB+	Baa2	AT MATURITY		Yes	
307	TransCanada PipeLines Ltd	893526CA9	TRPCN	-	29.96	CA	12/6/1990	11/20/2020	214.78MM	214.78MM	11.8	BBB+		AT MATURITY		Yes	
308	ANR Pipeline Co	DD5338122	TRPCN		29.98	US	2/22/1994	2/15/2024	125.00MM	125.00MM	7.375	BBB+	A3	AT MATURITY	5	Yes	
309	Enbridge Pipelines Inc	MM1329067	ENBPIP	3.609	30	CA	11/17/1997	11/17/2027	35.34MM	35.34MM	6.55	BBB+		AT MATURITY	-	Yes	
310	Williams Cos Inc/The	EC1618890	WMB		19.97	US	7/26/1999	7/15/2019	700.00MM	31.66MM	7.625	BBB	Baa3	AT MATURITY	-	Yes	
311	NOVA Gas Transmission Ltd	MM1133119	TRPCN	3.481	31.01	CA	5/25/1995	5/27/2026	32.86MM	32.86MM	8.875	BBB+	A3	AT MATURITY	-	Yes	
312	Sabine Pass Liquefaction LLC	EJ9449210	SPLLLC	-	8.3	US	11/25/2013	3/15/2022	1.00MMM	5.07MM	6.25	BBB-	Baa3	AT MATURITY	3	Yes	
313	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EJ5045368	MWE	-	10.51	US	1/10/2013	7/15/2023	1.00MMM	11.47MM	4.5	BBB	WR	CALLABLE	-	Yes	
314	Colonial Pipeline Co	EC3045960	COLPLN	-	30.01	US	10/27/2000	11/1/2030	175.00MM	175.00MM	8.375	A	A3	AT MATURITY	-	No	S&P Credit Rating
315	Williams Cos Inc The	969457AH3	WMB		29.99	US	7/19/1990	7/15/2020	150.00MM	5.06MM	10.25	BBB	WR	AT MATURITY		Yes	
316	Andeavor Logistics LP / Tesoro Logistics Finance Corp	EK5573242	ANDX		7.96	US	10/29/2014	10/15/2022	800.00MM	3.00MM	6.25	BBB- *+	Ba1 *	CALLABLE	-	No	Moody's Credit Rating
317	Kinder Morgan Inc/DE	EI4178410	KMI		9.98	US	9/24/2010	9/15/2020	348.67MM	21.00M	6.5	BBB	Baa2	AT MATURITY	-	Yes	
318	Southeast Supply Header LLC	EK3174258	SESHNG	-	10.01	US	6/13/2014	6/15/2024	400.00MM	400.00MM	4.25	BBB-	Baa2	CALLABLE	5	Yes	
319	TransCanada PipeLines Ltd	MM1319142	TRPCN	4.303	28	CA	10/14/1997	10/14/2025	293.00MM	100.02MM	7.06	BBB+	A3	AT MATURITY	-	Yes	
320	TransCanada PipeLines Ltd	EC1610897	TRPCN		28	CA	12/1/1994	12/1/2022	18.18MM	13.13MM	9.95	BBB+	A3	AT MATURITY	-	Yes	
321	ANR Pipeline Co	DD1021516	TRPCN	4.785	30	US	6/1/1995	6/1/2025	75.00MM	7.00MM	7	BBB+	A3	PUTABLE	-	Yes	
322	TransCanada PipeLines Ltd	MM1234788	TRPCN	3.348	30.11	CA	12/5/1996	1/15/2027	78.06MM	78.06MM	7.31	BBB-	NR	AT MATURITY		Yes	
323	Alliance Pipeline LP/Canada	EC4851630	ALPIPE	-	24.09	CA	11/28/2001	12/31/2025	221.01MM	93.61MM	7.217	BBB	Baa2	SINKABLE	-	Yes	
324	Veresen Inc	EJ0609903	PPLCN	-	10	CA	3/14/2012	3/14/2022	50.35MM	50.35MM	5.05	BBB		AT MATURITY	3	Yes	
325	Midcontinent Express Pipeline LLC	EH9203685	MCEXPP	-	10	US	9/16/2009	9/15/2019	450.00MM	450.00MM	6.7	BBB	Ba2	AT MATURITY		No	Moody's Credit Rating

Exhibit S5.3
Bond Data as of March 11, 2019

		Bloomberg													A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Excluded Reason
326	Gulfstream Natural Gas System LLC	EC[illegible]	GULFNG	-	20.02	US	10/26/2005	11/1/2025	350.00MM	350.00MM	[illegible]	BBB	Baa2	AT MATURITY	-	Yes	
327	Alliance Pipeline LP United States	EC2982144	ALPIPE	-	22.61	US	5/23/2003	12/31/2025	300.00MM	4?.97MM	4.591	BBB+	Baa2	SINKABLE	-	Yes	
328	Kinder Morgan Inc/DE	EF5825209	KMI	5.366	20.48	US	8/24/2006	2/15/2027	198.75MM	6.11MM	6.7	BBB	Baa2	CALL/PUT	-	Yes	
329	NOVA Gas Transmission Ltd	MM1152578	TRPCN		30.01	CA	5/25/1995	5/27/2025	63.53MM	63.53MM	8.9	BBB+	A3	AT MATURITY		Yes	
330	NGPL PipeCo LLC	AO5145708	NGPLCO	4.751	10.04	US	8/1/2017	8/15/2027	700.00MM	700.00MM	4.875	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
331	Texas Eastern Transmission LP	AQ0196523	SEP	4.066	10.02	US	1/9/2018	1/15/2028	400.00MM	400.00MM	3.5	BBB	Baa1	CALLABLE	-	Yes	
332	Andeavor Logistics LP / Tesoro Logistics Finance Corp	EK5639852	ANDX	-	7.96	US	10/29/2014	10/15/2022	800.00MM	3.03MM	6.25	BBB-	Ba1	CALLABLE	-	No	Moody's Credit Rating
333	Columbia Pipeline Group Inc	EK9260721	CPGX	1.917	10.03	US	5/22/2015	6/1/2025	1.00MMM	1.30MM	4.5	NR	Baa1	CALLABLE	-	Yes	
334	Energy Transfer Operating LP	EJ7345667	ETP	4.498	10.61	US	6/21/2013	2/1/2024	277.49MM	5.00M	7.6	BBB-	Baa3	CALLABLE	5	No	Related Party
335	Texas Eastern Transmission LP	EI4897?79	SEP	-	9.99	US	12/6/2010	12/1/2020	300.00MM	300.00MM	4.125	BBB	Baa1	CALLABLE	-	Yes	
336	MAPCO LLC	DD1100340	WMB	5.084	29.99	US	3/5/1997	3/1/2027	100.00MM	2.04MM	7.5	BBB	WR	AT MATURITY	-	Yes	
337	Transcontinental Gas Pipe Line Co LLC	DD2678480	WMB	1.81	30	US	7/15/1996	7/15/2026	200.00MM	2.50MM	7.08	BBB	Baa2	PUTABLE	-	Yes	
338	NOVA Gas Transmission Ltd	CP5105917	TRPCN		32	CA	5/27/1998	5/27/2030	68.65MM	68.65MM	[illegible]	BBB+	A3	AT MATURITY	-	Yes	
339	Texas Gas Transmission LLC	EI5307616	BWP		10.04	US	1/19/2011	2/1/2021	440.00MM	440.00MM	4.5	BBB-	Baa2	CALLABLE	-	Yes	
340	El Paso Tennessee Pipeline Co LLC	DD1013773	KMI	5.219	20.06	US	12/18/1995	12/15/2025	300.00MM	148.60MM	7.25	NR	Baa2	AT MATURITY		Yes	
341	Panhandle Eastern Pipe Line Co LP	EC1775976	ETP	6.411	29.87	US	9/1/1999	7/15/2029	300.00MM	66.11MM	7	BBB-	Baa?	AT MATURITY	10	Yes	
342	Williams Cos Inc/The	969457AK6	WMB	-	29.99	US	11/18/1991	11/15/2021	100.00MM	35.00M	9.375	BBB	WR	AT MATURITY	3	Yes	
343	MAPCO LLC	DD5251501	WMB	-	30	US	3/11/1992	8/11/2022	1.50MM	38.00M	8.?2	BBB	WR	AT MATURITY	3	Yes	
344	NOVA Gas Transmission Ltd	GG7215682	TRPCN	-	30	CA	12/16/1994	12/16/2024	71.85MM	71.85MM	9.9	BBB+	A3	AT MATURITY	-	Yes	
345	Energy Transfer Operating LP	EJ7344468	ETP	4.408	10.61	US	6/21/2013	2/1/2024	277.49MM	5.00M	7.6	BBB	Baa3	CALLABLE	5	No	Related Party
346	Florida Gas Transmission Co LLC	DD0058?15	CITCOR	6.776	29.98	US	[illegible]	11/1/2024	150.00MM	45.00MM	[illegible]	BBB+	Baa2	SINKABLE	-	Yes	
347	Kinder Morgan Inc/DE	EI4178733	KMI		9.98	US	9/24/2010	9/15/2020	348.67MM	21.00M	6.5	BBB	Baa2	AT MATURITY	-	Yes	
348	Sabal Trail Transmission LLC	AS3896295	SABALT	4.115	10	US	4/30/2018	5/1/2028	500.00MM	500.00MM	4.246		Baa1	CALLABLE		Yes	
349	Iroquois Gas Transmission System LP	EC5096?15	IROGAS	5.214	[illegible]	US	8/13/2002	10/31/2027	170.00MM	35.00MM	[illegible]	BBB+	A3	SINKABLE		Yes	
350	Sabine Pass Liquefaction LLC	EJ6331197	SPLLLC		10	US	4/16/2013	1/15/2023	1.00MMM	32.15MM	5.625	BBB-	Baa3	CALLABLE		Yes	
351	NOVA Gas Transmission Ltd	MM1132628	TRPCN	-	31	CA	6/5/1995	6/5/2026	42.71MM	42.71MM	8.1	BBB+	A3	PUTABLE	-	Yes	
352	Florida Gas Transmission Co LLC	DD0048560	CITCOR	6.226	29.98	US	11/7/1994	11/1/2024	150.00MM	45.00MM	[illegible]	BBB+	Baa2	SINKABLE		Yes	
353	Williams Cos Inc/The	EC1136541	WMB	4.934	30.00	US	1/17/2001	1/15/2031	700.00MM	65.00M	7.5	NR	Baa3	AT MATURITY		Yes	
354	NOVA Gas Transmission Ltd	MM1198?21	TRPCN	4.938	29.99	CA	8/23/1996	8/20/2026	12.50MM	12.50MM	7.8	BBB+	A3	AT MATURITY	-	Yes	
355	TransCanada PipeLines Ltd	MM1061511	TRPCN		25	CA	5/27/1994	5/27/2019	9.01MM	9.01MM	9.35	BBB+		AT MATURITY	-	Yes	
356	Kinder Morgan Inc/DE	DD1134573	KMI	5.479	30.01	US	10/27/1997	11/1/2027	150.00MM	6.97MM	7	BBB	Baa2	PUTABLE	-	Yes	
357	Columbia Pipeline Group Inc	EK9271702	CPGX	3.917	10.03	US	5/22/2015	6/1/2025	1.00MMM	1.00MM	4.5	NR	Baa1	CALLABLE		Yes	
358	Florida Gas Transmission Co LLC	EI8128918	CITCOR	-	10.02	US	5/8/2009	5/15/2019	600.00MM	600.00MM	7.9	BBB+	Baa2	AT MATURITY		Yes	
359	Florida Gas Transmission Co LLC	AF2176697	CITCOR		10	US	7/15/2015	7/15/2025	500.00MM	500.00MM	4.35	BBB+	Baa2	CALLABLE		Yes	
360	Colonial Pipeline Co	EI4308935	COLPLN	-	9.98	US	10/27/2010	10/15/2020	275.00MM	275.00MM	4.5	A	A1	CALLABLE		No	S&P Credit Rating
361	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EK9444192	MWE	4.322	10	US	6/2/2015	6/1/2025	1.20MMM	1.19MM	4.875	BBB	WR	CALLABLE	-	Yes	
362	Columbia Pipeline Group Inc	EK9267167	CPGX	-	5.03	US	5/22/2015	6/1/2020	750.00MM	100.00M	3.3	NR	Baa1	CALLABLE		Yes	
363	Sabine Pass Liquefaction LLC	EJ5366??	SPLLLC	-	8	US	2/1/2013	2/1/2021	2.00MMM	7.88MM	5.625	BBB-	Baa3	CALLABLE	-	Yes	
364	MarkWest Energy Partners LP / MarkWest Energy Finance Corp	EK6128624	MWE	4.582	10.03	US	11/21/2014	12/1/2024	1.15MMM	1.75MM	4.875	BBB	WR	CALLABLE	-	Yes	
365	NOVA Gas Transmission Ltd	MM1310189	TRPCN	3.601	30	CA	12/1/1997	12/1/2027	54.40MM	54.08MM	6.59	BBB	A3	AT MATURITY	-	Yes	
366	Texas Eastern Transmission LP	EJ4133660	SEP		9.97	US	10/24/2012	10/15/2022	500.00MM	500.00MM	2.8	BBB	Baa1	CALLABLE		Yes	
367	Enable Oklahoma Intrastate Transmission LLC	EI0455689	ENBL		10.33	US	11/16/2009	3/15/2020	250.00MM	250.00MM	6.25	BBB-	Baa3	AT MATURITY		Yes	
368	Gulf South Pipeline Co LP	EJ2315244	BWP		[illegible]	US	6/12/2012	6/15/2022	300.00MM	7.25MM	4	BBB-	Baa2	CALLABLE	3	Yes	
369	Colonial Pipeline Co	UV9031948	COLPLN	3.386	10.03	US	9/22/2015	10/1/2025	350.00MM	350.00MM	3.75	A	A1	CALLABLE		No	S&P Credit Rating
370	Northwest Pipeline LLC	AU1891784	WMB	4.141	8.6	US	8/24/2018	4/1/2027	250.00MM	35.00M	4		Baa2	CALLABLE		Yes	
371	Sabine Pass Liquefaction LLC	QZ6140847	SPLLLC	4.417	10.17	US	9/23/2016	3/15/2027	1.50MMM	210.50M	5	BBB-	Baa3	CALLABLE		Yes	
372	Enable Midstream Partners LP	EK2857?96	ENBL	4.293	9.97	US	5/27/2014	5/15/2024	500.00MM	37.?0M	3.9	BBB-	Baa3	CALLABLE	5	Yes	
373	Kinder Morgan Inc/DE	EF2263202	KMI	5.366	21.11	US	1/6/2006	2/15/2027	182.76MM	1.28MM	6.7	BBB	Baa2	PUTABLE		Yes	
374	Enable Midstream Partners LP	EK2872191	ENBL	4.293	9.97	US	5/27/2014	5/15/2024	600.00MM	373.?0M	3.9	BBB-	Baa3	CALLABLE	5	Yes	
375	Pembina Pipeline Corp	EH032618	PPLCN		19	CA	11/18/2000	11/18/2019	253.52MM	253.52MM	[illegible]	BBB		AT MATURITY		Yes	
376	Florida Gas Transmission Co LLC	EI?377897	CITCOR		10.07	US	6/19/2012	7/15/2022	300.00MM	300.00MM	3.875	BBB+	Baa2	CALLABLE	3	Yes	
377	Columbia Pipeline Group Inc	EK9271645	CPGX		5.03	US	5/22/2015	6/1/2020	750.00MM	100.00M	3.3	NR	Baa1	CALLABLE		Yes	
378	Kinder Morgan Inc/DE	EF2263?61	KMI	5.365	21.11	US	1/6/2006	2/15/2027	182.76MM	.25MM	[illegible]	BBB	Baa2	PUTABLE		Yes	
379	Sabine Pass Liquefaction LLC	EJ6332898	SPLLLC	-	10	US	4/16/2013	1/15/2023	1.00MMM	32.13MM	5.625	BBB-	Baa3	CALLABLE		Yes	
380	Florida Gas Transmission Co LLC	EI3198344	CITCOR		9.99	US	7/19/2010	7/15/2020	500.00MM	500.00MM	5.45	BBB+	Baa2	AT MATURITY		Yes	
381	Sabine Pass Liquefaction LLC	EJ9464?63	SPLLLC	-	8.3	US	11/25/2013	3/15/2022	1.00MMM	5.07MM	6.25	BBB-	Baa3	AT MATURITY	3	Yes	
382	NOVA Gas Transmission Ltd	EC1074763	TRPCN	3.622	31	CA	7/16/1997	7/17/2028	72.81MM	72.81MM	7	BBB+	A3	AT MATURITY		Yes	
383	Enable Midstream Partners LP	EK2871839	ENBL	-	[illegible]	US	5/27/2014	5/15/2019	500.00MM	[illegible]	2.4	BBB-	Baa3	CALLABLE		Yes	
384	Texas Eastern Transmission LP	EI4898190	SEP		9.99	US	12/6/2010	12/1/2020	300.00MM	300.00MM	4.125	BBB+	Baa1	CALLABLE	-	Yes	
385	ONEOK Inc	EI9977007	OKE	3.396	10.02	US	1/26/2012	2/1/2022	700.00MM	547.40MM	4.25	BBB	Baa3	CALLABLE	3	Yes	
386	Phillips 66 Partners LP	EK7504592	PSXP	2.805	4.98	US	2/23/2015	2/15/2020	300.00MM	300.00MM	2.646	BBB	Baa3	CALLABLE	-	Yes	
387	Gulfstream Natural Gas System LLC	UV9423906	GULFNG		9.98	US	9/24/2015	9/15/2025	550.00MM	550.00MM	4.6	BBB	Baa2	CALLABLE	-	Yes	
388	Phillips 66 Partners LP	AP5242665	PSXP	4.213	10.38	US	10/13/2017	3/1/2028	500.00MM	500.00MM	3.75	BBB	Baa3	CALLABLE	-	Yes	
389	ONEOK Inc	AX6173111	OKE	-	10.01	US	3/13/2019	3/15/2029	700.00MM	700.00MM	4.35	BBB	Baa3	CALLABLE	10	Yes	
390	Williams Cos Inc/The	EC3336848	WMB	4.954	29.99	US	1/17/2001	1/15/2031	700.00MM	65.00M	7.5	BBB	Baa3	AT MATURITY	-	Yes	

Exhibit S5.3
Bond Data as of March 11, 2019

		Bloomberg												A&M		
No.	Issuer Name	Bloomberg ID	Ticker	Yield to Maturity	Tenor	Cntry of Incorp	Issue Date	Maturity	Amt Issued	Amt Out	Cpn	S&P Rating	Moody Rating	Mty Type	Time to Maturity	Included	Exclusion Reason
391	Iroquois Gas Transmission System LP	EC6509730	IROGAS	5.214	25.22	US	8/13/2002	10/31/2027	170.00MM	35.00MM	6.1	BBB+	A3	SINKABLE	-	Yes	
392	Gulf South Pipeline Co LP	EJ2323644	BWP	-	10.01	US	6/12/2012	6/15/2022	300.00MM	7.25MM	4	BBB-	Baa2	CALLABLE	3	Yes	

Sources:
[1] *Pulled from Bloomberg*

	Maturity Dates		
Bond	Start of Range	End of Range	Median Yield
1 Year	3/11/2021	3/10/2022	3.278%
5 Year	3/11/2023	3/10/202-	3.502%
10 Year	3/11/2028	3/10/2029	4.440%

Exhibit S6
Summary of Delayed Debt Refinancing Damages - Refiance Date of August 2, 2017
Millions USD

	Actual Interest Expense					Refinanced Interest Expense				
Year	1M Libor Interest Payments	Duration Fees	Construction Loan Total	Total Interest on Notes	Total	Construction Loan Total	Total Interest on Notes	Total	Damages	Discounted Damages
2016	$ 9.05	$ -	$ 9.05	$ -	$ 9.05	$ 9.05	$ -	$ 9.05	$ -	$ -
2017	64.61	6.25	70.86	-	70.86	34.30	-	34.30	36.56	36.00
2018	92.67	22.50	115.17	-	115.17	-	85.21	85.21	29.96	27.24
2019	20.30	15.00	35.30	56.60	91.90	-	85.21	85.21	6.68	5.02
2020	-	-	-	98.08	98.08	-	85.21	85.21	12.87	9.76
2021	-	-	-	78.31	78.31	-	66.94	66.94	11.37	8.01
2022	-	-	-	72.03	72.03	-	66.94	66.94	5.09	3.22
2023	-	-	-	39.31	39.31	-	33.82	33.82	5.49	3.35
2024	-	-	-	39.31	39.31	-	33.82	33.82	5.49	3.13
2025	-	-	-	39.31	39.31	-	33.82	33.82	5.49	2.92
2026	-	-	-	39.31	39.31	-	33.82	33.82	5.49	2.72
2027	-	-	-	32.98	32.98	-	33.82	33.82	(0.84)	(0.49)
2028	-	-	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-	-	-
Total	**$ 186.63**	**$ 43.75**	**$ 230.38**	**$ 495.25**	**$ 725.63**	**$ 43.35**	**$ 558.63**	**$ 601.98**	**$ 123.64**	**$ 100.89**

Apportionment to Plaintiffs			
	Dakota Access	ETCO LLC	Total
Construction Loan Amount	$ 2,325.00	$ 175.00	$ 2,500.00
Percent of Construction Loan	93.0%	7.0%	100.0%
Damages	**$ 93.83**	**$ 7.06**	**$ 100.89**
Plaintiff's Ownership (%)	100%	36.35%	
Damages Allocated to Plaintiffs	**$ 93.83**	**$ 2.57**	**$ 96.40**
Total Damages			**$ 96.40**

Source
See Exhibit S6.1

Exhibit S6.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of August 2, 2017
Millions USD

Actual Refi Date	3.11.2019

Actual	Principal	Interest Rate	Maturity
Const. Loan	$ 2,500		
3-Year Note	650	3.625%	1-Apr-22
5-Year Note	1,000	3.900%	1-Apr-24
10-Year Note	850	4.625%	1-Apr-29

Refi Date	8.2.2017

Refinanced	Principal	Interest Rate	Maturity
Const. Loan	$ 2,500		
3-Year Note	650	2.811%	2-Aug-20
5-Year Note	1,000	3.312%	2-Aug-22
10-Year Note	850	3.979%	2-Aug-27

Valuation Date	8.2.2017
Discount Rate	7.00%

PV Damages	$ 100.89

	Actual Interest Expense								Refinanced Interest Expense									
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
July-16	$ -		$ -				-	$ -	$ -					$ -	$ -	-	1.00	$ -
August-16	1.39		1.39					1.39	1.39					1.39	-		1.00	-
September-16	1.86		1.86					1.86	1.86				-	1.86		-	1.00	-
October-16	1.92		1.92				-	1.92	1.92					1.92			1.00	-
November-16	1.87		1.87					1.87	1.87					1.87		-	1.00	-
December-16	2.01		2.01					2.01	2.01					2.01			1.00	
January-17	2.14		2.14					2.14	2.14					2.14			1.00	
February-17	5.09		5.09					5.09	5.09					5.09			1.00	
March-17	5.03		5.03				-	5.03	5.03				-	5.03			1.00	
April-17	5.12		5.12				-	5.12	5.12					5.12			1.00	-
May-17	5.37		5.37				-	5.37	5.37				-	5.37			1.00	
June-17	5.37		5.37					5.37	5.37					5.37	-	-	1.00	
July-17	5.80		5.80				-	5.80	5.80					5.80	-		1.00	
August-17	6.11	6.25	12.36					12.36	0.39					0.39	11.97	0.94	0.99	11.90
September-17	5.96		5.96					5.96	-				-		5.96	1.94	0.99	5.90
October-17	6.17		6.17					6.17							6.17	2.94	0.98	6.06
November-17	6.00		6.00					6.00					-		6.00	3.94	0.98	5.86
December-17	6.46		6.46				-	6.46					-	-	6.46	4.94	0.97	6.28
January-18	6.77		6.77				-	6.77	-					-	6.77	5.94	0.97	6.54
February-18	6.22	7.50	13.72					13.72		9.14	16.56	16.91	42.61	42.61	(28.88)	6.94	0.96	(27.74)
March 18	7.13		7.13					7.13	-		-			-	7.13	7.94	0.95	6.81
April-18	7.26		7.26					7.26	-		-	-		-	7.26	8.94	0.95	6.89
May-18	7.63		7.63					7.63	-	-					7.63	9.94	0.94	7.20
June-18	7.55		7.55					7.55	-	-		-			7.55	10.94	0.94	7.09
July-18	8.00		8.00					8.00					-		8.00	11.94	0.93	7.46
August-18	8.22	15.00	23.22					23.22		9.14	16.56	16.91	42.61	42.61	(19.38)	12.94	0.93	(17.98)
September-18	8.02		8.02				-	8.02		-					8.02	13.94	0.92	7.39
October-18	8.57		8.57					8.57			-				8.57	14.94	0.92	7.86
November-18	8.44		8.44					8.44							8.44	15.94	0.91	7.69
December-18	8.84		8.84				-	8.84		-			-		8.84	16.94	0.91	8.01
January-19	9.20		9.20				-	9.20			-	-			9.20	17.94	0.90	8.29
February-19	8.23	15.00	23.23				-	23.23		9.14	16.56	16.91	42.61	42.61	(19.38)	18.94	0.90	(17.36)
March-19	2.87		2.87					2.87	-					-	2.87	19.94	0.89	2.56
April-19								-				-				20.94	0.89	
May-19								-							-	21.94	0.88	-
June-19																22.94	0.88	
July-19										-		-				23.94	0.87	
August-19									-	9.14	16.56	16.91	42.61	42.61	(42.61)	24.94	0.86	(36.85)
September-19							-				-				-	25.94	0.86	-
October-19				13.09	21.67	21.84	56.60	56.60		-	-	-			56.60	26.94	0.85	48.39
November-19					-			-				-		-		27.94	0.85	
December-19					-			-								28.94	0.85	
January-20								-			-	-				29.94	0.84	
February-20				-				-		9.14	16.56	16.91	42.61	42.61	(42.61)	30.94	0.84	(35.59)
March-20				-			-			-				-		31.94	0.83	
April-20				11.78	19.50	19.66	50.94	50.94		-		-			50.94	32.94	0.83	42.06
May-20																33.94	0.82	
June-20				-	-								-			34.94	0.82	
July-20				-				-					-			35.94	0.81	
August-20				7.99			7.99	7.99		9.14	16.56	16.91	42.61	42.61	(34.62)	36.94	0.81	(27.93)
September-20								-			-		-			37.94	0.80	
October-20					19.50	19.66	39.16	39.16			-				39.16	38.94	0.80	31.22
November-20							-	-						-	-	39.94	0.79	-
December-20					-		-				-			-		40.94	0.79	

