16770 Imperial Valley Drive
Suite 150
Houston, TX 77060

Propane Odorant Confirmation
Independent Examiner's Report
Pursuant to Terms of Agreement
Massachusetts Office of Attorney General, State Fire Marshal
And DCP Midstream Partners LP and Affiliate Gas Supply Resources

ESI File No.: 33057T

Report Submitted to:

Martha Coakley, Attorney General
Commonwealth of Massachusetts
One Ashburton Place
Boston, MA 02108

Stephen D. Coan
MA State Fire Marshal
1 State Road
Stow, MA 01775-1500

Michael S. Richards, VP
General Counsel,
DCP Midstream GP, LLC
370 17th Street, Suite 2500
Denver, CO 80202

Report Submitted by:

J. Roger Craddock, P.E.
Principal Engineer / Independent Examiner
Texas Professional Engineering Registration 46609

October 22, 2010
Date

Reviewed by:

Dennis Scardino, P.E., CFI, CFEI
Senior Consultant
Louisiana Professional Engineering Registration 29622

October 22, 2010
Date

Jeffery S. Paramore, P.E. CFEI
Staff Consultant
Massachusetts Professional Engineering Registration 45931

October 22, 2010
Date

INDEX

1. Executive Summary

Engineering Systems Inc. and their principal, J. Roger Craddock have completed the limited inspection and testing program that was defined by the September 13, 2010 Terms of Agreement between the Massachusetts Office of Attorney General (OAG), the State Fire Marshal (SFM) and DCP Midstream Partners LP and its affiliate Gas Supply Resources (collectively DCP). This limited inspection and testing program revealed the following:

- There were five railroad tank cars containing unodorized propane from Aux Sable Liquid Products that remained within the DCP Westfield facility at the time of our inspection and testing in September 2010. All of these tank cars had been shipped to the Westfield terminal between July 21, 2010 and July 27, 2010;
- Railroad tank cars that contained propane scheduled for delivery to the DCP Westfield facility were tested and found to contain satisfactory levels of odorant to meet the requirements of the Federal and Massachusetts regulations;
- The two 60,000 gallon bulk storage tanks that are located at the DCP Westfield facility were found to contain odorized propane that met the Federal and state requirements.
- There were a total of 130 railroad tank cars that were delivered to the DCP Westfield facility from Aux Sable Liquid Products (out of a total of 546 railroad tank cars of propane delivered) during the period of June 1, 2010 through August 30, 2010. Excluding the 5 remaining railroad tank cars from Aux Sable Liquid Products that were not unloaded, a total of 125 railroad tank cars of propane (approximately 23%) were unloaded and delivered to DCP customers during that time period. Most of the propane deliveries from Aux Sable were comingled with propane deliveries from other sources within the two 60,000 gallon bulk storage tanks at the DCP Westfield facility. Several exceptions did occur within the months of June and July where the total source of propane for the two bulk storage tanks was from Aux Sable Liquid Products (June 1st, June 9th, June 11th, June 14th and July 5th).
- All of the DCP Westfield facility's customers that were placed on Schedule A of the Agreement were found to have properly odorized propane at their facilities or had received a number of propane deliveries from other sources prior to and after September 1, 2010 such that it was not possible to determine if any unodorized or under odorized propane

had been delivered to any of the facilities from the DCP Westfield facility with four exceptions.

- The exceptions were four facilities associated with Heritage Propane that were tested by a consultant for Heritage Propane and found to have odorant levels that were deficient. Our testing confirmed deficient odorant levels at one of these locations. None of the facilities had propane that contained no odorant. All of the facilities affected received the bulk of the propane that could have been in their tanks from the DCP Westfield facility. It could not be determined that possible deficiently odorized propane from the DCP Westfield facility was a factor in deficient odorant levels at the Heritage facilities.
- Steps have been taken by DCP to insure that all future propane deliveries to the DCP Westfield facility are properly odorized to meet state and Federal regulations prior to being unloaded into the terminal bulk storage tanks.
- Steps have also been taken by DCP to insure that all future propane deliveries to DCP customers from the DCP Westfield facility are properly odorized prior to any delivery being allowed to leave the terminal.

2. Introduction

On July 30, 2010, a fire and explosion involving propane at a condominium construction site in Norfolk,, Massachusetts resulted in one fatality and numerous injuries. Subsequent investigation by local and state authorities revealed that the propane source involved in the incident was deficient in odorant.

As a result of this investigation, the Department of Fire Services worked with the Norfolk Fire Department to issue an order to further review the remaining propane tanks on site by taking liquid samples to test for proper odorant. Stain tube testing conducted by EnergyUSA, the construction site's propane supplier commenced on August 30, 2010. By the end of the day, the Norfolk Fire Department notified the Division of Fire Safety that several additional tanks of propane at the site had been identified as lacking sufficient odorant. Further, temporary tanks of propane brought to the site and the supplier's bulk facility all tested as having weak odorant levels. EnergyUSA stated that all of the tested propane, with the exception of propane in the

underground storage tanks, was from the DCP Westfield facility. As a result, the Massachusetts Department of Fire Services visited and inspected the DCP Westfield facility.

The inspection at the DCP Westfield facility revealed that one railroad tank car had been discovered by DCP personnel to be deficient in odor when the tank car had been "sniff" tested prior to unloading the propane into the DCP Westfield storage tanks. The railroad tank car had been isolated and tagged for return to the supplier by DCP. Only the one tank car out of a number of others present at the Westfield facility had been isolated to preclude unloading at the time of the inspection by the Massachusetts Department of Fire Services personnel. Further, railroad tank cars from the same supplier were also present at the terminal and were isolated for additional testing. Several other railroad tank cars were tested in the presence of Massachusetts Department of Fire Services personnel using stain tubes. The results of these tests did reveal that the tank cars tested appeared to have sufficient odorant in the propane. It was also learned that a number of shipments from the supplier to DCP had come through the DCP Westfield facility prior to the discovery of the railroad tank car with deficiently odorized propane. The specific disposition of the propane from these other tank cars was not clear.

As a result of the Massachusetts Department of Fire Services' inspection of the DCP Westfield facility and the possible presence of under-odorized propane, the Department of Fire Services issued a cease and desist order to restrain the Westfield facility from making further deliveries of propane until additional testing could be performed, a review of delivery records made, and a determination of possibly affected downstream tanks accomplished.

In addition to the inspection of the DCP Westfield facility, state authorities inspected fifty-six propane dealers within the Commonwealth of Massachusetts. This inspection consisted of "sniff" testing. Six of the facilities were identified as having weak odorant levels. Each of the six facilities shut down voluntarily or by order of the State Fire Marshal. The following day, DCP personnel conducted stain tube testing at several facilities, which were allowed to reopen based on tests evidencing adequate odorization. Several facilities, however, were noted to have propane that was classified as "weak" with regard to intensity of the propane odorant. These facilities were noted for possible additional testing. Also, a number of propane supply facilities which were not known

to the Department of Fire Services at the time to be customers of DCP were not inspected by representatives of the Commonwealth of Massachusetts but were subsequently designated to be tested by the Independent Examiner.

3. Propane Information

Consumer grade propane is often referred to as LPG (Liquefied Petroleum Gas) because of the makeup of the product, which often includes small quantities of other hydrocarbons such as ethane, propylene and various butanes and pentanes. The reference name "propane" in wholesale and retail operations is meant to refer to commercial propane that is not chemically 100% propane. Consumer grade propane is classified as HD-5, which refers to the specification of the propane product.

Propane has a chemical classification of C_3H_8. Propane has a boiling point of -44° F at atmospheric pressure meaning that at any temperature above -44° F propane will exist as a gas at atmospheric pressure. Under pressure, the boiling point rises. In a pressure vessel such as a propane cylinder, bulk storage tank or tank car, the pressure generated by the vaporizing propane creates a pressure within the container that stops the vaporization so that as long as the container has pressurized propane vapor, propane will exist as a liquid below the contained propane vapor. The pressure of the propane vapor within the container is directly related to the ambient temperature. Delivery pressure of the propane vapor for use by the public is controlled by pressure regulators. The normal delivery pressure for propane for use by consumers is approximately 11 inches water column (w.c.), which is less than ½ psi. Propane vapor pressure within a propane cylinder at 60°F is approximately 102 psi.

Vaporized propane gas has a specific gravity of approximately 1.5 meaning that the propane vapor is 1½ times as heavy as air. The flammability limits of propane gas are between approximately 2.15% and 9.6% by volume of air. These limits are referred to as the LFL (lower flammable limit) and the UFL (upper flammable limit). These flammability limits are more commonly referred to as the LEL (lower explosive limit) and the UEL (upper explosive limit). This means that in order to burn (or explode) propane gas must be present within air at a quantity of at least 2.15% but no

more than 9.6%. Air mixtures containing propane above or below the flammability range will not combust.

Propane gas does not have a natural odor when provided to the public. A high quality synthetic odorant is added to the propane in the liquid phase. The odorant is typically ethyl mercaptan (C_2H_6S), a high impact smelling colorless organic liquid with an odor threshold of 0.4 ppb (parts per billion). Ethyl mercaptan is typically injected into the liquid propane prior to delivery of the propane to propane suppliers. Though injection at a rate of 1 pound of ethyl mercaptan per 10,000 gallons of liquid propane is considered legally sufficient, industry practice is to over odorize and inject at a rate of 1.5 pounds of ethyl mercaptan per 10,000 gallons of liquid propane. When properly injected into the propane liquid, the liquid ethyl mercaptan "flashes" throughout the propane liquid and is considered uniformly distributed.

When propane vaporizes from a liquid to a gas within a propane tank, the ethyl mercaptan also vaporizes and becomes a part of the propane gas vapor mixture. Because ethyl mercaptan and propane have different properties, the vaporization rate of the ethyl mercaptan does not occur on an equal basis with the propane. As a result, the propane vapor contains less ethyl mercaptan than the liquid propane. Odorized liquid propane, when injected at the industry standard rate, contains approximately 25 parts per million (ppm) of ethyl mercaptan while the vaporized propane contains approximately 5 ppm of ethyl mercaptan, which is more than sufficient for persons with a normal sense of smell to detect at levels below the LEL for propane. Odorized propane, when injected at the legally sufficient rate of 1 pound of ethyl mercaptan per 10,000 gallons of liquid propane, contains approximately 17 ppm of ethyl mercaptan, while the vaporized propane contains approximately 3.5 ppm of ethyl mercaptan.

