S T A T E  O F  M I C H I G A N

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

| | | |
|---|---|---|
| In the matter of the complaint of QUICKSILVER RESOURCES, INC. AND TERRA ENERGY, LTD. against MICHCON GATHERING COMPANY and MICHIGAN CONSOLIDATED GAS COMPANY. | ) | Case No. U-14821 |

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

TODD F. PERSELLS

# MICHCON GATHERING COMPANY AND
# MICHIGAN CONSOLIDATED GAS COMPANY
# QUALIFICATIONS OF TODD F. PERSELLS

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**Q. What is your name, address, and by whom are you employed?**

**A.** My name is Todd F. Persells. My business address is 2000 Second Avenue, Detroit, Michigan 48226. I am employed by Michigan Consolidated Gas Company (MichCon) and hold the position of Director Asset Management and Engineering.

**Q. Would you please summarize your educational background and work experience?**

**A.** I graduated in April 1978 from Oakland University, Rochester, Michigan with a Bachelor of Science Degree in Mechanical Engineering with a concentration in Management. I received a MBA from Oakland University in 1980. In 1978, I began my career with ANR Pipeline Company as a Staff Engineer in the System Engineering Planning Activity. From 1978 through 1995, I held various positions of increasing responsibility within ANR Pipeline's Engineering Planning activity where I was responsible for the design, cost analysis, economic evaluation, capital budget and preparation of engineering regulatory exhibits and material specifications for complete system design proposals involving pipeline gathering, transmission and storage facilities. In 1995, I was appointed Assistant Vice President of Facility Planning at ANR Pipeline and was responsible for providing strategic direction and policy to the activity as related to an integrated natural gas system. In 1997, I was appointed Assistant Vice President of Project Development and Marketing and was responsible for policy and strategic direction associated with commercial development for new business ventures and facility expansions. I held that position until 2001. In April 2001, I took a position with DTE Energy Trading as Director of Marketing, where I was responsible

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for the origination of business opportunities involving gas supply, pipeline transport, storage, power plant fuel management and sales services. In August 2003, I took a position with DTE Gas Storage, Pipelines and Processing as Director of Business Development, where I was responsible for the origination of business opportunities involving development of natural gas pipeline transport, storage and processing services. On April 17, 2006, I took my present position with MichCon.

**Q. What are your current duties and responsibilities in your position?**

**A.** I am responsible for the engineering, construction and planning activities for MichCon. These responsibilities include the development of policy for MichCon's northern Michigan gathering systems.

**Q. Have you been involved in any prior regulatory proceedings?**

**A.** Yes. I have provided testimony in rate case proceedings before the Federal Energy Regulatory Commission. I have also filed testimony with the Michigan Public Service Commission in case number U-14754.

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**Q. What is the purpose of your testimony in this proceeding?**

**A.** The purpose of my testimony is to review MichCon's and MichCon Gathering Company's (MGAT) role in northern Michigan with respect to transporting and treating natural gas. My testimony will show that Quicksilver Resources, Inc. and Terra Energy, Ltd. are wrong in their allegations that MGAT and MichCon's policy has changed concerning the management of $CO_2$ over the life of the Antrim Expansion Project (AEP). I will also document that MGAT was given the authority in MPSC Case No. U-10547 to manage the gas quality of northern Michigan production delivered to its pipelines, that MGAT was given authority to blend natural gas streams in its pipelines and that MGAT assures that natural gas delivered to specified delivery points would have levels of $CO_2$ at two percent or less. Additionally, I will respond to certain portions of testimony filed by Complainants.

**Q. Are you sponsoring any exhibits?**

**A.** Yes, I am sponsoring the following Exhibits:

Exhibit MGAT-1 (TFP-1) Map of Northern Michigan

Exhibit MGAT-2 (TFP-2) Letter from Michael J. Kidd

**Q. What is Exhibit TFP-2?**

**A.** It is an accurate and complete copy of a letter dated May 3, 1999 received by MichCon on May 6, 1999. The letter is from Michael J. Kidd, Director of the Gas Division of the Michigan Public Service Commission Staff and addresses $CO_2$ content on the AEP.