Exhibit S6.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of August 2, 2017
Millions USD

Actual Refi Date	3.11.2019

Actual	Principal	Interest Rate	Maturity
Const. Loan	$ 2,500		
3-Year Note	650	3.625%	1-Apr-22
5-Year Note	1,000	3.900%	1-Apr-24
10-Year Note	850	3.625%	1-Apr-29

Refi Date	8.2.2017

[illegible]	Principal	Interest Rate	Maturity
Const. Loan	$ 2,500		
3-Year Note	650	2.541%	2-Aug-20
5-Year Note	1,000	3.312%	2-Aug-22
10-Year Note	850	3.979%	2-Aug-27

Valuation Date	8.2.2017
Discount Rate	7.00%

PV Damages	$ 100.89

	Actual Interest Expense								Refinanced Interest Expense									
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
January-21					-	-	-	-							-	41.94	0.78	-
February-21								-			16.56	16.91	33.47	33.47	(33.47)	42.94	0.78	(26.05)
March-21																43.94	0.77	-
April-21					19.50	19.66	39.16	39.16			-	-	-	-	39.16	44.94	0.77	30.15
May-21						-	-						-			45.94	0.77	
June-21								-							-	46.94	0.76	
July-21					-										-	47.94	0.76	-
August-21							-				16.56	16.91	33.47	33.47	(33.47)	48.94	0.75	(25.18)
September-21											-	-	-			49.94	0.75	-
October-21					19.50	19.66	39.16	39.16							39.16	50.94	0.74	29.12
November-21						-	-				-	-		-		51.94	0.74	
December-21						-	-								-	52.94	0.73	
January-22					-		-	-					-		-	53.94	0.73	-
February-22						-	-				16.56	16.91	33.47	33.47	(33.47)	54.94	0.73	(24.42)
March-22						-	-								-	55.94	0.72	-
April-22					19.50	19.66	39.16	39.16							39.16	56.94	0.72	28.12
May-22					-	-		-			-			-	-	57.94	0.71	-
June-22						-	-	-			-					58.94	0.71	
July-22					-		-						-		-	59.94	0.71	-
August-22					13.22	-	13.22	13.22			16.56	16.91	33.47	33.47	(20.25)	60.94	0.70	(14.21)
September-22						-	-	-					-		-	61.94	0.70	
October-22						19.66	19.66	19.66					-		19.66	62.94	0.69	13.64
November-22								-				-	-	-		63.94	0.69	-
December-22							-	-				-		-	-	64.94	0.69	-
January-23						-		-				-	-		-	65.94	0.68	-
February-23						-	-	-				16.91	16.91	16.91	(16.91)	66.94	0.68	(11.46)
March-23								-				-		-		67.94	0.67	
April-23						19.66	19.66	19.66							19.66	68.94	0.67	13.16
May-23						-		-								69.94	0.67	-
June-23												-		-		70.94	0.66	-
July-23						-								-	-	71.94	0.66	
August-23						-		-				16.91	16.91	16.91	(16.91)	72.94	0.65	[illegible]
September-23						-		-								73.94	0.65	-
October-23						19.66	19.66	19.66							19.66	74.94	0.65	12.77
November-23						-	-	-				-		-		75.94	0.64	
December-23						-	-	-						-		76.94	0.64	-
January-24						-	-	-				-	-	-		77.94	0.64	-
February-24						-	-	-				16.91	16.91	16.91	(16.91)	78.94	0.63	(10.68)
March-24						-	-	-					-		-	79.94	0.63	-
April-24						19.66	19.66	19.66					-	-	19.66	80.94	0.62	12.28
May-24						-	-	-					-		-	81.94	0.62	-
June-24													-	-		82.94	0.62	-
July-24							-						-	-	-	83.94	0.61	-
August-24						-	-	-				16.91	16.91	16.91	(16.91)	84.94	0.61	(10.32)
September-24						-		-							-	85.94	0.61	-
October-24						19.66	19.66	19.66					-		19.66	86.94	0.60	11.85
November-24						-	-	-					-	-	-	87.94	0.60	-
December-24						-	-	-				-	-	-	-	88.94	0.60	-
January-25						-	-	-				-	-	-	-	89.94	0.59	-
February-25						-	-					16.91	16.91	16.91	(16.91)	90.94	0.59	(9.96)
March-25						-	-					-	-	-	-	91.94	0.59	
April-25						19.66	19.66	19.66						-	19.66	92.94	0.58	11.45
May-25						-	-	-				-		-	-	93.94	0.58	-
June-25						-	-	-				-		-	-	94.94	0.58	-

Exhibit S6.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of August 2, 2017
Millions USD

Actual Refi Date	3 10 2019

Actual	Principal	Interest Rate	Maturity
Const Loan	$ 2,500		
3-Year Note	650	1.625%	1-Apr-22
5-Year Note	1,000	1.900%	1-Apr-24
10-Year Note	850	2.625%	1-Apr-29

Refi Date	8 2 2017

Refinanced	Principal	Interest Rate	Maturity
Const Loan	$ 2,500		
3 Year Note	650	2.811%	2-Aug-20
5-Year Note	1,000	3.112%	2-Aug-22
10-Year Note	850	3.970%	2-Aug-27

Valuation Date	8 2 2017
Discount Rate	7.00%

PV Damages	$ 100.89

	Actual Interest Expense								Refinanced Interest Expense									
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
July-25								-				-	-	-	-	95.94	0.57	-
August-25							-	-				16.91	16.91	16.91	(16.91)	96.94	0.57	(9.62)
September-25							-	-				-	-	-	-	97.94	0.57	-
October-25						19.66	19.66	19.66				-	-	-	19.66	98.94	0.56	11.06
November-25						-	-	-				-	-	-	-	99.94	0.56	-
December-25						-	-	-				-	-	-	-	100.94	0.56	-
January-26						-	-	-				-	-	-	-	101.94	0.55	-
February-26						-	-	-				16.91	16.91	16.91	(16.91)	102.94	0.55	(9.29)
March-26						-	-	-				-	-	-	-	103.94	0.55	-
April-26						19.66	19.66	19.66				-	-	-	19.66	104.94	0.54	10.68
May-26						-	-	-				-	-	-	-	105.94	0.54	-
June-26						-	-	-				-	-	-	-	106.94	0.54	-
July-26						-	-	-				-	-	-	-	107.94	0.53	-
August-26						-	-	-				16.91	16.91	16.91	(16.91)	108.94	0.53	(8.97)
September-26						-	-	-				-	-	-	-	109.94	0.53	-
October-26						19.66	19.66	19.66				-	-	-	19.66	110.94	0.52	10.31
November-26						-	-	-				-	-	-	-	111.94	0.52	-
December-26						-	-	-				-	-	-	-	112.94	0.52	-
January-27						-	-	-				-	-	-	-	113.94	0.52	-
February-27							-	-				16.91	16.91	16.91	(16.91)	114.94	0.51	(8.67)
March-27							-	-				-	-	-	-	115.94	0.51	-
April-27						19.66	19.66	19.66				-	-	-	19.66	116.94	0.51	9.96
May-27						-	-	-				-	-	-	-	117.94	0.50	-
June-27						-	-	-				-	-	-	-	118.94	0.50	-
July-27						-	-	-				-	-	-	-	119.94	0.50	-
August-27						13.32	13.32	13.32				16.91	16.91	16.91	(3.59)	120.94	0.49	(1.78)
Total	$ 186.63	$ 43.75	$ 240.38	$ 32.86	$ 132.38	$ 330.01	$ 495.25	$ 725.63	$ 43.35	$ 54.81	$ 165.60	$ 338.22	$ 558.63	$ 601.98	$ 123.64			$ 100.89

Exhibit S6.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of August 2, 2017
Millions USD

Actual Refi Date	3/11/2019

Actual		Principal	Interest Rate	Maturity
Const. Loan	$	2,500		
3-Year Note		650	3.625%	1-Apr-22
5-Year Note		1,000	4.000%	1-Apr-24
10-Year Note		850	4.625%	1-Apr-29

Refi Date	8/2/2017

Refinanced		Principal	Interest Rate	Maturity
Const. Loan	$	2,500		
3-Year Note		650	2.811%	2-Aug-20
5-Year Note		1,000	3.312%	2-Aug-22
10-Year Note		850	3.979%	2-Aug-27

Valuation Date	8/2/2017
Discount Rate	7.00%

PV Damages	$ 100.89

	Actual Interest Expense								Refinanced Interest Expense									
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
Summary by Year:																		
2016	9.05	-	9.05	-	-	-	-	9.05	9.05	-	-	-	-	9.05	-			-
2017	64.61	6.25	70.86	-	-	-	-	70.86	34.30	-	-	-	-	34.30	36.56			36.01
2018	92.67	22.50	115.17			-	-	115.17	-	18.27	33.12	33.82	85.21	85.21	29.96			27.24
2019	20.30	15.00	35.30	13.09	21.67	21.84	56.60	91.90	-	18.27	33.12	33.82	85.21	85.21	6.68			5.62
2020	-	-	-	19.77	39.00	39.31	98.08	98.08	-	18.27	33.12	33.82	85.21	85.21	12.87			9.76
2021	-	-	-	-	39.00	39.31	78.31	78.31	-		33.12	33.82	66.94	66.94	11.37			8.01
2022	-		-	-	32.72	39.31	72.03	72.03	-		33.12	33.82	66.94	66.94	5.09			3.72
2023	-		-	-		39.31	39.31	39.31	-		-	33.82	33.82	33.82	5.49			3.58
2024	-					39.31	39.31	39.31	-		-	33.82	33.82	33.82	5.49			3.13
2025	-	-		-	-	39.31	39.31	39.31	-		-	33.82	33.82	33.82	5.49			2.92
2026	-	-				39.31	39.31	39.31	-		-	33.82	33.82	33.82	5.49			2.72
2027	-	-	-	-	-	32.98	32.98	32.98	-		-	33.82	33.82	33.82	(0.84)			(0.59)
2028			-		-	-		-	-	-	-	-	-		-			-
2029	-			-	-	-	-	-	-	-	-	-	-	-	-			-
Total	$ 186.63	$ 45.75	$ 230.38	$ 32.86	$ 132.38	$ 330.01	$ 495.25	$ 725.63	$ 43.35	$ 54.81	$ 165.60	$ 338.22	$ 558.63	$ 601.98	$ 123.64			$ 100.89

Sources:
DAPL ETCO II Summary (ET-01776567)
The Construction Loans Agreement (ESI_00088171)
MCC Notes Final Offering Memorandum (ET-00496064)
See Exhibits S5 through S5.3

Exhibit S7
Summary of Delayed Debt Refinancing Damages - Refiance Date of February 2, 2018
Millions USD

	Actual Interest Expense					Refinanced Interest Expense				
Year	1M Libor Interest Payments	Duration Fees	Construction Loan Total	Total Interest on Notes	Total	Construction Loan Total	Total Interest on Notes	Total	Damages	Discounted Damages
2016	$ 9.05	$ -	$ 9.05	$ -	$ 9.05	$ 9.05	$ -	$ 9.05	$ -	$ -
2017	64.61	6.25	70.86	-	70.86	70.86	-	70.86	-	$ -
2018	92.67	22.50	115.17	-	115.17	7.22	47.09	54.31	60.86	$ 59.16
2019	20.30	15.00	35.30	56.60	91.90	-	94.18	94.18	(2.28)	$ (2.94)
2020	-	-	-	101.88	101.88	-	94.18	94.18	7.69	$ 5.65
2021	-	-	-	86.36	86.36	-	83.41	83.41	2.95	$ 1.65
2022	-	-	-	78.31	78.31	-	72.65	72.65	5.67	$ 3.62
2023	-	-	-	52.64	52.64	-	54.10	54.10	(1.46)	$ (1.39)
2024	-	-	-	39.31	39.31	-	35.55	35.55	3.77	$ 2.20
2025	-	-	-	39.31	39.31	-	35.55	35.55	3.77	$ 2.06
2026	-	-	-	39.31	39.31	-	35.55	35.55	3.77	$ 1.93
2027	-	-	-	39.31	39.31	-	35.55	35.55	3.77	$ 1.81
2028	-	-	-	13.43	13.43	-	17.77	17.77	(4.34)	$ (2.24)
2029	-	-	-	-	-	-	-	-	-	$ -
Total	**$ 186.63**	**$ 43.75**	**$ 230.38**	**$ 546.47**	**$ 776.85**	**$ 87.13**	**$ 605.57**	**$ 692.70**	**$ 84.14**	**$ 71.50**

Apportionment to Plaintiffs			
	Dakota Access	ETCO LLC	Total
Construction Loan Amount	$ 2,325.00	$ 175.00	$ 2,500.00
Percent of Construction Loan	93.0%	7.0%	100%
Damages	**$ 66.50**	**$ 5.01**	**$ 71.50**
Plaintiff's Ownership (%)	100%	36.35%	
Damages Allocated to Plaintiffs	**$ 66.50**	**$ 1.82**	**$ 68.32**
Total Damages			**$ 68.32**

Source:
See Exhibit S7.1

[illegible]
[illegible]

Exhibit S7.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of February 2, 2018
Millions USD

Actual Refi Date	3/11/2019

Actual	Principal	Interest Rate	Maturity
Const. Loan	$ 2,500		
3-Year Note	650	3.625%	1-Apr-22
5-Year Note	1,000	3.900%	1-Apr-24
10-Year Note	850	4.625%	1-Apr-29

Refi Date	2/2/2018

[illegible]	Principal	Interest Rate	Maturity
Const. Loan	$ 2,500		
3-Year Note	650	3.410%	2-Feb-21
5-Year Note	1,000	3.710%	2-Feb-23
10-Year Note	850	4.132%	2-Feb-28

Valuation Date	2/2/2018
Discount Rate	6.60%

PV Damages	$ 71.50

	Actual Interest Expense								Refinanced Interest Expense									
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
July-16			$					$	$					$	$		1.00	$
August-16	1.39		1.39				-	1.39	1.39					1.39			1.00	
September-16	1.86		1.86				-	1.86	1.86					1.86			1.00	
October-16	1.92		1.92				-	1.92	1.92					1.92			1.00	-
November-16	1.87		1.87				-	1.87	1.87				-	1.87	-		1.00	
December-16	2.01		2.01				-	2.01	2.01					2.01			1.00	
January-17	2.14		2.14					2.14	2.14					2.14			1.00	
February-17	5.09		5.09					5.09	5.09				-	5.09	-		1.00	-
March-17	5.03		5.03					5.03	5.03				-	5.03			1.00	-
April-17	5.12		5.12				-	5.12	5.12				-	5.12			1.00	
May-17	5.37		5.37					5.37	5.37					5.37			1.00	
June-17	5.37		5.37				-	5.37	5.37					5.37			1.00	
July-17	5.80		5.80					5.80	5.80					5.80	-		1.00	
August-17	[illegible]	6.25	12.36					12.36	12.36					12.36			1.00	
September-17	5.96		5.96					5.96	5.96					5.96	-	-	1.00	-
October-17	6.17		6.17					6.17	6.17					6.17			1.00	
November-17	6.00		6.00					6.00	6.00					6.00			1.00	
December-17	6.46		6.46					6.46	6.46					6.46	-		1.00	
January-18	6.77		6.77					6.77	6.77					6.77	-		1.00	
February-18	6.22	7.50	13.72					13.72	0.44					0.44	13.28	0.93	0.99	13.21
March-18	7.13		7.13					7.13							7.13	1.93	0.99	7.06
April-18	7.26		7.26				-	7.26					-		7.26	2.93	0.98	7.14
May-18	7.63		7.63					7.63					-		7.63	3.93	0.98	7.47
June-18	7.55		7.55					7.55					-		7.55	4.93	0.97	7.35
July-18	8.00		8.00					8.00					-		8.00	5.93	0.97	7.74
August-18	8.22	15.00	23.22					23.22		10.77	18.55	17.77	47.09	47.09	(23.87)	6.93	0.96	(22.95)
September-18	8.02		8.02				-	8.02			-				8.02	7.93	0.96	7.68
October-18	8.57		8.57					8.57				-			8.57	8.93	0.95	8.16
November-18	8.44		8.44					8.44	-						8.44	9.93	0.95	7.99
December-18	8.84		8.84					8.84							8.84	10.93	0.94	8.33
January-19	9.20		9.20					9.20						-	9.20	11.93	0.94	8.61
February-19	8.23	15.00	23.23					23.23		10.77	18.55	17.77	47.09	47.09	(23.86)	12.93	0.93	(22.23)
March-19	2.87		2.87					2.87			-				2.87	13.93	0.93	2.66
April-19																14.93	0.92	
May-19																15.93	0.92	
June-19																16.93	0.91	
July-19														-		17.93	0.91	
August-19							-			10.77	18.55	17.77	47.09	47.09	(47.09)	18.93	0.90	(42.15)
September-19								-								19.93	0.90	
October-19				13.09	21.67	21.84	56.60	56.60		-					56.60	20.93	0.89	50.46
November-19						-										21.93	0.89	
December-19				-				-								22.93	0.88	
January-20								-								23.93	0.88	
February-20							-			10.77	18.55	17.77	47.09	47.09	(47.09)	24.93	0.87	(41.07)
March-20								-								25.93	0.87	-
April-20				11.78	19.50	19.66	50.94	50.94							50.94	26.93	0.86	43.81
May-20												-				27.93	0.86	
June-20												-				28.93	0.85	
July-20				-			-						-			29.93	0.85	
August-20								-		10.77	18.55	17.77	47.09	47.09	(47.09)	30.93	0.84	(39.71)
September-20								-								31.93	0.84	
October-20				11.78	19.50	19.66	50.94	50.94							50.94	32.93	0.83	42.52
November-20																33.93	0.83	
December-20																34.93	0.83	

Exhibit S7.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of February 2, 2018
Millions USD

Actual Refi Date	3.11.2019

Actual	Principal	Interest Rate	Maturity
Const Loan	$ 2,500		
3-Year Note	650	3.625%	1-Apr-22
5-Year Note	1,000	3.980%	1-Apr-24
10-Year Note	850	4.625%	1-Apr-29

Refi Date	2.2.2018

But-For	Principal	Interest Rate	Maturity
Const Loan	$ 2,500		
3-Year Note	650	3.313%	2-Feb-21
5-Year Note	1,000	3.710%	2-Feb-23
10-Year Note	850	4.182%	2-Feb-28

Valuation Date	2.2.2018
Discount Rate	6.00%

PV Damages	$ 71.50

	Actual Interest Expense								Refinanced Interest Expense								
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
January-21				-	-	-	-	-		-	-	-	-	-		35.93	0.82	-
February-21				8.05	-	-	8.05	8.05		10.77	18.55	17.77	47.09	47.09	(39.04)	36.93	0.82	(31.88)
March-21				-	-	-	-	-		-	-	-	-	-	-	37.93	0.81	-
April-21				-	19.50	19.66	39.16	39.16		-	-	-	-	-	39.16	38.93	0.81	31.63
May-21				-	-	-	-	-		-	-	-	-	-	-	39.93	0.80	-
June-21				-	-	-	-	-		-	-	-	-	-	-	40.93	0.80	-
July-21				-	-	-	-	-		-	-	-	-	-	-	41.93	0.79	-
August-21				-	-	-	-	-			18.55	17.77	36.32	36.32	(36.32)	42.93	0.79	(28.70)
September-21				-	-	-	-	-		-	-	-	-	-	-	43.93	0.79	-
October-21				-	19.50	19.66	39.16	39.16		-	-	-	-	-	39.16	44.93	0.78	30.60
November-21				-	-	-	-	-		-	-	-	-	-	-	45.93	0.78	-
December-21				-	-	-	-	-		-	-	-	-	-	-	46.93	0.77	
January-22				-	-	-	-	-		-	-	-	-	-	-	47.93	0.77	
February-22				-	-	-	-	-			18.55	17.77	36.32	36.32	(36.32)	48.93	0.76	(27.77)
March-22				-	-	-	-	-		-	-	-	-	-	-	49.93	0.76	-
April-22				-	19.50	19.66	39.16	39.16		-	-	-	-	-	39.16	50.93	0.76	29.61
May-22				-	-	-	-	-		-	-	-	-	-	-	51.93	0.75	
June-22				-	-	-	-	-		-	-	-	-	-	-	52.93	0.75	-
July-22				-	-	-	-	-		-	-	-	-	-	-	53.93	0.74	-
August-22				-	-	-	-	-			18.55	17.77	36.32	36.32	(36.32)	54.93	0.74	(26.87)
September-22				-	-	-	-	-		-	-	-	-	-	-	55.93	0.74	-
October-22				-	19.50	19.66	39.16	39.16		-	-	-	-	-	39.16	56.93	0.73	28.65
November-22				-	-	-	-	-		-	-	-	-	-	-	57.93	0.73	-
December-22				-	-	-	-	-		-	-	-	-	-	-	58.93	0.72	-
January-23				-	-	-	-	-		-	-	-	-	-	-	59.93	0.72	-
February-23				-	13.33	-	13.33	13.33			18.55	17.77	36.32	36.32	(23.00)	60.93	0.72	(16.47)
March-23				-	-	-	-	-		-	-	-	-	-	-	61.93	0.71	-
April-23				-	-	19.66	19.66	19.66		-	-	-	-	-	19.66	62.93	0.71	13.92
May-23				-	-	-	-	-		-	-	-	-	-	-	63.93	0.70	-
June-23				-	-	-	-	-		-	-	-	-	-	-	64.93	0.70	-
July-23				-	-	-	-	-		-	-	-	-	-	-	65.93	0.70	-
August-23				-	-	-	-	-			17.77	17.77	17.77	17.77	(17.77)	66.93	0.69	(12.31)
September-23				-	-	-	-	-		-	-	-	-	-	-	67.93	0.69	-
October-23				-	-	19.66	19.66	19.66		-	-	-	-	-	19.66	68.93	0.69	13.47
November-23				-	-	-	-	-		-	-	-	-	-	-	69.93	0.68	-
December-23				-	-	-	-	-		-	-	-	-	-	-	70.93	0.68	-
January-24				-	-	-	-	-		-	-	-	-	-	-	71.93	0.67	-
February-24				-	-	-	-	-			17.77	17.77	17.77	17.77	(17.77)	72.93	0.67	(11.91)
March-24				-	-	-	-	-		-	-	-	-	-	-	73.93	0.67	-
April-24				-	-	19.66	19.66	19.66		-	-	-	-	-	19.66	74.93	0.66	13.03
May-24				-	-	-	-	-		-	-	-	-	-	-	75.93	0.66	-
June-24				-	-	-	-	-		-	-	-	-	-	-	76.93	0.66	-
July-24				-	-	-	-	-		-	-	-	-	-	-	77.93	0.65	-
August-24				-	-	-	-	-			17.77	17.77	17.77	17.77	(17.77)	78.93	0.65	(11.53)
September-24				-	-	-	-	-		-	-	-	-	-	-	79.93	0.65	-
October-24				-	-	19.66	19.66	19.66		-	-	-	-	-	19.66	80.93	0.64	12.61
November-24				-	-	-	-	-		-	-	-	-	-	-	81.93	0.64	-
December-24				-	-	-	-	-		-	-	-	-	-	-	82.93	0.63	-
January-25				-	-	-	-	-		-	-	-	-	-	-	83.93	0.63	-
February-25				-	-	-	-	-			17.77	17.77	17.77	17.77	(17.77)	84.93	0.63	(11.15)
March-25				-	-	-	-	-		-	-	-	-	-	-	85.93	0.62	-
April-25				-	-	19.66	19.66	19.66		-	-	-	-	-	19.66	86.93	0.62	12.20
May-25				-	-	-	-	-		-	-	-	-	-	-	87.93	0.62	-
June-25				-	-	-	-	-		-	-	-	-	-	-	88.93	0.61	-

Exhibit S7.1

Calculation of Delayed Debt Refinancing Damages - Refiance Date of February 2, 2018

Millions USD

Actual Refi Date	3/11/2019

Actual		Principal	Interest Rate	Maturity
Const. Loan	$	2,500		
3-Year Note		650	3.625%	1-Apr-22
5-Year Note		1,000	3.900%	1-Apr-24
10-Year Note		850	4.625%	1-Apr-29

Refi Date	2/2/2018

[illegible]		Principal	Interest Rate	Maturity
Const. Loan	$	2,500		
3-Year Note		650	[illegible]	2-Feb-21
5-Year Note		1,000	3.710%	2-Feb-23
10-Year Note		850	4.182%	2-Feb-28

Valuation Date	2/2/2018
Discount Rate	[illegible]

PV Damages	$ 71.50

Actual Interest Expense

Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total
July-25						-	-	-
August-25								-
September-25							-	-
October-25						19.66	19.66	19.66
November-25						-		
December-25						-	-	
January-26						-	-	
February-26						-	-	-
March-26						-	-	
April-26						19.66	19.66	19.66
May-26							-	
June-26						-		
July-26						-	-	
August-26						-		-
September-26						-	-	-
October-26						19.66	19.66	19.66
November-26							-	-
December-26						-		
January-27						-		
February-27						-		
March-27						-	-	
April-27						19.66	19.66	19.66
May-27						-		
June-27						-		-
July-27						-		
August-27						-		
Total	$ 186.63	$ 43.75	$ 230.38	$ 44.70	$ 151.99	$ 349.77	$ 546.47	$ 776.85