The proper odorization of propane is a requirement of U.S. Federal regulations [29 CFR 1910.110 (b)(1)(i) and 49 CFR 173.315 (b)(1)] as well as Massachusetts regulations (527 CMR 6.00). The Federal regulation (29 CFR 1910.119 (b)(1)(i) states that "liquefied petroleum gases shall be effectively odorized by an approved agent of such character as to indicate positively, by distinct odor, the presence of gas down to concentration in air of not over one-fifth the lower limit of flammability." The Federal regulation further states that "The odorization requirement of

paragraph (b)(1)(i) of this section shall be considered to be met by the use of 1.0 pounds of ethyl mercaptan per 10,000 gallons of LP-gas." The requirements under 49 CFR 173.315 (b)(1) are the same.

The Massachusetts regulation adopts NFPA 58 Liquefied Petroleum Gas Code published by the National Fire Protection Association. This code requires that "all LP Gases shall be odorized prior to delivery to a bulk plant by the addition of a warning agent of such character that the gases are detectable, by a distinct odor as to indicate positively, by distinct odor, to a concentration in air of not over one-fifth the lower limit of flammability." NFPA 58 further states in Appendix A.4.2.1 that "experience has shown that ethyl mercaptan in the ratio of 1.0 lb per 10,000 gal of liquid LP-Gas has been recognized as an effective odorant."

4. Propane Bulk Supplier Investigation

As a result of the state and local investigation into the Norfolk explosion, subsequent testing and the discovery of an inadequately odorized railroad tank car at the DCP Westfield, facility, DCP was issued a cease and desist order by the State Fire Marshal until further investigation could be accomplished to determine if any unodorized propane was shipped from the DCP Westfield facility to the various propane suppliers within the state.

To provide an independent investigation into the possibility of the distribution of under-odorized or un-odorized propane by the DCP Westfield facility to its customers, the Commonwealth of Massachusetts and DCP reached an agreement to retain an "Independent Examiner". Terms of Agreement were published on September 13, 2010 that named Engineering Systems Inc. and its principal, J. Roger Craddock as the "Independent Examiner". As the "Independent Examiner" Engineering Systems Inc. (ESI) was charged with the following:

1. The inspection and testing of the current propane supply at the DCP Westfield facility that had been offloaded into DCP's bulk tanks but still remained at the terminal facility;

2. The inspection and testing of direct customers of DCP that were to be identified and listed as "Schedule A" to the agreement;

3. The inspection and testing of the propane present in a number of railroad tank cars that were located within the DCP Westfield facility or within the general vicinity of Westfield waiting to be moved into the terminal facility for processing.

The development of "Schedule A" was done by identifying and listing:

1. DCP customers that prior testing had indicated might have potential odorization problems and which had received recent deliveries of propane from the DCP Westfield facility;

2. DCP customers that were determined to have received all or most of their propane in recent months from the DCP Westfield facility and had not been previously tested;

3. Railroad tank cars containing propane that were located at the DCP Westfield facility or within the Westfield, Massachusetts vicinity awaiting delivery to the DCP Westfield facility;

4. The two 60,000-gallon bulk storage tanks located at the DCP Westfield facility that still contained previously unloaded propane in them and,

5. The Independent Examiner was also tasked with developing a plan to test DCP's customers' customers or "downstream customers" where it could be reasonably determined that the downstream customers were storing propane from the DCP Westfield facility.

The determination of which DCP customers needed to be investigated, inspected and possibly tested was based on an accounting provided to us by DCP showing where and when they had made deliveries of propane. Emphasis was placed on those propane facilities that had received propane deliveries in late July and in August except consideration was also given where the facility did receive shipments in June and there were no records of additional shipments since then. Most of these facilities were later removed when it was determined that they had received propane shipments from other sources that were not initially known to us. In addition, where the listing was recorded as unsure if other propane sources were used, the facility was added to the list until

an accurate status could be determined. Many of these facilities were later removed when it was determined that they had received shipments from other propane suppliers after the DCP Westfield facility was shut down on September 1, 2010. Where we were unable to determine that propane came from a source other than the DCP Westfield facility, we conducted testing.

5. Odorant Testing Techniques Used

The testing for the presence of ethyl mercaptan within the propane sources we checked was done primarily with the use of "stain" tubes. Stain tubes are hermetically sealed thin glass tubes that contain a detecting reagent that produces a distinct color change when a sample of odorized propane vapor is passed through the tube. To sample the propane for the presence of ethyl mercaptan, the ends of a detector tube are broken off and the tube is placed in a receptacle on a sample air pump. The propane sample to be tested is then pulled through the stain tube by the sample air pump. If ethyl mercaptan is present, the detecting reagent produces a colored stain that can be measured with a calibration scale that is printed on the tube. Detector tubes from Gastec, Sensidyne and Draeger were used in the testing that we did for ethyl mercaptan on the various propane samples checked.

The methodology that was used to test for ethyl mercaptan using the "stain" tubes generally followed the protocol outlined in ASTM D5305 – 97. This test method is designed to test propane vapor for the presence of ethyl mercaptan. In the usual sense, we would test propane from the vapor space of a tank. Since we were primarily testing for odorant levels of propane within large bulk tanks, the vapor space was stagnant and not representative of the actual quantity of ethyl mercaptan within the liquid propane. It was not practical to "blow down" the existing vapor space on large bulk tanks to allow a stain tube test from the vapor space of the tank. Therefore, we tested the propane vapor after allowing a small quantity of non-stagnant liquid propane to "flash" to a secondary container. Since all of the ethyl mercaptan is vaporized with the propane when using this method, the quantity of ethyl mercaptan we set for an acceptable level of odor was 17ppm for a liquid or flash test instead of the more typical 5 ppm expected from the vapor space of a smaller bulk tank. The acceptable level of ethyl mercaptan identified above as measured by the stain tubes is indicative of a quantity of ethyl mercaptan equal to at least 1 pound per 10,000 gallons of propane.

In addition to testing the propane using stain tubes, a number of liquid propane samples were secured in high pressure Teflon lined stainless steel sample containers and sent to EFI Global's chemist Christine Foran in Humble, Texas for analysis of volatile sulfurs (odorant) using computer interfaced gas chromatography. The results of the testing of the liquid samples were used to better quantify the stain tube results. The results of the stain tube testing generally compared favorably with the more accurate liquid sample testing. The results of the stain tube testing as well as the liquid sample testing are attached as an addendum to this report.

6. Discussion of test results for ethyl mercaptan

When field testing for ethyl mercaptan using stain tubes, it is important to insure that the propane vapor sample being tested has not been stagnant prior to being tested. When propane vapor is allowed to be stagnant within a propane tank for a period of time, the ethyl mercaptan molecules within the propane vapor can be weakly attracted to the sidewalls of the container. This is not considered to be a problem with the odorization of the propane as the odor quantity is quickly restored as soon as the propane vapor is put in motion as would be the case if propane were allowed to flow from the container. Because the quantity of ethyl mercaptan molecules that are contained within the vapor space of a propane tank is very small in comparison the quantity of propane molecules, any temporary attraction of the ethyl mercaptan to the side walls of the container can have a material affect on the quantity of odorant that is detected using the stain tube method of testing.

In this case, the propane containers that were to be tested for ethyl mercaptan were extremely large and the vapor space contained in the upper confines of the tank had likely been stagnant for years since the tanks were primarily used for liquid withdrawal and not vapor withdrawal. As such, we used the propane vapor that was "flashed" from the liquid to test with the stain tubes as described above.

When liquid propane is allowed to sit in a stagnant condition for a period of time, the ethyl mercaptan molecules within the liquid phase can also be affected by attraction to the sidewalls of the container. In this case, a number of the railroad tank cars that were present at the DCP Westfield facility had been present for a number of months. In some cases, the stain tube testing

showed a quantity of odorant that initially appeared to be somewhat deficient. However, when the tank car was moved around within the facility and the propane was re-tested, the quantity of ethyl mercaptan odorant within the liquid propane was determined to be adequate.

A review of the DCP delivery records for June, July and August 2010 as well as a review of the preliminary testing and/or checking of the various DCP customers conducted by the Massachusetts state authorities as well as the previous test results done for Heritage Propane and DCP led to the development of Schedule A that was mandated by the terms of the agreement. The Schedule A list, as initially developed, is attached as an addendum to this report. A number of the facilities that were listed on Schedule A were listed because they received propane shipments from the DCP Westfield facility during the June – August 2010 time period but no other information was available to us. A number of these facilities were later eliminated from Schedule A after it was determined that they had received shipments of propane from other suppliers subsequent to a number of propane shipments from DCP or that they had received the bulk of their propane shipments from sources other than the DCP Westfield facility.

The testing of the various DCP customers that had received shipments of propane from the Westfield terminal revealed that the quantity of ethyl mercaptan that was within the propane remaining at the customer facility was adequate with the exception of several facilities that are associated with Heritage Propane (Kingston Propane and Vineyard Propane).

Heritage Propane received shipments from the DCP Westfield facility during June, July and August at a number of their affiliated propane facilities in Massachusetts. Stain tube testing and liquid sample testing was conducted at the Heritage bulk plants and on propane stored by several Heritage customers by Gary Smith of Peak Engineering on behalf of Heritage. Four of the Heritage affiliated propane facilities were determined to have levels of odorant that were below 1 pound per 10,000 gallons of propane. These facilities were Kingston Propane (bulk plant) in Sandwich, Massachusetts (0.8 lbs/10,000 gallons), Vineyard Propane (bulk plant) in Edgartown, Massachusetts (Martha's Vineyard) (0.5 lbs/10,000 gallons), Harmony II Liquors (customer), Halifax, Massachusetts (0.5 lbs/10,000 gallons) and Edgartown Waste Water (customer), Edgartown, Massachusetts (0.9 lbs/10,000 gallons). The Harmony II Liquors facility is a small

bulk tank that is used to fill small cylinders on a cash and carry basis. The product in this tank had been replaced by Heritage on September 16, 2010 and we did not test the tank as a result. The Edgartown Waste Water propane facility was a 500 gallon bulk tank that was not in use. The previous test result from the liquid sample taken by Peak Engineering showed ethyl mercaptan to be present at a level of 0.9 lbs/10,000 gallons of propane. We stain tube tested the same tank and determined the level of odorant to be more than adequate but the tank contents had been altered since the Peak Engineering test.