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**Q. How did you obtain a copy of Exhibit TFP-2?**

**A** The letter was retrieved from MichCon's normal business records.

**Q. How do you recognize this exhibit to be complete and accurate copy?**

**A.** I have seen and read this letter previously and recognize it to be a complete copy. In the normal course of business, MichCon corresponds with the Staff from time to time. When letters like this are received, they are date stamped and maintained in MichCon files, which are under my direction and control.

**Q. Did MichCon rely upon the content of this letter for the conduct of MichCon's business?**

**A.** Yes.

**Q. Were these exhibits prepared by you or under your direction and supervision?**

A. Exhibit TFP-1 was prepared under my direction and supervision. TFP-2 was copied at my direction.

**Q. Can you explain the organizational relationship between MGAT and MichCon and their associated operating responsibilities?**

**A.** MichCon is a utility pipeline, providing transportation and distribution services. MGAT is a wholly owned subsidiary of MichCon. MGAT owns the AEP and provides transportation and treating services for customers delivering gas to the AEP. MichCon originally built the pipeline under the authorization granted in Case No. U-10547. The

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assets of the AEP were legally transferred to MGAT in the fourth quarter of 1995. I will refer to MGAT in this testimony as the successor to MichCon in references to building, authorizations and operation of the AEP when in fact the legal entity at the time may have been MichCon.

**MichCon's Role Regarding the AEP**

**Q. What is MichCon's role with respect to the AEP?**

**A.** MichCon accepts gas deliveries from the terminus of the AEP into its system at Kalkaska, Michigan to serve its markets; including residential customers, off system customers, storage customers, and End User Transportation customers.

**Q. What is MichCon's gas quality standard with respect to $CO_2$ at receipt points into its transmission and distribution systems?**

**A.** All deliveries into MichCon's system must be made in accordance with the gas quality standards set forth in its MPSC Tariff, Section F3.1, Quality. The specific standard for deliveries is a $CO_2$ content of no more than 2%.

**Q. Is this $CO_2$ standard consistent with industry requirements?**

**A.** Yes it is. All of the delivery point requirements with other interstate and intrastate companies accepting gas from the AEP or MichCon have an identical standard for $CO_2$ content of no more than 2%. Further, ANR and Consumers (with deliveries at Goose Creek) have informed MichCon's Gas Control that gas deliveries with $CO_2$ content exceeding 2% will be rejected.

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**Q. Has the maximum $CO_2$ content limit of 2% or less at the delivery points varied since the AEP went into service?**

**A.** No. The 2% $CO_2$ maximum limit at the delivery points has not varied since the AEP went into service.

**Q. Has the Michigan Public Service Commission Gas Safety Staff addressed the maximum $CO_2$ content limit of 2% or less?**

**A.** Yes. MichCon was informed by the Gas Safety Staff that deviations from the 2% standard were not acceptable under any circumstances for even short durations of time. The Staff and MichCon set up strict standards and reporting requirements which remain in place today. Those standards hold MichCon operationally accountable for maintaining 2% or less $CO_2$ at all delivery points. A copy of a letter dated May 3, 1999, from the MPSC Gas Safety Staff is attached as Exhibit TFP-2.

**Q. Why is this "standard" important?**

**A.** The primary reason for the standard is to assure that corrosive effects caused by $CO_2$ and water in the piping systems are minimized to avoid premature deterioration of major transmission and distribution piping networks and storage fields that could fail and create safety problems.