Refinanced Interest Expense

Date	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
July-25					-	-		89.93	0.61	-
August-25				17.77	17.77	[illegible]	(17.77)	90.93	0.61	(10.79)
September-25						-	-	91.93	0.60	-
October-25						-	[illegible]	92.93	0.60	[illegible]
November-25				-	-		-	93.93	0.60	-
December-25				-	-		-	94.93	0.59	-
January-26				-	-	-		95.93	0.59	-
February-26				17.77	17.77	17.77	(17.77)	96.93	0.59	(10.44)
March-26						-		97.93	0.58	-
April-26					-	-	[illegible]	98.93	0.58	11.42
May-26					-	-	-	99.93	0.58	-
June-26					-	-	-	100.93	0.57	-
July-26				-	-		-	101.93	0.57	
August-26				17.77	17.77	17.77	(17.77)	102.93	0.57	(10.11)
September-26				-	-	-	-	103.93	0.57	-
October-26				-	-	-	19.66	104.93	0.56	11.05
November-26				-	-	-	-	105.93	0.56	-
December-26				-	-	-	-	106.93	0.56	
January-27				-	-		-	107.93	0.55	-
February-27				17.77	17.77	17.77	(17.77)	108.93	0.55	(9.78)
March-27				-	-	-		109.93	0.55	-
April-27					-	-	19.66	110.93	0.54	10.70
May-27						-	-	111.93	0.54	-
June-27				-	-	-	-	112.93	0.54	-
July-27				-	-			113.93	0.54	-
August-27				17.77	17.77	17.77	(17.77)	114.93	0.53	(9.46)
Total	$ 87.13	$ 64.60	$ 185.50	$ 355.47	$ 605.57	$ 692.70	$ 84.14			$ 71.50

Exhibit S7.1
Calculation of Delayed Debt Refinancing Damages - Refiance Date of February 2, 2018
Millions USD

Actual Refi Date	3/1/2019

Actual		Principal	Interest Rate	Maturity
Const. Loan	$	2,500		
3-Year Note		650	3.625%	1-Apr-22
5-Year Note		1,000	3.900%	1-Apr-24
10-Year Note		850	4.625%	1-Apr-29

Refi Date	2/2/2018

But-For		Principal	Interest Rate	Maturity
Const. Loan	$	2,500		
3-Year Note		650	3.313%	2-Feb-21
5 Year Note		1,000	3.710%	2-Feb-23
10-Year Note		850	4.182%	2-Feb-28

Valuation Date	2/2/2018
Discount Rate	6.60%

PV Damages	$ 71.50

	Actual Interest Expense							
Date	Eurodollar Interest Payments	Duration Fees	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total
Summary by Year:								
2016	9.05	-	9.05	-	-	-	-	9.05
2017	64.61	0.25	70.86	-	-	-	-	70.86
2018	92.67	22.50	115.17	-			-	115.17
2019	20.30	15.00	35.30	13.09	21.67	21.84	56.60	91.90
2020	-	-	-	23.56	39.00	39.31	101.88	101.88
2021	-	-		8.05	39.00	39.31	86.36	86.36
2022	-	-		-	39.00	39.31	78.31	78.31
2023	-		-	-	13.33	39.31	52.64	52.64
2024	-	-	-	-	-	39.31	39.31	39.31
2025	-	-	-	-	-	39.31	39.31	39.31
2026	-	-	-	-		39.31	39.31	39.31
2027	-	-	-		-	39.31	39.31	39.31
2028	-	-	-	-	-	13.43	13.43	13.43
2029	-	-	-	-	-		-	-
Total	$ 186.63	$ 43.75	$ 230.38	$ 44.70	$ 151.99	$ 349.77	$ 546.47	$ 776.85

	Refinanced Interest Expense									
Date	Construction Loan Total	3-Year Note	5-Year Note	10-Year Note	Total Interest on Notes	Total	Difference	Discount Period (Months)	Present Value Factor	Discounted Damages
Summary by Year:										
2016	9.05	-	-	-		9.05	-			-
2017	70.86	-	-	-	-	70.86	-			-
2018	7.22	10.77	18.55	17.77	47.09	54.31	60.86			59.16
2019	-	21.53	37.10	35.55	94.18	94.18	(2.28)			(2.94)
2020	-	21.53	37.10	35.55	94.18	94.18	7.69			5.65
2021	-	10.77	37.10	35.55	83.41	83.41	2.95			1.65
2022	-	-	37.10	35.55	72.65	72.65	5.67			3.62
2023	-	-	18.55	35.55	54.10	54.10	(1.46)			(1.39)
2024	-		-	35.55	35.55	35.55	3.77			2.20
2025	-	-	-	35.55	35.55	35.55	3.77			2.06
2026	-	-	-	35.55	35.55	35.55	3.77			1.93
2027	-	-	-	35.55	35.55	35.55	3.77			1.81
2028	-	-		17.77	17.77	17.77	(4.34)			(2.24)
2029	-				-	-	-			-
Total	$ 87.13	$ 64.60	$ 185.50	$ 355.47	$ 605.57	$ 692.70	$ 84.14			$ 71.50

Sources:
DAPL ETCO TT Summary (ET-01776867)
The Construction Loans Agreement (NSR 0008817)
MCCC Notes Final Offering Memorandum (ET-00426061)
See Exhibits S5 through S5.3

Exhibit 66

Energy Transfer LP, et al. v. Greenpeace International, et al.
State of North Dakota, County of Morton
South Central Judicial District
Trial Court Case No. 30-2019-CV-00180

Supreme Court Case No. 20240116

House Energy and Commerce Committee
Subcommittee on Energy
Hearing on Modernizing Energy and Electricity Delivery Systems
February 15, 2017

Testimony of Joey Mahmoud
On behalf of Energy Transfer Partners

Mr. Chairman, it is a pleasure to be here today. I am Joey Mahmoud, project executive for the Dakota Access Pipeline and Executive Vice President of Energy Transfer Partners.

Over the course of the last six months this project, and our company, have been subjected to a series of politically motivated actions by the previous administration, accompanied by a host of half-truths and misrepresentations in both social and mainstream media. These have inflicted significant financial and reputational damage on our company. For the most part we have refrained from public comment while we worked directly with the regulatory agencies, the Native American community and the last administration in an effort to bring this matter to a satisfactory close. Sadly, those efforts came to naught.

We are now prepared to tell our side of the story. In so doing, I hope to introduce some important, and badly needed, reality to the discussion.

Dakota Access is a $3.8 billion, privately funded pipeline project which, during the course of construction, has employed more than ten thousand skilled and unskilled workers. During its entire 1172 mile journey from the Bakken shale in North Dakota to Patoka, Illinois it does not cross a single inch of tribal reservation or trust land. It crosses a mere 1094 feet of federally owned land.

During the greater than two year-long permitting process for the project we and the Army Corps reached out to, and accommodated, 55 different Native American groups. Among the tribes, it has been the Greater Sioux Nation, led by the Standing Rock Sioux Tribe, who have resisted to a degree that have generated national attention. The Standing Rock Tribe was the first tribe we approached and our initial presentation to them was made in September, 2014. Over the next two years we continued to reach out to the tribe, both publicly and privately. It was clear from their response they had no interest in discussing the project with us. In addition to our efforts, the Army Corps reached out to the tribe on nine separate occasions. Despite these efforts the Standing Rock declined to participate in any meaningful way.

On July 25, 2016, the Army Corps brought to conclusion its two-plus year review of the project, issuing an environmental assessment approving, among other things, our application for a crossing of the Missouri River at the current site. After declining to identify specific objections to the project and repeatedly rejecting any meaningful efforts at consultation, the tribe, supported by Earthjustice, brought a legal action seeking to block the project. On September 9, 2016, a federal judge issued a 58-page opinion rejecting the tribe's request for a preliminary injunction and finding that the tribe "largely refused to engage in consultations."

Within minutes of the judge's ruling the Departments of Justice, Interior and the Army issued a joint statement indicating that, notwithstanding their successful defense of the permitting process in federal court, they were declining to issue an easement—the only outstanding document needed for completion of the project. That easement was not issued for another five months,

during which time a host of misconceptions about the nature of the project attracted nationwide attention.

Perhaps the most prominent, and ill founded, of these is that Dakota Access represents a threat to the Missouri River and those who rely on it for drinking water. Nothing could be further from the truth. Much of the oil from the Bakken is currently being transported across the Missouri River via truck and rail transportation—modes which, statistically, are far more likely to experience an oil spill than a new, state-of-the-art pipeline. The Dakota Access pipeline, which will be at least the 15th pipeline to cross the Missouri, will employ state-of-the-art technology and will be buried more than 90 feet ***below*** the lowest part of the river.

Perhaps the greatest irony in a saga replete with ironies is that the Standing Rock have just relocated their Missouri River water intake to a point more than 70 miles downstream from the pipeline crossing, but less than two miles downstream from a railroad crossing that is known to carry large amounts of crude oil in tank cars. To cast this as a dispute about protection of water resources is, quite simply, at variance with the facts and it ignores universally accepted scientific and engineering practices.

Others have asserted the route chosen for the pipeline was indifferent to, and would disrupt, sites of archeological importance to the tribe. Again, this is totally contrary to the facts. Dakota Access employed dozens of cultural experts to work alongside state and tribal cultural officials to ensure that nothing of historic significance was disturbed. Based on their findings, the project undertook 140 route changes in North Dakota alone. Indeed, the selection of the river crossing

site was largely driven by a desire to ensure the protection of cultural resources. The river crossing site for the Dakota Access Pipeline is located within a utility corridor which already includes the Northern Border Natural Gas Pipeline and a high voltage electric transmission line.

Some have alleged that the crossing site was chosen in an effort to avoid crossing at the more populous site north of Bismarck. That is simply not true. The Army Corps' extensive alternatives analysis found that crossing at the northern site would require the crossing of an additional 33 waterbodies that are connected to or drain to the Missouri River and 21 additional wetland crossings. Quite simply, the site chosen is, by far, the most benign site for the crossing, and would reduce impacts to stakeholders and the environment.

The facts above were conspicuously absent from either the social or mainstream media coverage of the protest movement. To have followed this dispute only through those media would have led one to believe that the protest movement was all about a small band of Native Americans peacefully expressing their First Amendment rights in opposition to the project. While that may have been the case at the outset, it quickly ceased to be so as the protest grew in size and intensity. And, whatever the motivation of the protestors, this movement was far from peaceful.

Protestors assaulted numerous pipeline personnel, one of whom required hospitalization. Millions of dollars in construction equipment was destroyed. Two publicly owned vehicles were burned and a pistol was fired at law enforcement personnel. The makings of improvised explosive devices were found at a bridge crossing, one of which exploded causing a protestor to lose her arm. Local ranchers reported incidences of stolen cattle, buffalo, fuel, and farm

equipment. As of February 9, over 660 protestors have been arrested for arson, criminal trespass, interference with law enforcement personnel, and in one case, attempted murder. Fewer than 6% of those arrested are from North Dakota.

Beyond the protest at the river crossing site, Energy Transfer offices across the country were vandalized. Our employees have been and continue to be subjected to disparagement and threats. Most frighteningly, several of our employees and their children have been subjected to death threats.

Whether directly or not, the protest movement induced individuals to break into and shut down pump stations on four operational pipelines. Had these actions been undertaken by foreign nationals, they could only be described as acts of terrorism.

The unfortunate truth, which I would respectfully urge this Committee and the Congress to recognize, is that this is a well-organized and well-funded effort based primarily on hostility to fossil fuels. We have received numerous reports that some of the protestors are being paid, and the North Dakota Commissioner of Revenue is investigating. Law enforcement personnel have also reported that a number of the protestors appear to have been professionally trained. Whether those being paid for their protest efforts share the agenda of those paying them is unknown, but what is known is many are now showing up in resistance to other pipeline projects. Far from being an exception, I fear the aggressive tactics we have seen in North Dakota will soon be the norm—if they are not already.

Perhaps most troublesome is the support given these efforts by the recently departed administration. Their politically driven interference in the statutory and administrative permitting process first became apparent in late July of last year. As I indicated, Dakota Access had received all necessary permits for completion of the project, including approval to cross the Missouri River, as of July 25. The "easement" which has been the focus of so much public attention since, is a simple ministerial document which was part and parcel of the river crossing permit. That easement was arbitrarily withheld by the former Assistant Secretary of the Army, Civil Works and was not received until last week.

We can only speculate as to her motivation, but what is abundantly clear is that the Department of the Interior, and most likely senior members of the White House staff, interfered deeply and inappropriately in the waning stages of the regulatory process. What is also abundantly clear is that I and other senior representatives of my company sat in the Department of Justice while representatives of that agency, the Army and the Department of Interior repeatedly made factual misrepresentations about the process and their intentions. Finally, it is abundantly clear that notwithstanding their repeated public pronouncements that the Army Corps and Dakota Access had complied with all applicable requirements for construction of the pipeline, and notwithstanding two successful defenses of the permitting process in federal court, these agencies had made the political decision that they were not going to issue the easement.

Mr. Chairman, we came to realize that even a company as large as Energy Transfer is helpless in the face of a government which will neither obey nor enforce the law. We came to realize that playing by the rules can count for little. And we came to realize that good faith efforts to reach

accommodation, whether with the Native American community or our own government, can be a fool's errand when political motivation overrides the rule of law.

As I indicated, the easement withheld by the politically appointed Assistant Secretary was the sole remaining administrative step needed for completion of this project. This $3.8 billion, 1172-mile pipeline had already received all other necessary federal, state and local permits, as well as all other rights of way necessary for completion of the project. All of this was accomplished over a two-year period. I would respectfully submit that a project of this size does not receive those approvals in that time frame unless it places a heavy emphasis on cultural and social concerns, is sensitive to diversity and gives great deference to the environment.

When that is no longer enough, the ability to build infrastructure in this country is in grave jeopardy.

I look forward to your questions.

Exhibit 67

Energy Transfer LP, et al. v. Greenpeace International, et al.
State of North Dakota, County of Morton
South Central Judicial District
Trial Court Case No. 30-2019-CV-00180

Supreme Court Case No. 20240116

Exponent®

Energy Transfer LP; Energy Transfer Operating, L.P.; and Dakota Access LLC v. Greenpeace International; Cody Hall; and Krystal Two Bulls

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Energy Transfer LP; Energy Transfer Operating, L.P.; and Dakota Access LLC v. Greenpeace International; Cody Hall; and Krystal Two Bulls

Prepared For:

Steven Caplow, Esq.
Davis Wright Tremaine LLP
920 5th Avenue, Suite 3300
Seattle, WA 98104-1610

Matt Kelly, Esq.
Tarlow Stonecipher Weamer & Kelly, PLLC
1705 West College Street
Bozeman, MT 59715-4913

Prepared by

Exponent, Inc.
149 Commonwealth Drive
Menlo Park, CA 94025

Brun Hilbert, Jr., PhD

Robert D. Caligiuri, PhD, NAE, FASM

January 16, 2024

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Acronyms and Abbreviations

API	American Petroleum Institute
ASME	The American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
Dakota Access	Dakota Access LLC
DAPL	Dakota Access Pipeline
Defendants	Greenpeace International, Greenpeace, Inc., Greenpeace Fund, Inc., Red Warrior Society, Cody Hall, and Krystal Two Bulls, collectively
EA	Environmental Assessment
EIS	Environmental Impact Statement
Energy Transfer	Energy Transfer L.P.
Exponent	Exponent, Inc.
FR	Field Report
ft	Feet
GeoEngineers, Inc.	GeoEngineers
GeoEngineers' Report	GeoEngineers, Inc., Horizontal Directional Drill Design Services, Dakota Access Pipeline Project, Lake Oahe HDD, Morton and Emmons Counties, North Dakota, for, Dakota Access, LLC, File No. 18762-011-01, August 28, 2015
Greenpeace	Greenpeace International, Greenpeace, Inc., and the Greenpeace Fund, Inc., collectively
HDD	Horizontal directional drilling
IMP	Integrity Management Program
in.	Inches
IR	Inadvertent return
ISO	International Organization for Standardization
ksf	Thousand pounds per square foot
Michels	Michels Directional Crossings
Michels Drill Plan	Michels Directional Crossings, Directional Drill Plan of Procedure, Dakota, Dakota Access Pipeline Project, Lake Oahe HDD Crossing, Morton & Emmons Counties, North Dakota Installation of 30" Steel Pipe, August 18, 2015
NAE	National Academy of Engineering
NACE	NACE International
NPT	Non-productive time

PHMSA	Pipeline and Hazardous Materials Safety Administration
Plaintiffs	Energy Transfer LP, Energy Transfer Operating, L.P., and Dakota Access LLC, collectively
psf	Pounds per square foot
psi	Pounds per square inch
SRST	Standing Rock Sioux Tribe
USACE	United States Army Corps of Engineers
USACE Defendants	USACE and Dakota Access, collectively

January 16, 2024

Personal Background

Brun Hilbert Jr., PhD

I am a Principal Engineer at Exponent. I hold a PhD degree in Materials Science and Minerals Engineering from the University of California, Berkeley. My dissertation research involved the development of computational methods for analysis of rocks and soils. I hold a BS degree in Mathematics and an MS degree in Mechanical Engineering from the University of New Orleans. I am a licensed Professional Mechanical Engineer in California, a licensed Mechanical and Petroleum Engineer in Texas, and a licensed Mechanical Engineer in New Mexico. Prior to joining Exponent in 1996, I was employed at Exxon Production Research Company in Houston, Texas, for 11 years in the Drilling and Completions Division. I taught courses to Exxon and affiliate engineers in Well Completions, Well Design and Workovers in the Middle East, Southeast Asia, Australia, and North America.

In the area of petroleum and mechanical engineering, I have expertise in oil and gas well drilling and design, well integrity and failure analysis, and flowline and pipeline failures due to rock and soil deformation. I have expertise in drilling deep horizontal directional oil and gas wells, and horizontal directional drilling ("HDD") wells for pipeline installation.

In 1992 I left Exxon Production Research Company to pursue doctoral studies at the University of California at Berkeley. I obtained a PhD degree from the Department of Minerals Engineering and Material Science in 1995. My dissertation work involved the application of solid mechanics to rock engineering computations, also referred to as geomechanics. I also performed laboratory work on the micromechanics of wave propagation in sandstone rock, which is important in the interpretation of wellbore formation logging.

In 1996 I joined Exponent, Inc. ("Exponent") in Menlo Park, California. I have developed a consulting practice in the areas of Petroleum and Mechanical Engineering. While at Exponent, I have testified as an expert witness in the United States and in international arbitration matters involving well failures and blowouts, and valuation of oil and gas wells and fields. My consulting and expert work has involved both onshore and offshore wells and fields.

I was selected as a Society of Petroleum Engineers Distinguished Lecturer for 2015-2016. I was appointed to the National Academy of Engineering ("NAE") Committee on Connector Reliability for Offshore Oil and Natural Gas Operations in 2017. This committee was assembled to investigate the causes and prevention of the premature failure of critical bolts on subsea blowout preventers and wellheads.

I have published over 100 technical journal articles, reports, and presentations during my career. I have written a book chapter on computational geomechanics. I have taught preparation courses for the professional engineering license examination in Civil Engineering.

My current professional résumé is attached as Appendix A. Appendix B contains my deposition and trial testimony for the past four years and Appendix E describes my compensation in this matter.

Robert D. Caligiuri, PhD, NAE, FASM

I am a Corporate Vice President and Principal Engineer at Exponent. I hold a B.S. degree in Mechanical Engineering from the University of California at Davis, and M.S. and PhD degrees in Materials Science and Engineering from Stanford University. I am a licensed Professional Engineer in the states of California, Utah, Michigan, North Carolina, Washington, Arkansas, and Texas. Prior to joining Exponent in 1987, I was a Research Scientist and Program Manager at SRI International and a staff metallurgist with the Lawrence Livermore National Laboratory.

In my more than 46 years of professional experience, I have investigated hundreds of failures of metallic components in mechanical systems and structures, including mechanical machinery and large civil engineering structures. The common thread through all these investigations has been the relationship between the metallurgy of the component materials and the response of the system to applied loads and environmental conditions. I have applied my expertise to the specific problem of failures in nuclear, fossil (including gas), and solar power generation facilities, steel-frame high-rise buildings, chemical process equipment, pressure vessels, aircraft and spacecraft, construction equipment, and safety equipment. I have reviewed and applied many of the codes and industry standards relevant to such equipment and systems. Through these and other activities, I have become very familiar with the obligations expected of designers, specifiers, and installers of power generation equipment and have become very familiar with the standards now in place that embody the expected obligations.

More specifically, in over 46 years of professional experience, I have investigated hundreds of failures in pipelines and pipeline components, ranging in size from 1-inch diameter household copper piping to small diameter process piping to 36-inch-diameter gas transmission pipelines to 20-foot-diameter concrete water distribution piping. The causes of failure in these pipelines have included third-party damage, earthquakes and other natural causes, internal and external pitting corrosion, general corrosion, graphitic corrosion, stress corrosion cracking, seam and butt weld defects, and fatigue. Specifically, I have examined over 25 failures in piping systems

used to contain and transport process fluids around refineries, power generation facilities, and chemical/petrochemical plants.

I am an elected Member of the NAE, a Fellow of ASM International, and a member of the American Society of Mechanical Engineers ("ASME"), Tau Beta Pi Engineering Honor Society, and the Sigma Xi Research Society. I am a recipient of the 2023 Distinguished Engineering Alumni Medal from the University of California at Davis. I have also been a guest lecturer with the Department of Materials Science and Engineering at Stanford University. I served as a visiting scientist and lecturer at the Tsukuba Research Center near Tokyo, Japan. I have published over 100 technical journal articles, reports, and presentations. I have served on, or assisted with, the editorial review boards of the American Society of Materials Metals Handbook and the American Welding Society's Welding Handbook. In particular, while on the editorial review board of the Metals Handbook, I assisted in the preparation of Volume 11, Ninth Edition, *Failure Analysis and Prevention*.

My current professional résumé is attached as Appendix C. Appendix D contains my deposition and trial testimony for the past four years and Appendix E describes my compensation in this matter.

Overview

The matter relates to a dispute wherein Energy Transfer LP (formerly known as Energy Transfer Equity, L.P., and hereafter referred to as "Energy Transfer"), Energy Transfer Operating, L.P. (formerly known as Energy Transfer Partners, L.P.), and Dakota Access LLC ("Dakota Access") (collectively, "Plaintiffs") have alleged damages against Greenpeace International (also known as "Stichting Greenpeace Council"), Greenpeace, Inc., Greenpeace Fund, Inc., Red Warrior Society (also known as "Red Warrior Camp"), Cody Hall, and Krystal Two Bulls (collectively, "Defendants").

The specific allegations relate to Energy Transfer's construction of the Dakota Access Pipeline ("DAPL"), a 1,172-mile long underground crude oil pipeline that extends from the Bakken region of North Dakota to Patoka, Illinois. The pipeline was originally designed to carry 570,000 barrels per day of crude oil, which was later increased to 1.1 million barrels per day.[1] A portion of the DAPL Project required crossing federal flowage easements near the upper end of Lake Sakakawea north of the Missouri River in Williams County, North Dakota, and federally-owned lands at Lake Oahe in Morton County and Emmons County, North Dakota (Figure 1).[2]

1 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. ES-6.

2 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 1-1.

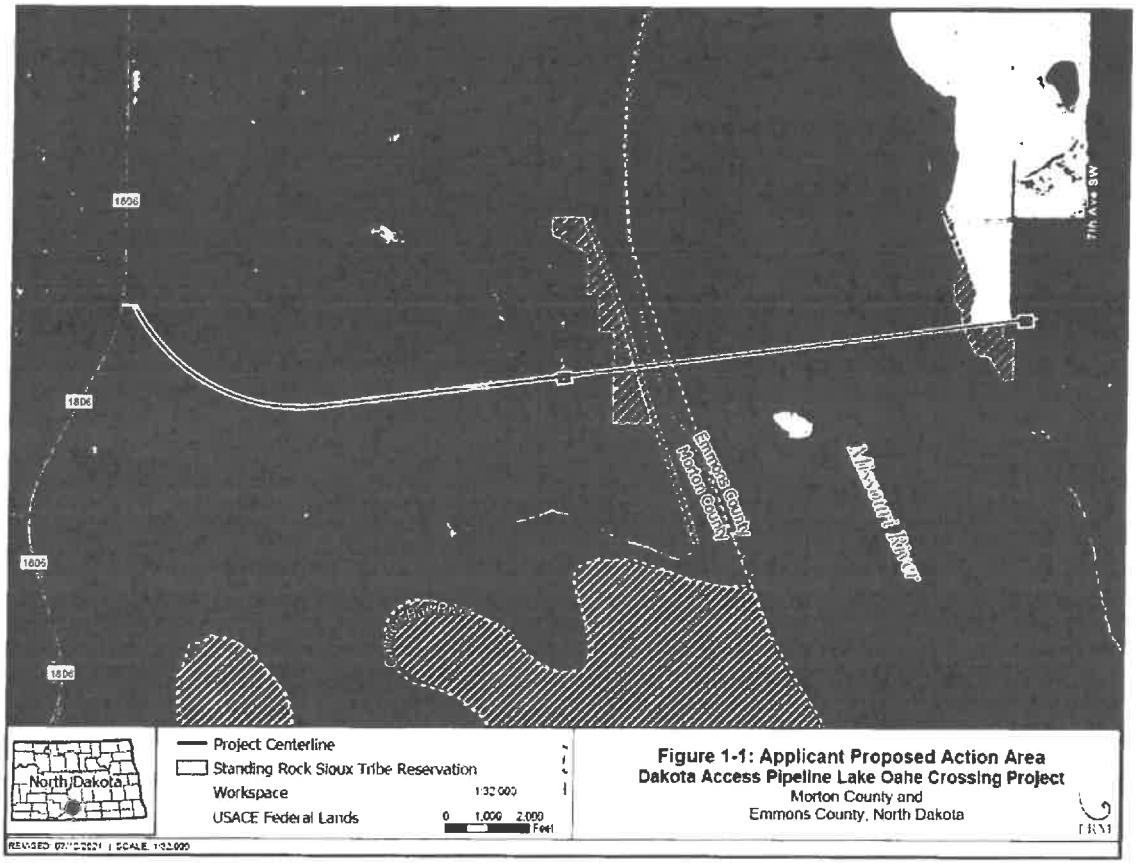

Figure 1. Applicant Proposed Action Area, DAPL Lake Oahe Crossing Project.[3]

Dakota Access constructed the pipeline across Lake Oahe and the areas under federal control using the HDD method.[4] In general, the HDD method allowed for pipeline construction beneath Lake Oahe without the excavation of a trench by drilling a hole far below conventional pipeline depths and pulling the pipeline through the pre-drilled hole.

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[3] U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 1-3.

[4] U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 1-2.