The propane that was contained in the four 30,000 gallon bulk tanks at Vineyard Propane in Edgartown, Massachusetts had also been altered by the delivery of approximately 10 transport deliveries from Sea3 (Newington, New Hampshire) and DCP (Albany) since the initial testing done by Peak Engineering. As such, the propane within each of the storage tanks was not the same as the propane that was tested by Peak Engineering. We did test each of the four tanks using stain tubes and determined that the level of odorant was sufficient. We also tested a number of tanks at Vineyard Propane's customer locations, which will be discussed later in this report.

The propane at the Heritage Propane affiliated Kingston Propane facility in Sandwich, Massachusetts did receive a shipment of propane on September 3, 2010 from DCP, Albany that totaled 9,004 gallons (ticket 22100610). The propane source had not been altered since Peak Engineering secured their liquid sample on September 8, 2010. The Peak Engineering liquid sample showed a level of ethyl mercaptan of 0.8 lbs/10,000 gallons of propane. Our stain tube test showed a deficient level of odorant and our liquid sample (taken September 20, 2010) showed an ethyl mercaptan level of 0.6 lbs/10,000 gallons of propane, which confirmed a deficient level of odorant. Following our testing of the single 30,000 gallon bulk storage tank at Sandwich, the tank was supplementally odorized by Heritage Propane. We stained tube tested the propane in the tank following the supplemental odorization and found the odorant level to be satisfactory.

We stain tube tested 14 of Vineyard Propane's customer tanks in the Edgartown, Massachusetts area. Of the 14 tanks that were tested, 7 showed that the propane was not sufficiently odorized. Of the 7 tanks, 3 were new or recently refurbished which could account for the diminishment of the odorant. The other four tanks were identified as having been set for a sufficient time to be

"seasoned" suggesting that the propane in these tanks was not sufficiently odorized. All of the "seasoned" tanks received last deliveries of propane from Vineyard Propane in July or August 2010. The possibility of the introduction of propane containing an insufficient quantity of odorant cannot be discarded. All of the propane in the 7 tanks has been subsequently replaced or the tanks replaced with tanks containing properly odorized propane since our testing on September 23, 2010.

We stain tube tested 14 of Kingston Propane's customer tanks in the Sandwich, Massachusetts area on September 24, 2010. Of the 14 tanks that were tested, 6 showed that the propane was not sufficiently odorized. Of the 6 tanks, 5 were new or recently refurbished which could account for the diminishment of the odorant. The other tank was a 500-gallon tank used at an industrial facility to refill forklift cylinders. This tank was set in 1994 and would be identified as "seasoned" and should not have affected the odorant. The tank received a last delivery of propane from Kingston Propane on August 9, 2010. When tested, the stain tube revealed a reading of 3 ppm (vapor phase). As such, the possibility of the introduction of propane containing an insufficient quantity of odorant cannot be discarded. All of the propane in the 6 tanks has been subsequently replaced or the tanks replaced with tanks containing properly odorized propane since our testing on September 24, 2010.

We tested several customer tanks at the EnergyUSA Propane bulk plant in Medway, Massachusetts. Two 120 gallon downstream customer tanks were stain tube tested and a liquid sample was pulled from one of the tanks (Nat Bd 19776). EnergyUSA expressed concern to us about the adequacy of the odorant level in the tanks. The stain tube testing, as well as the liquid sample testing, revealed that the amount of odorant in the propane contained in each of the tanks was adequate.

Consideration was also given to possible testing of other DCP Westfield facility customer's downstream customers. We determined that the other DCP Westfield facility customers had either adequately odorized propane at their facilities or had received propane in sufficient quantities from other sources that further downstream customer testing would not generate any meaningful

data to our investigation. As such, we determined that additional testing of the downstream customers was not necessary.

We stain tube tested the railroad tank cars at the DCP Westfield facility and determined that each of the railroad tank cars that contained propane scheduled for delivery into the two 60,000 gallon storage tanks had a level of ethyl mercaptan that was satisfactory except for four tank cars that had been shipped from Aux Sable Liquid Products In Morris, Illinois. The propane in each of the four railroad tank cars was determined to not be odorized. In addition, liquid propane samples were also taken from the tank cars, which revealed that the propane within the tank cars was not odorized. In addition, DCP personnel had identified another railroad tank car from Aux Sable Liquid Products that contained unodorized propane.

The DCP Westfield facility receives all of their propane in railroad tank cars that hold approximately 30,000 gallons of propane each. The propane is shipped pre-odorized by the suppliers to DCP. These suppliers during the months of June, July and August 2010 were Mark West (Hydrocarbon City, Kentucky), BP Canada Energy Company (Sarnia, Ontario) and Aux Sable Liquid Products (Morris, Illinois).

Our inspection and testing of the propane supplied to the DCP Westfield facility found that only shipments that were received from Aux Sable Liquid Products were deficient in the amount of Ethyl mercaptan that was contained within the propane. We were only able to test or identify five railroad tank cars of propane from Aux Sable Liquid Products that remained unloaded at the Westfield terminal facility. A review of the available records revealed that 125 other railroad tank cars from Aux Sable were received and unloaded at the DCP Westfield facility during June, July and August 2010. The tank cars were reported to us to have been "sniff" tested by DCP Midstream personnel prior to being unloaded. In addition, a log of stain tube testing that DCP Midstream provided to us also revealed that 6 of 77 Aux Sable railcars were stain tube tested in June; 8 of 46 Aux Sable railcars were stain tube tested in July; and 1 of 7 Aux Sable railcars were stain tube tested in August. All of the railcars from Aux Sable that were stain tube tested were recorded as having sufficient odorization on the bills of lading. We do know that 421 other railroad tank cars containing propane from other suppliers were received and off loaded at the Westfield terminal

facility during this same period of time. Of these 421 railcars all were reported to us as having been "sniff" tested and 37 of the railcars were tested by DCP personnel using stain tubes and were reported to have adequate odorization.

7. Testing procedures used by DCP Midstream for checking odorant in propane delivered to Westfield prior to September 4, 2010.

When deliveries of propane were delivered to the DCP Westfield facility prior to September 4, 2010, the contents of the railroad tank cars were tested by the DCP operators before the propane could be unloaded into the terminal storage tanks for subsequent delivery to DCP customers. The testing, according to DCP, consisted of a "sniff" test that the operator performed on every car plus stain tube testing that was performed on a small percentage of the tank cars. This testing procedure is generally typical of what we have observed for a number of years at similar facilities. The "sniff" test is a subjective test that relies on the sense of smell and the personal status of the individual doing the sniff test. In this case, the initial railroad tank car of unodorized propane was discovered by the DCP operator who, we were informed, did a "sniff" test of the tank car contents and discovered an apparent deficiency in the odor of the propane. The railroad tank car was tagged to not be unloaded and the railcar was isolated onto a lease track adjacent to the DCP Westfield facility.

The testing procedures that were in place at the DCP Westfield facility prior to September 4, 2010 did include documentation for the testing performed that was contained on a Tank Car Unloading Worksheet. This worksheet did have a place where testing for ethyl mercaptan as well as hydrogen sulfide and ammonia could be documented. We examined a significant number of the worksheets for the railroad tank car deliveries that were received and offloaded at the Westfield terminal facility. In some instances, the testing was documented on the worksheet but in many instances there was no clearly identifiable documentation that any testing had been done. We were informed by DCP's Jeff Hurteau that the Tank Car Unloading Worksheet was not a current form and that the operator's initials on the railcar bill of lading or the Shipping Instructions summary and the worksheet signified that a "sniff" test had been done. In addition, a log was kept of the railcars where stain tube testing was done. The problem to us is that it was not clear from the face of the documents themselves that the "sniff" testing was done and the log of railcars that

were stain tube tested was not initially available to us. As such, the confirmation of testing on the railroad tank cars that were unloaded at the DCP Westfield facility could not be verified by a review of the available records.

8. Testing procedures DCP Midstream has initiated for checking odorant in propane delivered to Westfield since September 4, 2010.

On September 4, 2010, DCP issued changes in the operation procedures that were to be followed in the testing of propane in railroad tank cars for ethyl mercaptan at all DCP rail terminals. These changes include the following with regard to the frequency and documentation of "sniff" testing and stain tube testing of the propane product received by rail:

> *Every railcar received must be sniff tested and stain tube tested for Ethyl Mercaptan content. Two railcars per track, per rail shift must be tested for ammonia and hydrogen sulfide contamination. All test results must be recorded in the Railcar Pre-Offloading Testing Log. All product quality assurance testing must occur prior to offloading. Digital photographs must be taken of the stain test tubes with identification of the car tested, DCP employee conducting the test, date and time of the test. All records of product quality testing will be retained for two years in the facility. Any railcar failing any test may not be unloaded without Management approval.*[1]

In the event that a railcar is discovered to have "low or no odorant", DCP Midstream has initiated the following requirement regarding the handling of the railcar:

> *If a railcar is received with low or no odorant, the car is to be held until determination can be made on the following possible course of action; 1. Reject shipment of the car. 2. Unload the car in conjunction with a car that is at a minimum "double stenched".*[2]

The documentation of the "sniff" testing as well as the ethyl mercaptan stain tube testing and the ammonia and hydrogen sulfide testing is now being recorded on a revised DCP Tank Car Unloading Worksheet that has a space to record the ethyl mercaptan stain tube testing. The other

[1] DCP North East Propane Terminals Procedural Orders Section E #6.
[2] DCP North East Propane Terminals Procedural Orders Section A#16.

test recordings for the sniff test and the ammonia and hydrogen sulfide testing remain the same as before.