**<u>Role of MGAT in Northern Michigan</u>**

**Q. Can you describe MGAT's role in northern Michigan with respect to transporting and treating natural gas?**

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**A.** MGAT is owner and operator of the AEP and provides transportation and treating service to shippers on the AEP and related lateral piping systems in northern Michigan as shown on the map identified as Exhibit TFP-1. Additionally, MGAT is responsible for metering of all gas volumes which ultimately flow on the AEP and final allocation of volumes (less $CO_2$ and fuel use) at final delivery points into Great Lakes Gas Transmission Company (GLGT), ANR Pipeline Company (ANR), Consumers Energy Company (Consumers) or MichCon. MGAT offers shippers the opportunity to contract for transportation and $CO_2$ treating services under what is called an ASATT agreement. For shippers who contract directly for $CO_2$ treating services, MGAT provides transportation only services under what is called an ASAT agreement.

**Q. Why was the AEP built?**

**A.** The AEP was built to transport dry Antrim gas, to deliver the gas to $CO_2$ treating facilities, and to ultimately deliver the gas to delivery points described above and shown on Exhibit TFP-1. At the time of AEP construction, Antrim drilling was expanding rapidly, production volumes were increasing and $CO_2$ levels were considerably lower than they are today.

**Q. How has the operation of the AEP evolved since it was originally put into service?**

**A.** The AEP went into service in November 1995. Initially, there were approximately 3400 wells and about 135 receipt points connected to the system. Over the years, producers have drilled hundreds of wells and established many additional receipt

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points. The Antrim volumes grew until the late 1990's when the production volume peaked. Today there are over 4900 Antrim wells and over 170 receipt points connected to the AEP. While new wells and receipt points continue to be added, natural gas volumes continue to decline and $CO_2$ levels continue to rise into the AEP.

**Q. What business risks did MGAT accept when it agreed to construct the AEP facilities?**

**A.** MGAT agreed to invest in facilities and take on fixed payment obligations in return for revenues generated by commodity rates collected for firm transportation and treating services. Significant business risk was taken based on reserve estimates that existed at the time MGAT requested approval to construct the pipeline.

**Q. What guarantees did MGAT require to ensure that shippers' Antrim volumes would be delivered into the AEP system to support these risks?**

A. As described in Mr. Lyle's testimony, MGAT required producers to enter into reserve dedication agreements for their reserves. These dedications were put in place to ensure that when the reserves were produced that they would be treated when necessary and transported on the AEP.

**Q. Was there anything else placed in the contracts with the producers that would guarantee that the reserves would flow into the AEP?**

**A.** No.

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**Q. Would the AEP have been built by MGAT without the dedication of lifetime reserves?**

**A.** No. Without such a guarantee, the financial risk of the AEP would have been far too great and MGAT would not have constructed the pipeline.

**Authority to Manage Gas Quality**

**Q. What are the $CO_2$ standards on the AEP at the delivery points?**

**A.** As stated above, the standard on the AEP is a $CO_2$ content of 2% or less at the delivery points.

**Q. Where does the maximum $CO_2$ content limit of 2% or less at all delivery points on the AEP come from?**

**A.** The maximum $CO_2$ content limit of 2% comes from the MPSC's order in Case No. U-10547, dated March 29, 1995. That order for the AEP required that gas deliveries at all delivery points into MichCon, Consumers, GLGT and ANR systems be made with a $CO_2$ content at or below 2%. Additionally, GLGT, ANR, Consumers, and MichCon all maintain pipeline gas quality standards and will turn back any gas streams that contain more than 2% $CO_2$.

**Q. How has MGAT maintained control over the 170 receipt points to ensure that the $CO_2$ content at the delivery points is at or below 2%?**

A. As described by Mr. Lyle, MGAT entered into an agreement with CMS that allows for the treating of up to 260 MMcf/d of gas volumes to an outlet specification of

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0.75% of $CO_2$. By treating MGAT's volumes to an outlet specification of 0.75% of $CO_2$, MGAT has been able to blend volumes containing higher $CO_2$ contents from shippers that do not have access to treating. Additionally, MGAT manages the flow from all the receipt points where in some cases $CO_2$ levels are now over 30%. This requires understanding and managing pre-treating services, and all other treating services to ensure delivery of gas at 2% or less.