Dakota Access began construction of the pipeline across Lake Oahe in September 2016. Drilling activities occurred between December 1, 2016, and December 4, 2016, and between January 20, 2017, and March 22, 2017.[5] Operation of the pipeline began on June 1, 2017.[6]

In the current dispute, Energy Transfer is understood to allege that the Defendants "engaged in large-scale, intentional dissemination of misinformation and outright falsehoods regarding both Energy Transfer and Dakota Access, DAPL's environmental impact, and the companies' extensive efforts to address the concerns of local North Dakota communities about the pipeline."[7] Amended Appendix A, issued March 17, 2022, is understood to have summarized specific statements issued by Greenpeace that formed the basis of Energy Transfer's revised complaint.[8]

On or around September 30, 2023, Energy Transfer is understood to have withdrawn certain defamation claims, removing all challenged statements that touched on DAPL's risk to water supplies and the climate (including those relating to pipeline safety and leaks and spills).[9]

To the extent that Case No.: 30-2019-CV-00180 still involves a defamation claim and allegations that certain statements impacted refinancing in relation to the DAPL Project, we have been asked to comment on matters of HDD operations during construction and pipeline safety and integrity management.

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5 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 1-2.

6 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 1-6.

7 Case No. 30-2019-CV-00180, First Amended Complaint, p. 3.

8 Case No. 30-2019-CV-00180, Stipulation to Dismiss Charles Brown and Defendant and Withdraw Certain Allegations.

9 Greenpeace Defendants' Opposition to Plaintiffs' Second Motion to Modify the Special Master's Order Compelling Production of Pipeline Safety Documents, p. 4.

Opinions

Exponent was retained on behalf of Greenpeace International, Greenpeace, Inc., and the Greenpeace Fund, Inc. (collectively "Greenpeace"), to assess various issues related to Energy Transfer's construction of the DAPL.

We have reached the opinions listed below.

I, Brun Hilbert Jr., PhD, have reached the following opinions relating to HDD operations during construction of the DAPL under Lake Oahe.

1. To the extent that Energy Transfer alleges Greenpeace has stated there to be a non-zero risk associated with the construction of the DAPL, I am of a position that a statement of that nature does not constitute a "misinformation campaign" on the part of Greenpeace.
2. There is an inherent level of risk associated with the construction of any pipeline via the HDD method. By having drilling mud annulus pressures exceed design pressure limits during the construction of a pipeline path via the HDD method, there is an increased risk of the creation of pathways from the drilled borehole to the surface, river bottom, or lake bottom. Such created pathways could then provide a risk of migration of hydrocarbons should a breach in the pipeline occur.
3. During drilling of the pilot hole for DAPL, the drilling mud annulus pressures exceeded the design pressure limits of the soil. I found numerous errors and inconsistencies in the calculated soil maximum drilling mud pressure limits, which resulted in calculated pressure limits that were lower than the pressure limits originally calculated by GeoEngineers, Inc. ("GeoEngineers"). The drilling mud annulus pressures measured during actual pilot hole drilling exceeded both the original and corrected pressure limits.
4. A relatively large volume of drilling mud returns was reported as "nonexistent" during the HDD operations across Lake Oahe. Although Field Reports ("FR") by the HDD contractors and designers stated that no inadvertent returns ("IR") to surface were observed along the HDD route, there was no documentation produced to verify these conclusions. It is my opinion that given the volume of mud lost to the surrounding soil, efforts to verify the volume of mud lost and where it migrated should have been a priority.

5. A large hole in the drill pipe was discovered after the pilot hole was drilled. In my opinion, the cause of the drill pipe breach and its effects on the lost or nonexistent mud returns should have been investigated.

I, Robert D. Caligiuri, PhD, NAE, FASM, have reached the following opinions relating to pipeline safety and integrity management.

1. To the extent that Energy Transfer alleges Greenpeace has stated there to be a non-zero risk of a crude oil release during the operation of the DAPL, I am of a position that a statement of that nature does not constitute a "misinformation campaign" on the part of Greenpeace.
2. There is an inherent level of risk associated with the operation of any pipeline carrying hazardous material. While hazardous liquid pipeline operators are subject to federal regulations pursuant to the Code of Federal Regulations ("CFR") 49 CFR Part 195, even when an operator complies with all applicable regulations, the risk of release from a crude oil pipeline cannot be eliminated or reduced to zero.
3. Even with the application of a robust integrity management program, as required by 49 CFR Part 195, pipelines are subject to stable, time-independent, and time-dependent threats that can lead to loss of containment events during the lifetime of the pipeline.
4. My opinions in this regard are substantiated by statements in the public domain issued by the U.S. Army Corps of Engineers ("USACE") and in the context of U.S. District Court litigation between the Standing Rock Sioux Tribe ("SRST") (and additional Plaintiffs) and USACE and Dakota Access (collectively, the "USACE Defendants"). For example, I agree with the position of the USACE that "the transportation of crude oil by pipeline has inherent risks to the public and environment."

We hold these opinions to a reasonable degree of engineering certainty based on the information made available to date. Should additional information become available, we reserve the right to change, supplement, or modify these opinions.

Horizontal Directional Drilling Operations

I have reviewed the HDD performed by Michels Directional Crossings ("Michels") for the Lake Oahe crossing of the DAPL. These operations were documented in detail in FRs written by engineers from the design firm GeoEngineers.[10] I refer to GeoEngineers' FRs extensively below.

I have also reviewed design and plan reports for the Lake Oahe HDD crossing, relying primarily upon the following:

- GeoEngineers, Inc., Horizontal Directional Drill Design Services, Dakota Access Pipeline Project, Lake Oahe HDD, Morton and Emmons Counties, North Dakota, for, Dakota Access, LLC, File No. 18762-011-01, August 28, 2015[11] ("GeoEngineers report").
- Michels Directional Crossings, Directional Drill Plan of Procedure, Dakota, Dakota Access Pipeline Project, Lake Oahe HDD Crossing, Morton & Emmons Counties, North Dakota Installation of 30" Steel Pipe, August 18, 2015[12] ("Michels Drill Plan").

It is my understanding that Energy Transfer contracted GeoEngineers to design the Lake Oahe HDD crossing and Michels was contracted to perform the crossing construction operation. I have relied upon deposition testimony, memoranda, and emails related to the Oahe Lake HDD crossing.

The HDD Process

The HDD process was developed in conjunction with the oil and gas industry of onshore and offshore directional drilling techniques and tools.[13] Figure 2 is a schematic depiction of the HDD process employed by Michels for the Lake Oahe crossing. HDD drilling rigs were positioned on each bank of Lake Oahe. A typical large HDD rig used by Michels is shown in a photograph in Figure 3.[14] As depicted in Figure 2A, the rigs drill pilot holes at shallow angles from each bank towards each other. The directionally-drilled paths eventually turn from inclined to horizontal, at which time drilling continues until the paths intersect, the point of intersection is referred to by HDD operators as the "bit bump." The pilot hole is drilled by a rotating drill pipe with a drill

[10] Both Energy Transfer and GeoEngineers produced sets of the daily FRs in various ranges of ET and GeoEngineers Bates numbers. I cite to specific pages as necessary.

[11] ET-00350481 – 00350605.

[12] ET-00961640 – 00961819.

[13] U.S. Army Corps of Engineers. (1998). CPAR-GL-98-1, Installation of Pipelines Beneath Levees Using Horizontal Directional Drilling, Final Report, CPAR-GL-98-1, April.

[14] ET-00961752.

bit attached to the end. The drill bit has tungsten carbide teeth. The teeth cut and grind the soil into fragments. Drilling mud is pumped into the end of the drill pipe at the drilling rig site using large high-pressure pumps. The mud is pumped from a mud tank into the drill pipe and then through nozzles at the drill bit. The soil and any fragments are carried by the pressurized drilling mud from in front of the bit into the annular space between the drill pipe and the pilot hole; the mud flows back up to the drilling rig location, returns to an excavated pit, and then into a mud tank. Soil and fragments are filtered out of the mud before it flows into the mud tank. The volume of mud that is returned to the tank after filtration is referred to as "returns." The filtered mud is then pumped from the tank, or recirculated, again through drill pipe and bit.

After the pilot hole is completed, it is enlarged using a "reamer," so the larger diameter pipeline can be inserted, as depicted in Figure 2B. The reaming process may take several passes of increasingly larger diameter reamer tools until the pipeline diameter is achieved. Drilling mud may be pumped through the drill pipe and annulus to clean out any soil and fragments that could plug the pilot hole, which is a process called "swabbing," as depicted in Figure 2C. Finally, as depicted in Figure 2D, after the required hole diameter is reamed one more time, the pipeline is pulled from one bank to the other.

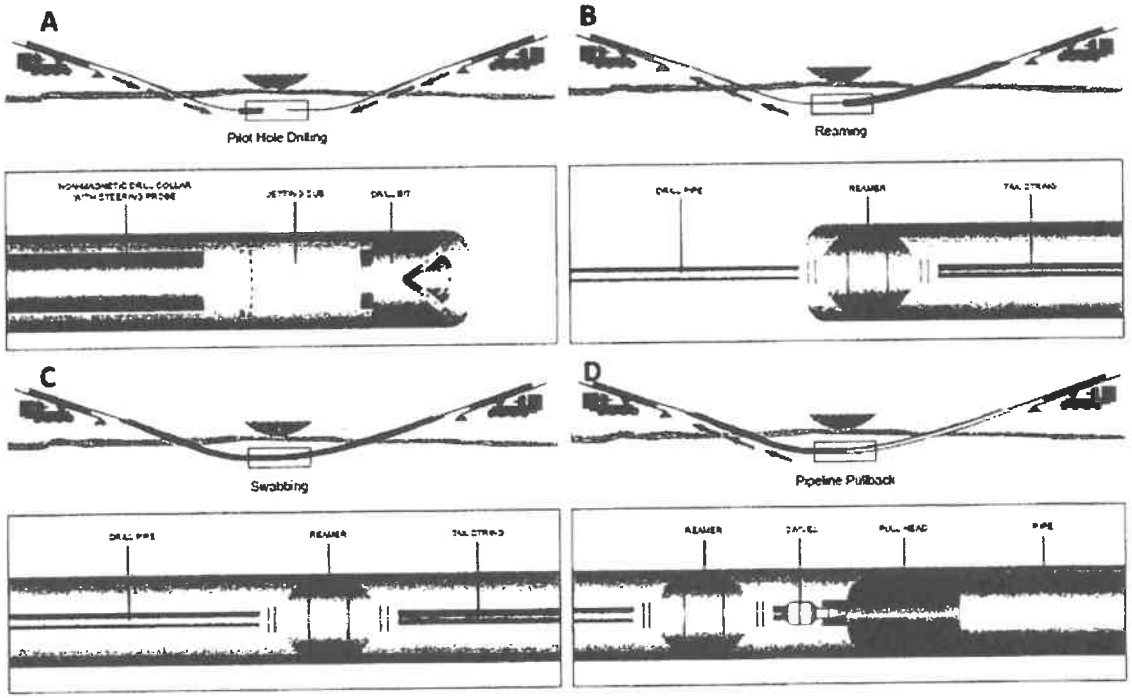

Figure 2. Schematic of a general HDD lake crossing.

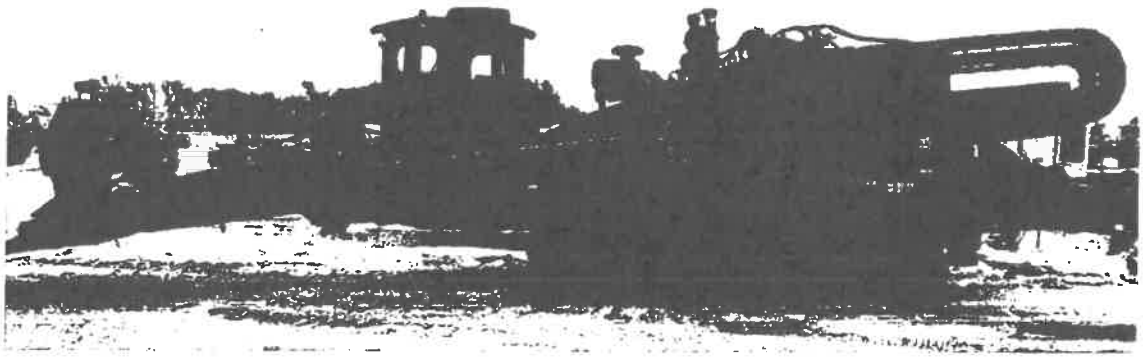

Figure 3. Typical large drilling rig for HDD.[15]

Frac-outs and Inadvertent Returns to Surface

As described in the previous section, during HDD operations pressurized mud is pumped into the drill pipe, through the bit, flows through the annulus carrying soil and fragments, and then back to the surface to a mud tank at the drilling rig site. Drilling mud is a viscous mixture of bentonite[16] and water, along with small percentages of additives.[17] The mud must be sufficiently viscous to carry drilled soil out of the pilot hole annulus. Normally a small fraction of the mud can permeate into the soil surrounding the pilot hole. If the mud pressure is large enough, however, the mud can flow at a high rate into the surrounding porous soil, which is called "lost returns." In hard soils, sufficiently high mud pressure can fracture the soil, which is referred to as a "frac-out."

Under certain geological conditions and high mud pressures, the drilling mud can flow to the surface, which is referred to as "IR to surface." Figure 4 is an illustration of HDD frac-out and IR to surface. Aside from excessive mud pressure that exceeds the strength of the soil, natural fractures, faults, or other high-permeability vertically-oriented zones can provide natural paths for mud to the surface.

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15 ET-00961752.

16 Bentonite is a powdered clay mineral that when mixed with water, forms a viscous muddy fluid.

17 Michels Drill Plan, Attachment, Additives product data sheets, ET-00961786 – 00961787.

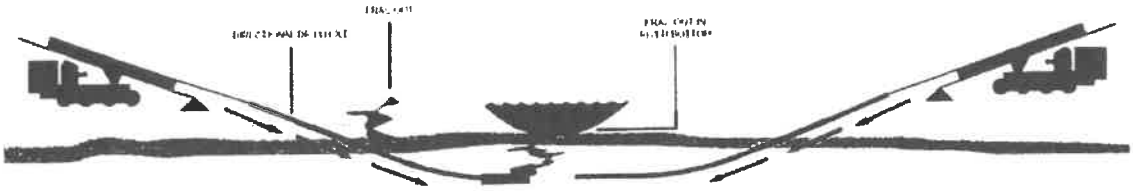

Figure 4. Illustration of frac-out and IRs to surface.

Engineering formulas to calculate the maximum drilling mud pressure to avoid lost returns and frac-out are provided in USACE guidelines for HDD operations.[18] These techniques were addressed in a technical paper by GeoEngineers in 2020[19] and included in the GeoEngineers report.

To prevent IR to surface during HDD operations, contingency plans should be implemented by the operator. Michels listed their contingency plans in the Michels Drill Plan.[20] Michels states in the Drill Plan:[21]

> Contingency Planning:
>
> Contingency planning is conducted in response to unforeseen events and conditions which could occur during normal operating sequences. **One of the most significant contingency plans has been developed for the mitigation and handling of inadvertent drilling fluid returns.** This is addressed in an independent document supplemental to this plan. Michels has developed an environmentally responsive set of contingency plans to be invoked for expeditious attention and handling of various incidence [*sic*] as they arise. In

[18] U.S. Army Corps of Engineers. (1998). Installation of Pipelines Beneath Levees Using Horizontal Directional Drilling, Report No. CPAR-GL-98, April.

[19] M. Miller and J. Robison. (2020). Formational Fluid Loss and Inadvertent Returns Risk in Sedimentary Rock HDD Construction, presented at NASTT 2018 No-Dig Conference, Palm Springs, CA, June.

[20] Michels Drill Plan, Attachment, Contingency plans for HDD crossings, ET-00961797 – 00961808.

[21] Michels Drill Plan, Attachment, Contingency plans for HDD crossings, ET-00961646.

> the unlikely event that the drilled borehole needs to be abandoned, the borehole will be filled with bentonite slurry and abandoned [emphasis added].

Michels lists contingency plans for drilling mud "pressure control."[22]

> Possible Condition: PRESSURE CONTROL
>
> Contingency: An important function of the drilling fluid is to prevent the uncontrolled entry into the hole of fluids from the formation penetrated by the bit. The pressure exerted by the column of drilling fluid (hydrostatic head) must be somewhat greater than the pressure exerted by the formation fluids to allow raising the drill string without any problems. Following are some mitigative measures taken to counteract pressures.
>
> 1. Avoid swabbing drill string (plunging the drill string back and forth with great force)
>
> 2. Keep the hole full of drill mud while pulling the drill pipe, especially when hydrostatic head is not much greater than formation pressure.

Michels describes response and control procedures in a separate document titled, Michels Contingency Plan, Inadvertent Release Prevention and Response Plan for Non-hazardous Drilling Fluid.[23]

> *Inadvertent Release Response & Control*
>
> The absence of an open bore-hole conduit or the presence of a major formation fracture can lead to partial and potentially total loss of drilling fluid circulation. While it is impossible to determine the precise nature of this type of fluid loss, it is possible to accurately monitor for it by watching for a significant difference between the rates the fluid is being pumped down-hole and the rate it returns to the surface. The drilling fluid pumping rate and the rate of drilling fluid return to the surface is constantly monitored by the driller while the drilling is progressing. **The driller will know immediately if an unusually high volume of drilling fluid is being lost down-hole, depending on the ground conditions encountered in the crossing and taking into account the volume used to fill the bore-hole**. Should the driller believe that circulation is being

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[22] Michels Drill Plan, Attachment, Contingency plans for HDD crossings, ET-00961806.

[23] ET-00999033 - 00999034.

completely lost he will implement the following procedures (Response time to be immediate):

1) **Temporarily cease drilling operations, including pump shut down;**
2) **Dispatch experienced observers as required to monitor the area in the vicinity of the crossing, for inadvertent returns of drilling fluid at the surface or in the river;**
3) Identify the position of the drill head in relation to the point of entry;
4) Re-start the pump and stroke the bore-hole up and down in stroke lengths up to 30 feet up to 6 times but no fewer than 2 in an effort to size the bore-hole annulus and re-open the circulation pathway [emphasis added].

While GeoEngineers reported in their FRs a significant number of instances of "nonexistent returns" to the mud pits and high annulus drilling mud pressures, the field responses to these events are not explicitly described in the FRs. It is not clear that drilling operations were temporarily ceased, or if and how evidence of surface expressions of drilling mud were investigated on the ground or in Lake Oahe along the HDD alignment.

Lake Oahe HDD Design Drilling Mud Annulus Pressure Limits

GeoEngineers computed the drilling mud maximum annulus pressure limits, as documented in the GeoEngineers report.[24] If the drilling mud annulus pressures exceed the pressure limits, then drilling mud can flow from the bore hole into the soil, resulting in a risk that drilling fluids may migrate to the surface or into Lake Oahe. Figure 5 (GeoEngineers report, Figure 2) and Figure 6 (GeoEngineers report, Figure 6) graphically depict the calculated annulus pressure limits as a function of the planned length (or station) along the pilot hole. Figure 5 represents annulus pressure limits expected during drilling the pilot hole and Figure 6 for reaming operations. The annulus pressure during the drilling and reaming operations were expected to be different. The calculated annulus pressure limits are represented by double green lines in the figures. They are identical in both figures because they depend only on the soil properties, and the pilot hole depth.

The data and plots in Figure 5 and Figure 6 were calculated by GeoEngineers for the design plans. The actual pressures are presented and discussed in the next section.

[24] GeoEngineers Report, APPENDIX A HADD Design Drawings and Calculations, ET-00350499 – 00350508.

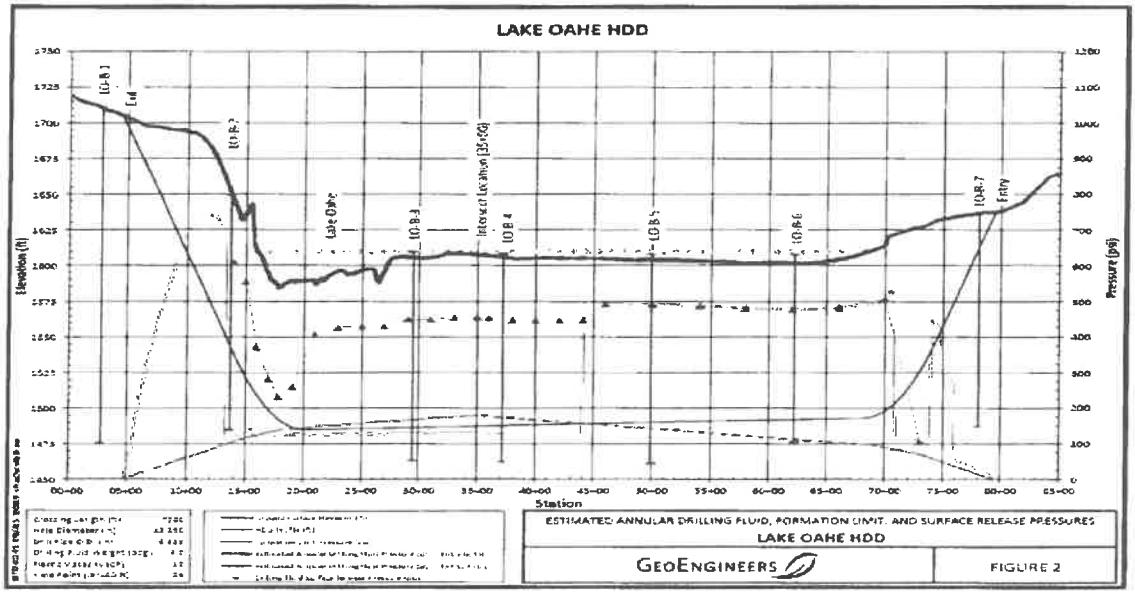

Figure 5. Lake Oahe HDD crossing and drilling mud annulus pressures for drilling the pilot hole.[25]

[25] ET-00350501.

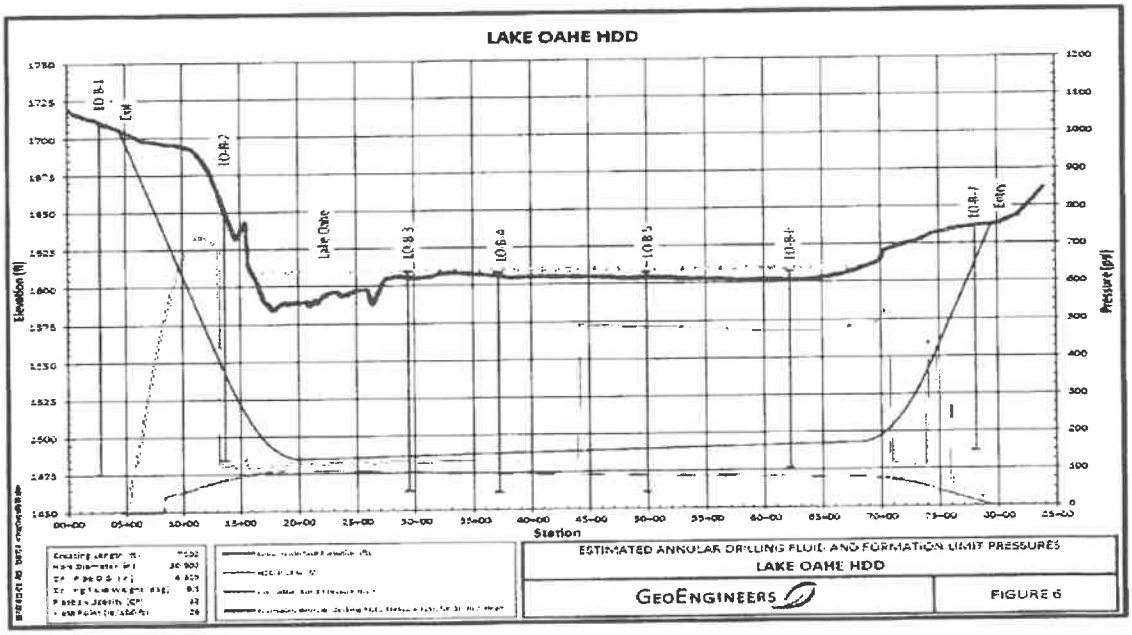

Figure 6. Lake Oahe HDD crossing and drilling mud annulus pressures for reaming.[25]

The pressure limits jump near station coordinate 44+00 due to a change in the soil properties. The soil is predominantly clay on the left (west) side of the pilot hole and sand on the right (east) side. The soil properties were determined by GeoEngineers from drilling borings and from tests on the cores recovered from the borings. In general, clay can fail at a lower pressure than sand. The green curves vary near the west and east drill sites due to shallower and more variable soil conditions. Deeper in the pilot hole, higher annulus mud pressures can be used because the soil pressure is higher there due to the weight of a longer soil column. The pressure limit on the left side of the pilot hole is approximately 130 pounds per square inch ("psi") and on the right side it is approximately 500 psi. If drilling mud annulus pressures exceed the limits, then there is a risk of lost returns and IR to surface.

As will be shown below, the annulus drilling mud pressure exceeded the pressure limits of the soil many times during both drilling and reaming operations. Moreover, there were many reports of lost or nonexistent drilling mud returns.

It should be noted that approximately 200 feet (ft) of the pilot holes at the west and east drilling sites were lined with 48-inch (in.) diameter steel conductor casing to prevent drilling mud loss to the shallow unconsolidated sediments. In addition, a 14-in. diameter steel centralizer casing was installed in the west pilot hole. GeoEngineers reported that the 48-in. conductor casing was

[25] ET-00350507.

driven by Michels into the west drilling site to a length of 159.7 ft prior to the first FR.[27] Similarly, GeoEngineers also reports that Michels installed the 14-in. centralizer casing to a length of 161 ft. GeoEngineers did not report data for 48-in. and 14-in. casing at the east drilling site. As I discuss below, on many days GeoEngineers reported that drilling fluids did not return through the 48-in. conductor and 14-in. centralizer casing; that is, the drilling fluid returns were "nonexistent."

Errors in the Determination of Lake Oahe HDD Pressure Limits

I have reviewed GeoEngineers' maximum drilling mud annulus pressure limits in the GeoEngineers report. GeoEngineers documented these calculations in Figures 4 and 5 of the GeoEngineers report.[28] I have found that there are errors in these calculations that resulted in over-estimations of the pressure limits. GeoEngineers calculated approximately 120 psi for clay and 227 psi for sand. I have calculated these pressure limits as 109.5 psi for clay and 111.3 psi for sand. Thus, GeoEngineers over-estimated the maximum drilling mud annulus pressures limits.