DCP Midstream has also initiated changes in the methods that transports are handled at the time that the transports are loaded for propane delivery to DCP Midstream customers. These changes are as follows:

> *Once per shift all terminals are to randomly select one loaded transport and conduct a sniff test and an Ethyl Mercaptan stain tube test. Results are to be documented and a digital photograph taken of the stain test tube, transport company, transport ID, BOL #, date and time. These results are to be recorded on the Transport Ethyl Mercaptan Test log. Records must be kept in the facility for two years.*[3]
>
> *Prior to allowing any/all loaded transports to leave our facility DCP Employees are required to verify the transport driver smells odorant from the propane loaded in his transport. DCP Employees must ensure every transport BOL is signed by the driver indicating he has detected odorant from the propane in his transport. If odorant is not detected and verified by stain tube test the transport must be unloaded and all loading is to cease until the problem is corrected. If the driver indicates <u>he</u> can not detect odorant and odorant is detected by DCP employee sniff and stain tube testing the transport must be unloaded. We will not allow a load of propane out of the facility if the driver does not have the ability to detect odorant.*[4]
>
> *At the first indication of failure to detect odorant in any loaded transport all transport loading in the facility is to cease until the problem is corrected.*[5]

9. <u>Discussion</u>

Propane is odorized before it is delivered to the consumer to insure that it has a distinct odor that will warn individuals of its presence. This is especially critical in the event of a leak of propane vapor into the interior of a dwelling or other structure or facility. The quantity of odorant that is

[3] DCP North East Propane Terminals Procedural Orders Section F #15.
[4] DCP North East Propane Terminals Procedural Orders Section F #16.
[5] DCP North East Propane Terminals Procedural Orders Section F #17.

added to the propane is calculated to be sufficient if it can be detected by a person with an ordinary sense of smell at a level that is no greater than 20% of the lower explosive level of a propane air fuel mixture. This means that the presence of fugitive propane in an amount that does not exceed approximately 0.5% by volume of air should be detected. Propane, at this level, will not explode.

The explosive limits of propane in air are limited to a volume between approximately 2.15% and 9.6% in air. Assuming that the propane is normally odorized with sufficient ethyl mercaptan to meet the required dosage, the detection of the propane should not be a problem as the odor intensity of ethyl mercaptan within the explosive limits of propane is intense.

Ethyl mercaptan is used as the odorant of choice for propane because of its properties that allow sufficient levels of ethyl mercaptan to boil off with the liquid propane into the propane vapor that is delivered by the storage container to be readily detected within the required volume limits.

Propane is odorized prior to being shipped to bulk plants such as the DCP Westfield facility. This is typically done at a pipeline terminal, refinery or other loading facility such as a ship terminal like Sea3's facility in Newington, New Hampshire. In this case, DCP receives their propane in 30,000 gallon railcars that have already been odorized.

The adding of ethyl mercaptan to the liquid propane during loading has become more sophisticated over the years. In early years, odorant was added by pouring it into a loading hose and flashing the odorant into the propane during loading. Later improvements used sight glasses where the odorant was collected and then flashed into the transport with the liquid propane being loaded. More modern odorization equipment includes injection pumps that are tied to the propane loading pumps so that odorant is injected automatically following the delivery of a set number of gallons of propane. Sail switches are often used to insure that the odorant was added to the propane. The failure of the sail switch to function automatically shuts down the propane loading.

In this case, the propane that was delivered to the DCP Westfield facility in the various railroad tank cars was to be odorized with the quantity of odorant added recorded on the railcar bill of lading. Our review of the records of the bills of lading for all of the railcars of propane that were delivered to the DCP Westlake facility revealed that each bill of lading was stamped with the quantity of ethyl mercaptan added to the railcar before shipment. The bills of lading for each of the Aux Sable railcars that we examined showed that odorant had been added to the tank car in a quantity that equated to a dosage of 1.5 pounds of ethyl mercaptan per 10,000 gallons of propane (4.5 pounds/30,000 gallons). In fact, the stated odorant quantities on the bills of lading for the Aux Sable railcars indicates an automated injection systems was used to add the odorant to the propane. What is odd is that the bill of lading for each of the Aux Sable railcars that were found to not contain odorant had a quantity of odorant stamped on the bill of lading indicating that a quantity of ethyl mercaptan equal to 1.5 pounds per 10,000 gallons of liquid propane added when none had apparently been added.

The method that DCP had been using to verify odorant in each railroad tank car of propane that they received is pretty standard within the industry given the fact that each railcar arrived with a bill of lading indicating that the propane had been properly odorized prior to shipping. The problem was that railroad tank cars of liquid propane were shipped to the terminal that were not odorized. As a result, the avoidance of a possible serious problem of delivering unodorized or under odorized propane to the public relied on a single "sniff" test that is, at best, very subjective due to a number of possible problems such as an individual's continued ability to smell properly, possible medical problems such as a cold or sinus problems, and any possible distractions such as family problems.

After careful consideration, it is our belief that DCP personnel did detect the presence of the unodorized propane before the initial railcar was unloaded. The other four railcars were not tested until we tested them during this investigation but the shipping seals were in place and no railcars were being unloaded until they had been tested by us.

The Heritage Propane facilities that were found to be not adequately odorized can be explained, in part, by the introduction of other sources of propane into the storage and by the presence of new

or re-conditioned tanks that were present at a number of customer locations. We also found some Kingston Propane and Vineyard Propane customers (Heritage affiliates) that had insufficiently odorized propane in tanks that had not been recently replaced or refurbished. It must be remembered that the bulk tanks at the Sandwich (Kingston Propane) and Vineyard Haven (Vineyard Propane) locations had not been removed from service or otherwise opened to possible moisture contamination. As such, it remains possible that one or more deliveries were made to these facilities that were not properly odorized. It is doubtful that, if this occurred, the propane would not contain some odorant. Since these sources of propane have since been supplementally odorized, we are confident that the propane stored at these facilities is properly odorized.

The introduction of the supplemental procedures by DCP on September 4, 2010 for the testing and documenting of adequate odorization in propane being delivered to their facilities as well as being delivered from their facilities is excellent. The full implementation of the procedures should ensure that any future deliveries of unodorized propane to DCP's Westfield facility will be detected and remediated prior to delivery to the public.

Conclusions

Based on our inspection of the DCP Midstream Westfield, Massachusetts railroad terminal facility, our testing of the unloaded railroad tank cars of propane at the facility, our inspection and testing of a number of DCP downstream customers, our inspection and testing of some customers downstream of the DCP customers, our review and analysis of the DCP records and policies and procedures, we have reached the following conclusions and opinions relating to the tasks assigned to us in the September 13, 2010 Terms of Agreement between the Massachusetts Office of Attorney General, the State Fire Marshal and DCP Midstream Partners LP and its affiliate Gas Supply Resources:

1. Unodorized and or under odorized propane was shipped to the DCP Westfield facility in July 2010.

2. The source of the unodorized and or under odorized propane was Aux Sable Liquid Products of Morris, Illinois.

3. Railcars containing propane from other source suppliers (Mark West and BP Canada) that were located at the DCP Westfield facility were found to be adequately odorized.

4. A total of five railcars from Aux Sable Liquid Products were identified as being present at the DCP Westfield facility that were tested and found to contain no ethyl mercaptan (propane odorant). None of these railcars was unloaded into the DCP storage tanks.

5. Each of the Aux Sable Liquid Products railcar bills of lading clearly showed that the propane contained within the railcar had been properly odorized when, in fact, it had not.

6. A total of 546 railcars of propane including 125 railcars of propane from Aux Sable Liquid Products were off loaded into the DCP Westfield facility during the period from June 1, 2010 through August 31, 2010.

7. We were informed by DCP that all of the railcars of propane that were offloaded into the DCP Westfield facility were "sniff" tested and determined to be odorized by a DCP operator before the railcar was unloaded.

8. Our review of the available records from DCP would not allow for us *to* independently verify that the "sniff" testing was done.

9. We did review a number of records that indicated that stain tube testing was done by a DCP operator before various railcars were unloaded into the terminal facility. These records indicated that 52 of 546 railcars of propane were stain tube tested before being unloaded with satisfactory odorant levels being determined by DCP.

10. The initial railcar of unodorized propane was discovered by a DCP operator doing a "sniff" test. While the "sniff" test is commonly done at bulk plants such as the DCP Westfield facility, the test is subjective and not always reliable enough to prevent the introduction of unodorized or under odorized propane into a bulk plant. Normally, the "sniff" test is done to verify that that the propane is odorized. The actual verification of the amount of odorant

is recorded on the bills of lading for the railcar. In this case, the bills of lading for the five Aux Sable Liquid Products railcars did have a recording of the amount of ethyl mercaptan that had been added to the railcar when, in fact, such ethyl mercaptan was not present

11. We found no direct evidence that any propane containing an insufficient quantity of odorant was shipped from the DCP Westfield facility. There is evidence at several Heritage Propane facilities that some insufficiently odorized propane *might* have been shipped from DCP to the Heritage Propane dealers in Sandwich, Massachusetts and Edgartown, Massachusetts (Martha's Vineyard).

12. We found that the supplemental procedures enacted by DCP on September 4, 2010 for the testing and documenting of adequate odorization in propane being delivered to their facilities as well as being delivered from their facilities are excellent.

13. It is our opinion that the full implementation of the procedures should eliminate the possibility of any future deliveries of unodorized propane from being not detected and delivered to the public from DCP terminal facilities.