**Q. Did the order in Case No. U-10547 provide for blending (indirect treating of high $CO_2$ gas by combining it with low $CO_2$ gas to meet the $CO_2$ requirements) and why?**

**A.** Yes. The order was specific relative to blending to accommodate existing production that was not adjacent to $CO_2$ treating plants and was impractical and too costly to re-route to a plant. In fact, Savoy and the Attorney General advocated in Case No. U-10547 that additional treating facilities be built throughout northern Michigan. The Commission, however, determined in its findings that such expenditures would make construction of the pipelines to these facilities economically infeasible.

**Q. What benefit did this provide?**

**A.** The order provided that the AEP could operate the system to accommodate treating for customers who can not economically justify the construction of facilities linking them to an existing treating facility or to construct their own treating facilities by allowing them to produce volumes and be treated through blending. In general, it

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also allowed producers to transport their gas at an economic rate. If producers would have built processing facilities, they would also have had to build gathering lines to these facilities. All of this would have meant significantly greater costs to the producing community.

**Q. Who maintains the required $CO_2$ content obligation limit of 2% or less at the delivery points from the AEP?**

**A.** The Commission, as it has with all common carrier pipelines in Michigan, authorized MGAT, the AEP owner and operator, to monitor and manage all supply inputs, interconnected treating facilities and delivery points and set standards that maintain the $CO_2$ content at 2% or less for the benefit of all shippers into the downstream pipeline delivery points.

**Q. How has the maximum $CO_2$ content limit of 2% been maintained by MGAT on the AEP?**

**A.** MGAT monitors the production volumes in northern Michigan, which on average is declining at 6% per year, while $CO_2$ on an annual basis is increasing by 0.4-0.6% per year. While the overall $CO_2$ treating capacity within northern Michigan is more than adequate for existing and anticipated production, there are certain occurrences (plant outages, plant or pipeline upset conditions or even unique operations) which can and do cause $CO_2$ levels at delivery points to exceed the 2% maximum if left unchecked. Consequently, MGAT monitors flows and outlets at treating facilities, receipt and delivery locations to allow the system to meet the downstream obligations of 2% or

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less $CO_2$ at the delivery locations. The location of new Receipt Meter Sites (RMS) also changes the delicate balance of $CO_2$ levels at delivery points. If an RMS is located downstream of treating, additional upstream treating is required in order to blend the new stream.

**Q. Can you describe how the production that flows on the AEP is received from the producers?**

**A.** The sources of gas that ultimately flow into the AEP are scattered across several counties in northern Michigan at approximately 170 metering sites or RMS. This gas is transported from these RMS by various laterals and other pipelines until it ultimately is received by the AEP. The gas at receipt points is accepted by MGAT if the producer/shipper can demonstrate a contractual relationship with a treater (typically downstream of the RMS) to physically remove $CO_2$ so that the 2% standard at the delivery point locations is not compromised.

**Q. What factors have changed that led to this complaint?**

**A.** As previously stated, the overall production volumes in northern Michigan are in a constant state of change. While on average gas volumes continue to decline, the average $CO_2$ content of the gas stream is increasing slightly each year. MGAT has relied on its ability to set both standards for gas volumes delivered into its system and to use its existing treating contract with CMS that provides for a 0.75% outlet at the CMS plant for MGAT's volumes to maintain its obligation to deliver gas at a $CO_2$ content of 2% or less. Because of the variability of gas volumes, their

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associated and variable $CO_2$ content, and the physical location of each receipt point on the AEP, MGAT must continuously monitor and adjust its management formulas to maintain proper $CO_2$ content. Through this careful management, MGAT has avoided curtailments and shut-ins which would otherwise occur due to excess $CO_2$ content, i.e., percentages above 2% at the delivery points. With the rising levels of $CO_2$, and the desire to keep as much production flowing as possible, MGAT has advised producers requesting new services that it will require all new ASAT contracts (AEP transportation only) to contract for treating to meet the outlet specification of 0.75% of $CO_2$ at the South Chester facility. This is the same treating service provided under the ASATT agreements, for all gas delivered to the South Chester facility. As part of the operation of the AEP, MGAT must police the gathering system to maintain its ability to satisfy all obligations to transmission and distribution deliveries with firm $CO_2$ specifications. The MPSC gave MGAT the operational responsibility to set the specifications through contractual or other means.