The errors stem from the calculation of the initial effective stress in the soil, σ'_0, at the depth of the planned pilot hole. GeoEngineers over-estimated the initial effective stresses. These calculations are documented in Task 1B of Figures 4 and 5 of the GeoEngineers report. These miscalculations appear to be simple arithmetical mistakes. GeoEngineers calculated initial effective stresses of 5,897.2 psf ("pounds per square foot") for clay and 2,313.3 psf for sand. The correct values are 4,363.35 psf for clay and 796.9 psf for sand. GeoEngineers does not provide the source of the shear modulus, G, used in Task 1C in Figure 4 and 5, in the calculation of the parameter Q_d, which is a dimensionless function of the initial effective stress, cohesion, friction angle, and shear modulus. Moreover, it appears that the values used for G should be multiplied by 1,000 to account for the units ksf ("thousand pounds per square foot") and psf. Regardless, as shown below, the actual drilling mud pressures measured during Michels' HDD operations frequently exceeded the miscalculated pressure limits. The calculations were non-conservative by using upper bound values for soil properties, even higher than hard clay and very dense sand. The soil properties vary along the hole and there are locations with weaker soils There are further discrepancies and unreferenced parameters in GeoEngineers' calculations, but these issues do not change the fact that they exceeded the soil strength.

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[27] GeoEngineers-00071604.

[28] GeoEngineers Report, ET-00350503 – 00350506.

Lake Oahe HDD Operations

Figure 7 is a project vicinity map of the Lake Oahe crossing. Figure 8 is a cross-sectional view of the pipeline path under Lake Oahe. The cross section shows the elevations of the lake surface (light blue), the ground surface and lake bottom elevations (light green), and the path of the pipeline (dark blue). The colored vertical bars represent the soil types determined by GeoEngineers' drilled core samples.[29] The planned pipeline crossing was between approximately 97 to 117 ft below the lake bottom. The planned length of the crossing was 7,528.8 ft. As noted in Figure 8, the location of the east bank was denoted as the "Proposed HDD Entry point" ("entry side") and the west bank was denoted as the "Proposed HDD Exit Point" ("exit side"). The proposed exit side was approximately 66 ft higher than the entry side, which affects the HDD process, because the exit side will have a "dry section" that is not filled with drilling mud.

[29] GeoEngineers Report, APPENDIX B Geotechnical Data Report, ET-00350535 – 00350604.

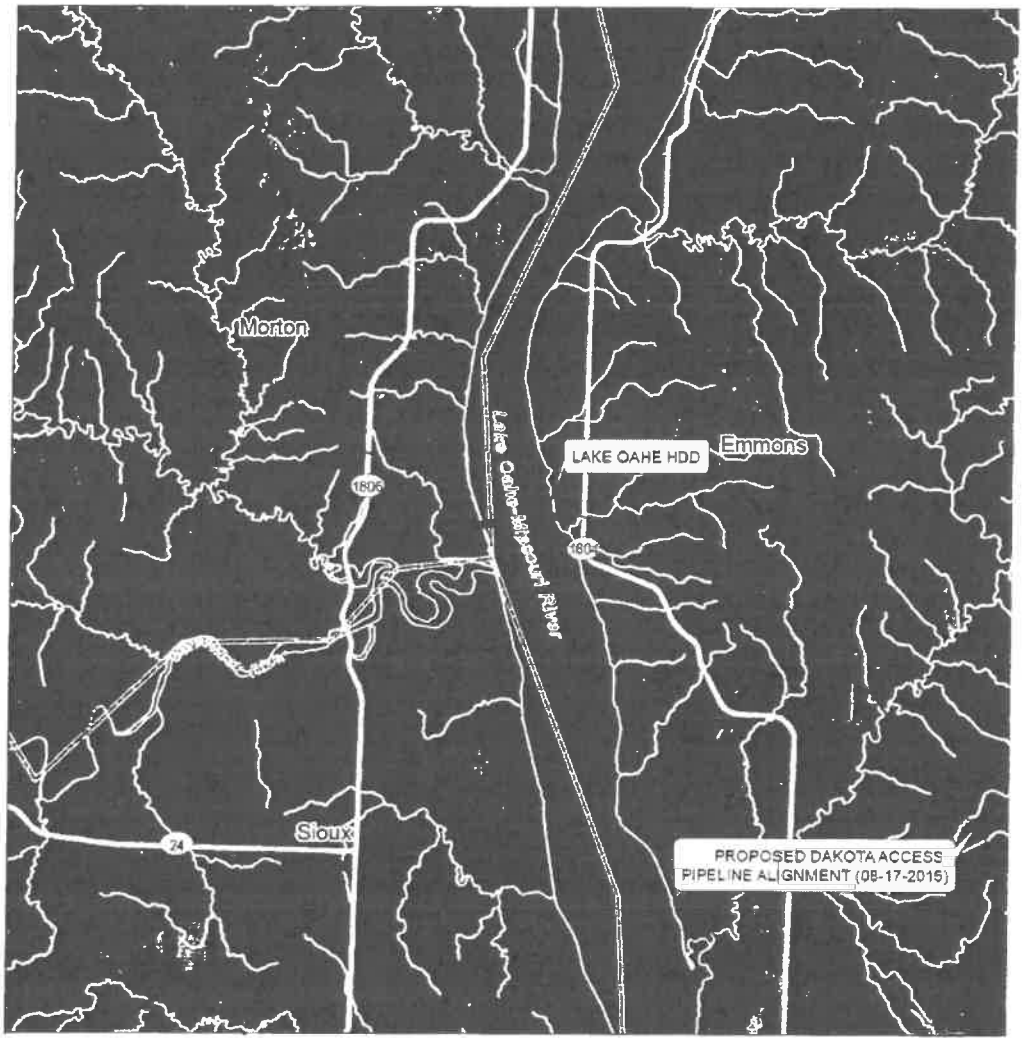

Figure 7. DAPL crossing at Lake Oahe.[30]

[30] ET-00350500.

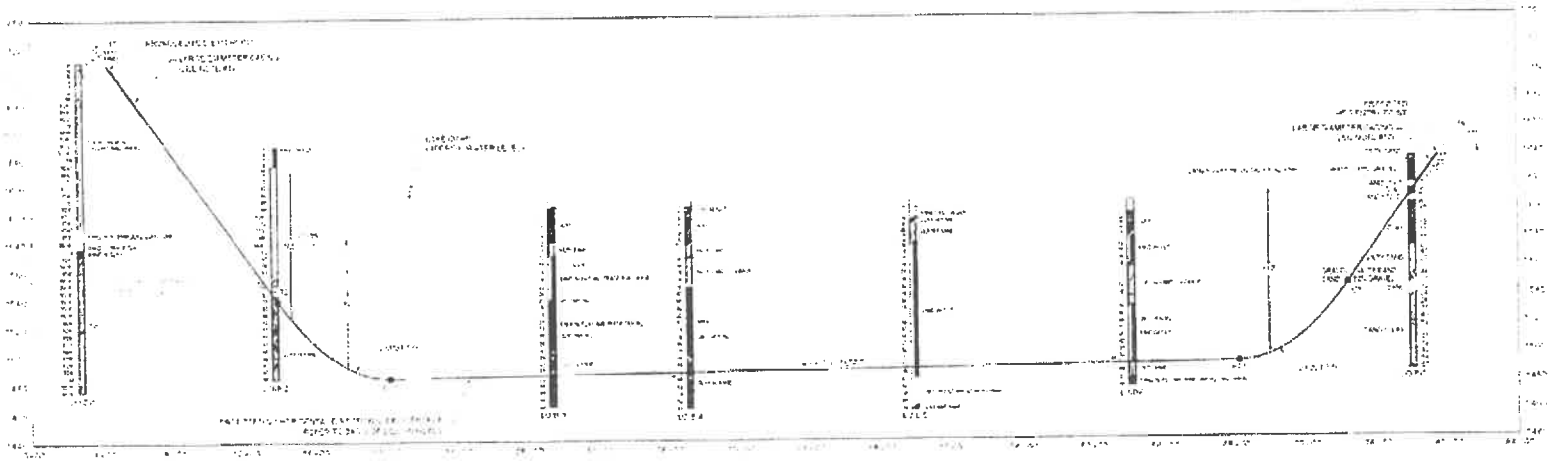

Figure 8. Scaled cross section of DAPL crossing at Lake Oahe.[31]

[31] ET-00350511.

GeoEngineers documented and reported Michels' daily HDD operations, activities, and progress at the Lake Oahe crossing in FRs starting January 21, 2017 (Report No. 1)[32] and ending March 20, 2017 (Report No. 92).[33] FRs from January 24 through February 15 were denoted by an A and B, with A for activities documenting the east bank of Lake Oahe and B for operations at the west bank. After February 15, the FRs were sequentially numbered, with Michels' HDD crew "day shift" and "night shift" documented in a sequentially numbered order.

Michels Drill Plan proposed that,

> Michels intends to install large diameter surface casing on both ends of the crossing. It is estimated that 120' of casing will be installed on the east side and 200' on the west side to mitigate the anticipated soft soil conditions. A Grundoram pneumatic hammer will drive the steel surface casing along the proposed bore path from the entry point to a depth where a more competent soil condition is encountered.[34]

I have inferred that the proposed large diameter casings were intended to mitigate the potential for IR to surface in the shallow unconsolidated soil sediments at the exit and entry locations. As reported by GeoEngineers (see below), 48-in. diameter steel pipe was used for the surface casings. GeoEngineers reported that the length of the surface casing on the west bank of the lake was 159.7 ft, but there was no specific length reported for the surface casing on the east bank. In addition, GeoEngineers reported that Michels installed a 14-in. diameter "centralizer casing" to a length of 161 ft on the west side, which was extracted on or about February 17, 2017, after the east and west side pilot holes intersected.

Michels drilled the pilot holes from the east and west sides with 12.625-in. tungsten carbide insert tri-cone drill bits and 7-5/8-in. drill pipe.

Drilling Mud Pressures and Nonexistent Returns

The annulus drilling mud pressures reported in GeoEngineers' FRs are plotted as red circles as a function of date and time in Figure 9. Also plotted in Figure 9 are the number of times (black squares) at which GeoEngineers reported that there were "nonexistent returns" in an FR. Annulus drilling mud pressures are plotted as a function of the pilot hole path in Figure 10. The pressure data were extracted from GeoEngineers' daily FRs. Annulus pressures were generally higher in the west side pilot hole.

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[32] GeoEngineers-00071604 – 00071613.

[33] ET-01059394 – 01059401.

[34] ET-00961641.

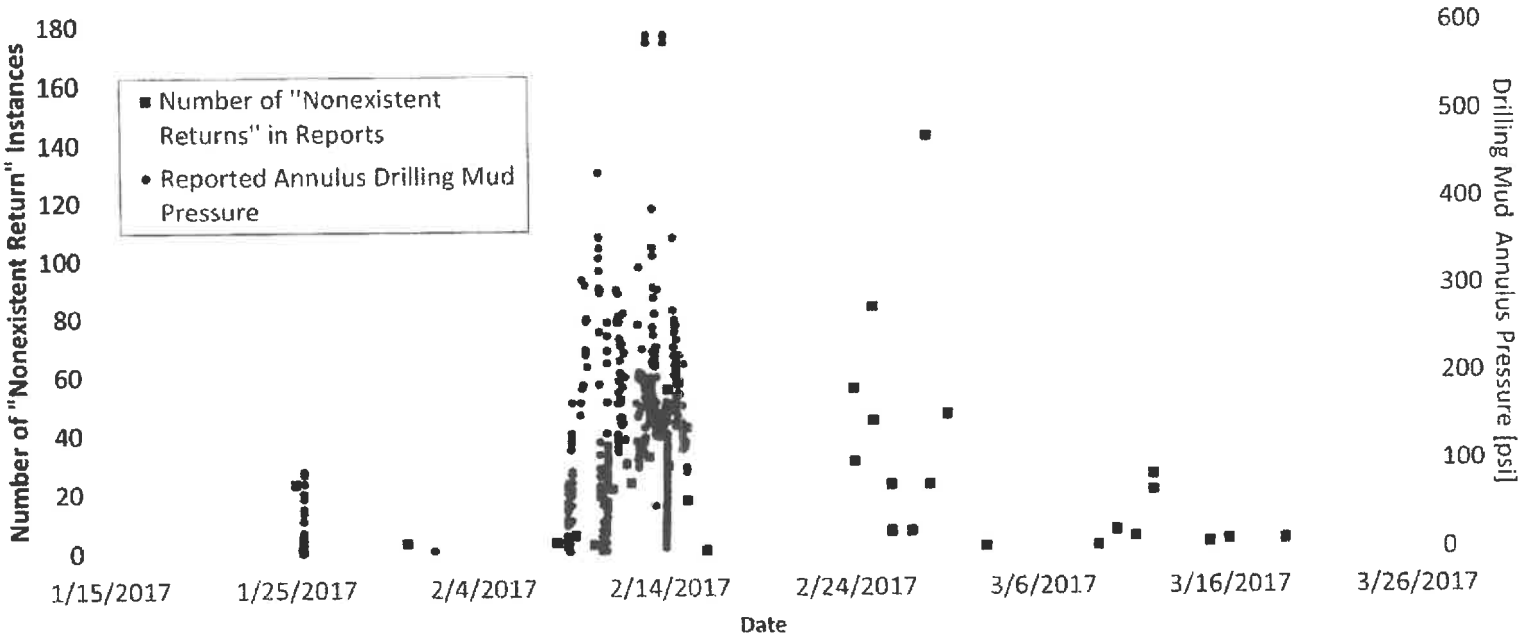


Figure 9. Lake Oahe HDD crossing drilling mud pressures and number of reports of nonexistent returns.

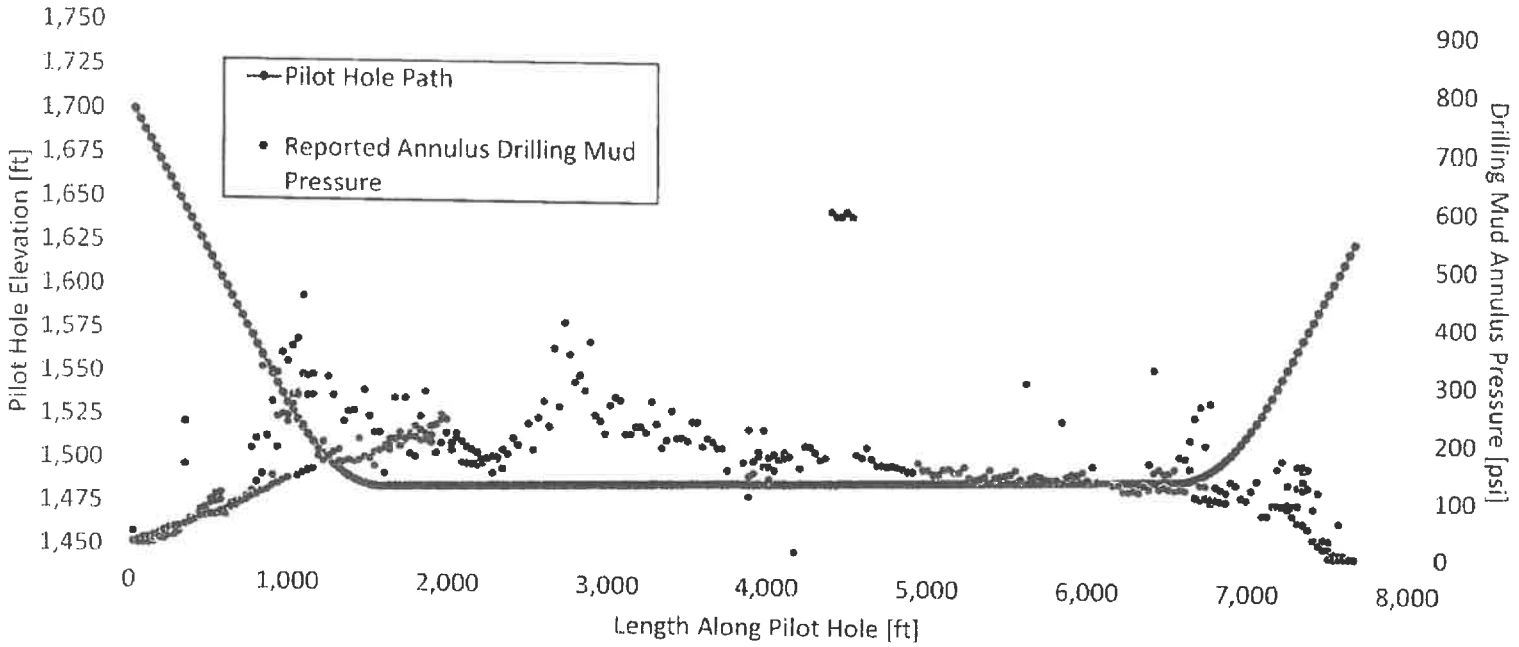


Figure 10. Lake Oahe HDD crossing and drilling mud annulus pressures.

It can be observed from Figure 9 and Figure 10 that there were a few very high drilling mud annulus mud pressures, which exceeded 500 psi. GeoEngineers reported pressures of 580 psi and 588 psi on February 13, 2017. However, GeoEngineers noted in FR-22 on February 13 at 13:52 that, "With approximately 15 feet of Joint #72 complete, Michels' exit side crew halts drilling the pilot hole eastward and begins replacing the 1,000 psi 'pop-off' pin with a 1,250 psi 'pop-off' pin after the 'pop-off' pin on the in-use exit side high pressure drilling fluid pump is engaged." On February 13 at 22:36 to 01:01 in FR-23B, GeoEngineers reported that, "The maximum observed downhole annular pressure reading observed was 183 pounds per square inch (psi) (excluding erroneous readings between 580 psi and 588 psi while jetting the pilot hole westward with Joint #99 through Joint #103)." There was only one other erroneous pressure reading reported by GeoEngineers, which occurred on February 12 in FR-21A, which stated:

> The maximum observed downhole annular pressure reading was 324 psi and drilling fluid returns continued to be maintained to the entry pit. Upon tripping in the east side jetting assembly westward with Joint #40, the downhole annular pressure reading started matching the inner pipe pressure and Ron Jenson informs me that a tube within the gyroscopic guidance tool may have failed; thereby, causing erroneous downhole annular pressure reading. Therefore, downhole annular pressure readings will no longer be recorded.[35]

The annulus pressures and notations of "nonexistent returns" can be correlated to the Michels' HDD operations as summarized in Table 1.

[35] GeoEngineers-00078115.

Table 1. Summary of 2017 HDD operations, annulus drilling mud pressures, and "nonexistent" returns

Date	Event	"Nonexistent" Mud Returns
January 25	Pilot hole was jetted on	23 instances
February 8–14	Drilled the pilot hole from the west and east sides	184 instances
February 15	Intersection of the west and east pilot holes	45 instances
February 16	Could not "restore rotation of the 7.625-inch drill pipe string downhole"	437 instances
February 25 –28	West side positive displacement mud motor 'donut' become 'lodged' downhole	
March 1 – 14	Reaming operations to enlarge the pilot hole diameter to 34 in. and then to 45 in. Four reaming passes were performed from east to west, and vice versa.	78 instances
March 15 – 17	Two 42-in. swab passes with a 40-in. barrel reamer	4 instances
March 18 – 20	30-in. pipeline pullback operations	3 instances

Additional relevant details are as follows.

- The pilot hole was jetted on January 25 (FRs 5A and 5B) with annulus pressures increasing to 91 psi. Mud returns were reported as "nonexistent" 23 times in the January 25 west and east side FRs. GeoEngineers reported in FR 5B that, "Drilling fluid returns were nonexistent through the installed 14-inch steel centralizer casing to the west side drilling fluid returns pit (exit pit) today with no reported surface indications of inadvertent drilling fluid returns along the HDD alignment." GeoEngineers provided no description or references to verify their statement of "no indications," or IR to the surface breaches, either on the ground surface or in Oahe Lake.
- Michels drilled the pilot hole from the west and east sides from February 8 – 14, The intersection of the west and east pilot holes occurred on February 15 at approximately 3,851.2 ft from the east side (westward) and 3,719.7 ft from the west side (eastward). From February 8 – 14, GeoEngineer's reported 184 instances of, "Drilling fluids returns nonexistent to the entry pit" or "Drilling fluid returns were nonexistent through the installed 14-inch steel centralizer

casing to the exit pit."[36] The highest drilling mud annulus pressure was reported as 358 psi on February 14 at 08:07 in FR-24B, which noted, "Joint #90 is complete (see attached pilot hole analyses for details). Drilling fluid returns continued to be nonexistent through the installed 14-inch steel centralizer casing to the exit pit, and the maximum observed downhole annular pressure reading was 358 psi."[37] This pressure exceeded GeoEngineers' maximum pressure limit shown in Figure 5. In fact, GeoEngineers reported "nonexistent returns" 88 times on February 14. Moreover, the 130-psi pressure limit was exceeded a significant number of times during drilling of the pilot hole.

- GeoEngineers' FRs on February 16 documented that Michels could not "restore rotation of the 7.625-inch drill pipe string downhole" from the east (exit) side pilot hole. On February 25, GeoEngineers reported, "the west side positive displacement mud motor 'donut' becoming 'lodged' downhole." This problem persisted until on or about February 28. In addition, GeoEngineers' report on February 25, stated:

  > Michels' entry (east) side crew subsequently rigged up with a weeper sub, and Michels commenced advancing the east side weeper sub westward through the previously jetted/drilled pilot hole (while simultaneously tripping out the two [2] previously installed west side weeper subs westward) in preparations of removing the suspected damaged joint of 7.625-inch drill pipe from the 7.625-inch drill pipe string downhole, advancing the referenced weeper sub approximately 417 feet westward prior to observing one (1) damaged joint of 7.625-inch drill pipe with an approximate 1-foot by 8-inch hole within the tube of the joint of 7.625-inch drill pipe.[38]

  A photograph of the drill pipe hole was included in FR-47, dated February 26 – 27, and is shown in Figure 11. From February 16 through February 28, GeoEngineers reported 437 "nonexistent returns" events. Again, however, GeoEngineers reported during this period that there were no reports of IR to surface.

- Michels performed reaming operations to enlarge the pilot hole diameter to 34-in. and then to 45-in. on or about March 1 through March 14 (FR-53 through

[36] FRs 17A through 26B.

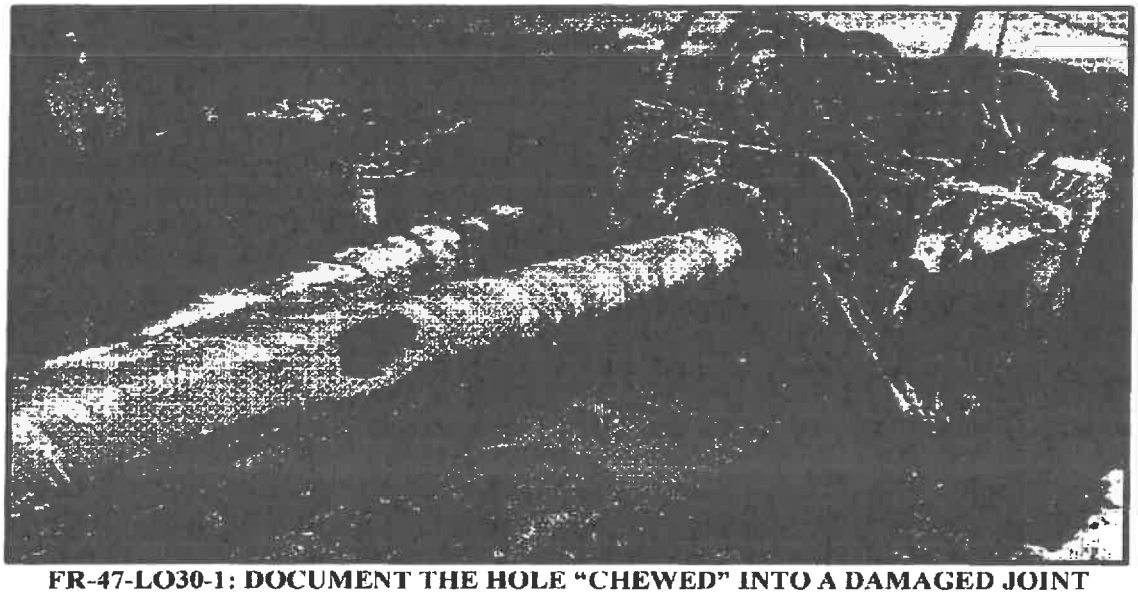
[37] ET-00640119.

[38] ET-00640185.

FR-79). Four reaming passes were performed from east to west, and vice versa. During that period, GeoEngineers reported that there were 78 instances of "nonexistent returns." There were few reported drilling mud annulus pressure readings.

- Michels performed two 42-in. swab passes with a 40-in. barrel reamer from March 15 through March 17. GeoEngineers reported four instances of "nonexistent returns." There were few reported drilling mud annulus pressure readings.
- Michels performed 30-in. pipeline pullback operations on or about March 18 through March 20. GeoEngineers reported three instances of "nonexistent returns" during this period. There were few reported drilling mud annulus pressure readings.

The foregoing shows that while GeoEngineers reported many instances of "nonexistent returns" during drilling of the pilot hole from January 21, 2017, through February 14, 2017, there were also many such reports of lost returns afterwards, during the efforts to free the stuck drill pipe, and during reaming, swabbing, and pipeline pulling operations.



FR-47-LO30-1: DOCUMENT THE HOLE "CHEWED" INTO A DAMAGED JOINT OF 7.625-INCH DRILL PIPE REMOVED FROM THE 7.625-INCH DRILL PIPE STRING DOWNHOLE (SIDE VIEW)

Figure 11. Hole in drill pipe from GeoEngineers FR-47.[39]

[39] ET-00640444.

GeoEngineers reported on numerous dates, "While drilling fluid was briefly pumped downhole, drilling fluid returns were nonexistent through the installed 14-inch steel centralizer casing to the west side drilling fluid returns pit (exit pit) today **with no reported surface indications of inadvertent drilling fluid returns along the HDD alignment**" (emphasis added).[40]

Similarly, GeoEngineers reported on numerous dates observations similar, if not identical, to the following:

> Drilling fluid returns continued to be nonexistent through the installed 14-inch steel centralizer casing to the west side drilling fluid returns pit (exit pit) today **with no reported surface indications of inadvertent drilling fluid returns along the HDD alignment.** [emphasis added] [41]
>
> Drilling fluid returns continued to be nonexistent through the installed 14-inch steel centralizer casing to the west side drilling fluid returns pit (exit pit) today **with no reported surface indications of inadvertent drilling fluid returns along the HDD alignment.** [emphasis added] [42]

The FRs do not include information on who performed the surface inspections for IR nor how GeoEngineers received this information at the time the daily FR narratives were written.