Addendum

Schedule A

Schedule A
(Shows All Facilities Including Ones to be Removed)

Facility	Facility Location	Comments
Amerigas	Athol	Previously tested - recorded at 22ppm on 9/3/10 by Matthew Allen (MA SFM office)
Amerigas	Baldwinville	Previously tested "normal" by Matthew Allen (MA SFM office) - have received deliveries
Amerigas	Everett	received additional product since September - remove
Amerigas	Greenfield	Previously tested "normal" by Matthew Allen (MA SFM office) - have received deliveries
Amerigas	Housatonic	Odorant records show normal odorant - remove
Amerigas	Hyannis	received additional product since September - remove
Amerigas	Martha's Vineyard	Same as Vineyard Haven - remove
Amerigas	New Bedford	received additional product since September - remove
Amerigas	Palmer	received additional product since September - remove
Amerigas	Vineyard Haven	Tested ok by IE - remove from list
Eastern	Walpole	Not On Previously Inspected List - received additional product - remove from list
Amerigas	Westfield	received additional product since September - remove
Amerigas	Winchendon	received additional product since September - remove
Amerigas	Orange	Customer tank - shopping center - product delivered since 9-1-10 - remove
EnergyUSA Propane	Medway	Tested ok by IE - remove from list
EnergyUSA Propane	Taunton	Tested ok by IE - remove from list
Heritage Propane (Enerprise)		
Kingston Propane	Sandwich	Tested deficient by IE - 9/20/10 -add odorant - ok - remove from list
Vineyard Propane	Edgartown	Tested ok by IE - remove from list
Vineyard Propane	Edgartown	Tested ok by IE - remove from list
Edgartown Waste Water	Edgartown	Previously liquid tested - results deficient - product has been rotated - remove
Harmony II Liquors	Halifax	Product rotated - previously tested deficient - can be removed from list
Kingston Propane	Kingston	Tested ok by Heritage - received product in September - IE reviewed remove
Southeastern Propane	Westport	Tested ok by Heritage - not State Inspected - IE reviewed - remove from list
Inergy/Arrow Gas	Swansea	Retested 9-27-10 after saupplemental odorization - ok - remove from list
Inergy/Yates Gas	Nantucket	Have received additional loads of product during September - remove from list
Nantucket Energy	Nantucket	Have received additional loads of product during September - remove from list
Paraco Gas	Uxbridge	Have received 3 additional loads of product during September - remove from list
Island Propane (Listed as Patten)	Vineyard Haven	Tested ok by IE - remove from list
Suburban Propane	Marlboro	Have received additional loads of product during September - remove from list
Wrightington Gas	Carver	Tested ok by IE - remove from list

Schedule A
(Shows All Facilities Including Ones to be Removed)

Facility	Facility Location	Railcar Number	Location	Status	Comments
DCP Midstream	Westfield	PROX 32854	Track 1 TWR 5	Full	Tested by IE - odorant ok - ok to use
"	"	TEIX 34005	Track 1 TWR 4	Liquid Empty	
"	"	PROX 32856	Track 1 TWR 3	Liquid Empty	
"	"	TEIX 33677	Track 1 TWR 2	Full	Tested by IE - odorant ok - ok to use
"	**"**	**TEIX 34006**	**Track 1 TWR 1**	**Full**	**Rejected as "0" ppm - no need to test**
"	"	CTCX 780439	Track 2 TWR 3	Full	Tested by IE - odorant ok - ok to use
"	"	TEIX 33550	Track 2 TWR 2	Full	Tested by IE - odorant ok - ok to use
"	"	TGPX 33606	Track 2 TWR 1	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 32784	Track 3	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 32830	Track 3	Full	Tested by IE - odorant ok - ok to use
"	"	TEIX 33736	Track 3	Full	Tested by IE - odorant ok - ok to use
"	**"**	**TILX 304063**	**Lease Track**	**Full**	**Tested by IE - no odorant - rejected**
"	**"**	**TEIX 33693**	**Lease Track**	**Full**	**Tested by IE - no odorant - rejected**
"	**"**	**TILX 304095**	**Lease Track**	**Full**	**Tested by IE - no odorant - rejected**
"	"	PROX 29964	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	TILX 302654	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 32800	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	TILX 301553	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	TILX 302653	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	**"**	**TEIX 33692**	**Lease Track**	**Full**	**Tested by IE - no odorant - rejected**
"	"	PROX 29961	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 32773	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 34511	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 29934	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	CTCX 780462	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 32836	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	TEIX 34007	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	UTLX 952882	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	UTLX 953208	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	**"**	UTLX 950117	Lease Track	Full	Tested by IE - odorant short - retested - ok
"	"	UTLX 952841	Lease Track	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 32866	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	TILX 304091	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	TGPX 3303	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	TILX 304111	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	PROX 34507	Track 7	Full	Tested by IE - odorant short - retested- ok
"	"	TILX 302644	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	UTLX 99888	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	TILX 304073	Track 7	Full	Tested by IE - odorant ok - ok to use
"	"	TEIX 33678	Track 7	Full	Tested by IE - odorant ok - ok to use

Addendum

Liquid Propane Sample Test Results

EFI Global
Complex Issues • Solid Solutions

8811 FM 1960 Bypass Road West
Suite 400
Humble, TX 77338
Tel: 281-358-4441
Tel: 800-334-0200
Fax: 281-358-2517
www.efiglobal.com

EFI CHEMICAL LABORATORY REPORT

September 17, 2010

Mr. Roger Craddock
ESI
16770 Imperial Valley
Houston, TX 77060

RE: **ANALYSIS OF LIQUEFIED PETROLEUM GAS**

Sample Location:	See Table I
Date Received:	09-17-10
EFI File No:	98211-00964

Sample Identification: Three cylinders reported to contain Liquefied Petroleum (LP) Gas

PROCEDURE:
Three samples of LP gas were received for analysis of volatile sulfurs and light hydrocarbon components. The volatile sulfurs were determined by computer interfaced gas chromatography using a flame photometric detector and a Supelpak-S Teflon column. An ethyl mercaptan standard of known concentration was analyzed in tandem for calibration.

Light hydrocarbon (C1-C5) components were determined by gas chromatography using a thermal conductivity detector and a 30' x 1/8" stainless steel Supelco 17% SP1700/Chromasorb PAW column. Certified hydrocarbon standards were analyzed in tandem for calibration.

RESULTS:
See Table I.

The National Fire Protection Association states as a recommendation: "Experience has shown that ethyl mercaptan in the ratio of 1.0 lb (0.45kg) per 10,000 gal (37.9m^3) of liquid LP-Gas has been recognized as an effective odorant." (NFPA 58, Section A-1-4.1, 1992 ed.)

Please contact me if I may be of further service.

Respectfully submitted,

Christine S. Foran
Chemist
EFI Global Chemistry Lab

TABLE I
EFI CHEMICAL LABORATORY REPORT
COMPONENTS IN FUEL GAS SAMPLES
EFI FILE NO: 98211-00964

SAMPLE IDENTIFICATION

Sample Date:	**09-16-10**	**09-16-10**	**09-15-10**
Hydrocarbon Components (% vol. air normalized)	**DCP Midstream Westfied Transfer Facility Tank 1**	**Wrighton's Tanker Truck Collected by DCP**	**Wrighton's Tanker Truck Collected by ESI**
Methane	<0.01	<0.01	<0.01
Ethane	5.89	4.99	6.33
Propane	92.47	93.27	92.04
Propylene	<0.01	<0.01	<0.01
i-Butane	1.28	1.36	1.28
n-Butane	0.36	0.39	0.36
Other Butanes	<0.01	<0.01	<0.01
i-Pentane	<0.01	<0.01	<0.01
n-Pentane	<0.01	<0.01	<0.01
Other Pentanes	<0.01	<0.01	<0.01

Volatile Sulfurs (ppm mol basis)	**DCP Midstream Westfied Transfer Facility Tank 1**	**Wrighton's Tanker Truck Collected by DCP**	**Wrighton's Tanker Truck Collected by ESI**
Carbonyl Sulfide/H2S	<1	<1	<1
Methyl Mercaptan	<1	<1	<1
Ethyl Mercaptan	19	26	21
Dimethyl Disulfide	<1	1	1
Methyl Ethyl Disulfide	<1	<1	<1
Diethyl Disulfide	3	2	4
Other Sulfurs	<1	<1	<1
Ethyl Mercaptan lbs/10,000gal	**1.2**	**1.5**	**1.2**

EFI Global
Complex Issues • Solid Solutions

8811 FM 1960 Bypass Road West
Suite 400
Humble, TX 77338
Tel: 281-358-4441
Tel: 800-334-0200
Fax: 281-358-2517
www.efiglobal.com

EFI CHEMICAL LABORATORY REPORT

September 21, 2010

Mr. Roger Craddock
ESI
16770 Imperial Valley
Houston, TX 77060

RE: **ANALYSIS OF LIQUEFIED PETROLEUM GAS**
Sample Location: See Table I
Date Received: 09-20-10
EFI File No: 98211-00964

Sample Identification: Three cylinders reported to contain Liquefied Petroleum (LP) Gas

PROCEDURE:
Three samples of LP gas were received for analysis of volatile sulfurs and light hydrocarbon components. The volatile sulfurs were determined by computer interfaced gas chromatography using a flame photometric detector and a Supelpak-S Teflon column. An ethyl mercaptan standard of known concentration was analyzed in tandem for calibration.

Light hydrocarbon (C1-C5) components were determined by gas chromatography using a thermal conductivity detector and a 30' x 1/8" stainless steel Supelco 17% SP1700/Chromasorb PAW column. Certified hydrocarbon standards were analyzed in tandem for calibration.

RESULTS:
See Table I.

The National Fire Protection Association states as a recommendation: "Experience has shown that ethyl mercaptan in the ratio of 1.0 lb (0.45kg) per 10,000 gal (37.9m^3) of liquid LP-Gas has been recognized as an effective odorant." (NFPA 58, Section A-1-4.1, 1992 ed.)

Please contact me if I may be of further service.