**Q. Are there alternatives to blending?**

**A.** Yes. The alternatives are:

1. Treat each and every receipt point to 2% or less $CO_2$
2. Shut-in all gas at the RMS that is above 2% $CO_2$
3. Allow MichCon / MGAT, as it has prior to the commencement of this case, to specify by contract the $CO_2$ treating percentage.

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**Q. What are some of the requirements and impacts under alternative number 1 above?**

**A.** To have each and every receipt point treated to a level of 2% or less $CO_2$ content would require construction of various gathering pipelines and numerous $CO_2$ treating facilities. As mentioned above, there are 170 RMS locations that bring gas to the AEP, and each would need to be at 2% or less at the RMS. The existing treating facilities would no longer be needed, but an extraordinary amount of capital to build the additional infrastructure would be needed.

**Q. Is this a reasonable alternative?**

**A.** No. This alternative was cost prohibitive when the Commission rejected this concept in the original Case No. U-10547 and it remains cost prohibitive today. In simple terms, it would require processing plants to be built all across the Antrim trend of northern Michigan. There is not enough money or political capital that could be spent to build the facilities, let alone address all of the attendant issues that would be raised by the producers, or the citizens of Michigan. This, in my opinion, is precisely why the Commission authorized MGAT to blend gas streams in its pipeline systems.

**Q. What are the potential impacts under alternative number 2 above?**

**A.** This scenario would result in the shut-in of all production that exceeded 2% $CO_2$ content at the RMS. Due to the level of $CO_2$ content in the current gas streams at the

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RMS, this would effectively eliminate nearly all Antrim production from being transported or produced.

**Q. Why do you think that this is an alternative?**

**A.** The Commission has clearly stated in a letter from Michael J. Kidd (Exhibit TFP-2) that it anticipated that MGAT would curtail gas rather than delivering it with $CO_2$ levels above 2%.

**Q. What are the potential impacts under alternative number 3 above?**

**A.** Under this scenario, MGAT would have the authority specifically granted in Case No. U-10547 Commission order to set the required level of $CO_2$ treating to keep the maximum amount of production flowing at all times. This leaves the operational balancing decisions to MGAT, which in turn allows MGAT to keep production flowing through attainment of the required specifications. These decisions must be made by the transporter, because the transporter, and only the transporter, is contractually bound to make deliveries to the delivery points. It is only the transporter (pipeline operator) that has the ability to know the operational conditions and constraints of its transportation system. Volumes and directions of gas flow can change hourly, depending on the weather, operational constraints, and a myriad of other factors including $CO_2$ levels, $O_2$ levels, plant upsets, and production facility maintenance and upsets. Only MGAT, like all other common carrier pipeline owners and operators, has the ability to monitor and manage all of these conditions and constraints on a daily basis.

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**Q. Are you familiar with the Act 9 industry practice in Michigan with respect to tariffs?**

A. Yes.

**Q. Do any other intrastate pipelines regulated under Act 9 file tariffs with the MPSC?**

A. No. No other Act 9 pipeline files tariffs. A simple review of the MPSC website confirms this.

**Q. What are the outcomes that you expect or wish for relative to this case?**

**A.** The desired outcome in this case would be an order from the Commission that reinforces the Commission's order in Case No. U-10547 authorizing MGAT to contractually set $CO_2$ levels that assure compliance with gas quality standards for all companies receiving deliveries from the AEP and dismisses the complaint in its entirety.