The GeoEngineers FRs document Michels' Lake Oahe HDD operations from January 21, 2017, through March 20, 2017. This constitutes 58 days of HDD operations. I summarized the timeline of HDD operations from my review of the FRs in Table 2.

Table 2. Summary of HDD timeline based on the GeoEngineers FRs

Date Range	Days	HDD Operation
January 21 – February 14	24	Drilling the pilot hole
February 14 – March 1	15	Restoring rotation and freeing the stuck ("lodged") drill pipe
March 1 – March 8	7	34-in. and 45-in. diameter reaming of the pilot hole
March 8 – March 18	10	40-in. pilot hole swabbing
March 18 – March 20	2	30-in. pipeline pullback
Total days of FRs	58	

[40] FR-7B, GeoEngineers-0076496.

[41] GeoEngineers-00071558.

[42] ET-01050953.

GeoEngineers summarized the daily incremental completion of HDD operations in tables attached to their FRs. The GeoEngineers final FR-92, dated March 20, 2017, list that Michels projected that the pipeline installation would take 49 days and that the "actual number of working days 'to date'" was 40.[43] It appears that GeoEngineers did not include delays associated with the non-productive time ("NPT") due to restoring rotation and freeing the lodged drill pipe.

Estimates of Lost or Nonexistent Drilling Mud Volumes

I have estimated that the volume of drilling mud during the periods in which mud returns to the exit (west) and entry (east) side drilling mud pits were reported by GeoEngineers to be "nonexistent" during pilot hole drilling was approximately 1.4 million gallons. I arrived at this estimate examining the GeoEngineers FRs from February 8 through February 15, 2017 (i.e., the period the pilot hole was drilled). GeoEngineers reports the time at which "nonexistent" returns began and when returns were restored to the entry and exit pits. GeoEngineers consistently reported that "Generally speaking, drilling fluid returns were maintained to the east side drilling fluid returns pit (entry pit) today without any inadvertent drilling fluid returns reported along the HDD alignment."[44] GeoEngineers did not estimate the volume of mud not returned to the pits, and they did not document how it was determined that no IRs to surface were verified. If the soil surrounding the pilot hole was impermeable, then all of the mud pumped into the drill string would be returned to a pit. In actual practice, however, the soils have permeability and a fraction of the circulated mud would be expected to be lost by migration to the surrounding soil and rock in the annulus. In the case of the Lake Oahe HDD crossing, the fraction of mud lost to the formations was, in my opinion, relatively high. It is not known where the lost drilling mud migrated. There is no documentation produced among that provided to me showing that the Lake Oahe water was sampled to determine if drilling mud had escaped to the lake bed.

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[43] ET-01049507.

[44] ET-00639983. This is one example, but GeoEngineers' terminology was consistent throughout the FRs.

Pipeline Safety and Integrity Management

Energy Transfer's Stance Regarding DAPL Safety and Integrity Management

I understand the original complaint in this dispute articulated Energy Transfer's belief that:

> Defendants [including Greenpeace] ... engaged in large-scale, intentional dissemination of misinformation and outright falsehoods regarding both Energy Transfer and Dakota Access, DAPL's environmental impact ...[45]

Specific alleged misrepresentations were identified by Energy Transfer and Dakota Access, including a subset of statements regarding the environmental impact of DAPL on water supplies.[46]

Notwithstanding the fact that on or around September 30, 2023, Energy Transfer withdrew certain defamation claims articulated in the complaint, including those relating to pipeline safety and leaks and spills, I understand certain Energy Transfer employees to be of a view that pipeline safety remains a contested issue in the current dispute.

For example, in the October 25, 2023, deposition of Mr. Steven Michael Futch, Vice-President of Interstate Engineering and Pipelines at Energy Transfer,[47] Mr. Futch provided the following testimony:[48]

> Q. And do you also consider one of those false narratives to be, you know, leaks to pipelines and the likelihood of leaks to pipelines?
>
> A. That's a complicated discussion because I'm an engineer by trade, and when I hear 'likelihood,' I go into calculation mode. But to the extent that someone would promote an idea that there is a high potential for a brand new pipeline to leak as a result of any of the pipeline integrity threats that are established by the industry, I would take exception to the potential – or the likelihood for those leaks to occur based on the mitigating factors that

[45] Case No. 30-2019-CV-00180, 1st Amended Complaint, ¶5.

[46] Case No. 30-2019-CV-00180, 1st Amended Complaint, ¶37.

[47] Deposition of Steven Michael Futch, October 25, 2023, p. 15.

[48] Deposition of Steven Michael Futch, October 25, 2023, p. 225.

we employed during the manufacturing of the materials for this project and the construction of this project.

Q. When you were talking about false narratives that you believe Greenpeace defendants were extending, did it include the statements about the likelihood of a pipeline leaking?

A. Yes.

In the November 17, 2023, deposition of Mr. Lee Hanse, retired Executive Vice President of Projects, Commercials, at Energy Transfer,[49] Mr. Hanse provided the following testimony:[50]

Q. Okay. So this statement, I – we talked about this earlier and it just didn't click in my head. 'The' – 'the pipeline will interfere with the people's water source.' That's part of the misinformation campaign?

A. Yes.

Consequently, based on the above, I am of an understanding that Energy Transfer is still of a view that certain statements made by Greenpeace in relation to the risk of the DAPL experiencing a leak constitute part of the alleged "misinformation campaign." The following paragraphs explain why I do not believe that to be the case.

Background

Pipelines are a critical aspect of modern infrastructure, playing a pivotal role in the transportation of gas, oil, and other hazardous materials. Ensuring the integrity and safety of pipelines is not only crucial for the uninterrupted supply of these vital resources, but also for the protection of the environment and public safety. The risks associated with pipeline operations can range from minor leaks to catastrophic failures that can cause environmental damage, economic loss, and in worst-case scenarios, loss of human life. These risks arise from various factors throughout the pipeline lifecycle, including design flaws, construction defects, incorrect operations, and external threats like natural disasters or human interference.

[49] Deposition of Lee Hanse, November 17, 2023, p. 9.

[50] Deposition of Lee Hanse, November 17, 2023, p. 101.

In the United States, the first statute regulating pipeline safety was the Natural Gas Pipeline Safety Act of 1968,[51] which Congress amended in 1976.[52] The regulations concerning pipeline safety, as well as the entities responsible for ensuring compliance with pipeline safety requirements, have evolved over time. Currently, the transportation of hazardous liquids,[53] including crude oil, by pipeline is governed by Part 195 of the CFR.[54] It includes the following discrete subparts:

- Subpart A – General
- Subpart B – Annual, Accident, and Safety-Related Condition Reporting
- Subpart C – Design Requirements
- Subpart D – Construction
- Subpart E – Pressure Testing
- Subpart F – Operation and Maintenance
- Subpart G – Qualification of Pipeline Personnel
- Subpart H – Corrosion Control

The subparts of 49 CFR Part 195 listed above incorporate, by reference, various consensus standards and guidance documents issued by the American Petroleum Institute ("API"), ASME, American Society for Nondestructive Testing, American Society for Testing and Materials ("ASTM"), and NACE International ("NACE"), among others.

The Pipeline and Hazardous Materials Safety Administration ("PHMSA"), created in 2004,[55] is the agency that ensures compliance with 49 CFR Part 195. Consistent with 49 CFR § 195.49 and § 195.50, operators are responsible for providing PHMSA with hazardous liquid pipeline facility annual reports and accident reports (as applicable). PHMSA undertakes various enforcement actions in response to identified conditions requiring operator attention. Those enforcement actions include corrective action orders, notices of probable violation, notices of amendment, warning letters, and notices of proposed safety orders.[56]

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51 Natural Gas Pipeline Safety Act of 1968, Pub. L No. 90-481, 82 Stats. 720 (1968).

52 Natural Gas Pipeline Safety Act Amendments of 1976, Pub. L No. 94-477, 90 Stat. 2073 (1976).

53 Defined by the CFR as petroleum, petroleum products, anhydrous ammonia, and ethanol or other non-petroleum fuel, including biofuel, which is flammable, toxic, or would be harmful to the environment if released in significant quantities.

54 Amdt. 195–22, 46 FR 38360, July 27, 1981, with subsequent amendments.

55 (2023). *Public Law 108-426, 108th Congress. An Act.* Retrieved January 8, 2024, from https://www.govinfo.gov/content/pkg/PLAW-108publ426/pdf/PLAW-108publ426.pdf.

56 PHMSA. (2023). *Summary of Enforcement Actions* [Online]. Retrieved January 3, 2024, from https://primis.phmsa.dot.gov/comm/reports/enforce/Actions_opid_0.html?nocache=8020.

Pipeline operators, including Energy Transfer, take steps to mitigate the inherent risks involved in transporting hazardous liquids, including crude oil. Risk mitigation strategies are multifaceted and include design, overall integrity management programs, standardized operations and maintenance procedures, and regular monitoring and inspection. In relation to this, 49 CFR Part 195 prescribes minimum requirements.

An operator is required by United States federal regulations to maintain an Integrity Management Program ("IMP") to ensure the safe, environmentally responsible, and reliable management of its pipeline system.[57] A successful IMP proactively addresses and resolves integrity concerns, to the extent possible, preventing incidents or failures before they occur. General information about pipeline IMPs can be found in the International Organization for Standardization ("ISO")[58] standard ISO 19345-1:2019,[59] which pertains to pipeline integrity management, as well as API 1160, the API standard concerning "Managing System Integrity for Hazardous Liquid Pipelines."[60]

An effective IMP generally adopts a comprehensive lifecycle approach, including risk assessment, inspection and monitoring, integrity assessment, mitigation, performance measurement and improvement, and data management. Figure 12 and Figure 13 depict representative pipeline IMP structures from ISO 19345-1 and API 1160.

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[57] 49 CFR § 195.452.

[58] ISO is a worldwide federation of national standards bodies. ISO standards and specifications are consensus documents developed by ISO technical committees.

[59] ISO 19345-1:2019, Petroleum and natural gas industry - Pipeline transportation systems - Pipeline integrity management specification - Part 1: Full-life cycle integrity management for onshore pipeline, First edition, May 2019.

[60] *API Recommended Practice 1160, Managing System Integrity for Hazardous Liquid Pipelines*, September 2013.

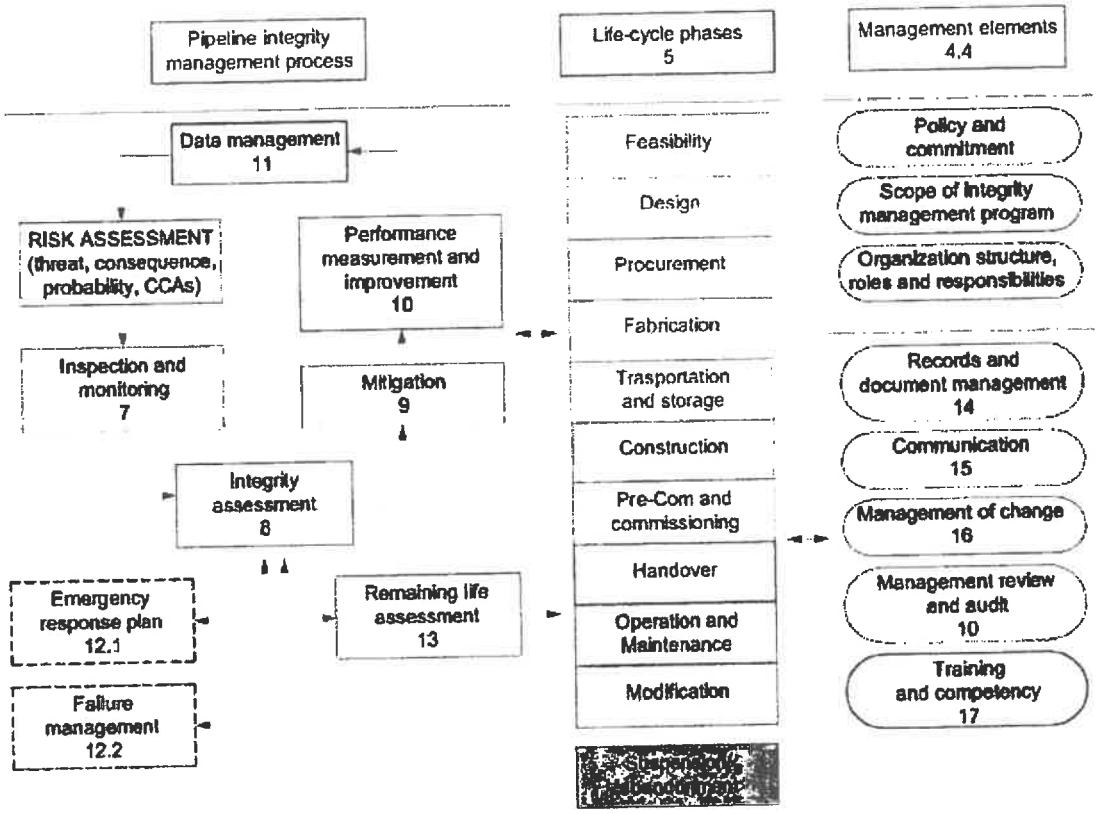

Figure 12. Representative pipeline IMP structure per ISO 19345-1:2019.[61]

61 ISO 19345-1:2019, Petroleum and natural gas industry - Pipeline transportation systems - Pipeline integrity management specification - Part 1: Full-life cycle integrity management for onshore pipeline, First edition, May 2019.

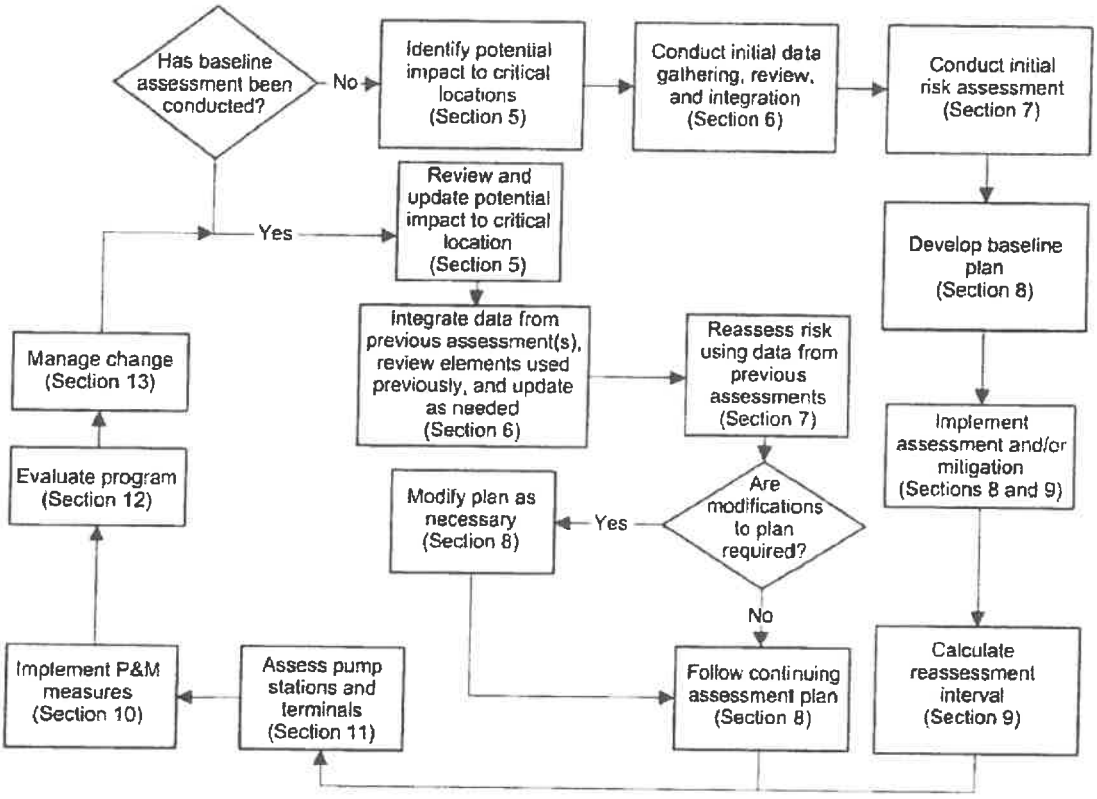

Figure 13. Representative process flow for a hazardous liquid IMP per API 1160.[62]

Risk mitigation strategies must necessarily be multifaceted since pipeline assets are subject to various threats throughout their lifetimes. Generally, pipeline threats are broken down into three threat categories: stable, time-independent, and time-dependent.[63] ASME B31.8S-2004[64] further distinguishes between nine primary threat conditions that fall into these categories. The threat categories and conditions are summarized in Table 3.

[62] *API Recommended Practice 1160, Managing System Integrity for Hazardous Liquid Pipelines*, September 2013.

[63] *ASME B31.8S-2014, Managing System Integrity of Gas Pipelines*, September 30, 2014.
P. Penney. (2019). *Commissioners Technical Committee Meeting* [Online]. Retrieved January 3, 2024, from https://www.cpuc.ca.gov/-/media/cpuc-website/transparency/commissioner-committees/finance-and-administration/2019/12-18-19-emerging-trends---pipeline-saftey-program.pdf.

[64] While the ASME B31.8S standard supplements B31.8, ASME Code for Pressure Piping, Gas Transmission and Distribution Piping Systems, the threats discussed within the standard are equally relevant for piping systems carrying hazardous liquids (e.g., crude oil).

Table 3. Summary of threat categories and conditions per ASME B31.8S "Managing System Integrity of Gas Pipelines"

Threat Category	Threat Condition
Stable	Manufacturing Defects
	Construction Defects
	Equipment (e.g., pressure regulation)
Time-independent	Third-party Damage
	Incorrect Operations
	Weather Related and Outside Force
Time-dependent	External Corrosion
	Internal Corrosion
	Stress Corrosion Cracking
	Fatigue[65]

There may be circumstances in which a pipeline or pipeline segment is susceptible to two or more of these threats. In those circumstances, the threats can occur coincidentally and independently from one another; alternatively, two or more threats can "interact," resulting in damage that is more significant than would occur from an individual threat.

Although risk can be mitigated, it cannot be eliminated from any process involving generation, transportation, or storage of hazardous material. As described in a 2005 article by Muhlbauer, even though pipeline transportation safety is generally better than other alternatives, "failures are a real possibility."[66] Given that the risk of a pipeline failure can never completely be reduced to zero, federal regulations provide operators with minimum requirements to ensure threats are mitigated against, in part, by the application of robust assessment and monitoring methodologies. Examples of minimum requirements established to help accomplish this include:

- 49 CFR § 195.416 and § 195.452 requiring operators to perform initial assessments of their pipeline segments as well as periodic assessments of the same pipeline

[65] Fatigue is not listed in ASME B31.8S, although it is now generally accepted as a time-dependent threat to buried pipelines.

[66] W. K. Muhlbauer. (2005). *Lessons Learned from Pipeline Risk Assessment* [Online]. Retrieved January 3, 2024, from http://www.pipelinerisk.com/pdf/LessonsLearned_2005_08_22.pdf.

segments on a set frequency to ensure public safety or protection of the environment.

- Provision that the above-mentioned assessments be conducted by in-line inspection, pressure test, external corrosion direct assessment or "other technology" (as defined by 49 CFR § 195.416(d), provided there is prior notification to the Office of Pipeline Safety).
- 49 CFR § 195.557 requiring that buried pipelines be coated as a means of external corrosion control.
- 49 CFR § 195.563 requiring that buried pipelines constructed, relocated, replaced, or otherwise changed after the applicable dates as defined in 49 CFR § 195.401(c) have cathodic protection.
- 49 CFR § 195.573 requiring operators monitor external corrosion control.

Regular assessments and monitoring can often identify time dependent threats such as external corrosion. Nevertheless, rates of damage accumulation due to time dependent threats can vary. Additionally, there is a non-zero probability of damage from time-independent threats such as third-party damage (e.g., gouges, scrapes, and punctures from unauthorized digging in pipeline rights of way) and weather-related and outside force events (e.g., washouts, landslides, earthquakes, fishing operations), which can occur between successive integrity inspections.[67]

Hazardous Liquid Pipeline Accidents

Per 49 CFR § 195.50, operators are required to complete accident reports for failures in hazardous liquid pipeline systems wherein the incidents meet certain criteria, as follows:[68]

> (a) Explosion or fire not intentionally set by the operator.
>
> (b) Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels (0.8 cubic meters) resulting from a pipeline maintenance activity if the release is:
>
> (1) Not otherwise reportable under this section;
>
> (2) Not one described in § 195.52(a)(4);

[67] Transportation Research Board. (2004). *Transmission Pipelines and Land Use: A Risk-Informed Approach – Special Report 281*, The National Academies, Washington, DC. Retrieved January 3, 2024, from https://doi.org/10.17226/11046.

[68] 49 CFR § 195.50, as amended January 8, 2002.

(3) Confined to company property or pipeline right-of-way; and

(4) Cleaned up promptly;

(c) Death of any person;

(d) Personal injury necessitating hospitalization;

(e) Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000.

Operators provide details about hazardous liquid pipeline accidents by submitting PHMSA Form 7000–1 to the regulatory authority. PHMSA Form 7000–1 data are publicly-available online[69] for submissions dating from 1986 to the present. Review of PHMSA Form 7000–1 data provides valuable insights into those hazardous liquid pipelines that have experienced a reportable failure as defined in 49 CFR § 195.50.

Hovey and Farmer's 1993 literature review of PHMSA Form 7000–1 submissions for 1982 through 1991 calculated hazardous liquid pipeline failure rates in accordance with an established Nuclear Regulatory Commission methodology, summarized in Table 4.[70]

Table 4. Hazardous liquid pipeline failure rates by cause per 1993 Hovey and Farmer article[71]

Accident Cause	10-year Total Accidents	Failures per 1,000 miles per year
Outside force	581	0.271
Corrosion	523	0.244
Other	496	0.232
Operator error	107	0.050
Pipe defect	98	0.046
Weld defect	54	0.025
Relief equipment	42	0.020
All causes	1,901	0.888

Hovey and Farmer's analysis further demonstrated, for example, that a 100-mile hazardous liquid pipeline with a 30-year life would have a 93% probability of a failure during its lifetime.

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69 Pipeline and Hazardous Materials Safety Administration. (2023). *Distribution, Transmission & Gathering, LNG, and Liquid Accident and Incident Data (Hazardous Liquid Accident Data - January 2010 to present)* [Online]. Retrieved January 1, 2024, from https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-accident-and-incident-data.

70 D. J. Hovey and E. J. Farmer, Pipeline accident, failure probability determined from historical data, *Oil & Gas Journal*, **91**, 104-107 (1993).

71 D. J. Hovey and E. J. Farmer, Pipeline accident, failure probability determined from historical data, *Oil & Gas Journal*, **91**, 104-107 (1993).

It should be noted that in arriving at this figure, Hovey and Farmer adopted a methodological approach assuming stable conditions (i.e., one that discounted start-up failures).

Despite improvements in fabrication practices and monitoring technologies, PHMSA Form 7000–1 data from the last decade show a similarly non-negligible risk of a hazardous liquid pipeline experiencing an accident, as defined by 49 CFR § 195.50.

Figure 14 and Figure 15 display the yearly volume of crude oil released per year and the count of reported accidents per year based on PHMSA Form 7000–1 submissions between 2010 and 2023. The plotted data include accidents reported by 217 different operators. On average, on an annual basis, hazardous liquid pipeline accidents result in crude oil release events of more than 25,000 barrels onshore. From 2010 to 2023, there were an average of 165 onshore crude oil pipeline accidents per year.

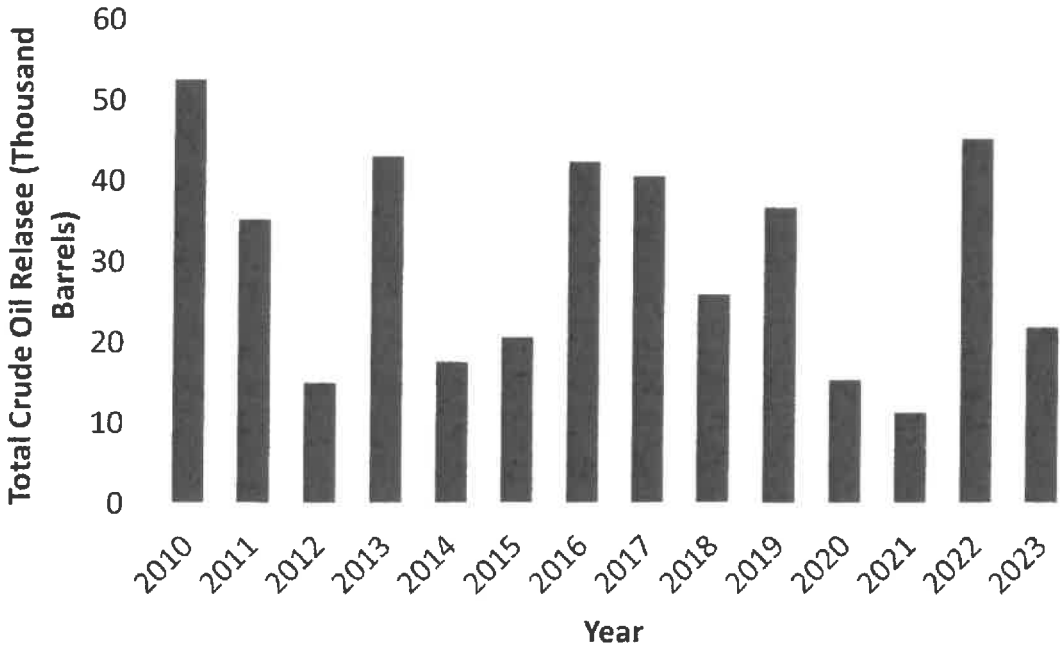

Figure 14. Volume of crude oil released per year (2010 – 2023) due to onshore pipeline accidents (both underground and above ground).