Respectfully submitted,

Christine S. Foran
Chemist
EFI Global Chemistry Lab

TABLE I
EFI CHEMICAL LABORATORY REPORT
COMPONENTS IN FUEL GAS SAMPLES
EFI FILE NO: 98211-00964

SAMPLE IDENTIFICATION

Sample Date:	**09-17-10**	**09-17-10**	**09-17-10**
Hydrocarbon Components (% vol. air normalized)	**Energy USA Medway, MA 67-69 Milford Rd Tank 1**	**Energy USA Medway, MA Tank 2**	**Energy USA Tank Sample NB 19776**
Methane	<0.01	<0.01	<0.01
Ethane	4.66	1.28	3.02
Propane	94.39	98.59	96.16
Propylene	<0.01	<0.01	<0.01
i-Butane	0.75	0.08	0.64
n-Butane	0.20	0.05	0.18
Other Butanes	<0.01	<0.01	<0.01
i-Pentane	<0.01	<0.01	<0.01
n-Pentane	<0.01	<0.01	<0.01
Other Pentanes	<0.01	<0.01	<0.01

Volatile Sulfurs (ppm mol basis)	**Energy USA Medway, MA 67-69 Milford Rd Tank 1**	**Energy USA Medway, MA Tank 2**	**Energy USA Tank Sample NB 19776**
Carbonyl Sulfide/H2S	<1	<1	<1
Methyl Mercaptan	<1	<1	<1
Ethyl Mercaptan	20	27	24
Dimethyl Disulfide	1	<1	1
Methyl Ethyl Disulfide	1	<1	3
Diethyl Disulfide	3	1	32
Other Sulfurs	<1	<1	<1
Ethyl Mercaptan lbs/10,000gal	**1.2**	**1.6**	**1.5**

EFI Global
Complex Issues • Solid Solutions

8811 FM 1960 Bypass Road West
Suite 400
Humble, TX 77338
Tel: 281-358-4441
Tel: 800-334-0200
Fax: 281-358-2517
www.efiglobal.com

EFI CHEMICAL LABORATORY REPORT

September 24, 2010

Mr. David Schlee
4050 Pennsylvania Avenue
Suite 300
Kansas City, MO 64171

RE: **ANALYSIS OF LIQUEFIED PETROLEUM GAS**
Sample Location: See Tables I & II
Date Received: 09-23-10
EFI File No: 98211-00964

Sample Identification: Eight cylinders reported to contain Liquefied Petroleum (LP) Gas

PROCEDURE:
Eight sample cylinders of LP gas were received for analysis of volatile sulfurs and light hydrocarbon components. The volatile sulfurs were determined by computer interfaced gas chromatography using a flame photometric detector and a Supelpak-S Teflon column. An ethyl mercaptan standard of known concentration was analyzed in tandem for calibration.

Light hydrocarbon components were determined by gas chromatography using a thermal conductivity detector and a 30' x 1/8" stainless steel Supelco 17% SP1700/Chromasorb PAW column. Certified hydrocarbon standards were analyzed in tandem for calibration.

RESULTS:
The rupture disk failed on the sample identified as TEIX 33693, sample date: 09/21/10, and the sample cylinder was empty upon receipt. Therefore no data was generated for this location.

See Tables I & II and for complete results.

The National Fire Protection Association states as a recommendation: "Experience has shown that ethyl mercaptan in the ratio of 1.0 lb (0.45kg) per 10,000 gal (37.9m^3) of liquid LP-Gas has been recognized as an effective odorant." (NFPA 58, Section A-1-4.1, 1992 ed.)

Please contact me if I may be of further service.

Respectfully submitted,

Christine S. Foran
Chemist
EFI Global Chemistry Lab

TABLE I
EFI CHEMICAL LABORATORY REPORT
COMPONENTS IN FUEL GAS SAMPLES
DATE RECEIVED: 09-23-10
EFI FILE NO: 98211-00964

SAMPLE IDENTIFICATION

Sample Date:	**09-21-10**	**09-21-10**	**09-21-10**	**09-21-10**
Hydrocarbon Components (% vol. air normalized)	**Vineyard Propane Edgartown Tank 1**	**TEIX 33692 Sample 1**	**TILX 30495 Sample 2 Westfield, MA**	**TEIX 33693 Sample 3***
Methane	<0.01	<0.01	<0.01	No Data
Ethane	0.83	1.95	3.06	No Data
Propane	99.03	97.88	96.75	No Data
Propylene	<0.01	<0.01	<0.01	No Data
i-Butane	0.11	0.17	0.19	No Data
n-Butane	0.03	<0.01	<0.01	No Data
Other Butanes	<0.01	<0.01	<0.01	No Data
i-Pentane	<0.01	<0.01	<0.01	No Data
n-Pentane	<0.01	<0.01	<0.01	No Data
Other Pentanes	<0.01	<0.01	<0.01	No Data

Volatile Sulfurs (ppm mol basis)	**Vineyard Propane Edgartown Tank 1**	**TEIX 33692 Sample 1**	**TILX 30495 Sample 2 Westfield, MA**	**TEIX 33693 Sample 3***
Carbonyl Sulfide/H2S	<1	<1	<1	No Data
Methyl Mercaptan	<1	1	<1	No Data
Ethyl Mercaptan	40	1	<1	No Data
Dimethyl Disulfide	1	5	4	No Data
Methyl Ethyl Disulfide	1	2	2	No Data
Diethyl Disulfide	2	<1	<1	No Data
Other Sulfurs	<1	<1	<1	No Data
Ethyl Mercaptan lbs/10,000gal	**2.4**	**0.1**	**None Detected**	No Data

*No sample present in cylinder for testing due to blown rupture disk on cylinder valve.

TABLE II
EFI CHEMICAL LABORATORY REPORT
COMPONENTS IN FUEL GAS SAMPLES
DATE RECEIVED: 09-23-10
EFI FILE NO: 98211-00964

SAMPLE IDENTIFICATION

Sample Date:	**09-21-10**	**09-21-10**	**09-20-10**	**09-20-10**
Hydrocarbon Components (% vol. air normalized)	**TILX 304063 Sample 4**	**Vineyard Propane Edgartown Tank 4**	**Kingston Propane Sandwich, MA**	**Energy USA LP-7 Bobtail**
Methane	<0.01	<0.01	<0.01	<0.01
Ethane	4.54	2.12	2.00	3.86
Propane	95.24	97.69	97.09	95.35
Propylene	<0.01	<0.01	<0.01	<0.01
i-Butane	0.23	0.14	0.75	0.63
n-Butane	<0.01	0.05	0.17	0.17
Other Butanes	<0.01	<0.01	<0.01	<0.01
i-Pentane	<0.01	<0.01	<0.01	<0.01
n-Pentane	<0.01	<0.01	<0.01	<0.01
Other Pentanes	<0.01	<0.01	<0.01	<0.01

Volatile Sulfurs (ppm mol basis)	**TILX 304063 Sample 4**	**Vineyard Propane Edgartown Tank 4**	**Kingston Propane Sandwich, MA**	**Energy USA LP-7 Bobtail**
Carbonyl Sulfide/H2S	<1	<1	<1	<1
Methyl Mercaptan	<1	<1	<1	<1
Ethyl Mercaptan	<1	26	10	23
Dimethyl Disulfide	3	1	4	2
Methyl Ethyl Disulfide	1	1	2	1
Diethyl Disulfide	<1	4	4	3
Other Sulfurs	<1	<1	<1	<1
Ethyl Mercaptan lbs/10,000gal	**None Detected**	**1.5**	**0.6**	**1.4**

EFI Global
Complex Issues • Solid Solutions

8811 FM 1960 Bypass Road West
Suite 400
Humble, TX 77338
Tel: 281-358-4441
Tel: 800-334-0200
Fax: 281-358-2517
www.efiglobal.com

EFI CHEMICAL LABORATORY REPORT

September 28, 2010

Mr. David Schlee
4050 Pennsylvania Avenue
Suite 300
Kansas City, MO 64171

RE: **ANALYSIS OF LIQUEFIED PETROLEUM GAS**

Sample Location:	33057 Arrow Gas Tank 1
Date Received:	09-27-10
EFI File No:	98211-00964

Sample Identification: One cylinder reported to contain Liquefied Petroleum (LP) Gas

PROCEDURE:
A sample cylinder of LP gas was received for analysis of volatile sulfurs and light hydrocarbon components. The volatile sulfurs were determined by computer interfaced gas chromatography using a flame photometric detector and a Supelpak-S Teflon column. An ethyl mercaptan standard of known concentration was analyzed in tandem for calibration.

Light hydrocarbon components were determined by gas chromatography using a thermal conductivity detector and a 30' x 1/8" stainless steel Supelco 17% SP1700/Chromasorb PAW column. Certified hydrocarbon standards were analyzed in tandem for calibration.

RESULTS:
See Tables I for complete results.

The National Fire Protection Association states as a recommendation: "Experience has shown that ethyl mercaptan in the ratio of 1.0 lb (0.45kg) per 10,000 gal (37.9m^3) of liquid LP-Gas has been recognized as an effective odorant." (NFPA 58, Section A-1-4.1, 1992 ed.)

Please contact me if I may be of further service.

Respectfully submitted,

Christine S. Foran
Chemist
EFI Global Chemistry Lab

TABLE I
EFI CHEMICAL LABORATORY REPORT
COMPONENTS IN FUEL GAS SAMPLE
DATE RECEIVED: 09-27-10
EFI FILE NO: 98211-00964

SAMPLE IDENTIFICATION

Sample Date:	**09-23-10**
Hydrocarbon Components (% vol. air normalized)	**33057 Arrow Gas Tank 1 Collected by M. Weyler**
Methane	<0.01
Ethane	3.16
Propane	96.33
Propylene	<0.01
i-Butane	0.43
n-Butane	0.08
Other Butanes	<0.01
i-Pentane	<0.01
n-Pentane	<0.01
Other Pentanes	<0.01

Volatile Sulfurs (ppm mol basis)	**33057 Arrow Gas Tank 1 Collected by M. Weyler**
Carbonyl Sulfide/H2S	<1
Methyl Mercaptan	<1
Ethyl Mercaptan	28
Dimethyl Disulfide	1
Methyl Ethyl Disulfide	1
Diethyl Disulfide	1
Other Sulfurs	14
Ethyl Mercaptan lbs/10,000gal	**1.7**