**Response to Complainants Testimony**

**Q. Is MGAT trying to "shift the burden to shippers who want to transport gas on the AEP but not pay MichCon for treating" as stated on Page 6, lines 17-18 of Mr. Fogle's testimony?**

A. No. All along, shippers have always had the obligation to deliver gas meeting pipeline $CO_2$ requirements (just like dehydration and compression) before a pipeline will accept gas for transportation. It is the shippers' ultimate responsibility to

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remove $CO_2$ from their gas. MGAT is requiring that shippers, who do not choose to treat under an ASATT agreement, receive treating services of the same level provided to those treated at the same facility under an ASATT agreement, or 0.75% $CO_2$. If CMS is unable or unwilling to provide the service at the same price it charges MGAT for the same service, it is not MGAT that is being discriminatory or shifting the burden to the producers. It appears that CMS is attempting to generate additional revenue to treat the producer's gas from 2% to 0.75% at its treating plant.

**Q. Is Mr. Fogle's characterization of the service provided under Terra and Quicksilver's ASATTs as stated on Page 6, line 20-22 accurate?**

A. No. Under the ASATT agreements, the shipper contracted with MGAT to meet the shipper's responsibility to treat their gas to a level providing 2% or less at the delivery point . MGAT contracted with CMS to provide treating services to a level of 0.75% $CO_2$ in order to provide the delivery point specifications. Additionally, his reference to the "same" service from CMS is erroneous, as MGAT receives treating service to a level of 0.75% from CMS, not a minimum of 2%. CMS is offering to perform a lesser service for the same amount charged by MGAT.

**Q. Do you agree with Mr. Fogle's statement in his testimony on Page 7, lines 1-7 indicating "Terra and Quicksilver are being required to provide additional blending volumes for the downstream producers, for the benefit of MichCon?"**

**A.** No, MGAT is attempting to keep the minimal facilities installed as part of the AEP as originally envisioned by the MPSC in the order in case U-10547. What

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Quicksilver and Terra desire would lead to additional facilities being installed and paid for by all the producers, to benefit all of the producers overall. This is what the MPSC wanted to avoid by allowing the blending to occur on the system. Suggesting that the MPSC order actually requires MGAT to construct the additional facilities is plainly outside the language of the order, when simply requiring a contract for treating to a similar level MGAT receives for the shippers on the system (0.75% $CO_2$) has and would eliminate the need for the construction of additional facilities.

**Q. Do you agree with the characterization of regarding the standards for $CO_2$ content as described on Page 7, line 11 through Page 8, line 5?**

**A.** No. While MGAT now specifies the treating level required, it is still the same level provided to gas brought to the CMS plant under any ASATT agreement. Producers that opt for treating services other than those provided via an ASATT are only being requested to meet the same specification at the outlet of the same treating plant. This is still within the standard of 2% or less at the delivery points, but defines that the treating must be performed to the same level. Mr. Lyle describes the history behind the ASATT and ASAT agreements further in his testimony.

**Q. Does Mr. Shumway's description of your conversation with him on Page 11, lines 4-6 properly characterize the discussion?**

**A.** No. While it was phrased that this was a "new" policy at the time of the discussion, it is truly a reversion to having all the gas treated the same at the CMS plant, whether under an ASATT, which provides treating services, or an ASAT agreement and a

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third party treating agreement with CMS. It is not discriminatory to require treating to the same level provided to the production treated under ASATT agreements for ASAT shippers. Perhaps the result of this complaint case will be to invalidate all the CMS agreements providing treating only to a minimum of 2% $CO_2$ and bring them all in line with the agreement between CMS and MGAT providing treating to 0.75%. As Mr. Lyle clarifies in his testimony, the ASATTs do not explicitly state treating to a level of 0.75%, but that is the level of treating received for production delivered to CMS. The ASATTs explicitly state that the gas will be delivered at 2% or less at the delivery points.