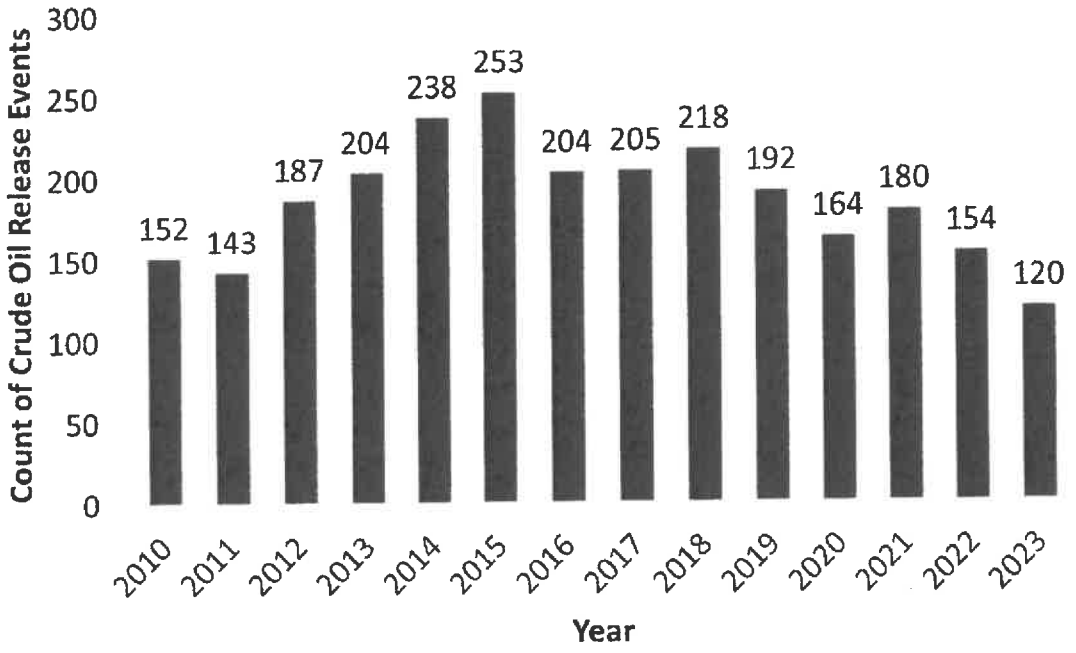

Figure 15. Number of onshore crude oil pipeline accidents per year (2010 – 2023) (both underground and above ground).

PHMSA Form 7000-1 submission data from 2010 to 2023 were analyzed to interrogate the cause or causes of hazardous liquid pipeline accidents. Figure 16 shows a breakdown of crude oil pipeline accident causes (for pipelines installed in 2010 and later) for the subject time period. The primary causes of crude oil pipeline accidents for pipelines installed after 2010 have been equipment failure, corrosion, and incorrect operation.

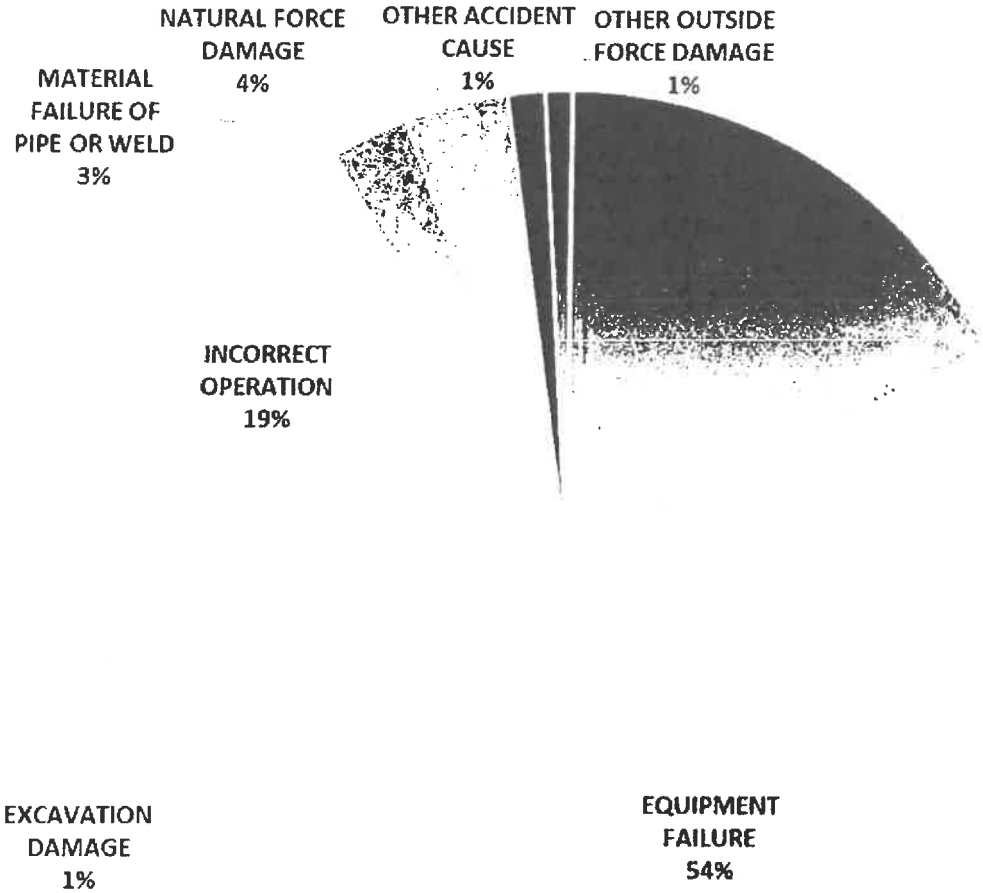

Figure 16. Distribution of causes for onshore crude oil pipeline accidents for pipelines installed in 2010 or later.

PHMSA Form 7000–1 submission data from 2010 to 2023 can also be analyzed to determine the age distribution of crude oil pipelines at the time of the accidents. Figure 17 illustrates this distribution. The data reveal that more than half of the reported crude oil pipeline accidents are associated with pipelines that are less than 10 years old. Closer examination of the pipelines within the 0 – 10 year age range uncovers that about 50% of these pipelines were operational for less than two years at the time of the accident (Figure 18). These data clearly indicate that the risk of a leak event on newer pipelines (i.e., those less than two-years old) is still non-zero.

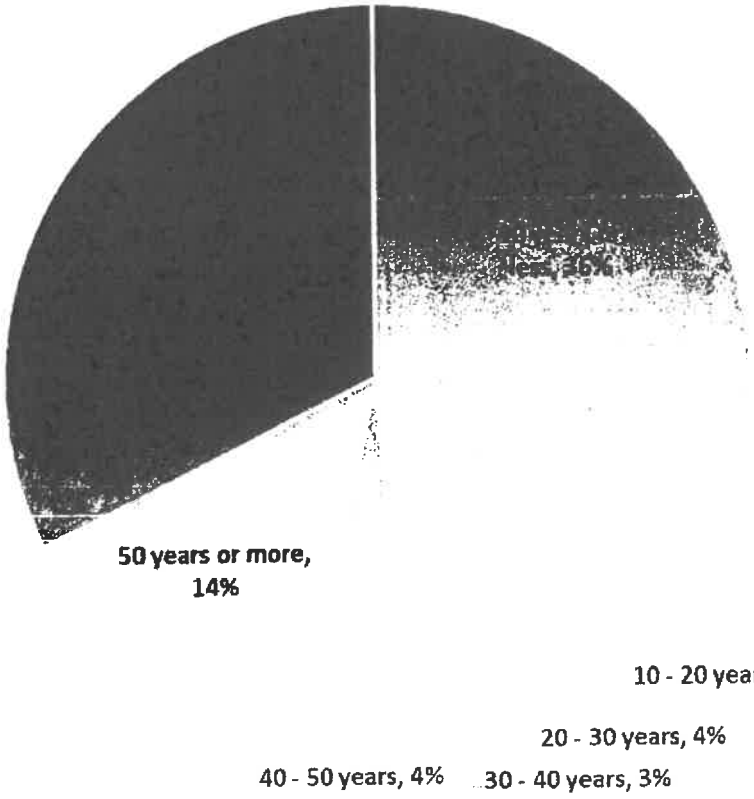

Figure 17. Distribution of years elapsed between year of crude oil pipeline installation and accident.

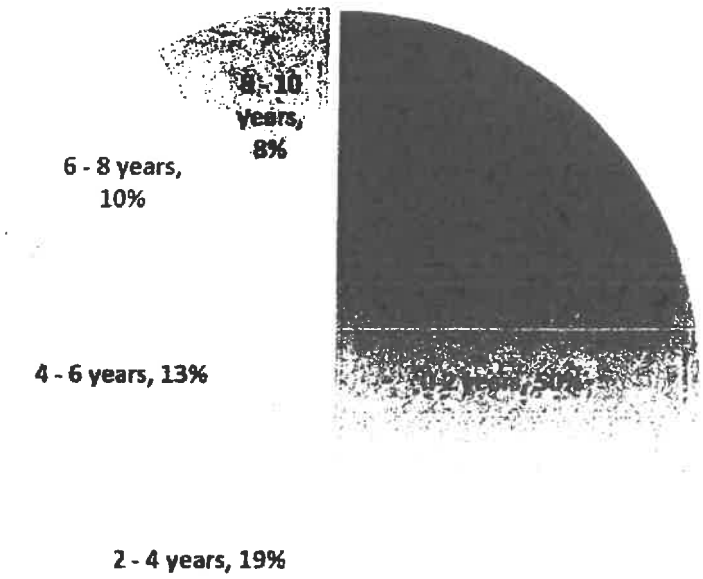

Figure 18. Crude oil pipelines experiencing an accident within the first 10 years following installation—distribution of years elapsed between year of crude oil pipeline installation and accident.

To better inform one's understanding of the factors leading to the failure of relatively new (i.e., under 15 years) hazardous liquid pipelines, one can also consider the specifics of certain recent hazardous liquid pipeline accidents.

- The Keystone pipeline, a 2,687-mile crude oil pipeline system, experienced a failure near Washington, Kansas, on December 7, 2022.[72] The failure occurred on the Cushing Extension, a 288-mile segment completed in 2011. The failure, identified due to a leak detection alarm and emergency-line trip alarm, resulted in the pipeline being shut down. The initial estimated loss volume was approximately 14,000 barrels. The failure has since been attributed to a combination of factors, including bending stress on the pipe and a weld flaw at a

[72] PHMSA. (2022). *Re: CPF No. 3-2022-074-CAO* [Online]. Retrieved January 3, 2024, from https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-12/TC%20Oil%20CAO.3-2022-074.pdf. This incident is also listed in the PHMSA Form 7000–1 submission data as report number 20230004.

pipe-to-fitting girth weld completed during fabrication.[73] TC Energy, the operator of the Keystone pipeline, provided the following statement about the cause of the failure: "Although welding inspection and testing were conducted within applicable codes and standards, the weld flaw led to a crack that propagated over time as a result of bending stress fatigue, eventually leading to an instantaneous rupture. [74]

- A crude oil pipeline operated by Plains Pipeline, L.P., in Dimmit, Texas, experienced a failure on October 13, 2021.[75] The segment in question was installed in 2019. The estimated loss volume was approximately 593 barrels. The accident was attributed to material failure of the pipe or weld appearing consistent with hydrogen cracking that likely occurred at or near the time of welding.
- A crude oil pipeline operated by Epic Consolidated Operations LLC in Edwards, Texas, experienced a failure on August 29, 2019.[76] The segment in question was installed in 2019. The estimated loss volume was approximately 10,460 barrels. The failure, which occurred due to a mechanical puncture, was the result of third-party excavation damage.

As evidenced by the above data and examples, a certain level of risk is inevitable when it comes to pipeline operations, even with newer assets.

Draft Environmental Impact Statement

On July 25, 2016, the USACE Omaha District issued an Environmental Assessment ("EA")[77] to evaluate the potential effects of granting permission under Section 14 of the Rivers and Harbors Act of 1899 to Dakota Access for the portion of the DAPL Project crossing deferral flowage easements in North Dakota.[78]

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73 OGJ Editors, TC Energy: Bending stress, weld flaw caused Keystone oil spill, *Oil & Gas Journal* **121**, (2023).

74 OGJ Editors, TC Energy: Bending stress, weld flaw caused Keystone oil spill, *Oil & Gas Journal* **121**, (2023).

75 Listed in the PHMSA Form 7000–1 submission data as report number 20210321.

76 Listed in the PHMSA Form 7000–1 submission data as report number 20190275.

77 ET-01264850.

78 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. ES-1.

As a result of legal challenges, in 2017, the USACE was ordered to draft an Environmental Impact Statement ("EIS") focusing on whether a new easement can be issued under the Mineral Leasing Act for the DAPL Project to cross USACE-managed federal lands at Lake Oahe.[79]

The draft EIS, which is now publicly-available in draft form,[80] comprises numerous sections, including Section 3 dedicated to "affected environment, impacts, and mitigation." Section 3.1 focuses on reliability and safety, including matters related to pipeline safety, pipeline design, the Dakota Access and Energy Transfer safety record, release frequency analysis, project background, and impacts and mitigation.[81]

The opening paragraph of Section 3.1 "Reliability and Safety" reads as follows:

> The transportation of crude oil by pipeline has inherent risks to the public and environment. The greatest hazards are 1) a major pipeline rupture, resulting in considerable contamination of the environment, and 2) a fire or explosion resulting from a major pipeline rupture.[82]

The "Reliability and Safety" section of the EIS includes an "expanded analysis of safety matters" identified by SRST's review of the original 2016 EA prepared by USACE.[83] It includes a discussion of the safety record of Dakota Access and Energy Transfer as well as a release frequency analysis.

In relation to the safety record, the EIS references findings associated with PHMSA's inspection of pre-construction, construction, and operation of the DAPL. As part of the release frequency analysis described in the EIS, the estimated likelihood of a release along the Lake Oahe crossing

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79 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 1-7.

80 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/.

81 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, pp. i-v.

82 U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 3-5.

83 U.S. Army Corps of Engineers (Omaha District). (2016). *Environmental Assessment Dakota Access Pipeline Project Crossings of Flowage Easements and Federal Lands*, July 2016.

pipeline segment, categorized by release cause, was calculated. Figure 19 summarizes the subject data in terms of return periods (or the estimated number of years between events).

Cause	Detailed Size Category (bbls)					
	< 50 bbls	50 bbls > and < 100 bbls	100 bbls and < 1,000 bbls	1,000 bbls > and < 10,000 bbls	> 10,000 bbls	Total
Corrosion	1 in 3,280 years	1 in 53,238 years	1 in 25,793 years	1 in 80,902 years	-	1 in 2,668 years
Natural forces	1 in 49,182 years	1 in 924,473 years	1 in 470,625 years	1 in 708,061 years	1 in 428,057 years	1 in 36,647 years
Excavation damage	1 in 39,797 years	1 in 77,470 years	1 in 21,588 years	1 in 81,805 years	1 in 1,066,186 years	1 in 10,254 years
Other outside force damage	1 in 44,763 years	1 in 269,392 years	1 in 132,030 years	1 in 233,925 years	-	1 in 26,385 years
Material and/or weld failures	1 in 13,820 years	1 in 164,032 years	1 in 72,675 years	1 in 63,914 years	1 in 332,783 years	1 in 9,020 years
Equipment failure	1 in 4,843 years	1 in 689,512 years	1 in 147,593 years	1 in 427,125 years	-	1 in 4,607 years
Incorrect operation	1 in 15,365 years	1 in 176,871 years	1 in 116,903 years	1 in 226,175 years	-	1 in 11,946 years
Other [a]	1 in 48,557 years	1 in 365,649 years	1 in 497,358 years	-	-	1 in 39,464 years
Overall	1 in 1,357 years	1 in 19,076 years	1 in 7,943 years	1 in 18,982 years	1 in 159,260 years	1 in 1,026 years
Overall for WCD	**1 in 67,827 years**	**1 in 953,818 years**	**1 in 397,166 years**	**1 in 949,116 years**	**1 in 7,963,024 years**	**1 in 51,312 years**

Figure 19. Draft 2023 EIS table summarizing Lake Oahe segment estimated return period by release volume.[84]

The analysis in the draft EIS concludes that the total release frequency of the 1.03-mile pipeline segment from all causes is 0.000974 releases per year, which is equivalent to a return period of 1,026 years, with catastrophic releases (greater than 10,000 barrels) being the most uncommon (having an occurrence frequency of 1 in 159,260 years). While the release frequency is very low, the critical fact is that it is non-zero; thus, some level of risk exists.

[84] U.S. Army Corps of Engineers (Omaha District). (2023). *Dakota Access Pipeline Lake Oahe crossing project draft environmental impact statement* [Online]. Retrieved January 4, 2024, from https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/24050/, p. 3-24.

Case 1:16-cv-01534-JEB

Pipeline safety in relation to the DAPL was also a topic at issue in U.S. District Court litigation between the SRST (and additional Plaintiffs) and the USACE Defendants.

A memorandum opinion in Case 1:16-cv-01534-JEB filed in June 2017 by U.S. District Judge James Boasberg states as follows:

> The MLA [Mineral Leasing Act] expressly contemplates that agencies may grant rights-of-way through federal lands for pipelines used to transport 'oil, natural gas, synthetic liquid or gaseous fuels, or any refined product produced therefrom.' 30 U.S.C. § 185(a). Such pipelines necessarily involve some level of risk; no reasonable engineer, scientist, or agency official could assert that a pipeline project—or any construction or transportation project for that matter—involves absolutely zero risk. It would be nonsensical for Congress to have created a mechanism for granting rights-of-way for oil pipelines if that mechanism could never be used[85] [emphasis added].

Summary

Based on analysis of industry data, specific information related to the DAPL, and my own personal experience investigating pipeline failures over the past 35 years, it is an established fact that pipelines, even ones maintained and operated properly, can and do leak and rupture. Because of the potential, however small, for a pipeline to leak or rupture, government regulations and industry standards have been promulgated to mitigate this risk and ensure pipeline integrity, to the extent possible. Thus, any statements made by Greenpeace in this matter related to integrity risks associated with the DAPL cannot be construed as "large-scale, intentional dissemination of misinformation," as apparently alleged by Energy Transfer.

[85] ET-01264917.

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2. Case No. 30-2019-CV-00180, Stipulation to Dismiss Charles Brown and Defendant and Withdraw Certain Allegations.
3. Greenpeace Defendants' Opposition to Plaintiffs' Second Motion to Modify the Special Master's Order Compelling Production of Pipeline Safety Documents.
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5. ET-00961640 – 00961819.
6. ET-00999027 – 00999064.
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8. ET-01059394 – 01059401.
9. GeoEngineers-00078115.
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11. ET-00640119
12. ET-00640185.
13. ET-00640444.
14. GeoEngineers-0076496.
15. GeoEngineers-00071558.
16. ET-01050953.
17. ET-01049507.
18. ET-00639983.
19. Deposition of Steven Michael Futch, October 25, 2023.
20. Deposition of Lee Hanse, November 17, 2023.
21. ET-01264850.
22. ET-01264917.

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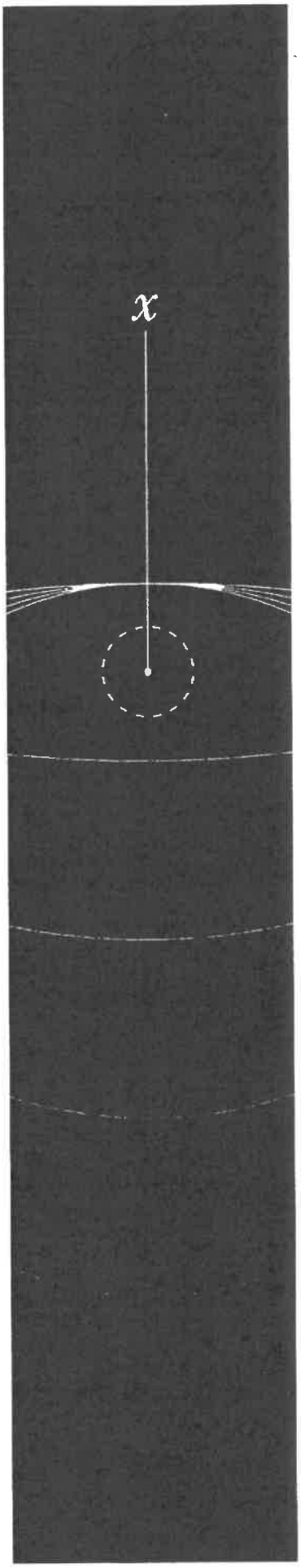
Limitations

Exponent investigated specific issues related to the lawsuit filed in relation to Energy Transfer's construction of the DAPL. The scope of services performed during this investigation may not adequately address the needs of other users of this report, and any reuse of this report or the findings or conclusions herein is at the sole risk of the user. The opinions and comments formulated during this assessment are based on information available as of the date of this report. Exponent reserves the right to supplement or modify the findings expressed in this report, to add to the basis of and reasons for any conclusions reached, and to supplement or modify this report should facts or information become available that, in its opinion, require revisions to this report. No guarantee or warranty as to future life or performance of any reviewed condition is expressed or implied.

Appendix A

Resume of Brun Hilbert, Jr., PhD



Exponent®
Engineering & Scientific Consulting

Brun Hilbert, Jr., Ph.D., P.E.
Principal Engineer | Mechanical Engineering
149 Commonwealth Drive | Menlo Park, CA 94025
+1-650-688-6934 tel | bhilbert@exponent.com

Professional Profile

Dr. Hilbert has been consulting at Exponent since 1996 in the fields of mechanical and petroleum engineering, with special applications to engineering mechanics and geomechanics. He has worked in the petroleum exploration and production industry for over 40 years. Dr. Hilbert has testifying experience in state and federal courts, intellectual property, and international arbitration, with particular focus on the oil and gas industry.

Dr. Hilbert has expertise in mechanical and petroleum engineering. In the area of petroleum engineering, he has expertise in oil and gas well design and integrity, hydraulic fracturing, well production and wellhead equipment, blowouts and well control, drilling mechanics and directional drilling, reservoir geomechanics, reservoir reserves estimation, fixed and floating offshore platforms. He also has experience with natural gas and liquid hydrocarbon storage in solution-mined salt caverns and depleted hydrocarbon formations.

In the area of geomechanics, Dr. Hilbert has expertise in evaluating the structural integrity of oil and gas wells in compacting or deforming reservoir rocks, in the stability of underground storage structures and nuclear waste repositories, and he assists clients in failure analysis involving soil-structure interaction, including pipelines.

Prior to joining Exponent, Dr. Hilbert was employed as an Engineering Specialist for Exxon Production Research Company, where he performed research and taught courses in Well Completions and Workovers in the Middle East, Southeast Asia, Australia, and North America.

Academic Credentials & Professional Honors

Ph.D., Materials Science and Mineral Engineering, University of California, Berkeley, 1995

M.S.E., Mechanical Engineering, University of New Orleans, 1981

B.S., Mathematics, University of New Orleans, 1979

National Academy of Engineering Committee on Connector Reliability for Offshore Oil and Natural Gas Operations, 2017-2018

Society of Petroleum Engineers Distinguished Lecturer, 2015-2016

Jane Lewis Fellowship in Geomechanics

Mathematical Association of America Membership Award

Outstanding Instructor, Exxon Production Research Company 1991

Outstanding Instructor, Exxon Company, U.S.A. 1990

Licenses and Certifications

Professional Engineer Mechanical, California, #31490

Professional Engineer Mechanical, New Mexico, #20939

Professional Engineer Petroleum, Texas, #112060

Professional Engineer Mechanical, Texas, #112060

Prior Experience

Lawrence Berkeley National Laboratory, 1996

University of California at Berkeley, 1992-1996

Exxon Production Research Company, 1981-1992

Professional Affiliations

American Society of Mechanical Engineers

Society of Petroleum Engineers

American Rock Mechanics Association

Publications

Papers and Articles

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Hilbert LB. Tubular string design. Invited Lecture, Subsurface Engineering School, Exxon Company U.S.A., Houston, TX, October 1991.

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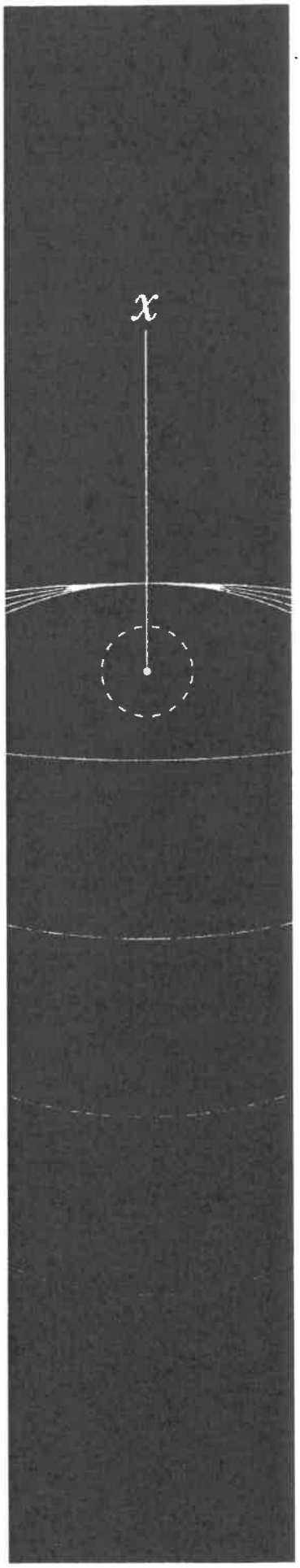
Appendix B

Brun Hilbert, Jr., Deposition and Trial Testimony – Previous Four Years



Depositions

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TRC Operating Company, Inc., a California corporation, and TRC Cypress Group, LLC, a California limited liability company vs. Chevron U.S.A. Inc., a Pennsylvania corporation, and Does 1 through 20 inclusive. Case No. S-1500-CV-282520-DRL, Superior Court of the State of California County of Kern, June 15, 2020. (Rebuttal opinions)

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Jonah Energy, LLC (Claimant) v. CTAP, LLC (Respondent). American Arbitration Association Case No. 01-21-0004-9412, Denver, Colorado, October 26, 2022.