Addendum

DCP Westfield Field and Railcar Test Results

DCP Midstream Bulk Tank Railcar Testing by IE

Location	Vessel Tested	Test Method	Date Tested	Tester	Test Pass Criteria 5 ppm vapor, 17 ppm vapor flashed Results
DCP - Westfield	60,000 galLP Bulk Tank P0007797 - tank 1	Stain Tube T002A, T002B	9/15/2010	D. Scardino & M. Craddock	Passed (20 ppm vapor flashed) 18 ppm)
DCP - Westfield	60,000 gallon Bulk Tank R0008187 - tank 2	Stain Tube T003A, T003B	9/16/2010	D. Scardino & Mike Craddock	Passed (20 ppm vapor flash) (7.5 ppm vapor test onlyA)
DCP - Westfield - Track 1 Tower 5	Railcar PROX 32854	Stain Tube T004A, T004B	9/16/2010	D. Scardino & Mike Craddock	Passed (15 ppm vapor flash) (15 ppm vapor flash) marginal - co-mix in bulk tank
DCP - Westfield - Track 1 Tower 2	Railcar TEIX 33677	Stain Tube T005A, T005B	9/16/2010	D. Scardino & Mike Craddock	Passed (18 ppm vapor flash) (18 ppm vapor flash)
DCP - Westfield - Track 2 Tower 2	Railcar TEIX 33550	Stain Tube T006A, T006B	9/16/2010	D. Scardino & Mike Craddock	Passed (20 ppm vapor flash) (18 ppm vapor flash)
DCP - Westfield - Track 2 Tower 3	Railcar CTCX 780439	Stain Tube T007A, T007B	9/16/2010	D. Scardino & Mike Craddock	Passed (28 ppm vapor flash) (25 ppm vapor flash)
DCP - Westfield - Track 2 Tower 1	Railcar TGPX 33606	Stain Tube T008A, T008B	9/16/2010	D. Scardino & Mike Craddock	Failed (11 ppm vapor flash) (12 ppm vapor flash)
DCP - Westfield	Railcar PROX 32784	Stain Tube MBC01, MBC02	9/20/2010	Mike Craddock	Failed (15 ppm vapor flash) (10 ppm vapor flash)
DCP - Westfield	Railcar PROX 32830	Stain Tube MBC05	9/20/2010	Mike Craddock	Passed (20 ppm vapor flash)
DCP - Westfield	Railcar TEIX 33736	Stain Tube MBC07	9/20/2010	Mike Craddock	Passed (18 ppm vapor flash)

DCP Midstream Bulk Tank Railcar Testing by IE

Location	Vessel Tested	Test Method	Date Tested	Tester	Test Pass Criteria 5 ppm vapor, 17 ppm vapor flashed Results
DCP - Westfield	Railcar TILX 304095 Aux Sable	Stain Tube MBC09, MBC10	9/20/2010	Mike Craddock	Failed (0 ppm vapor flash) (0 PPM vapor)
DCP - Westfield	Railcar TILX 33693 Aux Sable	Stain Tube MBC11, 12, 13	9/20/2010	Mike Craddock	Failed (0 ppm vapor flash) (0 PPM vapor)
DCP - Westfield	Railcar TILX 304063 Aux Sable	Stain Tube MBC14, MBC15	9/20/2010	Mike Craddock	Failed (0 ppm vapor flash) (0 PPM vapor)
DCP - Westfield	Railcar PROX 29964	Stain Tube MBC16	9/20/2010	Mike Craddock	Passed (18 ppm vapor flash)
DCP - Westfield	Railcar PROX 29961	Stain Tube MBC18	9/20/2010	Mike Craddock	Passed (25 ppm vapor flash)
DCP - Westfield	Railcar TEIX 33692 Aux Sable	Stain Tube MBC20, MBC21	9/20/2010	Mike Craddock	Failed (0 ppm vapor flash) (0 PPM vapor)
DCP - Westfield	Railcar TILX 302653	Stain Tube MBC22	9/20/2010	Mike Craddock	Passed (28 ppm vapor flash)
DCP - Westfield	Railcar TILX 301553	Stain Tube MBC24	9/20/2010	Mike Craddock	Passed (18 ppm vapor flash)
DCP - Westfield	Railcar TILX 32800	Stain Tube MBC26	9/20/2010	Mike Craddock	Passed (28 ppm vapor flash)
DCP - Westfield	Railcar PROX 32784	Stain Tube MBC 051, 052	9/21/2010	Mike Craddock	Passed (25 ppm, 28 ppm vapor flash) retest of 9/20/10 test

DCP Midstream Bulk Tank Railcar Testing by IE

Location	Vessel Tested	Test Method	Date Tested	Tester	Test Pass Criteria 5 ppm vapor, 17 ppm vapor flashed Results
DCP - Westfield	Railcar TGPX 33606	Stain Tube MBC 053, 054	9/21/2010	Mike Craddock	Passed (22 ppm vapor flash) retest of 9/20/10 test
DCP - Westfield	Railcar TILX 302654	Stain Tube MBC028, 029	9/21/2010	Mike Craddock	Failed (11 ppm vapor flash) retested - see below
DCP - Westfield	Railcar PROX 32773	Stain Tube MBC030, 031	9/21/2010	Mike Craddock	Passed (30 ppm vapor flash)
DCP - Westfield	Railcar PROX 34511	Stain Tube MBC032, 033	9/21/2010	Mike Craddock	Passed (22 ppm vapor flash)
DCP - Westfield	Railcar PROX 29934	Stain Tube MBC034, 035	9/21/2010	Mike Craddock	Failed (8 ppm, 12 PPM vapor flash) retested - see below
DCP - Westfield	Railcar CTCX 780462	Stain Tube MBC037, 038	9/21/2010	Mike Craddock	Passed (25 ppm vapor flash)
DCP - Westfield	Railcar PROX 32836	Stain Tube MBC039, 040	9/21/2010	Mike Craddock	Passed (28 ppm vapor flash)
DCP - Westfield	Railcar TEIX 34007	Stain Tube MBC041, 042	9/21/2010	Mike Craddock	Passed (20 ppm vapor flash)
DCP - Westfield	Railcar UTLX 952882	Stain Tube MBC043, 044	9/21/2010	Mike Craddock	Passed (19 ppm vapor flash)
DCP - Westfield	Railcar UTLX 953208	Stain Tube MBC045, 046	9/21/2010	Mike Craddock	Passed (19 ppm vapor flash)

DCP Midstream Bulk Tank Railcar Testing by IE

Location	Vessel Tested	Test Method	Date Tested	Tester	Test Pass Criteria 5 ppm vapor, 17 ppm vapor flashed Results
DCP - Westfield	Railcar UTLX 950117	Stain Tube MBC047, 048	9/21/2010	Mike Craddock	Failed (10 ppm vapor flash) see retest below
DCP - Westfield	Railcar UTLX 952841	Stain Tube MBC049, 050	9/21/2010	Mike Craddock	Failed (8 ppm vapor flash) see retest below
DCP - Westfield	Railcar UTLX 950117	Stain Tube H 004, 005	9/24/2010	Mark Hook	Failed (10 ppm, 11 ppm vapor flash) retest from test of 9/21/10
DCP - Westfield	Railcar UTLX 952841	Stain Tube H 001, 002, 003	9/24/2010	Mark Hook	Passed (15 ppm, 15 ppm, 30 ppm retest
DCP - Westfield	Railcar TILX 302654	Stain Tube H008	9/24/2010	Mark Hook	Passed (7 ppm vapor phase test) tank had been unloaded - retest
DCP - Westfield	Railcar PROX 29934	Stain Tube H009	9/24/2010	Mark Hook	Passed (22 ppm vapor flash) retest from 9/21/10
DCP - Westfield	Railcar PROX 32866	Stain Tube H010	9/27/2010	Mark Hook	Passed (22 ppm vapor flash)
DCP - Westfield	Railcar TILX 304091	Stain Tube H011	9/27/2010	Mark Hook	Passed (28 ppm vapor flash)
DCP - Westfield	Railcar TGPX 3303	Stain Tube H012	9/27/2010	Mark Hook	Passed (35 ppm vapor flash)
DCP - Westfield	Railcar TILX 304111	Stain Tube H013	9/27/2010	Mark Hook	Passed (32 ppm vapor flash)

DCP Midstream Bulk Tank Railcar Testing by IE

Location	Vessel Tested	Test Method	Date Tested	Tester	Test Pass Criteria 5 ppm vapor, 17 ppm vapor flashed Results
DCP - Westfield	Railcar PROX 34507	Stain Tube H014, 15, 16	9/27/2010	Mark Hook	Failed (12, 12, 12 ppm vapor flash) need retest
DCP - Westfield	Railcar TILX 304073	Stain Tube H017	9/27/2010	Mark Hook	Passed (25 ppm vapor flash)
DCP - Westfield	Railcar TEIX 33678	Stain Tube H018	9/27/2010	Mark Hook	Passed (26 ppm vapor flash)
DCP - Westfield	Railcar UTLX 99888	Stain Tube H019, 20 & 21	9/27/2010	Mark Hook	Marginal (16, 17, 19 ppm vapor flash) co-mingle in bulk tank & allow
DCP - Westfield	Railcar TILX 302644	Stain Tube H022	9/27/2010	Mark Hook	Passed (27 ppm vapor flash)
DCP - Westfield	Railcar UTLX 950117	Stain Tube H023, 024, 025	9/27/2010	Mark Hook	Failed (15, 7, 11 ppm vapor flash) retest from 9/21/10

Independent Examiner Field Test Results, DCP-Midstream Westfield, MA Customers

Location	Vessel Tested	Test Method	Date Tested	Tester	Results
Wrightonton Gas	LP Bulk Trailer serial HO301465	Stain Tube T0001	9/15/2010	D. Scardino & M. Craddock	Passed (20 ppm vapor flashed)
EnergyUSA Propane Medway, MA	60,000 gal Bulk Tank serial 44-0821-1	Stain Tube T012A, T012B, T012C	9/17/2010	D. Scardino & M. Craddock	Passed (20 ppm , 20 ppm, 25 ppm vapor flashed)
	60,000 gal Bulk Tank serial 44-62034-1	Stain Tube T011	9/17/2010	D. Scardino & M. Craddock	Passed (20 ppm vapor flashed)
	60,000 gal Bulk Tank serial 44-62034-2	Stain Tube T013A, T013B, T013C	9/17/2020	D. Scardino & M. Craddock	Passed (12, 22, 15+ ppm vapor flashed)
	60,000 gal Bulk Tank serial 44-62156	Stain Tube T014A, T014B	9/17/2010	D. Scardino & M. Craddock	Passed (25 & >30 ppm vapor flashed)
	120 gallon tank Nat Bd 19776	Stain Tube T015A, T015B	9/17/2010	D. Scardino & M. Craddock	Passed (5 & 6 ppm - tested vapor space)
	120 gallon tank Nat Bd 89775	Stain Tube T016A, T016B	9/17/2010	D. Scardino & M. Craddock	Passed (5 & 6 ppm - tested vapor space)
EnergyUSA Propane Taunton, MA	80,000 gal Bulk Tank Tank 1- serial 21073	Stain Tube T017. T022	9/20/2010	D. Scardino & Mike Weyler	Passed (> 30 pp, vapor flashed)
	80,000 gal Bulk Tank Tank 2 - serial 21072	Stain Tube T018A, T018B	9/20/2010	D. Scardino & Mike Weyler	Passed (15 ppm, 18 ppm - vapor flashed)
	80,000 gal Bulk Tank Tank 3 - serial 44-62157-1	Stain Tube T014A, T014	9/20/2010	D. Scardino & Mike Weyler	Passed (> 30 pp, vapor flashed)
	80,000 gal Bulk Tank Tank 4 - serial 44-62157-2	Stain Tube T020	9/20/2010	D. Scardino & Mike Weyler	Passed (> 30 pp, vapor flashed)
	80,000 gal Bulk Tank Tank 5 - serial ???	Stain Tube T021	9/20/2010	D. Scardino & Mike Weyler	Passed (> 30 pp, vapor flashed)
	Bob Tail LP-7 2400 gallon water capacity	Stain Tube 9T023	9/20/2010	D. Scardino & Mike Weyler	Failed (9 ppm vapor flashed) Had Bob Tail propane mixed with bulk tank with >30 ppm - approx 1200 gallons mixed with 40,000+ gallons accept blended propane from Bob Tail