**Q. Does this complete your prefiled direct testimony?**

**A.** Yes, it does.

S T A T E  O F  M I C H I G A N

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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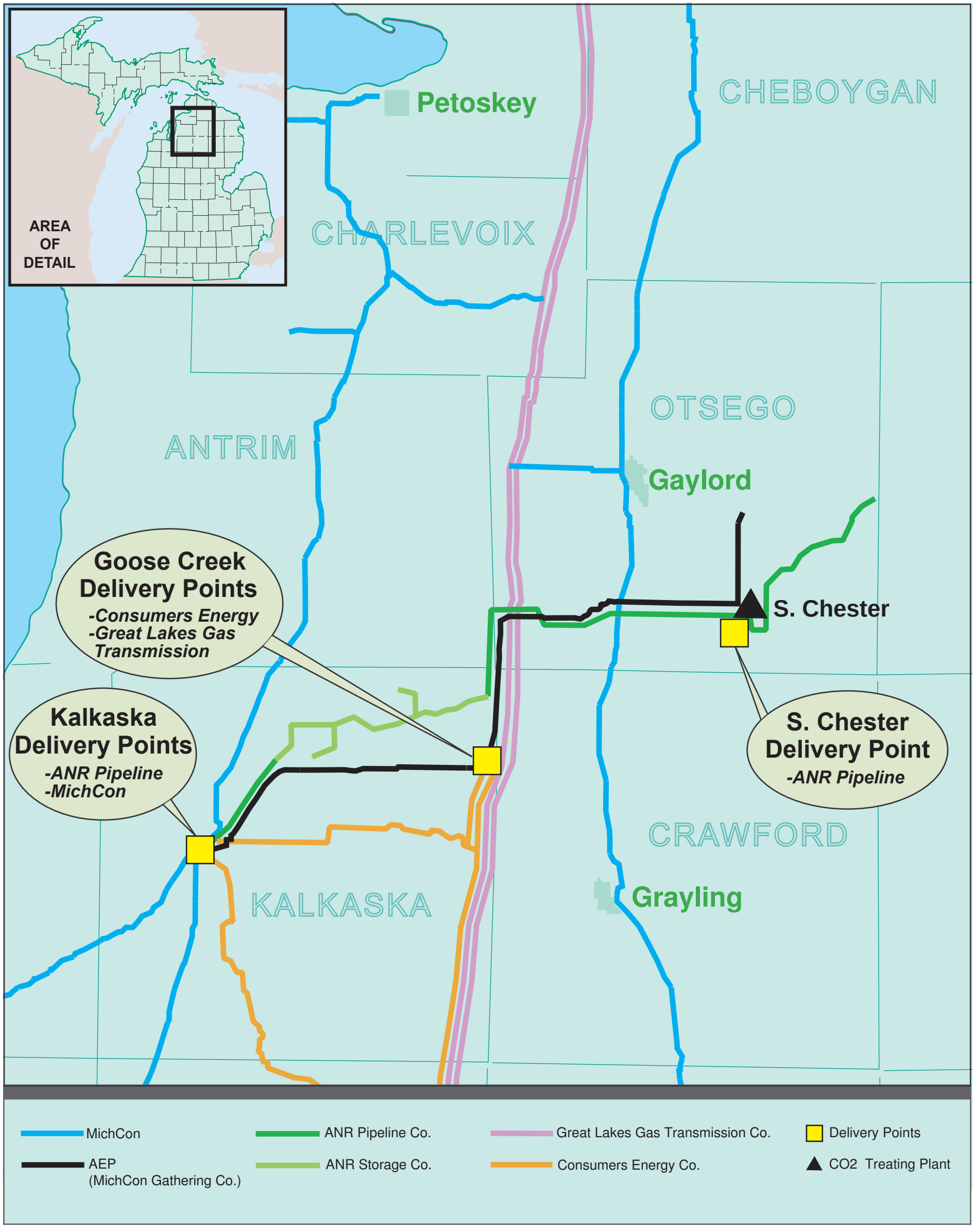
| In the matter of the complaint of QUICKSILVER RESOURCES, INC. AND TERRA ENERGY, LTD. against MICHCON GATHERING COMPANY and MICHIGAN CONSOLIDATED GAS COMPANY. | ) | Case No. U-14821 |