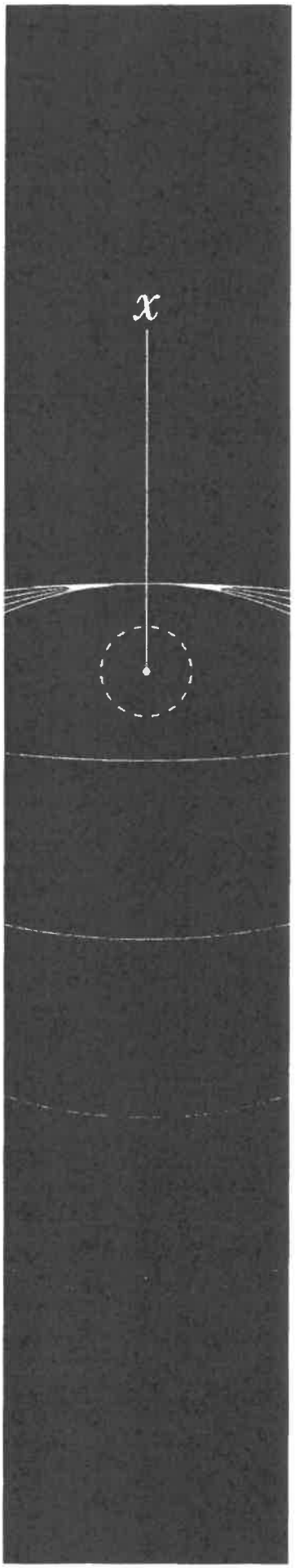
Zaur Leshkasheli and Rosserlane Consultants Limited (Claimants) v. Republic of Azerbaijan (Respondent). ICSID Case No. ARB/20/20, International Centre For Settlement Of Investment Disputes, Washington, D.C., October 20, 2022.

TRC Operating Company, Inc., a California corporation, and TRC Cypress Group, LLC, a California limited liability company vs. Chevron U.S.A. Inc., a Pennsylvania corporation, and Does 1 through 20, inclusive. Case No. S-1500-CV-282520, Superior Court of the State of California County of Kern, September 13, 2021.

FMC Technologies, Inc. vs. Richard Murphy, and Dril-Quip, Inc., Trial Court Cause No. 2020-63081, District Court of Harris County, Texas, 127th Judicial District, April 20-21, 2021.

Appendix C

Resume of Robert D. Caligiuri, PhD, NAE, FASM



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Robert Caligiuri, Ph.D., P.E., NAE, FASM
Corporate Vice President and Principal Engineer | Development
149 Commonwealth Drive | Menlo Park, CA 94025
+1-650-688-7220 tel | caligiuri@exponent.com

Professional Profile

Holding degrees in both Mechanical Engineering and Materials Science and Engineering, Dr. Robert Caligiuri specializes in combining the principles of solid mechanics with an understanding of the physical, mechanical and corrosion behavior of metals to solve complex problems in industrial applications. He has over 35 years of experience conducting failure investigations, root cause studies and risk assessments for clients in the petrochemical, consumer product and transmission pipeline industries throughout North America, Europe and Asia. He has specialized expertise in the use and application of the standards, codes and regulations that govern the design, operation, and maintenance of engineered systems.

General Failure Analysis

Dr. Caligiuri has investigated hundreds of failures of metallic components in mechanical systems and structures, ranging in size from coronary implant devices to mechanical machinery to large civil engineering structures. The common thread through all of these investigations has been the relationship between the metallurgy of the component materials, and the presence of stress concentration points such as fasteners, welds, and other mechanical joints to the response of the system to applied loads. This has often required performing finite-element stress analyses of the relevant components in the system or structure. He has applied this expertise to the specific problem of failures in steel platforms, steel-frame high-rise buildings, chemical process equipment, pressure vessels, aircraft and spacecraft, construction equipment, and vehicles. He has reviewed many of the applicable codes and industry standards, including ASME, AWS, ASTM, and NACE.

Pipelines and Process Piping

Dr. Caligiuri has investigated over 75 failures in pipelines, ranging in size from 1-inch copper water distribution pipelines to downstream 16-inch liquid petroleum pipelines, to downstream 36-inch-diameter natural gas transmission pipelines. His investigations have included review and analysis of destructive and nondestructive testing, including review and interpretation of radiographic images of welds in accordance with industry standards. In addition, he has investigated the failures of components in upstream hydrocarbon production and processing facilities, including drilling strings, casings, valves, and gathering field lines. Dr. Caligiuri has researched the corrosion and stress corrosion cracking of materials exposed to H2S, and has investigated field failures of components exposed to sour environments, including welded piping. He has extensively reviewed and evaluated the applicability of most major piping-related industry standards and codes, including ASME B31.1, ASME B31.3, ASME B31.4, ASME B31.8, ASME BPVC Section IX, API-5C, API 1104, API 570, and NACE MR0175.

Welds and Welded Connections

Dr. Caligiuri has investigated numerous failures in welds and welded metallic components. The common thread through all of these investigations has been the relationship between the metallurgy of the weld

metal, the heat-affected zone, and the base metal to the response of welded joints to applied loads and associated stress concentration points. Particular past experience has included welds in steel structures, pipelines, tanks and pressure vessels in refineries and chemical plants, and offshore marine facilities and terminals. He has specific experience related to the interpretation of welding procedures, specifications, codes, and standards, and their applicability to fabricated structures and mechanical systems, including AWS D1.1, AWS D1.2, AWS A5.1, ASME BPVC Section IX, and others.

Consumer Products

Dr. Caligiuri has conducted or supervised on behalf of consumer product manufacturers numerous root-cause investigations into potential safety and warranty issues. Such products have included: clothes washers, clothes dryers (gas and electric), dishwashers, refrigerators and sealed system components, ice makers, microwave ovens, conventional ovens, coffee pots, blenders and mixers, gas furnaces and water heaters, room dehumidifiers, child safety seats, disposable lighters, and automotive components such as restraint systems, airbags, transmissions, fuel delivery systems, and steering wheels. Dr. Caligiuri has pioneered the use of the top-down approach to root-cause analysis for consumer products and the use of analytical tools like FMEAs and fault trees in such studies. Selected projects are summarized below.

Academic Credentials & Professional Honors

Ph.D., Materials Science and Engineering, Stanford University, 1977

M.S., Materials Science and Engineering, Stanford University, 1974

B.S., Mechanical Engineering, University of California, Davis, 1973

Elected Member of the National Academy of Engineering (NAE), 2023

Fellow, American Society for Materials, 2003

Elected Member of Tau Beta Pi Engineering Honor Society

Elected Member of Sigma Xi Honors in Research Society

Recipient of the Distinguished Engineering Alumni Medal from the University of California, Davis, 2023

Licenses and Certifications

Professional Engineer, Arkansas, #16736

Professional Engineer Metallurgical, California, #1774

Professional Engineer, Michigan, #6201057185

Professional Engineer, North Carolina, #037114

Professional Engineer Metallurgical, Texas, #118283

Professional Engineer, Utah, #190547-2202

Professional Engineer Metallurgical, Washington, #52817

Prior Experience

Research Scientist and Program Manager, Physical Sciences Division, SRI International, Menlo Park, CA, 1978-1987

Visiting Scientist, Mechanics and Materials Laboratory, Tsukuba Research Center, Tsukuba, Japan, 1984

Staff Metallurgist, Metals and Ceramics Division, Lawrence Livermore National Laboratory, Livermore, CA, 1977-1978

Research Assistant, Department of Materials Science and Engineering, Stanford University, Stanford, CA, 1974-1977

Teaching Assistant, Department of Materials Science and Engineering, Stanford University, Stanford, CA, 1974

Engineering Assistant, Department of Mechanical Engineering, University of California at Davis, Davis, CA, 1973

Professional Affiliations

American Society for Materials

Metallurgical Society of American Institute of Mining and Metallurgical Engineers

AWS Welding Handbook Editorial Committee; 1987

American Society of Mechanical Engineers—ASME

Publications

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Project Experience

General Failure Analysis

Henderson, NV, Chlorine Leak—Investigated the source of a large leak that occurred at a liquid chlorine production facility. Efforts included detailed metallurgical examination of corroded components, use of computational fluid dynamics to model the flow of liquid chlorine, and corrosion experiments in brine-contaminated chlorine. Assisted in the evaluation of the overall integrity of the facility and start-up activities.

Thermal Energy Storage System Assessment—Evaluated the causes for malfunctions in a large-capacity thermal energy storage system installed at a facility in Los Angeles that was not functioning properly. Investigated how the liquid glycol refrigerant could penetrate into the plastic balls containing water and prevent them from freezing properly. Developed a method for rapidly evaluating the glycol content in each of the 3-million-plus plastic balls in the system.

Cast-Iron Check Valve Failure—Determined the cause of the failure of a grey cast-iron check valve installed in the ammonia-based refrigeration system at an ice cream factory. The valve failure allowed the escape of liquid ammonia, which resulted in a large explosion and fire.

Cast-Iron Shut-off Valve—Determined the cause of the failure of a grey cast-iron shut-off valve installed on an ammonia refrigeration unit on a commercial fishing boat. The escaping ammonia resulted in the death of a crew member.<p class="Letternormal">Wax Plant Explosion—Evaluated how the proper functioning of a flammable gas detector may have contributed to the explosion and fire at a major petroleum by product production facility in Western Pennsylvania. Efforts included testing of the mechanical functionality of the air sampling system of the device.

Fire-Damaged Refinery Process Vessels—Performed an API 579 fitness-for-service analysis on pressure vessels and heat exchangers damaged by a fire at a refinery. Work included metallurgical examinations

and testing, an ultrasonic testing evaluation, and non-linear finite-element stress analyses. Assisted with evaluating the repair schedule.

Construction Crane Failure—Evaluated the tip-over of a vehicle-mounted long boom crane being used to disassemble a tower crane at a hotel construction site in Laughlin, NV. Efforts included using the model MATYMO to simulate the movements of the crane and the actions of the crane operator just prior to the tip-over.

Motorcycle Accident Investigation—Evaluated potential mechanical causes for the separation of the fuel tank from a motorcycle during a vehicular accident that led to a fire. Efforts included metallurgical examination of attachment bolts, finite-element analysis, and laboratory testing of fuel tank attachment mechanisms.

Farm Vehicle Rollover Investigation—Investigated whether or not the drive shafts of a four-wheel farm utility vehicle failed while the vehicle was traversing a steep slope at a ranch in California, causing it to roll down the hill. Work included metallurgical examination of the failed drive-shaft components, stress analysis, and testing of exemplar drive shafts.

Satellite Launch Damage—Investigated the cause of damage to the solar panel array of a commercial communications satellite. One of the two large solar panels was unable to deploy properly once in orbit. Examined the contribution of unanticipated vibrations during launch to the damage suffered. Presented results to a blue-ribbon panel established to review whether further satellite launches from the launch facility should be permitted.

Mixing-Valve Failure—Investigated the role that a potentially malfunctioning mixing valve may have played in the scalding of a handicapped person at a rest home. Evaluated applicable codes and standards.

Pipelines and Process Piping

PG&E Pipeline Explosion—Investigated the cause of the rupture of PG&E's 36 inch diameter natural gas pipeline that ruptured near San Bruno, California in September 2010. Provided testimony to the California Public Utilities Commission related to the incident

New York Steam Pipe Explosion—Investigated the cause of the rupture of a 20-inch underground steam main in downtown Manhattan. Efforts include participating in metallurgical examinations of pieces removed from the failed pipeline.

Camisea Field, Peru—Performed an overall integrity assessment of a 36-inch-diameter gas line and a 14-inch-diameter liquid line that traversed 800 km from the Amazon basin, over the Andes Mountains, to Lima. The pipeline system had experienced six leaks within 24 months of initial operation.

PEPCON Explosion—Investigated the cause of a series of explosions that destroyed a solid rocket oxidizer plant in Henderson, NV. Assessed the role that a 16-inch high-pressure natural gas transmission line that traversed the plant and was damaged by the explosions may have played in the incident.

Upstream Oil and Gas Processing Facility—Assessed the occurrence and cause of sulfide-induced stress corrosion cracking in small-bore process-piping welds that led to releases of H2S gas to the environment.

Bellingham, WA, Pipeline Rupture and Fire—Investigated the failure of a 16-inch-diameter liquid line, including evaluation of external piping damage. Assessed the role that external mechanical damage may have contributed to the leak and subsequent fire.

Carlsbad, NM, Pipeline Rupture—Investigated the failure of a 36-inch natural gas transmission line, including evaluation of the effects of internal corrosion. Assessed the extent to which water ingress into the transmission line from third-party producers, and the pipeline configuration, may have contributed to

the observed internal corrosion.

Aircraft Engine Refurbishment Facility Explosion and Fire—Examined how the failure of an aluminum pneumatic process piping system designed to handle particulate matter moving at high velocity may have contributed to an explosion and fire that destroyed an aircraft turbine blade refurbishment facility. Issues studied included particulate-induced erosion and build-up of static charge.

Qualcomm Stadium Contamination—Investigated potential sources for the gasoline found in the groundwater under Qualcomm Stadium in San Diego, CA. Evaluated the results of hydrostatic testing and in-line inspection data on underground piping located at a nearby gasoline and diesel fuel distribution terminal.

Post/Hyde Street Explosion—Investigated the cause of an explosion that destroyed a building at the intersection of Post and Hyde Street, in San Francisco, CA. Evaluated whether or not external 2-inch-diameter natural gas distribution line may have played a role in the incident.

Good News Building Explosion—Investigated the cause of an explosion that destroyed a building in Steamboat Springs, CA, and assessed whether or not damage to a natural gas distribution line may have contributed to the incident.

Donner Summit, CA, Pipeline Leak—Investigated a diesel and gasoline pipeline leak that occurred in an environmentally sensitive area in the Sierra Mountains, near Donner Lake, and the role that external damage and subsequent stress corrosion cracking may have played in the leak.

Rocklin, CA, Pipeline Leak—Investigated a diesel fuel spill in a new housing development near Rocklin, CA. Assessed the extent to which external mechanical damage to the pipeline may have contributed to the leak.

Walnut Creek, CA, Pipeline Rupture—Investigated the failure of this 24-inch-diameter natural gas pipeline that involved, in part, an evaluation of third-party damage.

Cast Iron Natural Gas Distribution Line—Investigated the possible role of a cast iron natural gas distribution line in the cause of a fire that destroyed a house in suburban Detroit, MI. Efforts included evaluating the extent of graphitic corrosion to the buried pipeline.

Welds and Welded Connections

Offshore Crude Oil Pipeline—Examined the quality of the welds in a newly constructed 24-inch-diameter liquid pipeline relative to applicable standards, and the role of the welds in the integrity of the pipeline.

Steel Moment Frame Weldment Failures—Investigated the causes of failed welds found in steel moment frame buildings after the Northridge Earthquake in Los Angeles, CA. Conducted ultrasonic and visual inspection of weldments in buildings, conducted metallurgical examinations of failed welds removed from buildings, and performed finite-element analyses of moment frame connections.

Refinery Reactor Fitness for Service Evaluation—Evaluated the fitness for service of new welded alloy steel refinery reactors that may have been fabricated using the incorrect weld filler metal. Efforts included assessing the potential for creep-related failures and hydrogen embrittlement of the welds in accordance with methods prescribed in API 579.

SBM Anchorage Failure—Analyzed the cause of the failure of an offshore single-point mooring system during the off-loading of a very large tanker. Evaluated the relative roles of fatigue and overload in the failure of the structural welds in the rocker beam assemblies, including estimating the potential fatigue loading spectra under various tidal conditions.

Underground Natural Gas Storage Facility Casing Failure—Assessed the potential role of failures at seal-

welded threaded connections in the casing string in a massive loss of natural gas from a salt-dome storage cavern. Reviewed the specifications and welding procedures relevant to the fabrication and welding of the casing, including the effect of preheat. Performed finite-element stress analyses of the threaded and seal-welded connections.

Shipping Container Trailer Weld Failure—Examined the cause of the failure of a mudflap assembly on a trailer used to transport shipping containers. The broken mudflap component subsequently perforated the fuel tank of a minivan that ran over it, resulting in a vehicle fire. Evaluated the role of fatigue and overload on the failure of the weld, including detailed metallurgical examinations and finite-element stress analyses.

Industrial Platform Failure—Investigated the cause of failure of a welded moveable platform used in the assembly of recreational vehicles. Used finite-element analysis to assess the robustness of the platform design and construction.

Tractor Trailer Accident—Investigated the role that failure of repaired welds in the structural frame of a tractor trailer may have played in the loss of control of the vehicle. Performed metallurgical analyses of the failed welds and finite-element analyses to assess the loads on the welds during operation of the vehicle.

Pesticide Storage Vessel Failure—Examined the failure of a weld in an aluminum pesticide storage vessel that resulted in the contamination of a large area with pesticides. Evaluated the welding procedures used to fabricate the vessel.

Paper Mill Superheater Tie-Weld Failures—Investigated the cause of cracking in welds used to tie together serpentine tubes in a paper mill recovery boiler. Efforts included in-service examination of tie welds, metallurgical examination of failed tie welds, and finite-element stress analysis of welded connections.

Consumer Products

Minivan Door-Latch Mechanism—Investigated the cause of the failure of automatic sliding rear door mechanisms on minivans. Several field failures resulted in two recalls by the vehicle manufacturer. Work involved inspection of failed and returned parts, statistical analysis of data, and laboratory testing of exemplar parts. Results were used in arbitration between the vehicle manufacturer and the parts supplier.

Child Safety Lock on Cigarette Lighter—Investigated the efficacy of a CPSC-mandated child safety lock on a disposable cigarette lighter. Analyzed the mechanism that prevented accidental release of flammable vapors. Inspected and reviewed the manufacturing facilities of disposable lighter producers.

Steering Wheel Fatigue Failure—Investigated the cause of the fatigue failure of steering wheels mounted to the airbag assemblies in minivans. Evaluated the contribution of spot-weld design and engine vibration to the problem. Results presented to the NHTSA as part of a recall campaign.

Microwave Oven Recall—Investigated the cause of fires originating from microwave ovens mounted as part of the ventilation system of cook-top ranges. Efforts isolated the cause of field fires to the creation of plasmas in the microwave energy channel. Work product was used to justify recall of 1.7-million units as directed by the CPSC.

Room Dehumidifier Recall—Investigated the cause of fires in portable room dehumidifier units related to electrical wiring crimps. Work product used in presentation to CPSC to direct a voluntary recall of the product.

Refrigerator Fire Recall—Investigated the cause of fires in the ice maker mounted in side-by-side refrigerators. Examined several sources of arc-tracking laminated door-flap heaters. Results used in CPSC hearings to decide which units to recall.

Dishwasher Heating-Element Failure—Investigated the cause of failures of submerged dishwasher calometric heating elements. Work involved testing of exemplar heating elements to identify the source of the problem, as well as testing of proposed fixes. Results used in CPSC presentations.

European Dryer Fire Investigation—Analyzed the cause of melting and the ultimate ignition of electric clothes dryers in Europe. Examined the effect of an embedded calometric heater in a cast aluminum heat sink. Results of investigation were presented to various European Consumer Product Agencies to define a potential recall.

Vehicle Air Bag Initiation Mechanism—Investigated the cause of the failure of circuitry leading to the inadvertent deployment of driver airbags. Performed examinations of exemplar control boards to replicate the observed failures and assessed the role of unexpected system vibrations in the failures.

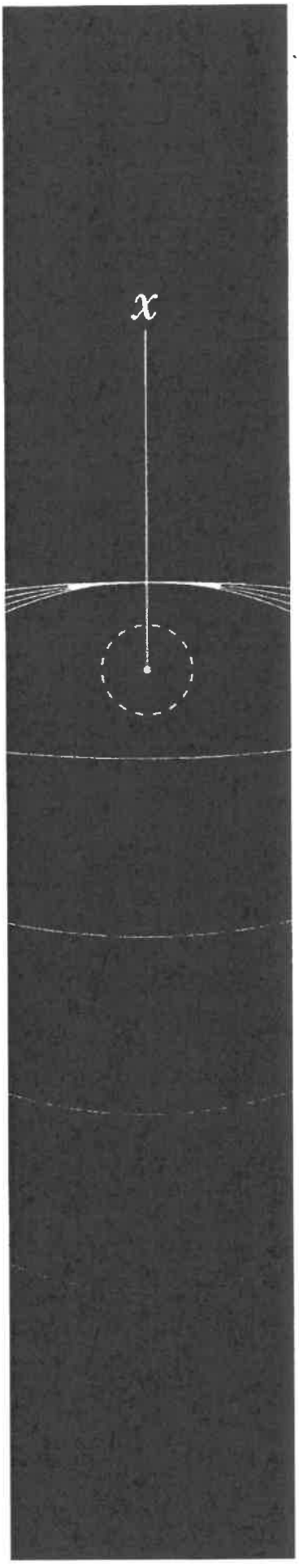
Washing Machine Intellectual Property Issues—Examined the infringement issues surrounding the introduction of a washing machine product line based on the inverse toroid system of washing clothes in reduced-water environments. Work involved setting up sophisticated instrumentation to monitor the transit of clothes during a wash cycle.

Editorships & Editorial Review Boards

ASM Handbook Committee member 1985-1990

Appendix D

Robert D. Caligiuri Deposition and Trial Testimony – Previous Four Years



Depositions

Eugene Davis, in his capacity as Liquidating Trustee of the Venoco Liquidating Trust, v. Plains All American Pipeline, L.P. et al.; In the Superior Court of California for the County of Santa Barbara, Case No.: 16-CV-01319, December 2023.

California State Lands Commission, an agency of the State of California; and Aspen American Insurance Company, a Texas Corporation v. Plains Pipeline L.P., et al.; In the Superior Court of California for the County of Santa Barbara, Case No.: 18-CV-02504, December 2023.

HF Sinclair El Dorado Refining, LLC, f/k/a HollyFrontier El Dorado Refining LLC, v Optimized Process Furnaces Inc. and Worldwide Steel Works, Inc.; In the District Court of Butler County Kansas, Case No. 2021-CV-000172, Division No. 1, October 2023.

Rachel Elaine Hamilton v Nutribullet L.L.C., et al., In the United States District Court For the Southern District of Texas, Houston Division, Civil Action No. 4:21-cv-02039, March 2023.

In Re KMCO Litigation, Various Plaintiffs v KMCO, LLC, Owner Resource Group, LLC, Org Chemical Holdings, LLC, Applkus, Inc., Grainger LLC; In the District Court of Harris County, Texas, 11th Judicial District, Master Docket No. 2019-77820, March 2023.

Maria Gardner and Indivivual, v Nutribullet L.L.C., et al., In the Superior Court of the State of California, County of Los Angeles, Central District, Lead Case No.: 18STCV10089, Case No.: 20STCV08309, November 2022.

In Re KMCO Litigation, Various Plaintiffs v KMCO, LLC, Owner Resource Group, LLC, Org Chemical Holdings, LLC, Applkus, Inc., Grainger LLC; In the District Court of Harris County, Texas, 11th Judicial District, Master Docket No. 2019-77820, November 2022.

Karen Sullivan, et al., v Nutribullet, L.L.C., et al., In the United States District Court, Central District of California, Western Division, Case No.: 2:18-cv 04800 DDP (GJSx), May 2022.

Kourtni Nicole Beebe, v Nutribullet, L.L.C., et al., In the United States District Court, Central District of California, Western Division, Case No.: 2:17-cv 00828 DDP (GJSx), May 2022.

REDACTED, v REDACTED, International Institute for Conflict, Prevention and Resolution; April 2021.

Trials, Arbitrations, and Hearings

Julie and Mark Nygren ,et al., v DCP Operating Company Division 4, et al., In the District Court, Weld County, Colorado, Case No.: 2020cv30400, December 2022.

REDACTED,Claimant v REDACTED, Respondents, An Arbitration under the Rules of the London Center for International Arbitration, LCIA Arbitration No. 204617, International Dispute Resolution Centre, London, UK, October-November 2022.

REDACTED, Claimant v REDACTED, Respondents, ; International Court of Arbitration of the International Chamber of Commerce, ICC Case No. 26183/PDP, New York, NY, October 2022.

REDACTED, Claimant v REDACTED, Respondents, In the Matter of an Arbitration conducted under the UNCITRAL Arbitration Rules, Seoul, South Korea (Virtual), March-April 2022.

REDACTED,Claimant v REDACTED,Respondent; International Court of Arbitration of the International Chamber of Commerce, ICC Case No. 25160/JPA (C-25161/JPA). Paris, France (Virtual), February 2022.

REDACTED,Claimant v REDACTED,Respondent; International Court of Arbitration of the International Chamber of Commerce, ICC Case No. 24718/TO, Internatiopnal Dispute Resolution Centre, London UK, December 2021.

REDACTED, v REDACTED, International Institute for Conflict, Prevention and Resolution; Houston, TX, May 2021.

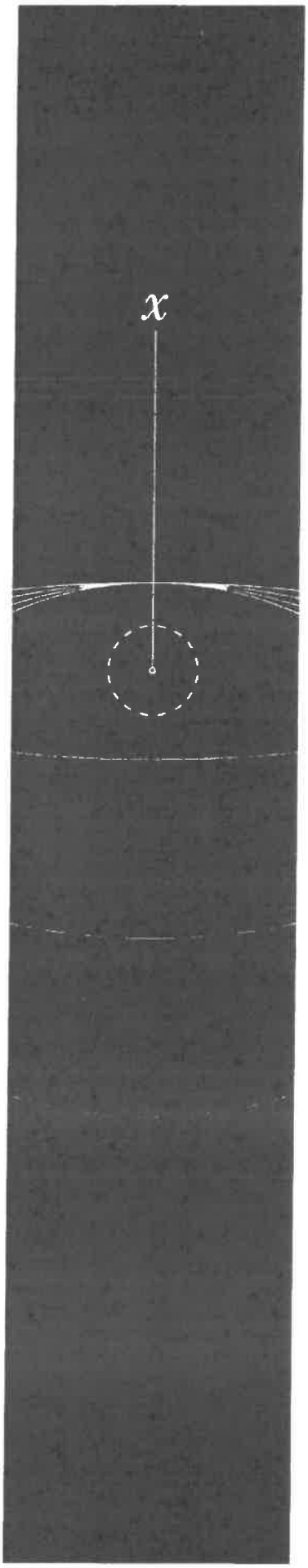
REDACTED, Claimant, v REDACTED, Respondent; International Court of Arbitration of the International Chamber of Commerce, ICC Case No. 23907/AYZ, Tel Aviv, Israel (Virtual), March 2021.

REDACTED, Claimant, v REDACTED, Respondent; In the Matter of an Arbitration under the Rules of Arbitration of the Korean Commercial Arbitration Board, KCAB/IA No. 17113-0036, Seoul, Republic of Korea (Virtual), December 2020-January 2021.

REDACTED, Claimant, v REDACTED, Respondent; In the Matter of an Arbitration Under the Rules of the International Chamber of Commerce, ICC References 23279/FS and 2381/FS, London, United Kingdom (Virtual), October-November 2020.

Appendix E

Compensation



The hourly billing rates for Dr. Hilbert and Dr. Caligiuri in 2024, as set by their employer, Exponent, Inc., are as follows:

Dr. Hilbert: $620

Dr. Caligiuri : $725