Independent Examiner Field Test Results, DCP-Midstream Westfield, MA Customers

Location	Vessel Tested	Test Method	Date Tested	Tester	Results
Heritage Propane Kingston Propane Sandwich, MA	30,000 gal Bulk Tank Serial 11328	Stain Tube T024 Liquid Sample Pulled	9/20/2010	D. Scardino & Mike Weyler	Failed (9 ppm vapor flashed) supplemental odorant added - retest passed - . 30 ppm
Heritage Propane Vineyard Propane Edgartown, MA	30,000 gal Bulk Tank Tank 1, serial 14-750	Stain Tube DJS001	9/21/2010	D. Scardino & Mike Weyler	Passed (19 ppm vapor flashed)
	30,000 gal Bulk Tank Tank 1, serial 14-750	Stain Tube DJS005A, DJS005B	9/21/2010	D. Scardino & Mike Weyler	Odorant added - passed (18ppm, 20 ppm vapor flashed)
	30,000 gal Bulk Tank Tank 2, serial 378 833	Stain Tube DJS007	9/21/2010	D. Scardino & Mike Weyler	Passed (30 ppm vapor flashed)
	30,000 gal Bulk Tank Tank 3, serial 44-62173-1	Stain Tube DJS003A, DJS003B	9/21/2010	D. Scardino & Mike Weyler	Passed (>30 ppm, 22 ppm vapor flashed)
	30,000 gal Bulk Tank Tank 4, serial 44-62173-1	Stain Tube DJS002	9/21/2010	D. Scardino & Mike Weyler	Passed (30 ppm vapor flashed)
Heritage Propane Vineyard Propane Edgartown, MA Customer Tanks	6 N. Line, Edgartown 325 gallon - serial 39928	Stain Tube MBC 001	9/23/2010	Mike Craddock & Mike Weyler	passed (13 ppm vapor side)
	330 West Tisbury 500 gallon - serial 421448 Edgartown Waste Water	Stain Tube MBC 002A, 002B	9/23/2010	Mike Craddock & Mike Weyler	passed (>30 ppm vapor side)
	53 Pease Point, Edgartown 120 Gallon, serial 254938	Stain Tube MBC 003A, 003B	9/23/2010	Mike Craddock & Mike Weyler	Failed (0 ppm vapor side) set 5/13/97, last delivery 8/18/10
	41 Green Hollow, Edgartown 50 gallon	Stain Tube MBC 004	9/23/2010	Mike Craddock & Mike Weyler	Failed (0 ppm vapor side) refurbished tank - last delivery 6/10/10
	7 Fuller St., Edgartown 500 gallon - serial 8326	Stain Tube MBC 005	9/23/2010	Mike Craddock & Mike Weyler	Failed (0 ppm) new tank set 7/6/10 - 1% in tank
	12 Calebs Pond, Edgartown 2000 gallon, serial 6YY000752	Stain Tube MBC 007	9/23/2010	Mike Craddock & Mike Weyler	passed (4.5 ppm vapor side)
	12 Calebs Pond, Edgartown 2000 gallon, serial 6YY000753	Stain Tube MBC 006	9/23/2010	Mike Craddock & Mike Weyler	marginal (3 ppm vapor side)
	37 Mill Hill Rd, Edgartown 1000 gallon tank serial 819633	Stain tube MBC 008	9/23/2010	Mike Craddock & Mike Weyler	passed (17 ppm vapor flashed)

Independent Examiner Field Test Results, DCP-Midstream Westfield, MA Customers

Location	Vessel Tested	Test Method	Date Tested	Tester	Results
Heritage Propane	65 Road The Plains, Edgartown	Stain Tube	9/23/2010	Mike Craddock	
Vineyard Propane	240 gallon tank, serial 605233	MBC 009		& Mike Weyler	passed (21 ppm vapor flashed)
Edgartown, MA	240 gallon tank, serial 605318	MBC 010	9/23/2010	"	passed (22 ppm vapor flashed)
Customer Tanks	240 gallon tank, serial A28523	MBC 011	9/23/2010	"	Failed (0 ppm vapor side - 3 pulls)
					(set 9/25/09 - last del 7/12/10 - 99 gal)
	240 gallon tank, serial 214906	MBC 012	9/23/2010	"	Failed (8 ppm vapor side - 3 pulls)
	9 Old Purchase Cr, Edgartown	MBC 013	9/23/2010	Mike Craddock	Failed (7 ppm vapor side - 3 pulls)
	50 gallon Tank			& Mike Weyler	new tank set 7/15/10
	50 Canonicus Ave, Oak Bluffs	MBC 014	9/23/2010	Mike Craddock	Failed (0 ppm vapor side - 3 pulls)
	240 gallon tank, serial Y-002121			& Mike Weyler	set 96, last del 8/10 - 13.2 gal
Heritage Propane	Kingston Propane Yard				
Kingston Propane	Replaced new or reconditioned				
Sandwich, MA	Tanks - all 120 gal except 1-10	Stain Tube		Mike Craddock	
Customer Tanks	serial D-5709	KP 001	9/24/2010	& Mike Weyler	Failed (5 ppm - 2 pulls)
	serial NB22479	KP 002	"	"	Failed (6 ppm - 2 pulls)
	serial ????	KP003	"	"	Failed (0 ppm - 2 pulls)
	serial E92823	KP 004	"	"	Failed (0 ppm - 2 pulls)
	serial V056156	KP 005	"	"	Failed (5 ppm - 2 pulls)
	70 Manomet Point Road				
	(Plymouth Elementary School)			Mike Craddock	
	240 gallon tank - A114537	KP 006	9/24/2010	& Mike Weyler	passed (20 ppm - vapor side)
		KP 007	"	"	passed (22 ppm - vapor side)
	77 Industrial Park Rd, Plymouth				
	(CDF Corporation - fork lift fuel)			"	
	500 gallon tank - serial 172561	KP 008	9/24/2010	Mike Craddock	marginal (3 ppm - vapor side)
				& Mike Weyler	last major delivery 9/8/10 - 243.6 gal
	3 Pine Cone, Kingston			Mike Craddock	
	240 gallon tk - serial A314706	KP 010	9/24/2010	& Mike Weyler	passed (22 ppm - vapor side)
	240 gallon tk - serial A105842	KP 011A. KP 011B	"	"	passed (>30 ppm & 22 ppm - vapor side)

Independent Examiner Field Test Results, DCP-Midstream Westfield, MA Customers

Location	Vessel Tested	Test Method	Date Tested	Tester	Results
Heritage Propane	40 Pond View Drive, Kingston	Stain Tube			
Kingston Propane	240 gallon tank - V101452	KP 009	9/24/2010	Mike Craddock	passed (12 ppm - vapor side - 2 pulls)
Sandwich, MA				& Mike Weyler	
Customer Tanks	11 Dogwood Dr, Kingston	Stain Tube			
	240 gallon tank	KP 012	9/24/2010	Mike Craddock	passed (30 ppm - vapor side - 2 pulls)
	240 gallon tank	KP 013	"	& Mike Weyler	passed (25 ppm - vapor side - 2 pulls)
	16 Nixon Ave, Plymouth				
	120 gallon tank	KP 014	"	"	passed (18 ppm - vapor side - 2 pulls)
Amerigas	30.000 gal Bulk Tank	Stain Tube	9/21/2010	D. Scardino	Passed (22 ppm. <30 ppm vapor flashed)
Vineyard Haven	Tank 1, serial OSFM 002140	DJS004A, DJS004B		& Mike Weyler	
Edgartown, MA					
Island Propane	30,000 gal Bulk Tank	Stain Tube	9/21/2010	D. Scardino	Passed (22 ppm vapor flashed)
Edgartown, MA	Tank 1, serial 124711	DJS006A		& Mike Weyler	
listed as Patten on	30,000 gal Bulk Tank	Stain Tube	9/21/2010	D. Scardino	Passed (>30 ppm vapor flashed)
Schedule A	Tank 2, serial 124710	DJS006B		& Mike Weyler	Tanks were manifolded together
Wrightonton Gas	30,000 gal Bulk Tank	Stain Tube	9/22/2010	D. Scardino	Passed (18 ppm, 20 ppm. >30 ppm)
	Tank serial 140447-02-4	MAW 001A, B, C		& Mike Weyler	(vapor flashed)
	30,000 gal Bulk Tank	Stain Tube	9/22/2010	D. Scardino	Passed (20 ppm. >30 ppm)
	Tank serial 140447-02-2	MAW 002 A, B		& Mike Weyler	(vapor flashed)
Arrow Gas (Inergy)	30,000 gal Bulk Tank	Stain Tube	9/22/2010	D, Scardino	Failed (7.5 ppm, 9 ppm, 7.5 ppm)
	Tank serial PXR PHT 998 4	MAW 003 A, B, C		& Mike Weyler	Liquid Sample showed 1.7# E.M.
		DJS 001 A/B	9/27/2010	D, Scardino	reodorized - passed (> 30 ppm)