EXHIBITS

OF

TODD F. PERSELLS


AREA OF DETAIL
Petoskey
CHEBOYGAN
CHARLEVOIX
OTSEGO
ANTRIM
Gaylord
Goose Creek Delivery Points
-Consumers Energy
-Great Lakes Gas Transmission
S. Chester
Kalkaska Delivery Points
-ANR Pipeline
-MichCon
S. Chester Delivery Point
-ANR Pipeline
CRAWFORD
KALKASKA
Grayling
MichCon
AEP (MichCon Gathering Co.)
ANR Pipeline Co.
ANR Storage Co.
Great Lakes Gas Transmission Co.
Consumers Energy Co.
Delivery Points
CO2 Treating Plant

**State of Michigan**
John Engler, Governor

**Department of Consumer & Industry Services**
Kathleen M. Wilbur, Director

MAY 06 1999

**Public Service Commission**

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**Commissioners**

John G. Strand
John C. Shea
David A. Svanda

May 3, 1999

Mr. Dennis Lambert
Michigan Consolidated Gas Company
500 Griswold Street
Detroit, MI 48226

RE: Case No. U-10547

Dear Mr. Lambert:

Thank you for the recent presentation MichCon gave to the Commission Staff regarding the current $CO_2$ situation in northern Michigan. It is clear that improvements have been made in reducing the amount of time $CO_2$ levels exceeded the 2% threshold but the progress I thought the industry was making to acquire needed additional $CO_2$ removal capacity as a result of the meetings last fall and winter appear to be fading. This will only prolong the problem of periodically delivering high $CO_2$ levels at the Antrim Dry Header take-away points unless workable and timely curtailment actions are taken.

Staff has been informed that when MichCon reports $CO_2$ levels below the 2% threshold on an average daily basis, some take-away points record $CO_2$ levels above 2% within the 24 hour period. The Staff remains concerned that MichCon continues to deliver natural gas containing $CO_2$ levels above 2% at various take-away points from the Antrim Dry Header. While MichCon is currently reporting weekly with average daily $CO_2$ levels, you have acknowledged that $CO_2$ levels at Goose Creek and Kalkaska have exceeded the $CO_2$ threshold when interruptions are experienced at $CO_2$ treating plants, even though your weekly report may show average daily levels below 2%.

The Commission Order in Case No. U-10547 dated March 29, 1995 at page 41 states:

> "The Commission finds that MichCon should monitor the $CO_2$ content of the gas in the Antrim Dry Header. <u>Immediately upon becoming aware that the 2% threshold has been exceeded, MichCon shall notify the Commission in writing of the situation.</u> The notice shall explain the reason for and the duration of the problem and shall provide details regarding the steps being taken to remedy the situation. Further, the notice shall indicate the location and volumes of gas being shut-in, and the destination and volumes of gas deliveries being curtailed."

Staff believes a major problem is not having sufficient $CO_2$ removal capacity. A reasonable and expected design should have a reserve margin in a manner similar to a well

designed electric system which provides for plant maintenance without disrupting your primary service. The purpose of the Commission approving the Antrim Dry Header pipeline system was to provide MichCon with the ability to deliver natural gas produced in the Antrim formation to the four take-away points identified in the application. However, the Commission conditioned that approval by limiting the $CO_2$ levels to 2% or less at those take-away points. The last sentence of the above quoted material regarding identifying volumes of gas curtailed would indicate that the Commission anticipated MichCon curtailing gas instead of delivering gas with $CO_2$ levels above 2%.

MichCon has not been submitting notices required in the order. MichCon should comply with the above referenced requirement by filing all notices with the Commission immediately upon becoming aware that any take-away point exceeds the 2% $CO_2$ threshold at any time.

If you have any questions regarding this request, please contact me at (517) 334-7164.

Sincerely,

Michael J. Kidd, Director
Gas Division